DRAFT ENVIRONMENTAL IMPACT ASSESSMENT

&

ENVIRONMENT MANAGEMENT PLAN

"B1" CATEGORY - MINOR MINERAL -CLUSTER-NON-FOREST LAND-PATTA LAND

MORATTUPALAYAM ROUGH STONE AND GRAVEL CLUSTER QUARRIES At

Morattupalayam Village, Uthukuli Taluk, Tiruppur District

For Obtaining

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

IN CLUSTER OVER AN EXTENT OF 21.64.52 Ha

NAME OF PROPOSED PROJECT PROPONENTS APPLYING IN CLUSTER

Code	Proponent Name	S.F No	Village & Taluk	Extent (Ha)
P1	Tmt.V. Revathi	209/1A(P), 209/1B(P) &	Morattupalayam	2.25.5
		209/2 (P)	Village, Uthukuli	
P2	Thiru.U. Prabhakaran	389/1C2,	Taluk	0.68.8
Р3	Thiru.S.Rajasekar	382/2A (P),		2.48.5

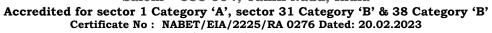
- 1. Lr No. SEIAA-TN/F.No.9731/2023/SEAC/ToR-1566/2023 Dated: 20.09.2023 P1
- 2. Lr No. SEIAA-TN/F.No.8614/SEAC/ToR-1019/ 2021 Dated: 23.08.2021 P2
- 3. Lr No. SEIAA-TN/F.No.10781/ToR No: TO24B0108TN5560449N Dated: 03.06.2024- P3

Environmental Consultant

GEO EXPLORATION AND MINING SOLUTIONS GEMS Old No. 260-B, New No. 17,



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ENVIRONMENTAL LAB KGS ENVIRO LABORATORY PRIVATE LIMITED

NABL Accredited Testing Laboratory (Approved by ISO/IEC 17025:2017) 16, F1, Bharathi Flats, Bharathiar street, Thirumullaivoyal, Chennai - 600 062, Tamil Nadu, India.

Baseline Monitoring Season - Mar 2022 to May 2022

NOVEMBER -2023

For the easy representation the proposed, existing, abandoned and expired quarries are designated as below -

*PROPOSED QUARRIES				
CODE	Name of the Proponent and Address	S.F. Nos & Village	Extent in Ha	Status
P1	Tmt.V. Revathi	209/1A(P), 209/1B(P) & 209/2 (P) Morattupalayam Village,	2.25.5 На	Obtained ToR vide, Lr No. SEIAA- TN/F.No.9731/2023/SEAC/ToR- 1566/2023 Dated: 20.09.2023.
P2	Thiru.U. Prabhakaran	389/1C2, Morattupalayam Village,	0.68.8 Ha	Obtained ToR vide, Lr No. SEIAA- TN/F.No.8614/SEAC/ToR-1019/ 2021 Dated: 23.08.2021
Р3	Thiru.S. Rajasekar	382/2A (P), Morattupalayam Village	2.48.50На	Obtained ToR vide, Lr No. SEIAA-TN/F.No.10781/ToR No: TO24B0108TN5560449N Dated: 03.06.2024
P4	Thiru.N. Ayyadurai	392(Part)	0.99.50Ha	Under process
P5	Thiru.M. Thangaraj	383/2B2, Morattupalayam Village	0.84.5 Ha	EC Granted
		Total	7.26.8 Ha	
		*EXISTING QUARRIES		
CODE	Name of the Proponent and Address	S.F.Nos , Village & Taluk	Extent in Ha	Lease Period
E-1	Thiru.N. Chithambaram	209/1A (P), Morattupalayam Village	0.79.0	20.06.2022 to 19.06.2027
E-2	Thiru.N. Ayyadurai	392 (P), Morattupalayam Village	2.02.5	28.09.2018 to 27.09.2023
E-3	Thiru.T.S. Udhayakumar	388 (P-A), Morattupalayam Village	1.26.5	06.04.2018 to 05.04.2023
E-4	Thiru.S. Raju	388 (P) (Bit-B) (Old pit B & C) Morattupalayam Village	1.58.0	09.04.2018 to 08.04.2023
E-5	Thiru. K. Senthil kumar	383/1, 383/2A2A1, Morattupalayam Village,	0.71.5 Ha	13.04.2023 to 12.04.2028
E-6	Thiru.Thangamuthusamy	383/2A1, 382/2B, Morattupalayam Village	2.63.0 Ha	12.04.2023 to 11.04.2028
E-7	Thiru.T. Thangaraj	383/2A2B, 383/2A 2A2A2 Morattupalayam Village	1.88.72 Ha	09.11.2022 to 08.11.2027
E-8	Thiru.M. Thangaraju	389/1B1A,1B1B,1B2	2.19.50 Ha	09.11.2022 to 08.11.2027
E-9	Thiru, M. Devaraj	389/1A	1.29.0 Ha	25.08.2022 to 24.08.2027
		Total	14.37.72На	
	Name of the Proponent and	ABANDONED/EXPIRED QUI	Extent in	
CODE	Address	S.F. Nos, Village & Taluk	На	Lease Period
A-1	Thiru.N. Ayyadurai	392 (P), Morattupalayam Village	3.52.0	23.09.2016 to 22.09.2021
A-2 A-4	Thiru.A.A. Kumaresan Thiru.M. Palanisamy	377/1, Morattupalayam Village 385/2(P), Morattupalayam Village	2.10.5 0.59.5	21.09.2016 to 20.09.2021 21.01.2016 to 20.01.2021 Lease expired
Total		6.22.0На	1	
	*TOTAL CLUST	ER EXTENT	21.64.52 Ha	
Note-	5			

Note:-

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

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

TERMS OF REFERENCE (ToR) COMPLIANCE

Tmt.V.Revathi

<u>"ToR issued vide Lr No. SEIAA-TN/F.No.9731/2023/SEAC/ToR-1566/2023 Dated: 20.09.2023"</u>

	SPECIFIC CON	IDITIONS
1	The Proponent shall justify the selection of the site for carrying out the stone quarrying with the total volume arrived for the excavation & production adequate details such as lithology of the deposit, reserve estimation, place for waste dump/mined mineral storage, end-use of mined materials, identified potential customers/end-users and travel path.	Previous obtained Environmental Clearance SEIAA-TN/F.No.5470/1(a)/EC.No:3292/2016 Dated:11.07.2016. existing quarry pit Pit1: 66m (L) x 57m (W) x 20m(D) Pit II: 140m (L) x 93m (W) x 18m(D 1,41,283m³-Roughstone 4,860 m³-Gravel
2	The proponent is requested to carry out a detailed survey, detailed study and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.	Noted, 80m NW-Labour shed, 160m-NW cotton godown, 200m-W Soap Godown, 270m-NE Engineering company, grindstone manufactures 280m-W-Bakery, 230m-W-Abandoned school.
3	As the structures are located within a radial distance of 500 m. the PP shall fumish a Model simulating the conditions describing the level of ground vibrations and fly rock caused due to the blasting operation in the proposed quarry.	Ground vibration study in chapter-4
4	The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc located within 1km of the proposed quarry.	Enclosed detailed hydrological report as annexure
5	The Proponent shall carry out Bio diversity study through Department of Ecology and Environmental Sciences, Pondicherry University and the same shall be included in EIA Report.	Detailed Bio diversity study report at Chapter -3
6	The PP shall prepare the EMP for the entire life of mine and also fumish the sworn affidavit stating to abide the EMP for the entire life of mine.	Details of EMP is in Chapter – 10.
1	Annexur In the case of existing/operating mines, a letter	e-1 Noted, Enclosed Approved mining plan as annexure
	obtained from the concemed AD (Mines) shall be submitted and it shall include the following: (i) Original pit dimension (ii) Quantity achieved Vs EC Approved Quantity (iii) Balance Quantity as per Mineable Reserve calculated. (iv) Mined out Depth as on date Vs EC Permitted depth (v) Details of illegaVillicit mining	Troca, Enclosed Approved mining plan as amicaute

	(vi) Violation in the quarry during the past	
	working. (vii) Quantity of material mined out outside the	
	mine lease area	
	(viii) Condition of Safety zonelbenches	
	(ix) Revised/Modified Mining Plan showing the	
	benches of not exceeding 6 m height	
	and ultimate depth of not exceeding 50m.	
2	Details of habitations around the proposed mining	VAO letter stating the details of habitations, temples
	area and latest VAO certificate regarding the	etc., is encloses as Annexure
	location of habitations within 300m radius from	
	the periphery of the site.	
3	The proponent is requested to carry out a survey	Noted,
	and enumerate on the structures located within the	80m NW-Labour shed,
	radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv)	160m-NW cotton godown,
	300 m (v) 500m shall be enumerated with details	200m-W Soap Godown,
	such as dwelling houses with number of	270m-NE Engineering company, grindstone
	occupants, whether it belongs to the owner (or)	manufactures
	not, places of worship, industries, factories, sheds,	280m-W-Bakery,
	etc with indicating the owner of the building,	230m-W-Abandoned school.
	nature of construction, age of the building, number of residents, their profession and income, etc.	
4	The PP shall submit a detailed hydrological report	The hydro-geological study was conducted to
	indicating the impact of proposed quarrying	evaluate the possible impact on the ground water
	operations on the waterbodies like lake, water	table. No significant impacts are anticipated on the
	tanks, etc are located within 1 km of the proposed	water bodies around the project area. Details are
	quarry.	discussed under Chapter No. 3.
5	The Proponent shall carry out Bio diversity study	Detailed Bio diversity study report at Chapter 3
	through reputed Institution and the same shall be	
	included in EIA Report.	O.M.N. 12202/2022/F.D. (20.12.2022
6	The DFO letter stating that the proximity distance	O.M No13382/2022/F Date 20.12.2022
	of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the	
	proposed site.	
7	In the case of proposed lease in an existing (or old)	Not Applicable, It is a Existing Lease
	quarry where the benches are not formed	
	(or) partially formed as per the approved Mining	
	Plan, the Project Proponent (PP) shall the	
	PP shall carry out the scientific studies to assess	
	the slope stability of the working benches	
	to be constructed and existing quarry wall, by	
	involving any one ofthe reputed Research and Academic Institutions - CSIR-Central	
	Institute of Mining & Fuel Research / Dhanbad,	
	n-IRM/Bangalore. Division of Geotechnical	
	Engineering-IIT-Madras, NIT-Dept of Mining	
	Engg, Surathkal. and Anna University Chennai-	
	CEG Campus. The PP shall submit a copy	
	of the aforesaid report indicating the stability	
	status of the quarry wall and possible	
	mitigation measures during the time of appraisal	
0	for obtaining the EC.	Noted Clare Ctability plan: 1111-t-in11
8	However, in case of the fresh virgin quarries, the Proponent shall submit a conceptual 'Slope	Noted, Slope Stability plan will be obtained when the depth reaches 30m bgl after obtaining the
	Stability Plan' for the proposed quarry during the	Environmental Clearance
L	baconity I am for the proposed quarry during the	Lit it official Cicaratice

	appraisal while obtaining the EC. when the depth	
	of the working is extended beyond 30 m below	
	ground level.	
9	The PP shall fumish the affidavit stating that the	Proponent given affidavit stating that the blasting
	blasting operation in the proposed quarry is	operation will be carried out under the supervision of
	carried out by the statutory competent person as	Competent person.
	per the MMR 196l such as blaster, mining mate,	
	mine foreman, II/I Class mines manager	
	appointed by the proponent.	
10	The PP shall present a conceptual design for	It will be submitted controlled blasting operation
	carrying out only controlled blasting operation	
	involving line drilling and muffle blasting in the	
	proposed quarry such thal the blast-induced	
	ground vibrations are controlled as well as no fly	
	rock travel beyond 30 m from the blast site.	
11	The EIA Coordinators shall obtain and fumish the	There is no quarry in the name of the project
	details of quarry/quarries operated by the	proponent.
	proponent in the past, either in the same location	
	or elsewhere in the State with video and	
	photographic evidences.	
12	If the proponent has already carried out the mining	It is a fresh lease application. But The quarry lease
	activity in the proposed mining lease area after	was previously granted in the favour of Thiru.P.K.
	15.01.2016, then the proponent shall furnish the	Krishnasamy & Thiru.K. Muthusamy, over an extent
	following details from AD/DD, mines,	of 2.25.5 hectares, obtained Environmental
		Clearance from the State Level Environment Impact
		Assessment Authority vide Letter No. SEIAA-
		TN/F.No.5470/1(a)/EC.No:3292/2016
		Dated:11.07.2016.
13	What was the period of the operation and stoppage	last work permit issued SEIAA-
	of the earlier mines with last work permit issued	TN/F.No.5470/1(a)/EC. No:3292/2016
	by the AD/DD mines?	Dated:11.07.2016.
14	Quantify of minerals mined out.	
	Highest production achieved in any one year	
	Detail of approved depth of mining.	20 (2 G 1:20 P 1 G) P 1
	Actual depth of the mining achieved earlier.	30m (2m Gravel + 28m Rough Stone) Bgl.
	Name of the person already mined in that	121m (L) x 169m (W) x 30m (D) Max for P1
	leases area.	26 (1 G = 1 + 25 P = 1 + 21 1
	• If EC and CTO already obtained, the copy	36m (1m Gravel + 35m Rough stone) below ground
	of the same shall be submitted.	level
	Whether the mining was carried out as per	94m (L) x 42m (W) x 36m Bgl (D) Max for P2
	the approved m ine plan (or EC if issued)	
	with stipulated benches.	
15	All comer coordinates of the mine lease area,	Noted and agreed.
1.0	superimposed on a High-Resolution	Project area boundary coordinates superimposed on
	Imagery/Topo sheet. Topographic sheet,	Toposheet – Figure No. 1.3.
	geomorphology. lithology and geology of the	1 oposnoci – 1 iguie 110. 1.3.
	mining lease area should be provided. Such an	
	Imagery of the proposed area should clearly show	
	the land use and other ecological features of the	
	study area (core and buffer zone).	
16	The PP shall carry out Drone video survey	The drone video of the project site has been taken
10	covering the cluster. green belt, fencing, etc	covering Cluster quarries, plantation and fencing etc
	covering the cluster, green bent, felicing, etc	covering cruster quarties, plantation and reneing etc
17	The proponent shall fumish photographs of	Greenbelt development and Fencing photographs
1 /	adequate fencing, green belt along the periphery	furnished
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	including replantation of existing trees & safety	The Barbed Wire fencing has been erected all around
	distance between the adjacent quanies &	the boundary. No trees within the project site, hence
	water bodies nearby provided as per the approved	transplantation not required.
10	mining plan.	27 . 1 . 1
18	The Project Proponent shall provide the details of	Noted and agreed.
	mineral reserves and mineable reserves, planned	Discussed under Chapter 2
	production capacity, proposed working	Total Mineable Reserves – 141283 upto the depth of
	methodology with justifications, the anticipated	30 m bgl
	impacts of the mining operations on the	
	surrounding environment, and the remedial	
	measures for the same.	
19	The Project Proponent shall provide the	Organization chart indicating Proposal for the
	Organization chart indicating the appointment of	appointment of Statutory officials is given in the
	various statutory ofrcials and other competent	Chapter No.7
	persons to be appointed as per the provisions of	•
	the Mines Acf 1952 and the MMR, 1961 for	
	carrying out the quarrying operations	
	scientifically and systematically in order to ensure	
	safety and to protect the environment.	
20	The Project Proponent shall conduct the hydro-	The hydro-geological study was conducted to
20	geological study considering the contour map of	evaluate the possible impact on the ground water
	the water table detailing the number of	table. No significant impacts are anticipated on the
	groundwater pumping & open wells, and surface	water bodies around the project area. Details are
		discussed under Chapter No. 3.
	water bodies such as rivers, tanks, canals, ponds, etc. within I km (radius) alongwith the collected	discussed under Chapter 190. 5.
	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	
2.1	in this regard may be provided.	
21	The proponent shall fumish the baseline data for	Baseline data for the environmental and ecological
	the environmental and ecological parameters with	parameters with regard to surface water/ground
	regard to surface water/ground water quality, air	water quality, air quality, soil quality, & flora/fauna
	quality, soil quality & flora/fauna including traffi	including traffic/vehicular movement study to assess
	c vehicular movement study.	the cumulative impact of the proposed project on the
		environment is prepared as a Draft EIA EMP and
		will be finalized after public consultation and will be
		submitted as Final EIA EMP Report.
22	The Proponent shall carry out the Cumulative	Cumulative impact study results related to air
	impact study due to mining operations carried	pollution, water pollution, & health impacts have been
	out in the quarry specifically with reference to the	given in chapter VII. Based on the results,
	specific environment in terms of soil health,	environmental management plan has been prepared
	biodiversity, air pollution, water pollution,	and given in Chapter No.7
	climate change and flood control & health	
	impacts- Accordingly, the Environment	
	Management plan should be prepared keeping the	
	concerned quary and the surrounding habitations	
	in the mind.	
23	Rain water harvesting management with	Detailed discussed in chapter 3.
	recharging details along with water balance (both)	1 -
	monsoon & non-monsoon) be submitted.	
24	Land use of the study area delineating forest area,	Land use and land cover of the study area is
27	agricultural land, grazing land, wildlife sanctuary,	discussed in Chapter No. 3,
	national park, migratory routes of fauna, water	discussed in Chapter 110. 3,
	national park, inigratory routes of faulta, water	
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	bodies, human settlements and Cother ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Chapter No.2,
25	Details of the land for storage of	Not applicable
	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.	No waste is anticipitated in the lease area.
26	Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required. clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.	Not Applicable. Project area / Study area is not declared in 'Critically Polluted' Area and does not come under 'Aravalli Range.
27	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided	The lower part of the mine pit will be utilized as rain water harvesting structure (Temporary) and the water will be used for the water sprinkling on haul roads and Greenbelt development purpose. Rainwater harvesting structure will be constructed near the mine office.
28	Impact on local transport infrastructure due to the Project should be indicated.	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 have been provided in Chapter No.2.
29	A tree survey study shall be carried out (nos., name of the species, age, diameter etc) both within the mining lease applied area & 300m buffer zone and its management during mining activity.	Greenbelt details in Chapter-4. It is proposed to plant 1750 trees along boundary and panchayat roads.
30	A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.	After the completion of mining operation, the quarried-out land will be utilized as temporary storage reservoir. The details are given in the Chapter No.4
31	As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible.	The Flora and Fauna Study has been carried out along with educating local School students by the Functional Area Experts in Ecology and Biodiversity
32	The purpose of green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics A wide range of indigenous plant species should be planted as given in the appendix-I in consultation with the DFO. State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin	Species are proposed to plant in the safety barrier as mentioned in the ToR appendix. Proposed species are given in the Chapter No 4 Noted & agreed. It is proposed to plant 1750 Nos of trees in the 7.5m safety barrier and approach & Village roads

	should be chosen. Species of small/medium/tall	
	trees alternating with shrubs should be planted in	
	a mixed manner.	
33	Taller/one year old Saplings raised in appropriate	The proposed project is Existing lease, around 1750
	size of bags, preferably eco-friendly bags should	trees are proposed to plant.
	be planted as per the advice of local forest	week mile proposed to primite
	authorities/botanist/Horticulturist with regard to	
	site specific choices. The proponent shall earmark	
	the greenbelt area with GPS coordinates all along	
	the boundary of the project site with at least 3	
	meters wide and in between blocks in an	
	organized manner	
34	A Disaster management Plan shall be prepared	Disaster management Plan details in Chapter-7
	and included in the EIA/EMP Report.	
35	A Risk Assessment and management Plan shall be	A Risk Assessment and management Plan Chapter-
	prepared and included in the EIA/EMP Report.	7
36	Occupational Health impacts of the Project should	Occupational Health impacts chapter- 10
30	be anticipated and the proposed preventive	Occupational ficatul impacts chapter- 10
	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.	
37	Public health implications of the Project and	It is explained in Chapter -3
,	related activities for the population in the impact	
	zone should be systematically evaluated and the	
	proposed remedial measures should be detailed	
	along with budgetary allocations.	
38	The Socio-economic studies should be carried out	It is sometimed in Chamber 2
38		It is explained in Chapter -3
	within a 5 km buffer zone from the mining	
	activity. Measures of socio-economic significance	
	and influence to the local community proposed to	
	be provided by the Project Proponent should be	
	indicated. As far as possible, quantitative	
	dimensions may be given with time frames for	
	implementation.	
39	Details of litigation pending against the project, if	No Litigation is pending
	any, with direction. /Order passed by any Court of	
	Law against the Project should be given.	
40	Benefits of the Project if the Project is	Employment benefits are Detailed in chapter3 and
10	implemented should be spelt out. The benefits of	10.
	the Project shall clearly indicate environmental,	10.
41	social, economic, employment potential, etc.	IA in an Emirain and a
41	If any quarrying operations were carried out in the	It is an Existing Lease
	proposed quarrying site for which now the EC is	
	sought, the Project Proponent shall furnish the	
	detailed compliance to EC conditions given in the	
	previous EC with the site photographs which shall	
	duly be certified by MoEF&CC. Regional Office,	
	Chennai (or) the concerned DEE/TNPCB.	
42	The PP shall prepare the EMP for the entire life of	Noted & agreed.
	mine and also furnish the swom affidavit stating	
	to abide the EMP for the entire life of mine.	
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43	Concealing any factual information or submission	Noted & agreed.
	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.	
	ADDITIONAL CONDIT	TONS Appayure P
Cluster	Management committee	IONS-Allilexule-D
1.	Cluster Management Committee shall be framed	Details chapter 7 salient features of quarry with
1.	which must include all the proponents in the	existing quarry.
	cluster as members including the existing as well	Calsting quarry.
	as proposed quarry.	
2	The members must coordinate among themselves	Noted & agreed
-	for the effective implementation of EMP as	Troibu de agreed
	committed including Green Belt Development,	
	Water sprinkling. tree plantation, blasting etc	
3	The List of members of the committee formed	Noted & agreed
	shall be submitted to AD/Mines before the	
	execution of mining lease and the same shall be	
	updated every year to the AD/Mines.	
4	Detaited operational Plan must be submitted which	Transport details in chapter-2
	must include the blasting frequency with respect to	
	the nearby quarry situated in the cluster, the usage	
	of haul roads by the individual quarry in the form	
	of route map and network.	
5	The committee shall deliberate on risk	Noted & agreed
	management plan pertaining to the cluster in a	
	holistic manner especially during natural	
	calamities like intense rain and the mitigation	
	measures considering the inundation of the cluster	
6	and evacuation plan	Noted & garaged
6	The Cluster Management Committee shall form Environmental Policy to practice sustainable	Noted & agreed
	mining in a scientific and systematic manner in	
	accordance with the law. The role played by	
	the committee in implementing the environmental	
	policy devised shall be given in detail.	
7	The committee shall fumish action plan regarding	Noted & agreed
,	the restoration strategy with respect to the	
	individual quarry falling under the cluster in a	
	holistic manner.	
8	The committee shall fumish the Emergency	Details discussed in chapter 7.
	Management plan within the cluster.	_
9	The committee shall deliberate on the health of the	Details discussed in chapter 10.
	workers/staff involved in the mining as well as the	
	health ofthe public.	
10	The committee shall fumish an action plan to	Noted & agreed
	achieve sustainable development goals with	
	reference to water, sanitation & safety.	
11	The committee shall furnish the fire safety and	Detailed discussed in chapter 7.
	evacuation plan in the case of fire accidents.	
	study of mining	
12	Detailed study shall be caried out in regard to	Species Recommended for Plantation in chapter
	impact of mining around the proposed mine lease	3&10.
	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.	
	1) Hydrothermal/Geothermal effect due to	
	destruction in the Environment'	
	g) Bio-geochemical processes and its foot prints	
	including environmental stress'	
4 .	h) Sediment geochemistry in the surface steams.	
	alture & Agro-Biodiversity	D (11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
13	Impact on surrounding agricultural fields around	Detailed discussed in chapter 4.
1.4	the proposed mining Area.	Datailed discussed in chanten 4
14	Impact on soil flora & vegetation around the project site.	Detailed discussed in chapter 4.
15	Details of type of vegetations including no. of trees	Details in Chapter 2,3 and 7
13	& shrubs within the proposed mining area and. If	Details in Chapter 2,5 and 7
	so, transplantation of such vegetations all along the	
	boundary of the proposed mining area shall	
	committed mentioned in EMP.	
16	The Environmental Impact Assessment should	Details in Chapter 3
	study the biodiversity, the natural ecosystem, the	Bound in Chapter 3
	soil micro flora. fauna and soil seed banks and	
	suggest measures to maintain the natural	
	Ecosystem.	
17	Action should specifically suggest lbr sustainable	Noted & agreed
	management of the area and restoration of	S
	ecosystem for flow of goods and services.	
18	The project proponent shall srudy and fumish the	The project area is bounded by Existing quarries on
	impact of project on plantations in adjoining patta	the all direction. Proponent proposed to erect green
	lands. Horticulture, Agriculture and livesrock.	mesh along with fencing on the South side besides,
		Budgetary allocation given in the Chapter No. 10.
Forest		
19	The project proponent shall detail study on impact	Noted and agreed, there is no reserve forest and
	of mining on Reserve forests free ranging wildlife.	wildlife in the buffer zone.
		No 13382/2022 dated 20.12.2022 DFO Letter by AD
		-Anamalai Tiger Reserved, Tiruppur Forest Zone
20	The Environmental Impact Assessment should	Ecology and Biodiversity environment deals in
	study impact on forest, vegetation, endemic,	Chapter-3
	vulnerable and endangered indigenous flora and	
2:	fauna.	
21	The Environmental Impact Assessment should	Ecology and Biodiversity environment deals in
	study impact on standing trees and the existing	Chapter-3
	trees should be numbered and action suggested for	
22	protection.	A destruction of the second
22	The Environmental Impact Assessment should	Anticipated Environment Impact and Mitigation
	study impact on protected areas, Reserve Forests,	measures are detailed in Chapter No.4
	National Parks, Corridors and Wildlife pathways,	
Water	near project site. Environment	
rr ater	Livii olimelli	

23	Hydro-geological study considering the contour	Hydro-geological study considering the contour map
	map of the water table detailing the number of	of the water table detailing Chapter-3
	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 roundwater.	
	Necessary data and documentation in this regard	
	may be provided, covering the entire mine lease	
	period.	
24	Erosion Control measures.	Noted & agreed
25	Detailed study shalt be carried out in regard to	Detailed EIA study has been carried out
23	impact of mining around the proposed mine lease	considering
	area on the nearby villages, water-bodies/ Rivers.	the impact to the water bodies and eco system of the
	& any ecological fragile areas.	
26		area. Details are covered in the Chapter No.3 and 4.
20	The project proponent shall study impact on fish	Impact on the aquatic animals and mitigation
	habitats and the food WEB/ food chain in the	measures are detailed in the Chapter No.3.
27	water body and Reservoir.	Noted & garaged
27	The project proponent shall study and furnish the	Noted & agreed
	details on potential fragmentation impact on	
20	natural environment by the activities.	N. 10 1
28	The project proponent shall study and fumish the	Noted & agreed.
	impact on aquatic plants and animals in water	Detailed under Chapter 3.
	bodies and possible scars on the landscape,	
	damages to nearby caves, heritage site, and	
	archaeological sites possible land form changes	
	visual and aesthetic impacts.	
29	The Terms ol Reference should specifically study	Details in Chapter 3 Soil environment.
	impact on soil health, soil erosion, the soil,	
	physical, chemical components and microbial	
	components.	
30	The Environmental Impact Assessment should	Nearest agriculture activity is coconut plantation
	study on wetlands, water bodies, rivers streams,	located North side of the project area. Proponent
	lakes and farmer sites.	erected fencing in the previous lease period. The
		same will be reconstructed around the quarry pits
Energy		
31	The measures taken to control Noise. Air, Water.	Details in Chapter 3 environmental monitoring
	Dust Control and steps adopted to efficiently	details.
	utilise the Energy shall be furnished.	
	e Change	
32	The Environmental Impact Assessment shall study	Details of carbon emission and mitigation activities
	in detail the carbon emission and also suggest the	are given int the Chapter No.4
	measures to mitigale carbon emission including	
	development of carbon sinks and temperature	
	reduction including control ofother emission and	
	climate mitigation activities.	
33	The Environmenlal Impact Assessment should	Details in Chapter-3 for metorological and
	study impact on climate change, temperature rise,	climate/weather data representation of graphs.
	pollution and above soil & below soil carbon	
	stock.	
Mine C	losure Plan	
34	Detailed Mine Closure Plan covering the entire	Detailed mine closure plan has been attached with
	mine lease period as per precise area	the approved mining plan report in Annexure III.
	communication order issued.	
EMP		

35	Detailed Environment Management Plan along	Detailed under Chapter 10
	with adaptation, mitigation & remedial strategies	
	covering the entire mine lease period as per precise	
	area communication order issued.	
36	The Environmental Impact Assessment should	Details in Green belt development in chapter 4
	hold detailed study on EMP with budget for green	
	belt development and mine closure plan including	
	disaster management plan.	
	ssessment	
37	To furnish risk assessment and management plan	Detailed under Chapter 7
	including anticipated vulnerabilities during	
	operational and post operational phases of Mining.	
	r Management Plan	D. H. L. G. J. 50 D.
38	To furnish disaster management plan and disaster	Details in Study 7.3 Disaster Management Plan in
	mitigation measures in regard to all aspects to	Chapter -7
	avoid/reduce vulnerability to hazards & to cope	
	with disaster/untoward accidents in & around the	
	proposed mine lease area due to the proposed	
	method of mining activity & its related activities	
	covering the entire mine lease period as per precise	
	area communication order issued.	
Others		
39	The project proponent shall furnish VAO	Noted & agreed.
	certiticate with reference to 300m radius regard to	Detailed under Chapter3 & 4
	approved habitations. schools. Archaeological	
	sites. Structures. railway lines, roads. Water bodies	
	such as streams, odai, vaari, canal, channel. river,	
	lake pond, tank etc.	
40	As per the MoEF& CC office memorandum	Noted and agreed
	tr.No.22-65/2017-1A.lll dated: 30.09.2020 and	
	20.10.2020 the proponent shall address the	
	concerns raised during the public consultation and	
	all the activities proposed shall be part of the	
	Environment Management Plan.	
41	The project proponent shall study and fumish the	Details of carbon emission and mitigation activities
	possible pollution due to plastic and microplastic	are given int the Chapter No.4
	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.	

investigated and reported. TERMS OF REFERENCE (ToR) COMPLIANCE

<u>P-2 – Thiru.U. Prabhakaran</u>

<u>"ToR issued vide Lr No. SEIAA-TN/F.No.8614/SEAC/ToR-1019/ 2021 Dated: 23.08.2021"</u>

	SPECIFIC CONDITIONS		
1	A detailed study of the lithology of the mining	Noted and agreed	
	lease area shall be fumished.		
2	The proponent shall form the proper benches as per the approved mining plan during the operation of the quarry corrsidering the hydro-geological regime of the surrounding area as well as for safe		
	mining.		

3	The proponent shall fumish photographs of	Greenbelt development and Fencing photographs
	adequate fencing, green belt along the peiphery	furnished.
	including replanlation of existing trees, & safety	The Barbed Wire fencing has been erected all around
	distance between the adjacent quarries & water	the boundary. No trees within the project site, hence
	bodies nerrby provided as per the approved	transplantation not required.
	mining plan.	
4	The Project Proponent shall conduct the hydro-	The hydro-geological study was conducted to
	geological study to assess the impact considering	evaluate the possible impact on the ground water
	the contour map of the ground water table detailing	table. No significant impacts are anticipated on the
	the number of ground water pumping & open	water bodies around the project area. Details are
	wells, and surface water bodies such as Rivers,	discussed under Chapter No. 3.
	tanks, canals, ponds etc. within 1 km (Radius) and	discussed under Chapter 1vo. 5.
	individual the water levels for both monsoon and	
-	nonmonsoon seasons from the PWD / TWAD.	D. 11.1
5	The Proponent shall carry out the Cumulatively	Detailed chapter 3 and 10 Environment Management
	impact study due to mining from all the mines on	plan.
	the environment in terms of air pollution, water	
	pollution, & health impacts,	
	accordingly, the Environment Management plan	
	should be prepared.	
6	The Socio-economic studies should be carried out	Detailed Socioeconomic studies in chapter-3
	within a 10 km buffer zone ftom the mines.	
7	A tree survey study shall be carried out (nos.,	There are no trees inside the lease area. There are few
	name of the species, age etc.,) both within the	trees in buffer zone of 300 m from the proposed lease
	mining lease applied area & 300m buffer zone and	area and it shall not be cut down or have any impact
	its management during mining activity.	due to the mining activities and project proponent
	The management during management by	ensures to carrying out activities like watering for
		preserving the green cover around 300m from
		proposed project site.
8	The proponent shall fumish the baseline data for	Explained baseline data for the environmental and
O	the environmental and ecological parameters with	ecological parameters in chapter-3
	regard to surface water/ground water quality, air	And
		Allu
	quality, soil quality, & flora/fauna including	4 66 /1:1
	traffic/vehicular movement study to assess the	traffic/vehicular movement study chapter -2
	cumulative impact of the proposed project on the	Chapter-10 Environment Management plan
	environment and in order to propose Environment	including CER activities.
	management plan including CER activities	
	proposed with implementation and cost estimation	
	details, considering the requirement raised during	
	public hearing by the local habilants in regard to	
	as per Office Memorandum of MoEF&CC	
	accordingly.	
9	Fugitive emission measurements should be	Noted and agreed
	carried out during the mining operation and	
	the report on the same may be submitted to	
	SEIAA once in six months.	
10	The proponent shall submit waste/reject handling	Noted and agreed
	and management /mode of disposal for the	
	proposed mining activity.	
11	A detailed mining closure plan for the proposed	A detailed mining closure plan chapter-2
11	project shall be submitted.	11 detailed mining closure plan chapter-2
12	A detail report on the safety and health aspects of	A detailed opencast of mining for drilling and
14	the workers and for the surrounding habitations	
		blasting chapter-2
	during opencast of mining for drilling and blasting	
	shall be submitted.	

13	The Ambient silica analysis needs to be caried out	Noted and agreed
14	once in six months and repon the same to SEIAA. The recommendation for the issue of "Terms of	Noted and agreed
14	Reference" is subjected to the outcome of the	Noted and agreed
	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.1	
	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.1122/2016, M.A.No.12/2017 & M.A.No. 843/2017) and O.A	
	No.405/2016 and O.A.No.520 of 2016 (M.A.No.	
	981/2016, M.A.No.982/2016 &	
	M.A.No.384/2017).	
15	The project proponent shall fumish the details of	Detailed Ecology and Bio diversiry studies in
13	the existing green belt area earmarked with GPS	chapter-3
	coordinates and list of trees planted/to be planted	Chapter-3
	with a copy of photos/documents of the existing	
	green belt and be included in the EIA Report.	
16	The project proponent should provide a detailed	Noted and agreed
10	plan regarding the green belt area surrounding the	1.0.00 and agreed
	mining area at least with a width of 3m.	
	NORMAL CON	DITIONS
1.	As per the MoEF& CP affice memorandurm	Noted, this is only Draft EIA report to submit PCB.
	F,No.22-65/2017.,IA.III dated: 30.09.2020 and	Then after PH will be furnished this final EIA report.
	20.10.2020 the proponent shall address the	1
	concerns raised during the public consultation and	
	all the activities proposed shall be part of the	
	Environment Management Plan.	
	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	Not applicable.
	be categorically informed whether there had been	This is Not a violation category project.
	any increase in production after the EIA	This proposal falls under B1 Category
	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 applied land for quarrying is a Patta Land.
	the Proponent is the rightful lessee of the mine	Document is enclosed along with Approved Mining
	should be given.	Plan as Annexure Volume 1.
3	All documents including approved mine plan, EIA	
	and Public Hearing should be compatible with one	
	another in terms of the mine lease area, production	Noted & agreed.
	levels, waste generation and its management,	
	mining technology etc. and should be in the name	
4	of the lessee.	M 1 1 D 1 / 1 / 2 / 2
4	All corner coordinates of the mine lease area,	Map showing – Project area is with adjacent
	superimposed on a High-Resolution Imagery/	quarries details is enclosed in Figure No1.1
	toposheet, topographic sheet, geomorphology and	Project area boundary coordinates superimposed on
	geology of the area should be provided. Such an	Toposheet – Figure No. 1.1A
	Imagery of the proposed area should clearly show	Toposheet of the project area covering 10km radius
	the land use and other ecological features of the	Figure No. 1.2
	study area (core and buffer zone).	Geology map of the project area covering 10km
5	Information should be provided in Company of Ladia	radius - Figure No. 2.11
5	Information should be provided in Survey of India	Map showing –
	Toposheet in 1:50,000 scale indicating geological	
		X11

	map of the area, geomorphology of land forms of	Geology map of the project area covering 10km
	the area, existing minerals and mining history of	radius - Figure No. 2.11
	the area, important water bodies, streams and	Geomorphological features are incorporated in the
	rivers and soil characteristics.	Toposheet map covering 10km radius around the
		project area Figure No. 2.12
6	Details about the land proposed for mining	
	activities should be given with information as to	The applied area was inspected by the officers of
	whether mining conforms to the land use policy of	Department of Geology along with revenue officials
	the State; land diversion for mining should have	and found that the land is fit for quarrying under the
	approval from State land use board or the	policy of State Government.
7	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	The proponent has framed their Environmental
	hierarchical system or administrative order of the	Policy and the same is discussed in the Chapter No
	Company to deal with the environmental issues	10.1.
	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	
8	at large, may also be detailed in the EIA Report.	It is an anamasat ayammina anamatian managad ta
0	Issues relating to Mine Safety, including subsidence study in case of underground mining	It is an opencast quarrying operation proposed to operate in Mechanized method. The rough stone
	and slope study in case of open cast mining,	formation is a hard, compact and homogeneous
	blasting study etc. should be detailed. The	body.
	proposed safeguard measures in each case should	The height and width of the bench will be maintained
	also be provided.	as 5m with 90 ⁰ bench angles.
		Quarrying activities will be carried out under the
		supervision of Competent Persons like Mines
		Manager, Mines Foreman and Mining Mate.
		Necessary permissions will be obtained from DGMS
9	The study area will comprise of 10 km zone	after obtaining Environmental Clearance. Noted & agreed.
7	around the mine lease from lease periphery and	The study area considered for this study is 10 km
	the data contained in the EIA such as waste	radius and all data contained in the EIA report such
	generation etc., should be for the life of the mine /	as waste generation etc., is for the Life of the Mine /
	lease period.	lease period.
10	Land use of the study area delineating forest area,	
	agricultural land, grazing land, wildlife sanctuary,	Land use plan of the project area showing pre-
	national park, migratory routes of fauna, water	operational, operational and post-operational phases
	bodies, human settlements and other ecological	are discussed in Chapter No. 2, Table No 2.3
	features should be indicated. Land use plan of the	
	mine lease area should be prepared to encompass	Land use and land cover of the study area is
	preoperational, operational and post operational	discussed in Chapter No. 3.
	phases and submitted. Impact, if any, of change of	·
11	land use should be given. Details of the land for any Over Burden Dumps	Not Applicable.
11	outside the mine lease, such as extent of land area,	There is no waste anticipated during this quarry
1	distance from mine lease, its land use, R&R	operation. The entire quarried out Rough stone will
1	issues, if any, should be given	be transported to the needy customers.
		·
		X1V

		No Dumps is proposed outside the lease area.
12	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.	Not Applicable. There is no Forest Land involved in the proposed project area. The proposed project area is a Patta land. Approved Mining Plan is enclosed as Annexure Volume 1. No 13382/2022 dated 20.12.2022 DFO Letter by AD -Anamalai Tiger Reserved, Tiruppur Forest Zone
13	Status of forestry clearance for the broken-up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.	Not Applicable. The proposed project area does not involve any Forest Land.
14	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.	Not Applicable. The project doesn't attract Recognition of Forest Rights Act, 2006.
15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given.	No Reserve Forest within the Study Area. No 13382/2022 dated 20.12.2022 DFO Letter by AD -Anamalai Tiger Reserved, Tiruppur Forest Zone
16	A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.	Not Applicable. There are No National Parks, Biosphere Reserves, Wildlife Corridors, and Tiger/Elephant Reserves within 10 km Radius from the periphery of the project area.
17	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves (existing as well as proposed), if any, within 10 KM of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished	Not Applicable. There are No National Parks, Biosphere Reserves, Wildlife Corridors, and Tiger/Elephant Reserves within 10 km Radius from the periphery of the project area.
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	Detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] was carried out and discussed under Chapter No. 3. There is no schedule I species of animals observed within study area as per Wildlife Protection Act 1972 as well as no species is in vulnerable, endangered or threatened category as per IUCN. There is no endangered red list species found in the study area.

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 'Aravalli Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered. 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). 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 and the study area, a need-based sample survey, family-wise, should be undertaken to assess their	
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 'Aravalli Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered. 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). 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	
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I redilirements and action programmes prepared I	.1
and submitted accordingly integrating the large	
sectoral programmes of line departments of the Project Affected People (PAP) is not anticipated	and
State Government. It may be clearly brought out Not Applicable for this project.	
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.	
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 Recaling Data were collected for Summer Sessor	n
and the AAO and other data so compiled Baseline Data were collected for Summer Season	
nresented date-wise in the FIA and FMP Report (March2022-May 2022) as per CPCB Notification	on
Site-specific meteorological data should also be and MOEF & CC Guidelines.	
collected. The location of the monitoring stations Details in Chapter No. 3.	
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 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. Details in Chapter No. 4,
24	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.	Total Water Requirement for this project is given in the chapter No 2, Table No 2.13.
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 obtained from accumulated rainwater/seepage water in mine pits. Drinking water will be sourced from the approved water vendors, No 2, Table No 2.13.
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 No. 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 is at 70-65m below ground level. The ultimate depth of this projects is ultimate depth of mining is 30m BcL (2m Gravel + 2gm Rough Stone)-P1 The ground water table is at 78-73m below ground level. The ultimate depth of this projects is ultimate depth of mining is 36m (1m Gravel + 35m Rough stone) below ground level-P2
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.	Highest elevation of the project area is 276m AMSL-P1 Ultimate depth of the mine is 30m. The ground water table is at 70-65m below ground Level. Highest elevation of the project area is 260m AMSL-P2 Ultimate depth of the mine is 36m.

		The ground water table is at 78-73m below ground Level.
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.	Progressive greenbelt development plan has been prepared and discussed along with Recommended Species details are given in the Chapter 4, Table No.4.9.
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.	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 much significant impact due to the proposed transportation from the project area. Details in Chapter 2.
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.	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
33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.	Discussed in 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.	Details in Chapter 10.
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	Details in Chapter 4,.

	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	Environment Management Plan Chapter 10.
	dimensions may be given with time frames for	
	implementation.	
38	Detailed environmental management plan (EMP)	
30	to mitigate the environmental impacts which,	
	should inter-alia include the impacts of change of	The outcome of public hearing will be updated in
	land use, loss of agricultural and grazing land, if	the final EIA/AMP report
	any, occupational health impacts besides other	the initi Environt report
	impacts specific to the proposed Project.	
39		
39	Public Hearing points raised and commitment of	
	the Project Proponent on the same along with time	N- 14:-4:-4:1:1:1:1:1:41:-
	bound Action Plan with budgetary provisions to	No litigation is pending in any court against this
	implement the same should be provided and also	project.
	incorporated in the final EIA/EMP Report of the	
40	Project.	m 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
40	Details of litigation pending against the project, if	The proposed capital cost for Environmental
	any, with direction /order passed by any Court of	Monitoring Programme is Rs 7,60,000/- Details in
	Law against the Project should be given.	Chapter 6.
41	The cost of the Project (capital cost and recurring	
	cost) as well as the cost towards implementation	Details in Chapter 10.
	of EMP should be clearly spelt out.	
42	A Disaster management Plan shall be prepared	Details in Chapter 7.
	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	D-4-:1- :- Cl4 0
	the Project shall clearly indicate environmental,	Details in Chapter.8.
	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	Encloses as separate volume
В	All documents to be properly referenced with	All the documents are properly referenced with
	index and continuous page numbering.	index and continuous page numbering.
С	Where data are presented in the Report especially	
C	in Tables, the period in which the data were	List of Tables and source of the data collected are
	collected and the sources should be indicated.	given properly.
D	Project Proponent shall enclose all the	
ט	analysis/testing reports of water, air, soil, noise	
	etc. using the MoEF & CC / NABL accredited	
		Baseline monitoring reports are enclosed
	laboratories. All the original analysis/testing	
	reports should be available during appraisal of the	
Б	Project	
Е	Where the documents provided are in a language	Not Applicable.
	other than English, an English translation should	1.1
	be provided.	
F	The Questionnaire for environmental appraisal of	Will be enclosed along with Final EIA /EMP
	mining projects as devised earlier by the Ministry	Report.
	shall also be filled and submitted.	roport.
G	While preparing the EIA report, the instructions	Instructions issued by MoFF & CCOM No. 1
	for the Proponents and instructions for the	Instructions issued by MoEF & CC O.M. No. J-
	Consultants issued by MoEF & CC vide O.M. No.	11013/41/2006-IA. II (I) Dated: 4th August, 2009 are followed.
	J-11013/41/2006-IA. II(I) Dated: 4th August,	are followed.

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	2009, which are available on the website of this Ministry, should be followed.	
Н	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.	Surface Plan – Figure No. 2.2. Geological Plan – Figure No 2.9. Working Plan – Figure No 2.9. Closure Plan – Figure No.2.10.

TERMS OF REFERENCE (ToR) COMPLIANCE

P-3- Thiru.S.Rajasekar

<u>Lr No. SEIAA-TN/F.No.10781/ToR No: TO24B0108TN5560449N Dated: 03.06.2024</u>

1	G.' G'C. G 1'4'4	
	Seiaa Specific Condititons	
1.1	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	Noted & agreed.
	Impact Assessment Study and preparation of	
	separate Environment Management Plan subject	
	to the conditions as recommended by SEAC	
2.Seac	Conditions - Site Specific	
	1. The project proponent shall submit a Certified	
	Compliance Report obtained from the office of	CTO: Proceeding no
	the concerned DEE/TNPCB (or) IRO, MoEF &	F.2533TPN/RS/DEE/TNPCB/TPN/W/2018 dated
	CC, Chennai as per the MoEF&CC O.M	11/12/2018
	dated.08.06.2022 for the previous EC and	Previous Environmental clearance: Lr.No.DEIAA-
	appropriate mitigating measures for the non-	TPR/F.No.358/1(VIII)/2018, Dated:14.08.2018
2.1	compliance items, if any.	
2.1	2. For the existing quarry, the PP shall obtain a	Existing Pit Dimension: Pit:1 160m (L) x 87m (W)
	letter from the concerned AD (Mines) which	x 30m(D) below from the existing ground profile
	shall stipulate the following information:	Pit:1 35m (L) x 115m (W) x 22m(D) below from
	i. original pit dimension of the existing quarry	the existing ground profile
	ii. Quantity achieved Vs EC Approved Quantity	
	iii. Balance Quantity as per Mineable Reserve	
	calculated.	EC Approved Quantity 1,70,830m ³ Roughstone

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SEAC considering the cluster situation.	

	SEAC STANDARI	OCONDITIONS
	1.In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following	Previous Environmental clearance: Lr.No.DEIAA-TPR/F.No.358/1(VIII)/2018, Dated:14.08.2018
	i. original pit dimension of the existing quarry	Existing Pit Dimension: Pit:1 160m (L) x 87m (W) x 30m(D) below from the existing ground profile Pit:1 35m (L) x 115m (W) x 22m(D) below from the existing ground profile
	ii. Quantity achieved vs EC approved quantity	EC Approved Quantity 1,70,830m ³ Roughstone And 5,472 m ³ Gravel
	iii. Balance quantity as per Mineable Reserve calculated	Available Mineable Reserves 1,70,830m³ of Rough Stone (Volume)
	iv. Mined out Depth as on date vs EC permitted depth	Existing depth is 22m, mining plan depth is 37m bgl(EC Permitted depth)
	v. Details of illegal/Illicit Mining carried out, if any	Non Illigal
	vi. Non-Compliance / violation in the quarry during the past working	Non violence
	vii. Quantity of material mine out outside the mine lease area (or) in the adjacent quarry/field	-
	viii. condition of safety / benches	Addressed in the Mining Plan by providing adequate safety and making bench formations.
2.1	ix. Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.	Ultimate pit = Pit1: 65m (L) x 115m (W) x 37m Bgl (D) PitII: 163m (L) x 87m (W) x 37m Bgl (D)
	2.Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site.	The letter detailing habitations around the proposed mining is obtained from Morattupalayam Village enclosed as Annexure – 3
	3. The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.	Detailed in chapter- 3 socio economic environment
	4.The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc are located within 1km of the proposed quarry. 5.The proponent shall carry out Bio diversity study through reputed institution and the same shall be included in EIA Report.	The hydro-geological study was conducted to evaluate the possible impact on the ground water table. No significant impacts are anticipated on the water bodies around the project area. Details are discussed under Chapter No. 4 The Bio diversity study has been conducted by the Functional Area Expert approved by the NABET. The same has been detailed in the Chapter No.3
	6.The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site.	Request to consider the secondary source data detailing the nearest reserve forest from Tamil Nadu Geographical Information System (TNGIS). The Nearest Reserve Forest Boluvampatti R.F – 12.8km-W
	7.In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall the PP shall carry out the scientific studies to assess the slope stability of the	It is a fresh lease application but, the applied area has been considered quarrying operation earlier

working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research / Dhanbad, NIRI/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus" The PP shall submit a copy of the aforesaid report indicating the stability status of the quarry wall and possible mitigation measures during the time of appraisal for obtaining the EC.	
8.However, in case of the fresh/virgin quarries, the Proponent shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the working is extended beyond 30 m below ground level.	Proposed depth is 37m Bgl.
9. The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 196l such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent.	The PP affirms that post execution of Quarry Lease Deed the application for Notice of Opening of the Mine along with Notice of Appointment of Competent Person shall be submitted to Director General Mines Safety, Chennai as per MMR, 1961. And ensure the quarry is operated under the Competent Person Employed.
10. The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site.	The details of design for carrying out controlled blasting operation involving line drilling and muffle blasting to minimize blast-induced ground vibrations and controlled fly rock travel beyond 30 m from the blast site is detailed in Chapter 4.
11. The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and photographic evidences.	The PP has submitted self-declaration affidavit that there are no other quarries applied or existing in his name elsewhere in the state.
12.If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD mines,	Rc.No.105/Mines/2017, Dated: 29.01.2018
13. What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?	-
14. Quantity of minerals mined out.	1,70,830m ³
c) Highest production achieved in any one year	36,850 second year
d) Detail of approved depth of mining.	37m
e) Actual depth of the mining achieved earlier.	-
f) Name of the person already mined in that leases area.	Tvl. Tamilnadu Blue Metals Rough Stone & Gravel Quarry (Mr.Rajkumar, Managing Partner)
g) If EC and CTO already obtained, the copy of the same shall be submitted.	This is an Existing quarry
h) Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.	Existing depth is 22m, mining plan depth is 37m bgl
15.All corner coordinates of the mine lease area, superimposed on a high-resolution Imagery/Toposheet, 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 area).	Satellite imagery of the project area along with boundary coordinates is given in the Chapter No 2,

16.The PP shall carry out Drone video survey The Drone Video of the project site is taken covering the covering the cluster, green belt, fencing etc., Greenbelt and Fencing around the Project and enclosed as soft copy as CD. 17. The proponent shall furnish photographs of As per the recommendations during SEAC ToR adequate fencing, green belt along the periphery Presentation of the proposal and commitment of PP a count of 1200 Nos of trees were planted as a part of including replantation of existing trees & safety distance between the adjacent quarries & water bodies greenbelt development programme all along the periphery of the lease applied area and approach roads and village nearby provided as per the approved mining plan. roads. As well the pp has provided wire fencing as recommended all along the boundary of the lease applied area. 18. The Project proponent shall provide the details of Details of mineral reserves and mineable reserves, mineral reserves and mineable reserves, planned planned production capacity, proposed working production capacity, proposed working methodology methodology justifications are provided in Chapter 2. justifications, with the anticipated impacts of the mining operations on the surrounding environment The anticipated impacts of the mining operations on the and the remedial measures for the same. surrounding environment and the remedial measures for the same are provided in Chapter 4. 19. The Project proponent shall provide the The Organization chart indicating the appointment of Organization chart indicating the appointment of various statutory officials and other competent persons to various statutory officials and other competent be appointed as per the provisions of Mines Act, 1952 and persons to be appointed as per the provisions of Mines the MMR, 1961 for carrying out the quarrying operations Act, 1952 and the MMR, 1961 for carrying out the scientifically and systematically in order to ensure safety quarrying operations scientifically and systematically and to protect the environment. in order to ensure safety and to protect the 20. The Project Proponent shall conduct the hydro-The hydro-geological study was conducted to evaluate the geological study considering the contour map of the possible impact on the ground water table. No significant water table detailing the number of ground water impacts are anticipated on the water bodies around the pumping & open wells, and surface water bodies such project area. Details are discussed under Chapter No. 3. as rivers' tanks, canals, ponds etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data' it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be Provided. 21. The proponent shall furnish the baseline data for Baseline Data were collected for Summer season March the environmental and ecological parameters with 20242to May 2022 regard to surface water/ground water quantity, air Details in Chapter No. 3. quality, soil quality & flora/fauna including Traffic/vehicular movement study. 22. The Proponent shall carry out the Cumulative impact study due to mining operations carried out in Cumulative impact study has been carried out covering the quarry specifically with reference to the specific proposed and existing quarries in the cluster and results environment in terms of soil, health, biodiversity, air related to air pollution, water pollution, & health impacts pollution, water pollution, climate change and flood have been given in chapter No. 7, Based on the results, control & health impacts. Accordingly, the environmental management plan has been prepared and Environment Management plan should be prepared given in Chapter No. 10. keeping the concerned quarry and the surrounding habitations in the mind. The lower part of the mine pit will be utilized as rain water 23.Rain water harvesting management recharging details along with water balance (both harvesting structure (Temporary) and the water will be monsoon & non-monsoon) be submitted. used for the water sprinkling on haul roads and Greenbelt development purpose. Rainwater harvesting structure will be constructed near the mine office. 24.Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, Land use and land cover of the study area is discussed in national park, migratory routes of fauna, water bodies, Chapter No. 3. human settlements and other ecological features

should be indicated. Land use plan of the mine lease area should be prepared to encompass pre operational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	Land use plan of the project area showing pre- operational, operational and post-operational phases are discussed in Chapter No. 3, Table No 3.3
25.Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided.	Not applicable
26.Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.	Not Applicable. Project area / Study area is not declared in 'Critically Polluted' Area and does not come under 'Aravalli Range.
27.Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	The lower part of the mine pit will be utilized as rain water harvesting structure (Temporary) and the water will be used for the water sprinkling on haul roads and Greenbelt development purpose. Rainwater harvesting structure will be constructed near the mine office.
28.Impact on local transport infrastructure due to the Project should be indicated.	Traffic density survey was carried out to analyze 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 have been provided in Chapter No.2
29.A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity.	As per the recommendations during SEAC ToR Presentation of the proposal and commitment of PP a count of 1000Nos of trees were planted as a part of greenbelt development programme all along the periphery of the lease applied area and approach roads and village roads.
30.A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.	Noted & agreed. Mine closure plan is detailed in Chapter:4.
31.As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible.	Noted, it will submit final EIA/EMP report.
32. The purpose of green belt around the project is to capture the fugitive emissions. Carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix 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 io a mixed manner.	As per the recommendations during SEAC ToR Presentation of the proposal and commitment of PP a count of 1200 Nos of trees were planted as a part of greenbelt development programme all along the periphery of the lease applied area and approach roads and village roads.
33.Taller/one year old Saplings raised in appropriate size of bags; preferably eco-friendly bags should be planted as per the advice of local forest authorities / botanist / Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of	Detailed in chaper-3 Ecology biodiversity studies.

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the project site with at least 3 meters wide and in between blocks in an organized manner.	
34.A Disaster management Plan shall be prepared and	Disaster management Plan is detailed in Chapter-7
35.A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report.	A Risk Assessment and management Plan Chapter- 7
36.Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Occupational Health impacts are discussed in chapter- 10
related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	No Public Health Implications anticipated due to this project. Details of CER and CSR are discussed under Chapter 8.
38. The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	Details are listed in Chapter:3.
any, with direction /order passed by any Court of Law against the Project should be given.	No Litigation is pending
implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social,	Project benefit is given in the Chapter No.8.
41.If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF & CC, Regional Office, Chennai (or) the concerned DEE/TNPCB.	Not Applicable. The applied area is a new proposal for Environmental Clearance.
42. The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to	Noted and agreed
43. Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Reference besides attracting penal provisions in the Environment	Noted and agreed
4. SEIAA STANDARD CONDITIONS	
1.Cluster Management Committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry.	Cluster Management Committee has been constituted initially with 5 proposed and 9 existing quarries
2. The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc	The information will be shared to the cluster management committee during the monthly meeting.
	between blocks in an organized manner. 34.A Disaster management Plan shall be prepared and included in the EIA/EMP Report. 35.A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report. 36.Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed. 37.Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations. 38.The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation. 39.Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given. 40.Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc. 41.If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the provious EC with the site photographs which shall duly be certified by MoEF & CC, Regional Office, Chennai (or) the concerned DEE/TNPCB. 42.The PP shall prepare the EMP for the entire life of mine. 43.Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions

3	3.The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines.	The list of members of the committee formed will be submitted to AD/Mines before the execution of mining lease.
4	4.Detailed operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network.	All the information has been discussed in Chapter No.2
5	5. The committee shall deliberate on risk management plan pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan	The risk management plan and disaster management plan will be followed as per this EIA report.
6	6.The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the environmental policy devised shall be given in detail.	Environmental policy is described in the EIA report Chapter No. 6 and the same will be followed.
7	7. The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner.	A proper action plan regarding the restoration will be followed by the committee
8	8.The committee shall furnish the Emergency Management plan within the cluster.	The committee will submit the emergency management plan to the respective authority in the stipulated time period.
9	9. The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public.	The risk management plan and disaster management plan will be followed as per the EIA report.
10	10. The committee shall furnish an action plan to achieve sustainable development goals with reference to water, sanitation & safety. 11. The committee shall furnish the fire safety and	A proper action plan with reference to water, sanitation & safety will be devised and submitted by the committee to the respective authority. The fire safety and evacuation plan will be carried out by
	evacuation plan in the case of fire accidents. ct study of mining	as per the respective quarry mines managers
12	Detailed study shall be caried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise arca communication order issued from reputed research institutions on the following a) Soil health & bio-diversity, physical land chemical features. 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. 1) 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 steams.	
	ulture & Agro-Biodiversity	
13	Impact on surrounding agricultural fields around the proposed mining Area.	As the proposed lease area is dominantly surrounded by mining land, barren land, and fallow land, the impact on the surrounding agricultural fields if present will be low. With proper mitigation measures, the project will be

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		carried out to reduce the impact further to the level of negligence.
14	Impact on soil flora & vegetation around the project site.	The vegetation details have been provided in chapter III. There is no schedule I species of animals observed within study area as per Wildlife Protection Act, 1972 and no species falls in vulnerable, endangered or threatened category as per IUCN. There is no endangered red list species found in the study area.
15	Details of type of vegetations including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetations all along the boundary of the proposed mining area shall committed mentioned in EMP.	The vegetation details have been provided in chapter III. There is no schedule I species of animals observed within study area as per Wildlife Protection Act, 1972 and no species falls in vulnerable, endangered or threatened category as per IUCN. There is no endangered red list species found in the study area
16	The Environmental Impact Assessment should study the biodiversity, the natural ecosystem, the soil micro flora. fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.	Details are discussed in Chapter No.3
17	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. After completion of mining operation, the quarried-out pit will be facilitated to collect the rainwater to pit act as temporary reservoir.
18	The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands. Horticulture, Agriculture and livestock.	The project area is bounded by dry barren land on all the sides.
Fores	<u></u>	
19	The project proponent shall detail study on impact of mining on Reserve forests free ranging wildlife.	There is no Reserve Forest within 1km radius from the project area (Chennimalai R.F – 14.39 Km – NE). The mining operation will not cause any significant impact to the Reserve Forest and Wild life Sanctuaries.
20	The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.	chapter 3 details of Ecology and Biodiversity, and 4 endemic vulnerable and endangered indigenous flora and fauna.
21	The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.	chapter 3 details of Ecology and Biodiversity
22	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
Water	r Environment	
23	Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks. canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period.	Hydro-geological study considering the contour map of the water table detailing Chapter-3
24	Erosion Control measures.	Garland drainage structures will be constructed around the lease area to control the erosion, as discussed in Section 4.3 under Chapter 4.
25	Detailed study shalt be carried out in regard to impact of mining around the proposed mine lease area on the nearby villages, water-bodies/ Rivers. & any ecological fragile areas.	In the EIA report Chapter No. IV enumerate the anticipated impact due to the project and mitigation measures

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26	The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.	Detailed under Chapter 3.
27	The project proponent shall study and furnish the details on potential fragmentation impact on natural environment by the activities.	Details are given in the Chapter No 4.
28	The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.	Detailed discussed in the chapter 4
29	The Terms of Reference should specifically study impact on soil health, soil erosion, the soil, physical, chemical components and microbial components.	Details of impact on soil environment is detailed in Chapter No.4.
30	The Environmental impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.	The nearest water bodies from the project area are an Nallar stream located 500m-SW
Energ 31	The measures taken to control Noise. Air, Water. Dust Control and steps adopted to efficiently utilize the Energy shall be furnished.	Details in Chapter 3 environmental monitoring details.
	te Change	
32	The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities.	Details of carbon emission and mitigation activities are given int the Chapter No.4
33	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.
Mine	Closure Plan	
34	Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.	Details in Chapter 2 mine closure plan
EMP		
35	Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.	Details in EMP in chapter 10
36	The Environmental Impact Assessment should hold detailed study on EMP with budget for green belt development and mine closure plan including disaster management plan.	Detailed Environment Management Plan for the project to mitigate the anticipated impacts described under Chapter 4 is discussed under Chapter 10.
Disas	ter Management Plan	
38	To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued.	Disaster management Plan details in Chapter-7
Other		
39	The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations. schools. Archaeological sites. Structures. railway lines, roads. Water bodies such as streams, odai, vaari, canal, channel. river, lake pond, tank etc.	The letter detailing habitations around the proposed mining is obtained from Moratupalayam Village enclosed as Annexure – 3

40	As per the MoEF & CC office memorandum tr.No.22-	Noted and agreed
	651201 7-1A.111 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.	
41	The project proponent shall study and furnish the	Details of plastic management is in chapter 7
	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.	

Standard Terms of Reference for (Mining of minerals)

S. No	Terms of Reference	Reply
1.1	An EIA-EMP Report shall be prepared for peak capacity (MTPA) operation in an ML/project area ofha based on the generic structure specified in Appendix III of the EIA Notification, 2006.	Peak Production = 35,750m³ of Rough Stone Proposed Depth = 37m bgl Project area of 2.48.5Ha.
1.2	An EIA-EMP Report would be prepared for peak capacity operation to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for MTPA of mineral production based on approved project/Mining Plan for MTPA. Baseline data collection can be for any season (three months) except monsoon.	Peak capacity of 35,750m³ operation to cover the impacts and environment management plan in chapter- IV and Chapter-10 covered in project specific activities. Baseline Data were collected for Post monsoon Season March– May 2022 as per CPCB Notification and MoEF & CC Guidelines. Details in Chapter No. III
1.3	Proper KML file with pin drop and coordinate of mine at 500-1000 m interval be provided.	Noted, Google earth image showing lease area with Coordinates of pillars in chapter-II.
1.4	A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries, mines, and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given. The above details to be furnished in tabular form also.	Land use and land cover of the 10km Radius of study area is discussed in Chapter No. III. Geology map of the project area covering 10km radius Figure No. 2.5, Page No. 20. Geomorphology of the area is given in Chapter No 2 Figure No 2.6, Page No. 20 There are No National Parks, Biosphere Reserves, Wildlife Corridors, and Tiger/Elephant Reserves within 10 km Radius from the periphery of the project area.
1.5	Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.	Land use and land cover of the study area is discussed in Chapter No. III with Physical features such as waterbodies, odai, canal etc.,

1.6	A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map. Catchment area with its drainage map of 25 km area within and outside the mine shall be provided with names, details of rivers/ riverlet system and its respective order. The	DEM data using Drainage pattern around 10km radius showing streams and lakes etc., discussed in Chapter No. 3. Drainage pattern around 10km radius showing streams and lakes etc., is discussed in Chapter No. 3.
	map should clearly indicate drainage pattern of the catchment area with basin of major rivers. Diversion of drains/ river need elaboration in form of length, quantity and quality of water to be diverted.	
1.8	(Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.	Details in chapter-2 showing the land features. And also enclosed Approved mining plan in annexure
1.9	Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.	It is an opencast quarrying operation proposed to operate in Mechanized method. The Rough Stone quarry formation is a hard, compact and homogeneous body. The height and width of the bench will be maintained as 5m with 90° bench angles. Quarrying activities will be carried out under the supervision of Competent Persons like Mines
1.10	Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing though the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.	Manager, Mines Foreman and Mining Mate. Impact Studies and Mitigation Measures of Water Environment including Surface Water and Ground Water are discussed in Chapter 4.

A detailed Site plan of the mine showing the proposed breakup of the land for mining operations such as the quarry area,
OB dumps, green belt, safety zone, buildings, infrastructure,
Stockyard, township/colony (within and adjacent to the ML),
undisturbed area -if any, and landscape features such as
existing roads, drains/natural water bodies to be left
undisturbed along with any natural drainage adjoining the
lease /project areas, and modification of thereof in terms of
construction of embankments/bunds, proposed diversion/rechannelling of the water courses, etc., approach roads, major
haul roads, etc should be indicated.

Original land use (agricultural land/forestland/grazing

Not Applicable.

The details of waste dump management are given in the Chapter No. 4

Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified. Area under Surface Rights

Land use and land cover of the study area is discussed in Chapter No. 3.

Land use plan of the project area showing preoperational, operational and post-operational phases are discussed in Chapter No. 2, Table No 2.5.

Sno	ML. project Land use	Area under Surface Rights(ha	Area Under Mining Rights(ha)	Area under Both (ha)
1	Agriculture Land			
2	Forest Land			
3	Grazing Land			
4	Settlements			
5	Others (Specify)			

S.No	Details	Area (Ha)
1	Buildings	
2	Infrastructure	
3	Roads	
4	Others (Specify)	
	Total	

Present area (Ha)	Area at the end of lease period (Ha)
1.85.0	2.22.0
Nil	0.01.0
0.02.0	0.02.0
Nil	0.14.0
0.61.5	0.09.5
2.48.5	2.48.5
	area (Ha) 1.85.0 Nil 0.02.0 Nil 0.61.5

1.13

1.12

Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and

Detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] was carried out and discussed under Chapter No. 3.

There is no schedule I species of animals observed within study area as per Wildlife Protection Act 1972 as well as no species is in vulnerable, endangered or threatened category as per IUCN. There is no endangered red list species found in the study area.

	One-season (other than monsoon) primary baseline data	Baseline Data were collected for Summer season
	on environmental quality - air (PM10, PM2.5, SOx, NOx	March-May 2022 as per CPCB Notification and
	and heavy metals such as Hg, Pb, Cr, As, etc), noise,	MoEF & CC Guidelines.Details in Chapter No. 3.
1.14	water (surface and groundwater), soil - along with one-	
	season met data coinciding with the same season for AAQ	
	collection period should be provided. The detail of NABL/	
	MoEF&CC certification of the respective laborartory and	
	NABET accreditation of the consultant to be provided.	
	Map (1: 50, 000 scale) of the study area (core and buffer	Details in chapter-3 showing the various sampling
	zone) showing the location of various sampling stations	stations
	superimposed with location of habitats, other	As per CPCB guidelines.
	industries/mines, polluting sources, should be provided. The	
	number and location of the sampling stations in both core and	
1.15	buffer zones should be selected on the basis of size of	
	lease/project area, the proposed impacts in the downwind	
	(air) / downstream (surface water)/groundwater regime	
	(based on flow). One station should be in the	
	upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines	
	and parameters for water testing for both ground water and	
	surface water as per ISI standards and CPCB classification	
	L	
	For proper baseline air quality assessment, Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ	Air Quality Modelling and windrose pattern for
	shall be planned by the collection of air quality data by adequate	prediction of incremental GLC's of pollutant was
1.16	monitoring stations in the downwind areas. Monitoring location for	carried out using AERMOD view 13 Model.
1.10	collecting baseline data should cover overall the 10km buffer zone	Details in Chapter No. 4.
	i.e., dispersed in 10 km buffer area. In case of expansion, the	
	displayed data of CAAQMS and its comparison with the monitoring	
	A detailed traffic study along with presence of habitation	Traffic density survey was carried out to analyses the
	in 100 mts distance from both side of road, the impact on	impact of Transportation in the study area as per IRC
	the air quality with its proper measures and plan of action	guidelines 1961 and it is inferred that there is no
1 17	with timeline for widening of road. The project will increase	significant impact due to the proposed transportation
1.17	the no. of vehicle along the road which will indirectly contribute to carbon emission so what will be the	from the project area. Details in Chapter-II.
	compensatory action plan should be clearly spell out in EIA/	
	The socio-economic study to conducted with actual survey	Detailed in chapter-3 socio-economic study with
	report and a comparative assessment to be provided from the	occupational status & economic status of the study
	census data should be provided in EIA/ EMP report also	area.
1.18	occupational status & economic status of the study area and	The study should also include the status of
	what economically project will contribute should be clearly	infrastructural facilities and amenities present in the
	mention. The study should also include the status of	study area
	infrastructural facilities and amenities present in the study	COD II I I CI I C
	area and a comparative assessment with census data to be	CSR are discussed under Chapter 8.
	provided and to link it with the initialization and	
	quantification of need-based survey for CSR activities to be The Ecology and biodiversity study should also indicate the	Detailed Ecology and biodiversity study in
		chapter-3
1.19	likely impact of change in forest area for surface infrastructural development or mining activity in relation to	Chapter-3
1.19	the climate change of that area and what will be the	
	compensatory measure to be adopted by PP to minimize the	
	incompensatory incasure to be adopted by 11 to minimize the	
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1.20	Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.	Detailed in chapter-4 population in the impact zone and measures for occupational health and safety and proposed occupational health in chapter-X
1.21	Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted.	Noted and agreed
1.22	Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.	The ground water table is at 45-50m below ground level. In these projects, ultimate depth is 27m Bgl It is inferred the quarrying activities in the Cumulative EIA project (Quarry) will not intersect the Ground water table.
1.23	Study on land subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.	Detailed in Chapter-IV Anticipated and mitigation measures of in the study area.
1.24	Detailed water balance should be provided. The breakup of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.	Total Water Requirement: 2.0 KLD Discussed under Chapter 2, Table No 2.15, The required water will be met from rainwater accumulated in mine pit (when available) and from the approved water vendors.
1.25	PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs	Methodology And Instrument Used For Air Quality Analysis in chapter-3and Air Pollution control equipment (APCEs) in chapter-10 sub 10.2 Environmental policy.
1.26	PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of mineral. The measures adopted to conserve energy or use of renewable sources shall be explored.	Details in Machinery and equipment details in Chapter-2 Table No 2.10
1.27	PP to evaluate the green house emission gases from the mine operation/ washery plant and corresponding carbon absorption plan.	Noted and agreed
1.28	Site specific Impact assessment with its mitigation measures, Risk Assessment and Disaster Preparedness and Management Plan should be provided.	A Risk Assessment and Disaster Preparedness and management Plan Chapter- 7
1.29	Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.	Detailed in Machinery and technology used Chapter-3 Table 3.17 – Methodology and Instrument Used for Air Quality Analysis Detailed study in chapter-4 Impact of choice of mining method and impact on air quality and blasting and noise and vibrations.

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1.30	Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.	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 much significant impact due to the proposed transportation from the project area. Details in Chapter 2. 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 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
1.32	The number and efficiency of mobile/static water jet, Fog cannon sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.	Detailed in chapter-2 for mineral transportation route with approach roads etc., and impacting air quality detailed given chapter-4
1.33	Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined-out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure	Discussed under Chapter 2. Mine Closure Plan is a part of Approved Mining Plan enclosed as Annexure Volume – 1.
1.34	Adequate greenbelt nearby areas, mineral stock yard and transportation area of mineral shall be provided with details of species selected and survival rate Greenbelt development should be undertaken particularly around the transport route.	Greenbelt Development Plan is discussed under Chapter 4,
1.35	Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.	The total cost and the details are given in the Chapter No. 10
1.36	Details of R&R. Detailed project specific R&R Plan with data on the existing socio- economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc. and costs along with the schedule of the implementation of the R&R Plan should be given	Not Applicable. There are no approved habitations within a radius of 300 meters. Therefore, R&R Plan / Compensation details for the Project Affected People (PAP) is not anticipated and Not Applicable for this project.
1.37	CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.	CSR are discussed under Chapter 8. And specific budgetary provisions (capital and recurring) for specific activities over the life of the project in chapter-10
1.38	Corporate Environment Responsibility:	CER are discussed under Chapter 8.
1.39	a) The Company must have a well laid down Environment Policy approved by the Board of Directors.	Detailed in chapter-10 The Environment Policy
1.40	b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.	

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1.41	c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.	The Environment Monitoring Cell discussed under Chapter 6
1.42	d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at	The Environment Monitoring Cell discussed under Chapter 6
1.43	e) Environment Management Cell and its responsibilities to be clearly spell out in EIA/ EMP report	The Environment Monitoring Cell discussed under Chapter 6
1.44	f) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.	The Environment Monitoring Cell discussed under Chapter 6
1.45	Status of any litigations/ court cases filed/pending on the project should be provided.	No litigation is pending in any court against this project
1.46	PP shall submit clarification from DFO that mine does not falls under corridors of any National Park and Wildlife Sanctuary with certified map showing distance of nearest sanctuary.	Vellode Bird Sanctuary – 27.0 km – NE Anamalai Tiger Reserve– 77.7 km – SW
1.47	Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable	Noted and agreed
1.48	Details on the Forest Clearance should be given as per the format given: Total Mine lease area (ha): Total Forest Land (Ha): Date of FC: Extent of Forest Land: Balance area for which FC is yet to be obtained: Status of application for diversion of forest Land:	Chennimalai R.F – 14.39 Km – NE Total Mine Lease area 2.48.5ha DFO Letter No O.M.No:13737/2022/F. Dated: 04.01.2024
1.49	In case of expansion of the proposal, the status of the work done as per mining plan and approved mine closure plan shall be detailed in EIA/ EMP report.	Enclosed Approved mining plan in Annexure volume-I
1.50	Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the time bound action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same. should be	The outcome of public hearing will be updated in the final EIA/AMP report.
1.51	PP shall carry out survey through drone highlighting the ground reality for at least 10 minutes.	Noted and agreed
1.52	Detailed Chronology of the project starting from the first lease deed allotted/Block allotment/ Land acquired to its No. of renewals, CTO /CTE with details of no. renewals, previous EC(s) granted details and its compliance details, NOC details from various Govt bodies like Forest NOC(s), CGWA permissions, Power permissions, etc as per the requisites respectively to be furnished in tabular form.	Noted and agreed

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	The first page of the EIA/ EMP report must mention the	As per detailed in front page of Draft EIA/EMP,
1.53	peak capacity production, area, detail of PP, Consultant	NABET, NABL certification detailed given in the
	(NABET accreditation) and Laboratory (NABL / MoEF &	report.
	CC certification)	
	The compliances of Tor must be properly cited with	As per Tor compliance each chapter wise page and
	respective chapter section and page no in tabular form and	table, figure no given in the EIA/EMP report.
1.54	also mention sequence of the respective ToR complied within	
	the EIA-EMP report in all the chapters section.	

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CHAPTER - 1: INTRODUCTION

1.0 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.

Rough Stone and Gravel are the major requirements for construction industry. This EIA report is prepared by considering Cumulative load of all proposed quarries of Morattupalayam Rough Stone and Gravel Cluster Quarries consisting of five Proposed quarries and nine existing quarries total extent of Cluster of **21.64.52Ha** in Morattupalayam Village, Uthukuli Taluk Tiruppur District, Tamil Nadu State, cluster area calculated as per MoEF & CC Notification S.O. 2269(E) Dated 1st July 2016.

This EIA Report is prepared in compliance with ToR obtained for the below proposals in Table 1.1 and the Baseline Monitoring study has been carried out during the period of Mar 2022 to May 2022

Code	Proponent Name	S.F No	Village & Taluk	Extent (Ha)
P1	Tmt.V.Revathi	209/1A(P), 209/1B(P) &	Morattupalayam	2.25.5
		209/2 (P)	Village, Uthukuli	
P2	Thiru.U.Prabhakaran	389/1C2,	Taluk	0.68.8
Р3	Thiru.S.Rajsekar	382/2A (P),		2.48.5

TABLE 1.1: ToR OBTAINED PROJECTS

Source: ToR Letter's of the respective project proponents

1.1 Purpose of the report

The Ministry of Environment and Forests, Govt. of India, through its EIA notification S.O. 1533(E) of 14th September 2006 and its subsequent amendments as per Gazette Notification S.O. 1889 of 20thApril 2022, Mining Projects are classified under two categories i.e. A (> 250 Ha) and B (\leq 250 Ha), and Schematic Presentation of Requirements on Environmental Clearance of Minor Minerals including cluster situation in Appendix – XI.

Now, as per Order Dated: 04.09.2018 & 13.09.2018 passed by Hon'ble National Green Tribunal, New Delhi in O.A. No. 173 of 2018 & O.A. No, 186 of 2016 and MoEF & CC Office Memorandum F. No. L-11011/175/2018-IA-II (M) Dated: 12.12.2018 clarified the requirement for EIA, EMP and therefore, Public Consultation for all areas from 5 to 25 ha falling in Category 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. "Draft EIA report prepared on the basis of ToR Issued for carrying out public hearing for the grant of Environmental Clearance from SEIAA, Tamil Nadu"



Figure 1.1. Satellite Imagery of Cluster quarries

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

Note: As per above notification S.O.2269(E) dated: 01.07.2016 in para (b) in Appendix XI, - (i)(6) A cluster shall be formed when the distance between the peripheries of one lease is less than 500 meters from the periphery of other lease in a homogeneous mineral area which shall be applicable to the mine lease or quarry licenses granted on and after 9_{th} September, 2013

1.2 Identification of Project and Project Proponent

1.2.1 Identification of Project

The project areas in the cluster are Patta Land, no forest land is involved

TABLE 1.2: PROPOSED PROJECTS IN THE CLUSTER

Description	P1	P2	Р3
Name of the Project Tmt.V.Revathi, Rough Stone & Gravel Quarry		Thiru.U.Prabhakaran Rough stone & Gravel Quarry	Thiru.S.Rajsekar Rough stone & Gravel Quarry
S.F. No.	209/1A(P), 209/1B(P) & 209/2 (P)	389/1C2	382/2A (P),
Extent	2.25.5 Ha	0.68.8 Ha	2.48.5
Village, Taluk	Morattupalayam Village, Uthukuli Taluk,		
District	Tiruppur District		

Source: Approved Mining Plan

1.2.2 Identification of Project Proponent

TABLE 1.3: DETAILS OF PROJECT PROPONENT

PROPOSAL – P1				
Name of the Company Tmt.V.Revathi,				
Address	W/o. M. Vijayakumar, residing at No. 8/223, Chinna Kadapalayam,			
Address	Uthukuli Taluk, Tiruppur District – 638 812.			
Mobile	98430 60018			
Status	Proprietor (Individual)			
	PROPOSAL – P2			
Name of the Company	Thiru.U.Prabhakaran			
	S/o. Udhayakumar, residing at No.6/67, Sappattanaickenpalayam,			
Address	Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil			
	Nadu State – 638 752.			
Mobile	+91 98422 12353			
Status	Proprietor (Individual)			
	PROPOSAL – P3			
Name of the Company	Thiru.S.Rajsekar			
	S/o. Semalai Gounder,71,Dhimmanaickenpalayam, Morattupalayam			
Address	Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State – 638			
	752.			
Mobile	+91 9443243167			
Status	Proprietor (Individual)			

Source: Approved Mining Plan of the respective projects

1.3 Brief description of the project

1.3.1 Nature and size of the Project

The quarrying operation is proposed to be carried out by Opencast Mechanized Mining method with 5.0m bench height and 5.0m bench width by deploying Jack Hammer Drilling & Slurry Explosive during blasting. Hydraulic Excavator and tippers are used for Loading and transportation. Rock Breakers are deployed to avoid secondary blasting.

3

TABLE 1.4: SALIENT FEATURES OF THE PROPOSED PROJECTS IN CLUSTER

TABLE 1.4: SALIENT FEATURES OF THE PROPOSED PROJECTS IN CLUSTER				
SALIENT FEATURES OF PROPOSAL "P1"				
Name of the Mine	Tmt.V.Revathi,, Rough Stone & Gravel Quarry Project			
Land type & details	It is a Patta land classified as punjai (Barren land) It is a Patta land, S.F.No. 209/1A (P) is registered in the name of Thiru.K.Krishnasamy, Thiru.N.Chidambaram & Thiru.M.Vijayakumar, S.F.No. 209/1B (P) is registered in the name of K.Krishnasamy & Thiru.M.Vijayakumar, S.F.No. 209/2 (P) is registered in the name of K.Krishnasamy & Thiru.M.Vijayakumar. The applicant has obtained consent from the pattadhar.			
Previous Land Ownership details	It is a fresh lease application. But The quarry lease was previously granted in the favour of Thiru.P.K. Krishnasamy & Thiru.K. Muthusamy, over an extent of 2.25.5 hectares, obtained Environmental Clearance from the State Level Environment Impact Assessment Authority vide Letter No. SEIAA-TN/F.No.5470/1(a)/EC.No:3292/2016 Dated:11.07.2016. The applicant has applied a quarry lease on 28.06.2022, over an extent of 2.25.5 hectares of Patta lands in S.F.Nos.209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District for the period of five years.			
S.F. Nos	209/1A(P), 209/1B(I	P) & 209/2 (P)		
Extent	2.25.5 H	Ha		
Maximum dimension of the existing quarry pit				
Geological Reserves	Rough Stone	Gravel		
Geological Reserves	3,26,788m ³	7,820m ³		
Mineable Reserves	Rough Stone 1,41,283m ³	Gravel 4,860m³		
Proposed Quantity of Reserves/Production for mining Period	, ,			
Mining Plan Period / Lease Period	5 Year			
Ultimate Pit Dimension	121m (L) x 169m (W)			
Proposed Depth of mining	30m (2m Gravel + 28m			
Toposheet No	58 E/0			
Latitude	11°08'18.54"N to 1			
Longitude	77°25'10.51"E to 7			
Elevation Water table depth	276m Amsl. The Ground water occurrence in this area is 70-65m depth below the ground level.			
Previous TNPCB Pollution certificate copy of letter	Ü			
Explosive certificate	Sri Selvanayagiamman Explosives E/SC/TN/22/339(E10241)			
Previous obtained Environmental Clearance	i C			
DFO Letter by AD -Anamalai Tiger Reserved, Tiruppur Forest Zone,	No 13382/2022 dated 20.12.2022			
	Jack Hammer	4		
	Compressor	1		
Machinery proposed	Excavator with Bucket and Rock Breaker	1		
	Tipper	1		
Blasting	Usage of Slurry Explosive	with MSD detonators		

Water requirement & source		Total water requirement for 1.5KLD from from existing, bore wells	
	and drinking water will be sourced	and drinking water will be sourced from Approved water vendors.	
Manpower Deployment	18 N	18 Nos	
	Operational Cost	Rs. 46,74,000/-	
Total Project Cost	EMP Cost	Rs. 3,80,000/-	
	Total	Rs. 50,54,000/-	
CER cost	Rs.5,00,000/-		
Nearest Habitation	550m-	550m-SW	

Source: Approved Mining Plan of the respective proposals

SALIENT FEATURES OF PROPOSAL "P2"			
Name of the Mine	Thiru.U.Prabhakaran,,, Rough S	tone & Gravel Quarry Project	
T 14 0 14 1	It is a Patta land. Registered in the nan		
Land type & details	(Thiru.U.Prabhakaran), vide Patta No.1088.		
Previous Land Ownership details	It is a fresh lease application. But fav	vour of Thiru.T.S.Udhayakumar,	
_	over an extent of 0.89.0hectares of		
	Morattupalayam Village, Uthukuli Taluk, Tiruppur District vide		
	Rc.No.195/Mines/2014, Dated: 23.05.2		
		as once again applied a quarry lease on 31.03.2021, over	
	an extent of 0.68.8hectares of Pat		
	Morattupalayam Village, Uthukuli T	aluk, Tiruppur District for the	
	period of five years.		
S.F. Nos	389/1C	2	
Extent	0.68.8 I	Ha	
Maximum dimension of the existing quarry pit	Pit1: 94m (L) x 42m (V	W) x 11m Bgl (D)	
quarry pit	Rough Stone	Gravel	
C 1 : 1D			
Geological Reserves	1,66,730m ³	$288m^{3}$	
	, ,		
	Rough Stone	Gravel	
Mineable Reserves	48,125m ³		
	46,123111	-	
Proposed Quantity of Reserves	48,125m ³		
/Production for mining Period	,	-	
Mining Plan Period / Lease Period	5 Year	'S	
Ultimate Pit Dimension	94m (L) x 42m (W) x 3	36m Bgl (D) Max	
Proposed Depth of mining	36m (1m Gravel + 35m Rough		
Toposheet No	58 E/0	8	
Latitude	11°07'59.75"N to 11°08'03.55"N		
Longitude	77°25'21.19"E to 77°25'23.61"E		
Elevation	260m Amsl.		
Water table depth	The Ground water occurrence in this area is 78-73m depth below the		
	ŭ	ground level.	
Previous Pollution certificate copy of	<u> </u>		
letter	04.08.2016		
Explosive certificate Sri Selvanayagiamman Explosives E/SC/TN/22/339(E10241)		s E/SC/TN/22/339(E10241)	
Previous obtained Environmental Clearance	SEIAA-TN/F.No.3021/EC/1(a)/ No	:2158/2014 Dated:01.04.2015.	
Machinery proposed	Jack Hammer	2	
iviaciniici y proposed	Compressor	1	

	Excavator with Bucket and Rock Breaker	1
	Tipper	1
Blasting	Usage of Slurry Explosive with MSD detonators	
Water requirement & source	Total water requirement for 2.0KLD from from existing, bore wells	
	and drinking water will be sourced from Approved water vendors.	
Manpower Deployment	14 Nos	
	Operational Cost	Rs. 21,01,000/-
Total Project Cost	EMP Cost	Rs. 3,80,000/-
	Total	Rs. 24,81,000/-
CER cost	Rs.5,00,000/-	
Nearest Habitation	730m-SW	
Source: Approved Mining Plan of the respective proposals		

Source: Approved Mining Plan of the respective proposals

Source: Approved Mining Plan of the respec		
	T FEATURES OF PROPOSAL "P3"	
Name of the Mine	Thiru.S.Rajasekar Rough Stone & Gravel Quarry Project	
Land type & details	It is a Patta land. Jointly Registered in the name of the applicant (Thiru. S. Rajasekar), Tmt.R.Palaniyammal, Thiru.R.Hariprasath, Thiru.R.Harisankar and Thiru.K.Thirumoorthi, vide Patta No. 421.	
Previous Land Ownership details	It is a fresh lease application but, the quarrying operation earlier	applied area has been considered
Previous Environmental clearance	Lr.No.DEIAA-TPR/F.No.358/1(VIII)/	2018, Dated:14.08.2018
S.F. Nos	382/2A ((P),
Extent	2.48.5 1	Ha
	Rough Stone	Gravel
Geological Reserves	4,10,685m³	9,166m ³
16 11 B	Rough Stone	Gravel
Mineable Reserves	1,63,614m³	6,052
Proposed Quantity of Reserves	1,63,614m ³	6.052
/Production for mining Period		6,052
Mining Plan Period / Lease Period	5 Year	rs
Ultimate Pit Dimension	Pit1: 65m (L) x 115m (W) x 37m Bgl (D) PitII: 163m (L) x 87m (W) x 37m Bgl (D)	
Existing Pit Dimension	Pit:1 160m (L) x 87m (W) x 30m(D) below from the existing ground profile Pit:1 35m (L) x 115m (W) x 22m(D) below from the existing ground profile	
Proposed Depth of mining	37m (2m Gravel + 35m Rough stone) below ground level	
Existing depth	22m (Max) Bgl.	
Toposheet No	58 E/08	
Latitude	11°08'12.23"N to 11°08'20.17"N	
Longitude	77°25'14.88"E to 77°25'19.13"E	
Elevation	292m Amsl.	
Water table depth	The Ground water occurrence in this area is 68m depth below the ground level.	
Explosive certificate	Senthamarai Explosives E/SC/TN/22/66 (E-10217), dated:04.08.2023	
Machinery proposed	Jack Hammer 5	
	Compressor	1

	Excavator with Bucket and Rock Breaker	1	
	Tipper	3	
Blasting	Usage of Slurry Explosive	with MSD detonators	
Water requirement & source	Total water requirement for 2.0KLD	from from existing, bore wells	
	and drinking water will be sourced from Approved water vendors.		
Manpower Deployment	23 No	23 Nos	
	Operational Cost	Rs.57,89,000/-	
Total Project Cost	EMP Cost	Rs.3,80,000/-	
Total Project Cost	Total Project cost	Rs.61,69,000/-	
CER cost	Rs.5,00,000/-		
Nearest Habitation	510m-NW		
Source: Approved Mining Plan of the	respective proposals		

Source: Approved Mining Plan of the respective proposals

1.3.2 Location of the project-P1

- The area is located in S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State.
- > The entire quarry lease area falls in the Patta land, the lease applied area is exhibits flat terrain.
- ➤ The Altitude of the area is 276m (Maximum) above MSL.
- The area is mentioned in GSI Topo sheet No. 58 E/08
- The Latitude between of 11°08'18.54"N to 11°08'23.95"N
- The Longitude between of 77°25'10.51"E to 77°25'16.84"E on WGS 1984datum

1.3.3 Location of the project-P2

- The area is located in S.F.No. 389/1C2 of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State.
- > The entire quarry lease area falls in the Patta land, the lease applied area is exhibits plain topography.
- The Altitude of the area is **260m** (Maximum) above MSL.
- The area is mentioned in GSI Topo sheet No. 58 E/08
- > The Latitude between of 11°07'59.75"N to 11°08'03.55"N
- ➤ The Longitude between of 77°25'21.19"E to 77°25'23.61"E on WGS 1984 datum.

1.3.4 Location of the project-P3

- The area is located in S.F.No. 382/2A(P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State.
- The entire quarry lease area almost plain topography.
- The Altitude of the area is **292m** (Maximum) above MSL.
- The area is mentioned in GSI Topo sheet No. 58 E/08
- The Latitude between of 11°08'12.23"N to 11°08'20.17"N
- > The Longitude between of 77°25'14.88"E to 77°25'19.13"E on WGS 1984 datum.

KEY MAP INDIA TAMILNADU STATE THEFT DISSESSE

Figure 1.2 KEY MAP SHOWING THE LOCATION OF THE PROJECT SITE

FIGURE 1.3: TOPOSHEET SHOWING LOCATION OF THE PROJECT SITE AROUND 10 KM RADIUS

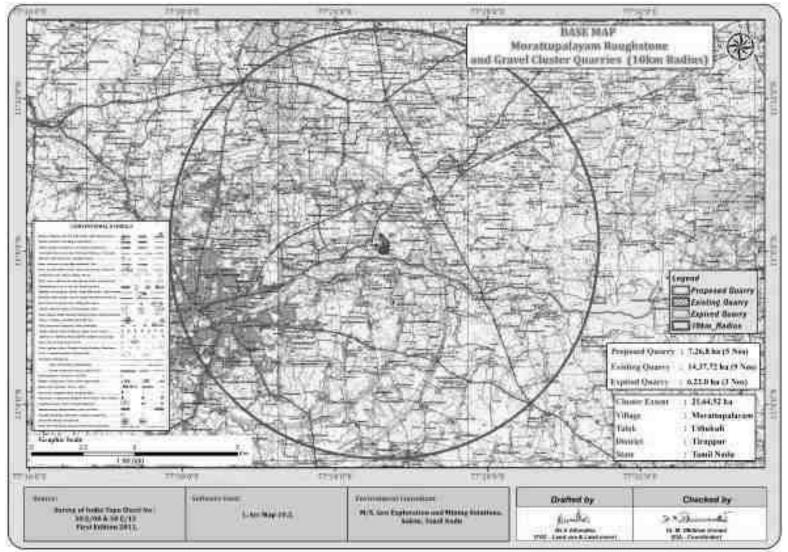




FIGURE 1.4: TOPOSHEET SHOWING LOCATION OF THE PROJECT SITE AROUND 2 KM RADIUS

1.4 Environmental Clearance

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

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

SCREENING -

Project - P1

- The proponent applied for Rough Stone and Gravel Quarry Lease Dated: 25.05.2022
- The precise area communication letter was received from the Assistant Director, Department of Geology and Mining, Tiruppur District vide Rc.No.584/Mines/2022, Dated: 17.11.2022
- The Mining plan was approved by the Assistant Director, Department of Geology and Mining, Tiruppur District vide Rc.No.584/Mines/2022 Dated: 05.12.2022.
- Proponent applied for ToR for Environmental Clearance vides online Proposal No. SIA/TN/MIN/414152/2023, Dated: 11.01.2023.

Project - P2

- The proponent applied for Rough Stone and Gravel Quarry Lease Date from 19.10.2020
- The precise area communication letter was received from the Deputy Director, Department of Geology and Mining, Tiruppur District and passed a Precise Area Communication letter vide Rc.No.465/Mines/2021, Dated:10.06.2021.
- The Mining plan was approved by the Deputy Director, Department of Geology and Mining, Tiruppur District vide Rc.No.465/Mines/2021, Dated:17.06.2021
- Proponent applied for ToR for Environmental Clearance vides online Proposal No. SIA/TN/MIN/64360/2021, Dated:01.07.2021

Project – P3

- The proponent applied for Rough Stone and Gravel Quarry Lease Date from 07.12.2022
- The Precise area communication letter was received from the District collector Tiruppur Vide Rc.No.761/Mines/2022, Dated: 20.09.2023.
- The Mining Plan was got approval by the Deputy Director, Department of Geology and Mining, Tiruppur vide Rc. No. 761/Mines/2022 Dated: 12.12.2023.
- Proponent applied for ToR for Environmental Clearance vides online Proposal No. SIA/TN/MIN/466801/2024, Dated:21.03.2024

SCOPING -

Project - P1

- The proposal was placed in 405th SEAC meeting held on 23.08.2022 and the committee recommended for issue of ToR.
- The proposal was considered in 656th SEIAA meeting held on 20.09.2023 and issued ToR vide Lr No. SEIAA-TN/F.No.9731/2023/SEAC/ToR-1566/2023 Dated: 20.09.2023.

Project – P2

- The proposal was placed in 220th SEAC meeting held on 20.07.2021 and the committee recommended for issue of ToR.
- The proposal was considered in 454th SEIAA meeting held on 16.08.2021 and issued ToR vide Letter No Lr No. SEIAA-TN/F.No.8614/SEAC/ToR-1019/ 2021 Dated: 23.08.2021.

Project - P3

- The proposal was placed in 464th SEAC meeting held on 03.05.2024 and the committee recommended for issue of ToR.
- The proposal was considered in 723th SEIAA meeting held on 24.05.2024 and issued ToR vide Letter No Lr No. SEIAA-TN/F.No.10781/ToR No: TO24B0108TN5560449N Dated: 03.06.2024.

Public Consultation –

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

Appraisal –

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

- Guidance Manual of Environmental Impact Assessment for Mining of Minerals, Ministry of Environment and Forests, 2010
- EIA Notification, 14th September, 2006
 - Lr No. SEIAA-TN/F.No.9731/2023/SEAC/ToR-1566/2023 Dated: 20.09.2023 -P1
 - Lr No. SEIAA-TN/F.No.8614/SEAC/ToR-1019/2021 Dated: 23.08.2021 P2
 - Lr No. SEIAA-TN/F.No.10781/ToR No: TO24B0108TN5560449N Dated: 03.06.2024–P3
 Approved Mining of P1 to P3 the Rough stone and Gravel quarry projects

1.5 Post Environment Clearance Monitoring

The Project Proponents in the Cluster 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.

1.6 Generic Structure of EIA Document

The overall contents of the EIA report follow the list of contents prescribed in the EIA Notification 2006 and the "Environmental Impact Assessment Guidance Manual for Mining of Minerals" published by MoEF & CC. A brief description of each Chapter is presented in Table No. 1.5.

	TABLE 1.5 – STRUCTURE OF THE EIA REPORT		
S. No	Chapters	Title	Particulars
1	Chapter 1	Introduction	Presents, an Introduction along with Scope and Objective
			of this EIA/EMP Studies
2	Chapter 2	Project Description	Presents the Technical Details of the Project
3	Chapter 3	Description of Environment	Presents the Baseline Status for various Environmental
			Parameters in the Study Area for One Season (3 Months)
4	Chapter 4	Anticipated Environmental	Presents the Identification, Prediction and Evaluation of
		Impacts and Mitigation	overall Environmental Impacts due to the Proposed
		Measures	Projects Activities. Also presents Proposed Mitigation
			Measures.
5	Chapter 5	Analysis of Alternatives	Presents Analysis of alternatives with respect to site
		(Technology & Site)	
6	Chapter 6	Environment Monitoring	Present details of post project environment monitoring
		Programme	
7	Chapter 7	Additional Studies	Presents Public Consultation, Risk Assessment and
			Disaster Management Plan
	T	<u> </u>	· · · · · · · · · · · · · · · · · · ·

TABLE 1.5 – STRUCTURE OF THE EIA REPORT

8	Chapter 8	Project Benefits	Presents project benefits as: Improvements in the Physical Infrastructure, Social Infrastructure Employment Potential –Skilled; Semi-Skilled and Unskilled etc.,
9	Chapter 9	Cost Benefit Analysis	Environmental Cost Benefit Analysis has not been recommended at Scoping Stage – thus no analysis carried out separately in this EIA/EMP Report
10	Chapter 10	Environmental Management Plan	Description of the administrative aspects to ensure the Mitigation Measures are implemented and their effectiveness monitored, after approval of the project.
11	Chapter 11	Summary & Conclusion	Summary of the EIA Report
12	Chapter 12	Disclosure of Consultants Engaged	Disclosure of the Consultants

1.7 Scope of the Study

The main scope of the EIA study is to quantify the cumulative impact in the study area due to cluster quarries and formulate the effective mitigation measures 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 summer season Mar 2022 to May 2022 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 1.6 – ENVIRONMENT ATTRIBUTES

Sl.No.	Attributes	Parameters	Source and Frequency
1	Ambient Air Quality	PM ₁₀ , PM _{2.5} , SO ₂ , NO ₂	24 hourly samples twice a week for three months at 8 locations
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, Tiruppur
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 collected from the Forest department.
5	Noise levels	Noise levels in dB(A)	At 8 locations data monitored once for 24 hours during EIA study.
6	Soil Characteristics	Physical and Chemical Parameters	Once at 6 locations during study period
7	Land use	Existing land use for different categories	Based on Survey of India topographical sheet and satellite imagery and primary survey.
8	Socio-Economic Aspects	Socio-economic and demographic characteristics, worker characteristics	Based on primary survey and secondary sources data like census of India 2011.
9	Hydrology	Drainage pattern of the area, nature of streams, aquifer characteristics, recharge and discharge areas	Based on data collected from secondary sources as well as hydro-geology study report prepared.
10	Risk assessment and Disaster Management Plan	Identify areas where disaster can occur by fires and explosions and release of toxic substances	Based on the findings of Risk assessment done for the mining associated activities

Source: Field Monitoring Data

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

1.7.1 Regulatory Compliance & Applicable Laws/Regulations

- Application for Quarrying Lease as per Tamil Nadu Minor Mineral Concession Rules, 1959
- Obtained Precise Area Communication Letter as per Tamil Nadu Minor Mineral Concession Rules, 1959 for Preparation of Mining Plan and obtaining Environmental Clearance
- The Mining Plan of Rough Stone and Gravel quarry has been approved under Rule 41 & 42 as amended of Tamil Nadu Minor Mineral Concession Rules, 1959
- ToR from SEIAA –
- Lr No. SEIAA-TN/F.No.9731/2023/SEAC/ToR-1566/2023 Dated: 20.09.2023 P1
- Lr No. SEIAA-TN/F.No.8614/SEAC/ToR-1019/2021 Dated: 23.08.2021 P2
- Lr No. SEIAA-TN/F.No.10781/ToR No: TO24B0108TN5560449N Dated: 03.06.2024-P3

Approved Mining of P1 to P3 the Rough stone and Gravel cluster quarry projects

CHAPTER – 2: PROJECT DESCRIPTION

2.0 General

The Proposed Rough Stone and Gravel cluster Quarries requires Environmental Clearance. There are three 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 21.64.52Ha.

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.

2.1 Description of the Project

The proposed projects are site specific and there is no additional area required for this project. There is no effluent generation/discharge from the proposed quarries.

Method is mining is common for all the proposed quarries in the cluster. Rough Stone and Gravel are proposed to be excavated by opencast mechanized method involving splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and blasting, hydraulic excavators are used for loading the Rough Stone from pit head to the needy crushers and rock breakers to avoid secondary blasting.

2.2 Location of the Project

Location of the project-P1

- The area is located in S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State.
- The entire quarry lease area falls in the Patta land, the lease applied area is exhibits flat terrain.
- The Altitude of the area is 276m (Maximum) above MSL.
- ➤ The area is mentioned in GSI Topo sheet No. 58 E/08
- > The Latitude between of 11°08'18.54"N to 11°08'23.95"N
- The Longitude between of 77°25'10.51"E to 77°25'16.84"E on WGS 1984datum

Location of the project-P2

- The area is located in S.F.No. 389/1C2 of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State.
- The entire quarry lease area falls in the Patta land, the lease applied area is exhibits plain topography.
- The Altitude of the area is **260m** (Maximum) above MSL.
- The area is mentioned in GSI Topo sheet No. 58 E/08
- > The Latitude between of 11°07'59.75"N to 11°08'03.55"N
- > The Longitude between of 77°25'21.19"E to 77°25'23.61"E on WGS 1984 datum.

Location of the project-P3

- The area is located in S.F.No. 382/2A (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State.
- > The entire quarry lease area almost plain topography.
- The Altitude of the area is **292m** (Maximum) above MSL.
- ➤ The area is mentioned in GSI Topo sheet No. 58 E/08
- > The Latitude between of 11°08'12.23"N to 11°08'20.17"N
- The Longitude between of 77°25'14.88"E to 77°25'19.13"E on WGS 1984 datum.

■ The projects under the cluster are classified as patta land (Non-Forest Land) & does not fall within 10 km radius of any Eco – sensitive zone, Wild life Sanctuary, National Park, Tiger Reserve, Elephant Corridor and Biosphere Reserves.

TABLE 2.1: SITE CONNECTIVITY TO THE CLUSTER QUARRIES

Nearest Roadway	NH544-Salem-Kochin Highway-6.5km-N	
·	SH19 - Tiruppur – Uthukuli Road – 300m-W	
Nearest Village	Morattupalayam– 555m- W	
Nearest Town	Tiruppur – 9.0Km – SW	
Nearest Railway	Uthukuli Railway Station – 3.0Km – North East	
Nearest Airport	Coimbatore Airport – 43Km - SW	
Seaport	Kochi- 185 Km-SW	

Source: Survey of India Toposheet.

The cluster quarries corners co-ordinates are given below.

TABLE 2.2 – BOUNDARY CO-ORDINATES OF PROPOSED PROJECTS

P1			
S.No	Latitude	Longitude	
1	11°08'18.54"N	77°25'11.86"E	
2	11°08'20.77"N	77°25'11.18"E	
3	11°08'20.89"N	77°25'11.07"E	
4	11°08'23.16"N	77°25'10.51"E	
5	11°08'23.75"N	77°25'10.69"E	
6	11°08'23.95"N	77°25'16.01"E	
7	11°08'23.47"N	77°25'16.11"E	
8	11°08'23.38"N	77°25'16.44"E	
9	11°08'21.63"N	77°25'16.84"E	
10	11°08'19.83"N	77°25'15.21"E	
11	11°08'19.49"N	77°25'14.64"E	
Datum: UTM-WGS84 Zone 43 N			

Source: Mine Lease Plan of the respective proposals

P2				
S.No.	Latitude	Longitude		
1	11°07'59.85"N	77°25'21.19"E		
2	11°08'03.55"N	77°25'21.81"E		
3	11°08'03.28"N	77°25'23.61"E		
4	11°08'00.24"N	77°25'23.23"E		
5	11°07'59.75"N	77°25'23.10"E		
	Р3			
S.No.	Latitude	Longitude		
1	11°08'12.23"N	77°25'15.33"E		
2	11°08'19.80"N	77°25'14.88"E		
3	11°08'20.05"N	77°25'15.50"E		
4	11°08'20.17"N	77°25'19.12"E		
5	11°08'17.88"N	77°25'19.13"E		
6	11°08'17.79"N	77°25'17.79"E		
7	11°08'12.57"N	77°25'18.93"E		

FIGURE 2.1: TOPOGRAPHICAL VIEW OF THE PROJECT SITE





P1- Tmt.Revathi





P2- Thiru.U.Prabhakaran





P3- Thiru.S.Rajsekar

FIGURE 2.2: FENCING AND GREENBELT OF THE PROJECT SITE-P1









P1- Tmt.Revathi

FIGURE 2.3: FENCING AND GREENBELT OF THE PROJECT SITE-P2









P2- Thiru.U. Prabhakaran

FIGURE 2.4: FENCING AND GREENBELT OF THE PROJECT SITE-P3



P3- Thiru.S.Rajasekar

FIGURE 2.5: SHOWING GOOGLE IMAGE ROUGH STONE AND GRAVEL QUARRY PROJECT AREAS



SATELLITE IMAGERY OF P1

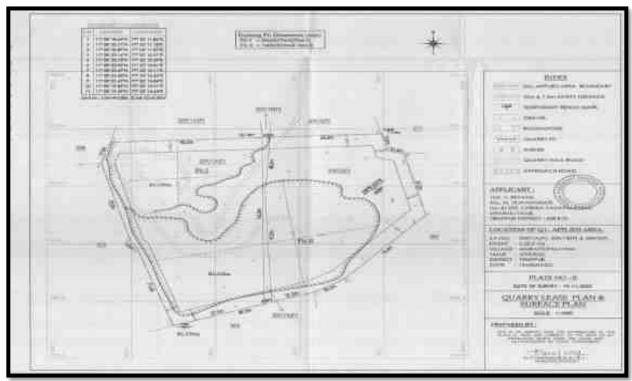


SATELLITE IMAGERY OF P2

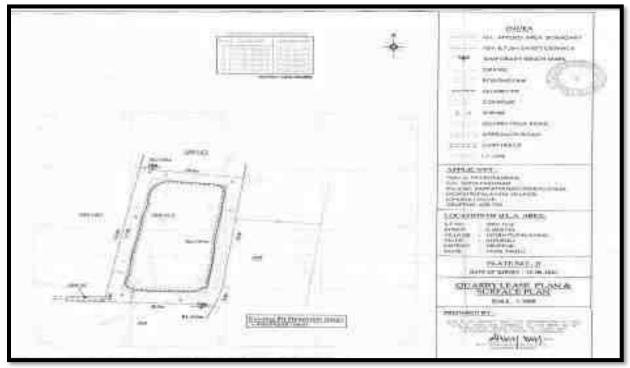


SATELLITE IMAGERY OF P3

FIGURE 2.6: SHOWING QUARRY LEASE PLAN ROUGH STONE AND GRAVEL QUARRY PROJECT AREAS P1 to P3

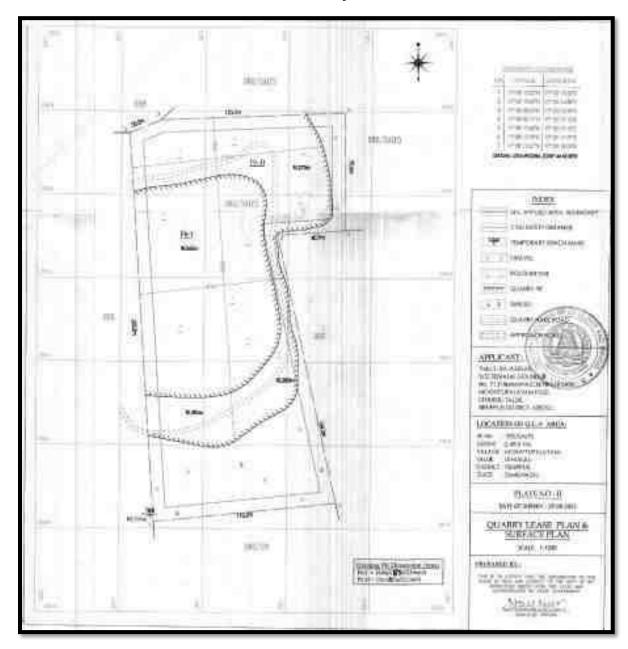


P1- Tmt.Revathi



P2- Thiru.U.Prabhakaran

P3- Thiru.S.Rajasekar



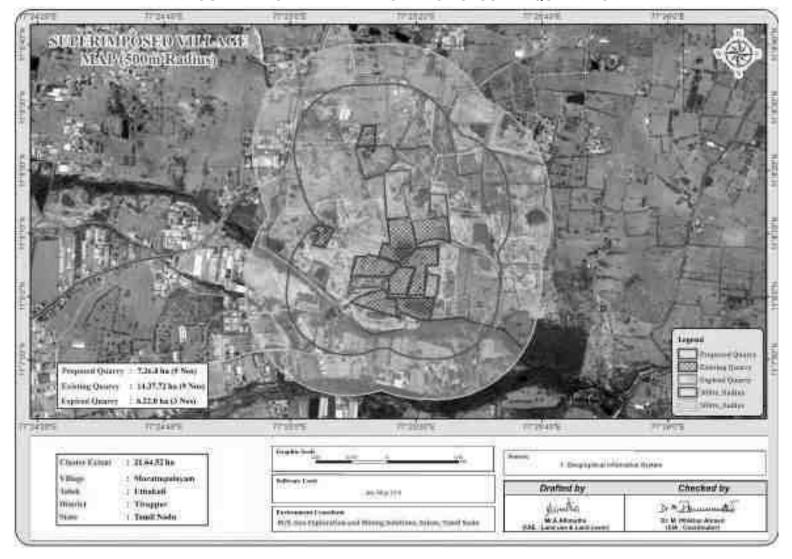


FIGURE 2.7: SATELLITE IMAGERY OF CLUSTER QUARRIES

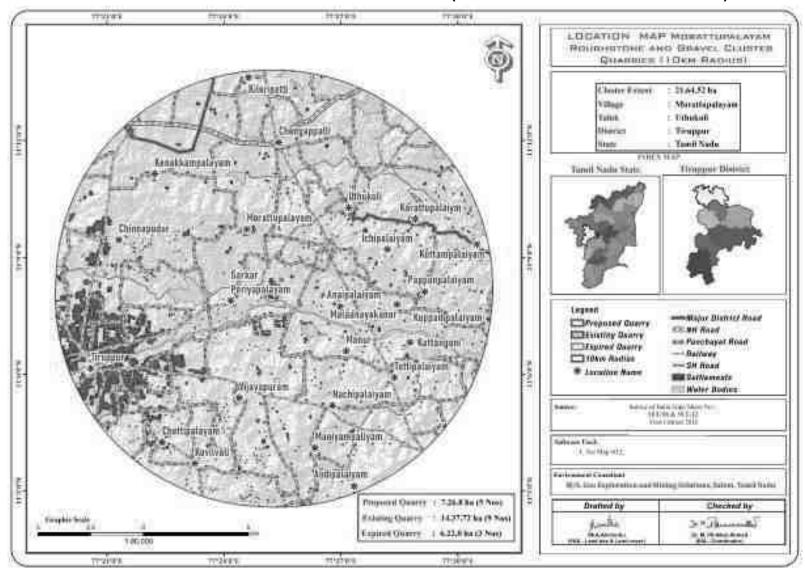


FIGURE 2.8: DIGITIZED MAP OF THE STUDY AREA (10 KM RADIUS FROM PROJECT SITE)

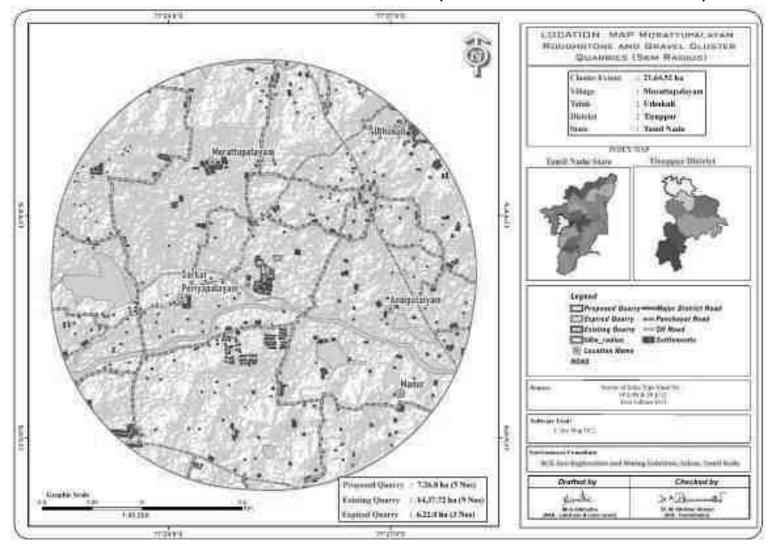


FIGURE 2.9: DIGITIZED MAP OF THE STUDY AREA (5 KM RADIUS FROM PROJECT SITE)

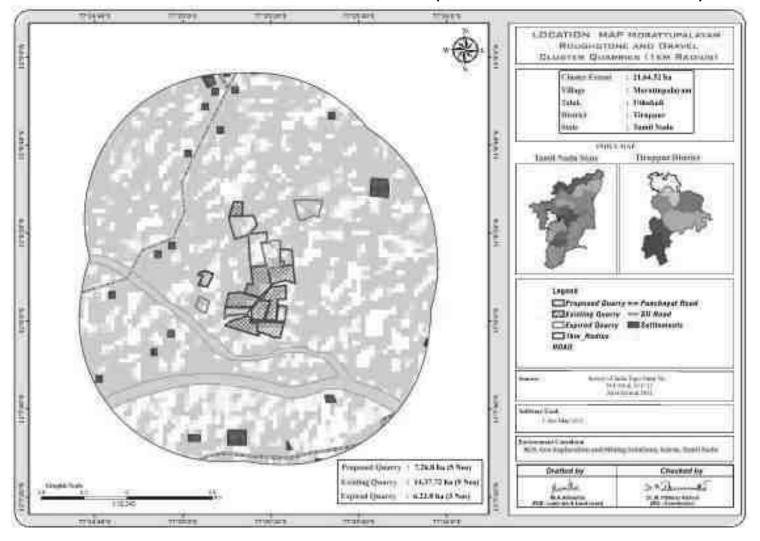


FIGURE 2.10: DIGITIZED MAP OF THE STUDY AREA (1 KM RADIUS FROM PROJECT SITE)

2.2.1 Project Area

- (i) All the projects under cluster are site specific, there is No beneficiation or processing proposed inside the project area.
- (ii) There is no forest land involved in the proposed project area and is devoid of major vegetation and trees.

TABLE 2.3 – LAND USE PATTERN OF THE PROPOSED PROJECTS P1-P3

LAND USE PATTERN OF PROJECT – P1						
Description	Present area in (ha)	Area at the end of life of quarry (Ha)				
Area under quarrying	1.47.5	1.93.5				
Infrastructure	Nil	0.01.0				
Roads	0.02.0	0.02.0				
Green Belt	Nil	0.08.0				
Un – utilized area	0.76.0	0.21.0				
Grand Total	2.25.5	2.25.5				
	LAND USE PATTERN OF	F PROJECT – P2				
Description	Present area in (ha)	Area at the end of life of quarry (Ha)				
Area under quarrying	0.40.0	0.40.0				
Infrastructure	Nil	0.01.0				
Road	0.02.0	0.02.0				
Green Belt	Nil	0.88.0				
Unutilized area	0.26.8	0.17.8				
Grand Total	0.68.8	0.68.8				
	LAND USE PATTERN OF	F PROJECT – P3				
Description	Present area in (ha)	Area at the end of life of quarry (Ha)				
Quarrying Pit	1.85.0	2.22.0				
Infrastructure	Nil	0.01.0				
Roads	0.02.0	0.02.0				
Green Belt	Nil	0.14.0				
Unutilized Area	0.61.5	0.09.5				
Grand Total	2.48.5	2.48.5				

Source: Approved Mining Plan

2.2.2 Size or Magnitude of Operation

TABLE 2.4: OPERATIONAL DETAILS FOR PROPOSED PROJECTS

TABLE 2.4: OPERATIONAL DETAILS FOR PROPOSED PROJECTS							
0	OPERATIONAL DETAILS FOR PROJECT – P1						
	DETAILS						
PARTICULARS	Rough Stone (m³) (5Year Plan period)	Gravel (m³) (3 Years Plan period)					
Geological Resources	3,26,788 m ³	$7,820 \text{ m}^3$					
Mineable Reserves	1,41,283 m ³	$4,860 \text{ m}^3$					
Production for five-year plan period	1,41,283 m ³	$4,860 \text{ m}^3$					
Mining Plan Period / Lease Applied Period	5Years						
Number of Working Days		300 Days					
Production per day	94	5					
No of Lorry loads (6m ³ per load)	16	1					
Total Depth of Mining	30m (2	2m Gravel + 28m Rough stone) Bgl.					
0	PERATIONAL DETAILS FOR PROJECT – P2						
		DETAILS					
PARTICULARS	Rough Stone (m ³)	Gravel (m³)					
	(5Year Plan period)						
Geological Resources	1,66,730m ³	288 m^3					
Mineable Reserves	48,125 m ³	-					
Production for five years Plan	48,125 m ³	-					
Mining Plan Period / Lease Applied Period	5 Years						

Number of Working Days	300 Days				
Production per day	32		-		
No of Lorry loads (6m³ per load)	5	-			
Total Depth of mining	36m b	gl (1m topsoil+ 35m Roughst	one) Bgl		
0.	PERATIONAL DETAILS F	OR PROJECT – P3			
		DETAILS			
PARTICULARS	Rough Stone (m ³) (5Year Plan period)	Gravel (m³) (1 st Year)			
Geological Resources	4,10,685m ³ 9,166m ³		166m ³		
Mineable Reserves	1,63,614m ³	6	5,052		
Production for five years Plan	1,63,614m ³	6	5,052		
Mining Plan Period / Lease Applied Period	5 Years				
Number of Working Days	300 Days				
Production per day	109 20		20		
No of Lorry loads (6m ³ per load)	18 3				
Total Depth of mining	37m b	gl (2m topsoil+ 35m Roughst	one) Bgl		

Source: Approved mining plan

2.3 Geology

2.3.1 Regional Geology

Tiruppur district of Tamil Nadu forms a part of southern Granulitic terrain and is predominantly occupied by crystalline rocks of Archaean to late Proterozoic age. Regionally, the rocks can be grouped under five categories namely –

- I. Charnockite Group represented by Charnockite, Pyroxene Granulite and Magnetite Quartzite,
- II. Peninsular Gneissic Complex (II) comprising hornblende-biotite gneiss,
- III. Basic intrusive include Pyroxinite/Dunite
- IV. Younger intrusive comprising, Nepheline-Syenite, Pink Granite, Pegmatite and Quartz veins and
- V. Quaternary sediments of Kankar and soil.

Stratigraphy of the area

Age	Group	Lithology
Holocene		Block cotton soil/clay±gypsum
Cenozoic		Kankar/calc-tufa
Namedana	Acid intrusives	Quartz veins Pegmatite Pink Granite
Neoproterozoic	Sivamalai syenite Complex	Nepheline-syenite
	Chalk Hills (Basic Intrusives)	Pyroxenite/Dunite
Archaean - Palaeoproterozoic	Peninsular Gneissic Complex (II) PGC (II)	Pink Granite Gneiss Hornblende Biotite gneiss
Archaean	Charnockite Group	Charnockite (Unclassified) Pyroxene Granulite Banded Magnetite Quartzite

Tiruppur District is predominantly occupied by hornblende Biotite gneisses of PGC (II) with enclaves of Magnetite Quartzite, Pyroxene Granulite and Charnockite. The area exposes several bands of Pyroxene Granulite which is medium grained, medium to dark grey in colour and stand out prominently in the gneissic country generally parallel to regional foliation. Charnockite is coarse grained, massive, many places it is foliated, grey colored and greasy and exposed as boulder outcrops and small knolls. It is well exposed in Central, Western and Southern parts of

^{*} Gravel and weathered formation are proposed to excavate for first, second and third years only.

the Tiruppur District. The general strike of foliation varies from ENE-WSW, E-W with dipping towards NW and N respectively.

Hornblende-Biotite gneiss is well foliated, medium to coarse grained, pale grey and exposed as sheets and small knolls. Pink Granite gneiss occurs as thin bands and lensoidal bodies. It is a medium grained rock composed of alternating bands of mafic (mainly of biotite and hornblende) and felsic (Feldspar and Quartz) minerals. It is well recognized in Avinasi area.

Basic intrusives such as pyroxinite/dunite occurs as Outcrop and lensoidal bodies in the country rock and mostly concordant to the regional foliation. Many basic intrusive are reported in south and south-east of Tiruppur town. The trend of these bodies is east-west.

Nepheline syenite is a leucocratic, coarse-grained rock and composed mainly of Feldspar with Nepheline and shows pitted appearance due to removal of Nepleline. This alkaline rock is available in and around Sivanmalai area only. Acid intrusives comprising pink granite, pegmatite and quartz veins are traversed country rocks in micro (cm wide-meter long) to meso-scale (few meters wide and several meter long) extend. Granite is exposed around 9 km SW of Avanashi. Small scale pegmatite and quartz veins are noticed almost in all the rock types. Acid intrusives are overlain by sediments of Quaternary age, represented by Kankar and black cotton soil with Gypsum. Most of the area is covered by brown and red brown soil. Some part of the area covered with black cotton soil contains Gypsum as lumps. Black cotton soil covers south-western part of the district.

Source: District Survey Report for Minor Minerals Tiruppur District – May 2019

https://cdn.s3waas.gov.in/s3d1f255a373a3cef72e03aa9d980c7eca/uploads/2019/05/2019052585.pdf

2.3.2 Local Geology: -

The study area follows the regional trend and mainly comprises of Hard Rock Formation as a homogeneous formation / Batholith formation of Charnockite. The project area is plain terrain, covered with gravel formation of 1m thickness; Massive Charnockite formation is found after 1m gravel formation which is inferred from the resistivity survey method.

Peninsular gneiss forms the oldest rock formation, in which the massive formation of Charnockite lies over with rich accumulation of recent quaternary formation. On regional scale the Charnockite body N30°E – S30°E with dipping towards SE60° (Source Approved Mining plan).

2.3.3 Hydrogeology

Tiruppur District is underlain by crystalline metamorphic complex in the western parts of district and sedimentary tract in eastern side. An area of 4551 Sq.km is covered by crystalline rocks (63%) and 2671 Sq.km is covered by sediments (37%). The general geological sequence of formation is given below:

Quaternary - Laterites, Sands and Clays

Tertiary - Sandstone, Gravels and Clays

Cretaceous - Limestone, Calcareous Sandstone and Clay unconformity.

Archaean - Charnockites, Gneisses, Granites, Dolerites and Pegmatite

- The major part of the area is covered by metamorphic crystalline rocks of charnockite, granitic gneiss of Archaean age intruded by dolerite dykes and pegmatite veins. These rocks are highly metamorphosed and have been subjected to very severe folding, crushing and faulting.
- Ground Water occurs under the phreatic condition and wherever there are deep seated fractures, it occurs under semi-confined to confined conditions.
- Occurrence of Ground Water in hard rock depends upon the intensity and depth of weathering, fractures and fissures present in the rocks.
- Granites and gneisses yield moderately compared to the yield in Charnockites.
- Depth of well in hard rock generally ranges between 8 and 15m below ground level.
- Generally, yield in open wells ranges from 30 to 250m³ /day and in bore well between 260 and 430 m³ /day. The weathered thickness varies from 2.5 m to 42m in general there are 3 to 5 fracture zones within 100 m and 1 to 4 fracture zones between 100 and 200 m.

The Cretaceous formation is represented by Arenaceous Lime stone, Calcareous sand - stone and marl. The Tertiary formation is argillaceous comprising of Silty clay stones, argillaceous Lime stone.

The Quaternary deposits represented by the river deposits of Ponnaiyar and Varahanadhi spread over as patches in Tiruppur District. The alluvium consists of unconsolidated sands, gravelly sands, clays and clayey sands. The thickness of the sands ranges between 15 and 25 m in the alluvial formation which also form potential aquifers. In some areas, sand stone of tertiary formation are the potential groundwater reservoirs.

Aquifer Systems:

Occurrence and storage of groundwater depend upon three factors viz., Geology, Topography and rainfall in the form of precipitation. Apart from Geology, wide variation in topographic profile and intensity of rainfall constitutes the prime factors of groundwater recharge. Aquifers are part of the more complex hydro geological system and the behaviour of the entire system cannot be interpreted easily. In hard rock terrain the occurrence of Ground Water is limited to top weathered, fissured and fractured zone which extends to maximum 30 m on an average it is about 10-15 m in Tiruppur District.

In Sedimentary formations, the presence of primary inter granular porosity enhances the transmitting capacity of groundwater where the yield will be appreciable. The sedimentary area which occupies the eastern part of the district along the coastal tract is more favourable for groundwater recharge. Ground Water occurs both in semi confined and confined conditions. A brief description of occurrence of groundwater in each formation is furnished below.

Alluvial Formations

In the river alluvium groundwater occurs under water table condition. The maximum thickness is 37 m and the average thickness of the aquifer is approximately 12 m. These formations are porous and permeable which have good water bearing zones.

Tertiary Cuddalore sandstone

Tertiary formations are represented by Cuddalore Sandstone and characterised as fluvial to brakish marine deposits. Predominantly this formation is divided into Lower and Upper Cuddalore formations. In the Upper Cuddalore formations the groundwater occurs in semi confined conditions, whereas in the Lower Cuddalore the groundwater occurs in confined condition with good groundwater potential.

Cretaceous Formations

Groundwater occurring in the lens shape in the sandy clay lenses and fine sand is underlain by white and black clay beds which constitute phreatic aquifer depth which ranges 10m to 15m below ground level. Phreatic aquifer in Limestone is potential due to the presence of Oolitic Limestone.

Hard Rock Formations

Groundwater occurs under water table conditions but the intensity of weathering, joint, fracture and its development are much less in other type of rocks when compared to gneissic formation. The groundwater potential is low, when compared with the gneissic formations.

Granitic Gneiss

Groundwater occurs under water table conditions in weathered, jointed and fractural formations. The pore space developed in the weathered mantle acts as shallow granular aquifers and forms the potential water bearing and yielding zones water table is shallow in canal and tank irrigation regions and it is somewhat deeper in other regions.

Charnockite

Groundwater occurs under water table conditions but the intensity of weathering, joint, fracture and its development are much less when compared to gneissic formations. The groundwater potential is low, when compared with the gneissic formations.

Aquifer Parameters

The thickness of aquifer in this district is highly erratic and varies between 15 m to 40 m below ground level. The inter granular Porosity is essentially dependent on the intensity and degree of weathering and fracture development in the bed rock. As discussed earlier deep weathering has developed in Gneissic formations and moderate weathering in charnockite formations. The range of aquifer parameters in hard rock and sedimentary formations are given below:

TABLE 2.5: RANGE OF AQUIFER PARAMETERS

Name	Sp. Capacity (lpm/d)	Specific Yield (%)	T (m2/d)	K (m/day)	Yield of wells (lps)
Alluvium	2.08	7.2	98	19.7	2.5
Tertiary	78-173	1.4-3.5	46-134	16-33	2-3.3
Cretaceous	33-782	0.3-2.56	33-782	10-66	1.1-3.5
Crystalline	27-224	0.8-2.5	16-60	5-20	1-2

Source: http://nwm.gov.in/sites/default/files/Notes%20on%20Trippur%20District.pdf

The Ground Water levels from the 38 number of observation wells of TWAD have been analyzed for Post-Monsoon and Pre-Monsoon.

FIGURE 2.11: GROUND WATER LEVEL VARIATIONS OF TIRUPPUR DISTRICT

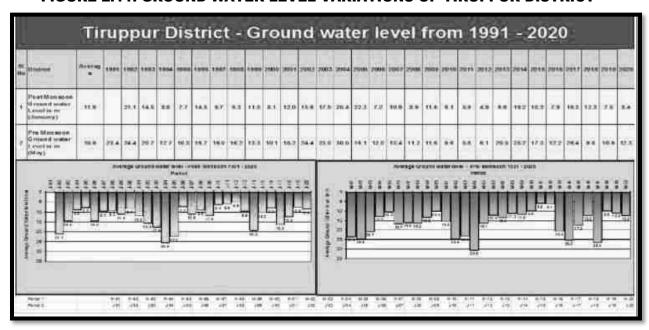


TABLE 2.6: GROUND WATER LEVEL VARIATIONS OF TIRUPPUR DISTRICT

Jan 2017	May 2017	Jan 2018	May 2018	Jan 2019	May 2019	Jan 2020	May 2020	Jan 2021	May 2021	5 Years Pre- Monsoon Average	5Years Post Monsoon Average
16.3	26.4	12.4	9.8	7.6	10.9	8.4	12.3	7.1	10.6	11.9	8.8

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

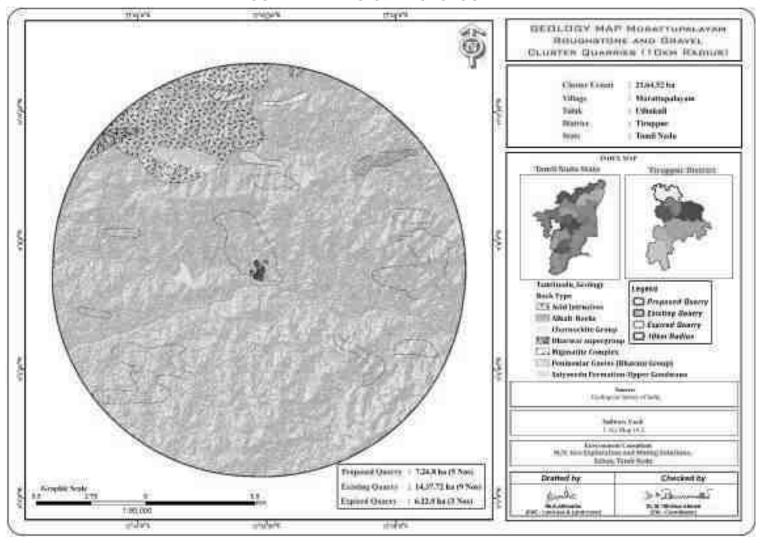


FIGURE 2.12: REGIONAL GEOLOGY MAP

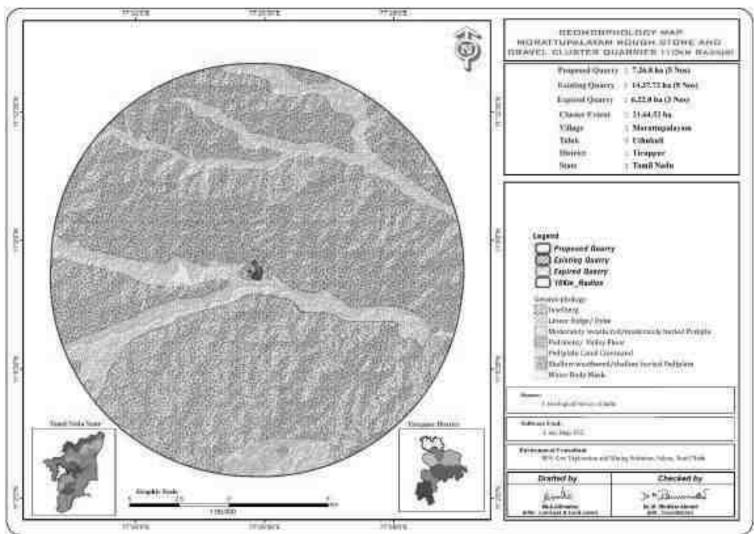
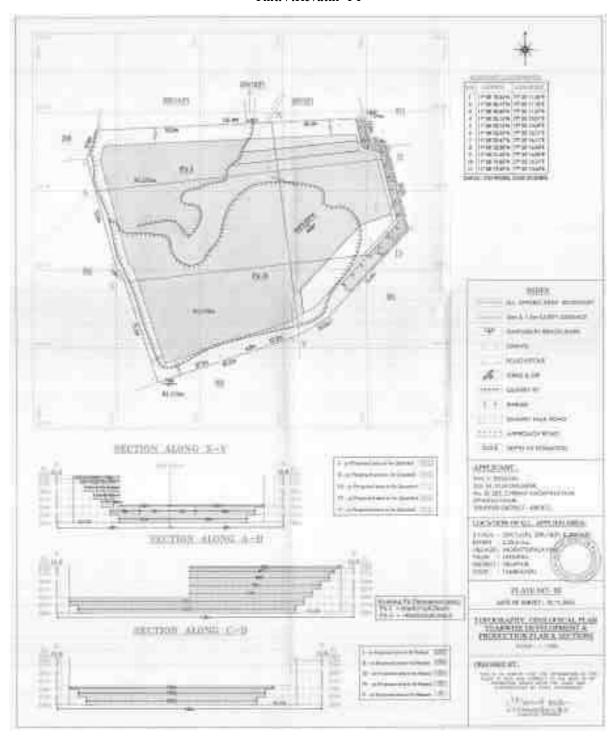


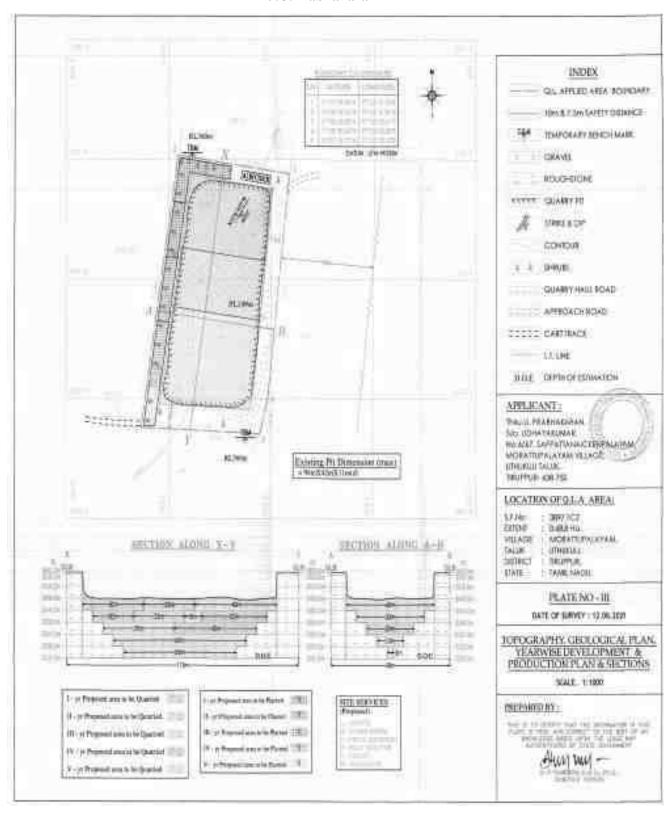
FIGURE 2.13: GEOMORPHOLOGY MAP

FIGURE 2.14: TOPOGRAPHY, GEOLOGICAL, YEARWISE DEVELOPMENT PRODUCTION PLAN AND SECTION- P1-P2-P3

Tmt.V.Revathi- P1



Thiru.U.Prabhakaran -P2



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Thiru.S. Rajasekar -P3

2.4 Resources and Reserves of the Cluster quarries

The available mineable reserves are calculated after leaving necessary safety distances prescribed in the Precise area communication letter.

TABLE 2.7: AVAILABLE GEOLOGICAL RESOURCES OF PROPOSED PROJECTS- P1- P2-P3

	P1	P1		P2		3
Description	Rough Stone quarry	Gravel	Rough Stone quarry	Gravel	Rough Stone quarry	Gravel
Geological Resource	3,26,788m ³	7,820m ³	7,54,307m ³	2,340 m ³	4,10,685m ³	9,166m³
Mineable Reserves	1,41,283m ³	4,860m ³	48,125m ³	-	1,63,614m ³	6,052
Proposed production for five years	1,41,283m ³	4,860m ³	48,125m ³	-	1,63,614m ³	6,052

Source: Approved Mining Plan

TABLE 2.8: YEAR-WISE PROPOSAL FOR FIRST FIVE YEARS PRODUCTION PLAN-P1

YEAR	ROUGH STONE QUARRY (m ³)	GRAVEL (m ³)
I	23654	2340
II	29962	1260
III	31212	1260
IV	32995	-
V	23460	-
TOTAL	1,41,283	4,860

Source: Approved Mining Plan

TABLE 2.9: YEAR-WISE PROPOSAL FOR FIRST FIVE YEARS PRODUCTION PLAN-P2

YEAR	ROUGH STONE QUARRY (m ³)	GRAVEL (m ³)
I	9750	-
II	9500	-
III	9920	-
IV	9880	-
V	9075	-
TOTAL	48,125	-

Source: Approved Mining Plan

TABLE 2.10: YEAR-WISE PROPOSAL FOR FIRST FIVE YEARS PRODUCTION PLAN-P3

YEAR	ROUGH STONE QUARRY (m ³)	GRAVEL (m ³)
I	32,889	6,052
II	35,750	-
III	31,950	-
IV	31,115	-
V	31,910	-
TOTAL	1,63,614	6052

Disposal of Waste

In the entire cluster quarries no waste is anticipated, quarried out materials (Rough stone and Gravel) will be utilized (100%).

Conceptual Mining Plan/ Final Mine Closure Plan

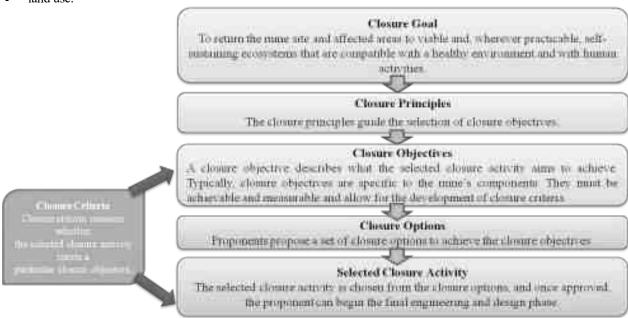
The ultimate pit size is designed based on certain practical parameters such as economical depth of mining, safety zones, permissible area, etc.

TARIF 2	11. III	TIMATE	PIT DIMENSIONS.	D1 D2 D3

Code	Length (Max) (m)	Width (Max) (m)	Depth (Max) (m)
PI	121	169	30m
P2	94	42	36 m
Р3	Pit-I 65	115	27m Dal
13	Pit-II 163	87	37m Bgl

Source: Approved Mining Plan

- At the end of life of mine, the excavated mine pit / void will act as artificial reservoir for collecting rain water and helps to meet out the demand or crises during drought season.
- After mine closure the greenbelt developed along the safety barrier and top benches and temporary water reservoir will enhance the ecosystem
- Mine Closure is a process of returning a disturbed site to its natural state or which prepares it for other productive uses that prevents or minimizes any adverse effects on the environment or threats to human health and safety.
- The principal closure objectives are for rehabilitated mines to be physically safe to humans and animals, geotechnically stable, geo-chemically non-polluting/ non-contaminating, and capable of sustaining an agreed postmining land use.
- land use.



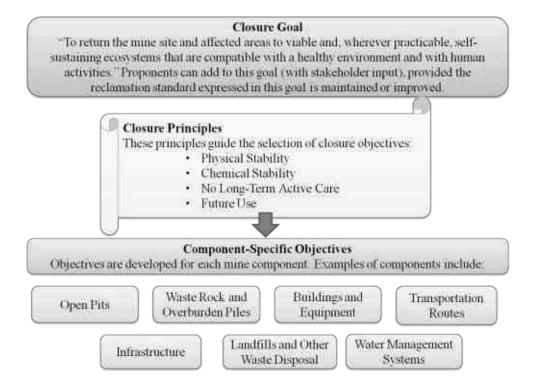
Closure Objectives

- Access to be limited, for the safety of humans and wildlife.
- The open pit mine workings and pit boundary are physically and geo-technically stable.
- Water quality in flooded pits is safe for humans, aquatic life, and wildlife.
- Discharge of contaminated drainage has been minimized and controlled.
- Original or desired new surface drainage patterns have been established.
- For flooded pits, in-pit aquatic habitat has been established where practical and feasible.
- Emergency access and escape routes from flooded pits for humans and wildlife are in place.
- Dust levels are safe for people, vegetation, aquatic life, and wildlife.

Closure Planning & Options Considerations in Mine Design –

• The closure of mine is well planned at the initial stage of planning & design consideration by the internal and external stake holders

- Construction of 2m height bund all along the mine pit boundary and ensure its stability all time & construction
 of garland drain along the natural slope to avoid sliding and collection of soil to the pit & surface runoff during
 rainfall
- After complete exploitation of mineral, the lowest bench foot wall side will be maintained as plain surface without any sump pits to avoid any accidents
- All the sharp edges will be dressed to smoother face before the closure of mine and ensure no loose debris on hanging wall side
- There is a river on southern side of the project area. The river will not be hindered by any of mine closure activities
- The project proponent as a part of social responsibilities assures to supply the stored mine pit water to the nearby villages after effective treatment process as per the standards of TNPCB & TWAD
- Native species will be planted in 3 row patterns on the boundary barriers and 1st bench, a full-time sentry will be appointed at the gate to prevent inherent entry of public & cattle.
- The access road to the quarry will be cut-off immediately after the closure
- The layout design shall be prepared and get approved from Department of Geology and Mining.
- The proponent is instructed to construct as per the layout approved
- Physical and chemical stability of structures left in place at the site, the natural rehabilitation of a biologically
 diverse, stable environment, the ultimate land use is optimized and is compatible with the surrounding area and
 the requirements of the local community, and taking the needs of the local community into account and
 minimizing the socio-economic impact of closure
- There will be a positive change in the environmental and ecology due to the mine closure



Post-Closure Monitoring -

The purpose of post-closure monitoring with respect to open pit mine workings is to ensure the attainment of closure objectives.

- Monitor physical and geotechnical stability of remnant pit walls.
- Monitor the ground regime in pit walls to confirm achievement of design objectives.
- Monitor water level in pit to confirm closure objectives regarding fish, fish habitat, and wildlife safety are being achieved.
- Sample water quality and quantity at controlled pit discharge points.
- Identify and test unanticipated areas where water management is an issue.

- Inspect integrity of barriers such as berms & fences.
- Monitor wildlife interactions with barriers to determine effectiveness.
- Inspect aquatic habitat in flooded pits where applicable.
- Monitor dust levels.

TABLE 2.12: MINE CLOSURE BUDGET-P1

ACTIVITY			YEAR					AMOUNT
ACIIVIII	ACTIVITI		II	III	IV	V	RATE	(INR)
Plantation under	Nos.	20	20	20	20	20		Rs.10,000/-
safety zone	Cost	2000	2000	2000	2000	2000		KS.10,000/-
Plantation cost in the	Nos.	40	40	40	40	40	@100 Rs	
quarried out top benches, approach road and panchayat road	Cost	4000	4000	4000	4000	4000	Per sapling	Rs.20,000/-
Wire Fencing (In Mtrs) 480		1,44,000	-	-	-	ı	@300 Rs Per Meter	Rs.1,44,000/-
Garland drain (In Mtrs) 400		1,20,000	-	_	-	-	@300 Rs Per Meter	Rs.1,20,000/-
		TOTA	L					Rs.2,94,000/-

TABLE 2.13: MINE CLOSURE BUDGET-P2

ACTIVITY		YEAR					RATE	COST (Rs.)
		I	II	III	IV	V		
Plantation under safety	Nos.	20	20	20	20	20		10,000/-
zone	Cost	2000	2000	2000	2000	2000	@100 Rs	10,000/-
Plantation in the approach road and nearby village	Nos.	20	20	20	20	20	Per sapling	10,000/-
road	Cost	2000	2000	2000	2000	2000		2,000
Wire Fencing (In Mtrs) 320 Mtrs		96000	-	1	-	-	@300 Rs Per Meter	96,000/-
Garland drain (In Mtrs) 250 Mtrs		75000	-	-	-	-	@300 Rs Per Meter	75,000/-
TOTA							1,91,000/-	
${f L}$								

Source: Proposed by FAE's and EC

TABLE 2.14: MINE CLOSURE BUDGET-P3

ACTIVITY		YEARS	YEARS					COST
ACTIVITY		I	II	III	IV	V	RATE	(Rs.)
Plantation under safety	Nos.	30	30	30	30	30		30,000/-
zone	Cost	6000	6000	6000	6000	6000		
Plantation in the quarried out top benches	Nos.	-	-	-	75	75	@200 Rs Per sapling	30,000/-
	Cost	-	-	-	15000	15000		
Plantation in the approach road and nearby village road	Nos.	100	-	-	-	-		20,000/-
	Cost	20000	-	-	-	-		
Wire Fencing (In Mtrs) 450 Mtrs		135000				@300 Rs	1,35,000/-	

Garland Drain (In Mtrs) 300 Mtrs	90000	Per Meter	90,000/-
TOTAL			

2.5 Method of Mining

The method of mining is common for all the proposed projects – The method of mining is Opencast Mechanized Mining Method is being proposed by formation of 5.0-meter height bench with a bench width not less than the bench height. However, as far as the quarrying of Rough Stone is concerned, observance of the provisions of Regulation 106 (2) (b) as above is seldom possible due to various inherent petro genetic factors coupled with mining difficulties. Hence it is proposed to obtain relaxation to the provisions of the above regulation from the Director of Mines Safety for which necessary provision is available with the Regulation 106 (2) (b) of MMR-1961, under Mine Act – 1952.

The top layer of overburden (Gravel) will be Excavate directly by Hydraulic Excavators and loaded into tippers directly and sold to needy customers. The Rough Stone is a batholith formation and the splitting of rock mass of considerable volume from the parent rock mass will be carried out by deploying jackhammer drilling and Slurry Explosives will be used for blasting. Hydraulic Excavators attached with Rock Breakers unit will be deployed for breaking large boulders to required fragmented sizes to avoid secondary blasting and hydraulic excavators attached with bucket unit will be deployed for loading the Rough Stone into the tippers and then the stone is transported from pithead to the nearby crushers.

2.5.1 Drilling

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

Spacing – 1.2m, Burden –1.0, Depth of hole - 1.5m

2.5.2 Blasting

Blasting will be done as per details below: -

Controlled blasting parameter: -

Spacing - 1.2m
Burden - 1.0 m
Depth of hole - 1.5 m
Charge per hole - 0.5Kg
Powder factor - 6.0 tonnes/kg
Dia of hole - 32 mm

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

No of Holes to be drilled per day: -

Volume of Rough Stone will be excavated from one hole

Total Volume from three proposed quarries

= 3,53,022m³
= 3,53,022/5
= 70,604/300

= 235* 2.6 = 612 Tonnes per day

012 Tollies po

Therefore, Number of Holes per day = 612/3

= 204 Holes per day (for 3 Quarries)

Type of Explosives to be used -

Slurry explosives (An explosive material containing substantial portions of a liquid, oxidizers, and fuel, plus a thickener), NONEL / Electric Detonator & Detonating Fuse

2.5.3 Extent of Mechanization

TABLE 2.15 PROPOSED MACHINERY DEPLOYMENT P1-P3

	PROPOSAL – P1					
S.NO.	ТҮРЕ	NOS	SIZE/CAPACITY	MOTIVE POWER		

1	Jack hammers	4	1.2m to 2.0m	Compressed air				
2	Compressor	1	400psi	Diesel Drive				
3	Excavator with Bucket / Rock Breaker	1	300 HP	Diesel Drive				
4	Tippers	1	20 Tonnes	Diesel Drive				
	PROPOSAL – P2							
S.NO.	ТҮРЕ	NOS	SIZE/CAPACITY	MOTIVE POWER				
1	Jack hammers	2	1.2m to 2.0m	Compressed air				
2	Compressor	1	400psi	Diesel Drive				
3	Excavator with Bucket / Rock Breaker	1	300 HP	Diesel Drive				
4	Tippers	1	20 Tonnes	Diesel Drive				
	PROPOSAL – I	P3						
S.NO.	ТҮРЕ	NOS	SIZE/CAPACITY	MOTIVE POWER				
1	Jack hammers	5	1.2m to 2.0m	Compressed air				
2	Compressor		400psi	Diesel Drive				
3	Excavator with Bucket / Rock Breaker	1	300 HP	Diesel Drive				
4	Tippers	3	20 Tonnes	Diesel Drive				

Source: Approved Mining Plan of the respective projects.

2.6 General Features

2.6.1 Existing Infrastructures

Infrastructures like Mine office, Temporary Rest shelters for workers, Latrine and Urinal Facilities are available in the Existing quarries and the same infrastructure as per the Mine Rule will be arranged after the grant of quarry lease in the proposed quarries.

2.6.1 Drainage Pattern

The general drainage pattern of the area is dendritic. There are no streams, canals or water bodies crossing within the project area, hence there is no requirement of stream or canals diversion in the near future.

2.6.2 Traffic Density

Traffic density measurements were performed as per IRC 1960 Guidelines at three locations based on the transportation route. 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.

TABLE 2.16 – TRAFFIC SURVEY LOCATION'S

Station code	Station location	Distance and Direction	Type of Road
TS1	Uthukuli-Sennimalaipalayam Road	1.5km- NE	Panchayat Road
TS2	Tiruppur-Vijayamangalam Road	800m-NW	SH Road

Source: On-site monitoring by GEMS FAE & TM

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FIGURE 2.15: TRAFFIC SURVEY LOCATIONS & TRANSPORTATION ROUTE MAP

(Source: Survey of India Toposheet)

TABLE 2.17 – EXISTING TRAFFIC VOLUME

Station code		(Hourly verage)	LMV hourly average		2/3 Hourly average		Total PCU per
code	No	PCU	No	PCU	No	PCU	hour
TS1	55	165	50	50	75	75	290
TS2	150	300	100	100	150	75	475

Source: On-site monitoring by GEMS FAE & TM

• PCU conversion factor for HMV (Trucks and Bus) = 3, LMV (Car, Jeep and Auto) = 1 and 0.5 for Motor Vehicles (2/3 Wheelers)

TABLE 2.18 – ANTICIPATED TRAFFIC DUE TO THIS PROPOSED PROJECT

Transportation of Rough stone per day						
Capacity of trucks	Cumulative Trips	Volume in PCU				
10/20 tonnes	30	90				

Source: Anticipated based on Approved Mining Plan Production

TABLE 2.19 – SUMMARY OF TRAFFIC VOLUME

Route	Existing traffic value in PCU	Incremental traffic from the quarry in PCU	Total traffic volume	Hourly Capacity in PCU as per IRC guidelines
TS1	290	90	380	1200
TS2	475	90	565	1500

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

As per the IRC 1960 this existing 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 transportation.

2.6.3 Mineral Beneficiation and Processing

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

2.6.4 Existing Infrastructure

It is a Existing quarry, no infrastructural facility available within the project area. The infrastructural facilities to be made after the start of the quarrying operations will be prepared outside limit as per the rules and safe distance to be adopted.

2.6.2 Drainage Pattern

The drainage pattern of the area is dendritic – sub dendritic.

2.7 Project Requirement

2.7.1 Water Source & Requirement

Detail of Total water requirements in KLD as given below:

TABLE 2.20 – WATER REQUIREMENT FOR THE CLUSTER PROJECT -P1-P2-P3

	PROPOSAL – P1					
*Purpose	Quantity	Source				
Domestic & Drinking purpose	0.2KLD	From existing, bore wells and drinking water will be sourced from Approved water vendors.				
Dust Suppression	1.0KLD	From Existing bore wells from nearby area				
Green Belt	0.3KLD	From Existing bore wells from nearby area				
Total	1.5 KLD	•				
	PROPOSAL – P2					
*Purpose	Quantity	Source				
Domestic & Drinking purpose	0.5KLD	From Existing, bore wells and drinking water will be sourced from Approved Water vendors.				
Dust Suppression	1.0KLD	From Existing bore wells from nearby area				
Green Belt	0.5KLD	From Existing bore wells from nearby area				
Total	2.0 KLD	•				
	PF	ROPOSAL – P3				
*Purpose	Quantity	Source				
Dust Suppression	0.3KLD	The required water will be met from rainwater accumulated in mine pit (when available) and from the approved water vendors.				
Green Belt	1.0KLD	The required water will be met from rainwater accumulated in mine pit (when available) and from the approved water vendors.				
Sanitation & Drinking	0.7KLD	Approved water vendors				
Total	2.0 KLD					

Source: Prefeasibility Report

About 50% water will be required for the suspension of the dust, Water shall be obtained from accumulated rainwater/seepage water in quarry pits. Packaged Drinking Water is available from the nearby approved water vendors.

2.7.2 Power and Other Infrastructure Requirement

The project's does not require power supply for the quarry operation. 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. For the quarrying operation like compressor for drilling Diesel will be utilized.

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 project 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.

2.7.3 Fuel Requirement

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

For Rough stone and gravel: P1

The quarry works restricted to one general shift during day time only. **No electricity is needed for quarry operation etc** as mainly diesel operated mining machinery is used for quarrying. However, the electricity will be required for crusher plant, pumping of water and for administrative building & rest shelters. Besides, standby generator will be available to meet the emergency power requirement of the quarry.

For Rough stone and gravel: P2

Per hour Excavator will consume = 16 liters / hour

Per hour Excavator will excavate = 20m³of Rough stone

Rough stone = 48,125/20 = 2,406 hours

Diesel consume = 2,406 hours x 16 liters

Total diesel consumption = 38,496 Liters of HSD will be utilized for rough stone

Total diesel consumption is around **38,496 Liters** of HSD for the entire period of life.

Gravel: P3

Per hour Excavator will consume = 10liters / hour

Per hour Excavator will excavate = 60m3 of Gravel

Gravel quantity = 6052/60 = 101hours Diesel consume = 101hours x 10liters

Total diesel consumption = 1,010Liters of HSD will be utilized for Gravel

Rough stone: P3

Per hour Excavator will consume = 16 liters / hour

Per hour Excavator will excavate = 20m3of Rough stone

Rough stone quantity = 1,63,614/20 = 8,181 hours

Diesel consume = 8,181hours x 16 liters

Total diesel consumption =1,30,896Liters of HSD will be utilized for Rough stone

Total diesel consumption = 1,31,906liters of HSD will be utilized for entire project life.

2.7.4 Employment Requirement:

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

TABLE 2.21: EMPLOYMENT POTENTIAL FOR PROPOSED QUARRIES -P1-P2-P3

Identification code	Employment in Nos
P1	18
P2	14
Р3	23
Total	55

A total of 55people will get employment due to these 3quarries in the cluster quarries.

2.7.5 Project Cost

TABLE 2.22 – PROJECT COST OF PROPOSED PROJECTS P1-P2-P3

Identification code	Project Cost
P1	Rs. 50,54,000/-
P2	Rs. 24,81,000/-
Р3	Rs. 61,69,000/-
Total	Rs. 1,37,04,000/-

Source: Approved Mining Plan & Prefeasibility Report of the respective projects

2.8 Project Implementation Schedule

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

TABLE 2.23 – EXPECTED TIME SCHEDULE FOR THE PROPOSED QUARRIES

S. No Particulars lease execution		Time schedule (in month)				nth)	Remarks if any	
5.110	1 at ticulars lease execution	1 st	2 nd	3 rd	4 th	5 th	Kemai ks ii any	
1	Environmental Clearance							
2	Consent to operate						Production start period	

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

CHAPTER – 3: DESCRIPTION OF ENVIRONMENT

3.0 General

This chapter presents a regional background to the baseline data at the very onset, which will help in better appreciation of micro-level field data, generated on several environmental and ecological attributes of the study area. The baseline status of the project environment is described section wise for better understanding of the broad-spectrum conditions. 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 Mar 2022 to May 2022 with CPCB guidelines. Environmental data has been collected with reference to cluster quarries by KGS Enviro Laboratory Private Limited, Approved by NABL Accredited Testing Laboratory ISO/IEC 17025:2017 for the below attributes-

- o Land
- Water
- o Air
- Noise
- o Biological
- o 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 quarries 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 and buffer zone taken as 10km radius from the periphery of the Cluster. Both Core zone and Buffer zone is taken as the study area.

Study Period

The baseline study was conducted during the summer season i.e. Mar 2022 to May 2022.

Study Methodology

Baseline data was generated for various environmental parameters including Land, Soil, Water (surface and groundwater), Air, Noise, Ecology & Biodiversity and Socio-economic status to determine the quality of the prevailing environmental settings. A MoEF accredited Laboratory was used for generating the baseline data.

- 1. The project area (Core zone) was surveyed in detail with the help of Total Station survey instrument and the boundary pillars were picked up with the help of handheld GPS. 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 physico-chemical characteristics, exchangeable cations, nutrients & micro nutrients etc., in order to assess the impact of mining activities and proposed greenbelt development.
- 3. Ground water samples were collected during the study period from the open wells and bore wells, while surface water was collected from river and lake 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 quarries.
- 4. A meteorological station was setup in Vadapudur village. Wind speed, Wind direction, Dry and wet bulb temperature, Relative humidity, Rainfall with cloud cover and general weather conditions were recorded throughout the study period.

- 5. In order to assess the Ambient Air Quality (AAQ), samples of Ambient Air were collected by installation of Respiratory Dust Samplers (RDS) for Fugitive dust, PM₁₀ and SO₂, 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
- 6. 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
- 7. 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
- 8. 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 – ENVIRONMENTAL 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 (2 surface water & 4 ground water)	IS 10500& CPCB Standards
Meteorology	Wind Speed Wind Direction Temperature Cloud cover Dry bulb temperature Rainfall	1 Hourly Continuous Mechanical/Automatic Weather Station	1	Site specific primary data& Secondary Data from IMD Station
*Ambient Air Quality	PM_{10} $PM_{2.5}$ SO_2 NO_X Fugitive Dust	24 hourly twice a week (Mar 2022 to May 2022)	7 (2 core & 5buffer)	IS 5182 Part 1-23 National Ambient Air Quality Standards, CPCB
*Noise Levels	Ambient Noise	Hourly observation for 24 Hours per location	7 (2 core & 5 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 KGS Enviro Laboratory Private Limited in association with GEMS

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

3.1 LAND ENVIRONMENT

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

3.1.1 LAND USE/LAND COVER

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

Point No. 4 All comer coordinates of the mine lease area, superimposed on a High-Resolution Imagery/ topo sheet. topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).

Point No. 10. Lard use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary. national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted.

Current vintage data of Indian Remote Sensing Satellite Resourcesat1 LIII (False Color Composite) has been used for Land Use / Land Cover study. Satellite image has been procured from National Remote Sensing Centre, Hyderabad.

3.1.2 OBJECTIVE

The objectives of the LULC study are as follow:

- To develop the Land use & Land cover map using land coordinates of the quarry area (Core Zone) and 10 km radius from the quarry site (Buffer area).
- No Identify and mark the important Land use and Land cover features using the primary and secondary data collected.
- To evaluate the impacts on existing land use/cover features of the buffer area by the Proposed Project activities.
- To identify the mitigative measures for the sustainable use of land and to protect the buffer zone from the adverse impacts.

Technical specification of Satellite imagery Data Used:

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

Satellite Image - Resourcesat1-LISSIII, 23.5m Resolution

🔊 Satellite Data Source - NRSC, Hyderabad

Satellite Vintage - 14st July 2020, Swath 141km wide.

SOI Toposheet No - 58 - E/08

Software Used - ArcGIS 10.8

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

The spatial resolution and the spectral bands in which the sensor collects the remotely sensed data are two important parameters for any land use survey. Resourcesat1-LISSIII, 23m Resolution of 23.5m and a 141 km wide swath of the earth in 23.5m resolution covering wide areas the data is collected in 4 visible bands namely band number and Resolution.

TABLE 3.2: Resourcesat1-LISSIII SENSOR characteristics

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

Source: NRSC, Hyderabad

3.1.3 METHODOLOGY

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

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

The land use/Land cover Map of the buffer zone is given in 3.3. Land Use Pattern of the Buffer Zone (Study area) Details of the same are given in Table - 3.3 and the map is shown in Figure - 3.3.

TABLE: 3.3 LAND USE / LAND COVER DETAILS OF STUDY AREA

S.No	CLASSIFICATION	AREA_HA	AREA_%		
	BUILTUP				
1	URBAN	4205.97	12.36		
2	RURAL	1839.21	5.40		
3	MINING	330.96	0.97		
	AGRICULTURAL LAND				
4	CROP LAND	18809.00155	55.27		
5	PLANTATION	1645.96	4.84		
6	FALLOW LAND	5878.12	17.27		
	BARREN/WASTE LANDS				
7	SCRUB LAND	476.43	1.40		
8	RAVINOUS LAND	65.43	0.19		
	WETLANDS/ WATER BODIES				
9	WATER BODIES/LAKE/RIVER	778.56	2.29		

TOTAL	34029.64	100.00
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Source: Bhuvan, NRSC.

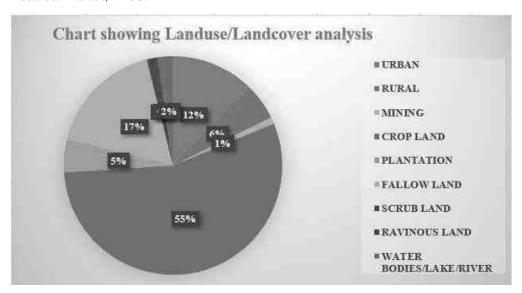


FIGURE 3.1: CHART SHOWING LANDUSE/LANDCOVER ANALYSIS USING LISS III Data

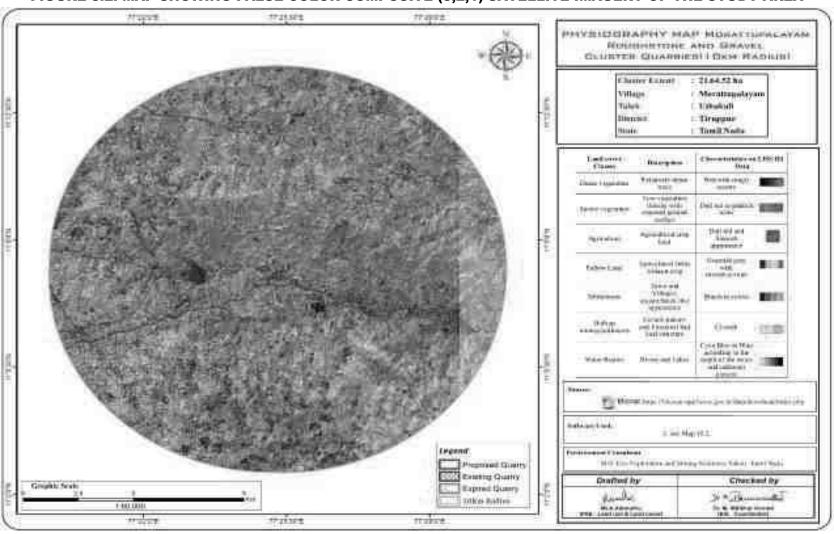


FIGURE 3.2: MAP SHOWING FALSE COLOR COMPOSITE (3,2,1) SATELLITE IMAGERY OF THE STUDY AREA

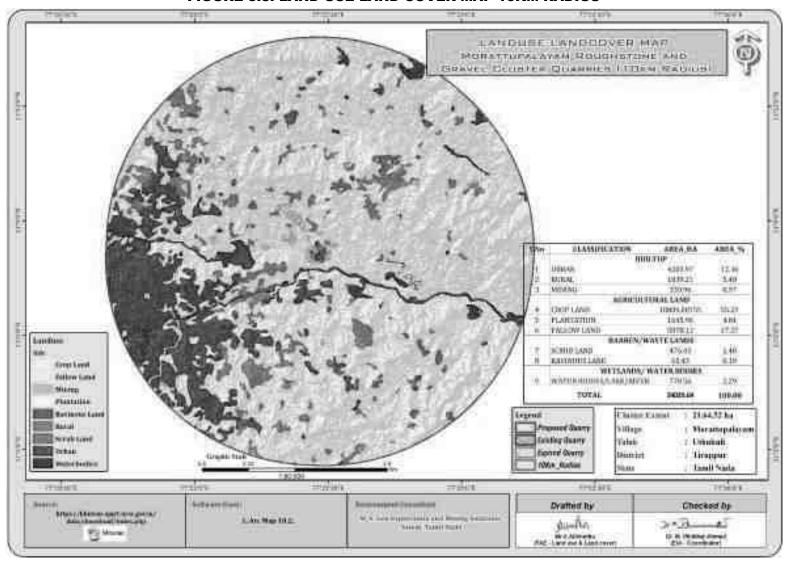


FIGURE 3.3: LAND USE LAND COVER MAP 10KM RADIUS

3.1.4 Interpretation

- The 10 km radius study area mainly comprises of Crop land & Agriculture Plantation land accounting of 55.27% & 4.84% of the total study area. The study area also consists of fallow land of 17.27%.
- The buffer zone studied has no ecological sensitive area (National Park, Wildlife Sanctuary, Biosphere Reserve/etc.).
- Water Bodies such as Odai, ponds/ lakes comprise of 2.29% of the total buffer area. There are some River found in the study area like Nallar Stream (150m-SE), Noyyal River (480m-S), of the total study area.
- En The Scrub land accounts of 1.40%. As per the primary survey, it was observed the scrub land is mainly occupied by the stony waste and left-over domestic waste generated by the nearby areas.
- ED The Ravinous Land means gullied area (Unconsolidated material) covered is about 0.19% in buffer zone.
- 80 0.97% of the total study area is occupied by the mine industries. The area occupied by Mainly Roughstone and gravel of the total buffer area. As also observed within the primary survey, the 10 km buffer area is also occupied by the medium scaled roughstone and small Brick kiln industries also located in the study area.
- 17.76% of the area is covered under the Builtup Land including rural area. The nearest village within the 3km from the project site boundary is observed to be villages Morattupalayam, Kullayur, Velliyampalayam and Velampalayam villages etc.

The project site falls under the Roughstone and gravel region. Therefore, the area is appropriate for developing Road development and building etc., it shows that the region has good prospects in the future. Due to proposed Roughstone and gravel quarry in this region, economic condition of locals is expected to be improved directly & indirectly. Hence project will prove to be the best economic proposal for the coming times.

3.1.5 Cropping Pattern of the Buffer Zone

The district has a total Geographical area of 367097Ha with net cultivated area of about 165260 Ha. Coconut is the major plantation crop cultivated in an area of about 85831 Ha. The other Agricultural crops cultivated are Millets, Pulses, Oilseeds, Cotton and Sugarcane. Coimbatore is perhaps one of the very few districts in the State which is covered with thick forest (> 20 per cent of the total districts' area). The forests here are abundant in commercially significant trees such as Teak, Sandalwood, Rosewood, Bamboo etc. The cinchona department is raising a cinchona plantation in forests of Pollachi range to jungles of shrubs in Udumalpet. Apart from this, there are one or two tea plantations and coffee plantations.

Source: TNRTP-Coimbatore DDR, 2019

3.1.6 Topography

The project area is almost plain terrain with gentle gradient towards Southeast – Southwestern side, maximum elevation of the area is 250-300 m above Mean Sea level There are no hilly regions in and around the area.

3.1.7 Drainage Pattern of the Area

There are no developed surface drainage channels in the study area. Noyyal, a non-perennial pass 480m-South from the project site. 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.

The general drainage pattern of the area is of sub dendritic and dendritic pattern. No prominent water course or nallah is inferred. During rainy season the surface runoff flows in W to E direction. The drainage pattern of the study area is given in Fig. 3.5. The quarrying activity will not hinder the natural flow of rainwater.

3.1.8 Environmental Features in the Study Area

There is no Wildlife Sanctuaries, National Park and Archaeological monuments within the study area. No Protected and Reserved Forest area is involved in the project area. Therefore, there will be no need to acquisition/diversion of forest land. The details related to the environment sensitivity around the mine lease area i.e. 10 km radius of the mine lease area, are given in the below Table 3.3.

3.1.9 Seismic Sensitivity

The proposed project site falls in the seismic Zone II, 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.

TABLE 3.3 – DETAILS OF ENVIRONMENT SENSITIVITY AROUND THE PROJECT AREA

Sl. No	Sensitive Ecological Features	Name	Arial Distance in km from Mine Lease Boundary	
1	National Park /	None	Vellode Bird Sanctuary – 27.0 km – NE	
-	Wild life Sanctuaries	1,011	Anamalai Tiger Reserve– 77.7 km – SW	
2	Reserve Forest	None	Vayapadi R.F-10km-NE, Villikaradu R.F-11km-NE	
	Reserve Potest	None	Chennimalai R.F-15km-E	
	Tiger Reserve/			
3	Elephant Reserve/ Biosphere Reserve		Nil within 10Km Radius	
4	Critically Polluted Areas	None	Nil within 10Km Radius	
5	Mangroves	None	Nil within 10Km Radius	
6	Mountains/Hills	None	Nil within 10Km Radius	
7	Notified Archaeological		V-d1 Ab11 E4 11 5 V C4 E4	
/	Sites	None	Kodumanal Archaeological Excavation – 11.5 Km – South East	
8	Defence Installation	None	Nil within 10Km Radius	

Source: Survey of India Toposheet, Village Cadastral Map& Google Earth/Maps

TABLE 3.4 – WATER BODIES WITHIN THE CLUSTER FROM PROPOSED QUARRIES

P1

S.No	NAME	DISTANCE & DIRECTION	
1	Nallar Stream	570m SW	
	Noyyal River	970m South	
2	Manikapuram Kulam	2.5km SE	
3	Koolipalayam Reservoir	3.5km SW	
4	Avarakkarai Stream	4.8km North	
5	Kattagani Kulam	7.5km SE	

P2

S.No	NAME	DISTANCE & DIRECTION
1	Nallar Stream	150m SE
	Noyyal River	480m South
2	Manikapuram Kulam	1.8km SE
3	Koolipalayam Reservoir	3.3km SW
4	Avarakkarai Stream	5.3km North
5	Kattagani Kulam	7.0km SE

Source: Village Cadastral Map and Field Survey and Toposheet

S.No	NAME	DISTANCE & DIRECTION
1	Nallar Stream	500m SW
	Noyyal River	850m South
2	Manikapuram Kulam	2.2km SE
3	Koolipalayam Reservoir	3.3km SW
4	Avarakkarai Stream	5.0km North
5	Kattagani Kulam	7.5km SE

Source: Village Cadastral Map and Field

3.1.6 Soil Environment

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

Location Code Monitoring Locations S. No **Distance & Direction Coordinates** S-1 Core Zone Project Area 11° 8'3.54"N 77°25'22.44"E 11° 8'22.12"N 77°25'16.47"E 2 Core Zone S-2 Project Area 3 S-3 Morattupalayam 2.5km NW 11° 9'31.58"N 77°24'36.66"E 11° 5'53.45"N 77°26'24.62"E 4 S-4 Mudhalipalayam 4.3km SE S-5 11° 7'36.88"N 77°22'37.48"E 5 Parapalayam 4.8km West 11° 8'8.79"N 77°28'57.74"E 6 S-6 6.5km West Pappanpalayam

TABLE 3.5 – SOIL SAMPLING LOCATIONS

Source: On-site monitoring/sampling by KGS Enviro Laboratory Private Limited in association with GEMS

The objective of the soil sampling is -

- 1. To determine the baseline soil characteristics of the study area;
- 2. 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 proposed quarry 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 sealed samples were sent to laboratory for analysis. The samples were filled in Polythene bags, coded and sent to laboratory for analysis and the details of methodology in respect are given in below Table 3.5.

TABLE 3.6 - METHODOLOGY OF SAMPLING COLLECTION

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

Source: On-site monitoring/sampling by KGS Enviro Laboratory Private Limited

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 classification of soil and physico-chemical characteristics of the soils are presented below in Table 3.6 & Test Results in Table 3.7.

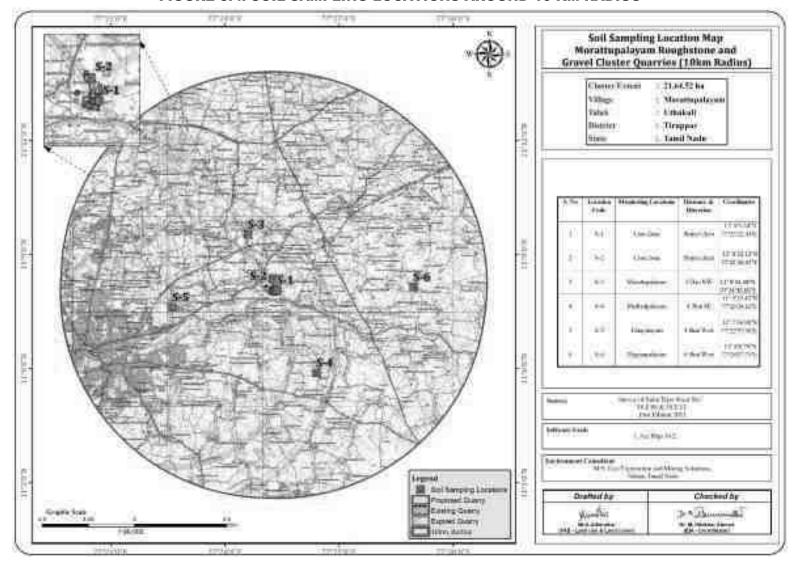


FIGURE 3.4: SOIL SAMPLING LOCATIONS AROUND 10 KM RADIUS

TENTE

TP2546T

SEIL MAP MORATTURALAYAM ROUGHSTONE AND GRAVEL CLUSTER QUARRIES (1 DKH RADIUS) Chiese Essent 21.64.92 ha Williago · Mozartagaleyan Fields. 1. Chemisti District. : Thropped | Territ Sada Shifte INSTRUME. Tital Path State Thapper Duniel tegent Progressed Quarry Still TVP4 Desire Querry (N. ALTERIA)

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FIGURE 3.5: SOIL MAP

TABLE 3.7 – SOIL QUALITY MONITORING DATA

	Parameter	Unit	S-1 Core Zone	S-2 Core Zone	S-3 Morattupalayam	S-4 Mudhalipalayam	S-5 Parapalayam	S-6 Pappapalayam
1	pHat27°C	-	7.89	8.20	8.34	7.99	8.41	8.85
2	ElectricalConductivityat25C	μs/cm	275	316	292	418	414	459
3	Texture	-	Clay Loam	Clay Loam	Clay Loam	Clay Loam	Clay Loam	Clay Loam
4	Sand	%	34.6	35.1	32.3	37.9	36.4	32.2
5	Slit	%	36.1	31.8	38.6	34.6	35.2	35.9
6	Clay	%	29.3	33.1	29.1	27.5	28.4	31.8
7	Water Holding Capacity	%	44.9	46.6	47.2	50.8	43.4	43.6
8	Bulk Density	g/cc	1.11	1.20	1.24	0.98	0.94	0.70
9	Porosity	%	28.1	27.9	31.4	32.6	40.4	41
10	Exchangeable Calcium(asCa)	mg/Kg	161	179	138.6	124.7	152	132
11	Exchangeable Magnesium(asMg)	mg/Kg	22.0	29.5	24.2	30.6	39.8	25.0
12	Exchangeable Manganese(asMn)	mg/Kg	34	26.5	25.2	38.6	31.8	21.2
13	Exchangeable Zinc as Zn	mg/Kg	0.50	0.29	0.46	0.9	1.01	0.48
14	Available Boron (as B)	mg/Kg	0.48	0.45	0.72	0.93	0.75	0.50
15	Soluble Chloride(as Cl)	mg/Kg	156.0	134	129	166	125	161
16	Soluble Sulphate(as S04)	mg/Kg	120	119	138	101	126	84.5
17	Available Potassium(asK)	mg/Kg	43.2	39.7	38.6	39.5	30.7	208
18	Available Phosphorous(asP)	Kg/hec	0.74	1.12	0.93	0.46	1.18	0.81
19	Available Nitrogen(as N)	Kg/hec	142	156	120	174	123	182
20	Cadmium (as Cd)	mg/Kg	BDL(DL:0.003)	BDL (DL:0.003)	BDL (DL:0.003)	BDL (DL:0.003)	BDL (DL:0.003)	BDL(DL:0.003)
21	Chromium (asCr)	mg/Kg	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)
22	Copper(asCu)	mg/Kg	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)
23	Lead (asPb)	mg/Kg	0.39	0.45	0.73	1.12	0.85	0.25
24	Total Iron	mg/Kg	1.98	2.57	2.01	1.97	1.19	2.56
25	Organic Matter	%	2.09	1.95	1.34	1.64	1.99	2.62
26	Organic Carbon	%	1.21	1.13	0.78	0.95	1.16	1.52
27	CEC	meq/l00g	39.6	35.8	37.5	41.0	38.2	40.6

Source: Sampling Results by KGS Enviro Laboratory Private Limited

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 to Sandy Soil and Bulk Density of Soils in the study area varied between 0.70-1.24 g/cc. The Water Holding Capacity 43.4 to 50.8% and Porosity of the soil samples is found to be medium i.e., ranging from 27.9-41%.

Chemical Characteristics –

- The nature of soil is slightly alkaline to strongly alkaline in nature with pH range 7.89 to 8.85
- The available Nitrogen content range between 120to 182 mg/kg
- The available Phosphorus content range between 0.46 to 1.18mg/kg
- The available Potassium range between 30.7 to 208 mg/kg

Whereas, the micronutrient as zinc (Zn), iron (Fe) and copper (Cu) were found in the range of 0.9 to 1.01mg/kg; 1.19 to 2.57 mg/kg and ND

Wilting coefficient in significant level would mean that the soil would support the vegetation. The soil properties in the buffer zone reveal that the soil can sustain vegetation. If amended suitability the core area can also withstand plantation.

3.2 Water Environment

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

3.2.1 Surface Water Resources:

Noyyal river lies at 970m S from the project cluster-P1, 480m-S from the project cluster-P2. The area is studded with few tanks that serve as the source for agriculture and also their surplus feeds adjoining tanks. The rainfall over the area is moderate, the rainwater storage in open wells, trenches is in practice over the area and the stored water acts as source of freshwater for couple of months after rainy season.

3.2.2 Ground Water Resources:

The terrain is underlain by hard rock formations, Fissured and fractured crystalline rocks constitute the important aquifer systems in the Tiruppur region. Ground water occurs under phreatic to semi-confined conditions in these formations and is being developed by means of dug wells and filter points. Proterozoic formation is the basement rocks which consist of quartzite, crystalline limestone, calc-granulite, hornblende – biotite gneiss, charnockite or pyroxene granulite, granite and pegmatite. Weathered, a fissured crack, shear zones and joints in the basement rock act as a good groundwater potential zone in the study area.

The study area falls in the Uthukuli which is categorized as over-exploited zone as per G.O (MS) No 113 dated 09.06.2016.

3.2.3 Methodology

Reconnaissance survey was undertaken to collect the sampling and locations were finalized based on;

- 1. Drainage pattern;
- 2. Location of residential areas representing different activities/likely impact areas; and
- 3. Likely areas, which can represent baseline conditions

two (2) surface water and four (4) ground water samples were collected in the study area and physico-chemical, heavy metals and bacteriological parameters were analysed. 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 3.8 and shown as Figure 3.6.

TABLE 3.8 – WATER SAMPLING LOCATIONS

S. No	Location code	Monitoring Locations	Distance & Direction	Coordinates
1	SW-1	Koolipalayam Eri	3.8km West	11° 8'18.28"N 77°23'16.96"E
2	SW-2	Noyyal River	530m South	11° 7'43.08"N 77°25'27.03"E
3	WW-1	Near Project Area	400m SE	11° 7'49.06"N 77°25'29.41"E
4	WW-2	Karattupalayam	6.5km NE	11°10'11.65"N 77°28'6.26"E
5	BW-1	Near Project Area	400m NW	11° 8'30.85"N 77°25'2.82"E
6	BW-2	Mudhalipalayam	4.3km SE	11° 5'51.71"N 77°26'23.28"E

Source: On-site monitoring/sampling by KGS Enviro Laboratory Private Limited

Note: SW- Surface water, WW - Well Water, BW - Bore well

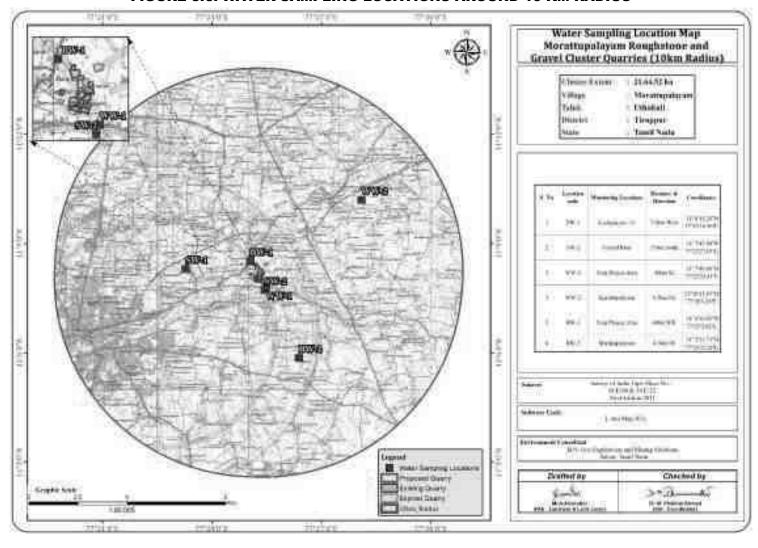


FIGURE 3.6: WATER SAMPLING LOCATIONS AROUND 10 KM RADIUS

TABLE 3.9 – SURFACE WATER ANALYSIS RESULTS

S.N			SW1	SW2
0	Parameter	UNIT	Koolipalayam eri	Noyyal River
1	Color	Hazen	5	5
2	Odour	-	Agreeable	Agreeable
3	рН@ 25°C	-	7.55	7.31
4	Electrical Conductivity @ 25°C	μs/cm	1052	976
5	Turbidity	NTU	7.8	8.2
6	Total Dissolved Solids	mg /l	621	598
7	Total Hardness as CaCO ₃	mg/l	196.7	170
8	Calcium as Ca	mg/l	40.1	35.6
9	Magnesium as Mg	mg/l	23.5	19.8
10	Total Alkalinity as CaCO ₃	mg/l	210	168
11	Chloride as Cl ⁻	mg/l	112.4	99.0
12	Sulphate as SO ₄ -	mg/l	56	49.8
13	Iron as Fe	mg/l	0.19	0.20
14	Free Residual Chlorine	mg/l	BDL(DL: 2.0)	BDL(DL: 2.0)
15	Fluoride as F	mg/l	0.13	0.20
16	Nitrates as NO ₃	mg/l	18	9.6
17	Copper as Cu	mg/l	BDL (DL:0.2)	BDL (DL:0.2)
18	Manganese as Mn	mg/l	BDL (DL:0.05)	BDL (DL:0.05)
19	Mercury as Hg	mg/l	(BDL (DL: 0.0005)	(BDL (DL: 0.0005)
20	Cadmium as Cd	mg/l	BDL (DL:0.01)	BDL (DL:0.01)
21	Selenium as Se	mg/l	BDL (DL: 0.05)	BDL (DL: 0.05)
22	Aluminium as Al	mg/l	BDL (DL: 0.03)	BDL (DL: 0.03)
23	Lead as Pb	mg/l	BDL (DL:0.01)	BDL (DL:0.01)
24	Zinc as Zn	mg/l	BDL (DL:0.02)	BDL (DL:0.02)
25	Total Chromium	mg/l	BDL (DL: 0.05)	BDL (DL: 0.05)
26	Boron as B	mg/l	BDL (DL:0.1)	BDL (DL:0.1)
27	Mineral Oil	mg/l	BDL (DL:1.0)	BDL (DL:1.0)
28	Phenolic Compunds as	mg/l	Absent	Absent
29	Anionic Detergents as	mg/l	BDL (DL:0.1)	BDL (DL:0.1)
30	Cynaide as CN	mg/l	Absent	Absent
31	Bio chemical Oxygen demand	mg/l	6.4	5.6
32	Chemical Oxygen demand	mg/l	24	18
33	Dissolved Oxygen	mg/l	5.7	4.4
34	Total Coliform	Per 100ml	present	present
35	E-Coli	Per 100ml	present	present
36	Barium as Ba	mg/l	BDL (DL:0.5)	BDL (DL:0.5)
37	Ammonia-n (as Total	mg/l	2.5	BDL(DL:1)
38	Sulphide as H ₂ S	mg/l	BDL (DL:0.05)	BDL (DL:0.05)
39	Molybdenum as Mo	mg/l	BDL (DL:0.5)	BDL (DL:0.5)
40	Total Arsenic as As	mg/l	BDL (DL:0.01)	BDL (DL:0.01)
41	Total Suspended Solids	mg/l	20.7	17.4

TABLE 3.10 — GROUND WATER ANALYSIS RESULTS

S.NO	Parameter	Unit	WW1 Near Project Area	WW2 Karattupalayam	BW1 Near Project Area	BW2 Mudhalipalayam
1	Color	Hazen	< 5	< 5	< 5	< 5
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable
3	рН@ 25°C	-	6.72	6.99	7.47	7.20
4	Electrical Conductivity	μs/cm	910	948	745	810
5	Turbidity	NTU	< 1	< 1	< 1	< 1
6	Total Dissolved Solids	mg/l	578	550	449	430
7	Total Hardness as CaCO ₃	mg/l	159	194	180	130
8	Calcium as Ca	mg/l	31.8	42.0	32.0	25.6
9	Magnesium as Mg	mg/l	19.4	21.6	24.2	16.0
10	Total Alkalinity	mg/l	145	205	176	152
11	Chloride as Cl ⁻	mg/l	98.8	86.4	70.3	85.6
12	Sulphate as SO ₄ -	mg/l	43.4	39.6	29.4	31.8
13	Iron as Fe	mg/l	0.10	BDL (DL:0.1)	BDL (DL:0.1)	BDL (DL:0.1)
14	Free Residual Chlorine	mg/l	BDL(DL: 2.0)	BDL(DL: 2.0)	BDL(DL: 2.0)	BDL(DL: 2.0)
15	Fluoride as F	mg/l	0.15	0.12	0.20	0.17
16	Nitrates as NO ₃	mg/l	9.6	7.2	6.5	8.2
17	Copper as Cu	mg/l	BDL (DL:0.2)	BDL (DL:0.2)	BDL (DL:0.2)	BDL (DL:0.2)
18	Manganese as Mn	mg/l	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)
19	Mercury as Hg	mg/l	(BDL (DL: 0.0005)	(BDL (DL: 0.0005)	(BDL (DL: 0.0005)	(BDL (DL: 0.0005)
20	Cadmium as Cd	mg/l	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)
21	Selenium as Se	mg/l	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)
22	Aluminium as Al	mg/l	BDL (DL: 0.03)	BDL (DL: 0.03)	BDL (DL: 0.03)	BDL (DL: 0.03)
23	Lead as Pb	mg/l	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)
24	Zinc as Zn	mg/l	BDL (DL:0.02)	BDL (DL:0.02)	BDL (DL:0.02)	BDL (DL:0.02)
25	Total Chromium	mg/l	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)
26	Boron as B	mg/l	BDL (DL:0.1)	BDL (DL:0.1)	BDL (DL:0.1)	BDL (DL:0.1)
27	Mineral Oil	mg/l	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:1.0)
28	Phenolic Compunds	mg/l	Absent	Absent	Absent	Absent
29	Anionic Detergents	mg/l	BDL (DL:0.1)	BDL (DL:0.1)	BDL (DL:0.1)	BDL (DL:0.1)
30	Cynaide as CN	mg/l	Absent	Absent	Absent	Absent
31	Total Coliform	Per 100ml	< 2	< 2	< 2	< 2
32	E-Coli	Per 100ml	< 2	< 2	< 2	< 2
33	Barium as Ba	mg/l	BDL (DL:0.5)	BDL (DL:0.5)	BDL (DL:0.5)	BDL (DL:0.5)
34	Ammonia (as Total	mg/l	BDL (DL:0.1)	BDL (DL:0.1)	BDL (DL:0.1)	BDL (DL:0.1)
35	Sulphide as H ₂ S	mg/l	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)
36	Molybdenum as Mo	mg/l	BDL (DL:0.5)	BDL (DL:0.5)	BDL (DL:0.5)	BDL (DL:0.5)
37	Total Arsenic as	mg/l	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)
38	Total Suspended Solids	mg/l	BDL(DL:2)	BDL(DL:2)	BDL(DL:2)	BDL(DL:2)

^{*} IS: 10500:2012-Drinking Water Standards; # within the permissible limit as per the WHO Standard. The water can be used for drinking purpose in the absence of alternate sources. Note: SW- Surface water, GW – Ground water.

Source: Sampling Results by KGS Enviro Laboratory Private Limited

3.2.4 Interpretation& Conclusion

Surface Water

The pH of surface 7.31-7.55 while turbidity found within the standards. Total Dissolved Solids 598-621 mg/l and Chloride 99.0-112.4mg/l. Nitrates 9.6-18mg/l, while sulphates 49.8-56 mg/l.

Ground Water

The pH of the water samples collected ranged from 6.72 to 7.47 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. Total Dissolved Solids were found in the range of 430- 578 mg/l in all samples. The Total hardness varied between 130 - 194mg/l for all samples.

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

3.2.5 Hydrology and Hydrogeological studies

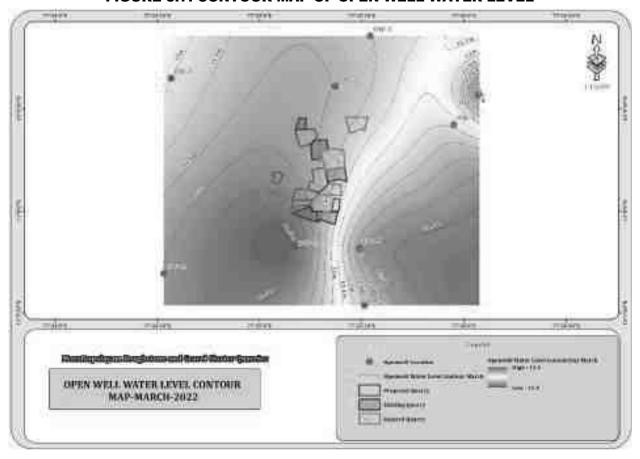
The district is underlain by hard rock formation Fissured and Fractured crystalline rocks constitute the important aquifer systems in the district. Geophysical prospecting was carried out in that area by SSRMP-ATS Instrument by qualified Geo physicist with the help of IGIS software and it was inferred that the low resistance encountered at the depth between 70-65m. the quarrying operations is restricted upto 30-37m 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 this upcoming project.

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 10m 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 be as a temporary reservoir in that area.

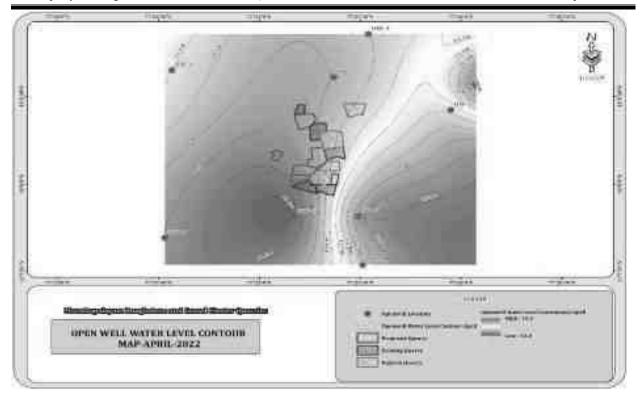
TABLE 3.11: POST MONSOON WATER LEVEL OF OPEN WELLS 1 KM RADIUS

S.No	LABEL	LONGITUDE	LATITUDE	Mar 2022	Apr2022	May 2022
1	OW-1	77° 25' 10.3372" E	11° 07' 49.5152" N	11.5	12.1	12.7
2	OW-2	77° 25' 22.2076" E	11° 08' 36.5623" N	11.8	12.4	13
3	OW-3	77° 25' 32.4651" E	11° 08' 51.3034" N	11.9	12.5	13.1
4	OW-4	77° 24' 34.0033" E	11° 08' 38.8661" N	12	12.6	13.2
5	OW-5	77° 25' 57.0095" E	11° 08' 25.3247" N	12.2	12.8	13.4
6	OW-6	77° 26' 04.3936" E	11° 08' 34.0977" N	11.6	12.2	12.8
7	OW-7	77° 25' 29.4248" E	11° 07' 48.9146" N	12.5	13.1	13.7
8	OW-8	77° 24' 31.8828" E	11° 07' 41.5352" N	11.7	12.3	12.9
9	OW-9	77° 25' 30.7621" E	11° 07' 32.2487" N	12.3	12.9	13.5

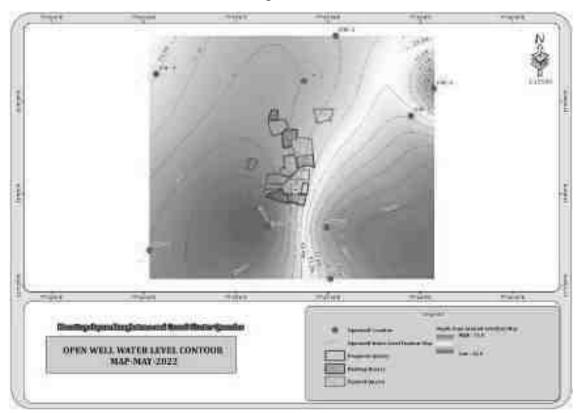
FIGURE 3.7: CONTOUR MAP OF OPEN WELL WATER LEVEL



March 2022



April 2022

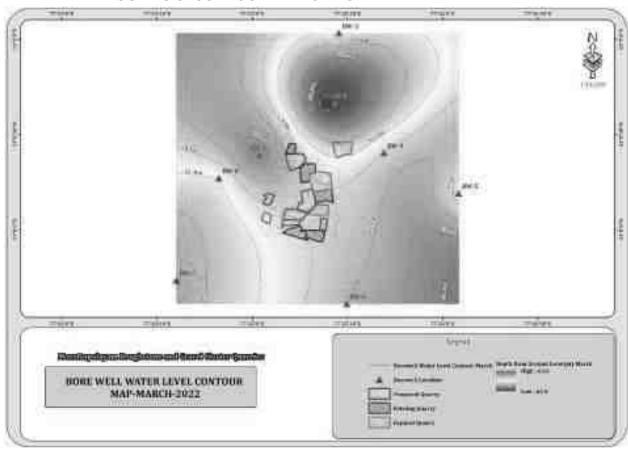


May 2022

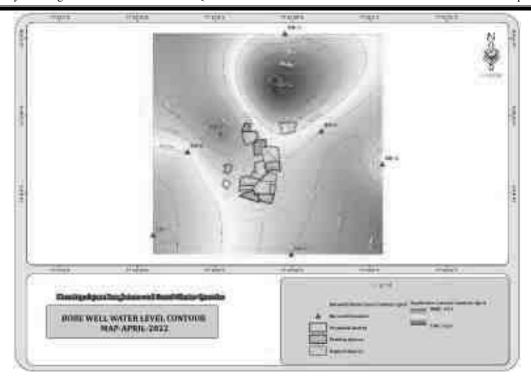
TABLE 3.12: POST MONSOON WATER LEVEL OF BOREWELLS 1 KM RADIUS

S.No	LABEL	LONGITUDE	LATITUDE	Mar 2022	Apr 2022	May 2022
1	BW-1	77° 25' 02.3376" E	11° 08' 23.4691" N	63.5	64.1	64.7
2	BW-2	77° 25' 23.4699" E	11° 08' 39.9269" N	62	62.6	63.2
3	BW-3	77° 25' 27.3071" E	11° 09' 01.9174" N	62.8	63.4	64
4	BW-4	77° 25' 41.4343" E	11° 08' 24.1783" N	63	63.6	64.2
5	BW-5	77° 26' 05.0735" E	11° 08' 11.4062" N	62.9	63.5	64.1
6	BW-6	77° 25' 29.8060" E	11° 07' 36.5670" N	63.2	63.8	64.4
7	BW-7	77° 24' 36.0512" E	11° 07' 43.9622" N	62.5	63.1	63.7
8	BW-8	77° 24' 49.4572" E	11° 08' 16.2032" N	62.8	63.4	64

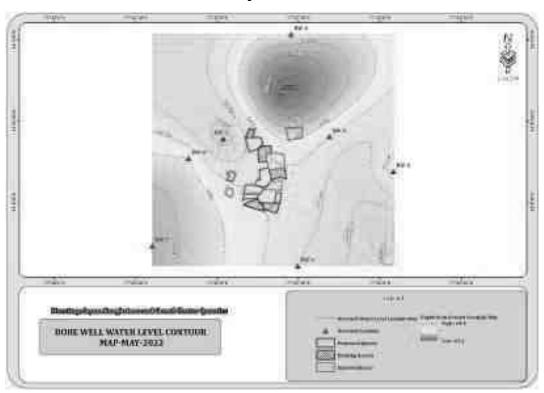
FIGURE 3.8: CONTOUR MAP OF BORE WELL WATER LEVEL



March 2022



April 2022



May 2022

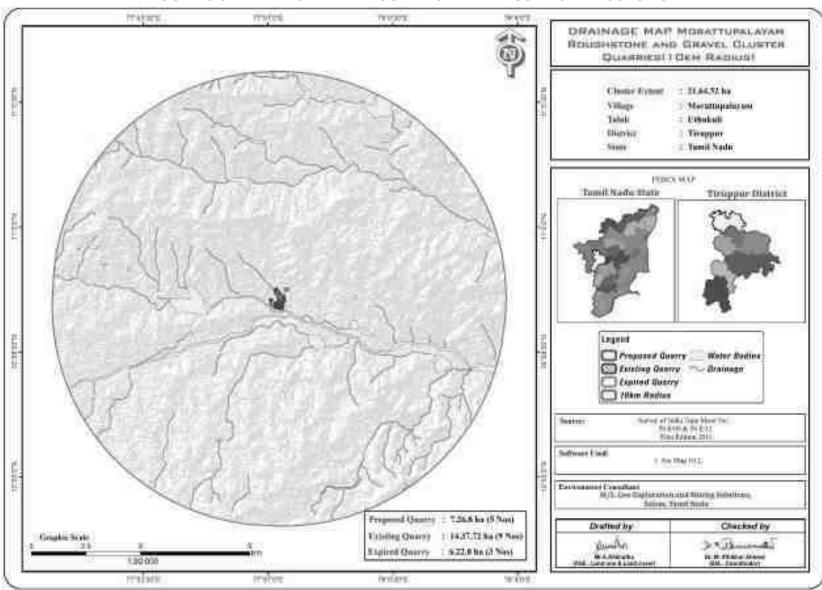


FIGURE 3.9: DRAINAGE MAP AROUND 10 KM RADIUS FROM PROJECT SITE

STONE. SMINN. DROUND WATER PROBPECTS MAP MORATTURALAYAN ROUGHETONE AND BRAVES, SILVETER BUARRESS LICKM HADIUM! Chron Faunt - 21 64.52 ha William 1. Monanguiaren Citionalis. Sidal-. Disappear District | Tamel Node Smale No. of Concession, Name of Street William St. Sangering STATE OF THE PERSON NAMED IN The latest and the same of THE RESERVE AND PERSONS BY BY MICH CORES AND A CORES WHILL THE WARR CREATE AND ADDRESS OF THE PARTY AND ADDRESS OF Actor (William) IN ROCKET WITH THE be to help our 1900 mile had NUMBER OF STREET In all traces of the beautiful FREE BOOK OF THE OWNER. MALEN MALEN AND AND AND THE RESIDENCE OF SHIRTS AND Homest Parisons the most of the party PERCHAPAR DIVINE We would style the said AC 0446 1111 - 01 Legenti to the party contract of the contract of the BY OF THE WAR - LIKE STATE THAT Property Genty HICKORY OF PRODUCTION OF (C) Existing Guarry AND RECOVERY PROPERTY AND - M or that and Program fortigers with other Emiled Guerry Woodball Air 10Km Hadine -NAME OF TAXABLE PARTY. Phores was Others and more average. Firegray District Family North State Eddings of Country Systematics and History Solutions. Drafted by Checked by O. M. Widow Married Altho-Completed day to be server 94. Linkson Alexand COPPE STYLES N. arann.

FIGURE 3.10: GROUND WATER PROSPECTS MAP

Source: Bhuvan

3.2.5.1 Methodology and Data Acquisition

Electric Resistivity Method is well established for delineating lateral as well vertical discontinuities in the resistive structure of the Earth's subsurface. The present study makes use of vertical electric sounding (VES) to delineate the Vertical Resistivity structure at depth. Schlumberger electrode set up was employed for making sounding measurements. Since it is least influenced by lateral in homogeneities and is capable of providing higher depth of investigation. This is four electrodes collinear set up where in the outer electrodes send current into the ground and the inner electrodes measure the potential difference.

The present study utilizes maximum current electrode separation AB/2. The data from this survey are commonly arranged and contoured in the farm of Pseudo-section that gives an approximate of the subsurface resistivity. This technique is used for the inversion of Schlumberger VES data to predict the layer parameter namely layer resistivity and Geo electric layer thickness. The main goal of the present study is to search the vertical in homogeneities that is consistent with the measured data.

For a Schlumberger among the Apparent resistivity can be calculated as follows

$$\rho_a = G\Delta V$$
I

 ΔV = potential difference between receiving electrodes

G = Geometric Factor.

Rocks show wide variation in resistivity ranging from 10-8 more than 10+14 ohmmeter. On a broad classification, one can group the rocks falling in the range of 10-8 to 1 ohmmeter as good conductors. 1 to 106 ohmmeter as intermediate conductors and 106 to 1012 ohmmeter as more as poor conductor. The resistivity of rocks and subsurface lithology, which is mostly dependent on its porosity and the pore fluid resistivity is defined by Archie's Law,

$\rho_r = F \rho_w = a \mathcal{O}^m \rho_w$

ρr = Resistivity of Rocks

ρw = Resistivity of water in pores of rock

F = Formation Factor

Ø = Fractional pore volume

A = Constants with values ranging from 0.5 to 2.5

3.2.5.2 Survey Layout

The layout for a resistivity survey depends on the choice of the current and potential electrode arrangement, which is called electrode array. Here the present study is considered with Schlumberger array. In which the distance may be used for current electrode separation while potential electrode separation is kept on third to one fifth of the same. One interesting aspect in VES is the principle of reciprocity, which permits interchange of the potential and current electrode without any effect on the measured apparent resistivity.

The field equipment deployed for the study is in a deep resistivity meter with a model of SSR – MP – AT. This Signal stacking Resistivity meter is a high-quality data acquisition system incorporating several innovation features for Earth resistivity. In the presence of random earth Noises the signal to nose ration can be enhanced by \sqrt{N} where N is the number of stacked readings. This SSR meter in which running averages of measurements $[1, (1+2)/2, (1+2+3)/3 \dots (1+2\dots+16/16)]$ up to the chosen stacks are displayed and the final average is stored automatically, in memory utilizing the principles of stacking to achieve the benefit of high signals to noise ratio. Based on these above significations the signal stacking resistivity meter was used for (VES) Vertical Electric Resistivity Sounding.

Electrical Resistivity Measure Current Source Wolfage Current Ricw Through Earth

RESISTIVITY SURVEY PROFILE

Measurements of ground Resistivity is essentially done by sending a current through two electrodes called current electrodes (C_1 & C_2) and measuring the resulting potential by two other electrodes called potential electrode (P_1 & P_2). The amount of current required to be sent into the ground depends on the contact resistance at the current electrode, the ground resistivity and the depth of interest.

3.2.5.3 Data Presentation

It was inferred that the low resistance encountered at the depth between 78-73m. The maximum depth proposed out of proposed projects is 30-36m BGL. 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.

3.2.5.4 Geophysical Data Interpretation

The geophysical data was obtained to study the lateral variations, vertical in homogeneities in the sub – surface with respect to the availability of groundwater. From the interpreted data, it has inferred that the area has moderate groundwater potential in the investigated area. This small quarrying operation will not have any significant impact on the natural water bodies.

3.3 Air Environment

The ambient air quality with respect to the study area of 10 km radius including the cluster quarries forms the baseline information. The prime objective of baseline air quality monitoring is to assess existing air quality of the area. This will also be useful in assessing the conformity to standards of the ambient air quality during the operations

The existing ambient air quality of the area is important for evaluating the impact of mining activities on the ambient air quality. These will also be useful for assessing the conformity to standards of the ambient air quality during the operation of Existing and proposed quarries within the radius of 500m.

The sources of air pollution in the region are mostly due to vehicular traffic, dust arising from unpaved village road and domestic & agricultural activities. This section describes the identification of sampling locations, methodology adopted during the monitoring period and sampling frequency.

The baseline status of the ambient air quality has been assessed through scientifically designed ambient air quality network. The design of monitoring network in the air quality surveillance program has been based on the following considerations:

- Meteorological conditions.
- Topography of the study area.
- Likely impact area.

3.3.1 Meteorology & Climate

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

A temporary meteorological station was installed at project site. The station was installed at a height of 4 m above the ground level in such a way that there are no obstructions facilitating flow of wind, wind speed, wind direction, humidity and temperature are recorded on hourly basis.

Climate -

The Tiruppur lies on 300m above sea level The climate here is considered to be a local steppe climate. There is not much rainfall in Tiruppur all year long. This location is classified as BSh by Köppen and Geiger. In Tiruppur.

- The average annual temperature is 27.3°C | 81.1°F.
- The annual rainfall here is around 605mm | 23.8 inch.
- The driest month is January with 7mm |0.3 inch of rainfall. The greatest amount of precipitation occurs in October, with an average of 155mm | 6.1 inch.
- The warmest month of the year is April, with an average temperature of 30.0°C | 86.0°F. The lowest average temperatures in the year occur in December, when it is around 24.8°C | 76.64°F.
- The difference in precipitation between the driest month and the wettest month is 148 mm |6 inch. The variation in annual temperatures throughout the year is 5.2°C | 41.4°F.

Source: https://en.climate-data.org/asia/india/tamil-nadu/tiruppur-2789/

Rainfall -

The average annual rainfall and the 5 years rainfall is as follows:

TABLE 3.13 - RAINFALL DATA

	Normal Rainfall in mm						
2017	2018	2019	2020	2021	(0(0		
679.8	716.2	488.1	748.8	845.1	606.8		

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

TABLE 3.14 – METEOROLOGICAL DATA RECORDED AT SITE

S.No	Parameters		Mar-2022	Apr-2022	May-2022
		Max	30.5	30.1	27.5
1	Temperature (⁰ C)	Min	27.3	24.5	24.8
			28.9	27.3	26.15
2	Relative Humidity (%)	Avg	76.32	79.53	73.29
		Max	9.250	3.931	3.700
3	Wind Speed (m/s)	Min	1.959	1.500	0.300
		Avg	5.6045	2.7155	2.000
4	Cloud Cover (OKTAS)		0-8	0-8	0-8
5	Wind Direction		SW,WSW	NE,SSE	S,ESE

Source: On-site monitoring/sampling by KGS Enviro Laboratory Private Limited in association with GEMS

The meteorological data collected at the site is almost similar to that of secondary data collected from IMD Tiruppur. A comparison of site data generated during the three months with that of IMD, Tiruppur Agro reveals the following:

- The average maximum and minimum temperatures of IMD, Tiruppur agro showed a higher in respect of onsite data i.e. in Morattupalayam village.
- The relative humidity levels were lesser at site as compared to IMD, Tiruppur agro.
- The wind speed and direction at site shows similar trend that of IMD, Tiruppur agro.

 Windrose diagram of the study site is depicted in Figure. 3.8. Predominant downwind direction of the area during study season is North East to South West.

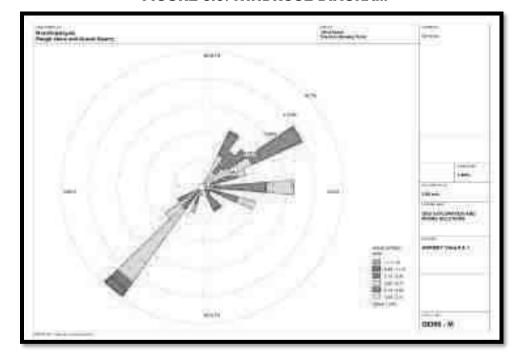


FIGURE 3.9: WINDROSE DIAGRAM

Environmental In the abstract of collected data wind rose were drawn on presented in figure No.3.14 during the monitoring period in the study area

- 1. Predominant winds were from SW, E, NE, ESE
- 2. Wind velocity readings were recorded between 0.50 to 8.80km / hour
- 3. Calm conditions prevail of about 0.00% of the monitoring period
- 4. Temperature readings ranging from 24.5° to 30.5°C
- 5. Relative humidity ranging from 73.29 to 79.53%
- 6. The monitoring was carried out continuously for three months

3.3.2 Methodology and Objective

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

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

3.3.3 Sampling and Analytical Techniques

TABLE 3.15 – METHODOLOGY AND INSTRUMENT USED FOR AIR QUALITY ANALYSIS

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 withgaseous attachment
NO _x	IS-5182 Part II (Jacob & Hochheiser modifiedmethod)	Respirable Dust Sampler with gaseous attachment
Free Silica	NIOSH – 7601	Visible Spectrophotometry

Source: Sampling Methodology followed by KGS Enviro Laboratory Private Limited & CPCB Notification.

TABLE 3.16 - NATIONAL AMBIENT AIR QUALITY STANDARDS

Sl.	Pollutant	Time Weighted	Concentration in ambient air		
No.		Average	Industrial, Residential,	Ecologically Sensitive area	
			Rural & other areas	(Notified by Central Govt.)	
1	Sulphur Dioxide (µg/m³)	Annual Avg.*	50.0	20.0	
		24 hours**	80.0	80.0	
2	Nitrogen Dioxide (μg/m ³)	Annual Avg.	40.0	30.0	
		24 hours	80.0	80.0	
3	Particulate matter (size less	Annual Avg.	60.0	60.0	
	than $10\mu m) \text{ PM}_{10} (\mu g/m^3)$	24 hours	100.0	100.0	
4	Particulate matter (size less	Annual Avg.	40.0	40.0	
	than 2.5 μ m PM _{2.5} (μ g/m ³)	24 hours	60.0	60.0	

Source: NAAQS CPCB Notification No. B-29016/20/90/PCI-I Dated: 18th Nov 2009

3.3.4 Frequency & Parameters for Sampling

Ambient air quality monitoring has been carried out with a frequency of two samples per week at seven (7) locations, adopting a continuous 24 hourly (3 shift of 8-hour) schedule for the period Mar-May2022. The baseline data of ambient air has been generated for PM₁₀, PM_{2.5}, Sulphur Dioxide (SO₂) & Nitrogen Dioxide (NO₂).

3.3.5 Ambient Air Quality Monitoring Stations

Seven (7) 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.

^{*}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.

TABLE 3.17 – AMBIENT AIR QUALITY (AAQ) MONITORING LOCATIONS

S. No	Location Code	Monitoring Locations	Distance & Direction	Coordinates
1	AAQ-1	Core Zone	Project Area	11° 8'3.26"N 77°25'21.82"E
2	AAQ-2	Core Zone	Project Area	11° 8'23.44"N 77°25'15.90"E
3	AAQ-3	Morattupalayam	2.5km NW	11° 9'32.62"N 77°24'35.61"E
4	AAQ-4	Mudhalipalayam	4.3km SE	11° 5'52.79"N 77°26'24.43"E
5	AAQ-5	Karattupalayam	6.2km NE	11° 9'58.49"N 77°28'13.42"E
6	AAQ-6	Parapalayam	4.8km West	11° 7'39.25"N 77°22'38.44"E
7	AAQ-7	Pappanpalayam	6.5km West	11° 8'8.62"N 77°28'57.85"E

Source: On-site monitoring/sampling by KGS Enviro Laboratory Private Limited in association with GEMS

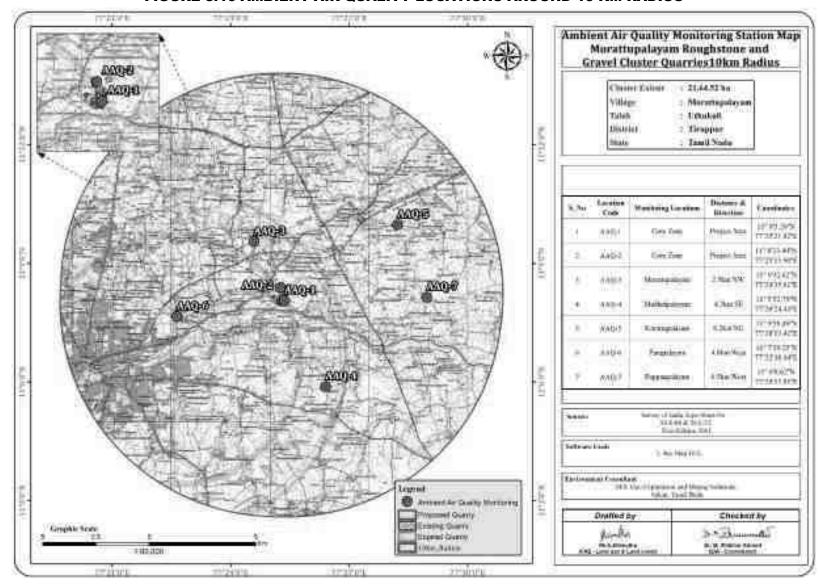


FIGURE 3.10 AMBIENT AIR QUALITY LOCATIONS AROUND 10 KM RADIUS

TABLE 3.18 AMBIENT AIR QUALITY DATA LOCATION AAQ1-:

Period: Mar – May 2022 Location: AAQ1- Core Zone Sampling Time: 24-hourly

	Monitoring Particula			Particulates, μg/m ³ Gaseous Pollutants, μg/m ³								Other Pollutants (Particulate Phase), μg/m ³					
		CDM			60		NH ₃	O ₃	СО	Pb,	As,	Ni, ng/m ³	С6Н6,	BaP,			
Date	Period, hrs.	SPM	PM _{2.5}	PM ₁₀	SO ₂	NO ₂		(8-hly Avg.)			ng/m ³		ng/m³	ng/m ³			
NAAQ	Norms*	(24 hrs.)	60(24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)			
09.03.2022	07.00-07.00	61.8	22.4	45.2	8.5	25.6	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
10.03.2022	07.15-07.15	62.3	22.6	46.1	8.2	24.2	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
16.03.2022	07.00-07.00	62.0	23.0	45.5	8.6	24.9	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
17.03.2022	07.15-07.15	61.9	22.8	45.0	8.8	25.1	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
23.03.2022	07.00-07.00	62.2	23.2	45.9	8.2	24.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
24.03.2022	07.15-07.15	62.0	23.6	45.8	8.5	25.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
30.03.2022	07.00-07.00	61.7	22.5	46.2	7.2	24.9	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
31.03.2022	07.15-07.15	61.9	22.7	46.5	7.6	25.2	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
06.04.2022	07.00-07.00	61.6	24.5	46.0	7.6	24.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
07.04.2022	07.15-07.15	61.3	23.2	45.8	7.2	24.8	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
13.04.2022	07.00-07.00	61.5	23.6	45.2	7.4	25.0	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
14.04.2022	07.15-07.15	61.2	23.7	45.5	7.5	25.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
20.04.2022	07.00-07.00	62.6	23.8	45.1	7.4	25.6	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
21.04.2022	07.15-07.15	62.3	22.9	45.6	8.3	24.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
27.04.2022	07.00-07.00	61.5	22.5	45.5	8.5	24.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
28.04.2022	07.15-07.15	61.7	22.3	46.7	7.5	24.2	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
04.05.2022	07.00-07.00	62.0	22.6	46.0	7.7	24.8	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
05.05.2022	07.15-07.15	62.2	23.1	46.1	7.2	25.0	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
11.05.2022	07.00-07.00	62.7	23.0	46.8	7.4	25.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
12.05.2022	07.15-07.15	62.3	23.5	46.7	7.5	25.9	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
18.05.2022	07.00-07.00	62.2	22.6	46.3	8.1	24.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
19.05.2022	07.15-07.15	62.5	22.3	46.2	8.3	24.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
25.05.2022	07.00-07.00	61.6	21.5	46.4	8.4	24.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
26.05.2022	07.15-07.15	62.0	21.5	44.2	8.4	24.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
01.06.2022	07.00-07.00	62.8	21.7	44.8	8.4	25.2	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
02.06.2022	07.15-07.15	62.7	21.6	44.3	8.9	25.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			

TABLE 3.19 AMBIENT AIR QUALITY DATALOCATION AAQ2-:

Period: Mar – May 2022 Location: AAQ2- Project Area Sampling Time: 24-hourly

Monit		Particulat		ocuion. Az	Gaseous Pollutants, μg/m ³					Other Pollutants (Particulate Phase), µg/m³					
Date	Period, hrs.	SPM	PM2.5	PM10	SO ₂	NO ₂	NH ₃	O ₃ (8-hly Avg.)	CO (8-hly Avg.)	Pb, μg/m ³	ng/m²	Ni, ng/m³	ng/m²	BaP, ng/m³	
NAAQ 1	Norms*	(24 hrs.)	60(24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0	20 (annual)	5.0 (annual)	1.0 (annual)	
09.03.2022	07.15-07.15	60.4	19.4	44.0	7.5	25.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0	
10.03.2022	07.30-07:30	61.1	19.5	43.9	7.2	25.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
16.03.2022	07.15-07.15	61.5	19.7	42.3	7.4	24.9	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
17.03.2022	07.30-07:30	62.0	19.0	42.8	7.2	25.6	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
23.03.2022	07.15-07.15	61.7	20.2	42.5	8.1	25.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
24.03.2022	07.30-07:30	61.3	19.9	42.1	8.4	25.8	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
30.03.2022	07.15-07.15	61.2	20.5	42.6	8.3	25.2	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
31.03.2022	07.30-07:30	62.0	20.6	43.6	8.2	26.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
06.04.2022	07.15-07.15	61.5	20.2	43.0	8.0	24.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
07.04.2022	07.30-07:30	62.5	20.3	43.4	7.7	24.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
13.04.2022	07.15-07.15	61.8	20.1	43.2	7.8	24.0	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
14.04.2022	07.30-07:30	61.8	20.8	42.9	7.9	26.1	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
20.04.2022	07.15-07.15	64.9	21.8	43.2	8.1	25.2	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
21.04.2022	07.15-07.15	64.2	21.1	43.4	8.4	25.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
27.04.2022	07.00-07.00	63.2	19.5	43.7	8.2	25.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
28.04.2022	07.15-07.15	61.2	19.7	43.2	8.5	25.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
04.05.2022	07.00-07.00	62.5	19.3	43.9	8.7	24.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
05.05.2022	07.15-07.15	63.0	19.3	42.0	8.4	24.0	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
11.05.2022	07.00-07.00	61.5	19.9	41.8	8.4	25.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
12.05.2022	07.15-07.15	61.4	19.8	41.0	8.6	25.6	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
18.05.2022	07.00-07.00	62.5	20.1	42.4	8.7	25.9	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
19.05.2022	07.15-07.15	62.4	20.4	42.7	8.3	25.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
25.05.2022	07.00-07.00	62.2	20.7	42.0	7.8	25.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
26.05.2022	07.15-07.15	61.8	20.9	42.2	7.2	25.0	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
01.06.2022	07.00-07.00	62.8	19.2	42.6	7.9	25.8	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
02.06.2022	07.15-07.15	61.3	19.8	42.7	7.3	25.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	

TABLE 3.20 AMBIENT AIR QUALITY DATALOCATION AAQ3-:

Period: Mar – May 2022 : AAQ3- Morattupalayam Sampling Time: 24-hourly

Period: Mar – N		: AAQ3- Morattupalayam Sampling Time: 24-hourly													
Moni	toring		Particula	tes, μg/m ³	Gaseous Pollutants, μg/m ³					Other Pollutants (Particulate Phase), µg/m ³					
Date	Period, hrs.	SPM	PM2.5	PM10	SO ₂	NO ₂	NH ₃	O ₃ (8-hly Avg.)	CO (8-hly Avg.)	Pb, μg/m ³	As, ng/m ³	Ni, ng/m³	C ₆ H ₆ , ng/m ³	BaP, ng/m ³	
NAAQ	Norms*	(24 hrs.)	60 (24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual	
09.03.2022	07.15-07.15	62.3	21.5	41.4	7.0	26.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
10.03.2022	07.30-07:30	63.2	21.4	41.5	6.8	26.0	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
16.03.2022	07.15-07.15	64.0	21.7	42.2	7.8	26.1	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
17.03.2022	07.30-07:30	65.5	21.2	42.7	7.2	25.9	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
23.03.2022	07.15-07.15	64.4	20.8	42.3	7.4	25.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
24.03.2022	07.30-07:30	64.2	20.5	42.8	7.2	25.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
30.03.2022	07.15-07.15	63.3	20.9	42.3	6.9	26.0	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
31.03.2022	07.30-07:30	64.0	20.3	43.0	6.4	25.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
06.04.2022	07.15-07.15	64.1	20.5	43.7	6.7	25.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
07.04.2022	07.30-07:30	62.7	21.4	43.6	6.3	25.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
13.04.2022	07.15-07.15	62.6	21.6	45.4	6.7	25.8	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
14.04.2022	07.30-07:30	63.1	21.7	43.5	7.0	25.8	<5	<5	<1.0	< 0.01	<5	<3	<1.0	< 3.0	
20.04.2022	07.15-07.15	64.8	20.2	44.0	7.4	26.1	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
21.04.2022	07.15-07.15	62.0	20.3	43.2	7.1	25.2	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
27.04.2022	07.00-07.00	61.4	20.5	42.1	7.5	25.6	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
28.04.2022	07.15-07.15	62.5	20.1	43.6	7.7	25.2	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
04.05.2022	07.00-07.00	62.3	21.4	42.7	7.3	26.1	<5	<5	<1.0	< 0.01	<5	<3	<1.0	< 3.0	
05.05.2022	07.15-07.15	62.3	21.7	43.1	7.0	26.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	< 3.0	
11.05.2022	07.00-07.00	61.7	21.5	43.5	7.6	26.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	< 3.0	
12.05.2022	07.15-07.15	62.8	20.5	42.9	7.8	26.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
18.05.2022	07.00-07.00	63.0	20.7	43.5	6.6	26.1	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
19.05.2022	07.15-07.15	64.1	21.7	44.8	6.7	25.9	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
25.05.2022	07.00-07.00	61.4	21.5	43.6	6.9	25.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
26.05.2022	07.15-07.15	62.2	20.3	43.1	6.4	26.1	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
01.06.2022	07.00-07.00	62.6	20.6	42.9	6.4	26.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
02.06.2022	07.15-07.15	62.7	20.8	42.5	7.0	26.2	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	

TABLE 3.21 AMBIENT AIR QUALITY DATALOCATION AAQ4-:

Period: Mar – May 2022 Location: AAQ4 – Mudhalipalayam Sampling Time: 24-hourly

Period: Mar – N	•	Ī	Location: AAQ4 – Mudhalipalayam					ayam Sar	Sampling Time: 24-hourly						
Monit	toring		Particulat	es, μg/m³	Gaseous Pollutants, μg/m ³					Other Pollutants (Particulate Phase) , μg/m ³					
Date	Period, hrs.	SPM	PM2.5	PM10	SO ₂	NO ₂	NH ₃	O ₃ (8-hly Avg.)	CO (8-hly Avg.)	Pb, μg/m ³	As, ng/m ³	Ni, ng/m³	C ₆ H ₆ , ng/m ³	BaP, ng/m ³	
NAAQ 1	Norms*	(24 hrs.)	60(24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)	
09.03.2022	07.00-07.00	66.5	20.5	41.7	6.6	25.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
10.03.2022	07.15-07:15	66.1	20.6	41.2	6.8	27.1	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
16.03.2022	07.00-07.00	66.6	20.4	41.5	6.3	26.9	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
17.03.2022	07.15-07:15	66.3	20.9	41.0	6.8	26.6	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
23.03.2022	07.00-07.00	66.0	21.3	41.5	6.5	26.0	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
24.03.2022	07.15-07:15	66.5	21.5	41.5	6.5	25.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
30.03.2022	07.00-07.00	67.8	21.7	42.3	7.1	25.8	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
31.03.2022	07.15-07:15	68.5	20.8	42.7	7.6	25.2	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
06.04.2022	07.00-07.00	67.4	20.6	42.5	7.0	25.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
07.04.2022	07.15-07:15	68.9	21.3	42.7	6.9	25.6	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
13.04.2022	07.00-07.00	69.1	21.5	42.8	7.5	27.0	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
14.04.2022	07.15-07:15	68.8	21.6	42.0	7.6	27.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
20.04.2022	07.00-07.00	68.5	21.2	41.6	6.2	27.1	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
21.04.2022	07.15-07.15	68.0	20.3	42.2	6.5	26.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
27.04.2022	07.00-07.00	68.4	21.0	42.7	6.8	26.8	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
28.04.2022	07.15-07.15	68.0	20.6	43.2	6.9	25.1	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
04.05.2022	07.00-07.00	68.6	21.3	41.5	6.2	23.9	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
05.05.2022	07.15-07.15	68.7	20.9	42.0	6.4	23.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
11.05.2022	07.00-07.00	69.0	21.8	42.6	6.1	23.0	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
12.05.2022	07.15-07.15	69.1	22.4	42.6	5.8	24.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
18.05.2022	07.00-07.00	68.9	22.5	42.1	5.6	25.1	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
19.05.2022	07.15-07.15	69.3	20.1	43.2	5.5	24.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
25.05.2022	07.00-07.00	68.3	19.8	43.7	5.3	24.8	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
26.05.2022	07.15-07.15	67.2	20.5	43.5	5.7	24.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
01.06.2022	07.00-07.00	67.9	20.4	43.0	5.6	26.2	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
02.06.2022	07.15-07.15	67.1	20.3	43.5	5.2	26.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	< 3.0	

TABLE 3.22 AMBIENT AIR QUALITY DATALOCATION AAQ5-:

Period: Mar – May 2022 : AAQ5- Karattupalayam Sampling Time: 24-hourly

Moni	Monitoring Particulates, μg/m³ Gaseous						ous Pollutants, μg/m³				Other Pollutants (Particulate Phase) , µg/m³				
Date	Period, hrs.	SPM	PM2.5	PM10	SO ₂	NO ₂	NH ₃	O ₃ (8-hly Avg.)	CO (8-hly Avg.)	Pb, μg/m³	As, ng/m ³	Ni, ng/m³	C ₆ H ₆ , ng/m ³	BaP, ng/m³	
NAAQ	Norms*	(24 hrs.)	60(24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)	
09.03.2022	07:30-07:30	59.4	20.4	47.5	8.5	23.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
10.03.2022	07:45-07:45	58.9	20.2	47.2	8.9	23.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
16.03.2022	07:30-07:30	58.3	20.3	47.6	8.2	23.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
17.03.2022	07:45-07:45	5878	20.5	47.3	8.3	23.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
23.03.2022	07:30-07:30	58.6	21.1	47.2	8.2	23.1	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
24.03.2022	07:45-07:45	58.2	20.9	47.4	7.8	23.0	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
30.03.2022	07:30-07:30	58.5	21.0	48.3	7.9	22.8	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
31.03.2022	07:45-07:45	58.4	20.9	48.5	7.3	23.1	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
06.04.2022	07:30-07:30	59.6	20.6	48.6	7.1	22.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
07.04.2022	07:45-07:45	59.0	21.5	48.2	7.6	22.6	<5	<5	<1.0	< 0.01	<5	<3	<1.0	< 3.0	
13.04.2022	07:30-07:30	59.2	21.7	48.3	7.4	23.8	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
14.04.2022	07:45-07:45	59.4	21.8	48.7	7.7	23.0	<5	<5	<1.0	< 0.01	<5	<3	<1.0	< 3.0	
20.04.2022	07:30-07:30	59.4	21.3	49.0	7.2	23.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	< 3.0	
21.04.2022	07.15-07.15	59.7	21.0	47.5	7.4	23.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	< 3.0	
27.04.2022	07.00-07.00	59.8	20.5	47.6	7.5	23.8	<5	<5	<1.0	< 0.01	<5	<3	<1.0	< 3.0	
28.04.2022	07.15-07.15	59.5	21.7	47.6	7.0	23.2	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
04.05.2022	07.00-07.00	59.3	20.6	47.2	7.8	22.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
05.05.2022	07.15-07.15	58.7	21.4	48.4	8.4	22.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
11.05.2022	07.00-07.00	59.1	20.6	48.6	8.1	23.0	<5	<5	<1.0	< 0.01	<5	<3	<1.0	< 3.0	
12.05.2022	07.15-07.15	58.2	21.5	47.0	8.3	22.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	< 3.0	
18.05.2022	07.00-07.00	58.5	20.5	47.6	8.7	22.8	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
19.05.2022	07.15-07.15	58.2	21.4	48.3	6.9	22.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
25.05.2022	07.00-07.00	58.7	20.9	47.2	6.7	23.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
26.05.2022	07.15-07.15	59.5	20.2	48.2	6.4	23.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
01.06.2022	07.00-07.00	59.6	20.6	48.5	6.5	22.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
02.06.2022	07.15-07.15	59.5	21.4	48.3	6.1	23.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0	

TABLE 3.23 AMBIENT AIR QUALITY DATALOCATION AAQ6-:

Period: Mar – May 2022 Location: AAQ6 – Parapalayam Sampling Time: 24-hourly

Period: Mar –						Gaseous Pollutants, µg/m³						Other Pollutants (Particulate Phase), µg/m ³					
Monit	oring		Particulat	es, μg/m ³		Gased	ous Pollut		Π	Other I	ollutants	(Particula	ite Phase)	, μg/m ³			
Date	Period, hrs.	SPM	PM2.5	PM10	SO ₂	NO ₂	NH ₃	O3 (8-hly Avg.)	CO (8-hly Avg.)	Pb, μg/m ³	As, ng/m ³	Ni, ng/m³	C ₆ H ₆ , ng/m ³	BaP, ng/m ³			
NAAQ 1	Norms*	(24 hrs.)	60(24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)			
09.03.2022	08:00-08:00	59.5	18.8	40.1	6.6	25.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
10.03.2022	08:15-08:15	58.2	19.6	39.8	6.4	25.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
16.03.2022	08:00-08:00	57.0	19.2	39.5	6.3	25.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
17.03.2022	08:15-08:15	57.4	19.5	39.5	6.4	25.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
23.03.2022	08:00-08:00	57.3	19.4	38.7	6.5	25.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
24.03.2022	08:15-08:15	57.5	19.3	38.6	6.2	25.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
30.03.2022	08:00-08:00	57.4	19.0	38.0	6.7	25.2	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
31.03.2022	08:15-08:15	57.3	18.6	39.3	5.9	26.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
06.04.2022	08:00-08:00	57.3	18.9	40.6	5.8	26.8	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
07.04.2022	08:15-08:15	57.7	18.5	39.8	6.1	26.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
13.04.2022	08:00-08:00	58.3	20.7	40.3	5.9	26.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
14.04.2022	08:15-08:15	58.8	20.6	40.4	5.6	26.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
20.04.2022	08:00-08:00	56.8	19.3	40.6	5.5	26.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
21.04.2022	07.15-07.15	56.5	19.9	40.2	6.3	26.0	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
27.04.2022	07.00-07.00	56.7	19.7	39.9	6.6	25.6	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
28.04.2022	07.15-07.15	57.2	19.8	39.7	6.4	24.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
04.05.2022	07.00-07.00	58.9	20.1	40.1	6.6	24.9	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
05.05.2022	07.15-07.15	57.9	20.4	40.2	6.7	24.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
11.05.2022	07.00-07.00	57.3	20.5	40.6	6.3	24.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
12.05.2022	07.15-07.15	57.5	19.6	40.7	5.9	25.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
18.05.2022	07.00-07.00	57.2	19.2	40.4	5.4	25.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
19.05.2022	07.15-07.15	56.8	18.3	41.2	5.8	25.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
25.05.2022	07.00-07.00	56.4	18.0	41.7	6.0	25.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
26.05.2022	07.15-07.15	57.1	18.7	41.5	5.4	25.2	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
01.06.2022	07.00-07.00	56.4	18.4	41.8	5.7	25.8	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			
02.06.2022	07.15-07.15	56.2	18.7	41.4	5.3	25.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0			

TABLE 3.24 AMBIENT AIR QUALITY DATALOCATION AAQ7-:

Period: Mar – May 2022 Location: AAQ7– Pappanpalayam Sampling Time: 24-hourly

Monit	Monitoring			Particulates, μg/m³ Gaseous Pollutants, μg/m³						Other Pollutants (Particulate Phase), µg/m ³					
Date	Period, hrs.	SPM	PM2.5	PM10	SO ₂	NO ₂	NH ₃	O ₃ (8-hly Avg.)	CO (8-hly Avg.)	Pb, μg/m ³	As, ng/m ³	Ni, ng/m³	C ₆ H ₆ , ng/m ³	BaP, ng/m ³	
NAAQ I	Norms*	(24 hrs.)	60(24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)	
09.03.2022	08:00-08:00	64.9	23.2	48.4	7.9	24.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
10.03.2022	08:15-08:15	66.5	24.4	47.6	7.6	24.9	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
16.03.2022	08:00-08:00	63.1	25.6	45.2	7.7	25.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
17.03.2022	08:15-08:15	62.6	23.8	45.4	6.9	25.6	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
23.03.2022	08:00-08:00	63.4	23.4	42.8	7.2	23.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
24.03.2022	08:15-08:15	63.1	24.6	44.3	7.5	24.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
30.03.2022	08:00-08:00	62.8	25.7	45.6	8.2	24.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
31.03.2022	08:15-08:15	63.2	24.2	45.1	8.7	24.8	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
06.04.2022	08:00-08:00	66.4	24.4	45.2	8.1	23.3	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
07.04.2022	08:15-08:15	65.7	24.9	44.6	7.7	24.2	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
13.04.2022	08:00-08:00	65.3	25.2	43.8	7.9	23.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
14.04.2022	08:15-08:15	64.5	24.8	45.4	8.1	22.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
20.04.2022	08:00-08:00	63.8	23.5	46.0	7.9	24.8	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
21.04.2022	07.15-07.15	64.2	25.2	46.2	7.2	23.7	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
27.04.2022	07.00-07.00	63.7	23.7	45.9	6.8	24.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
28.04.2022	07.15-07.15	63.6	24.3	46.1	6.5	25.2	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
04.05.2022	07.00-07.00	64.4	23.1	43.9	6.8	25.4	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
05.05.2022	07.15-07.15	65.1	23.5	43.4	6.5	25.5	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
11.05.2022	07.00-07.00	65.2	21.1	43.5	6.7	25.6	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
12.05.2022	07.15-07.15	64.5	22.0	43.8	7.5	24.9	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
18.05.2022	07.00-07.00	63.1	23.5	43.0	6.9	25.1	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
19.05.2022	07.15-07.15	65.7	25.6	44.6	7.2	24.8	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
25.05.2022	07.00-07.00	65.2	25.7	45.9	7.0	25.2	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
26.05.2022	07.15-07.15	63.6	23.1	46.7	7.6	25.0	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
01.06.2022	07.00-07.00	65.8	22.8	45.6	7.8	25.9	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	
02.06.2022	07.15-07.15	65.2	23.0	45.4	7.7	26.1	<5	<5	<1.0	< 0.01	<5	<3	<1.0	<3.0	

TABLE 3.25 – ABSTRACT OF AMBIENT AIR QUALITY DATA

			_		
1	Parameter	PM10	PM2.5	SO ₂	NO ₂
2	No. of Observations	260	260	260	260
3	10 th Percentile Value	40.6	19.3	5.9	23.2
4	20 th Percentile Value	41.7	20.0	6.4	24.0
5	30 th Percentile Value	42.5	20.4	6.7	24.5
6	40 th Percentile Value	42.9	20.6	7.0	25.0
7	50 th Percentile Value	43.5	20.9	7.2	25.2
8	60 th Percentile Value	43.9	21.4	7.5	25.4
9	70 th Percentile Value	45.4	21.7	7.7	25.6
10	80 th Percentile Value	46.3	22.6	8.1	25.9
11	90th Percentile Value	47.6	23.7	8.4	26.5
12	95 th Percentile Value	48.4	24.8	8.5	26.7
13	98th Percentile Value	48.6	25.6	8.8	27.1
14	Arithmetic Mean	44.7	21.9	7.5	25.4
15	Geometric Mean	44.6	21.8	7.4	25.4
16	Standard Deviation	2.8	2.0	0.9	1.2
17	Minimum	40.6	19.3	5.9	23.2
18	Maximum	48.6	25.6	8.8	27.1
19	NAAQ Norms*	100.0	60.0	80.0	80.0
	% Values exceeding Norms*	0.0	0.0	0.0	0.0

Legend:PM_{2.5}-Particulate Matter size less than 2.5 μm; PM₁₀-Respirable Particulate Matter size less than 10 μm; SO₂-Sulphur dioxide; NO₂-Nitrogen Dioxide; CO-Carbon monoxide; O₃-Ozone; NH₃-Ammonia; Pb-Particulate Lead; As-Particulate Arsenic; Ni-Particulate Nickel; C₆H₆-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.

TABLE 3.26 –SUMMARY OF AMBIENT AIR QUALITY DATA

	•						
PM10	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
Arithmetic Mean	45.7	42.8	43.1	42.3	47.9	47.9	45.1
Minimum	44.2	41.0	41.4	41.0	47.0	38.0	42.8
Maximum	46.8	44.0	45.4	43.7	49.0	41.8	48.4
NAAQ Norms	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PM2.5	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
Arithmetic Mean	22.8	20.1	21.0	21.0	47.9	40.2	24.0
Minimum	21.5	19.0	20.1	19.8	20.2	18.0	21.1
Maximum	24.5	21.8	21.7	22.5	21.8	20.7	25.7
NAAQ Norms	60.0	60.0	60.0	60.0	60.0	60.0	60.0
SO2	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
Arithmetic Mean	8.0	8.0	7.0	6.4	7.6	6.1	7.4
Minimum	7.2	7.2	6.3	5.2	6.1	5.3	6.5
Maximum	8.9	8.7	7.8	7.6	8.9	6.7	8.7
NAAQ Norms	80.0	80.0	80.0	80.0	80.0	80.0	80.0
NO2	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
Arithmetic Mean	24.9	25.3	25.9	25.6	23.1	25.6	24.7
Minimum	24.2	24.0	25.2	23.0	22.3	24.3	22.5
Maximum	25.9	26.5	26.7	27.5	23.8	26.8	26.1
NAAQ Norms	80.0	80.0	80.0	80.0	80.0	80.0	80.0

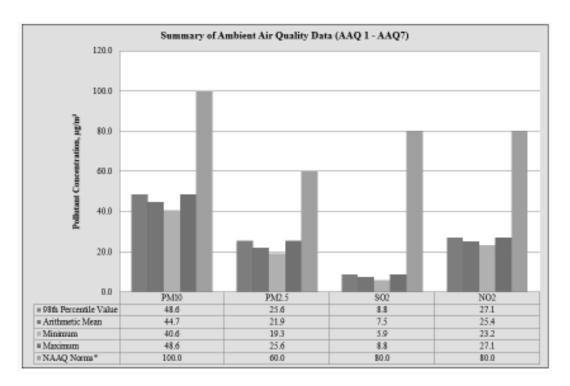


FIGURE 3.11 : BAR DIAGRAM OF SUMMARY OF AAQ

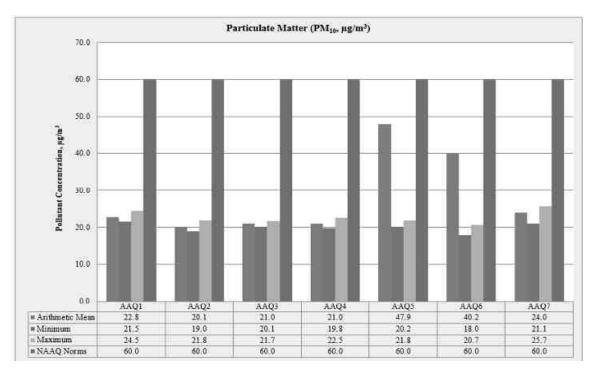


FIGURE 3.12: BAR DIAGRAM OF PARTICULATE MATTER (PM10)

FIGURE 3.13: BAR DIAGRAM OF PARTICULATE MATTER (PM2.5)

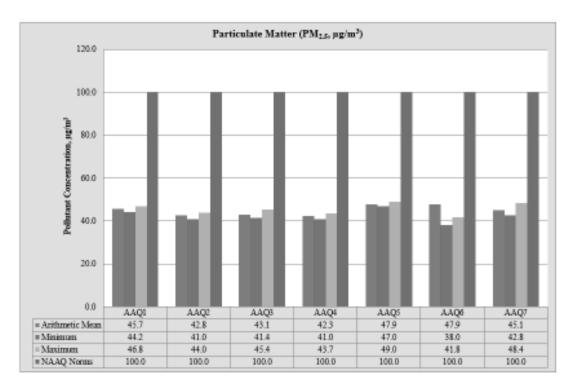
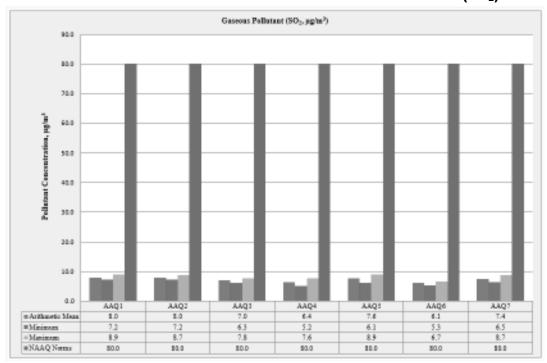


FIGURE 3.14: BAR DIAGRAM OF PARTICULATE MATTER (SO₂)



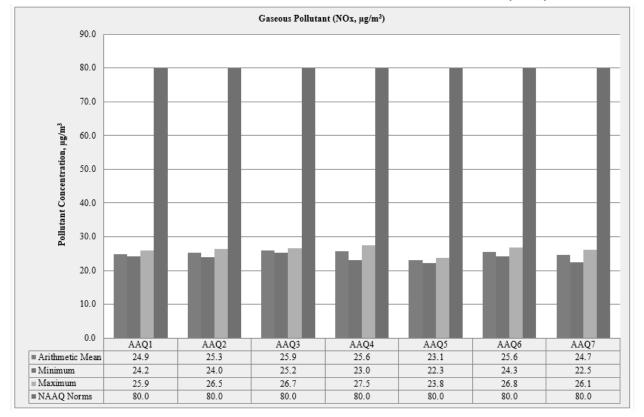


FIGURE 3.15: BAR DIAGRAM OF PARTICULATE MATTER (NOx)

3.3.6 Interpretations & Conclusion

As per monitoring data, PM_{10} ranges from $38~\mu g/m^3$ to $49.0\mu g/m^3$, $PM_{2.5}$ data ranges from $18.0~\mu g/m^3$ to $25.7~\mu g/m^3$, SO_2 ranges from $5.2~\mu g/m^3$ to $8.9~\mu g/m^3$ and NO_x data ranges from $22.3~\mu g/m^3$ to $27.5~\mu g/m^3$. The concentration levels of the above criteria pollutants were observed to be well within the limits of NAAQS prescribed by CPCB. The minimum & maximum concentrations of PM_{10} were found to be $38.0~\mu g/m^3$ in Parapalayam Village & $49.0~\mu g/m^3$ in Karattupalayam Village respectively. The minimum & maximum concentrations of $PM_{2.5}$ were found to be $18.0~\mu g/m^3$ in Parapalayam Village and & $25.7~\mu g/m^3$ in Pappanpalayam Village area respectively. The maximum concentration in the Buffer zone is due to the cluster of quarries situated within 500m radius.

3.3.7 FUGITIVE DUST EMISSION –

Fugitive dust was recorded at 7 AAQ monitoring stations for 30 days average during the study period.

TABLE 3.27- AVERAGE FUGITIVE DUST SAMPLE VALUES IN µg/m³

AAQ Locations	Avg SPM (μg/m³)
AAQ 1	62.02
AAQ 2	62.07
AAQ 3	63.05
AAQ 4	67.90
AAQ 5	59.00
AAQ 6	57.41
AAQ 7	64.41

Source: KGS Enviro Laboratory Private Limited

Source: Line Diagram of Table 3.29

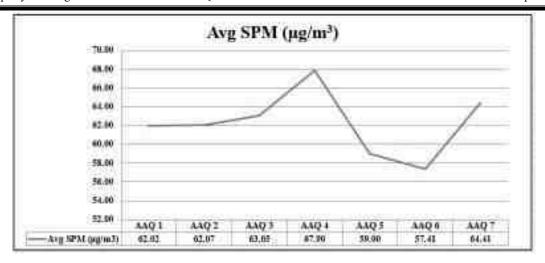
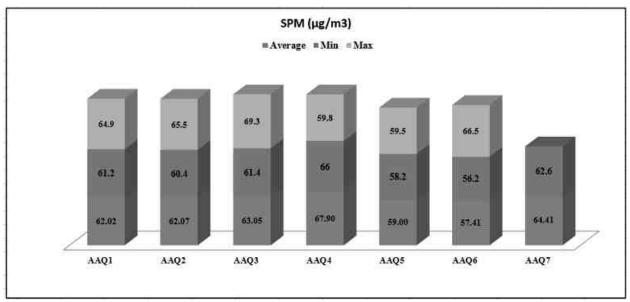


TABLE 3.28- FUGITIVE DUST SAMPLE VALUES IN µg/m³ -

SPM (μg/m³)	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
Average	62.02	62.07	63.05	67.90	59.00	57.41	64.41
Max	61.2	60.4	61.4	66	58.2	56.2	62.6
Min	62.8	64.9	65.5	69.3	59.8	59.5	66.5

Source: Calculations from Lab Analysis Reports



Source: Bar Diagram of table 3.30

3.4 Noise Environment

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

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

3.4.1 Identification of Sampling Locations

In order to assess the ambient noise levels within the study area, noise monitoring was carried out at Seven (7) locations. The noise level monitoring locations were carried out by covering commercial, residential, rural areas within the radius of 10km. A noise monitoring methodology was chosen such that best suited the purpose and objectives of the study.

TABLE 3.29 – DETAILS OF SURFACE NOISE MONITORING LOCATIONS

S. No	Location code	Monitoring Locations	Distance & Direction	Coordinates
1	N-1	Core Zone	Project Area	11° 7'59.92"N 77°25'21.21"E
2	N-2	Core Zone	Project Area	11° 8'23.08"N 77°25'15.90"E
3	N-3	Morattupalayam	2.5km NW	11° 9'32.34"N 77°24'35.76"E
4	N-4	Mudhalipalayam	4.3km SE	11° 5'52.86"N 77°26'24.97"E
5	N-5	Karattupalayam	6.2km NE	11° 9'58.31"N 77°28'13.30"E
6	N-6	Parapalayam	4.8km West	11° 7'39.26"N 77°22'38.21"E
7	N-7	Pappanpalayam	6.5km West	11° 8'8.73"N 77°28'57.52"E

Source: On-site monitoring/sampling by KGS Enviro Laboratory Private Limited in association with GEMS

3.4.2 Method of Monitoring

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

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

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

T = Time interval of observation

3.4.3 Analysis of Ambient Noise Level in the Study Area

An analysis of the different Leq data obtained during the study period has been made. Variation was noted during the day-time as well as night-time. The results are presented in below Table 3.6

Day time : 6:00 hours to 22.00 hours. Night time : 22:00 hours to 6.00 hours

TABLE 3.30 – NOISE MONITORING RESULTS IN CORE AND BUFFER ZONE

C No	Lacations	Noise level (dB (A) Leq)	Ambient Neise Standards	
S. No	Locations	Day Time	Night Time	Ambient Noise Standards	
N-1	Core Zone	38.5	36.2	Industrial	
N-2	Core Zone	42.1	35.1	Industrial	
N-3	Morattupalayam	40.9	36.9	Day Time- 75 dB (A) Night Time- 70 dB (A)	
N-4	Mudhalipalayam	40.3	36.2	Night Time- 70 ub (A)	
N-5	Karattupalayam	39.9	37.1		
N-6	Parapalayam	38.5	35.2	Residential	
N-7	Pappanpalayam	39.5	37.2	Day Time– 55 dB (A) Night Time- 45 dB (A)	

Source: On-site monitoring/sampling by KGS Enviro Laboratory Private Limited in association with GEMS

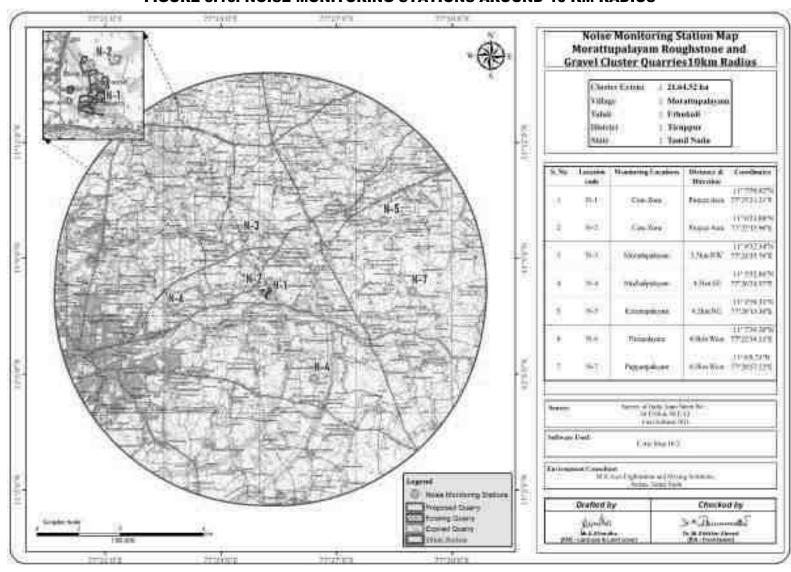


FIGURE 3.16: NOISE MONITORING STATIONS AROUND 10 KM RADIUS

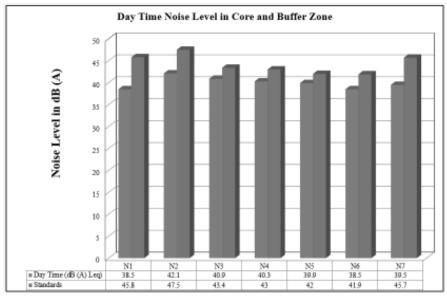
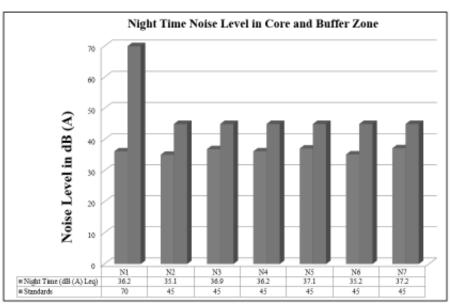


FIGURE 3.17: DAY & NIGHT TIME NOISE LEVELS IN CORE AND BUFFER ZONE



3.4.4 Interpretation & Conclusion:

Ambient noise levels were measured at 7 (Seven) locations around the project area considering cluster quarries. Noise levels recorded in core zone during day time were from 38.5-42.1 dB (A) Leq and during night time were from 35.1-36.2 dB (A) Leq. Noise levels recorded in buffer zone during day time were from 38.5 – 40.9dB (A) Leq and during night time were from 35.1 -37.2 dB (A) Leq.

The values of noise observed in some of the areas are primarily owing to quarrying activities due to cluster of quarries within 500m radius, movement of vehicles and other anthropogenic activities. Noise monitoring results reveal that the minimum & maximum noise levels at day time were recorded in the range of 31.2 dB(A) in Core zone and Parapalayam Village and 35.75 dB(A) in Pappanpalaym Village. 31.1 db (A) Morattupalaym Village respectively minimum noise levels in night time. 43.6dB(A) maximum noise levels in Morattupalaym Village night time for Thus, the noise level for Industrial and Residential area meets the requirements of CPCB.

3.5. Biological Environment

3.5.1. Study area Ecology

In this project, the total area of the Cluster within 10km radius from the periphery of this quarry is reported as 21,64.52Ha with cluster quarries. In such a 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 that fall under this cluster but the present work was carried out on the detailed study of the impacts of Morattupalayam Village Rough stone and gravel quarry on the ecology and biodiversity of the core lease area with the proper mitigation and sustainable management plan. The proposed mine lease applied area is exhibits flat terrain. The following methods were applied during the baseline study of flora, fauna and diversity assessment.

3.5.2. Objectives of Biological Studies

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

3.5.3. Methodology of Sampling

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

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

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

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

3.5.3.1. Sampling

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

3.5.3.2. Sampling Size

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

3.5.3.3. Timing of Study

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

3.5.3.4. Observations from Sampling

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

3.5.3.5. Equipment/ References

- Canon Mark III Camera with 50-500mm lens– Snap shots taken
- Leica Binoculars (8x 20) to spot/identify species
- IUCN Red Data Book https://www.iucnredlist.org/species

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

3.5.4. Part I Field Sampling Techniques

3.5.4.1. Transect walk – Birds

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

3.5.4.2. Modified Pollard Walk – for Butterflies

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

3.4.3. Visual Encounter Survey (VES) - reptiles and amphibians

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

3.5.4.4. Observational methods- Mammals

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

3.5.4.5. Multiple Stage Quadrat - Vegetation

A variety of habitat or vegetation structure variables were measured using the Multiple Stage Quadrat sampling protocol (Sykes and Horrill 1977). All of those areas were sampled, and the major corners were

temporarily delineated with colored ribbons. Each site was identified in the field using a compass and clinometer, and the plot's latitude, longitude, and elevation were recorded using a handheld Global Positioning System (Garmin 12XL).

3.5.5 Flora

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

3.5.6 Flora Composition in the Core Zone

Taxonomically a total of 24 species belonging to 15 families have been recorded from the core mining lease area. It is exhibit plain topography. Based on habitat classification of the enumerated plants the majority of species were Herbs 11 (46%) followed by Shrubs 5 (21%), Trees 4 (17%), Grasses 3 (12%), and Climbers/Creepers 1 (4%). Details of flora with the scientific name were mentioned in Table No. 3.31. The result of the core zone of flora studies shows that Fabaceae and Poaceae and Lamiaceae are the main dominating species in the study area mentioned in Table No. 3.31. No species were found as a threatened category (Table No. 3.31).

Table No: 3.31. Flora in the Core zone of Morattupalayam Village, Cluster area, Rough stone and Gravel quarry, Uthukuli Taluk, Tiruppur District.

SI.	E BIN	Y7 1 N	C	
No	English Name	Vernacular Name	Scientific Name	Family Name
Trees	<u> </u>	1	_L	
1.	Neem	Vembu	Azadirachta indica	Meliaceae
2.	Mesquite	Mullu maram	Prosopis juliflora	Fabaceae
3.	River tamarind	Saluda	Leucaenaleucocephala	Fabaceae
4.	Pala indigo	Pala maram	Wrightia tinctoria	Apocynaeceae
Shrubs	<u> </u>	1		
1.	Milk Weed	Erukku	Calotropis gigantea	Apocynaceae
2.	Avaram	Avarai	Senna auriculata	Fabaceae
3.	Thorn apple	Oomathai	Datura stramonium	Solanaceae
4.	Lantana	Unni chedi	Lantana camara	Verbenaceae
5.	Night shade plan	Sundaika	Solanum torvum	Solanaceae
Herbs	l	1		
1.	Common leucas	Thumbai	Leucas aspera	Lamiaceae
2.	Devil's thorn	Nerunji	Tribulus terrestris	Zygophyllales
3.	Asthma-plant	Amman pacharisi	Euphorbia hirta	Euphorbiaceae
4.	Indian Catmint Plant	Pei viratti	Anisomeles malabarica	Lamiaceae
5.	Indian mallow	Thuthi	Abutilon indicum	Meliaceae
6.	Common nut sedge	Korai	Cyperus rotundus	Cyperaceae
7.	Indian doab	Arugampul	Cynodon dactylon	Poaceae
8.	Holy basil	Thulasi	Ocimum tenuiflorum	Lamiaceae
9.	Ban Tulsi	Melakai poondu	Croton bonplandianus	Euphorbiaceae

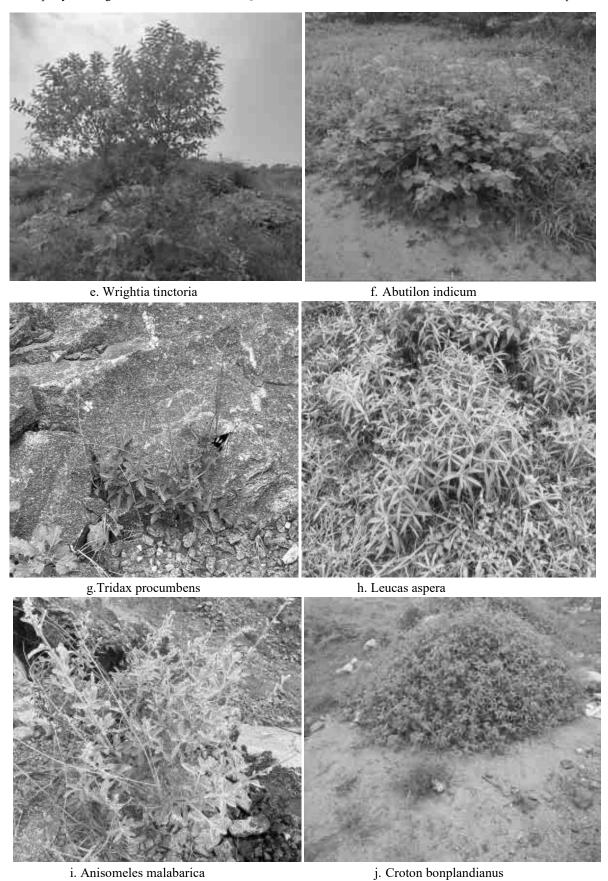
10.	Prickly chaff flower	Nayuruv	Achyranthes aspera	Amaranthaceae
11.	Coat buttons	Thatha poo	Tridax procumbens	Asteraceae
Creep	er /Climbers			
1	Stemmed vine	Perandai	Cissus quadrangularis	Vitaceae
Grass	1		1	
1.	Eragrostis	Pullu	Eragrostis ferruginea	Poaceae
2.	Great brome	Thodappam	Bromus diandrus	Poaceae
3.	Nut grass	Korai	Cyperus rotandus	Poaceae

Sources: Species observation in the field study



c. Leucaenaleucocephala

d. Datura stramonium



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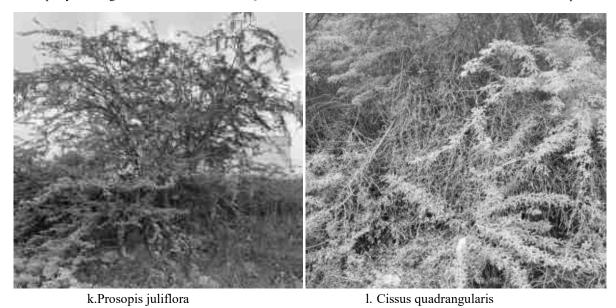


Fig No: 3.18. Flora species observation in the Core zone area

Table No: 3.32. Flora in the Buffer zone of Morattupalayam Village, Cluster area, Rough stone and Gravel quarry, Uthukuli Taluk, Tiruppur District

Sl.No.	English Name	Vernacular Name	Scientific Name	Resource use type *(E,M,EM)
Trees	<u> </u>	_	<u> </u>	L
1.	Millettia pinnata	Pongam oiltree	Pongamia pinnata	Е
2.	Tamarind	Puliyamaram	Tamarindus indica	EM
3.	Asian Palmyra palm	Panai maram	Borassus flabellifer	E
4.	Wild Date Palm	Pericham	Phoenix sylvestris	Е
5.	Coconut	Thennai maram	Cocos nucifera	EM
6.	River tamarind	Savunda	Leucaenaleucocephala	E
7.	Lemon	Ezhumuchaipalam	Citrus lemon	EM
8.	Mango	Manga	Mangifera indica	Е
9.	Banyan tree	Alamaram	Ficus benghalensis	E
10.	Neem or Indian lilac	Vembu	Azadirachta indica	M
11.	Creamy Peacock flower	Vadanarayani	Delonix elata	M
12.	Mesquite	Sema Karuvelam	Prosopis juliflora	Е
13.	Beauty leaf	Punnai	Calophyllu inophyllum	M
14.	Madras Thorn	Kodukapuli	Pithecellobium dulce	E
15.	Castor oil plant	Amanakku	Ricinus communis	M
16.	Gum arabic tree	Karuvelam	Acacia nilotica	NE
17.	False ashoka	Asoka maram	Polyalthia longifolia	E
18.	Monkey pod tree	Thungumoonchi	Samanea saman	E

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19.	Bitter Albizia	Arappu	Albizia amara	M
20.	Giant thorny bamboo	Perumungil	Bambusa bambos	M
21.	Wood-apple	Vilamaram	Limonia acidissima	M
22.	Orange jessamine	Venkarai	Murraya paniculata	Е
23.	Black plum	Navalmaram	Sygygium cumini	EM
24.	Eucalyptus	Eucalyptus	Eucalyptus globules	EM
25.	Custard apple	Seethapazham	Annona reticulata	Е
26.	Copperpod	Iyal Vaagai	copperpod	Е
27.	Acacia Nilotica	Karuvelam maram	Vachellia nilotica	M
28.	Indian gooseberry	Nelli	Emblica officinalis	EM
29.	Henna	Marudaani	Lawsonia inermis	EM
30.	Sacred fig	Arasan	Ficus religiosa	Е
31.	Indian mulberry	Nuan	Morinda tinctoria	Е
32.	Teak	Thekku	Tectona grandis	Е
33.	Papaya	Pappali maram	Carica papaya	EM
34.	Chinese chaste tree	Nochi	Vitex negundo	Е
35.	Peepal	Arasanmaram	Ficus religiosa	M
36.	Indian fir tree	Nettilinkam	Polylathia longifolia	Е
37.	Guava	Koyya	Psidium guajava	EM
38.	Curry tree	Velipparuthi	Murraya koenigii	EM
39.	Bamboo	Moonghil	Bambusa bambo	Е
40.	Drumstick tree	Murunga maram	Moringa oleifera	EM

41.	Indian almond	Padam maram	Terminalia catappa	EM
42.	Mesquite	Velikathan maram	Prosopis juliflora	M
43.	Portia tree	Poovarasan	Thespesia populnea	Е
Shrubs				
1.	Avaram	Avarai	Senna auriculata	M
2.	Night shade plan	Sundaika	Solanum torvum	EM
3.	Lantana	Unnichedi	Lantana camara	M
4.	Rough cocklebu	Ottarachedi	Xanthium strumarium	M
5.	Triangular spruge	Chaturakalli	Euphorbia antiquorum	NE
6.	Indian jujube	Elanthai	Ziziphus mauritiana	M
7.	Coffee senna	Kattuttakarai	Senna occidentalis	M
8.	Rosy Periwinkle	Nithyakalyani	Cathranthus roseus	M
9.	Bush Morning Glory	Neyvelik Kattamanakku	Ipomoea carnea	Е
10.	Chinese chastetree	Nochi	Vitex negundo	M
11.	Water spinach	Nalikam	Ipomoea aquatica	Е
12.	Indian Oleander	Arali	Nerium indicum	M
13.	Shoe flower	Chemparuthi	Hibiscu rosa-sinensis	EM
14.	Puriging nut	Kattamanakku	Jatropha curcas	EM
15.	Columnar Cactus	Sappathikalli	Cereus pterogonus	M
16.	Thorn apple	Oomathai	Datura stramonium	Е
17.	Century plant	Anaikathalai	Agave americana	M
18.	Jackal jujube	Soorai pazham	Ziziphus oenopolia	M

19.	Indian mallow	Thuthi	Abutilon indicum	M
20.	Flame of the Woods	Idlipoo	Xoracoc cinea	M
21.	Peacock Flower	Mayil Kontai	Caesalpinia pulcherrima	M
22.	Datura metel	Uumaththai	Datura metel	NE
23.	Milk Weed	Erukku	Calotropis gigantea	M
24.	Cassava	Maravalli kizhangu	Manihot esculenta	EM
25.	Hopbush	Virali	Dodonaea viscosa	E
26.	Paper flower	Kahitha poo	Bougainvillea glabra	M
27.	Tiger nail	Eli verandi	Martynia annua	M
Herbs				
1.	Prickly chaff flower	Nayuruv	Achyranthes aspera	M
2.	Tridax daisy	Veetukaayapoondu	Tridax procumbens	M
3.	Indian Copperleaf	Kuppaimeni	Acalypha indica	M
4.	Indian doab	Arugampul	Cynodon dactylon	Е
5.	Copperleaf	Kuppaimeni	Acalypha indica	M
6.	Indian Catmint Plant	Pei viratti	Anisomeles malabarica	M
7.	Cleome viscosa	Nai kadugu	Celome viscosa	M
8.	Porcupine flower	Shemmuli	Barleria prionitis	Е
9.	Common Wireweed	Arivalmanai poondu	Sida acuta	M
10.	Punarnava	Mukkirattai	Boerhaavia diffusa	EM
11.	Mexican prickly poppy	Kudiyotti	Argemone mexicana	M
12.	Common leucas	Thumbai	Leucas aspera	M

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13.	Licorice weed	Kallurukki	Scoparia dulcis	M
14.	Chay root	Chaaya ver	Oldenlandia umbellata	M
15.	Slender dwarf morning-glory	Vittunu-k-kiranti	Evolvulus alsinoides	M
16.	Spiny amaranth	Mullu keerai	Amaranthus spinosus	M
17.	Cracker plant	Tapas kaaya	Ruellia tuberosa	M
18.	Flannel Weed	Sida mutti	Sida cordifolia	M
19.	Green amaranth	Mulai keerai	Amaranthus viridis	M
20.	Marsh barbel	Neermulli	Hygrophila auriculata	M
21.	Yellow-fruit nightshade	Kandakathirika	Solanum surattense	M
22.	Shameplant	Thottachenunki	Mimosa pudica	M
23.	Common Purslane	Paruppu keerai	Portulaca oleracea	M
24.	Water willow	Kodakasalai	Justicia procumbens	M
25.	Threadstem carpetweed	Parpatakam	Mollugo cerviana	M
26.	Perennial Water Primrose	Muyalkathu Ilai	Ludwigia perennis	M
27.	Prostrate Globe Amaranth	-	Gomphrena serrata	M
28.	Node Flower	Kumattikkirai	Allmania nodiflora	M
29.	Sessile Joyweed	Ponnankanni	Alternanthera sessilis	M
30.	Asthma-plant	Ammanpacharisi	Euphorbia hirta	M
31.	Pignut	Nattapoochedi	Hyptis suaveolens	M
32.	Holy basil	Thulasi	Ocimum tenuiflorum	M
33.	Pink Blumea	Suvattru mullangi	Blumea mollis	M
34.	Madagascar Periwinkle	Nithykalyani Podi	Catharanthus roseus	Е

35.	Asian spiderflower	Naaikaduku	Cleome viscosa L	M
36.	Digeria muricata	Thoiya keerai	Digeria muricata	EM
37.	Carrot grass	Parttiniyam	Parthenium hysterophorus	NE
38.	Europeanblack nightshade	Manathakkali	Solanumnigrum	EM
39.	Mountain knotgrass	Thengaipoo kirai	Aerva lanata	M
40.	Bindii	Nerunchi	Tribulus terrestris	M
41.	Fish poison	Kolinchi	Tephrosia purpurea	M
42.	Chrysanthemum	Samanthi Poo	Chrysanthemum	Е
43.	East Indian globe thistle	Kottakaranthai	Sphaeranthus indicus	M
44.	Tomato	Thakkali	Solanum lycopersicum	EM
45.	False daisy	Karisalankanni	Eclipta alba	M
46.	Chilli	Milakai	Capsicum annuum	EM
47.	Red Spiderling	Mukirattai	Boerhavia diffusa	M
48.	Aloe	Katrazhai	Aloe vera	M
49.	Eggplant	Kathrikkai	Solanum melongena	EM
50.	Coat buttons	Thatha poo	Tridax procumbens	M
51.	Indian mint	Karpura valli	Coleus amboinicus	EM
52.	Aloe barbadensis	Katrazhai	Aloe vera	EM
Climber/	Creeper	1		
1.	Stemmed vine	Perandai	Cissus quadrangularis	M
2.	Wild bitter	Pavarkai	Momordica charantia	EM
3.	Pointed gourd	Kovakkai	Trichosanthes dioica	EM

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4.	Ivy gourd	Kovai	Coccinia grandis	M
5.	Bottle Guard	Sorakkai	Lagenaria siceraria	EM
6.	Ground Spurge	Sithrapaalavi	Euphorbia prostrata	EM
Grass				1
1.	Jungle rice	Kuthirai vaalKattu arusi	Echinochloa colona	NE
2.	Mauritian Grass	Moongil pul	Apluda mutica	NE
3.	Swollen Windmill Grass	Kondai Pul	Chloris barbata	NE
4.	Needle Grass	Thodappam	Aristida adscensionis	Е
5.	Eragrostis	Pullu	Eragrostis ferruginea	Е
6.	Needle Grass	-	Aristida funiculata	NE
7.	Windmill grass	Chevvarakupul	Chloris barbata	NE
8.	Sugarcane	Karumbu	Saccharum	Е
Cactus	-1			
1.	Prickly pear	Nagathali	Opuntia dillenii	M

Sources: Species observation in the field study and secondary data

3.5.7 Flora Composition in the Buffer Zone

Similar habitats may be found in the buffer area as well, although there is a wider variety of plants there than in the core zone area. The proposed project site there are 137 species in the buffer zone study area in total, based on records. The floral (137) varieties among them Trees 43, Herbs 52, Shrubs 27, Climbers/ Creepers 6, Grasses 8, and Cactus 1 were identified. The result of the buffer zone of flora studies shows that Fabaceae and Cucurbitaceous, Euphorbiaceae is the main dominating species in the study area mentioned in Table No.3.32. There are no impacts due to this mining activity. There are no Rare, Endangered, and Threatened Flora species in the mining area and their surrounding study area. Apart from the proposed project area, there is agricultural land. Horticulture and agricultural land are untouched. There are no Rare, Endangered, and Threatened Flora species in the mining area and their surrounding study area. A list of floral species has been prepared based on primary survey (site observations) and discussion with local people. The total number of different plant life forms under trees, shrubs, herbs, and climbers is shown in Table 3.33 and their % distribution is shown in Figure 3.19

S. No	Plant Life Form	Number of Species
1	Trees	43
2	Shrubs	27
3	Herbs	52
4	Climber/Creepers	6
6	Grasses	8
7	Cactus	1
	Total No. of Species	137

Table 3.33: Number of floral life forms in the Study Area

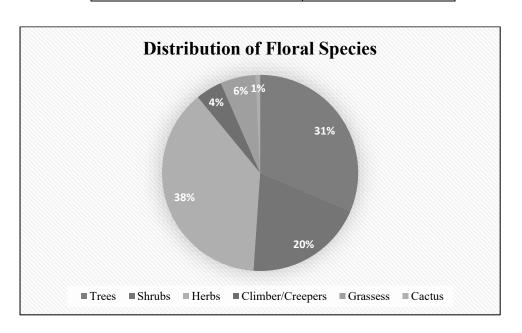
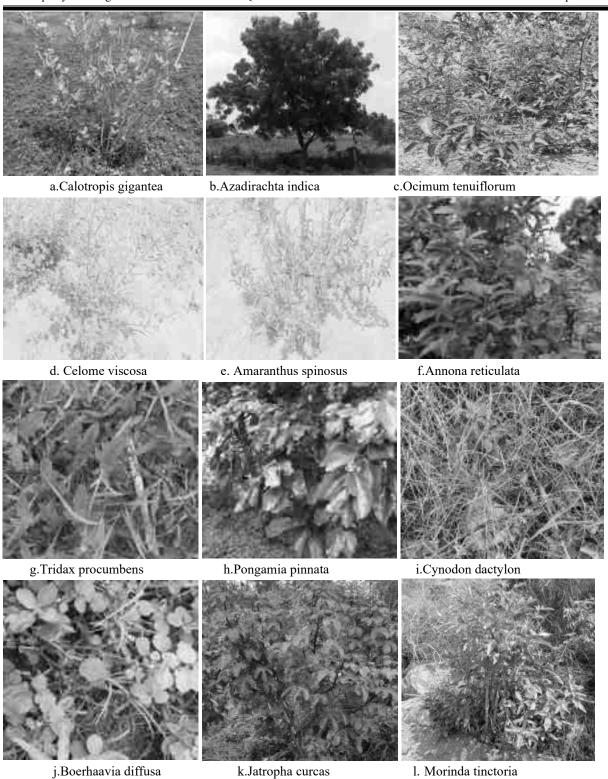
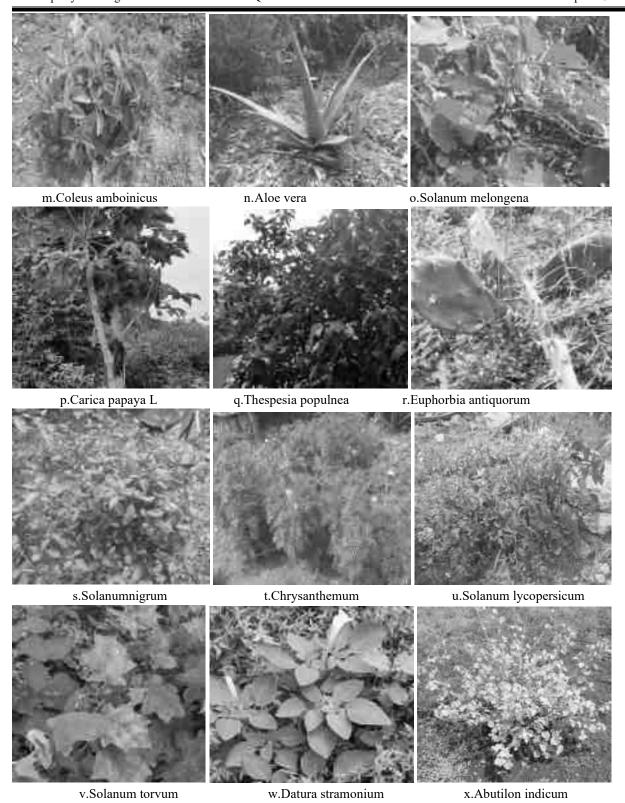
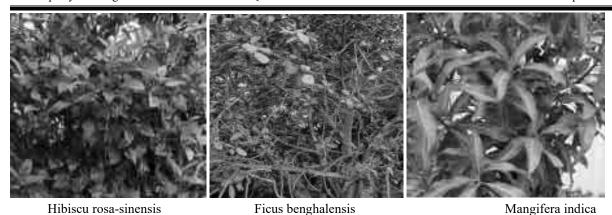


Fig No. 3.19: Diagram showing % distribution of floral life forms







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Fig No: 3.20. Flora species observation in the Buffer zone area

3.5.8. Major Agricultural Crops

Tiruppur district though an industrial district plays important role in Agriculture also. The food production required to be enhanced to provide food and nutritional security to the growing district population. In Tiruppur more than 80% of the farmers belong to small and marginal category and they play a key role in overall development in Agriculture. The total area of cultivation is around 2,28,556 hectares, mainly food and commercial crops. The chief food crops are paddy, millets and pulses. The non-food or commercial crops in the district are cotton, oil seeds and coconut. Details of the major crops are given in Table No: 3.34.

 S.No
 Major crops
 Scientific name
 Families

 1
 Paddy
 Oryza sativa
 Grasses

 2
 Sorghum
 Sorghum bicolor
 Grasses

 3
 Maize
 Zea mays
 Grasses

Table No: 3.34. Major crops in Tiruppur District

(Source: Agriculture Contingency Plan–Tiruppur-2013)

3.5.8.1. Horticulture

Major horticulture crops cultivated in this district are fruits crops like mango, banana, aonla, sapota and papaya, vegetables like bhendi, tomato, brinjal, onion, tapioca, moringa, spices and condiments like chillies and turmeric, plantation crops like cocoa, flower crops like jasmine, tube rose, marigold, cock's comb and medicinal plants like gloriosa and coleus. Details of major field crops and horticulture in Tiruppur district is given in Table No: 3.35.

Table No: 3.35. Major Field crops & horticulture in Tiruppur District.

Common Name Scientific Name Fan

Sl.No	Common Name	Scientific Name	Family			
Major Horticultural Crops						
1	Banana	Musa	Musaceae			
2	Mango	Mangifera indica	Anacardiaceae			
3	Jack	Artocarpus heterophyllus	Mulberry			

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4	Guava	Psidium guajava	Myrtle			
5	Sapota	Manilkara zapota	Sapotaceae			
6	Lemon	Citrus × limon	Rutaceae			
Vegetables						
7	Onion	Allium cepa	Amaryllidaceae			
8	Tapioca	Manihot esculenta	Spurges			
9	Brinjal	Solanum melongena	Nightshade			
10	Tomato	Solanum lycopersicum	Nightshade			
11	Gourds	Lagenaria siceraria	Cucurbits			
12	Bhendi	Abelmoschus esculentus	Mallows			
13	Moringa	Moringa oleifera	Moringaceae			
	M	edicinal and Aromatic Plants				
14	Gloriosa superba	Colchicaceae	Colchicaceae			
15	Coleus	Plectranthus scutellarioides	Mints			
		Flowers				
16	Jasmine	Jasminum	Jasminaceae			
17	Crossandra	Crossandra infundibuliformis				
18	Crysanthimum	Asteraceae	Asteraceae			
19	Rose & Jathi	Rosa	Rosaceae			
20	Tuberose	Polianthes tuberosa	Asparagus			
		Spices and Condiments				
21	Chillies	Capsicum frutescens	Solanaceae			
22	Turmeric	Curcuma longa	Zingiberaceae			
23	Tamarind	Tamarindus indica	Legumes			
24	Curry leaf	Murraya koenigii	Rutaceae			
		Plantation Crops				
25	Cashew	Anacardium occidentale	Cashews			
26	Cocoa	Theobroma cacao	Mallows			
	•	•				

(Source: Statistical handbook of Tamil Nadu-2013)

3.5.8.2 Types of Irrigation

Irrigation is the artificial application of water to the soil for normal growth of plants. Water is an important determinant factor for production of crops in agriculture sector. Intensive and extensive cultivation of land depends mainly on the availability of water. Medium and minor irrigation schemes are implemented in the state for augmenting

the water supply for agriculture. The various sources of irrigation are canals, tanks, tube wells, ordinary wells, springs and channels. The Following Table No: 3.36. Shows the area irrigated in Tiruppur District.

S.NoIrrigationArea ('000 ha)1Net irrigated area119.32Gross irrigated area123.13Rain fed area72.9

Table No: 3.36. Area irrigated in the district

(Source: Statistical handbook of Tamil Nadu-2013)

Dug wells are the major source of water for irrigation in Tiruppur district, accounting for about 59.97 percent of the total area irrigated in this district. Tube wells accounting for about 9.48 percent of the total area irrigated in this district. Of the net area irrigated, the canal irrigated area is only 29.45 percent. The area irrigated under tank is 1.10 percent. (**Source**: Statistical handbook of Tamil Nadu-2013)

3.5.8.3 The vegetation in the RF / PF areas, ecologically sensitive areas

There are neither reserved (RF) nor protected (PF) forests either in the mine lease area or in the buffer zone. Thus, no forest land is involved in any manner. Hence, no certificate from the Forest department is required. There are no impacts due to this mining activity.

There are no protected or ecologically sensitive areas such as National parks or Important Bird Areas (IBAs), or Wetlands or migratory routes of fauna or water bodies or human settlements within the proposed mine lease area. There are no Biosphere reserves or wildlife sanctuaries or National parks or Important Bird Areas (IBAs), or migratory routes of fauna. Thus, the area under study (Mine lease area and the 10 Km buffer zone) is not ecologically sensitive. It is away from the proposed project site.

There are neither forests nor forest dwellers nor forest-dependent communities in the mine lease area. There shall be no forest-impacted families (PF) or people (PP). Thus, the rights of Traditional Forest Dwellers will not be compromised on account of the project.

3.5.9 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 the Red Data Book and the Indian Wildlife Protection Act, 1972. There are no rare, endangered, threatened (RET), and endemic species present in the core area.

3.5.10. Fauna Composition in the Core Zone

A total of 16 varieties of species were observed in the Core zone of Morattupalayam Village, Rough stone and gravel quarry (Table No.3.7) among them numbers of Insects 5 (31%), Reptiles 2 (13%), Mammals 2 (12%) and Avian 7 (44%). A total of 15 species belonging to 13 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 six species are under schedule IV according to the Indian wild life Act 1972. A total of 7 species of bird were sighted in the mining lease area.

There are no critically endangered, endangered, vulnerable and endemic species were observed. Details of fauna in core zone with the scientific name were mentioned in Table No. 3.7.

Table No: 3.37. Fauna in the Core zone of Morattupalayam Village, Cluster area, Rough stone and Gravel quarry, Uthukuli Taluk, Tiruppur District

SI.	Common	Scientific Name	Schedule list wildlife	
No	name/English Name		Protection act 1972	
Insects	1			
1.	Mottled emigrant	Catopsilia pyranthe	NL	
2.	Striped tiger	Danaus plexippus	Schedule IV	
3.	Common Tiger	Danaus genutia	NL	
4.	Red-veined darter	Sympetrum fonscolombii	NL	
5.	Danaid egg fly	Hypolimnasmisippus	Schedule IV	
Reptiles	3			
1.	Garden lizard	Calotes versicolor	Schedule IV	
2.	Common skink	Mabuya carinatus	Schedule IV	
Mamma	als	1		
1.	Indian Field Mouse	Mus booduga	Schedule IV	
2.	Common rat	Rattus rattus	Schedule IV	
Aves	1	1		
1.	Common myna	Acridotheres tristis	Schedule IV	
2.	House crow	Corvussplendens	Schedule IV	
3.	Common quail	Coturnix coturnix	Schedule IV	
4.	Koel	Eudynamys	Schedule IV	
5.	Cattle egret	Bubulcus ibis	Schedule IV	
6.	Asian green bee-eater	Meropsorientalis	Schedule IV	
7.	Black drongo	Dicrurus macrocercus	Schedule IV	

^{*}NL- Not listed, LC- Least Concern

(Sources: Species observation in the field study)

3.5.11 Fauna Composition in the Buffer Zone

As animals, especially vertebrates move from place to place in search of food, shelter, mate or other biological needs, separate lists for core and buffer areas are not feasible however, a separate list of fauna pertaining to core and buffer zone are listed separately. Though there is no reserved forests 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 reserves or Elephant Corridor or other protected areas within 10 km radius of from the core area. It is evident from the available records, reports, and circumstantial evidence that the entire study area including the core and buffer areas were free from any endangered animals. There were no resident birds other than common bird species such as Red-whiskered Bulbul, Asian Koel, House crow, Black drangos, Crows, Pond heron etc.

The list of Mammals (*directly sighted animals & Secondary data) is given in table No.3.38. The list of bird species recorded during the field survey and literature from the study area are given in Table 3.39. The list of reptilian species recorded during the field survey and literature from the study area is given in Table 3.40. The list of insect species recorded during the field survey and literature from the study area are given in Table 3.41. The list of Butterflies species recorded during the field survey and literature from the study area are given in Table 3.42. 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 71 species recorded were from the buffer zone area. Based on habitat classification the majority of species were birds 35, followed by Butterflies 12, Reptiles 10, Insects 5, Mammals 5, and Amphibians 4. There are five Schedule II species, two species are under the schedule III and fifty four species are under Schedule IV according to the Indian Wildlife Act 1972. A total of 35 species of bird were sighted in the study area. There are no critically endangered, endangered, vulnerable, and endemic species were observed. There are no impacts on nearby fauna species.

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

Table 3.38. List of Fauna & Their Conservation Status,

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

Mammals: (*directly sighted animals & Secondary data)

m	2 24				
Table	3.39). Liste	ed t	oird	S

SI. No	Common	Scientific Name	Schedule list wildlife
51. 110	Name/English Name	Scientific Name	Protection act 1972
1.	Black kite	Milvus migrans	Schedule IV
2.	Jungle babbler	Turdoides striata	Schedule IV
3.	Indian robin	Saxicoloides fulicatus	Schedule IV
4.	Asian Koel	Eudynamys	Schedule IV
5.	Cattle egret	Bubulcus ibis	Schedule IV
6.	Rock pigeon	Columbidae	Schedule IV
7.	Common myna	Acridotheres tristis	Schedule IV
8.	House crow	Corvussplendens	Schedule IV
9.	Red Vented Bulbul	Pycnonotus cafer	Schedule IV
10.	Small Bee Eater	Merops orientalis	Schedule IV
11.	Purple sunbird	Cinnyris asiaticus	Schedule IV
12.	Common hawk-cuckoo	Hierococcyx varius	Schedule IV
13.	House sparrow	Passer domesticus	Schedule IV
14.	Brahminy myna	Temenuchus pagodarum	Schedule IV

15.	Small blue Kingfisher	Alcedo atthis	Schedule IV
16.	Rose-ringed parkeet	Psittacula krameri	Schedule IV
17.	The common woodshrike	Tephrodornis pondicerianus	Schedule IV
18.	Asian Palm Swift	Cypsiurus balasiensis	Schedule IV
19.	Common quail	Coturnix coturnix	Schedule IV
20.	Pond herons	Ardeola grayii	Schedule IV
21.	Black-headed Cuckooshrike	Lalage sykesi	Schedule IV
22.	Black drongo	Dicrurus macrocercus	Schedule IV
23.	Woodpecker bird	Picidae	Schedule IV
24.	Weaver bird	Ploceus philippines	Schedule IV
25.	Two-tailed Sparrow	Dicrurus macrocercus	Schedule IV
26.	Grey drongo	Dicrurus longicaudatus	Schedule IV
27.	Grey Francolin	Francolinus pondicerianus	Schedule IV
28.	Wood Sandpiper	Tringa glareola	Schedule IV
29.	Blue-Tailed Bee Eater	Merops philippinus	Schedule IV
30.	Indian Roller	Coracias benghalensis	Schedule IV
31.	Common Swallow	Hirundo rustica	Schedule IV
32.	Purple Rumped Sunbird	Leptocoma zeylonica	Schedule IV
33.	Common Tailor Bird	Orthotomus sutorius	NL
34.	Purple Sunbird	Cinnyris asiaticus	NL
35.	Lesser Golden Backed	Dinopium benghalense	Schedule IV
	Woodpecker		

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

Table 3.40. List of Reptiles either spotted or reported from the study area.

(*indicates direct observations & Secondary data)

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

Table 3.41. List of insects either spotted or reported from the study area

SI. No	Common Name/English Name	Scientific Name	Schedule list wildlife Protection act 1972
1.	Indian honey bee	Apis cerana	-
2.	Termite	Hamitermes silvestri	NE
3.	Grasshopper	Hieroglyphus sp	NL
4.	Ant	Camponotus Vicinus	NL
5.	Dragonfly	Ceratogomphus pictus	-

Table.3.42. List of Butterflies reported from the study area

SI. No	Common Name/English Name	Scientific Name	Schedule
1.	Indian palm bob	Suastusgremius	Schedule IV
2.	Common Mormon	Papilio polytes	Schedule IV
3.	Common rose	Pachlioptaaristolochiaee	Schedule IV
4.	Spotless grass yellow	Eurema laeta	Schedule IV
5.	Common Tiger	Danaus genutia	Schedule IV
6.	Common emigrant	Catopsiliapomona	Schedule IV
7.	Crimson tip	Colotisdanae	Schedule IV
8.	Common Indian crow	Euploea core	Schedule IV
9.	Lime Butterfly	Papilio demoleus	Schedule IV
10.	Yellow Pansy	Junonia hierta	Schedule IV
11.	Chocolate Pansy	Junonia iphita	Schedule IV
12.	Double-branded Black Crow	Euploea sylvester	Schedule IV

3.5.12 Aquatic Ecology

Mining activities will not have an impact on aquatic ecosystems because no effluent discharge from the Limestone mine is planned. There are no natural perennial surface water bodies, such as marshes, rivers, streams, lakes, or agricultural sites, inside the mining lease area. The study region contains a few seasonal bodies of water. There is no aquatic flora and, aquatic faun. Hence, it does not harbour any significant aquatic life. Therefore, the project is not likely to affect the aquatic ecology. Aquatic weeds are found to be growing everywhere in 10 km radius area, in every water bog, pond, etc. *Typha angustata* can be found growing all along the drains of villages, small water-logged depressions, and agricultural fields lacking water but containing enough moisture to support its growth. And where water is present, *Eichhornia crassipes* has taken its roots and covers the entire water surface by its sprawl and invasion.

3.5.12.1. Objectives of Aquatic Studies

✓ Generating data through actual field collection in these locations over the study period; and

- ✓ Impacts on aquatic fauna/flora
- ✓ Consulted with locals to obtain knowledge about aquatic flora and animals.

3.5.12.2. Macrophytes

The macrophytes observed within the study area are tabulated in Table 3.43

Table No.3.43 Description of Macrophytes

Sl.No	Scientific name	Common Name	Vernacular Name (Tamil)	IUCN Red List of Threatened Species
1.	Eichornia crassipe	Water hyacinth	Agayatamarai	NA
2.	Aponogetonnatans	Floating lace plant	Kottikizhnagu	NA
3.	Nymphaea nouchali	Blue water lily	Nellambal	LC
4.	Typha angustifolia	Sambu	Narrowleaf cattail	LC
5.	Carex cruciata	Cross Grass	Koraipullu	NA
6.	Cyperus exaltatus	Tall Flat Sedge	Koraikizhangu	LC

Sources: Species observation in the field study

3.5.12.3 Aquatic Faunal Diversity

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

Table no. 3.44. Amphibians Observed/Recorded from the Study Area

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

3.5.13 Other Aquatic Fauna

3.5.13.1. Fishes

The study area has low aquatic diversity, with few types of fish living. The species of fish reported during the primary visit are Rohu, Catla, Catfish, etc. Species of fish reported in the study area are given in table 3.45.

Table 3.45. Based on Actual Sighting, based on inputs from locals and Perused from Secondary Data

S.No	Common name	Scientific name	Family	
1.	Ponthia	Puntius sophore	Cyprinidae	
2.	Catla	Catla Catla	Cyprinidae	
3.	Silver scabbardfish	Lepidopus caudatus	Trichiuridae	
4.	Catfish	Siluriformes	-	
5.	Rohu	Labeo rohita	Cyprinidae	
6.	Eel fish	Electrophorus electricus	Gymnotidae	

3.5.14 Findings/Results

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

Records of threatened species in the area

No threatened species were observed

Endangered Species as per Wildlife (Protection) Act

No Endangered fauna was recorded in the project area.

Endemic Species of the Project areas

No endemic species were observed in the project area.

Migratory species of the Project areas

No migratory fauna observed in project area.

Migratory corridors and Flight paths

No migratory corridors and Flight paths were observed in project area.

Breeding and spawning grounds

No breeding and spawning grounds were earmarked for the wildlife fauna in project area.

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

There are no National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar sites, Tiger/Elephant Reserves/(existing as well as proposed) within 10 km of the mine lease area. There are no protected forests within the project area. Hence submission of clearance from the National Board of Wildlife does not arise.

There is no endangered, endemic and RET Species. There is no Schedule I species in study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] The proposed project is not going to have any direct or indirect adverse impact on the species mentioned above.

3.9. Conclusion

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

3.6 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 Roughstone and Gravel 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.

3.6.1 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 Roughstone and Gravel quarry project region.
- f) To assess the impact on socio-economic environment due to Roughstone and Gravel quarry project region.
- g) To analysis of impact of socio economic and Environmental Infrastructure facilities and road accessibility.

3.6.2 Scope of Work

- > To study the Socio-economic Environment of area from the secondary sources
- > Developing a questionnaire for Survey
- > Data Collection and Analysis
- ➤ Identification of impacts due to the mining projects
- Mitigation Measures

3.6.3 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.

3.6.4 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.

3.6.5 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 Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamilnadu 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.

3.6.6 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 3.44 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.

3.7 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 Viluppuram, Cuddalore and Vellore. The alluvial plains of the Cauvery delta extending over Thanjavur and part of Tiruchirapalli districts and dry southern plains in Madurai, Dindigul, Ramanathapuram, Sivaganga, Virudhunagar, 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.

3.8 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.

3.9 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 – Viluppuram, Namakkal, Perambalur, 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

3.10 Tiruppur District

Tiruppur district was formed after separating from Coimbatore and Erode districts in Tamilnadu by the year 2008. Taluks like Avinashi, Palladam, Udumalaipettai, and Tiruppur from Coimbatore and Taluks like Kangeyam, Dharapuram from Erode were separated and formed new district Tiruppur in Tamilnadu. The districts of Coimbatore, Erode, Karur and Dindigul and the state of Kerala border Tirupur district.

Tiruppur is the 32nd district of Tamilnadu. Tiruppur is well known as the textile city of Tamilnadu. The district is famous for its cotton market and baniyan mills. Tirupur is a wonderful district which brings good income to India through banyan export.

There cannot be anyone who does not know about Uthukuli Butter near Tiruppur. Rivers like Noyyal, Amaravathi, Somanur, Uthukuli, Vanchipalayam, Koolipalayam flow here.

Tiruppur Administration

Revenue Divisions - 3 (Tiruppur, Dharapuram, Udumalaipettai)

Taluks - 7 (Avinashi, Dharapuram, Kangayam, Madathukulam, Palladam, Tiruppur, Udumalaipettai)

Corporation - 1 (Tiruppur)

Municipalities - 7 (S.Nallur, Dharapuram, Palladam, Udumalaipettai, Velampalayam, Vellakoil, Kangeyam)

Blocks - Avinashi, Gudimangalam, Kundah Dam, Mulanur, Pongalur, Udumalaipettai, Vellakoil, Dharapuram, Kangeyam, Madathukulam, Palladam, Tiruppur, Uthukuli

Town Panchayats - Muthur, Kannivadi, Chinnakapalayam, Madathukulam, Samalapuram, Kunnathur, Kangeyam, Mulanur, Avinashi, Kaniyur, Sankararamanallur, Uthukuli, Ruthravathy, kolathupalayam, Thali, Kumaralingam, Thirumuruganpoondi

Parliamentary Constituency - 1 (Tiruppur)

State Assembly Constituency - 8 (Kangeyam, Avinashi, Palladam, Udumalaipettai, Tiruppur North, Tiruppur South, Dharapuram, Madathukulam

3.11 Study Area

Detailed socio-economic survey was conducted in the study area (Core and buffer zone) within 10 km radius of the area at Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamilnadu 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.

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

Table 3.45 Shows the socio-economic profile of the study area as compared to district, state and national level socio-economic profile

Particular	India	Tamil Nadu	Tiruppur District
Area (in sq. km.)	3,287,263	130058	5087

Particular	India	Tamil Nadu	Tiruppur District
Population Density/ sq. Km.	368	554	487
No. of Households	249454252	13357027	712210
Population	1210569573	72147030	2479052
Male	623121843	36137975	1246159
Female	587447730	36009055	1232893
Scheduled Tribes	104281034	794697	5458
Scheduled Castes	201378086	14438445	395876
Literacy Rate (%)	72.99	80	71
Sex Ratio (Females per 1000 Males)	943	996	989

Source: Census of India, 2011

3.12 Morattupalayam Town Population Census 2011 - 2023

Morattupalayam is a Census Town city in district of Tiruppur, Tamil Nadu. The Morattupalayam Census Town has population of 5,798 of which 2,900 are males while 2,898 are females as per report released by Census India 2011.

Morattupalayam 2023 Population

Current estimated population of Morattupalayam Census Town in 2023 is approximately 7,900. The schedule census of 2021 for Morattupalayam city is postponed due to covid. We believe new population census for Morattupalayam city will be conducted in 2023 and same will be updated once its done. The current data for Morattupalayam town are estimated only but all 2011 figures are accurate. Source: https://www.census2011.co.in/data/town/644778-morattupalayam-tamil-nadu.html

3.13 Sex Ratio

Population of Children with age of 0-6 is 586 which is 10.11 % of total population of Morattupalayam (CT). In Morattupalayam Census Town, Female Sex Ratio is of 999 against state average of 996.

Child Sex Ratio in Morattupalayam is around 915 compared to Tamil Nadu state average of 943.

3.14 Literacy rate of Morattupalayam city is 70.53 % lower than state average of 80.09 %. In Morattupalayam, Male literacy is around 79.72 % while female literacy rate is 61.42 %.

Morattupalayam Census Town has total administration over 1,681 houses to which it supplies basic amenities like water and sewerage. It is also authorize to build roads within Census Town limits and impose taxes on properties coming under its jurisdiction.

3.15 Morattupalayam Project Population

Year	Population
2011	5,798
2021	7,500
2022	7,700
2023	7,900
2024	8,100
2025	8,300
2026	8,500
2027	8,700

2028	8,900
2029	9,100
2030	9,300
2031	9,500

3.16 Workers Population

Out of total population, 3,062 were engaged in work or business activity. Of this 1,891 were males while 1,171 were females. In census survey, worker is defined as person who does business, job, service, and cultivator and labour activity. Of total 3062 working population, 87.66 % were engaged in Main Work while 12.34 % of total workers were engaged in Marginal Work.

3.17 Basic Amenities

A better network of physical infrastructure facilities (well-built roads, rail links, irrigation, power and telecommunication, information technology, market-network and social infrastructure support, viz. health and education, water and sanitation, veterinary services and co-operatives) is essential for the development of the rural economy. A review of infrastructure facilities available in the area has been done based on the information from baseline survey of the study area. In this review, the villages which fall within 10Km radius round the site has been considered. Infrastructure facilities available in the area have been described in the subsequent sections as below:

1. Educational Facilities

Education is considered to be one of the most dominant indicators towards the development of a region. According to baseline survey, education facilities are available in the villages within the study area. All the villages have schools only up to primary and middle level, higher level education facilities very less only one-degree college available in Tiruppur. Improved educational facilities will be provided by proponent, which will contribute Improvement in awareness level of the villagers.

2. Health Facilities

Medical facilities are available. There are majorly non-Government medical facilities/medicine shop available in the area. There is only one dispensary / health center available and no Primary Health Sub-Centers available in the study area. There is no such case of epidemic or some special diseases in the region. Normal cases of diseases i.e. Cough, cold, fever, headache etc. are reported in the region.

3. Other Infrastructure Facilities

Basic facilities are available in study area as educational facilities, health, transportation, electricity, drinking water, market, bank, post office, petrol pump; Aanganbadi Centers, Community Hall, Cooperative bank and Commercial Bank etc. are available.

> Transport Facilities

The study area is served by road transport. Most of the villages connected by bus/other transport services. The area has a moderate road network, which includes state highway, major District Roads and other roads within 10 km radius of the lease boundary. Major District Road is passing through the adjacent of Quarry area.

> Electrification in the Area

100% villages in the study area are electrified. Electricity is available for domestic, commercial, industrial agricultural and public lighting purposes.

> Drinking Water Facility

Village people are availing Drinking water facilities generally from Tap water, Pond, Well, Tube well, Hand Pump, River etc. In few villages like Kullayur, Velliyampalayam, Kavundampalayam Villages, etc. there is problem of drinking water facility.

3.22 Interpretation

Based on the data, following inferences could be drawn:

- Total literacy rate in the study area is 70.53%.
- The study area had average educational facilities. The overall status depicts that the education is limited to primary and middle level.

- The study area is well connected by District/Village Road.
- The study area 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

3.18 Structure Map 300m Radius

Figure .3.21 Structure map around 300m Radius-P3



Table 3.46 Structure map around 300m Radius-P3

Distance Range	No. of Structures	Type of Structures (Kuchcha/ Brick/ Cement/ RCC/ Framed Structures)	Usage/ Purpose	No. of occupants	Ownership (Belongs to P Not belongs to P	
0-100 Stru	cture - Nil					
100- 200m	2	Crusher Shed – 120m – SW	Used to Crusher Equipment's and martials	Nil	Not belongs to PP	Storage Purpose
		Mines Shed – 160m – East	Used to store Mines equipment's and Materials	Nil	Belongs to PP	Storage Purpose
200 - 300m	8	Crusher Shed– 210m – West	Crusher labour rest shed	Nil	Not belongs to PP	Crusher labour will stay

Mines Shed – 210m – SW	Used to store Mines equipment's and Materials	Nil	Not belongs to PP	Storage Purpose
Labour rest shelter - 230m NE	Rest shelter	Nil	Not belongs to PP	No Stay
Labour Shed – 240m – NW	Used as a Mines labour rest shed	Nil	Belongs to PP	Mines Labour will stay
Labour Shed – 250m – NW	Used to store shelter for the labours	Nil	Not belongs to PP	No Stay
Crusher-250m SW	Produce Size reduced stone	Nil	Not belongs to PP	5 Numbers are working
Store shed -250m NE	Belongs to Shri Angu tex	Nil	Not belongs to PP	Used to store the waste cloths - No Stay
Sheet Shed 260m NE	Shri Angu Tex (Cloth unit)	Nil	Not belongs to PP	4 Persons working Watch man Stay at Night

3.18 Recommendations and Suggestion

- Education Awareness program is being/will be conducted to make the population aware and better treatment for livelihood.
- ❖ Vocational training session is being/will be organized to provide self-employment to the women and unemployment youth.
- Healthcare Centre and Ambulance facility is being/will be provided to make the population get easy medical facilities.
- Natural Resource Management and Environmental Conservation.
- On the basis of qualification and skills local youths is being/will be employed. Long term and short-term employments is being/will be generated.
- Health care center and ambulance facility is being/will be provided to make the population get easy medical facilities.
- ❖ Basic amenities and facilities are being/will be made available to the people and there will be proper maintenance of the facilities already provided by the government in the study area through various CSR activities conducted by Proposal proponent.

3.19 CONCLUSION

To evaluate the impacts of proposed rough stone and gravel quarry project on the surrounding area, it is vital to assess the baseline status of the environmental quality in the locality of the site. Socio-Economic Survey was also conducted during the study period which revealed that area further require improvement in the Economy and Infrastructure Development of the area. Hence it can be concluded that the present baseline environment status of the study area will not be affected by the proposed project as **Morattupalayam Rough Stone and Gravel Cluster Quarries** 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.

CHAPTER – 4: ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.0 General

The environmental impact can be categorized as either primary or secondary, primary impacts which are attributed directly by the project; secondary impacts are those which are indirectly induced. The open cast mining operations involve development of benches, Approach Road, Haul Road, Excavation and handling of material. If adequate control measures are not taken to prevent/mitigate the adverse environmental impacts/lead to damage of the eco-system.

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 for sustainable resource extraction. Based on the baseline environmental status at the existing mine site, the environmental factors that are likely to be affected (Impacts) are identified, quantified and assessed. The various anticipated impacts will be on

- Land environment
- Water Environment
- Air Environment
- Noise Environment
- Socio economic environment
- Solid waste
- Soil environment

4.1 Land Environment

4.1.2 Anticipated Impact from all Proposed Projects

- Permanent or temporary change on land use and land cover.
- Change in Topography: Topography of the ML area will change at the end of the life of the mine.
- Movement of heavy vehicles sometimes cause problems to agricultural land, human habitations due to dust, noise and it also causes traffic hazards.
- Due to degradation of land by pitting the aesthetic environment of the core zone may be affected.
- Earthworks during the rainy season increase the potential for soil erosion and sediment laden water entering the water ways.
- If no due care is taken wash off from the exposed working area may choke the water course & can also causes the siltation of water course

4.1.2.1 Common Mitigation Measures for Respective Individual Proposed Projects

- The mining activity will be gradual confined in blocks and excavation will be undertaken progressively along with other mitigative measures like phase wise development of greenbelt etc.,
- Construction of garland drains all around the quarry pits and construction of check dam at strategic location in lower elevations to prevent erosion due to surface runoff during rainfall and also to collect the storm water for various uses within the proposed area
- Green belt development along the boundary within safety zone. The small quantity of water stored in the minedout pit will be used for greenbelt
- Thick plantation will be carried out on unutilized area, top benches of mined out pits, on safety barrier, etc.,
- At conceptual stage, the land use pattern of the quarry will be changed into Greenbelt area and temporary reservoir
- In terms of aesthetics, natural vegetation surrounding the quarry will be retained (such as in a buffer area i.e., 7.5 m safety barrier and other safety provided) so as to help minimise dust emissions.
- Proper fencing will be carried out at the conceptual stage, Security will be posted round the clock, to prevent inherent entry of the public and cattle

4.1.3 Soil Environment

4.1.4 Impact on Soil Environment

The top layer of the project site in the form of Gravel formation, the Gravel will be directly loaded into tippers for the filling and levelling of low-lying areas. There is no disposal of Gravel. The excavated rough stone will be directly loaded into dumpers to the needy customers.

There will be no disposal of waste water from the quarry operation, No discharge of toxic effluent from the proposed projects. The dust emission at working face and haul roads will be controlled by water sprinkling and plantation.

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

4.1.5 Common Mitigation Measures for Respective Individual Proposed Projects

- Run-off diversion Garland drains will be constructed all around the project boundary to prevent surface
 flows from entering the quarry works areas. And will be discharged into vegetated natural drainage lines, or
 as distributed flow across an area stabilised against erosion.
- Sedimentation ponds Run-off from working areas will be routed towards sedimentation ponds. These trap sediment and reduce suspended sediment loads before runoff is discharged from the quarry site. Sedimentation ponds should be designed based on runoff, retention times, and soil characteristics. There may be a need to provide a series of sedimentation ponds to achieve the desired outcome.
- Retain vegetation Retain existing or re-plant the vegetation at the site wherever possible.
- Monitoring and maintenance Weekly monitoring and daily maintenance of erosion control systems so that they perform as specified specially during rainy season

4.1.6 Waste Dump Management

There are no wastages anticipated in this rough stone and gravel quarrying operation. The entire quarried out materials will be utilized (100%).

The overburden in the form of gravel formation the gravel will be also sold to needy customers for the filling and levelling of low-lying areas.

4.2 Water Environment

4.2.1 Anticipated Impact on Surface and ground water

The impact due to quarrying on the water quality is expected to be insignificant because of no use of chemicals or hazardous substances during quarrying process. The quarrying activity will not intersect ground water table as the maximum depth of the quarry in the cluster is 30m and water table is found at a depth of 70-65m BGL-P1 maximum depth of the quarry in the cluster is 36m and water table is found at a depth of 78-73m BGL-P2. maximum depth of the quarry in the cluster is 37m and water table is found at a depth of 68m BGL-P3. 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 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.

TABLE 4.1: WATER REQUIREMENTS P1-P3

*Purpose	Quantity	Source
Domestic & Drinking purpose	0.2KLD	From existing, bore wells and drinking water will be sourced from Approved water vendors.
Dust Suppression	1.0KLD	From Existing bore wells from nearby area
Green Belt	0.3KLD	From Existing bore wells from nearby area
Total	1.5 KLD	
	PR	OPOSAL – P2
*Purpose	Quantity	Source
Domestic & Drinking purpose	0.5KLD	From Existing, bore wells and drinking water will be sourced from Approved Water vendors.
Dust Suppression	1.0KLD	From Existing bore wells from nearby area
Green Belt	0.5KLD	From Existing bore wells from nearby area
Total	2.0 KLD	
	PR	OPOSAL – P3
*Purpose	Quantity	Source
Dust Suppression	0.3KLD	The required water will be met from rainwater accumulated in mine pit (when available) and from the approved water vendors.
Green Belt	1.0KLD	The required water will be met from rainwater accumulated in mine pit (when available) and from the approved water vendors.
Sanitation & Drinking	0.7KLD	Approved water vendors
Total	2.0 KLD	

^{*} Water for drinking purpose will be brought from approved water vendors

Source: Approved Mining Plan Pre-Feasibility Report

Total water requirement in the cluster quarries is about 4.5 KLD, the water for dust suppression and greenbelt development will be sourced from the mine pit water collected during rainy seasons, the water for domestic purpose and drinking will be sourced from the approved water vendors.

4.2.2 Common Mitigation measures:

- Garland drain, settling tank will be constructed along the proposed mining lease area. The Garland drain will
 be connected to settling tank and sediments will be trapped in the settling traps and only clear water will be
 discharged out to the natural drainage
- Rainwater will be collected in sump in the mining pits 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 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 system.
- Providing benches with inner slopes and through a system of drains and channels, allowing rain water to descent into surrounding drains, so as to minimize the effects of erosion & water logging arising out of uncontrolled descent of water.
- Reuse the water collected during storm for dust suppression and greenbelt development within the mines
- Installing interceptor traps/oil separators to remove oils and greases. Water from the tipper wash-down facility and machinery maintenance yard will pass through interceptor traps/oil separators prior to its reuse;
- Using flocculating or coagulating agents to assist in the settling of suspended solids during monsoon seasons;
- Periodic (every 6 month once) 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.
- Waste water 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 (every 6 month once) and analysing the quality of water in open well, bore wells and surface water

4.3 Air Environment

The air borne particulate matter is the main air pollutant in this opencast mining. The mining operation will be carried out by jackhammer drilling (35mm dia) and Hydraulic Excavators will be utilized for excavation of Rough Stone waste.

4.3.1 Anticipated Impact

- During mining, at various stages activities such as excavation, drilling, blasting, and transportation of
 materials, particular matter (PM), gases such as Sulphur dioxide, oxides of Nitrogen from vehicular exhaust
 are the main air pollutants.
- Emissions of noxious gases due to incomplete detonation of explosive may sometimes pollute the air.
- The fugitive dust released from the mining operations may cause effect on the mine workers who are directly exposed to the fugitive dust.
- Simultaneously, the air-borne dust may travel to longer distances and settle in the villages located near the mine lease area.

4.3.1.1. Modelling of Incremental Concentration from all Proposed Projects

Wind erosion of the exposed areas and the air borne particulate matter generated by quarrying operation, and transportation are mainly PM₁₀ & PM_{2.5} and emissions of Sulphur dioxide (SO₂) & Oxides of Nitrogen (NOx) due to excavation/loading equipment and vehicles plying on haul roads are the cause of air pollution in the project area.

Similarly, loading - unloading and transportation of Rough Stone, wind erosion of the exposed area and movement of light vehicles causes of pollution. This leads to an impact on the ambient air environment around the project area.

Anticipated incremental concentration due to this quarrying activity and net increase in emissions due to quarrying activities within 500 meters around the project area is predicted by Open Pit Source modelling using AERMOD Software.

The impact on Air Environment is due to the mining and allied activities during Land Development phase, Mining process and Transportation. The emissions of Sulphur dioxide (SO₂), Oxides of Nitrogen (NOx) due to excavation/loading equipment and vehicles plying on haul roads are marginal. Loading - unloading and transportation of Rough Stone, wind erosion of the exposed area and movement of light vehicles will be the main polluting source in the mining activities releasing Particulate Matter (PM₁₀) affecting Ambient Air of the area. Prediction of impacts on air environment has been carried out taking into consideration cumulative production three proposed quarries. Air environment and net increase in emissions by Open pit source modelling in AERMOD Software.

4.3.1.2 Emission Estimation

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 P1, P2 & P3

EMISSION EST	TIMATION FOR QU	ARRY "P1"- Tmt.	V. Revathi	
	Activity	Source type	Value	Unit
	Drilling	Point Source	0.074088129	g/s
Edit AlEdit D. C. D.	Blasting	Point Source	0.000539955	g/s
Estimated Emission Rate for PM ₁₀	Mineral Loading	Point Source	0.039999715	g/s
	Haul Road	Line Source	0.002487643	g/s/m
	Overall Mine	Area Source	0.053806198	g/s
Estimated Emission Rate for SO ₂	Overall Mine	Area Source	0.000385867	g/s
Estimated Emission Rate for NOx	Overall Mine	Area Source	0.000019354	g/s
EMISSION ESTIM	ATION FOR QUAR	RY "P2"- Thiru.U.	Prabhakaran	
	Activity	Source type	Value	Unit
	Drilling	Point Source	0.051661581	g/s
Estimated Essission Data for DM	Blasting	Point Source	0.000089013	g/s
Estimated Emission Rate for PM ₁₀	Mineral Loading	Point Source	0.035227965	g/s
	Haul Road	Line Source	0.002483699	g/s/m
	Overall Mine	Area Source	0.032955730	g/s
Estimated Emission Rate for SO ₂	Overall Mine	Area Source	9.84731E-05	g/s
Estimated Emission Rate for NOx	Overall Mine	Area Source	0.000001680	g/s
EMISSION ESTI	MATION FOR QUA	RRY "P3"- Thiru.	S. Rajasekar	
	Activity	Source type	Value	Unit
	Drilling	Point Source	0.075892176	g/s
E-4:4- 1 E::- D-4- f- :: DM	Blasting	Point Source	0.000608975	g/s
Estimated Emission Rate for PM ₁₀	Mineral Loading	Point Source	0.040677672	g/s
	Haul Road	Line Source	0.002488647	g/s/m
	Overall Mine	Area Source	0.056133523	g/s
Estimated Emission Rate for SO ₂	Overall Mine	Area Source	0.000452572	g/s
Estimated Emission Rate for NOx	Overall Mine	Area Source	0.000024830	g/s

4.3.2 Frame work of Computation & Model details

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

Air Pollution Dispersion Modelling

Baseline Air Quality -

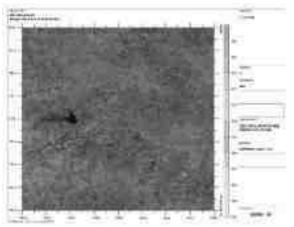
Baseline air quality has been measured at 2 locations in the cluster and 6 locations within the buffer zone of the study area. The 24 - hourly average samples of particulate matters (PM_{10} and $PM_{2.5}$), SO_2 and NO_x were measured following the National Ambient Air Quality Standards (NAAQS), 2009. Monitoring data of 7 sampling stations are given below –

Meteorological Data -

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 and monitored continually for study period without break. The station was installed at a height of 4 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. A weather data was collected from IMD, Tiruppur agro for the month of Mar2022 – May2022 to correlate with site data and found not much of change in the parameters.

FIGURE 4.1: AERMOD TERRAIN MAP



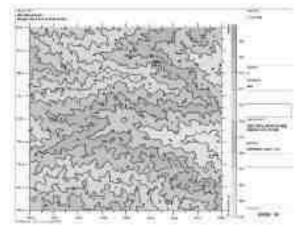
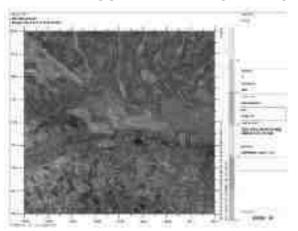


FIGURE 4.2: PREDICTED INCREMENTAL CONCENTRATION OF PM₁₀



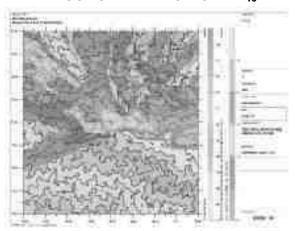


FIGURE 4.3: PREDICTED INCREMENTAL CONCENTRATION OF PM₂₅

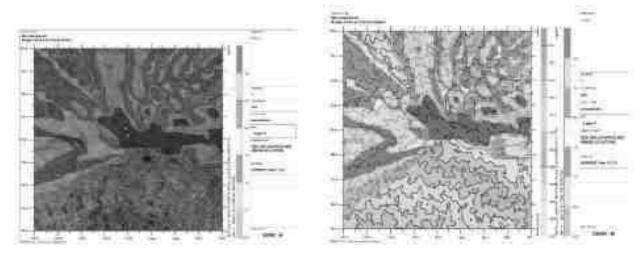


FIGURE 4.4: PREDICTED INCREMENTAL CONCENTRATION OF SO₂

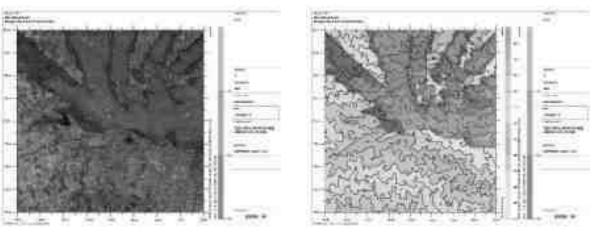


FIGURE 4.5: PREDICTED INCREMENTAL CONCENTRATION OF NO_x

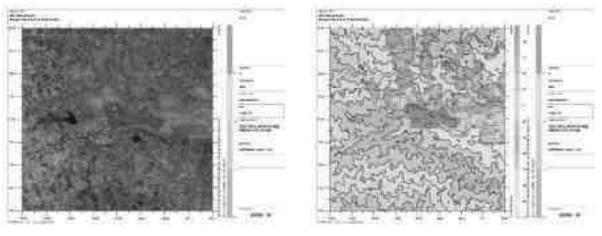
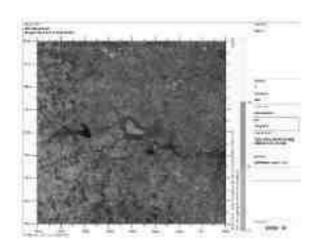
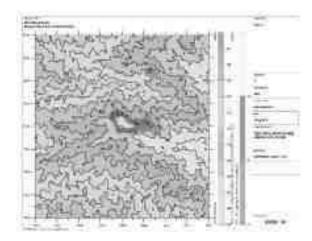


FIGURE 4.6: PREDICTED INCREMENTAL CONCENTRATION OF FUGITIVE DUST





4.3.2.1 Model Results

The post project Resultant Concentrations of PM10, PM2.5, SO2& NOX (GLC) is given in Table below:

TABLE 4.3: INCREMENTAL & RESULTANT GLC OF PM₁₀

Station Code	Location	X Coordinat e (m)	Y Coordinate (m)	Average Baseline PM ₁₀ (μg/m³)	Incremental value of PM ₁₀ due to mining (µg/m³)	Total PM ₁₀ (µg/m³) (5+6)
AAQ1	11° 8'3.26"N 77°25'21.82"E	-17	43	45.7	9.87	55.6
AAQ2	11° 8'23.44"N 77°25'15.90"E	-201	667	42.8	9.33	52.1
AAQ3	11° 9'31.21"N 77°24'30.82"E	-1576	2766	43.1	6.6	49.7
AAQ4	11° 5'52.79"N 77°26'24.43"E	1896	-3993	42.3	0	42.3
AAQ5	11° 9'58.51"N 77°28'12.67"E	5211	3609	47.9	4	51.9
AAQ6	11° 7'38.63"N 77°22'59.14"E	-4384	-717	47.9	0.56	48.5
AAQ7	11° 8'8.62"N 77°28'57.85"E	6589	208	45.1	8.41	53.5

TABLE 4.4: INCREMENTAL & RESULTANT GLC OF PM_{2.5}

Station Code	Location	X Coordin ate (m)	Y Coordinate (m)	Average Baseline PM _{2.5} (µg/m³)	Incremental value of PM2.5 due to mining (µg/m³)	Total PM _{2.5} (μg/m ³) (5+6)
AAQ1	11° 8'3.26"N 77°25'21.82"E	-17	43	22.8	4.79	27.6
AAQ2	11° 8'23.44"N 77°25'15.90"E	-201	667	20.1	4.27	24.3
AAQ3	11° 9'31.21"N 77°24'30.82"E	-1576	2766	21.0	2.84	23.8
AAQ4	11° 5'52.79"N 77°26'24.43"E	1896	-3993	21.0	0	21.0
AAQ5	11° 9'58.51"N 77°28'12.67"E	5211	3609	47.9	1.9	49.8
AAQ6	11° 7'38.63"N 77°22'59.14"E	-4384	-717	40.2	1.2	41.4
AAQ7	11° 8'8.62"N 77°28'57.85"E	6589	208	24.0	3.77	27.8

TABLE 4.5: INCREMENTAL & RESULTANT GLC OF SO2

Station Code	Location	X Coordinate (m)	Y Coordinate (m)	Average Baseline So ₂ (μg/m³)	Incremental value of So2 due to mining (µg/m³)	Total So ₂ (μg/m³) (5+6)
AAQ1	11° 8'3.26"N 77°25'21.82"E	-17	43	8.0	1.19	9.2
AAQ2	11° 8'23.44"N 77°25'15.90"E	-201	667	8.0	1.1	9.1
AAQ3	11° 9'31.21"N 77°24'30.82"E	-1576	2766	7.0	0.72	7.8
AAQ4	11° 5'52.79"N 77°26'24.43"E	1896	-3993	6.4	0	6.4
AAQ5	11° 9'58.51"N 77°28'12.67"E	5211	3609	7.6	0.21	7.8
AAQ6	11° 7'38.63"N 77°22'59.14"E	-4384	-717	6.1	0	6.1
AAQ7	11° 8'8.62"N 77°28'57.85"E	6589	208	7.4	1	8.4

TABLE 4.6: INCREMENTAL & RESULTANT GLC OF NOX

Station Code	Location	X Coordinate (m)	Y Coordinate (m)	Average Baseline Nox (μg/m³)	Incremental value of Nox due to mining (µg/m³)	Total Nox (μg/m³) (5+6)
AAQ1	11° 8'3.26"N 77°25'21.82"E	-17	43	24.9	7.85	32.8
AAQ2	11° 8'23.44"N 77°25'15.90"E	-201	667	25.3	7.21	32.5
AAQ3	11° 9'31.21"N 77°24'30.82"E	-1576	2766	25.9	0.44	26.3
AAQ4	11° 5'52.79"N 77°26'24.43"E	1896	-3993	25.6	0	25.6
AAQ5	11° 9'58.51"N 77°28'12.67"E	5211	3609	23.1	0	23.1
AAQ6	11° 7'38.63"N 77°22'59.14"E	-4384	-717	25.6	0	25.6
AAQ7	11° 8'8.62"N 77°28'57.85"E	6589	208	24.7	3.69	28.4

TABLE 4.7: INCREMENTAL & RESULTANT GLC OF FUGITIVE DUST

Station Code	Location	X Coordinate (m)	Y Coordinate (m)	Average Baseline Fugitive (μg/m³)	Incremental value of Fugitive due to mining (µg/m³)	Total Fugitive (μg/m³) (5+6)
AAQ1	11° 8'3.26"N 77°25'21.82"E	-17	43	62.02	19.9	81.9
AAQ2	11° 8'23.44"N 77°25'15.90"E	-201	667	62.07	19	81.1
AAQ3	11° 9'31.21"N 77°24'30.82"E	-1576	2766	63.05	0	63.0
AAQ4	11° 5'52.79"N 77°26'24.43"E	1896	-3993	67.90	0	67.9
AAQ5	11° 9'58.51"N 77°28'12.67"E	5211	3609	59.00	0	59.0
AAQ6	11° 7'38.63"N 77°22'59.14"E	-4384	-717	57.41	0	57.4
AAQ7	11° 8'8.62"N 77°28'57.85"E	6589	208	64.41	0	64.4

From the resultant of cumulative concentration i.e., Backgr

ound + Incremental Concentration of pollutant in all the receptor locations without effective mitigation measures are still within the prescribed NAAQ limits of 100, 80 & 80 μ g/m3 for PM10, SO2 & NOX respectively. By adopting suitable mitigation measures, the pollutant levels in the atmosphere can be further being controlled.

4.3.4. Common Mitigation Measures for Respective Individual Proposed Projects

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 -

- Establish time of blasting to suit the local conditions and water sprinkling on blasting face
- Avoid blasting i.e., when temperature inversion is likely to occur and strong wind blows towards residential
 areas
- Controlled blasting includes Adoption of suitable explosive charge and short delay detonators, adequate stemming of holes at collar zone and restricting blasting to a particular time of the day i.e., at the time lunch hours, controlled charge per hole as well as charge per round of hole
- Before loading of material water will be sprayed on blasted material
- Dust mask will be provided to the workers and their use will be strictly monitored

Haul Road & Transportation -

- Water will be sprinkled on haul roads 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.
- Water sprinkling on haul roads & loading points will be carried out twice a day.
- 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 roads 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 areas

Occupational Health

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

4.4 Noise Environment (Impact & Mitigation Measures)

Noise pollution is mainly due to operation like drilling & blasting 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 modelling has been carried out to assess the impact on surrounding ambient noise levels. Basic phenomenon of the model is the geometric attenuation of sound. 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:

Lp₁& Lp₂ are sound levels at points located at distances r₁& r₂ 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.

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

4.4.1 Anticipated Impact

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

- Source data
- Receptor data
- Attenuation factor

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

Noise Produced in dB(A) at 50 ft from source* Sl.No. Machinery / Activity Impact on Environment? Blasting Yes 94 Jack Hammer Yes 88 3 Compressor No 81 4 No 85 Excavator 5 84 Tipper No Total Noise Produced 95.8

TABLE 4.8: ACTIVITY AND NOISE LEVEL PRODUCED BY MACHINERY

Source: U.S. Department of Transportation (Federal Highway Administration) - Construction Noise Handbook

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

Location ID	N1	N2	N3	N4	N5	N6	N7
Maximum Monitored Value (Day) dB(A)	48.2	48.2	48.9	49.3	45.4	43.2	43.99
Incremental Value dB(A)	47.30	66.12	32.14	27.43	24.25	26.48	23.84
Total Predicted Noise level dB(A)	46.30	66.19	48.99	49.33	45.43	43.29	44.03
NAAQ Standards	Industrial Day Time- 75 dB (A)			dB (A)	Night Time- 70 dB (A)		
NAAQ Stalldards	Residential Day Time- 55 dB (A)				Night Time- 45 dB (A)		

4.4.2 Common Mitigation Measures for Respective Individual Proposed Projects

The following noise mitigation measures are proposed for control of Noise.

- Time intervals for each quarry during blasting.
- Use of personal protective devices i.e., earmuffs and earplugs by workers, who are working in high noise generating areas.
- Limiting time exposure of workers to excessive noise.
- Proper and regular maintenance of vehicles, machinery and other equipment's.
- The noise generated by the machinery will be reduced by proper lubrication of the machinery and other equipment's.
- Speed of trucks entering or leaving the quarry will be limited to moderate speed to prevent undue noise from empty vehicles...

^{*50} feet from source = 15.24 meters

- Noise levels will be controlled by using optimum explosive charge, proper delay detonators and proper stemming to prevent blow out of holes (occasionally).
- Providing proper noise proof enclosure for the workers separated from the noise source and noise prone equipment.
- Provision of Quiet areas, where employees can get relief from workplace noise.
- The development of green belts around the periphery of the quarry site to attenuate noise.
- Regular medical check-up and proper training to personnel to create awareness about adverse noise level
 effects.

4.4.3 Ground Vibrations

Ground vibrations due to the proposed mining activities 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 quarry is blasting. 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 Southwest in Morattupalayam village. 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

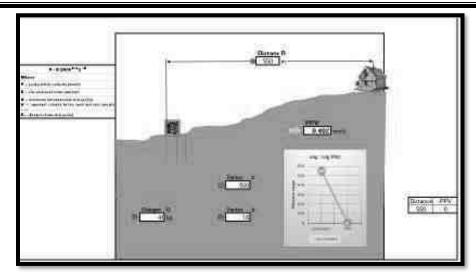
Q = maximum instantaneous charge (kg)

B = constant related to the rock and site (usually 1.6)

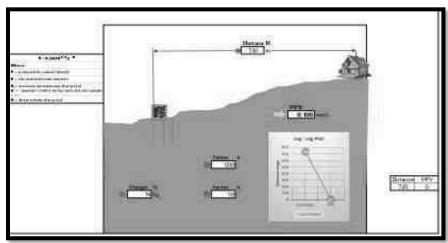
R = distance from charge (m)

TABLE 4.10: PREDICTED PPV VALUES DUE TO BLASTING

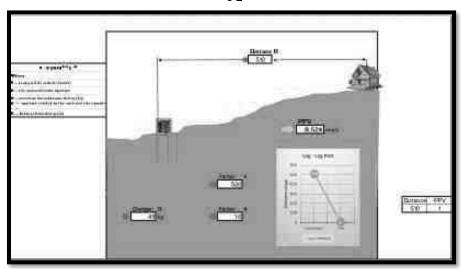
Location ID	Maximum Charge in kgs	Nearest Habitation in m	PPV in m/ms
P1	41	550m-SW	0.402
P2	14	730m-SW	0.108
P3	49	510m-NW	0.524



P1



P2



From the above, the charge per blast of Maximum 49Kg 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 28 Kg at any point of time. However, as per statutory requirement control measures will be adopted to avoid the impacts due to ground vibrations and fly rocks due to blasting.

4.4.3.1 Common Mitigation Measures for Respective Individual Proposed Projects

- The blasting operations in the cluster quarries are carried out without deep hole drilling and blasting using delay detonators, which reduces the ground vibrations;
- Proper quantity of explosive, suitable stemming materials and appropriate delay system will be adopted to avoid overcharging and for safe blasting;
- Adequate safe distance from blasting will 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 will 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.
- A set of shot firing rules will be drawn up and blasting shall commence outlining the detailed operating
 procedures that will be followed to ensure that shot firing operations on site take place without endangering
 the workforce or public.
- Sufficient angular stemming material will be used to confine the explosive force and minimise environmental disturbance caused by venting / misfire.
- The detonators will be connected in a predetermined sequence to ensure that only one charge is detonated at any one time and a NONEL or similar type initiation system will be used.
- The detonation delay sequence shall be designed so as to ensure that firing of the holes is in the direction of free faces so as to minimise vibration effects.
- Appropriate blasting techniques shall be adopted such that the predicted peak particle velocity shall not exceed 8 Hz.
- Vibration monitoring will be carried out every 6 months to check the efficacy of blasting practices

4.5 Ecology and Biodiversity

Environmental impact studies are required for systematic identification, qualification, and interpretation of the anticipated changes. The main environmental problems associated with mining activities are deforestation, land degradation (change in topography, soil erosion), visual intrusion, disturbance to the hydrological system, and water, air, and noise pollution which ultimately impact the floral and faunal status of the project area. However, the occurrence and magnitude of these impacts entirely depend on project location, mode of operation, and adoption of the latest technologies.

4.5.1. Impact Identification and Evaluation

In general, impact prediction methods argue that the foremost step in impact appraisal must consider and identify project actions that are likely to bring significant changes in the project environment. The present study determined to predict the likely impacts of the Proposed Rough and Gravel Quarry mining Project in the surrounding environment with a specific focus on biological attributes covering habitats/ecosystems and associated biodiversity. Likely impacts identified were categorized into different levels like direct or primary and indirect or secondary impacts based on the influence of sources of impacts. There is no National Park or Wildlife Sanctuary in the study area. In addition, No Biosphere Reserves, Wildlife corridors, or, Tiger / Elephant reserves within 10 km of the project area. No Schedule-I species were found in the buffer zone of the proposed project area during the biodiversity assessment.

4.5.2. Impact on Flora

The proposed mine lease exhibits plain topography and it is Patta land which is not fit for cultivation. It is mostly devoid of any considerable vegetation. The proposed mine lease area (core zone) does not encompass any designated forest land within it. The vegetation is very sparse and scanty. So, there will be no impact on flora from the mining operation. There will not be much contamination of soil or any other materials from the mining operation. No threatened plant species were reported in the core and buffer study area during the field survey.

4.5.2.1. Anticipated Impact on agricultural land associated with flora

- 1. There are no impacts on the nearby agricultural land due to this mining activity.
- 2. None of the plants will be cut during the operational phase of the mine.
- There shall be negligible air emissions or effluents from the project site. During the loading of the truck, dust generation will be likely. This shall be a temporary effect and not anticipated to affect the surrounding vegetation significantly.

Most of the land in the buffer area is undulating terrain with croplands, grass patches, and small shrubs. Hence, there will be no effect on the flora of the region.

4.5.3 Mitigation Measures

4.5.3.1. General Guidelines for Green Belt Development

In selecting plant species for green belt and plantation purposes in and around the proposed mine lease area native species, fruit-bearing trees, medicinal plants, and dense canopy trees should be selected. These species should be tolerant to pollution levels as per Bio- Geography zones of India.

After the operation of mining production capacity, Green belt, and Plantation species should be in accordance with the Terms and Conditions of the Environmental Clearance Green belt is created not only for the purpose of protecting sensitive areas or maintaining the ecological balance but because they also act as efficient biological filters or sinks for particulate and gaseous emissions, generated by vehicular movements and various industrial and mining activities.

Characteristic features of plants to be used for Absorption of pollutant gases

- Plant species should be perennial and evergreen with thick canopy cover.
- The crown of the tree (mass of foliage/leaves and branches growing outward from the trunk of the tree) should be either Oblong, Round or Spreading for effective absorption of pollutant gases.
- Plants should have foliage of longer duration.
- The foliage should be freely exposed through the adequate height of the crown, Openness of foliage/leaves in the canopy, and Big leaves (long and broad laminar surfaces).

The project site should have land to develop a greenbelt in and around the limits of the mine, along roads, and another vacant area. 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 through plantation services. To avoid dust emissions, the mined materials will be covered with tarpaulin during transportation.

S. No Scientific name		Tamil Name
1	Aegle marmelos	Vilva maram
2	Albizia lebbeck	Vaagai maram
3	Cassia fistula	Konrai tree
4	Lannea coromandelica	Othiyam
5	Limonia acidissima	Vila maram
6	Syzygium cumini	Naval maram

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

7	Toona ciliata	Santhana Vembu
8	Ficus hispida	Aththi maram
9	Borassus flabellifer	Panai-maram

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

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

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

4.5.4. Anticipated Impact on Fauna

- Since the terrestrial fauna in the study area is distributed away from the mine site, the impacts of the project are likely to be much low on the terrestrial fauna of the region. The proposed mining lease area is devoid of any significant vegetation, it is not suitable for permanent habitat for any specific wildlife.
- Habitat degradation and disturbance to the faunal group due to ground vibration and increase in noise level will be minimized or resolved by modern technologies. So, from the above facts, it is revealed that there will be no impact on fauna. No threatened fauna species were reported in the core and buffer study area.

4.5.4.1. Measures for protection and conservation of wildlife species

- Topsoil has a large number of seeds of native plant species in the mining area.
- Checks and controls the movement of vehicles in and out of the mine.
- Undertaking mitigative measures for a conducive environment for the flora and fauna in consultation with the Forest Department.
- Plantation around the mine area will help in creating habitats for small faunal species and create a better environment for various fauna. Creating and developing awareness for nature and wildlife in the adjoining villages.

4.5.5. Impact on Aquatic Biodiversity

Mining activities will not disturb the aquatic ecology as there is no effluent discharge proposed from the Rough Stone and Gravel quarry. There is no natural perennial surface water body within the mine lease area, like wetlands, rivers streams, lakes, and farmer sites. There is no impact on fish habitats and the food WEB/ food chain in the water body and Reservoir. There are a few seasonal water bodies located away from the proposed project site (10 km radius). Aquatic biodiversity is observed in the study area. Please refer the clause No.3.7. The project is not likely to affect the aquatic ecology.

Table No: 4.13. General Impacts vs. Mitigation Matrix

Particulars	Issues	Reason/Status in relation to	Reference/Method	Suggestions
		the mine site		

	Rare/ Endangered/	Not reported	Field observation, interviews of	Nil
	Threatened species		local people	
Species	Endemic Species	No endemic species of any	Field survey, Literature review	Nil
		flora, fauna or wildlife are		
		present in the study area.		
	Protected Areas	No National Park, Wildlife	ENVIS, Government of Tamil Nadu	Nil
		Sanctuary, Tiger reserve, and	protected area website, Google	
		Biosphere Reserve falls in the	Earth, Project Maps, etc.	
		10-km radius study area		
	Important Bird Areas	No Important Bird Areas are	ENVIS Centre on Wildlife &	Nil
		falling in the 10-km radius area	Protected Areas, Important Bird	
		for Migratory Bird Habitat	Area in India, IBA Book (Birdlife	
			International)	
	Ramsar site	No Ramsar sites present in the	Ramsar Web site	Nil
		surrounding area region		
	Wetlands of National	Nil	ENVIS Centre on Wildlife &	Nil
	Importance		Protected Areas, Wetlands directory	
			of Government of India	
	Wetlands of	Nil	Nil	Nil
	International			
	Importance			
	Wildlife Corridors	No Wildlife Corridor is falling	Protected Areas, Consultation with	Nil
Important		in 10 km radius project study	local naturalists & and authenticated	
Natural		area	location map.	
Habitats	Eco-sensitive zone	No Eco-sensitive zone is falling	ENVIS, Consultation with local	Nil
Haonais	identified by the	10 km radius project study area	naturalists & authenticated location	
	government	N. D. C	map	NTT 4 12
	Forest Areas	No Reserve forest is falling in	ENVIS, Government of Tamil Nadu	NIL, Applicant will
		10 km radius project study area	protected area website, Google	create the green belt
			Earth, Project Maps, etc.	plantation on the
				periphery of mine
	777 . 1 12	277		sites.
	Water bodies	Nil	Project Map and local maps, Google	Ensure minimum
			Earth	destruction during
	D 1: / /:	N. 1. 1. A	Title of Co. District	in operation phase.
	Breeding/nesting	No breeding/Nesting site are	Literature Survey Project Map and	NIL
	areas	falling in the study area	local maps, Google Earth	

TABLE 4.14: GREENBELT DEVELOPMENT PLAN

PROPOSAL – P1						
No. of trees proposed to be planted	Survial %	Area to be covered	Name of the species	No. of trees expected to be grown		
1130	80	Near 7.5m safety distance, panchayat road and village road	Neem, Pongamia Pinnata, Casuarina etc.,	904		
		PROPOSAL – P2	2			
No. of trees proposed to be planted	Survial %	Area to be covered sq.m	Name of the species	No. of trees expected to be grown		
350	80%	Near 7.5m safety distance, panchayat	Neem, Pongamia Pinnata, Casuarina etc.,	280		
	No. of trees proposed to be planted	to be planted % 1130 80 No. of trees proposed to be planted %	No. of trees proposed to be planted 1130 80 Near 7.5m safety distance, panchayat road and village road PROPOSAL – P2 No. of trees proposed to be planted 350 80% Near 7.5m safety distance panchayat road and village road PROPOSAL – P2 No. of trees proposed to be planted No. of trees proposed to be planted	No. of trees proposed to be planted No. of tree		

			road and village road				
	PROPOSAL – P3						
Year	No. of trees proposed	Survial	Area to be covered	Name of the species	No. of trees expected		
	to be planted	%	sq.m		to be grown		
I	1250	80%	Near 7.5m safety	Neem, Pongamia	1000		
			distance, panchayat	Pinnata, Casuarina			
			road and village	etc.,			
			road				

TABLE 4.15: BUDGET FOR GREEBELT DEVELOPMENT PLAN-P1

ACTIVITY			YEAR					AMOUNT
		I	II	III	IV	V	RATE	(INR)
Plantation under	Nos.	20	20	20	20	20		Rs.10,000/-
safety zone	Cost	2000	2000	2000	2000	2000		KS.10,000/-
Plantation cost in the	Nos.	40	40	40	40	40	@100 Rs	
quarried out top benches, approach road and panchayat road	Cost	4000	4000	4000	4000	4000	Per sapling	Rs.20,000/-
Wire Fencing (In Mt	rs) 480	1,44,000	-	-	-	ı	@300 Rs Per Meter	Rs.1,44,000/-
Garland drain (In M	trs) 400	1,20,000	-	-	-	-	@300 Rs Per Meter	Rs.1,20,000/-
		TOTA	L					Rs.2,94,000/-

TABLE 4.16: BUDGET FOR GREEBELT DEVELOPMENT PLAN-P2

ACTIVITY			YEAR					COST (Rs.)
		I	II	III	IV	V		
Plantation under safety	Nos.	20	20	20	20	20		10,000/-
zone	Cost	2000	2000	2000	2000	2000	(W100 KS	
Plantation in the approach road and nearby village	Nos.	20	20	20	20	20	Per sapling	10,000/-
road	Cost	2000	2000	2000	2000	2000		10,000/
Wire Fencing (In Mtrs) 320 Mtrs		96000	-	-	ı	-	@300 Rs Per Meter	96,000/-
Garland drain (In Mtrs) 250 Mtrs		75000	-	-		-	@300 Rs Per Meter	75,000/-
TOTAL								1,91,000/-

TABLE 4.17: BUDGET FOR GREEBELT DEVELOPMENT PLAN-P3

ACTIVITY		YEARS				DATE	COST	
ACTIVITY	ACTIVITY		II	III	IV	V	RATE	(Rs.)
Plantation under safety	Nos.	30	30	30	30	30		20.000/
zone	Cost	6000	6000	6000	6000	6000		30,000/-
Plantation in the quarried	Nos.	-	-	-	75	75	0000 B	20.000/
out top benches	Cost	-	-	-	15000	15000	@200 Rs	30,000/-
Plantation in the approach road and nearby	Nos.	100	-	-	-	-	Per sapling	20,000/-
village road	Cost	20000	-	=	-	-		

Wire Fencing (In Mtrs) 450 Mtrs	135000	@300 Rs	1,35,000/-
Garland Drain (In Mtrs) 300 Mtrs	90000	Per Meter	90,000/-
TOTAL			3,05,000/-

After complete extraction of mineral, the excavated pits will be allowed to collect rainwater and seepage water to serve as a reservoir to charge the nearby wells. Fish culture will also be attempted. A bund will be constructed around the pits. In order to minimize the impact of mining on the vegetation outside the mine lease area, it is recommended that adequate protection measures must be implemented. As mining involves movement of vehicles and increased anthropogenic activities, some of the areas can be fenced by involving local people and educating them about increased benefits of such activities.

4.6 Socio Economic

4.6.1 Anticipated Impact from all Proposed Projects

- Dust generation from mining activity can have negative impact on the health of the workers and people in the nearby area.
- Approach roads can be damaged by the movement of tippers
- Increase in Employment opportunities both direct and indirect thereby increasing economic status of people of the region

4.6.2 Common Mitigation Measures for Respective Individual Proposed Projects

- Good maintenance practices will be adopted for all 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

4.7 Occupational Health and Safety

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

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

4.7.1 Respiratory Hazards

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

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

4.7.2 Noise

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

• 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

- 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)
- Ear muffs provided will be capable of reducing sound levels at the ear to at least 85 dB(A)
- Periodic medical hearing checks will be performed on workers exposed to high noise levels

4.7.3 Physical Hazards

The following measures are proposed for control of physical hazards

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

4.7.4 Occupational Health Survey

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

- General physical tests
- Audiometric tests
- Full chest, X-ray, Lung function tests, Spirometric tests
- Periodic medical examination yearly
- Lung function 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 Mine Waste Management

No waste is anticipated from any of the proposed quarries.

4.9 Mine Closure

Mine closure plan is the most important environmental requirement in 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. Therefore, progressive mine closure plan should be specifically dealt with in the mining plan and is to be reviewed along with mining plan. As progressive mine closure is a continuous series of activities, it is obvious that the proposals of scientific mining have included most of the activities to be included in the closure plan. While formulating the closure objectives for the site, it is important to consider the existing or the pre-mining land use of the site; and how the operation will affect this activity.

The primary aim is to ensure that the following broad objectives along with the abandonment of the mine can be successfully achieved:

- 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 quant ity, 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 revegetation, 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 mining 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.

CHAPTER – 5: ANALYSIS OF ALTERNATIVES (TECHNOLOGY AND SITE)

5.0 Introduction:

Consideration of alternatives to a project proposal is a requirement of EIA process. This quarry is site specific. The site has been selected based on geological investigation and exploration and from the Existing quarry pits around the project site. Drilling, Blasting, Excavation, Loading & Transportation will be carried out in this quarrying operation.

- This area denotes the indicative of flow pattern of the rock mass in N30°E to S30°W with dipping SE60°.
- 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 major construction for infrastructure is not required and hence does not affect the environment considerably.

5.1 Factors Behind the Selection of Project Site

Rough Stone and Gravel Cluster Quarry Projects at Morattupalayam Village are a site specific. The proposed mining lease area has following advantages: -

- The mineral deposit occurs in a non-forest area.
- There is no habitation within the project area; hence no R & R issues exist.
- There is no river, stream, nallah and water bodies in the applied mine lease area.
- Availability of skilled, semi-skilled and unskilled workers in this region.
- All the basic amenities such as medical, fire fighting, education, transportation, communication and infrastructural facilities are well connected and accessible.
- The mining operations will not intersect the ground water level. Hence, no impact on ground water environment.
- Study area falls in seismic zone III, there is no major history of landslides, earthquake, subsidence etc., recorded in the past history.

5.2 Analysis of Alternative Site

The mineral deposits are site specific in nature; hence, question of seeking alternate site does not arise for this project.

5.3 Factors Behind Selection of Proposed Technology

Mechanized open cast mining operation with drilling and blasting method will be used to extract Rough Stone and Gravel in the area. The quarry areas fall in the clusters has following advantages –

- As the mineral deposition is homogeneous and batholith formation, therefore opencast method of working out deposit is preferred over underground method.
- The material will be loaded after sprinkling with water with the help of excavators into dumpers / trippers and transported to the needy customers.
- Blasting and availability of drills along with controlled blasting technology gives desired fragmentation so
 that the mineral is handled safely and used without secondary blasting.

Semi skilled labours fit for quarrying operations are easily available around the nearby villages.

5.4 Analysis of Alternative Technology

Open cast mechanized method has been selected for this project. This technology is having least gestation period, economically viable, safest and less labour intensive. The method has inbuilt flexibility for increasing or decreasing the production as per market condition.

CHAPTER – 6: ENVIRONMENTAL MONITORING PROGRAMME

6.0 General

Environmental Monitoring will be taken up for various environmental components as per conditions stipulated in Environmental Clearance Letter issued by MoEF & Consent to Operate issued by the State Pollution Control Board. Monitoring reports will be submitted to regulator as per statutory requirements. The entire monitoring work will be carried out by MoEF & CC / NABL recognized laboratories.

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.

6.1 Methodology of Monitoring Mechanism

Implementation of EMP and periodic monitoring will be carried out by the proponents and respective quarry owners in the cluster quarries. A comprehensive monitoring mechanism has been devised for monitoring of impacts due to proposed project; Mine Management Level environmental protection measures like dust suppression, treatment and recycling of waste water, control of noise due to blasting and Ground vibration, maintenance of machinery and vehicles, housekeeping in the mine premises, plantation, implementation of other hand, implementation of area level protection measures like plantation and green Environmental Management Plan and environmental clearance conditions will be monitored by the proponent. On the belt development, environmental quality monitoring etc.,An environment monitoring cell (EMC) will be constituted at the quarry consisting of following members to monitor the implementation of EMP and other environmental protection measures.

HEAD OF ORGANIZATION

Project Proponent (P1-P2-P3)

MINE MANAGEMENT LEVEL

Mines Manager

Empanelled Consultant / External Laboratory

Mining Mate

Site Supervisor

Environment Officer

Assistant

Gardner

Water Sprinkler

FIGURE 6.1 ENVIRONMENTAL MONITORING CELL

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. 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 monthly, half-yearly and yearly. The half-yearly reports will be submitted to Ministry of Environment and Forest, Regional Office and SEIAA as well.

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

6.2 Implementation Schedule of Mitigation Measures

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

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

TABLE 6.1 IMPLEMENTATION SCHEDULE

6.3 Monitoring Schedule and Frequency

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: PROPOSED MONITORING SCHEDULE POST EC FOR P1 TO P2

S.	Environment Location		Mor	nitoring	Parameters
No.	Attributes	Duration		Frequency	
1	Air Quality	2 Locations (1 Core & 1 Buffer)	24 hours	Once in 6 months	Fugitive Dust, $PM_{2.5}$, PM_{10} , SO_2 and NO_x .
2	Meteorology	At mine site before start of Air Quality Monitoring & IMD Secondary Data	Hourly / Daily	Continuous online monitoring	Wind speed, Wind direction, Temperature, Relative humidity and Rainfall
3	Water Quality Monitoring	2 Locations (1SW & 1 GW)	-	Once in 6 months	Parameters specified under IS:10500, 1993 & CPCB Norms
4	Hydrology	Water level in open wells in buffer zone around 1 km at specific wells	-	Once in 6 months	Depth in bgl
5	Noise	2 Locations (1 Core & 1 Buffer)	Hourly – 1 Day	Once in 6 months	Leq, Lmax, Lmin, Leq Day & Leq Night
6	Vibration	At the nearest habitation (in case of reporting)	-	During blasting Operation	Peak Particle Velocity
7	Soil	2 Locations (1 Core & 1 Buffer)	_	Once in six months	Physical and Chemical Characteristics
8	Greenbelt	Within the Project Area	Daily	Monthly	Maintenance

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

6.4 Environmental Policy of the Proponents

The project proponents in the proposed quarries are committed to ensure that:

- Protect the environment by control and prevention of pollution and promote green environment.
- To operate the quarry with an objective of no injuries and accidents at the work place and provide a safe work place for our employees, contractors and others who perform their duties.
- Adequate health care will be taken to all the employees and create process to reduce the adverse effect of the operations on Health of the employees.
- Provide safety appliance and continuous training in safety to employees to ensure safe production and achieve the target of zero accidents.
- Develop safe working methods and practices, remove unsafe work conditions and consider all the aspects at the early stages of process development to provide safe working atmosphere.
- Communicate Safety, Health and Environmental Policy to all employees for better understanding and practice.

6.5 Budgetary Provision for Environmental Monitoring Programme

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 total cost for Environmental Monitoring Programme for two proposed quarries in cluster for the mining plan period is Rs 7,60,000/-

TABLE 6.3 ENVIRONMENT MONITORING BUDGET P1-P2-P3

Parameter	Sl. Nos	Capital Cost
Air Quality, Meteorology, Water	P1	Rs.3,80,000/-
Quality, Hydrology, Soil Quality	P2	Rs.3,80,000/-
Noise Quality, Vibration Study Greenbelt	Р3	Rs.3,80,000/-
	Total	Rs. 11,40,000/-

Source: Approved Mining Plan

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 proponent with Environmental Monitoring cell and necessary corrective measures will be carried out. 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
- SEIAA, Chennai, Tamil Nadu

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

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

CHAPTER – 7: ADDITIONAL STUDIES

7.0 General

The following Additional Studies were done as per items identified by project proponent and items identified by regulatory authority. 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

7.1. Public Consultation:

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

7.2 Risk Assessment

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

The cluster 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

TABLE 7.1 RISK ASSESSMENT & CONTROL MEASURES

detailed analysis of causes and control measures for the mine is given in below Table 7.1.

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 's guidelines.
2	Drilling& Blasting	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. Drilling 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 as per operator manual. All drills unit shall be provided with wet drilling shall be maintained in efficient working in condition. Operator shall regularly use all the personal protective equipment.
3	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)
4	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
5	Natural calamities	Unexpected happenings	 Escape Routes will be provided to prevent inundation of storm water Fire Extinguishers & Sand Buckets
6	Failure of Mine Benches and Pit Slope	Slope geometry, Geological structure	 Ultimate or over all pit slope shall be below 60° and each bench height shall be 5m height.

7.3 Disaster Management Plan

Natural disasters like Earthquake, Land slides has not been recorded in the past history as the terrain is categorized under seismic zone III. The area is far away from the sea hence the disaster due to heavy floods and tsunamis are not anticipated. 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:

- 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.

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.

FIRE-FIGHTING TEAM

RESCUE TEAM

SUPPORT TEAM

FIGURE 7.1: DISASTER MANAGEMENT TEAM LAYOUT FOR P1,P2,P3

The emergency organization shall be headed by emergency coordinator who will be qualified competent 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-FIGHTI	NG TEAM	
Team Leader/ Emergency Coordinator (EC)	Mines Manager	
Team Member	Mines Foreman	

Team Member	Mining Mate	
RESCUE 7	ГЕАМ	
Team Leader/ Emergency Coordinator (EC)	Mines Manager	
Team Member/ Incident Controller (IC)	Environment Officer	
Team Member	Mining Foreman	
SUPPORT	TEAM	
Team Leader/ Emergency Coordinator (EC)	Mines Manager	
Assistant Team Leader	Environment Officer	
Team Member	Mining Mate	
Security Team Leader/ Emergency Security Controller	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

(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 is proposed at strategic locations within the quarry.

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	

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
- Fire fighting and first-aid provisions in the mines office complex and mining area will be 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 the quarry in phase manner
- Cleaning of mine faces will be carried out regularly
- Provision of high-capacity standby pumps with generator sets with enough quantity of diesel for emergency pumping especially during monsoon.
- A blasting SIREN will be used at the time of blasting for audio signal.
- Checking of blasting area for any un-blasted hole or material.
- Warning notice boards indicating the time of blasting and NOT TO TRESPASS will be displayed at prominent places

7.4 CUMULATIVE IMPACT STUDY

There are Six (6) proposed and five (5) existing quarries, 4 abandoned & expired quarry falls in the cluster. The list of quarries is as below –

TABLE 7.3: LIST OF QUARRIES WITHIN 500 METER RADIUS FROM THIS PROPOSAL

		*PROPOSED QUARRIE	ES	
CODE	Name of the Proponent and Address	S.F. Nos & Village	Extent in Ha	Status
P1	Tmt.V.Revathi	209/1A(P), 209/1B(P) & 209/2 (P) Morattupalayam Village,	2.25.5 На	Obtained ToR vide, Lr No.SEIAA- TN/F.No.9731/2023/SEAC/ToR- 1566/2023 Dated: 20.09.2023.
P2	Thiru.U.Prabhakaran	389/1C2, Morattupalayam Village,	0.68.8 На	Obtained ToR vide, Lr No.SEIAA- TN/F.No.8614/SEAC/ToR-1019/ 2021 Dated: 23.08.2021
Р3	Thiru.S.Rajasekar	382/2A (P), Morattupalayam Village	2.48.50На	Obtained ToR vide, Lr No. SEIAA- TN/F.No.10781/ToR No: TO24B0108TN5560449N Dated: 03.06.2024
P4	Thiru.N.Ayyadurai	392(Part)	0.99.50Ha	Under process
P5	Thiru.M.Thangaraj	383/2B2, Morattupalayam Village	0.84.5 Ha	EC Granted
	Tota		7.26.8 Ha	
		*EXISTING QUARRIE		
CODE	Name of the Proponent and Address	S.F.Nos , Village & Taluk	Extent in Ha	Lease Period
E-1	Thiru.N. Chithambaram	209/1A (P), Morattupalayam Village	0.79.0	20.06.2022 to 19.06.2027
E-2	Thiru.N. Ayyadurai	392 (P), Morattupalayam Village	2.02.5	28.09.2018 to 27.09.2023
E-3	Thiru.T.S. Udhayakumar	388 (P-A), Morattupalayam Village	1.26.5	06.04.2018 to 05.04.2023
E-4	Thiru.S. Raju	388 (P) (Bit-B) (Old pit B & C) Morattupalayam Village	1.58.0	09.04.2018 to 08.04.2023
E-5	Thiru. K.Senthilkumar	383/1, 383/2A2A1, Morattupalayam Village,	0.71.5 Ha	13.04.2023 to 12.04.2028
E-6	Thiru.Thangamuthusamy	383/2A1, 382/2B, Morattupalayam Village	2.63.0 Ha	12.04.2023 to 11.04.2028
E-7	Thiru.T.Thangaraj	383/2A2B, 383/2A 2A2A2 Morattupalayam Village	1.88.72 Ha	09.11.2022 to 08.11.2027
E-8	Thiru.M.Thangaraju	389/1B1A,1B1B,1B2	2.19.50 Ha	09.11.2022 to 08.11.2027
E-9	Thiru,M.Devaraj	389/1A	1.29.0 Ha	25.08.2022 to 24.08.2027
		Total	14.37.72На	
	Name of the Proponent and	ABANDONED/EXPIRED QU	Extent in	
CODE	Address	S.F. Nos, Village & Taluk	Ha Ha	Lease Period
A-1	Thiru.N. Ayyadurai	392 (P), Morattupalayam Village	3.52.0	23.09.2016 to 22.09.2021
A-2	Thiru.A.A. Kumaresan	377/1, Morattupalayam Village	2.10.5	21.09.2016 to 20.09.2021
A-4	Thiru.M. Palanisamy	385/2(P), Morattupalayam Village	0.59.5	21.01.2016 to 20.01.2021 Lease expired
Total			6.22.0На	
	*TOTAL CLUSTER F	EXTENT	21.64.52 Ha	
Note:-				

Note:-

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

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

TABLE 7.4: SALIENT FEATURES OF THE PROPOSED PROJECTS IN CLUSTER

SALIENT FEATURES OF PROPOSAL "P1"			
Name of the Mine Tmt.V. Revathi, Rough Stone & Gravel Quarry Project			
Land type & details	It is a Patta land classified as punjai (Barren land) It is a Patta land, S.F.No. 209/1A (P) is registered in the name of Thiru.K. Krishnasamy, Thiru.N. Chidambaram & Thiru.M. Vijayakumar, S.F.No. 209/1B (P) is registered in the name of K. Krishnasamy & Thiru.M. Vijayakumar, S.F.No. 209/2 (P) is registered in the name of K. Krishnasamy & Thiru.M. Vijayakumar. The applicant has obtained consent from the pattadhar.		
Previous Land Ownership details	It is a fresh lease application. But The quarry lease was previously granted in the favour of Thiru.P.K. Krishnasamy & Thiru.K. Muthusamy, over an extent of 2.25.5 hectares, obtained Environmental Clearance from the State Level Environment Impact Assessment Authority vide Letter No. SEIAA-TN/F.No.5470/1(a)/EC. No:3292/2016 Dated:11.07.2016. The applicant has applied a quarry lease on 28.06.2022, over an extent of 2.25.5 hectares of Patta lands in S.F.Nos.209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District for the period of five years.		
S.F. Nos	209/1A(P), 209/1B(P)	& 209/2 (P)	
Extent	2.25.5 Ha	l	
Maximum dimension of the existing			
quarry pit	Pit II: 140m (L) x 93m		
Geological Reserves	Rough Stone 3,26,788m ³	Gravel 7,820m ³	
Mineable Reserves	Rough Stone 1,41,283m ³	Gravel 4,860m³	
Proposed Quantity of	1,41,283m ³	4,860m ³	
Reserves/Production for mining Period	1,41,265111	4,000111	
Mining Plan Period / Lease Period	5 Years		
Ultimate Pit Dimension	121m (L) x 169m (W) x 30m (D) Max		
Proposed Depth of mining	30m (2m Gravel + 28m Rough Stone) Bgl.		
Toposheet No	58 E/08		
Latitude	11°08'18.54"N to 11°08'23.95"N		
Longitude	77°25'10.51"E to 77°25'16.84"E		
Elevation	276m Amsl.		
Water table depth	The Ground water occurrence in this area is 70-65m depth below the ground level.		
Previous TNPCB Pollution certificate copy of letter	Proceedings no F.0181PN/RS/DEE/TNPCB/TPN/W/2016 dated 04.08.2016		
Explosive certificate	Sri Selvanayagiamman Explosives E/SC/TN/22/339(E10241)		
Previous obtained Environmental Clearance	SEIAA-TN/F.No.5470/1(a)/EC. No:3292/2016 Dated:11.07.2016.		
DFO Letter by AD -Anamalai Tiger Reserved, Tiruppur Forest Zone,	No 13382/2022 dated 20.12.2022		
· · · · · · · · · · · · · · · · · · ·	Jack Hammer	4	
	Compressor	1	
Machinery proposed	Excavator with Bucket and Rock		
, i i	Breaker	1	
		1	
	Tipper	1	

Morattupalayam Rough Stone and Gravel Cluste	r Quarries	Cnapter - /	
Water requirement & source	Total water requirement for 1.5KLD from from existing, bore wells and drinking water will be sourced from Approved water vendors.		
Manpower Deployment	18 Nos		
	Operational Cost	Rs. 46,74,000/-	
Total Project Cost	EMP Cost	Rs. 3,80,000/-	
	Total	Rs. 50,54,000/-	
CER cost	Rs.5,00,000		
Nearest Habitation	550m-SW		
SALIENT	FEATURES OF PROPOSAL "P2"		
Name of the Mine	Thiru.U. Prabhakaran, Rough Stone & Gravel Quarry Project		
Land type & details	It is a Patta land. Registered in the nam		
	(Thiru.U.Prabhakaran), vide Patta No.		
Previous Land Ownership details	It is a fresh lease application.		
	Udhayakumar, over an extent of 0.8		
	S.F.No.389/1C of Morattupalayam		
	Tiruppur District vide Rc.No.195/Min for five years.	nes/2014, Dated: 23.05.2015	
	The applicant has once again applied a	a quarry lease on 31.03.2021.	
	over an extent of 0.68.8hectares of Pat		
	Morattupalayam Village, Uthukuli Ta		
	period of five years.	, 11	
S.F. Nos	389/1C2		
Extent	0.68.8 Ha	l .	
Maximum dimension of the existing quarry pit	Pit1: 94m (L) x 42m (W) x 11m Bgl (D)		
Geological Reserves	Rough Stone	Gravel	
Geological Reserves	1,66,730m ³	$288m^3$	
Mineable Reserves	Rough Stone	Gravel	
	48,125m ³	-	
Proposed Quantity of Reserves /Production for mining Period	48,125m ³	-	
Mining Plan Period / Lease Period	5 Years		
Ultimate Pit Dimension	94m (L) x 42m (W) x 36	m Bgl (D) Max	
Proposed Depth of mining	36m (1m Gravel + 35m Rough stone) below ground level		
Toposheet No	58 E/08		
Latitude	11°07'59.75"N to 11°08'03.55"N		
Longitude	77°25'21.19"E to 77°25'23.61"E		
Elevation	260m Amsl.		
Water table depth	The Ground water occurrence in this area is 78-73m depth below		
D 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	the ground level.		
Previous Pollution certificate copy of	Proceedings no F.0181TPN/RS/DEE/TNPCB/TPN/W/2016 dated		
letter Explosive certificate	04.08.2016		
Previous obtained Environmental	Sri Selvanayagiamman Explosives E/SC/TN/22/339(E10241)		
Clearance Clearance	SEIAA-TN/F.No.3021/EC/1(a)/ No:2158/2014 Dated:01.04.2015.		
	Jack Hammer	2	
	Compressor	1	
Machinery proposed	Excavator with Bucket and Rock	1	
	Breaker		
71	Tipper	1	
Blasting	Usage of Slurry Explosive with MSD detonators		
Water requirement & source	Total water requirement for 2.0KLD from from existing, bore wells		
Mannayar Danlaymant	and drinking water will be sourced from Approved water vendors. 14 Nos		
Manpower Deployment		D ₀ 21.01.000/	
Total Project Cost	Operational Cost EMP Cost	Rs. 21,01,000/- Rs. 3,80,000/-	
Total Project Cost	Total	Rs. 3,80,000/- Rs. 24,81,000/-	
	างเลเ	NS. 24,01,000/-	

CER cost	Rs.5,00,000/-	
Nearest Habitation	730m-SW	
Source: Approved Mining Plan of the respective proposals		

Source: Approved Mining Plan of the respective proposals

Source: Approved Mining Plan of the respective proposals				
	SALIENT FEATURES OF PROPOSAL "P3"			
Name of the Mine	Thiru.S.Rajasekar Rough Stone & Gravel Quarry Project			
Land type & details	It is a Patta land. Jointly Registered in the name of the applicant (Thiru. S. Rajasekar), Tmt.R.Palaniyammal, Thiru.R.Hariprasath, Thiru.R.Harisankar and Thiru.K.Thirumoorthi, vide Patta No. 421.			
Previous Land Ownership details		the applied area has been considered		
Previous Environmental clearance	Lr.No.DEIAA-TPR/F.No.358/1(V	III)/2018, Dated:14.08.2018		
DFO Letter No	O.M.No:13737/2022/F. Dated: 04.			
S.F. Nos		ZA (P),		
Extent	2.4	8.5 Ha		
	Rough Stone	Gravel		
Geological Reserves	4,10,685m ³	9,166m³		
Mineable Reserves	Rough Stone	Gravel		
	1,63,614m³	6,052		
Proposed Quantity of Reserves /Production for mining Period	1,63,614m ³	6,052		
Mining Plan Period / Lease Period	5 Years			
Ultimate Pit Dimension	Pit1: 65m (L) x 115m (W) x 37m Bgl (D) PitII: 163m (L) x 87m (W) x 37m Bgl (D)			
Existing Pit Dimension		(D) below from the existing ground		
	profile Pit:1 35m (L) x 115m (W) x 22m(D) below from the existing ground profile			
Proposed Depth of mining	37m (2m Gravel + 35m Ro	ugh stone) below ground level		
Existing depth	22m (1	Max) Bgl.		
Toposheet No	58	E/08		
Latitude		to 11°08'20.17"N		
Longitude		to 77°25'19.13"E		
Elevation		n Amsl.		
Water table depth	groui	n this area is 68m depth below the nd level.		
Explosive certificate	•	I/22/66 (E-10217), dated:04.08.2023		
	Jack Hammer	5		
	Compressor	1		
Machinery proposed	Excavator with Bucket and Rock Breaker	1		
	Tipper	3		
Blasting		sive with MSD detonators		
Water requirement & source	Total water requirement for 2.0KLD from from existing, bore wells and drinking water will be sourced from Approved water vendors.			
Manpower Deployment	23 Nos			
	Operational Cost	Rs.57,89,000/-		
Total Project Cost	EMP Cost	Rs.3,80,000/-		
10.001110,000 0000	Total Project cost	Rs.61,69,000/-		
CER cost	Dos	00 000/-		
Nearest Habitation	Rs.5,00,000/- 510m-NW			
RF area distance	Chennimalai R.F – 14.39 Km – NE			
Tratea distance Cheminimatal K.F. – 14.37 Kiii – NE				

Worallupalayam Rough Stone and Gravei	Cluster Quarries	Cnapter - /		
Wildlife distance	 Vellode Bird Sanctuary – 27.0 km – NE Anamalai Tiger Reserve – 77.7 km – SW 			
Archaeological places/ Dams/	naeological places/ Dams/ Vodumenal Archaeological Everysticn 11.5 km South Foot			
Reservoirs				
Source: Approved Mining Plan of the respective proposals				
	ENT FEATURES OF PROPOSAL "			
Name of the Mine	Thiru.M. Thangaraj, Rough S			
Land type & details	It is a Patta land. Registered in the (Thiru.M.Thangaraj), vide Patta	No.655		
Previous Land Ownership details	It is a fresh lease application. But favour of Thiru.M.P Marimuthu, over an extent of 2.76.0 hectares of Patta land in S.F.No.383/2B & 389/1B2 of Morattupalayam Village, Perundurai Taluk, Erode District vide Rc.No.3476/2000/XIMines Dated: 04.08.2000 for five years.(04.08.2000 to 03.08.2005) Now Applicant has apply a quarry lease on 25.04.2019.			
S.F. Nos	383/			
Extent	0.84.	5 Ha		
Maximum dimension of the existing quarry pit	Pitt: 130m (L) x 32m			
Geological Reserves	Rough Stone	Gravel		
Geological Reserves	1,90,906m ³	3,976m ³		
Mineable Reserves	Rough Stone	Gravel		
	37,931m ³	640m ³		
Proposed Quantity of Reserved /Production for mining Period	37,931m ³	640m ³		
Mining Plan Period / Lease Period	5 Ye			
Ultimate Pit Dimension	94m (L) x 42m (W) x 36m Bgl (D) Max			
Proposed Depth of mining	31m (1m Gravel + 30m Roug	gh stone) below ground level		
Toposheet No	58 F	58 E/08		
Latitude	11°08'00.42"N to	o 11°08'03.16"N		
Longitude	77°25'09.31"E to	o 77°25'15.38"E		
Elevation	265m	Amsl.		
Water table depth	The Ground water occurrence in the ground	-		
	Jack Hammer	2		
	Compressor	1		
Machinery proposed	Excavator with Bucket and Rock			
• 1	Breaker	1		
	Tipper	2		
Blasting	Usage of Slurry Explosiv	we with MSD detonators		
Manpower Deployment	15 1	Nos		
	Operational Cost	Rs. 19,12,000/-		
Total Project Cost	EMP Cost	Rs. 3,80,000/-		
	Total	Rs. 22,92,000/-		
CER cost	Rs.5,00,000/-			
Nearest Habitation	750m-W			
SALIENT FEATURES OF PROPOSAL "E1"				
Name of the Mine	Thiru.N. Chidambaram, Rough	1 Stone & Gravel Quarry Project		
Land type & details	It is a Patta land. Registered in the name of the applicant (Thiru.N.Chidambaram,), Krishnasamy and Muthusamy vide Patta No.273 consent from joint pattadhars.			
Previous Land Ownership details	It is a fresh lease application.			
S.F. Nos	209/1A(P)			
Extent	0.79.0 Ha			
Maximum dimension of the existing quarry pit				
·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		

C 1 : 1D	Rough Stone	Gravel
Geological Reserves	2,37,000m ³	15,800m ³
M' 11 D	Rough Stone	Gravel
Mineable Reserves	61,850m ³	10,384m³
Proposed Quantity of Reserves /Production for mining Period	61,850m³	10,384m ³
Mining Plan Period / Lease Period	5 Ye	ars
Ultimate Pit Dimension	94m (L) x 42m (W) 2	x 36m Bgl (D) Max
Proposed Depth of mining	32m below g	round level
Toposheet No	58 E	/08
Latitude	11°08'23.65"N to	
Longitude	77°25'10.44"E to	
Elevation	278m A	
Water table depth	The Ground water occurrence in the ground	-
	Jack Hammer	3
	Compressor	1
Machinery proposed	Excavator with Bucket and Rock Breaker	1
	Tipper	1
Blasting	Usage of Slurry Explosiv	
Manpower Deployment	15 N	
	Operational Cost	Rs. 18,50,700/-
Total Project Cost	EMP Cost	Rs. 3,80,000/-
	Total	Rs. 22,30,700/-
CER cost	Rs.5,00	
Nearest Habitation	320m	
	NT FEATURES OF PROPOSAL "I	
Name of the Mine	Thiru.N. Ayyadurai, Roug	
	It is a Datta land Danistanad in the	anna of the annlicent (This N
Land type & details	It is a Patta land. Registered in the a Ayyadurai & Thiru.N. Thangaraj)	
Previous Land Ownership details	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation.	, vide Patta No.43.
Previous Land Ownership details S.F. Nos	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation. 392	, vide Patta No.43.
Previous Land Ownership details S.F. Nos Extent	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation.	, vide Patta No.43.
Previous Land Ownership details S.F. Nos Extent Maximum dimension of the existing quarry pit	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation. 392 2.02.5 Pit1: 126m (L) x 94m	(P) 5 Ha 1 (W) x 22m Bgl (D)
Previous Land Ownership details S.F. Nos Extent Maximum dimension of the existing	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation. 392 2.02.5 Pit1: 126m (L) x 94m Pit1: 60m (L) x 30m	(P) 5 Ha (W) x 22m Bgl (D) (W) x 6m Bgl (D)
Previous Land Ownership details S.F. Nos Extent Maximum dimension of the existing quarry pit Gravel Dump Dimension	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation. 392 2.02.5 Pit1: 126m (L) x 94m Pit1: 60m (L) x 30m Rough Stone	(P) 5 Ha (W) x 22m Bgl (D) (W) x 6m Bgl (D) Gravel
Previous Land Ownership details S.F. Nos Extent Maximum dimension of the existing quarry pit	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation. 392 2.02.5 Pit1: 126m (L) x 94m Pit1: 60m (L) x 30m Rough Stone 6,93,735m ³	(P) 5 Ha (W) x 22m Bgl (D) (W) x 6m Bgl (D) Gravel 39,642m ³
Previous Land Ownership details S.F. Nos Extent Maximum dimension of the existing quarry pit Gravel Dump Dimension	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation. 392 2.02.5 Pit1: 126m (L) x 94m Pit1: 60m (L) x 30m Rough Stone 6,93,735m³ Rough Stone	(P) 5 Ha (W) x 22m Bgl (D) (W) x 6m Bgl (D) Gravel
Previous Land Ownership details S.F. Nos Extent Maximum dimension of the existing quarry pit Gravel Dump Dimension Geological Reserves Mineable Reserves Proposed Quantity of Reserves	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation. 392 2.02.5 Pit1: 126m (L) x 94m Pit1: 60m (L) x 30m Rough Stone 6,93,735m ³	(P) 5 Ha (W) x 22m Bgl (D) (W) x 6m Bgl (D) Gravel 39,642m ³
Previous Land Ownership details S.F. Nos Extent Maximum dimension of the existing quarry pit Gravel Dump Dimension Geological Reserves Mineable Reserves Proposed Quantity of Reserves /Production for mining Period	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation. 392 2.02.5 Pit1: 126m (L) x 94m Pit1: 60m (L) x 30m Rough Stone 6,93,735m³ Rough Stone 90,000m³ 90,000m³	(P) 5 Ha (W) x 22m Bgl (D) (W) x 6m Bgl (D) Gravel 39,642m³ Gravel -
Previous Land Ownership details S.F. Nos Extent Maximum dimension of the existing quarry pit Gravel Dump Dimension Geological Reserves Mineable Reserves Proposed Quantity of Reserves /Production for mining Period Mining Plan Period / Lease Period	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation. 392 2.02.5 Pit1: 126m (L) x 94m Pit1: 60m (L) x 30m Rough Stone 6,93,735m³ Rough Stone 90,000m³ 90,000m³	(P) 5 Ha (W) x 22m Bgl (D) (W) x 6m Bgl (D) Gravel 39,642m³ Gravel
Previous Land Ownership details S.F. Nos Extent Maximum dimension of the existing quarry pit Gravel Dump Dimension Geological Reserves Mineable Reserves Proposed Quantity of Reserves /Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation. 392 2.02.5 Pit1: 126m (L) x 94m Pit1: 60m (L) x 30m Rough Stone 6,93,735m³ Rough Stone 90,000m³ 90,000m³ 5 Ye 126m (L) x 91m (W)	(P) 5 Ha (W) x 22m Bgl (D) (W) x 6m Bgl (D) Gravel 39,642m³ Gravel
Previous Land Ownership details S.F. Nos Extent Maximum dimension of the existing quarry pit Gravel Dump Dimension Geological Reserves Mineable Reserves Proposed Quantity of Reserves /Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation. 392 2.02.5 Pit1: 126m (L) x 94m Pit1: 60m (L) x 30m Rough Stone 6,93,735m³ Rough Stone 90,000m³ 90,000m³ 5 Ye 126m (L) x 91m (W) 37m below g	Gravel Gravel Gravel Gravel Gravel - Gravel -
Previous Land Ownership details S.F. Nos Extent Maximum dimension of the existing quarry pit Gravel Dump Dimension Geological Reserves Mineable Reserves Proposed Quantity of Reserves /Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation. 392 2.02.5 Pit1: 126m (L) x 94m Pit1: 60m (L) x 30m Rough Stone 6,93,735m³ Rough Stone 90,000m³ 90,000m³ 5 Ye 126m (L) x 91m (W) 37m below g 58 E	Gravel Gravel Gravel Gravel - - - - - - - - - - - - -
Previous Land Ownership details S.F. Nos Extent Maximum dimension of the existing quarry pit Gravel Dump Dimension Geological Reserves Mineable Reserves Proposed Quantity of Reserves /Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation. 392 2.02.5 Pit1: 126m (L) x 94m Pit1: 60m (L) x 30m Rough Stone 6,93,735m³ Rough Stone 90,000m³ 90,000m³ 5 Ye 126m (L) x 91m (W) 37m below g 58 E 11°08'08.02"N to	Gravel
Previous Land Ownership details S.F. Nos Extent Maximum dimension of the existing quarry pit Gravel Dump Dimension Geological Reserves Mineable Reserves Proposed Quantity of Reserves /Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation. 392 2.02.5 Pit1: 126m (L) x 94m Pit1: 60m (L) x 30m Rough Stone 6,93,735m³ Rough Stone 90,000m³ 90,000m³ 5 Ye 126m (L) x 91m (W) 37m below g 58 E	(P) 5 Ha (W) x 22m Bgl (D) (W) x 6m Bgl (D) Gravel 39,642m³ Gravel
Previous Land Ownership details S.F. Nos Extent Maximum dimension of the existing quarry pit Gravel Dump Dimension Geological Reserves Mineable Reserves Proposed Quantity of Reserves /Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation. 392 2.02.5 Pit1: 126m (L) x 94m Pit1: 60m (L) x 30m Rough Stone 6,93,735m³ Rough Stone 90,000m³ 90,000m³ 5 Ye 126m (L) x 91m (W) 37m below g 58 E 11°08'08.02"N to 77°25'18.87"E to	(P) 5 Ha (W) x 22m Bgl (D) (W) x 6m Bgl (D) (Gravel 39,642m³ Gravel
Previous Land Ownership details S.F. Nos Extent Maximum dimension of the existing quarry pit Gravel Dump Dimension Geological Reserves Mineable Reserves Proposed Quantity of Reserves /Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude Elevation	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation. 392 2.02.5 Pit1: 126m (L) x 94m Pit1: 60m (L) x 30m Rough Stone 6,93,735m³ Rough Stone 90,000m³ 90,000m³ 5 Ye 126m (L) x 91m (W) 37m below g 58 E 11°08'08.02"N to 77°25'18.87"E to 275m A	(P) 5 Ha 6 (W) x 22m Bgl (D) 6 (W) x 6m Bgl (D) 7 (Gravel 39,642m³ 7 (Gravel
Previous Land Ownership details S.F. Nos Extent Maximum dimension of the existing quarry pit Gravel Dump Dimension Geological Reserves Mineable Reserves Proposed Quantity of Reserves /Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude Elevation	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation. 392 2.02.5 Pit1: 126m (L) x 94m Pit1: 60m (L) x 30m Rough Stone 6,93,735m³ Rough Stone 90,000m³ 90,000m³ 5 Ye 126m (L) x 91m (W) 37m below g 58 E 11°08'08.02"N to 77°25'18.87"E to 275m A The Ground water occurrence in th ground	cyvide Patta No.43. (P) 5 Ha 1 (W) x 22m Bgl (D) 1 (W) x 6m Bgl (D) Gravel 39,642m³ Gravel - - ars x 37m Bgl (D) Max round level /08 11°08'12.79"N 77°25'25.50"E Amsl. is area is 45-40m depth below the level.
Previous Land Ownership details S.F. Nos Extent Maximum dimension of the existing quarry pit Gravel Dump Dimension Geological Reserves Mineable Reserves Proposed Quantity of Reserves /Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude Elevation	Ayyadurai & Thiru.N. Thangaraj). The area is under quarry operation. 392 2.02.5 Pit1: 126m (L) x 94m Pit1: 60m (L) x 30m Rough Stone 6,93,735m³ Rough Stone 90,000m³ 90,000m³ 5 Ye 126m (L) x 91m (W) 37m below g 58 E 11°08'08.02"N to 77°25'18.87"E to 275m A The Ground water occurrence in th ground Jack Hammer	cyvide Patta No.43. (P) 5 Ha 1 (W) x 22m Bgl (D) (W) x 6m Bgl (D) Gravel 39,642m³ Gravel - - ars x 37m Bgl (D) Max round level /08 11°08'12.79"N 77°25'25.50"E Amsl. is area is 45-40m depth below the level. 2

Morattupalayam Rough Stone and Gravel Cl	uster Quarries	Chapter - 7	
Blasting	Usage of Slurry Explosive with MSD detonators		
Manpower Deployment	11 Nos		
	Operational Cost	Rs. 49,05,000/-	
Total Project Cost	EMP Cost	Rs. 7,30,000/-	
	Total	Rs. 56,35,000/-	
CER cost	Rs.5,00		
Nearest Habitation	750m-W		
Source: Approved Mining Plan of the r	respective proposals		
SALIEN	NT FEATURES OF PROPOSAL "	E3"	
Name of the Mine	Thiru.T.S. Udhayakumar, Rough Stone Quarry Project		
Land type & details	It is a Government Poramboke land	d. Awarded tender from the	
	government.		
Previous Land Ownership details	It is a fresh lease application.		
	200 (D) (D)	(OLIP)	
S.F. Nos	388 (P), (Bit-A		
Extent	1.26.	5 Ha	
Maximum dimension of the existing quarry pit	Pit1: 158m (L) x 89n	n (W) x 24m Bgl (D)	
Geological Reserves	Rough Stone	Topsoil	
Geological Reserves	5,06,000m ³	12,650m ³	
Mineable Reserves	Rough Stone	Topsoil	
	1,06,708m ³	-	
Proposed Quantity of Reserves /Production for mining Period	1,06,708m ³	-	
Mining Plan Period / Lease Period	5 Yo	ears	
Ultimate Pit Dimension	158m (L) x 89m (W)		
Proposed Depth of mining	41m (1m Topsoil+ 40m Rough stone) below ground level		
Toposheet No	58 E/08		
Latitude	11°07'56.15"N to 11°08'00.50"N		
Longitude	77°25'15.37"E to 77°25'22.98"E		
Elevation	284m		
Water table depth	The Ground water occurrence in the		
	Jack Hammer	2	
	Compressor	1	
Machinery proposed	Excavator with Bucket and Rock		
J 1 1	Breaker 1		
	Tipper	1	
Blasting	Usage of Slurry Explosiv	ve with MSD detonators	
Manpower Deployment	14 1	Nos	
	Operational Cost	Rs. 83,50,000/-	
Total Project Cost	EMP Cost	Rs. 7,10,000/-	
	Total	Rs. 90,60,000/-	
CER cost	Rs.5,00		
Nearest Habitation	6461	m-S	
Source: Approved Mining Plan of the r			
	T FEATURES OF PROPOSAL "		
Name of the Mine	Thiru.S.Raju, Rough		
Land type & details	It is a Government Poramboke land awarded tender from the Government		
Previous Land Ownership details	It is a fresh lease.(the area has been lease period.		
S.F. Nos	388 (P) (Bit-B)	(Old pit B & C)	
Extent	1.58.		
Maximum dimension of the existing	Pit 1: 116m (L) x 26n	n (W) x 22m Bgl (D)	
quarry pit Geological Reserves	Pit II: 152m (L) x 67r Rough Stone	Topsoil	

	(22,000, 3	15 000 3	
	6,32,000 m ³	15,800 m ³	
Mineable Reserves	Rough Stone 35,650m ³	Topsoil	
Proposed Quantity of Reserves	33,030m²	-	
Proposed Quantity of Reserves / Production for mining Period	35,650m ³	-	
Mining Plan Period / Lease Period	5 Ye	earc	
Ultimate Pit Dimension	Pit 1: 116m (L) x 26m		
Chimate Tit Billionsion	Pit II: 152m (L) x 67m (W) x 41m Bgl (D)		
Proposed Depth of mining	41m (1m topsoil+ 40m Roug	h stone) below ground level	
Toposheet No	58 E	/08	
Latitude	11°07'56.70'N to		
Longitude	77°25'09.58"E to		
Elevation	265m		
Water table depth	The Ground water occurrence in th	*	
	ground		
	Jack Hammer	2	
	Compressor	1	
Machinery proposed	Excavator with Bucket and Rock	1	
	Breaker	1	
D14:	Tipper	1	
Blasting Manpower Deployment	Usage of Slurry Explosiv		
Manpower Deployment	Operational Cost	Rs. 89,05,000/-	
Total Project Cost	EMP Cost	Rs. 7,10,000/-	
Total Project Cost	Total	Rs. 96,15,000/-	
CER cost	Rs.5,00	, ,	
Nearest Habitation	640r		
Source: Approved Mining Plan of the i			
	NT FEATURES OF PROPOSAL "	F5"	
Name of the Mine	Thiru. K. Senthilkumar Rough		
	It is a Patta land. Registered in the i		
Land type & details	Senthilkumar), vide Patta No.1030		
Previous Land Ownership details	It is a fresh lease application. But		
1	over an extent of 0.71.5hectares of		
	383/2A2A1 (P) of Morattupalayam		
	District vide Rc.No.467/Mines/20		
	years.(24.10.2011 to 23.10.2016)		
	The applicant has once again appl		
	over an extent of 0.71.5 hectares of		
	383/2A2A1 (P) of Morattupalayam		
C F N	District for the period of five years. 383/1(P) and 38		
S.F. Nos	` '		
Extent Mariana diamanda of the ariation	0.71.5	э на	
Maximum dimension of the existing quarry pit	Pit1: 97m (L) x 63m	(W) x 32m Bgl (D)	
quarry pit	Rough Stone	Gravel	
Geological Reserves	1,17,947m ³	272m ³	
	Rough Stone	Gravel	
Mineable Reserves	24,050m ³	-	
Proposed Quantity of Reserves	ĺ	<u>-</u>	
/Production for mining Period	24,050m ³	-	
Mining Plan Period / Lease Period	5 Ye	ears	
Ultimate Pit Dimension	97m (L) x 63m (W) :		
Proposed Depth of mining	42m (2m Gravel + 40		
Toposheet No	58 E/08		
Latitude	11°08'07.70"N to 11°08'11.35"N		
Longitude			
Longitude	77°25'03.46"E to 77°25'06.97"E		

Morattupalayam Rough Stone and Gravel Cl	· · · · · · · · · · · · · · · · · · ·			
Elevation	260m.	Amsl.		
	Jack Hammer	1		
	Compressor	1		
Machinery proposed	Excavator with Bucket and Rock	1		
	Breaker	1		
	Tipper	1		
Blasting	Usage of Slurry Explosive with MSD detonators			
Manpower Deployment	13 1	Nos		
	Operational Cost Rs. 13,72,000/-			
Total Project Cost	EMP Cost Rs. 3,80,000/-			
	Total	Rs. 17,52,000/-		
CER cost	Rs.5,00),000/-		
Nearest Habitation	370m	-NW		
Source: Approved Mining Plan of the	respective proposals			
	NT FEATURES OF PROPOSAL ".	F6"		
	Thiru.P. Thangamuthusamy,			
Name of the Mine	Proj			
	It is a Patta land. Registered in the			
Land type & details	(Thiru.P.Thangamuthusamy), vio			
Previous Land Ownership details		on. But favour of Thiru.P.		
Trevious Luna 6 whereing acums	Thangamuthusamy, over an exten			
	in S.F.No.383/2A1&382/2B of M			
	Taluk, Tiruppur District vide			
	15.01.2016 for five years.	2010, 2010		
	The applicant has once again appl	ied a quarry lease on 25 04 2019		
	over an extent of 2.63.0hectares of			
	of Morattupalayam Village, Uthuki			
	period of five years.	an raidk, rhuppai District for the		
S.F. Nos	383/2A1(P), 382/2B,			
Extent	2.63.			
Maximum dimension of the existing	Pit1: 80m (L) x 100m (W) x 14m Bgl (D)			
quarry pit	PitII: 120m (L) x 100n			
•	Rough Stone	Gravel		
Geological Reserves	5,79,717m ³	4,876m ³		
	Rough Stone	Gravel		
Mineable Reserves	2,30,090m ³	2352 m ³		
Proposed Quantity of Reserves	2,30,090111			
/Production for mining Period	2,30,090m ³	2352 m^3		
Mining Plan Period / Lease Period	5 Ye	oorg		
Ultimate Pit Dimension	190m (L) x 127m (W)			
Proposed Depth of mining	42m (2m Gravel + 40m Roug	•		
Toposheet No	58 E			
Latitude	11°08'05.49"N to			
Longitude	77°25'14.04"E to			
Elevation	282m			
Water table depth	The Ground water occurrence in th	-		
	ground			
	Jack Hammer	6		
	Compressor	2		
Machinery proposed	Excavator with Bucket and Rock	1		
	Breaker			
	Tipper	2		
Blasting	Usage of Slurry Explosiv	ve with MSD detonators		
Manpower Deployment	23N			
	Operational Cost	Rs. 57,50,000/-		
Total Project Cost	EMP Cost	Rs. 3,80,000/-		
,	Total	Rs. 61,30,000/-		
	10tti 105. 01,50,000/			

CER cost	Rs.5,00,000/-		
Nearest Habitation	690	m-W	
Source: Approved Mining Plan of the re	espective proposals		
	T FEATURES OF PROPOSAL	"E7"	
Name of the Mine		Stone & Gravel Quarry Project	
Land type & details	It is a Patta land. Registered in the name of Tmt.T. Sumathi vide patta No.614 (S.F No 383/2A2B) and Thiru.T.Thangaraj vide patta no.957 (S.F.No 383/2A2A2A2).		
Previous Land Ownership details	It is a fresh lease application. The quarry lease was previously granted for four times for a period of 5 years each in favour of Thiru.Marimuthu (i.e.10 years) and Tmt.Sumathi (i.e.10 years) over an extent of 0.89.5ha of patta lands in S.F.No 383/2A2B of Morattupalayam village, Uthukuli Taluk, Tiruppur District. Then the lease was granted for another 5 years (Period 20.01.2016 to 19.01.2021) to Tmt.Sumathi vide collector's proceedings letter Rc.No 299/Mines/2015 dated: 13.01.2016 for quarrying of Roughstone and gravel. Now the applicant has applied a quarry lease on 27.02.2020.		
S.F. Nos	-	383/2A2A2A2	
Extent	1.88	3.72 Ha	
Maximum dimension of the existing quarry pit	` '	m (W) x 30m Bgl (D)	
Geological Reserves	Rough Stone	Gravel	
Geological Reserves	5,10,997m ³	19,012m ³	
Mineable Reserves	Rough Stone	Gravel	
Willicable Reserves	1,68,014m ³	14104 m ³	
Proposed Quantity of Reserves /Production for mining Period	1,68,014m ³ 14104 m ³		
Mining Plan Period / Lease Period	5 Years		
Ultimate Pit Dimension	186m (L) x 87m (W) x 42m Bgl (D) Max		
Proposed Depth of mining	36m (1m Gravel + 35m Ro	ugh stone) below ground level	
Toposheet No	58	E/08	
Latitude		to 11°08'06.69"N	
Longitude	77°25'09.67"E	to 77°25'17.50"E	
Elevation	283r	n Amsl.	
Water table	62	-58m	
	Jack Hammer	4	
	Compressor	1	
Machinery proposed	Excavator with Bucket and	1	
	Rock Breaker	1	
	Tipper	2	
Blasting	Usage of Slurry Explo	sive with MSD detonators	
Manpower Deployment	19	Nos	
	Operational Cost	Rs. 41,12,000/-	
Total Project Cost	EMP Cost	Rs. 3,80,000/-	
	Total	Rs. 44,92,000/-	
CER cost	Rs.5,	00,000/-	
Nearest Habitation	635	m-NW	
Source: Approved Mining Plan of the re	espective proposals		
SALIEN	T FEATURES OF PROPOSAL	"E7"	
Name of the Mine	1	h Stone & Gravel Quarry Project	
Land type & details	It is a Patta land, Registered in the	ne name of applicant (Thiru. M.	
Previous Land Ownership details	Thangaraj) vide Patta No. 226, 616, 514 It is a fresh lease application but, the applied area has been considered quarrying operation earlier. First the quarry lease was granted over an extent of 0.94.0 hectares of Patta lands in S.F.Nos. 389/1B2 (0.94.0 Ha) of Morattupalayam Village from 1985 to 2010		

	for five times, totally for 22 years. Second time the quarry lease was granted in favour of Thiru. M.P. Marimuthu, over an extent of 1.75.0 hectares of Patta lands in S.F.Nos. 389/1B1B (0.81.0 Ha), 389/1B2 (0.94.0 Ha) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District vide Collector's proceedings letter Rc.No. 727/Mines/2010, dated: 21.12.2010 for the period of five years from 21.12.2010 to 20.12.2015. Third time the lease was granted in favour of Thiru. M. Thangaraj, S/o. M.P. Marimuthu over an extent of 2.19.5 Hectares of patta land in S.F.No. 389/1B1A (0.44.5 Ha), 389/1B1B (0.81.0 Ha), 389/1B2 (0.94.0 Ha) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District vide Rc.No. 357/Mines/2015, dated: 15.01.2016 for the period of five years from 21.01.2016 to 20.01.2021. The existing pit dimension when the lease was granted for the third time was 68.5m(L) x 56.5m(W) x9.66m(D) in S.F.No. 389/1B1A, 87.5m(L) x 79m(W) x20.7m(D) in S.F.No. 389/1B1B and 157.5m(L) x 77.5m(W) x26.7m(D) in S.F.No. 389/1B2 and a proposal of additional depth of 5m (upto 32m from the surface) was given in previous approved Mining Plan for quarrying of Rough stone and Gravel. Now the applicant has applied a quarry lease on 27.02.2020. The application was meritoriously processed by the District Collector, Tiruppur and recommended the quarry lease for	
	the period of five years.	recommended and quarry reasoner
S.F. Nos		1B1B and 389/1B2
Extent	· · · · · · · · · · · · · · · · · · ·	0.50 Ha
Existing quarry pit		л. (W) x 27m Bgl (D)
Laisung quarry pit	Rough Stone	Gravel
Geological Reserves	5,37,440m ³	1,877m ³
	Rough Stone	Gravel
Mineable Reserves	1,18,025m ³	1,260m ³
	1,10,025111	1,200111
Proposed Quantity of Reserves	rves $1.18.025 \text{m}^3$ 1.260m^3	
Proposed Quantity of Reserves	1,18,025m ³	1,260m ³
/Production for mining Period	î î	,
/Production for mining Period Mining Plan Period / Lease Period	5.7	Years
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension	5 Y 219m (L) x 120m (V	Years W) x 47m Bgl (D) Max
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining	5 Y 219m (L) x 120m (V 47m (2m Gravel + 45m Rot	Years W) x 47m Bgl (D) Max ugh Stone) below ground level
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No	5 Y 219m (L) x 120m (V 47m (2m Gravel + 45m Rou 58	Years W) x 47m Bgl (D) Max agh Stone) below ground level E/08
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude	5 X 219m (L) x 120m (V 47m (2m Gravel + 45m Rou 58 11°08'00.17"N	Years W) x 47m Bgl (D) Max ugh Stone) below ground level E/08 to 11°08'07.99"N
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude	5 V 219m (L) x 120m (V 47m (2m Gravel + 45m Rot 58 11°08'00.17"N 77°25'17.40"E	Years W) x 47m Bgl (D) Max ugh Stone) below ground level E/08 to 11°08'07.99"N to 77°25'23.62 "E
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude Elevation	5 Y 219m (L) x 120m (V 47m (2m Gravel + 45m Rou 58 11°08'00.17"N 77°25'17.40"E 283n	Years W) x 47m Bgl (D) Max ugh Stone) below ground level E/08 to 11°08'07.99"N to 77°25'23.62 "E n Amsl.
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude	5 Y 219m (L) x 120m (V 47m (2m Gravel + 45m Rou 58 11°08'00.17"N 77°25'17.40"E 283n 62	Years W) x 47m Bgl (D) Max agh Stone) below ground level E/08 to 11°08'07.99"N to 77°25'23.62 "E n Amsl58m
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude Elevation	5 Y 219m (L) x 120m (V 47m (2m Gravel + 45m Rou 58 11°08'00.17"N 77°25'17.40"E 283n 62 Jack Hammer	Years W) x 47m Bgl (D) Max ugh Stone) below ground level E/08 to 11°08'07.99"N to 77°25'23.62 "E n Amsl.
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude Elevation Water table	5 Y 219m (L) x 120m (V 47m (2m Gravel + 45m Rou 58 11°08'00.17"N 77°25'17.40"E 283n 62	Years W) x 47m Bgl (D) Max agh Stone) below ground level E/08 to 11°08'07.99"N to 77°25'23.62 "E n Amsl58m 3 1
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude Elevation	5 Y 219m (L) x 120m (V 47m (2m Gravel + 45m Rot 58 11°08'00.17"N 77°25'17.40"E 283n 62 Jack Hammer Compressor Excavator with Bucket and	Years W) x 47m Bgl (D) Max ugh Stone) below ground level E/08 to 11°08'07.99"N to 77°25'23.62 "E n Amsl58m 3
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude Elevation Water table	5 Y 219m (L) x 120m (V 47m (2m Gravel + 45m Rot 58 11°08'00.17"N 77°25'17.40"E 283n 62 Jack Hammer Compressor Excavator with Bucket and Rock Breaker	Years W) x 47m Bgl (D) Max agh Stone) below ground level E/08 to 11°08'07.99"N to 77°25'23.62 "E n Amsl58m 3 1
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude Elevation Water table Machinery proposed	5 Y 219m (L) x 120m (V 47m (2m Gravel + 45m Rot 58 11°08'00.17"N 77°25'17.40"E 283n 62 Jack Hammer Compressor Excavator with Bucket and Rock Breaker Tipper	Years W) x 47m Bgl (D) Max ugh Stone) below ground level E/08 to 11°08'07.99"N to 77°25'23.62 "E n Amsl. -58m 1 1
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude Elevation Water table Machinery proposed Blasting	219m (L) x 120m (V 47m (2m Gravel + 45m Rou 58 11°08'00.17"N 77°25'17.40"E 283n 62 Jack Hammer Compressor Excavator with Bucket and Rock Breaker Tipper Usage of Slurry Explose	Years W) x 47m Bgl (D) Max ugh Stone) below ground level E/08 to 11°08'07.99"N to 77°25'23.62 "E n Amsl. -58m 3 1 1 1 sive with MSD detonators
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude Elevation Water table Machinery proposed	219m (L) x 120m (V 47m (2m Gravel + 45m Rou 58 11°08'00.17"N 77°25'17.40"E 283n 62 Jack Hammer Compressor Excavator with Bucket and Rock Breaker Tipper Usage of Slurry Explose	Years W) x 47m Bgl (D) Max agh Stone) below ground level E/08 to 11°08'07.99"N to 77°25'23.62 "E n Amsl58m 3 1 1 1 sive with MSD detonators
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude Elevation Water table Machinery proposed Blasting Manpower Deployment	219m (L) x 120m (V 47m (2m Gravel + 45m Rou 58 11°08'00.17"N 77°25'17.40"E 283n 62 Jack Hammer Compressor Excavator with Bucket and Rock Breaker Tipper Usage of Slurry Explosed	Years W) x 47m Bgl (D) Max agh Stone) below ground level E/08 to 11°08'07.99"N to 77°25'23.62 "E n Amsl58m 3 1 1 1 sive with MSD detonators Rs. 39,82,000/-
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude Elevation Water table Machinery proposed Blasting	219m (L) x 120m (V 47m (2m Gravel + 45m Rot 58 11°08'00.17"N 77°25'17.40"E 283n 62 Jack Hammer Compressor Excavator with Bucket and Rock Breaker Tipper Usage of Slurry Explose Operational Cost EMP Cost	Years W) x 47m Bgl (D) Max ugh Stone) below ground level E/08 to 11°08'07.99"N to 77°25'23.62 "E n Amsl. -58m
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude Elevation Water table Machinery proposed Blasting Manpower Deployment Total Project Cost	219m (L) x 120m (V 47m (2m Gravel + 45m Rot 58 11°08'00.17"N 77°25'17.40"E 283m 62 Jack Hammer Compressor Excavator with Bucket and Rock Breaker Tipper Usage of Slurry Explose 14 Operational Cost EMP Cost Total	Years W) x 47m Bgl (D) Max Igh Stone) below ground level E/08 to 11°08'07.99"N to 77°25'23.62 "E n Amsl. -58m 3 1 1 sive with MSD detonators Nos Rs. 39,82,000/- Rs. 3,80,000/- Rs. 43,62,000/-
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude Elevation Water table Machinery proposed Blasting Manpower Deployment Total Project Cost CER cost	219m (L) x 120m (V 47m (2m Gravel + 45m Rou 58 11°08'00.17"N 77°25'17.40"E 283n 62 Jack Hammer Compressor Excavator with Bucket and Rock Breaker Tipper Usage of Slurry Explose 14 Operational Cost EMP Cost Total	Years W) x 47m Bgl (D) Max ugh Stone) below ground level E/08 to 11°08'07.99"N to 77°25'23.62 "E n Amsl. -58m 3 1 1 sive with MSD detonators Nos Rs. 39,82,000/- Rs. 3,80,000/- Rs. 43,62,000/- 00,000/-
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/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude Elevation Water table Machinery proposed Blasting Manpower Deployment Total Project Cost CER cost Nearest Habitation Source: Approved Mining Plan of the reserved.	219m (L) x 120m (V 47m (2m Gravel + 45m Rou 58 11°08'00.17"N 77°25'17.40"E 283n 62 Jack Hammer Compressor Excavator with Bucket and Rock Breaker Tipper Usage of Slurry Explos Operational Cost EMP Cost Total Rs.5, 350 spective proposals	Years W) x 47m Bgl (D) Max agh Stone) below ground level E/08 to 11°08'07.99"N to 77°25'23.62 "E n Amsl. -58m 3 1 1 1 sive with MSD detonators Nos Rs. 39,82,000/- Rs. 3,80,000/- Rs. 43,62,000/- 00,000/- 0m-SE
/Production for mining Period Mining Plan Period / Lease Period Ultimate Pit Dimension Proposed Depth of mining Toposheet No Latitude Longitude Elevation Water table Machinery proposed Blasting Manpower Deployment Total Project Cost CER cost Nearest Habitation Source: Approved Mining Plan of the research and the proposed SALIEN	219m (L) x 120m (V 47m (2m Gravel + 45m Rot 58 11°08'00.17"N 77°25'17.40"E 283n 62 Jack Hammer Compressor Excavator with Bucket and Rock Breaker Tipper Usage of Slurry Explose 14 Operational Cost EMP Cost Total Rs.5, 350 spective proposals FEATURES OF PROPOSAL	Years W) x 47m Bgl (D) Max agh Stone) below ground level E/08 to 11°08'07.99"N to 77°25'23.62 "E n Amsl. -58m
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Extent	1.29.0 Ha		
~ 1 . 1	Rough Stone		
Geological Reserves	4,51,500m ³		
	Rough Stone		
Mineable Reserves	1,11,875m ³		
Proposed Quantity of Reserves /Production for mining Period	1,11,875m ³		
Mining Plan Period / Lease Period	5 Y	Years	
Ultimate Pit Dimension	120m (L) x 78m (W	7) x 36m Bgl (D) Max	
Proposed Depth of mining		n Bgl	
Toposheet No	58	E/08	
Latitude	11°08'00.35"N	to 11°08'04.88"N	
Longitude	77°25'15.60"E to 77°25'19.92"E		
Elevation	267m Amsl.		
Water table	50-45m		
	Jack Hammer	4	
	Compressor	1	
Machinery proposed	Excavator with Bucket and	1	
	Rock Breaker	1	
	Dumpers	1	
Blasting	Usage of Slurry Explos	ive with MSD detonators	
Manpower Deployment	21	Nos	
	Operational Cost	Rs. 41,12,000/-	
Total Project Cost	EMP Cost	Rs. 3,80,000/-	
-	Total	Rs. 44,92,000/-	
CER cost	Rs.5,0	00,000/-	
Nearest Habitation	635m-NW		
Source: Approved Mining Plan of the res	pective proposals		

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

Impact on Air Environment -

Calculating the Cumulative Load of Mining within the cluster is as shown in table 7.5 & 7.6

TABLE 7.5 CUMULATIVE PRODUCTION LOAD OF ROUGH STONE IN CLUSTER

Quarry	Production for five- year plan period	Per Year Production in m ³	Per Day Production in m ³	Number of Lorry Load Per Day @ 6m³ per load
P1	1,41,283	28257	94	16Trips /Day
P2	48,125	9625	32	5Trips /Day
P3	1,63,614	34,166	114	19 Trips /Day
P4	-	-	-	-
P5	37,931	7,586	25	4 Trips /Day
Total	3,53,022	79,684	265	44Trips /Day
E-1	61,850	12,370	41	7 Trips /Day
E-2	90,000	18,000	60	10 Trips /Day
E-3	1,06,708	21,342	71	12 Trips /Day
E-4	35,650	7,130	24	4Trips /Day
E-5	24,050	4810	16	3Trips /Day
E-6	2,30,090	46018	153	26 Trips /Day
E-7	1,68,014	33603	112	19 Trips /Day
E-8	1,18,025	23,605	79	13Trips /Day
E-9	1,11,875	22,375	75	13Trips /Day
Total	9,46,262	1,89,253	631	107 Trips /Day

- 1					
	G.Total	12,99,284	2,68,937	896	151 Trips /Day

TABLE 7.6: CUMULATIVE PRODUCTION OF GRAVEL IN CLUSTER

Quarry	Mineable Reserves in m ³	Per Year Production in m ³	Per Day in m ³	Number of Lorry Load @ 6m³ per load
P1	4860	1620	5	1Trips /Day
P2	-	-	-	-
P3	6,052	6,052	20	3Trips /Day
P4				
P5	640	640	2	Trips /Day
Total	11,552	8,312	27	4Trips\ day
E-1	10,384	3,461	12	2Trips /Day
E-2	-	-	-	-
E-3	-	-	-	-
E-4	-	-	-	-
E-5	-	-	-	-
E-6	2,352			
E-7	14,104			
E-8	1,260			
E-9	-	-	-	-
Total	28,100	3,461	12	2Trips /Day
G.Total	39,652	11,773	39	6Trips\ day

Source: Approved Mining plans of the respective projects (Blue color shade is Proposed quarries)

Based on the above production quantities the emissions due to various activities in all the 3-proposal quarry various activities like ground preparation, excavation, handling and transport of mineral. These activities have been analysed systematically basing on USEPA-Emission Estimation Technique Manual, for Mining AP-42, to arrive at possible emissions to the atmosphere and estimated emissions are given in Table 7.7.

TABLE 7.7: EMISSION ESTIMATION FROM CLUSTER

EMISSION EST	IMATION FOR QU	ARRY "P1"- Tmt	.V. Revathi	
	Activity	Source type	Value	Unit
	Drilling	Point Source	0.074088129	g/s
Estimated Emission Rate for PM ₁₀	Blasting	Point Source	0.000539955	g/s
Estimated Emission Rate for PW10	Mineral Loading	Point Source	0.039999715	g/s
	Haul Road	Line Source	0.002487643	g/s/m
	Overall Mine	Area Source	0.053806198	g/s
Estimated Emission Rate for SO ₂	Overall Mine	Area Source	0.000385867	g/s
Estimated Emission Rate for NOx	Overall Mine	Area Source	0.000019354	g/s
EMISSION ESTIMA	ATION FOR QUAR	RY "P2"- Thiru.U	. Prabhakaran	
	Activity	Source type	Value	Unit
	Drilling	Point Source	0.051661581	g/s
Estimated Emission Rate for PM ₁₀	Blasting	Point Source	0.000089013	g/s
Estimated Emission Rate for Fivi ₁₀	Mineral Loading	Point Source	0.035227965	g/s
	Haul Road	Line Source	0.002483699	g/s/m
	Overall Mine	Area Source	0.032955730	g/s
Estimated Emission Rate for SO ₂	Overall Mine	Area Source	9.84731E-05	g/s
Estimated Emission Rate for NOx	Overall Mine	Area Source	0.000001680	g/s
EMISSION ESTIN	MATION FOR QUA	RRY "P3"- Thiru	S. Rajasekar	
	Activity	Source type	Value	Unit
	Drilling	Point Source	0.075892176	g/s
Estimated Emission Rate for PM ₁₀	Blasting	Point Source	0.000608975	g/s
Estimated Emission Rate for FW10	Mineral Loading	Point Source	0.040677672	g/s
	Haul Road	Line Source	0.002488647	g/s/m
	Overall Mine	Area Source	0.056133523	g/s
Estimated Emission Rate for SO ₂	Overall Mine	Area Source	0.000452572	g/s
Estimated Emission Rate for NOx	Overall Mine	Area Source	0.000024830	g/s

Source: Emission Formula

TABLE 7.8: INCREMENTAL & RESULTANT GLC WITHIN CLUSTER

PM_{10} in $\mu g/m^3$			
Location	AAQ1 – CORE		
Background (average)	45.7		
Highest Incremental	9.87		
Resultant	55.6		
NAAQ Norms	$100 \mu g/m^3$		
PM2.5 in μ ₂	g/m ³		
Background (average)	22.8		
Highest Incremental	4.79		
Resultant	27.6		
NAAQ Norms	$60 \mu g/m^3$		
SO ₂ in μg/	m^3		
Location	AAQ1 – CORE		
Background (average)	8.0		
Highest Incremental	1.19		
Resultant	9.2		
NAAQ Norms	$80 \mu g/m^3$		
NO _x in μg.	$/\mathrm{m}^3$		
Location	AAQ1 – CORE		
Background (average)	24.9		
Incremental	7.85		
Resultant	32.8		
NAAQ Norms	$80 \mu g/m^3$		

Noise Environment -

Noise pollution is mainly due to operation like drilling & blasting and plying of trucks & HEMM. Cumulative Noise modelling has been carried out considering blasting and compressor operation (drilling) and transportation activities. Predictions have been carried out to compute the noise level at various distances around the different quarries within the 500 m radius.

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

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

Where:

Lp₁& Lp₂ 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.

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

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 taking into account of all the machinery and activities used in the mining process.

TABLE 7.9: PREDICTED NOISE INCREMENTAL VALUES FROM MINES

Location ID	N1	N2	N3	N4	N5	N6	N7
Maximum Monitored Value (Day) dB(A)	48.2	48.2	48.9	49.3	45.4	43.2	43.99
Incremental Value dB(A)	47.30	66.12	32.14	27.43	24.25	26.48	23.84
Total Predicted Noise level dB(A)	46.30	66.19	48.99	49.33	45.43	43.29	44.03
NAAQ Standards	Industrial Residentia		y Time- 7 y Time- 5	` ′		Time- 70 Time- 45	` /

Source: Lab Monitoring Data

The incremental noise level is found within the range of 27.04 - 35.49dB (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 near habitations

are within permissible limits of Residential Area (buffer zone) as per THE NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000 (The Principal Rules were published in the Gazette of India, vide S.O. 123(E), dated 14.2.2000 and subsequently amended vide S.O. 1046(E), dated 22.11.2000, S.O. 1088(E), dated 11.10.2002, S.O. 1569 (E), dated 19.09.2006 and S.O. 50 (E) dated 11.01.2010 under the Environment (Protection) Act, 1986.).

Ground Vibrations

Ground vibrations due to mining activities in the all the 3-proposal quarry within cluster 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 all the 2 proposal quarries is blasting. 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 areas and may cause injury to persons or damage to the structures. Nearest Habitations from 8mines respectively are as in below Table 7.9

Location ID	Distance in Meters
Habitation Near P1	550-SW
Habitation Near P2	730-SW
Habitation Near P3	510m-NW
Habitation Near P4	-
Habitation Near P5	750-W

TABLE 7.10: NEAREST HABITATION FROM EACH MINE

Source: Satellite Imagery and Field Data

The ground vibrations due to the blasting in all the mines are calculated using 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)

TABLE 7.11: GROUND VIBRATIONS AT 3MINES

Location ID	Maximum Charge in kgs	Nearest Habitation in m	PPV in m/ms
P1	41	550-SW	0.402
P2	14	730-SW	0.108
Р3	49	510-NW	0.524

Source: PPV Calculation

From the above table, the charge per blast is considered as maximum in each mine and the resultant PPV 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.

Socio Economic Environment –

The 7 mines shall provide employment and revenue will be created to government

TABLE 7.12: SOCIO ECONOMIC BENEFITS FROM 3MINES

Location Code	Employment	Project Cost	CER
P1	18	Rs. 50,54,000/-	Rs.5,00,000/-
P2	14	Rs. 24,81,000/	Rs.5,00,000/-
Р3	23	Rs.61,69,000/-	Rs.5,00,000/-
Total	55	Rs. 1,37,04,000/-	Rs.15,00,000/-

A total of 43 people will get employment due to 3mines Proposal in cluster. 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.

• 3mines Proposed projects shall fund towards CER – Rs 15,00,000/-

TABLE 7.13: GREENBELT DEVELOPMENT BENEFITS FROM 3MINES

			PROPOSAL – P	1	
Year	No. of trees proposed to be planted	Survial %	Area to be covered	Name of the species	No. of trees expected to be grown
I	1130	80	Near 7.5m safety distance, panchayat road and village road	Neem, Pongamia Pinnata, Casuarina etc.,	904
			PROPOSAL – P	2	
Year	No. of trees proposed to be planted	Survial %	Area to be covered sq.m	Name of the species	No. of trees expected to be grown
I	350	80%	Near 7.5m safety distance, panchayat road and village road	Neem, Pongamia Pinnata, Casuarina etc.,	280
-			PROPOSAL – Pa	3	
Year	No. of trees proposed to be planted	Survial %	Area to be covered sq.m	Name of the species	No. of trees expected to be grown
I	1250	80%	Near 7.5m safety distance, panchayat road and village road	Neem, Pongamia Pinnata, Casuarina etc.,	1000

Based on the Proposed Mining Plans it's anticipated that there shall growth of native species of Neem, Casuarina, etc in the Cluster at a rate of 1,470Trees Planted over a period of 5 Years with Survival Rate of 80% and expected growth is around 118 Trees over an area.

7.5 PLASTIC WASTE MANAGEMENT PLAN FOR P1, P2 & P3

All 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 7.14: 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

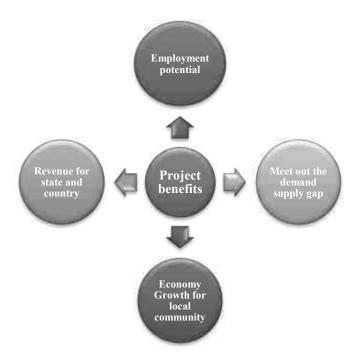
Source: Proposed by FAE's and EC

CHAPTER – 8: PROJECT BENEFITS

8.0 General

The three Proposed Projects for Quarrying Rough Stone and Gravel at Morattupalayam Village aims to produce cumulatively 3,53,022m³ Rough Stone over a period of 5 Years & 10,912m³ of Gravel over a period of 1-2 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



8.1 Employment Potential

It is proposed to provide employment to about 55persons for carrying out mining operations and give preference to the local people in providing employment. In addition, there will be opportunity for indirect employment to many people in the form of contractual jobs, business opportunities, service facilities etc. the economic status of the local people will be enhanced due to mining project.

8.2 Socio-Economic Welfare Measures Proposed

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

8.3 Improvement in Physical Infrastructure

The proposed project site is located in Morattupalayam Village, Uthukuli Taluk, Tiruppur District of Tamil Nadu and area have communications, roads and other facilities already well established. The following physical infrastructure facilities will further improve due to the cluster quarry projects.

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

8.4 Improvement in Social Infrastructure

The quarry projects in the region will have positive impact on the social economic condition of the area by way of providing employment to the local peoples; thereby increasing the per capita income, housing, education, medical and transportation facilities, economic status, health and agriculture.

- Social welfare program like medical camps, educational facilities to the poverty level students, providing water supply from the quarries during drought seasons will be taken from the project proponent's
- Supplementing Govt. efforts in health monitoring camps, social welfare and various Awareness programs among the rural population.

8.5 Other Tangible Benefits

The proposed quarry project 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 quarry site 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.,

CORPORATE SOCIAL RESPONSIBILITY

Individual Project Proponents 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 proponents 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

CSR Cost Estimation

• CSR activities will be taken up in the Morattupalayam 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.

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, all the mines being a green field project & Capital Investment is \leq 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 proposed mines is Rs. 10,00,000/-.

TABLE 8.1 CER - ACTION PLAN

Code	CER
P1	Rs 5,00,000/-
P2	Rs 5,00,000/-
Р3	Rs 5,00,000/-
Total	Rs.15,00,000/-

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

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 (Tmt.V. Revathi)

10.0 General

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

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

10.1 Environmental Policy

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

The Proponent Tmt.V.Revathi will –

- Meet the requirements of all laws, acts, regulations, and standards relevant to its operations and activities
- Allocate necessary resources to ensure the implementation of the environmental policy
- 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 a program to train employees in general environmental issues and individual workplace environmental responsibilities
- 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

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 each Proposed Quarry.

The said team will be responsible for:

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

Compliance to statutory provisions, norms of State Pollution Control Board, Ministry of Environment and
Forests and the conditions of the environmental clearance as well as the consents to establish and consents
to operate.

10.2 Land Environment Management –

Land degradation is one of the major adverse impacts of opencast mining in the form of excavated voids and contamination of soil affects the viability of the soil resource.

Soil contamination then has a number of flow-on effects like, Inhibition of plant growth, and death of existing plants in contaminated areas and contamination of soil also has potential to impact on a surface water quality and groundwater resources.

TABLE 10.1: PROPOSED CONTROLS FOR LAND ENVIRONMENT

CONTROL	RESPONSIBILITY
Designing vehicle wash-down system so that all washed water is captured and	Mines Manager
passed through grease and oil separators.	
Re fueling will be carried out in a safe location, away from vehicle movement	Mine Foreman &
pathways	Mining Mate
Greenbelt development and its maintenance	Environment Officer
Garland drains with catch pits to be provided all around the project area to prevent	Environment Officer
run off affecting the surrounding lands.	
The periphery of Project area will be planted with thick plantation to arrest the	Mines Manager
fugitive dust, which will also act as acoustic barrier.	
Thick plantation using native flora spices will be carried out on the top benches.	Mines Manager
There will be formation of a small surface water body in the mined-out area, which	Environment Officer
can be used for watering the greenbelt at the conceptual stages.	

Source: Proposed by FAE's & EIA Coordinator

10.3 Soil Management

Top Soil Management -

• There is no topsoil for this project site.

Overburden / Waste and Side Burden Management -

• The overburden in the form of Gravel formation, the Gravel will be directly loaded into tippers for the filling and levelling of low-lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government.

TABLE 10.2: PROPOSED CONTROLS FOR SOIL MANAGEMENT

CONTROL	RESPONSIBILITY
Garland drains are to be paved around the quarry pit area to arrest possible wash off in the	Mines Manager
rainy seasons	
Surface run-off from the surface water via garland drains will be diverted to the mine pits	Mine Foreman &
	Mining Mate
Design haul roads and other access roads with drainage systems to minimize concentration	Environment Officer
of flow and erosion risk	
keeping records of mitigation of erosion events, to improve on management techniques	Environment Officer
A monitoring map with information including their GPS coordinates, erosion type,	Environment Officer
intensity, and the extent of the affected area, as well as existing control measures and	
assessment of their performance	
Empty sediment from sediment traps	Environment Officer
Maintain, repair or upgrade garland drain system	

180

Test soils for pH, EC, chloride,	exchangeable cations, particle size and water holding	Mines Manager
capacity		

Source: Proposed by FAE's & EIA Coordinator

10.4 Water Management

In the proposed quarrying project, no process is involved for the effluent generation, only oil & grease from the machinery wash is anticipated and domestic sewage from mine office.

The quarrying operation is proposed upto a depth of 30 m BGL, the water table in the area is 70m - 65m below ground level, hence the proposed projects will not intersect the Ground water table during entire quarry period.

TABLE 10.3: PROPOSED CONTROLS FOR WATER ENVIRONMENT

CONTROL	RESPONSIBILITY
To maximize the reuse of pit water for water supply	Mines Foreman
Temporary and permanent garland drain will be constructed to contain the catchments of	Mines Manager
the mining area and to divert runoff from undisturbed areas through the mining areas	
Natural drains/nallahs/brooklets outside the project area should not be disturbed at any	Mines Manager
point of mining operations	
Ensure there is no process effluent generation or discharge from the project area into water	Mines Foreman
bodies	
Domestic sewage generated from the project area will be disposed in septic tank and soak	Mines Foreman
pit system	
Monthly or after rainfall, inspection for performance of water management structures and	Mines Manager
systems	
Conduct ground water and surface water monitoring for parameters specified by CPCB	Manager Mines

Source: Proposed by FAE's & EIA Coordinator

10.5 Air Quality Management

The existing and proposed mining activities would result in the increase of particulate matter concentrations due to fugitive dust. Water sprinkling twice per day 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 daily (twice) water sprinkling on working face and daily (twice) water sprinkling on haul road	Mines Manager
Wet drilling procedure /drills with dust extractor system to control dust generation during drilling at source itself is implemented	Mines Manager
Maintenance as per operator manual of the equipment and machinery in the mines to minimizing air pollution	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	Mines Manager
Provision of Dust Mask to all workers	Mines Manager
Greenbelt development all along the periphery of the project area	Mines Manager

10.6 Noise Management

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

TABLE 10.5: PROPOSED CONTROLS FOR NOISE ENVIRONMENT

CONTROL	RESPONSIBILITY
Development of thick greenbelt all along the Buffer Zone (7.5 Meters) of the project area	Mines Manager
to attenuate the noise and the same will be maintained	
Preventive maintenance of mining machinery and replacement of worn-out accessories to	Mines Foreman
control noise generation	
Deployment of mining equipment with an inbuilt mechanism to reduce noise	Mines Manager
Provision of earmuff / ear plugs to workers working in noise prone zones in the mines	Mining Mate
Provision of effective silencers for mining machinery and transport vehicles	Mines Manager
Provision of sound proof AC operator cabins to HEMM	Mines Manager
Sharp drill bits are used to minimize noise from drilling	Mines Foreman
Controlled blasting technologies are adopted by using delay detonators to minimize noise	Mines Manager
from blasting	
Annual ambient noise level monitoring shall be carried out in the project area and in	Mines Manager
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	
Reduce maximum instantaneous charge using delays while blasting	Mining Mate
Change the burden and spacing by altering the drilling pattern and/or delay layout, or	Mines Manager
altering the hole inclination	
Undertake noise or vibration monitoring	Mines Manager

Source: Proposed by FAE's & EIA Coordinator

10.7 Ground Vibration and Fly Rock Control

TABLE 10.6: PROPOSED CONTROLS FOR GROUND VIBRATIONS & FLY ROCK

CONTROL	RESPONSIBILITY
Controlled blasting using delay detonators will be carried out to maintain the PPV value	Mines Manager
(below 8Hz) well within the prescribed standards of DGMS	
Drilling and blasting will be carried under the supervision of qualified persons	Mines Manager
Proper stemming of holes should be carried out with statutory competent qualified blaster	Mines Manager
under the supervision of statutory mines manager to avoid any anomalies during blasting	
Suitable spacing and burden will be maintained to avoid misfire / fly rocks	Manager Mines
Number of blast holes will be restricted to control ground vibrations	Manager Mines
Blasting will be carried out only during noon time	Mining Mate
Undertake noise or vibration monitoring	Mines Manager
ensure blast holes are adequately stemmed for the depth of the hole and stemmed with	Mines Foreman
suitable angular material	

Source: Proposed by FAE's & EIA Coordinator

10.8 Biological Environment Management

The proponent 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 quarried out area etc.,

Following control measures are proposed for its management and will be the responsibility of the Mines Manager.

- Greenbelt development all along the safety barrier of the project area
- It is also proposed to implement the greenbelt development programme and post plantation status will be regularly checked for every season.

- The main attributes that retard the survival of sapling is fugitive dust, this fugitive dust can be controlled by water sprinkling on the haul roads and installing a sprinkler unit near the newly planted area.
- Year wise greenbelt development will 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.

10.8.1 Green Belt Development Plan

About 1130nos. of saplings is proposed to be planted for the Mining plan period in safety barrier of applied mine lease area with survival rate 80%. The greenbelt development plan has been prepared keeping in view the land use changes that will occur due to mining operation in the area.

TABLE 10.7 PROPOSED GREENBELT ACTIVITIES FOR 5 YEAR PLAN PERIOD – P1

	PROPOSAL – P1						
Year	No. of trees proposed to	Survial	Area to be covered	Name of the species	No. of trees expected to		
	be planted	%			be grown		
I	1130	80	Near 7.5m safety	Neem, Pongamia	904		
			distance, panchayat	Pinnata, Casuarina etc.,			
			road and village road				

Source: Conceptual Plan of Approved Mining plan& proposed by FAE's & EIA Coordinator

The objectives of the greenbelt development plan are –

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

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

10.8.2 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 10.8: RECOMMENDED SPECIES TO PLANT IN THE GREENBELT - P1

S. No	Botanical Name	Local Name	Importance
1.	Azadirachta indica	Neem, Vembu	Neem oil & neem products
2.	Tamarindus indica	Tamarind	Edible & Medicinal and other Uses
3.	Polyalthia longifolia	Nettilinkam	Tall and evergreen tree
4.	Borassus Flabellifer	Palmyra Palm	Tall Wind breaker tree and its fruits are edible

10.9 Occupational Safety & Health Management

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

10.9.1 Medical Surveillance and Examinations -

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

The health status of workers in the mine shall be regularly monitored under an occupational surveillance program. Under this program, all the employees are subjected to a detail 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 below tests keep upgrading the database of medical history of the employees.

Sl.No	Activities	1st Year	2 nd Year	3 rd Year	4 th Year	5 th Year
1	Initial Medical Examination (Mine Workers)					
A	Physical Check-up					
В	Psychological Test					
C	Audiometric Test					
D	Respiratory Test					
2	Periodical Medical Examination (Mine Workers)					
A	Physical Check – up					
В	Audiometric Test					
C	Eye Check – up					
D	Respiratory Test					
3	Medical Camp (Mine Workers & Nearby Villagers)					
4	Training (Mine Workers)					

TABLE 10.9: MEDICAL EXAMINATION SCHEDULE - P1

Medical Follow ups:- Work force will be divided into three targeted groups age wise as follows:-					
Age Group PME as per Mines Rules 1955 Special Examination					
Less than 25 years	Less than 25 years Once in a Three Years In case of emergencies				
Between 25 to 40 Years	Once in a Three Years	In case of emergencies			
Above 40 Years Once in a Three Years In case of emergencies					
Medical help on top priority immediately after diagnosis/ accident is the essence of preventive aspects.					

10.9.2 Proposed Occupational Health and Safety Measures –

- The mine site will have adequate drinking water supply so that workers do not get dehydrated.
- Lightweight and loose-fitting clothes having light colours will be preferred to wear.
- Noise exposure measurements will be taken to determine the need for noise control strategies.
- The personal protective equipment will be provided for mine workers.

- Supervisor will be instructed for reporting any problems with hearing protectors or noise control equipment.
- At noisy working activity, exposure time will be minimized.
- Dust generating sources will be identified and proper control measure will be adopted.
- Periodic medical examinations will be provided for all workers.
- Strict observance of the provisions of DGMS Acts, Rules and Regulations in respect of safety both by management and the workers.
- The width of road will be maintained more than thrice the width of the vehicle. A code of traffic rules will be implemented.
- In respect of contract work, safety code for contractors and workers will be implemented. They will be allowed to work under strict supervision of statutory person/officials only after they will impart training at vocational training centres. All personal protective equipment's will be provided to them.
- A safety committee meeting every month will be organized to discuss the safety of the mines and the persons employed.
- Celebration of annual mines safety week and environmental week in order to develop safety awareness and harmony amongst employees and co quarry owners.





10.9.3 Health and Safety Training Programme

The Proponents will 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 Environmental Consultants to provide periodical training to all the employees to carry out the mining operation in and eco-friendly manner.

TABLE 10.10: LIST OF PERIODICAL TRAININGS PROPOSED FOR EMPLOYEES – P1

New-Employee Training All new employees exposed to mine hazards Once Once Once Week Communication systems Employee rights Supervisor responsibilities Self-rescue Respiratory devices Transportation controls Communication systems Escape and emergency evacuation	Course	Personnel	Frequency	Duration	Instruction
	New-Employee Training	employees exposed to mine	Once		Supervisor responsibilities Self-rescue Respiratory devices Transportation controls Communication systems Escape and emergency

				Ground control hazards Occupational health hazards Electrical hazards First aid Explosives
Task Training Like Drilling, Blasting, Stemming, safety, Slope stability, Dewatering, Haul road maintenance,	Employees assigned to new work tasks	Before new Assignments	Variable	Task-specific health &safety procedures and SOP for various mining activity. Supervised practice in assigned work tasks.
Refresher Training	All employees who received new-hire training	Yearly	One week	Required health and safety standards Transportation controls Communication systems Escape ways, emergency evacuations Fire warning Ground control hazards First aid Electrical hazards Accident prevention Explosives Respirator devices
Hazard Training	All employees exposed to mine hazards	Once	Variable	Hazard recognition and avoidance Emergency evacuation procedures Health standards Safety rules Respiratory devices

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

10.9.4 Budgetary Provision for Environmental Management -

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

TABLE 10.11: EMP BUDGET FOR PROPOSED PROJECT – P1

	Mitigation Measure	Provision for Implementation	Capital	Recurring
	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	22550	22550
	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		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
Air Environment	Wet drilling procedure / latest eco-friendly drill machine with separate dust extractor unit	Ing procedure / latest eco-friendly drill machine Dust extractor @ Rs. 25,000/- per unit deployed as capital & @ Rs. 2500 per unit recurring cost for		10000
	No overloading of trucks/tippers/tractors	ks/tippers/tractors Manual Monitoring through Security guard		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	45100
	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	367336
	Waste management (Spent Oil, Grease etc.,)	Provision for domestic waste collection and disposal through authorized agency	5000	20000
Waste Management	t	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
	Progressive Closure Activity - Surface Runoff managent	Provision for garland drain @ Rs. 10,000/- per Hectare with maintenance of Rs. 5,000/- per annum	22550	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	451000	10000
	3. Progressive Closure Activity Green belt development - 500 trees per one hectare - Proposal for 1130Trees -	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)	96000	14400
Mine Closure	(480Inside Lease Area & 400 Outside Lease Area)	Avenue Plantation @ 300 per plant (capital) for plantation outside the lease area and @ 30 per plant maintenance (recurring)	120000	12000
	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	44100	0

	2461850	1494145.8		
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	0
	Implementation as per Mining Plan and ensure safe quarry working	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
	Installation of CCTV cameras in the mines and mine entrance	Camera 4 Nos, DVR, Monitor with internet facility	30000	5000
	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	112750	10000
DGMS Condition	Mine will have safety precaution signages, boards.	Provision for signages and boards made	10000	2000
EC, Mining Plan &		Provision of 2 Kits per Hectare @ Rs. 2000/-	0	4510
Implementation of	Health check up for workers will be provisioned	IME & PME Health check up @ Rs. 1000/- per employee	0	18000
	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) - 18 Employees	72000	18000
	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
	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
	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	833570	0

In order to implement the environmental protection measures, an amount of Rs.24.61 lakhs as capital cost and recurring cost as Rs. 14.94 lakhs as recurring cost is proposed considering present market price considering present market scenario for the proposed project.

Year Wise Break Up			
1st Year	Rs 3955995.8		
2nd Year	Rs 1568853.09		
3rd Year	Rs 1647295.745		
4th Year	Rs 1729660.532		
5th Year	Rs 1860243.558		
Total	Rs. 108 lakhs		

10.10 CONCLUSION

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

CHAPTER - 10: ENVIRONMENTAL MANAGEMENT PLAN – P2 (Thiru.U.Prabhakaran)

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

The Proponent Thiru.U. Prabhakaran 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

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 each Proposed Quarry.

The said team will be responsible for:

- Monitoring of the water/ waste water quality, air quality and solid waste generated
- Analysis of the water and air samples collected through external laboratory
- 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 –

Land degradation is one of the major adverse impacts of opencast mining in the form of excavated voids and contamination of soil affects the viability of the soil resource.

Soil contamination then has a number of flow-on effects like, Inhabitation of plant growth, and death of existing plants in contaminated areas and contamination of soil also has potential to impact on a surface water quality and groundwater resources.

TABLE 10.1: PROPOSED CONTROLS FOR LAND ENVIRONMENT

CONTROL	RESPONSIBILITY
Designing vehicle wash-down system so that all washed water is captured and	Mines Manager
passed through grease and oil separators.	
Re fueling will be carried out in a safe location, away from vehicle movement	Mine Foreman &
pathways	Mining Mate
Greenbelt development and its maintenance	Environment Officer
Garland drains with catch pits to be provided all around the project area to prevent	Environment Officer
run off affecting the surrounding lands.	
The periphery of Project area will be planted with thick plantation to arrest the	Mines Manager
fugitive dust, which will also act as acoustic barrier.	
Thick plantation using native flora spices will be carried out on the top benches.	Mines Manager
There will be formation of a small surface water body in the mined-out area, which	Environment Officer
can be used for watering the greenbelt at the conceptual stages.	

Source: Proposed by FAE's & EIA Coordinator

10.4 Soil Management

Top Soil Management -

• There is nil topsoil for this project site.

Overburden / Waste and Side Burden Management -

• The overburden in the form of topsoil formation, the topsoil will be directly loaded into tippers for the filling and levelling of low-lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government.

TABLE 10.2: PROPOSED CONTROLS FOR SOIL MANAGEMENT

CONTROL	RESPONSIBILITY
Garland drains are to be paved around the quarry pit area to arrest possible wash off in the rainy seasons	Mines Manager
Surface run-off from the surface water via garland drains will be diverted to the mine pits	Mine Foreman &
	Mining Mate
Design haul roads and other access roads with drainage systems to minimize concentration of flow and	Environment Officer
erosion risk	
keeping records of mitigation of erosion events, to improve on management techniques	Environment Officer
A monitoring map with information including their GPS coordinates, erosion type, intensity, and the	Environment Officer
extent of the affected area, as well as existing control measures and assessment of their performance	
Empty sediment from sediment traps	Environment Officer
Maintain, repair or upgrade garland drain system	
Test soils for pH, EC, chloride, exchangeable cations, particle size and water holding capacity	Mines Manager

10.5 Water Management

In the proposed quarrying project, no process is involved for the effluent generation, only oil & grease from the machinery wash is anticipated and domestic sewage from mine office.

The quarrying operation is restricted upto a depth of 36m BGL as per the Approved mining plan, the water table in the area is 78m - 73m below ground level, hence the proposed projects will not intersect the Ground water table during entire quarry period.

TABLE 10.3: PROPOSED CONTROLS FOR WATER ENVIRONMENT

CONTROL	RESPONSIBILITY
To maximize the reuse of pit water for water supply	Mines Foreman
Temporary and permanent garland drain will be constructed to contain the catchments	Mines Manager
of the mining area and to divert runoff from undisturbed areas through the mining	
areas	
Natural drains/nallahs/brooklets outside the project area should not be disturbed at any	Mines Manager
point of mining operations	
Ensure there is no process effluent generation or discharge from the project area into	Mines Foreman
water bodies	
Domestic sewage generated from the project area will be disposed in septic tank and	Mines Foreman
soak pit system	
Monthly or after rainfall, inspection for performance of water management structures	Mines Manager
and systems	
Conduct ground water and surface water monitoring for parameters specified by	Manager Mines
CPCB	

Source: Proposed by FAE's & EIA Coordinator

10.6 Air Quality Management

The existing and proposed mining activities would result in the increase of particulate matter concentrations due to fugitive dust. Water sprinkling twice per day 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 daily (twice) water sprinkling on working face and daily (twice) water sprinkling on haul road	Mines Manager
Wet drilling procedure /drills with dust extractor system to control dust generation during drilling at source itself is implemented	Mines Manager
Maintenance as per operator manual of the equipment and machinery in the mines to minimizing air pollution	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	Mines Manager
Provision of Dust Mask to all workers	Mines Manager
Greenbelt development all along the periphery of the project area	Mines Manager

10.7 Noise Management

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

TABLE 10.5: PROPOSED CONTROLS FOR NOISE ENVIRONMENT

CONTROL	RESPONSIBILITY
Development of thick greenbelt all along the Buffer Zone (7.5 Meters) of the project area to attenuate the noise and the same will be maintained	Mines Manager
Preventive maintenance of mining machinery and replacement of worn-out accessories to control noise generation	Mines Foreman
Deployment of mining equipment with an inbuilt mechanism to reduce noise	Mines Manager
Provision of earmuff / ear plugs to workers working in noise prone zones in the mines	Mining Mate
Provision of effective silencers for mining machinery and transport vehicles	Mines Manager
Provision of sound proof AC operator cabins to HEMM	Mines Manager
Sharp drill bits are used to minimize noise from drilling	Mines Foreman
Controlled blasting technologies are adopted by using delay detonators to minimize noise from blasting	Mines Manager
Annual ambient noise level monitoring shall 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	Mines Manager
Reduce maximum instantaneous charge using delays while blasting	Mining Mate
Change the burden and spacing by altering the drilling pattern and/or delay layout, or altering the hole inclination	Mines Manager
Undertake noise or vibration monitoring	Mines Manager

Source: Proposed by FAE's & EIA Coordinator

10.8 Ground Vibration and Fly Rock Control

TABLE 10.6: PROPOSED CONTROLS FOR GROUND VIBRATIONS & FLY ROCK

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 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
Suitable spacing and burden will be maintained to avoid misfire / fly rocks	Manager Mines
Number of blast holes will be restricted to control ground vibrations	Manager Mines
Blasting will be carried out only during noon time	Mining Mate
Undertake noise or vibration monitoring	Mines Manager
ensure blast holes are adequately stemmed for the depth of the hole and stemmed with suitable angular material	Mines Foreman

10.8 Biological Environment Management

The proponent 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 quarried out area etc.,

Following control measures are proposed for its management and will be the responsibility of the Mines Manager.

- Greenbelt development all along the safety barrier of the project area
- It is also proposed to implement the greenbelt development programme and post plantation status will be regularly checked for every season.
- The main attributes that retard the survival of sapling is fugitive dust, this fugitive dust can be controlled by water sprinkling on the haul roads and installing a sprinkler unit near the newly planted area.
- Year wise greenbelt development will 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.

10.8.1 Green Belt Development Plan

About 350 nos. of saplings is proposed to be planted for the Mining plan period in safety barrier of applied mine lease area with survival rate 80%. The greenbelt development plan has been prepared keeping in view the land use changes that will occur due to mining operation in the area.

TABLE 10.7 PROPOSED GREENBELT ACTIVITIES FOR 5 YEAR PLAN PERIOD – P2

	PROPOSAL – P2- Tmt.K. Sangeetha						
Year	Year No. of trees proposed to Survial Area to be covered Name of the species No. of trees expected to						
	be planted	%	sq.m		be grown		
I	350	80%	Near 7.5m safety	Neem, Pongamia	280		
			distance, panchayat	Pinnata, Casuarina etc.,			
			road and village road				

Source: Conceptual Plan of Approved Mining plan& proposed by FAE's & EIA Coordinator

The objectives of the greenbelt development plan are –

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

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

10.8.2 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 10.8: RECOMMENDED SPECIES TO PLANT IN THE GREENBELT - P2

S.No	Botanical Name	Local Name	Importance
1	Azadirachta indica	Neem, Vembu	Neem oil & neem products
2	Tamarindus indica	Tamarind	Edible & Medicinal and other Uses
3	Polyalthia longifolia	Nettilinkam	Tall and evergreen tree
4	Borassus Flabellifer	Palmyra Palm	Tall Wind breaker tree and its fruits are edible

Source: Proposed by FAE's & EIA Coordinator

10.9 Occupational Safety & Health Management

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

10.9.1 Medical Surveillance and Examinations –

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

The health status of workers in the mine shall be regularly monitored under an occupational surveillance program. Under this program, all the employees are subjected to a detail 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 below tests keep upgrading the database of medical history of the employees.

TABLE 10.9: MEDICAL EXAMINATION SCHEDULE - P2

Sl.No	Activities		1st Year	2 nd Y	Year	3 rd Year	4th Year	5 th Year
1	Initial Medical Examination	on (Mine Workers)					•	
A	Physical Check-up							
В	Psychological Test							
С	Audiometric Test							
D	Respiratory Test							
2	Periodical Medical Examin	nation (Mine Workers)						
A	Physical Check – up							
В	Audiometric Test							
С	Eye Check – up							
D	Respiratory Test							
3	Medical Camp (Mine Workers & Nearby Villagers)							
4	Training (Mine Workers)							
Medic	Medical Follow ups:- Work force will be divided into three targeted groups age wise as follows:-							
Age G	Group PME as per Mines Rules 1955 Special Examination							
Less tl	s than 25 years Once in a Three Years				In c	ase of eme	rgencies	
			•					TUA

Between 25 to 40 Years	Once in a Three Years	In case of emergencies		
Above 40 Years	Once in a Three Years	In case of emergencies		
Medical help on top priority immediately after diagnosis/ accident is the essence of preventive aspects.				

10.9.2 Proposed Occupational Health and Safety Measures –

- The mine site will have adequate drinking water supply so that workers do not get dehydrated.
- Lightweight and loose-fitting clothes having light colours will be preferred to wear.
- Noise exposure measurements will be taken to determine the need for noise control strategies.
- The personal protective equipment will be provided for mine workers.
- Supervisor will be instructed for reporting any problems with hearing protectors or noise control equipment.
- At noisy working activity, exposure time will be minimized.
- Dust generating sources will be identified and proper control measure will be adopted.
- Periodic medical examinations will be provided for all workers.
- Strict observance of the provisions of DGMS Acts, Rules and Regulations in respect of safety both by management and the workers.
- The width of road will be maintained more than thrice the width of the vehicle. A code of traffic rules will be implemented.
- In respect of contract work, safety code for contractors and workers will be implemented. They will be allowed to work under strict supervision of statutory person/officials only after they will impart training at vocational training centres. All personal protective equipment's will be provided to them.
- A safety committee meeting every month will be organized to discuss the safety of the mines and the persons employed.
- Celebration of annual mines safety week and environmental week in order to develop safety awareness and harmony amongst employees and co quarry owners.





10.9.3 Health and Safety Training Programme

The Proponents will 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 Environmental Consultants to provide periodical training to all the employees to carry out the mining operation in and eco-friendly manner.

TABLE 10.10: LIST OF PERIODICAL TRAININGS PROPOSED FOR EMPLOYEES – P2

Course	Personnel	Frequency	Duration	Instruction

New-Employee Training	All new employees exposed to mine hazards	Once	One week	Employee rights Supervisor responsibilities Self-rescue Respiratory devices Transportation controls Communication systems Escape and emergency evacuation Ground control hazards Occupational health hazards Electrical hazards First aid Explosives
Task Training Like Drilling, Blasting, Stemming, safety, Slope stability, Dewatering, Haul Road maintenance,	Employees assigned to new work tasks	Before new Assignments	Variable	Task-specific health &safety procedures and SOP for various mining activity. Supervised practice in assigned work tasks.
Refresher Training	All employees who received new-hire training	Yearly	One week	Required health and safety standards Transportation controls Communication systems Escape ways, emergency evacuations Fire warning Ground control hazards First aid Electrical hazards Accident prevention Explosives Respirator devices
Hazard Training	All employees exposed to mine hazards	Once	Variable	Hazard recognition and avoidance Emergency evacuation procedures Health standards Safety rules Respiratory devices

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

10.9.4 Budgetary Provision for Environmental Management -

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

TABLE 10.11: EMP BUDGET FOR PROPOSED PROJECT – P2

	Mitigation Measure	Provision for Implementation	Capital	Recurring
	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	6880	6880
	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
Aim L'mrimonmont	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 -2 Units	50000	5000
	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	13760
	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	125125
	Waste management (Spent Oil, Grease etc.,)	Provision for domestic waste collection and disposal through authorized agency	5000	20000
Waste Management		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	Progressive Closure Activity - Surface Runoff managent	Provision for garland drain @ Rs. 10,000/- per Hectare with maintenance of Rs. 5,000/- per annum	6880	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	137600	10000
	3. Progressive Closure Activity Green belt development - 500 trees per one hectare - Proposal for 340Trees -	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)	64000	9600
	(320Inside Lease Area & 250 Outside Lease Area)	Avenue Plantation @ 300 per plant (capital) for plantation outside the lease area and @ 30 per plant maintenance (recurring)	75000	7500
	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	28650	0

	1895760	1179491		
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	0
	Implementation as per Mining Plan and ensure safe quarry working	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
	Installation of CCTV cameras in the mines and mine entrance	Camera 4 Nos, DVR, Monitor with internet facility	30000	5000
	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	34400	10000
	Mine will have safety precaution signages, boards.	Provision for signages and boards made	10000	2000
Implementation of EC, Mining Plan & DGMS Condition	First aid facility will be provided	Provision of 2 Kits per Hectare @ Rs. 2000/-	0	1376
	Health check up for workers will be provisioned	IME & PME Health check up @ Rs. 1000/- per employee	0	14000
	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) - 14 Employees	56000	14000
	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
	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
	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	283938	0

In order to implement the environmental protection measures, an amount of Rs.18.95 lakhs as capital cost and recurring cost as Rs. 11.79 lakhs as recurring cost is proposed considering present market price considering present market scenario for the proposed project.

Year Wise Break Up			
1st Year	₹ 3075251		
2nd Year	₹ 1238465.6		
3rd Year	₹ 1300388.8		
4th Year	₹ 1365408.3		
5th Year	₹ 1462328.7		
Total	₹ 84 lakhs		

10.10 CONCLUSION -

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

CHAPTER - 10: ENVIRONMENTAL MANAGEMENT PLAN – P3 (Thiru.S. Rajasekar)

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

The Proponent Thiru.S. Rajasekar 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

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 each Proposed Quarry.

The said team will be responsible for:

- Monitoring of the water/ waste water quality, air quality and solid waste generated
- Analysis of the water and air samples collected through external laboratory
- 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 –

Land degradation is one of the major adverse impacts of opencast mining in the form of excavated voids and contamination of soil affects the viability of the soil resource.

Soil contamination then has a number of flow-on effects like, Inhabitation of plant growth, and death of existing plants in contaminated areas and contamination of soil also has potential to impact on a surface water quality and groundwater resources.

TABLE 10.1: PROPOSED CONTROLS FOR LAND ENVIRONMENT

CONTROL	RESPONSIBILITY
Designing vehicle wash-down system so that all washed water is captured and	Mines Manager
passed through grease and oil separators.	
Re fueling will be carried out in a safe location, away from vehicle movement	Mine Foreman &
pathways	Mining Mate
Greenbelt development and its maintenance	Environment Officer
Garland drains with catch pits to be provided all around the project area to prevent	Environment Officer
run off affecting the surrounding lands.	
The periphery of Project area will be planted with thick plantation to arrest the	Mines Manager
fugitive dust, which will also act as acoustic barrier.	
Thick plantation using native flora spices will be carried out on the top benches.	Mines Manager
There will be formation of a small surface water body in the mined-out area, which	Environment Officer
can be used for watering the greenbelt at the conceptual stages.	

Source: Proposed by FAE's & EIA Coordinator

10.4 Soil Management

Top Soil Management -

• There is nil topsoil for this project site.

Overburden / Waste and Side Burden Management -

• The overburden in the form of topsoil formation, the topsoil will be directly loaded into tippers for the filling and levelling of low-lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government.

TABLE 10.2: PROPOSED CONTROLS FOR SOIL MANAGEMENT

CONTROL	RESPONSIBILITY
Garland drains are to be paved around the quarry pit area to arrest possible wash off in the rainy seasons	Mines Manager
Surface run-off from the surface water via garland drains will be diverted to the mine pits	Mine Foreman &
	Mining Mate
Design haul roads and other access roads with drainage systems to minimize concentration of flow and	Environment Officer
erosion risk	
keeping records of mitigation of erosion events, to improve on management techniques	Environment Officer
A monitoring map with information including their GPS coordinates, erosion type, intensity, and the	Environment Officer
extent of the affected area, as well as existing control measures and assessment of their performance	
Empty sediment from sediment traps	Environment Officer
Maintain, repair or upgrade garland drain system	
Test soils for pH, EC, chloride, exchangeable cations, particle size and water holding capacity	Mines Manager

Source: Proposed by FAE's & EIA Coordinator

10.5 Water Management

In the proposed quarrying project, no process is involved for the effluent generation, only oil & grease from the machinery wash is anticipated and domestic sewage from mine office.

The quarrying operation is restricted upto a depth of 37m BGL as per the Approved mining plan, the water table in the area is 68m below ground level, hence the proposed projects will not intersect the Ground water table during entire quarry period.

TABLE 10.3: PROPOSED CONTROLS FOR WATER ENVIRONMENT

CONTROL	RESPONSIBILITY
To maximize the reuse of pit water for water supply	Mines Foreman
Temporary and permanent garland drain will be constructed to contain the catchments	Mines Manager
of the mining area and to divert runoff from undisturbed areas through the mining	
areas	
Natural drains/nallahs/brooklets outside the project area should not be disturbed at any	Mines Manager
point of mining operations	
Ensure there is no process effluent generation or discharge from the project area into	Mines Foreman
water bodies	
Domestic sewage generated from the project area will be disposed in septic tank and	Mines Foreman
soak pit system	
Monthly or after rainfall, inspection for performance of water management structures	Mines Manager
and systems	
Conduct ground water and surface water monitoring for parameters specified by	Manager Mines
CPCB	

Source: Proposed by FAE's & EIA Coordinator

10.6 Air Quality Management

The existing and proposed mining activities would result in the increase of particulate matter concentrations due to fugitive dust. Water sprinkling twice per day 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 daily (twice) water sprinkling on	Mines Manager
working face and daily (twice) water sprinkling on haul road	
Wet drilling procedure /drills with dust extractor system to control dust generation during	Mines Manager
drilling at source itself is implemented	
Maintenance as per operator manual of the equipment and machinery in the mines to	Mines Manager
minimizing air pollution	
Ambient Air Quality Monitoring carried out in the project area and in surrounding villages	Mines Manager
to access the impact due to the mining activities and the efficacy of the adopted air pollution	
control measures	
Provision of Dust Mask to all workers	Mines Manager
Greenbelt development all along the periphery of the project area	Mines Manager

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 other allied activities. No mining activities are planned during night time.

TABLE 10.5: PROPOSED CONTROLS FOR NOISE ENVIRONMENT

CONTROL	RESPONSIBILITY
Development of thick greenbelt all along the Buffer Zone (7.5 Meters) of the project area to attenuate the noise and the same will be maintained	Mines Manager
Preventive maintenance of mining machinery and replacement of worn-out accessories to control noise generation	Mines Foreman
Deployment of mining equipment with an inbuilt mechanism to reduce noise	Mines Manager
Provision of earmuff / ear plugs to workers working in noise prone zones in the mines	Mining Mate
Provision of effective silencers for mining machinery and transport vehicles	Mines Manager
Provision of sound proof AC operator cabins to HEMM	Mines Manager
Sharp drill bits are used to minimize noise from drilling	Mines Foreman
Controlled blasting technologies are adopted by using delay detonators to minimize noise from blasting	Mines Manager
Annual ambient noise level monitoring shall 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	Mines Manager
Reduce maximum instantaneous charge using delays while blasting	Mining Mate
Change the burden and spacing by altering the drilling pattern and/or delay layout, or altering the hole inclination	Mines Manager
Undertake noise or vibration monitoring	Mines Manager

Source: Proposed by FAE's & EIA Coordinator

10.8 Ground Vibration and Fly Rock Control

TABLE 10.6: PROPOSED CONTROLS FOR GROUND VIBRATIONS & FLY ROCK

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 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
Suitable spacing and burden will be maintained to avoid misfire / fly rocks	Manager Mines
Number of blast holes will be restricted to control ground vibrations	Manager Mines
Blasting will be carried out only during noon time	Mining Mate
Undertake noise or vibration monitoring	Mines Manager
ensure blast holes are adequately stemmed for the depth of the hole and stemmed with suitable angular material	Mines Foreman

Source: Proposed by FAE's & EIA Coordinator

10.8 Biological Environment Management

The proponent 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 quarried out area etc.,

Following control measures are proposed for its management and will be the responsibility of the Mines Manager.

- Greenbelt development all along the safety barrier of the project area
- It is also proposed to implement the greenbelt development programme and post plantation status will be regularly checked for every season.
- The main attributes that retard the survival of sapling is fugitive dust, this fugitive dust can be controlled by water sprinkling on the haul roads and installing a sprinkler unit near the newly planted area.
- Year wise greenbelt development will 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.

10.8.1 Green Belt Development Plan

About 1250 nos. of saplings is proposed to be planted for the Mining plan period in safety barrier of applied mine lease area with survival rate 80%. The greenbelt development plan has been prepared keeping in view the land use changes that will occur due to mining operation in the area.

TABLE 10.7 PROPOSED GREENBELT ACTIVITIES FOR 5 YEAR PLAN PERIOD - P3

	PROPOSAL – P2- Tmt.K. Sangeetha					
Year	No. of trees proposed to	Survial	Area to be covered	Name of the species	No. of trees expected to	
	be planted	%	sq.m		be grown	
I	1250	80%	Near 7.5m safety	Neem, Pongamia	1000	
			distance, panchayat	Pinnata, Casuarina		
			road and village	etc.,		
			road			

Source: Conceptual Plan of Approved Mining plan& proposed by FAE's & EIA Coordinator

The objectives of the greenbelt development plan are –

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

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

10.8.2 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 10.8: RECOMMENDED SPECIES TO PLANT IN THE GREENBELT – P3

S.No	Botanical Name	Local Name	Importance
1	Azadirachta indica	Neem, Vembu	Neem oil & neem products
2	Tamarindus indica	Tamarind	Edible & Medicinal and other Uses
3	Polyalthia longifolia	Nettilinkam	Tall and evergreen tree
4	Borassus Flabellifer	Palmyra Palm	Tall Wind breaker tree and its fruits are edible

Source: Proposed by FAE's & EIA Coordinator

10.9 Occupational Safety & Health Management

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

10.9.1 Medical Surveillance and Examinations –

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

The health status of workers in the mine shall be regularly monitored under an occupational surveillance program. Under this program, all the employees are subjected to a detail 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 below tests keep upgrading the database of medical history of the employees.

TABLE 10.9: MEDICAL EXAMINATION SCHEDULE - P3

Sl.No	Activities		1st Year	2nd Y	ear	3 rd Year	4th Year	5th Year
1	Initial Medical Examination	on (Mine Workers)						
A	Physical Check-up							
В	Psychological Test							
С	Audiometric Test							
D	Respiratory Test							
2	Periodical Medical Examination (Mine Workers)							
A	Physical Check - up							
В	Audiometric Test							
С	Eye Check – up							
D	Respiratory Test							
3	Medical Camp (Mine Wor	kers & Nearby Villagers)						
4	Training (Mine Workers)							
Medic	Medical Follow ups:- Work force will be divided into three targeted groups age wise as follows:-							
Age G	Froup	PME as per Mines Rules	s 1955	Special Examination				
		-						

Less than 25 years	Once in a Three Years	In case of emergencies			
Between 25 to 40 Years	Once in a Three Years	In case of emergencies			
Above 40 Years	Once in a Three Years	In case of emergencies			
Medical help on top priority immediately after diagnosis/ accident is the essence of preventive aspects.					

10.9.2 Proposed Occupational Health and Safety Measures –

- The mine site will have adequate drinking water supply so that workers do not get dehydrated.
- Lightweight and loose-fitting clothes having light colours will be preferred to wear.
- Noise exposure measurements will be taken to determine the need for noise control strategies.
- The personal protective equipment will be provided for mine workers.
- Supervisor will be instructed for reporting any problems with hearing protectors or noise control equipment.
- At noisy working activity, exposure time will be minimized.
- Dust generating sources will be identified and proper control measure will be adopted.
- Periodic medical examinations will be provided for all workers.
- Strict observance of the provisions of DGMS Acts, Rules and Regulations in respect of safety both by management and the workers.
- The width of road will be maintained more than thrice the width of the vehicle. A code of traffic rules will be implemented.
- In respect of contract work, safety code for contractors and workers will be implemented. They will be allowed to work under strict supervision of statutory person/officials only after they will impart training at vocational training centres. All personal protective equipment's will be provided to them.
- A safety committee meeting every month will be organized to discuss the safety of the mines and the persons employed.
- Celebration of annual mines safety week and environmental week in order to develop safety awareness and harmony amongst employees and co quarry owners.





10.9.3 Health and Safety Training Programme

The Proponents will 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 Environmental Consultants to provide periodical training to all the employees to carry out the mining operation in and eco-friendly manner.

TABLE 10.10: LIST OF PERIODICAL TRAININGS PROPOSED FOR EMPLOYEES - P3

Course	Personnel	Frequency	Duration	Instruction
New-Employee Training	All new employees exposed to mine hazards	Once	One week	Employee rights Supervisor responsibilities Self-rescue Respiratory devices Transportation controls Communication systems Escape and emergency evacuation Ground control hazards Occupational health hazards Electrical hazards First aid Explosives
Task Training Like Drilling, Blasting, Stemming, safety, Slope stability, Dewatering, Haul Road maintenance,	Employees assigned to new work tasks	Before new Assignments	Variable	Task-specific health &safety procedures and SOP for various mining activity. Supervised practice in assigned work tasks.
Refresher Training	All employees who received new-hire training	Yearly	One week	Required health and safety standards Transportation controls Communication systems Escape ways, emergency evacuations Fire warning Ground control hazards First aid Electrical hazards Accident prevention Explosives Respirator devices
Hazard Training	All employees exposed to mine hazards	Once	Variable	Hazard recognition and avoidance Emergency evacuation procedures Health standards Safety rules Respiratory devices

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

10.9.4 Budgetary Provision for Environmental Management -

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

TABLE 10.11: EMP BUDGET FOR PROPOSED PROJECT – P3

	Mitigation Measure	Provision for Implementation	Capital	Recurring
	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	24850	24850
	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
Air Environment	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 -2 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 - 3 Units	15000	750
	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	49700
	Installing wheel wash system near gate of quarry	Installation + Maintenance + Supervision	50000	20000
	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
Noise Environment	Oiling & greasing of Transport vehicles and HEMM at regular interval will be done	Provision made in Operating Cost	0	0
Environment	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	425396
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
	Progressive Closure Activity - Surface Runoff managent	Provision for garland drain @ Rs. 10,000/- per Hectare with maintenance of Rs. 5,000/- per annum	24850	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	497000	10000
	3. Progressive Closure Activity Green belt development - 500 trees per one hectare - Proposal for 1250Trees - (450Inside Lease Area & 750 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)	90000	13500
Mine Closure		Avenue Plantation @ 300 per plant (capital) for plantation outside the lease area and @ 30 per plant maintenance (recurring)	225000	22500
	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	45750	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	965323	0
	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) - 23Employees	92000	23000
Implementation	Health check up for workers will be provisioned	IME & PME Health check up @ Rs. 1000/- per employee	0	23000
of EC, Mining Plan & DGMS Condition	First aid facility will be provided	Provision of 2 Kits per Hectare @ Rs. 2000/-	0	4970
	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	124250	10000
	Installation of CCTV cameras in the mines and mine entrance	Camera 4 Nos, DVR, Monitor with internet facility	30000	5000
	Implementation as per Mining Plan and ensure safe quarry working	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	0
	TOTAL		2677950	1582166.4

In order to implement the environmental protection measures, an amount of Rs.18.95 lakhs as capital cost and recurring cost as Rs. 11.79 lakhs as recurring cost is proposed considering present market price considering present market scenario for the proposed project.

Year Wise Break Up				
1st Year	₹42,60,116.4			
2nd Year	₹16,61,274.7			
3rd Year	₹17,44,338.5			
4th Year	₹18,31,555.4			
5th Year	₹19,68,883.1			
Total	₹ 115 lakhs			

10.10 CONCLUSION -

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

CHAPTER – 11: SUMMARY AND CONCLUSIONS

Morattupalay am Rough Stone and Gravel Cluster Quarries (Extent: 21.64.52 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 Draft EIA/ EMP Report is prepared for public and other stakeholders' suggestions and a Final EIA/ EMP Report will be prepared based on the outcome of Public Consultation.

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

The main scope of the EIA study is to quantify the cumulative impact in the study area due to cluster quarries and formulate the effective mitigation measures 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 March2022 to May2022 for various environmental components so as to assess the anticipated impacts of the cluster quarry projects on the environment and suitable mitigation measures for likely adverse impacts due to the proposed project is suggested individually for the respective proposed project under Chapter 10.

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

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

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

Sustainable and modern mining leads us to see positive impact of mining operation and providing consistent employment for nearly 55 people directly in the cluster and indirectly around 100people.

As discussed, it is safe to say that the proposed quarries are not likely to cause any significant impact to the ecology of the area, as adequate preventive measures will be adopted to keep the various pollutants within the permissible limits. Green belt development around the area will also be taken up as an effective pollution mitigate technique, as well as to serve as biological indicators for the pollutants released from the Morattupalayam Rough Stone and Gravel Cluster Quarries (Cluster Extent: 21.64.52ha).

CHAPTER 12.0: DISCLOSURE OF CONSULTANTS

The Project Proponent's -

- 1. Tmt.V.Revathi
- 2. Thiru.U.Prabhakaran
- 3. Thiru.S. Rajasekar

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

Name and address of the consultancy:

GEO EXPLORATION AND MINING SOLUTIONS

No 17, Advaitha Ashram Road, Alagapuram, Salem – 636 004

Tamil Nadu, India

Email: infogeoexploration@gmail.com

Web: www.gemssalem.com

Phone: 0427 2431989.

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

CLNo	Name of the avment	In house/Emponelled	EIA C	oordinator	FAE		
Sl.No.	Name of the expert	In house/ Empanelled	Sector	Category	Sector	Category	
					WP	В	
1	Dr. M. Ifthikhar Ahmed	In-house	1	A	GEO	A	
1	SC SC SC HG GEO						
					SC	A	
2	D D TTI :	7 1			HG	A	
2	Dr. P. Thangaraju	In-house	-	-	GEO	A	
						+	
	3.5					В	
3	Mr. A. Jagannathan	In-house	-	-	NV	A	
					SHW	В	
					AO	В	
4	M., N. C., 41, 11,	D11 - 4	38	В		В	
·	Mr. N. Senthikumar	Empanelled	28	В			
						A	
5	Mrs. Jisha parameswaran	In-house	-	-	SW	В	
6	Mr. Govindasamy	Mr. Govindasamy In-house		-	WP	В	
7	Mrs. K. Anitha	In-house	-	-	SE	A	
8	Mrs. Amirtham	In-house	_	_	EB	В	
9	Mr. Alagappa Moses	Empanelled	_	-	EB	A	
10	Mr. A. Allimuthu	In-house	_	_	LU	В	
11	Mr. S. Pavel	Empanelled	_	_	RH	В	
11	IVII. S. I avei	Empanenea	_			1	
12	Mr. J. R. Vikram Krishna	Empanelled	_	_	SHW	A	
					RH	A	
EC	Abbreviations EIA Coordinator						
EC AEC	Associate EIA Coordinator						
FAE	Functional Area Expert						
FAA	Functional Area Associates						
TM	Team Member						
GEO WP	Geology Water pollution monitoring, prevention and						
WI	control						
AP	Air pollution monitoring, prevention and control						
LU	Land Use						
AQ EB	Meteorology, air quality modeling, and prediction Ecology and bio-diversity						
NV	Noise and vibration						
SE	Socio economics						
HG	Hydrology, ground water and water conservation						
SC	Soil conservation						
RH SHW	Risk assessment and hazard management 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 Morattupalayam Rough Stone & Gravel Cluster Quarries over an Extent of **21.64.52**ha in Morattupalayam Village, Uthukuli Taluk, Tiruppur 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: January 2022 to till date

Associated Team Member with EIA Coordinator:

1. Mr. S. Nagamani

2. Mr. Viswanathan

3. Mr. 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	70, 4
2	WP	 Suggesting water treatment systems, drainage facilities Evaluating probable impacts of effluent/waste 	Dr. M. Ifthikhar Ahmed	De to Bannamaria
2	WI	water discharges into the receiving environment/water bodies and suggesting control measures.	Mr. N. Senthilkumar	5.A-
3	HG	 Interpretation of ground water table and predict impact and propose mitigation measures. Analysis and description of aquifer Characteristics 	Dr. P. Thangaraju	atymmy
4	GEO	 Field Survey for assessing the regional and local geology of the area. Preparation of mineral and geological maps. 	Dr. M. Ifthikhar Ahmed	5x v. Z
		 Geology and Geo morphological analysis/description and Stratigraphy/Lithology. 	Dr. P. Thangaraju	duymmy
5	SE	 Revision in secondary data as per Census of India, 2011. Impact Assessment & Preventive Management Plan Corporate Environment Responsibility. 	Mrs. K. Anitha	Ju
6	EB	 Collection of Baseline data of Flora and Fauna. Identification of species labelled as Rare, Endangered and threatened as per IUCN list. 	Mrs. Amirtham	co - A mortan

		 Impact of the project on flora and fauna. Suggesting species for greenbelt development. 	Mr. Alagappa Moses	- Aleghi
		 Identification of hazards and hazardous substances Risks and consequences analysis 	Mr. N. Senthilkumar	4
7	RH	RH Vulnerability assessment	Mr. S. Pavel	M.S. The
		 Preparation of Emergency Preparedness Plan Management plan for safety. 	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	alemultons
9	NV	 Identify impacts due to noise and vibrations Suggesting appropriate mitigation measures for EMP. 	Mr. A. Jagannathan	400, 正
10	AQ	 Identifying different source of emissions and propose predictions of incremental GLC using AERMOD. Recommending mitigations measures for EMP 	Mr. N. Senthilkumar	4
11	SC	Assessing the impact on soil environment and proposed mitigation measures for soil conservation	Dr. M. Ifthikhar Ahmed	De to Bannameda
12	SHW	Identify source of generation of non-hazardous solid waste and hazardous waste.	Mr. A. Jagannathan	10, 1
12	энм	 Suggesting measures for minimization of generation of waste and how it can be reused or recycled. 	Mr. J. R. Vikram Krishna	demin

LIST OF TEAM MEMBERS ENGAGED IN THIS PROJECT

Sl.No.	Name	Functional	Involvement	Signature
		Area		
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 	5 M
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 	PIE
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 	- 145-
4	Mr. Umamahesvaran	GEO	Site Visit with FAEProvide inputs on Geological Aspects	S Connectioning

			 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 	disultra
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 	30-4
7	Mr. E. Vadivel	HG	 Site Visit with FAE Assist FAE & provide inputs on aquifer characteristics, ground water level/table Assist with methods of ground water recharge and conduct pump test, flow rate 	E Vedivel
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 	8
9	Mr. Panneer Selvam	ЕВ	 Site Visit with FAE Assist FAE with collection of baseline data Provide inputs and assist with labelling of Flora and Fauna 	P Prody
10	Mrs. Nathiya	ЕВ	 Site Visit with FAE Assist FAE with collection of baseline data Provide inputs and assist with labelling of Flora and Fauna 	T. amp

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 Draft EIA/EMP for Rough Stone & Gravel Cluster Quarries over an Extent of 21.64.52ha in Morattupalayam Village, Uthukuli Taluk, Tiruppur 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. Ifthikhar Ahmed**

Designation: Managing Partner

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

NABET Certificate No & Issue Date: NABET/EIA/2225/RA 0276 Dated: 20-2-2023

Validity: Valid till 06.08.2025

ANNEXURE

MORATTUPALAYAM ROUGH STONE AND GRAVEL CLUSTER QUARRIES

Morattupalayam Village,
Uthukuli Taluk,
Tiruppur District

CLUSTER EXTENT = 21.64.52 Ha

ToR obtained

1. Lr No. SEIAA-TN/F.No.9731/2023/SEAC/ToR-1566/2023 Dated: 20.09.2023 - P1

2. Lr No. SEIAA-TN/F.No.8614/SEAC/ToR-1019/ 2021 Dated: 23.08.2021 - P2

3. Lr No. SEIAA-TN/F.No.10781/ToR No: TO24B0108TN5560449N Dated: 03.06.2024-P3

Project Proponent

Code	P1	P2	Р3
	Tmt.V. Revathi	Thiru.U. Prabhakaran	Thiru.S.Rajasekar
	S.F No. 209/1A(P),	S.F. No. 389/1C2,	S.F. No. 382/2A (P),
Project	209/1B(P) & 209/2 (P)	Extent: 0.68.8 ha	Extent: 2.48.5 ha
Location	Extent: 2.25.5Ha	Morattupalayam Village,	Morattupalayam
	Morattupalayam Village,	Uthukuli Taluk,	Village,
	Uthukuli Taluk,	Tiruppur (DT)	Uthukuli Taluk,
	Tiruppur (DT)		Tiruppur (DT)

LIST OF ANNEXURES

CODE	DESCRIPTION	PAGE NO.
CODE	DESCRIPTION	TAGE NO.
	COPY OF TERMS OF REFERENCE	1A-24A
	COPY OF 500M RADIUS QUARRIES DETAILS LETTER & MINE PLAN APPROVED LETTER	25A – 28A
P1- TMT.V. REVATHI	COPY OF APPROVED MINING PLAN WITH PLATES	29A – 103A
	COPY OF HYDROGEOLOGICAL REPORT	104A-113A
	COPY OF INSPECTION REPORT	114A-128A
	COPY OF EXPLOSIVE LETTER	129A-130A
	COPY OF 300m & VAO ATTESTATION LETTER	131A-132A
	COPY OF DFO LETTER	133A
	COPY OF TERMS OF REFERENCE	134A-147A
P2- THIRU.U. PRABHAKARAN	COPY OF 500M RADIUS QUARRIES DETAILS LETTER	148A – 151A
	COPY OF MINE PLAN APPROVED LETTER	152A- 154A
	COPY OF APPROVED MINING PLAN WITH PLATES	155A – 220A
	COPY OF HYDROGEOLOGICAL REPORT	221A - 229A
	COPY OF INSPECTION REPORT	230A – 241A
	COPY OF EXPLOSIVE LETTER	242A – 243A
	COPY OF 300m & VAO ATTESTATION LETTER	244A – 245A
	COPY OF TERMS OF REFERENCE	246A – 259A

	<u> </u>	
	COPY OF 500M RADIUS QUARRIES DETAILS LETTER	260A-261A
Р3-	COPY OF MINE PLAN APPROVED LETTER	262A – 263A
THIRU.S. RAJASEKAR	COPY OF APPROVED MINING PLAN WITH PLATES	264A- 349A
	COPY OF HYDROGEOLOGICAL REPORT	350A - 367A
	COPY OF INSPECTION REPORT	368A – 383A
	COPY OF EXPLOSIVE LETTER	384A – 386A
	COPY OF 300m & VAO ATTESTATION LETTER	387A – 388A
	COPY OF DFO LETTER	389A
P5- THIRU.M. THANGARAJ	COPY OF ENVIRONMENTAL	390A-417A
	CLEARANCE	
E1- THIRU. N. CHITHAMBARAM	COPY OF ENVIRONMENTAL CLEARANCE	418A – 443A
E2- THIRU.N. AYYADURAI	COPY OF PRECISE AREA COMMUNICATION LETTER	444A – 446A
E3- THIRU.T.S.UDHAYAKUMAR	COPY OF MINE PLAN APPROVED LETTER	447A – 449A
E4- THIRU. S. RAJU	COPY OF MINE PLAN APPROVED LETTER	450A – 452A
E5- THIRU. K. SENTHILKUMAR	COPY OF ENVIRONMENTAL CLEARANCE	453A – 488A
E6- THIRU.THANGAMUTHUSAMY	COPY OF ENVIRONMENTAL CLEARANCE	489A – 525A
E7- THIRU. T. THANGARAJ	COPY OF ENVIRONMENTAL CLEARANCE	526A – 554A
E8- THIRU. M. THANGARAJU	COPY OF ENVIRONMENTAL CLEARANCE	555A – 562A
E9- THIRU, M. DEVARAJ	COPY OF ENVIRONMENTAL CLEARANCE	563A – 588A
	COPY OF BASE LINE MONITORING DATA	589A-630A
	COPY OF NABET CERTIFICATE	631A



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

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY-TAMILNADU

3rd Floor, Panagal Maaligai, No.1, Jeenis Road, Saidapet, Chennai - 600 015. Phone No. 044-24359973 Fax No. 044-24359975

TERMS OF REFERENCE (ToR)

Lr No.SEIAA-TN/F.No.9731/2023/SEAC/ToR-1566/2023 Dated:20.09.2023.

To

Tmt. V Revathi

W/o M Vijayakumar

8/223, Chinna Kadapalayam

Uthukuli

Tiruppur

Tiruppur District

Sir / Madam,

Sub: SEIAA, Tamil Nadu – Terms of Reference with public Hearing (ToR) for the Proposed Rough Stone & gravel quarry lease area over an extent of 2.25.5 Ha at SF. No. 209/IA (P), 209/IB (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District by Tmt. V Revathi - 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/414152/2023, dated:11.01.2023.

- 2. Your application submitted for Terms of Reference dated:13.01.2023.
- Minutes of the 367th SEAC meeting held on dated: 31.03.2023.
- Reply by the Project Proponent dated: 16.06.2023.
- 5. Minutes of the 405th SEAC meeting held on 23.08.2022.
- Minutes of the 656th SEIAA meeting held on 20.09.2023.

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

> MEMBER SECRETARY SEIAA-TN

Page 1 of 24

The proponent, Tmt. V Revathi has submitted application for Terms of Reference (ToR) in Form-I, Pre-Feasibility report for Proposed Rough Stone & gravel quarry lease area over an extent of 2.25.5 Ha at SF. No. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.

Discussion by SEAC and the Remarks:-

Proposed Rough Stone & gravel quarry lease area over an extent of 2.25.5 Ha at SF. No. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District by Tmt. V Revathi - For Terms of Reference.

(SIA/TN/MIN/414152/2023, dated:11.01.2023)

Earlier the proposal was placed in 367th SEAC meeting held on 31.03.2023. The details of the project furnished by the proponent are given in the website (parivesh.nic.in).

The SEAC noted the following:

- The project proponent, Tmt. V Revathi has applied for Terms of Reference for the Rough Stone & gravel quarry lease area over an extent of 2.25.5Ha at SF. No 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.
- 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 5 years. The mining plan is for the period of five years & the production should not exceed 1,41,283m³ of rough stone & 4,860m³ of Gravel with an ultimate depth of mining is 30m BGL (2m Gravel + 28m Rough Stone). The annual peak production is 32,995m³ of rough stone & 2,340m³ of Gravel.

The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the ownership of the building, nature of construction, age of the building, number of residents, their profession and income, etc.

Now the proposal was placed in 405th meeting of SEAC held on 31.08.2023. The Project proponent has made a presentation along with clarification for the above shortcomings observed by the SEAC.

MEMBER SECRETARY

SLNO	SEIAA Query	Reply
	The Proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50m, (ii) 100m, (iii) 200m and (iv) 300m radius shall be enumerated with the details such as dwelling houses with number of occupants, Whether it belongs to the Owner (or) not, places of Worship, Industries, Factories, Sheds, etc with indicating the ownership of the buildings, nature of construction, age of building, number of residents, their profession and income etc.	Structures has been enumerated and the details located within the radius of 50m, (ii) 100 m, (iii) 200m and (iv) 300m radius are provided.

Based on the presentation and details furnished by the project proponent, SEAC decided to grant 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 and Annexure, to be included in EIA/EMP Report:

- The Proponent shall justify the selection of the site for carrying out the stone quarrying with the total volume arrived for the excavation & production adequate details such as lithology of the deposit, reserve estimation, place for waste dump/mined mineral storage, end-use of mined materials, identified potential customers/end-users and travel path.
- 2. The proponent is requested to carry out a detailed survey, detailed study and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.
- As the structures are located within a radial distance of 500 m, the PP shall furnish a Model simulating the conditions describing the level of ground vibrations and fly rock caused due to the blasting operation in the proposed quarry.
- The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc located within 1 km of the proposed quarry.

- The Proponent shall carry out Bio diversity study through Department of Ecology and Environmental Sciences, Pondicherry University and the same shall be included in EIA Report.
- 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.

Annexure I

- In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following:
 - (i) Original pit dimension
 - (ii) Quantity achieved Vs EC Approved Quantity
 - (iii) Balance Quantity as per Mineable Reserve calculated.
 - (iv) Mined out Depth as on date Vs EC Permitted depth
 - (v) Details of illegal/illicit mining
 - (vi) Violation in the quarry during the past working.
 - (vii) Quantity of material mined out outside the mine lease area
 - (viii) Condition of Safety zone/benches
 - (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.
- Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site.
- 3. The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.
- The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc are located within 1 km of the proposed quarry.
- The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.

- The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas,
 Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site.
- 7. In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall the PP shall carry out the scientific studies to assess the slope stability of the working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions CSIR-Central Institute of Mining & Fuel Research / Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus. The PP shall submit a copy of the aforesaid report indicating the stability status of the quarry wall and possible mitigation measures during the time of appraisal for obtaining the EC.
- 8. However, in case of the fresh/virgin quarries, the Proponent shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the working is extended beyond 30 m below ground level.
- The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry
 is carried out by the statutory competent person as per the MMR 1961 such as blaster,
 mining mate, mine foreman, II/I Class mines manager appointed by the proponent.
- 10. The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site.
- 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.
- If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines.
- 13. What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?
- 14. Quantity of minerals mined out.
 - Highest production achieved in any one year
 - · Detail of approved depth of mining.

- Actual depth of the mining achieved earlier.
- · Name of the person already mined in that leases area.
- · If EC and CTO already obtained, the copy of the same shall be submitted.
- Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.
- 15. All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
- 16. The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc.,
- 17. The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.
- 18. The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same.
- 19. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of the Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.
- 20. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds, etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.
- 21. The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study.

- 22. The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.
- Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.
- 24. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
- 25. Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided.
- 26. Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.
- Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
- 28. Impact on local transport infrastructure due to the Project should be indicated.
- 29. A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity.
- A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.
- 31. As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible.

- 32. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix-l in consultation with the DFO, State Agriculture University. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
- 33. Taller/one year old Saplings raised in appropriate size of bags, preferably ecofriendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner
- A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.
- 35. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.
- 36. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
- 37. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
- 38. The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
- Details of litigation pending against the project, if any, with direction /order passed by any
 Court of Law against the Project should be given.
- Benefits of the Project if the Project is implemented should be spelt out. The benefits of the
 Project shall clearly indicate environmental, social, economic, employment potential, etc.

- 41. If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&CC, Regional Office, Chennai (or) the concerned DEE/TNPCB.
- 42. The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.
- 43. Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.

Appendix -I List of Native Trees Suggested for Planting

No	Scientific Name	Tamil Name	Tamil Name
1	Augle marmetes	Vilvam	epotento
2	Adenaanthera pavonma	Manjada	மஞ்சார். அளைக்குறைமுள்
3	Albizia lebbeck	Vaagai	SUIT STILE
4	Albigia amara	Unil	உரில்
5	Baulunia purpurea	Manthurai	иралия
6	Bauluma racemesa	Aathu	433
7.	Baulunia tomentos	Iruvathi	இதனரத்தி
8	Buchmania axillaris	Kattuma	SETLIBURY
9	Bornzeus flabellifer	Panai	Umm
10	Butes monosperma	Murukkamaram	முக்கமும்
11	Bobax ceiba	Ilavu, Sevvilavu	150000
12	Calophyllum inophyllum	Punnai	The same
13	Cassia fistula	Sarakondrai	#7年日本日本の四
14	Cassia roxburghii	Sengondrai	GarteGartellerip
15	Chloroxylon sweitenia	Purasamaram	त्यास कर्मक
16	Cochlospermum religiosum	Kongu Manjalilavu	கோவத்: மஞ்சள் இவவு
17.	Cordia stichetoma	Naroyuli.	3-Selection
18	Crateen adamsons	Mavalingum	in the section in
19	Dillonia indica	Uva Uzha	B_#1
20	Dillema pentagyna	SiruUva, Sitrozha	≠mx ==+#
21	Diospyro setenum	Karungali	#SWETER
22	Diospyro schloroxylon	Vaganai	CHI C. CT-CTS
23	Fieus amplissima	Kalltchi.	高彩 医生命
24	Hibiacus tiliaceon	Aatrupoovarasu	ALTONIA POUT #
25	Hardwickia binata	Ancha	25.881
26	Holoptelia integrifelia	Aayili	Seiluge, dittoi tuige.
27	Lannea coromandelies	Odhiam	was und
28	Lagorstroomia speciosa	Poo Marudhu	U WOS
29	Lepisanthus tetraphytla	Neikottaimaram	நெப் கொட்காட மாம
30	Limonia acidiosima	Vila maram	salent man
31	Litzen glutinos	Piompattai	doubur Liferican
32	Madhuca longifolia	Illuppai	Besienu
33	Mantilkara hexandra	UlakkaiPaalai	E-RULEME LITERS
34	Minnisops clengi	Magizhamaram	மகிழமரம்
35	Mitragyna parvifolia	Kadambu	MALIDIA
36	Morinda pubescens	Nuna	Penn
37	Mornida citrifolia	Vellai Nuna	Comment posts
38	Phoenix sylvistre	Eachas	+BB COSID
30	Pongamia minut	Pungam	Lytheria

40	Premna mollissima	Munnu	Operation
41	Premna serratifolia	Narumunnai	ந்து முன்னை
42	Promna tomentosa	Malaipoovarasu	men freta
43	Prosopis cinerea	Vanni maram	क्रमंत्री प्रकृत
44	Pterocarpus marsupium	Vengai	Bartima:
45	Pterospermum canescens	Vennangu, Tada	சென்னாய்க
46	Pterospermum xylocarpum	Polavu	rhed
47	Puthranjasa roxburghi	Karipala	egunor .
48	Salvadora persica	Ugaa Maram	seat non
49	Sapindus emarginatus	Manipungan, Soapukai	Geriupse Geriupsetii
50	Saraca asoca	Asoca	енватал
51	Strebius asper	Piray maram	Synti wew
52	Strychnos nuxvonne	Yetti	STILIG
53	Strychnos potatorum	Therthang Kottai	GERRIA GETLAL
54	Syrygium cumini	Naval	20000
55	Terminalia belleric	Thandri	द्वार क्षेत्रती
56	Terminalia arjuna	Ven marudhu	வென் மகுது
57	Tooms ciliate	Sandhana vembu	சந்தன் வேம்பு
58	Thespesia populnea	Puvaranu	rieste.
59	Vialsuratrifoliata	valsura	99060#JT1
60	Wrightia tinctoria	Veppalai	Gouliummeu
61	Pithecellobium dulce	Kodukkapuli	GETGERTUUM

Discussion by SEIAA and the Remarks:-

The proposal was placed in the 656th Authority meeting held on 20.09.2023. The authority noted that this proposal was placed for appraisal in 405th meeting of SEAC held on 31.08.2023, the committee has furnished its recommendations for granting 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 conditions in 'Annexure B' of this minute.

Annexure 'B'

Cluster Management Committee

- Cluster Management Committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry.
- The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc.,
- The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines.

MEMBER SECRETARY

- 4. Detailed Operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network.
- The committee shall deliberate on risk management plan pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan.
- The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the environmental policy devised shall be given in detail.
- The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner.
- 8. The committee shall furnish the Emergency Management plan within the cluster.
- The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public.
- 10. The committee shall furnish an action plan to achieve sustainable development goals with reference to water, sanitation & safety.
- 11. The committee shall furnish the fire safety and evacuation plan in the case of fire accidents.

Impact study of mining

- 12. 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 & soil biological, physical land chemical features.
 - 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.

Agriculture & Agro-Biodiversity

- 13. Impact on surrounding agricultural fields around the proposed mining Area.
- 14. Impact on soil flora & vegetation around the project site.
- 15. Details of type of vegetations including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetations all along the boundary of the proposed mining area shall committed mentioned in EMP.
- 16. The Environmental Impact Assessment should study the biodiversity, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.
- 17. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.
- 18. The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.

Forests

- The project proponent shall detailed study on impact of mining on Reserve forests free ranging wildlife.
- The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.
- 21. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.
- 22. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.

Water Environment

- 23. Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period.
- 24. Erosion Control measures.

- 25. 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.
- 26. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.
- 27. The project proponent shall study and furnish the details on potential fragmentation impact on natural environment, by the activities.
- 28. The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.
- 29. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.
- The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.

Energy

31. The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished.

Climate Change

- 32. The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities.
- 33. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.

Mine Closure Plan

34. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.

EMP

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

36. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.

Risk Assessment

37. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.

Disaster Management Plan

38. To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued.

Others

- 39. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, Structures, railway lines, roads, water bodies such as streams, odai, vaari, canal, channel, river, lake pond, tank etc.
- 40. 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.
- 41. The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impacts of plastic & microplastics on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.

A. STANDARD TERMS OF REFERENCE

- 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.
- A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.

- 3) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
- 4) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ topo sheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
- 5) Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
- 6) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
- 7) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.
- 8) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.
- 9) The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.
- 10) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if

- any, of change of land use should be given.
- 11) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.
- 12) Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
- 13) Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of Net Present Value (NPV) and Compensatory Afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
- 14) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
- 15) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
- 16) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.
- 17) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
- 18) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest

- and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.
- 19) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.
- 20) Similarly, for Coastal Projects, a CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease with respect to CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).
- 21) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.
- 22) One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season); December-February (winter season)]primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.
- 23) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of Vehicles for

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

- 24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
- 25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
- 26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
- 27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
- 28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.
- 29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
- 30) Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.
- 31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

- 32) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
- 33) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
- 34) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.
- 35) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
- 36) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
- 37) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
- 38) Detailed Environmental Management Plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
- 39) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
- 40) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
- 41) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
- 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.
 - 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:

- Project name and location (Village, District, State, Industrial Estate (if applicable).
- 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.
- 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.
- 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.
- EIA report should strictly follow the Environmental Impact Assessment Guidance Manual for Mining of Minerals published February 2010.
- 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.
- A study on the geological resources available shall be carried out and reported.
- 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

- Identification of hazards in handling, processing and storage of hazardous material and safety system provided to mitigate the risk.
- 20. Likely impact of the project on air, water, land, flora-fauna and nearby population
- 21. Emergency preparedness plan in case of natural or in plant emergencies
- 22. Issues raised during public hearing (if applicable) and response given
- 23. CER plan with proposed expenditure.
- 24. Occupational Health Measures
- 25. Post project monitoring plan
- 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.
- A specific study should include impact on flora & fauna, disturbance to migratory pattern of animals.
- 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 note confirming compliance of the TOR, with cross referencing of the relevant sections / pages of the EIA report should be provided.
- All documents may be properly referenced with index, page numbers and continuous page numbering.
- c. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.

- d. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF & CC vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry should also be followed.
- e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -11013/77/2004-IA-II(I) dated 2nd December, 2009, 18th March 2010, 28th May 2010, 28th June 2010, 31st December 2010 & 30th September 2011 posted on the Ministry's website http://www.moef.nic.in/ may be referred.
 - After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent 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 <u>valid for a period of three years</u> 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.

Copy to:

- The Additional Chief Secretary to Government, Environment & Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai - 9
- The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD Cum-Office Complex, East Arjun Nagar, New Delhi 110032.
- The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-600 032.

- The APCCF (C), Regional Office, MoEF & CC (SZ), 34, HEPC Building, 1st & 2nd Floor, Cathedral Garden Road, Nungambakkam, Chennai -34.
- Monitoring Cell, IA Division, Ministry of Environment, Forests & CC, Paryavaran Bhavan, CGO Complex, New Delhi 110003
- 6. The District Collector, Tiruppur District.
- 7. Stock File.

From

Dr. K.L.K. Vallal, Assistant Director, Dept. of Geology and Mining, Tiruppur

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То

Tmt. V. Revathi, W/o. M. Vijayakumar, No. 8/223, Chinna kadapalayam, Uthukuli Taluk, Tiruppur District.

R.c. No. 584/Mines/2022, Dated: 5.12,2022.

Sub: Mines and Minerals – Minor Mineral – Rough Stone – Tiruppur District – Uthukuli Taluk – Morattupalayam village – S.F. Nos. 209/1A (P) (1.23.5), 209/1B (P) (0.04.5) and 209/2 (P) (0.97.5) – over an extent of 2.25.5 Hectares – Quarry lease application preferred by Tmt. V. Revathi, W/o. M. Vijayakumar - Precise area communicated - Draft mining plan submitted – Approval of mining plan – Regarding

- Ref: 1. Tmt. V. Revathi, W/o. M. Vijayakumar, No. 8/223, Chinna Kadapalayam, Sengapalli village, Uthukuli Taluk quarry lease application dated: 23.05.2022.
 - 2. The Assistant Director, Geology and Mining, Tiruppur letter R.C. No. 584/Mines/2022, dated 17.11.2022.
 - 3. Mining Plan submitted by Tmt. V. Revathi, W/o. M. Vijayakumar letter dated 30.11.2022.

Tmt. V. Revathi, W/o. M. Vijayakumar has preferred an application for the grant of Rough Stone and Gravel quarry lease in Patta land, over an extent of 2.25.5 Hect. in S.F.Nos. 209/1A (P) (1.23.5), 209/1B (P) (0.04.5) and 209/2 (P) (0.97.5) in Morattupalayam Village, Uthukuli Taluk, Tiruppur District.

2. Based on recommendations of the Tahsildar, Uthukuli, Revenue Divisional Officer, Tiruppur and the Assistant Director, Geology and Mining, Tiruppur and records available, precise area has been communicated to the applicant with a direction to submit mining plan and also to submit

environmental clearance as stipulated under rule 41 and 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 vide memo dated 17/11.2022

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- 3. Accordingly, Tmt. V. Revathi, W/o. M. Vijayakumar submitted the Draft Mining Plan and the same has been examined in detail and it is found correct. Therefore, in exercise of the powers delegated under Rule 42 of Tamil Nadu Minor Mineral Concession Rules, 1959, and as per the guidelines / instructions issued by the Commissioner of Geology and Mining, Chennai vide letter Roc.No.3868/LC/2012 dated 19.11.2012, the mining plan submitted by Tmt. V. Revathi, W/o. M. Vijayakumar in respect of the subject area is hereby approved subject to the following conditions:
 - (i). That the mining plan is approved without prejudice to any other— Law applicable to the quarry lease from time to time whether such Laws are made by the Central Government, State Government or any other authority.
 - (ii) This 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 the Tamil Nadu Minor Mineral Concession Rules, 1959.
 - (iii). That the mining plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.
 - (iv). Quarrying shall be done as per the approved Mining Plan and that the mining plan is approved without prejudice to any other law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.
 - (v). If anything is found to be concealed as required by the Mines Act in the contents of the Mining Plan and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.
 - (vi). Safety distances mentioned in the precise area has to be maintained for the entire duration of the lease period.

- (vii). Waste material should be dumped within the lease granted area as earmarked in the Mining Plan. \bar{z}_i
- (viii). Necessary Environmental Clearance has to be obtained by the applicant from the competent authority before the grant of quarry lease as per the rules.
- (ix). Quarrying operations and production shall be carried out as per the approved Mining Plan and the applicant shall be liable to pay the cost of mineral if there is any deviation in the quantum indicated in the approved year wise quantum of production and any such cases as on date are to be dealt with as per Court direction.
- (x). If any violation is found during quarrying operation, the penal provisions of Tamil Nadu Minor Mineral Concession Rules shall attract.
- (xi). The applicant should strictly adhere to the statutory and safety requirements.

The details of quarry leases located within 500 meter radius from the proposed Rough Stone and Gravel is given as follows.

a. Existing quarries

S. No	Name of the lessee	Village	S.F. No	Extent Hect.	Collector's proceedings No. & Date	Lease period
1	N. Chitham baram	Morattu palayam	209/1A (P)	0.79.0	1391/2018/ Mines dated 20.06.2022	20.06.2022 - 19.06.2027
2	S. Rajasekar	Morattu palayam	382/2A (P)	1.98.5	105 / Mines / 2017 dated 25.9.2018	25.09.2018 - 24.09.2023

b. Abandoned / expired quarries

S. No	Name of the lessee	Village	S.F. No	Extent Hect.	Collector's proceedings No. & Date	Lease period
1	N. Ayya durai	Morattu palayam	· 392 (Part)	3.52.0	182 / Mines / 2015 DATE 23.9.2016	23.09.2016 - 22.09.2021
2	A.A. Kumaresan	Morattu palayam	377/1	2.10.5	512 / Mines / 2015 DATE 21.9.2016	21.9.2016 TO 20.9.2021

c. Present proposed quarries

S. No	Name of the lessee	Village	S.F. No	Extent Hect.	Collector's proceedings No. & Date	Lease period
1	V. Revathi	Morattu palayam	209/1A (P), 209/1B (P), 209/2 P	2.25.5		Proposed quarry
2	K. Senthil kumar	Morattu palayam	383/1, 383/2A2A1	0.71.5		Near by applied area.

Encl: Approved Mining Plan.

Assistant Director, Geology and Mining, Tiruppur.

Copy to

- The Commissioner, Department of Geology and Mining, Guindy, Chennai - 600 032.
- The Chairman .
 State Level Environment Impact Assessment Authority,
 Panagal park Building, Saidapet, Chennai -600 015.
- 3. Dr. P. Thangaraju, RQP 17, Advaitha Ashram road, Alagapuram, Salem – 4

MINING PLAN AND PROGRESSIVE QUARRY CLOSURE PLAN FOR MORATTUPALAYAM ROUGH STONE AND GRAVEL QUARRY

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

Patta Lands / Lease Period = Five Years

IN LOCATION OF THE QUARRY LEASE APPLIED AREA

EXTENT

2.25.5 Ha

S.F.Nos.

209/1A (P), 209/1B (P) & 209/2 (P)

VILLAGE

MORATTUPALAYAM

TALUK

UTHUKULI

DISTRICT

TIRUPPUR

STATE

TAMIL NADU

FOR

9

APPLICANT

Tmt.V.Revathi,

W/o. M. Vijayakumar, No. 8/223, Chinna Kadapalayam, Uthukuli Taluk, Tiruppur District – 638 812.

PREPARED BY

Dr.P.Thangaraju, M.Sc., Ph.D.,

Qualified Person

No.17, Advaitha Ashram Road, Alagapuram, Salem – 636 004. Cell: 94422 78601 & 94433 56539.

E-Mail: infogeoexploration@gmail.com

V.Revathi,

W/o. M.Vijayakumar,

No. 8/223, Chinna Kadapalayam,

Uthukuli Taluk,

Tiruppur District - 638 812.



CONSENT LETTER FROM THE APPLICANT

The Mining Plan and Progressive Quarry Closure Plan in Respect of Morattupalayam Rough Stone and Gravel Quarry lease applied area over an extent of 2.25.5 Hectares of patta lands in S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared by

Dr.P.Thangaraju, M.Sc., Ph.D.,

Qualified Person

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

Dr.P.Thangaraju, M.Sc., Ph.D.,

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 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

V.Revathi

Place: Tiruppur

Date: 18.11.2022

V.Revathi,

W/o. M.Vijayakumar,

No. 8/223, Chinna Kadapalayam,

Uthukuli Taluk,

Tiruppur District - 638 812.



DECLARATION OF THE APPLICANT

The Mining Plan and Progressive Quarry Closure Plan in Respect of Morattupalayam Rough Stone and Gravel Quarry lease applied area over an extent of 2.25.5 Hectares of patta lands in S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared in full consultation with me.

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

Signature of the Applicant

V.Revathi

Place: Tiruppur

Date: 18.11.2022



CERTIFICATE

Certified that I, Dr.P.THANGARAJU, M.Sc., Ph.D., having an office at Regd. Off. No. 17, Advaitha Ashram Road, Alagapuram, Salem — 636 004, holding a Post Graduate in Geology (M.Sc. Geology) from Madras University, Chennai and I worked in the field of Geology in a role of Geologist.

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

Accordingly, I am prepare this Mining Plan and Progressive Quarry Closure Plan in Respect of Morattupalayam Rough Stone and Gravel Quarry in S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) over an extent of 2.25.5 Ha of Patta lands in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamilnadu State for Tmt.V.Revathi, W/o. M.Vijayakumar, residing at No. 8/223, Chinna Kadapalayam, Uthukuli Taluk, Tiruppur District — 638 812. Since the Mining Plan is prepared as per the provisions contained in Rule 15(I)(a) and (I)(b) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016.

Signature of the Qualified Person

Dr.P. Thangaraju, M.Sc., Ph.D.,

Place: Salem

Date: 21.11.2022

Dr.P.Thangaraju, M.Sc., Ph.D.,

No. 17, Advaitha Ashram Road,

Alagapuram, Salem – 636 004.

Cell: 94422 78601 & 94433 56539.



CERTIFICATE FROM THE QUALIFIED PERSON

This is to certify that the Provisions of Prepared under Rules 41 & 42 as Amended in Tamil Nadu Minor Mineral Concession Rules, 1959. The preparation of Mining Plan and Progressive Quarry Closure Plan for Morattupalayam Rough Stone and Gravel Quarry in S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) over an extent of 2.25.5 Ha of Patta lands in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared for

Tmt.V.Revathi.

W/o. M.Vijayakumar,

No. 8/223, Chinna Kadapalayam,

Uthukuli Taluk,

Tiruppur District – 638 812.

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

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

Signature of the Qualified Person

Dr.P. Thangaraju, M.Sc., Ph.D.,

Anny mul-

Place: Salem

Date: 21.11.2022

Dr.P.Thangaraju, M.Sc., Ph.D.,

No. 17, Advaitha Ashram Road,

Alagapuram, Salem - 636 004.

Cell: 94422 78601 & 94433 56539.



CERTIFICATE FROM THE QUALIFIED PERSON

Certified that the Provisions of Mines Act, Rules and Regulations or Orders made there under have been observed in the preparation of Mining Plan and Progressive Quarry Closure Plan for Morattupalayam Rough Stone and Gravel Quarry in S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) over an extent of 2.25.5 Ha of Patta lands in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared for

Tmt.V.Revathi,

W/o. M.Vijayakumar,

No. 8/223, Chinna Kadapalayam,

Uthukuli Taluk,

Tiruppur District - 638 812.

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

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

Signature of the Qualified Person

Dr.P. Thangaraju, M.Sc., Ph.D.,

Money My

Place: Salem

Date: 21.11.2022



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ST DIREC

MINING PLAN ALONG WITH PROGRESSIVE QUARRY CLOSURE PLAN FOR MORATTUPALAYAM ROUGH STONE AND GRAVEL QUARRY OVER AN EXTENT OF 2.25.5 Ha IN MORATTUPALAYAM VILLAGE, UTHUKULI TALUK, TIRUPPUR DISTRICT, TAMILNADU

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

1.0 INTRODUCTION AND EXECUTIVE SUMMARY

The Mining Plan and Environmental Management plan is prepared for Tmt.V.Revathi, W/o. M.Vijayakumar, residing at No. 8/223, Chinna Kadapalayam, Uthukuli Taluk, Tiruppur District – 638 812.

The applicant applied for Rough Stone and Gravel quarry over an extent of 2.25.5 Hectares of patta lands in S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State under Rule 19 (1) (b), 20 & 33 of Tamil Nadu Minor Mineral Concession Rules, 1959.

The application was processed by the Assistant Director, Department of Geology and Mining, Tiruppur District and passed a Precise area Communication letter vide Rc.No.584/Mines/2022, Dated: 17.11.2022 to submit a Mining Plan and obtain Environmental Clearance from the SEIAA, Tamil Nadu with the conditions to provide:

- A Safety distance of 7.5 meters should be left out for the surrounding patta lands.
- A Safety distance of 10 meters should be left out for the patta land Stone Quarry on the North and South side of the applied area.

In order to ensure compliance of the order of the Honorable Supreme Court Dated: 27.02.2012 in I.A.No.12-13 of 2011 in Special Leave Petition SLP (C) No 19628-19629/2009, it has been now decided that all mining projects of minor minerals including their renewal irrespective of sizes of the lease would hence forth require prior environmental clearance mining project within the lease applied area up to less than 100Ha including projects or minor mineral with lease applied area less than 5Ha would be treated as category B as defined in the EIA notification 2006 and will be considered by the state notified by MoEF as prescribed procedure under EIA notification 2006.

In the above circumstances the applicant through his consultant is hereby preparing the mining plan along with Progressive Quarry Closure Plan for approval and subsequent submission of

Form-I, Form-1M and Pre-feasibility report to obtain environmental clearance from the SEIAA, This Mining Plan is approved subject.

to the Conditions indicated in the

Mining Plan approved Letter No. 584 /m/ng / 2022

Dated 5 - 12. 2022

Powers conferred under rule 41(2) of Tamil

Natio Minor Mineral Concession Rules, 1969 1

ASSISTANT DIRECTOR
Geology and Mining
TIRUPPUR

Tamil Nadu, Rough Stone and Gravel quarry. This mining plan is prepared by considering the Rules

41 & 42 as Amended in Tamil Nadu Minor Mineral Concession Rules, 1959 and as per the EIA Notification 2006 and its subsequent Amendment and judgments till 2022.

Short Notes of Mining plan:

a. Village Panchayat

Morattupalayam

b. Panchayat Union

Uthukuli

- The Geological Resources are 3,26,788m³ of Rough Stone and 7,820m³ of Gravel in the entire area.
- d. The Total Mineable Reserves are 1,41,283m³ of Rough Stone and 4,860m³ of Gravel in the entire area.
- e. The proposed quantity of reserves/ (level of production) to be mined are 1,41,283m³ of Rough Stone and 4,860m³ of Gravel for five years in the entire area.
- f. Total extent of the lease applied area is about 2.25.5 Ha.
- g. Topography of the area
- = The area is flat topography
- Proposed Depth of mining = 30m (2m Gravel + 28m Rough Stone) below ground level.
- i. This Mining Plan period = Five years
- It is a fresh lease application but, the applied area has been considered quarrying j. operation earlier. The quarry lease was previously granted in the favour of Thiru.P.K.Krishnasamy & Thiru.K.Muthusamy, over an extent of 2.25.5 hectares of Patta lands in S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District vide Rc.No. 508/Mines/2015, Dated: 21.09.2016 for the period of five years from 21.09.2016 to 20.09.2021 for quarrying of Rough Stone and Gravel. The lessee has obtained Environmental Clearance from the State Level Authority Letter No. Environment Impact Assessment vide TN/F.No.5470/1(a)/EC.No:3292/2016 Dated:11.07.2016. The applicant has applied a quarry lease on 28.06.2022, over an extent of 2.25.5 hectares of Patta lands in S.F.Nos.209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District for the period of five years. The application was meritoriously processed by the Assistant Director, Department of Geology and Mining, Tiruppur District and recommended the quarry lease for the period of five years.
- The maximum dimension of the existing quarry pit is given table below (Refer Plate No. II).

1	Existing Pit Dime	ension (maxim	ium)
Pit	Length (m)	Width (m)	Depth (m)
1	66	57	20m
11	140	93	18m

- Method of mining / level of mechanization.
 - Opencast mechanized method, the quarry operation involves shallow jack hammer drilling, slurry blasting.
- Type of machineries proposed in the quarrying operation is given below.
 Excavators attached with rock breaker (Rental Basis).
 Jack hammer, Compressor (Diesel drive) (4 Jack Hammer capacity) (Rental Basis).
- No trees will be uprooted due to this quarry operation.
- The approach road from the main road to quarry is already constructed and same will be maintained in a good condition for the haulage of quarry materials and machineries.
- There is No Export of this Rough Stone and Gravel.
- q. Topo sketch covering 10Km and 1Km radius around the proposed area with markings of habitations, water bodies including streams, rivers, roads, major structure like bridges, wells, archaeological importance, places of worships are marked and enclosed as Plate No. IA and IB.
- The lease applied area is about 2.25.5Ha bounded by eleven corners; the corners are designated as 1-11 clock-wise from the Southwest corner and the Co – ordinates for all the corners are clearly marked in the Quarry Lease Plan and Surface Plan enclosed as Plate No. – II.
- s. The plans of proposed quarrying area showing the dimensions of the pit, their proposed depth and maximum area of proposed quarrying are and marked in the Topography, Geological Plan and section enclosed as Plate No. III.
- General conditions will not applicable for the proposed area. The area applied for lease is 10Km away from the,
 - Interstate Boundary,
 - Protected area under wild life protection ACT 1972,
 - iii) Critically polluted areas as identified by CPCB,
 - Notified Eco sensitive areas.
- There is no wastage anticipated during this quarry operation, hence waste dump is not proposed in the lease applied area.
- Around 18 employees are deploying in the quarrying operation.
- w. Total Cost of the project is about Rs.51,55,000/-.

Infrastructures around the quarry lease applied area:

Table - 1

ng Plan and PQCP	117	yam Rough Stone and Grave
Infrastructures around the c	quarry tease applied area:	(%)
	Table - 1	15/
Particulars	Location	Approximate aerial distantification lease applied area.
Nearest Post Office	Morattupalayam	3.0km - NW
Nearest School	Ponnapuram	2.0km - SW
Nearest Dispensary	Uthukuli	3.0km - NE
Nearest Town	Uthukuli	3.0km - NE
Nearest Police Station	Uthukuli	3.0km - NE
Nearest Govt. Hospital	Uthukuli	3.0km - NE
Nearest D.S.P. Office	Tiruppur	9,0km - SW
Nearest Railway Station	Uthukuli	3.0km - NE
Nearest Airport	Coimbatore	43km – SW
Nearest Seaport	Kochi	184km – SW
District Head quarters	Tiruppur	9.0km - SW

SHOW

2.0 GENERAL INFORMATION

2.1 a) Name of the Applicant

Tmt.V.Revathi,

W/o. M.Vijayakumar

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

Address

No. 8/223, Chinna Kadapalayam,

Uthukuli Taluk,

Tiruppur District.

Pin Code

638 812

Mobile No

98430 60018

Aadhaar No

5202 7756 3558

E-mail

m.vijayakumar6018@gmail.com

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

The applicant is an individual.

2.2 a) Mineral which the Applicant intends to mine:

The Applicant intends to quarry Rough Stone and Gravel.

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

The precise area communication letter was received from the Assistant Director, Department of Geology and Mining, Tiruppur District vide Rc.No. 584/Mines/2022, Dated: 17.11.2022 to submit mining plan and Environmental Clearance from the SEIAA, Tamil Nadu.

c) Period of permission / lease to be granted:

Five Years

d) Name and address of the Qualified Person preparing the mining plan:

Name

Dr.P. Thangaraju, M.Sc., Ph.D.,

Qualified Person

Address

Qualifica i cis

9

No.17, Advaitha Ashram Road,

Alagapuram, Salem - 6 36 004.

Mobile

.

94422 78601 & 94433 56539

Telephone No.

0427-2431989

Email

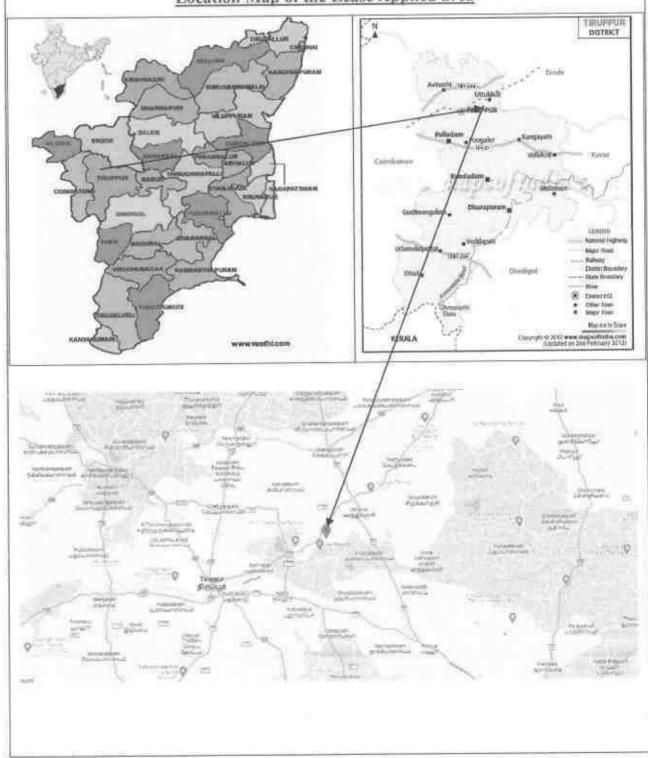
infogeoexploration@gmail.com

3.0 LOCATION

a) Details of the area with location map:

The lease applied area is located about 9km Northeast of Tiruppur, 3km Southwest of Uthukuli and 3km Southeast side of Morattupalayam Village.

Location Map of the Lease Applied area



Mining	Plan	and	POCP
O. T. St. St. St. St. St. St. St. St.	4.4444	MAANA	4

Morattupalayam Rough Stone and Gravel Quarry

			Table 2			1 * 1
District	Taluk	Village	S.F. No.	Area (Ha)	Patta No.	Classification
	Uthukuli	Morattupalayam	209/1A (P)	1.23.5	273	
Tiruppur			209/1B (P)	0.04.5	570	Patta land (Refer
		2 2	209/2 (P)	0.97.5	152	Annexure No. IV - VI)
	Tot	al Extent		2.25.5	200	

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

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

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

It is a Patta land, S.F.No. 209/1A (P) is registered in the name of Thiru.K.Krishnasamy, Thiru.N.Chidambaram & Thiru.M.Vijayakumar, S.F.No. 209/1B (P) is registered in the name of K.Krishnasamy & Thiru.M.Vijayakumar, S.F.No. 209/2 (P) is registered in the name of K.Krishnasamy & Thiru.M.Vijayakumar. The applicant has obtained consent from the pattadhar. Refer the Patta copy and consent document as Annexure Nos. IV & VII.

d) Toposheet No. with latitude and longitude:

The lease applied area falls in the Toposheet No: 58 - E/08 Latitude between: 11°08'18.54"N to 11°08'23.95"N and Longitude between: 77°25'10.51"E to 77°25'16.84"E on WGS datum-1984. Please refer the Plate Nos. I to II.

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

The approach (Cart Track) road is situated on the North side of the area which is connects to the Sarkar Periyapalayam – Kavandampalayam Road located at 300m on the West side of the area.

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

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

The Nearest Railway line is Coimbatore - Erode which is located about 2.0km on the Northeast side of the area.

PART-A

4.0 GEOLOGY AND MINERAL RESERVES

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

The lease applied area is flat terrain. The area has gentle sloping towards South side and altitude of the area is 276m (max) above from Mean Sea level. The area is covered by 2m thickness of Gravel and followed by Massive Charnockite which is clearly inferred from the existing quarry pits.

The Water level in the surrounding area is 70m in summer and at 65m in rainy seasons below general ground profile which is observed from the nearby bore wells. Average annual rainfall is about 607mm.

Topographical View of Morattupalayam Rough Stone and Gravel Ouarry lease applied area



Peninsular gneiss forms the oldest rock formations, in which the massive formation of Charnockite lies over with rich accumulation of recent quaternary formation. On regional scale of the Charnockite body is N50°E – S50°W with dipping towards SE80°.

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

AGE		FORMATION
Recent	-	Quaternary formation (Gravel)
Unc	onfor	mity
Archaean	1.55	Charnockite
		Peninsular Gneiss complex

4.2 Details of exploration already carried out if any:

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

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

4.3 Estimation of Reserves:

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

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

Totally three sections have been drawn, one section along the strike direction as (X-Y) Length wise and other two cross sections are drawn perpendicular to strike as (A-B & C-D) Width wise to cover the maximum area considered for lease.

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

Geological Resources (Plate No. III):

The Geological Resources of Rough Stone and Gravel are calculated up to a maximum depth of 30m (2m Gravel + 28m Rough Stone) below from the general ground level. The total Geological Resources are calculated by cross section method. The total geological resources are given below:

Table - 3

		GEO	DLOGIC	AL RE	SOURCES	100
Section	Bench	Ranch		Geological Resources of Rough Stone (m ³)	Grave (m ³)	
	I	38	100	2		7600
	II	38	100	3	11400	
	Ш	38	100	5	19000	
	IV	38	101	5	19190	
XY-AB	V	38	101	3	11514	
	V	68	101	2	13736	
	VI	68	178	5	60520	
	VII	68	178	5	60520	
		To	tal	195880	7600	
	I	5	22	2		220
	П	5	22	5	550	
	Ш	5	22	5	550	
	IV	5	22	5	550	
XY-CD	V	5	22	3	330	
	V	68	158	2	21488	
	VI	68	158	5	53720	
	VII	68	158	5	53720	
		To	tal		130908	220
	G	rand Tota	ıl		326788	7820

The Geological Resources of Gravel : 7,820m³

The Geological Resources of Rough Stone : 3,26,788m³

Existing Pit Dimension:

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

Existing Pit Dimension (maximum)						
Pit	Length (m)	Width (m)	Depth (m)			
I	66	57	20m			
П	140	93	18m			

Mineable Reserves:

The mineable reserves are calculated after leaving the safety distance and Bench loss grant Table – 5

		N	HNEABI	LE RESE	RVES	
Section	Bench	Length (m)	Width (m)	Depth (m)	Mineable Reserves of Rough Stone (m ³)	Gravel (m³)
XY-AB	I	27	90	2		4860
	11	24	87	3	6264	
	Ш	21	84	5	8820	
	IV	16	79	5	6320	
	V	11	74	3	2442	
	v	41	74	2	6068	
	VI	36	141	5	25380	
	VII	31	131	5	20305	
	Total			75599	4860	
XY-CD	V	56	122	2	13664	
	VI	51	112	5	28560	
	VII	46	102	5	23460	
	Total			65684		
Grand Total					141283	4860

The mineable reserves have been computed as 1,41,283m³ of Rough Stone and 4,860m³ of Gravel at the rate of 100% recovery upto a depth of 30m (2m Gravel + 28m Rough Stone) below from the general ground level for a period of five years.

5.0 MINING

5.1. Method of mining (opencast / underground):

Open cast Mechanized Mining is being carried out with 5.0 meter vertical bench with a bench width is not less than the bench height. The slope of the bench should not more than 60° from the horizontal.

However, as far as the quarrying of Rough Stone is concerned, observance of the provisions of Regulation 106(2) (b) is available with Director General of Mines Safety. If the applicant/lessee intends to modify the dimensions of benches, relaxation and permission are available with Director General of Mines Safety under 106 (2) (b) of Metalliferous Mines Regulations, 1961. In such a scenario if there is any drastic change in the Resources and Reserves a modified plan will be submitted to the concerned authority for necessary relaxation, clearance and permission. This relaxation will be applied and obtained after the execution of lease/Commencement of quarry operation.

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

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

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

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

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

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

5.3. Proposed Bench Height and Width:

The bench height is proposed 5.0 meter vertical bench the width of the bench is not less than the Height.

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

The overburden in the form of Gravel formation, the Gravel will be directly loaded into tippers for the filling and levelling of low lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government. The excavated Rough Stone will be directly loaded into tippers to the needy customers. The Composite year wise Development and production plan and sections indicating the Pit lay out, Green belt development are shown in Plate No-III.

Year wise Development and Production

Table - 6

			YEAL	RWISE	RESERV	ES	100
Section	Year	Bench	Length (m)	Width (m)	Depth (m)	Recoverable Reserves of Rough Stone (m ³)	Grave (m³)
		1	13	90	2	17/	2340
WW ATI		П	10	87	3	2610	
XY-AB	ī	Ш	7	84	5	2940	
	1	V	30	74	2	4440	
VV CD		V	56	122	2	13664	
XY-CD			To	tal		23654	2340
		I	7	90	2		1260
		П	7	87	3	1827	
XY-AB		Ш	7	84	5	2940	
	II	IV	9	79	5	3555	
		v	4	74	5	1480	
MY CD	1	VI	36	112	5	20160	
XY-CD			To	tal		29962	1260
		I	7	90	2		1260
		П	7	87	3	1827	
XY-AB		Ш	7	84	5	2940	
AY-AB	m	IV	7	79	5	2765	
	Ш	V	7	74	5	2590	
		VI	18	141	5	12690	
XY-CD		VI	15	112	5	8400	
XY-CD			To	tal		31212	1260
		VI	18	141	5	12690	
XY-AB	IV	VII	31	131	5	20305	
			To	tal		32995	
WW CD	300	VII	46	102	5	23460	
XY-CD	V		To	tal		23460	
		Grand	Total			141283	4860

The Recoverable reserves have been computed as 1,41,283m³ of Rough Stone and 4,860m³ of Gravel at the rate of 100% recovery upto a depth of 30m (2m Gravel + 28m Rough Stone) below ground level for a period of five years.

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

Mining	Diam	and	DOC	D.
Minning	rian	and	TUC.	1

Morattupalayam Rough Stone and Gravel Quart

Mining PR	an and PQCP	Moranupaiayan	n Rough Stone and Graver Quarry
One lorry l	oad		6m³ (approx.)
Total No o	f Working days	(=	300 Days per year
Total quan	tity to be removed in this five years pl	an period =	1,41,283m ³
Hence total	l Lorry loads per day	=	1,41,283m ³ /6m ³
			23,547 Lorry loads
		=	23,547/5 years
		=	4,709/300 days
	Rough Stone	=	15 - 16 Lorry loads per day
DON ROW III			2009 (000) 000 000

Total quantity of Gravel to be removed during three years = 4,860m³

Hence total Lorry loads per day = $4.860 \text{m}^3/6\text{m}^3$

= 810 Lorry loads

= 810/3 years

= 270/300 days

Gravel = 1 Lorry load per day

Working hours = 8.30 am to 5.30 pm (with 12.30 to 1.30 p.m. lunch break)

5.5. Machineries to be used:

For Mining:

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

I. DRILLING MACHINE:

Table - 7

S.No.	Type	Nos	Dia Hole mm	Size Capacity	Motive power
1	Jack hammer	4	30-35	1.2m to 2.0m	Compressed air
2	Compressor	1	7.	400 psi	Diesel Drive

II. EXCAVATION & LOADING EQUIPMENT:

S.No.	Type	Nos	Capacity	Motive Power
1	Excavator with Bucket and	÷.	200	Diesel Drive
	Rock Breaker	T.	300	Diesei Drive

III. HAULAGE WITHIN THE MINE & TRANSPORT EQUIPMENT:

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

5.6. Disposal of Overburden/Waste:

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

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

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

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

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

Table - 8

Length (m) (Max)	Width (m) (Max)	Depth(m) (Max)
121	169	30

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

There is no waste anticipated during the entire life if quarry. Hence, backfilling is not possible in this quarry. 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 (Refer plate no. IV).

6.0 BLASTING

6.1 Blasting pattern:

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

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Drilling and blasting parameters are as follows:

Depth of Each hole

1.5m

Diameter of hole

30-32mm

Spacing between holes

1.2m

Burden for hole

1.0m

Pattern of hole

Zigzag - Multi-rows

Inclination of holes

800 from horizontal

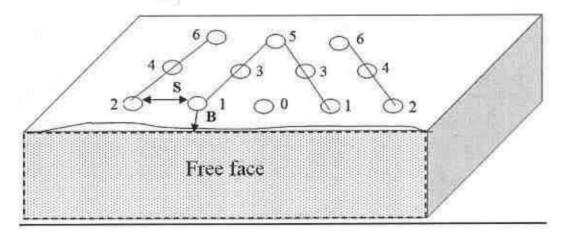
Use of delay detonators

25millisecond relays

Detonating fuse

"Detonating" Cord

BLASTING PATTERN DRAWING



Staggered "V" Pattern of Blasting Design

Spacing

1.2m

Burden

1.0m

Depth of the hole

1.5m

No of holes proposed per day=

82 Holes

6.2 Type of explosives to be used:

Small Dia. 25mm Slurry explosives are proposed to be used for shattering and heaving effect for removal and winning of Rough Stone. No deep hole drilling or primary blasting proposed.

6.3 Measures proposed to minimize ground vibration due to blasting:

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

Shallow depths jackhammer drilling & blasting is proposed to be carried out with minimum use of explosive mainly to give heaving effect in Rough Stone for easy excavation and to control fly rock.

Delay detonators:

Delay blasting (millisecond delays) permits to divide the shot in to smaller charges, which are detonated in a predetermined millisecond sequence at specific time intervals.

The major advantages of delay blasting are:

- Reduction of ground vibration.
- Reduction in air blast.
- Reduction in over break.
- Improved fragmentation.
- · Better control of fly-rock.

Blasting program for the production per day:

No of Holes

= 82 Holes

Yield

= 245 Tons

Powder factor

= 6 Tons/Kg of explosives

Total explosive required

= 41 Kg-Slurry explosives

Charge/hole

= 0.5 Kg

Blasting at day time only

= 12.00 - 12.30 P.M. (whenever required)

6.4 Storage and safety measures to be taken while blasting:

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

7.0 MINE DRAINAGE

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

The water table in the area is about 70m BGL in summer season and 65m in Rainy season which is observed from the existing private boreholes. The lease applied area is fully covered by Massive Charnockite formation and it is revealed from the adjacent quarries. Hence the Ground Water problem will not arise. If water seepage may occur due to the fracture, the same will be used for Greenbelt.

Table - 9

Type	Distance & Direction	Location
Dass Well	210 - 21 - 21	11°08'33.94"N
Bore Well	310m North side	77°25'15.96"E

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

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

8.0 OTHER PERMANENT STRUCTURES (also shown in the map)

8.1 Habitations/ Villages natham:

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

8.2 Power Lines (HT/LT):

There is no EB (LT/HT) line situated within 50m radius of the lease applied area.

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

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

8.4 Archaeological / historical monuments:

There are no Archaeological / historical monuments within 500m radius of the area.

8.5 Road (NH, SH others):

The Nearest National Highway (NH - 544) Salem - Coimbatore Road is situated about 7.0km on the North side of the lease applied area.

The State Highway (SH – 19A) Tiruppur - Vijayamangalam Road is about 300m on the West side of the lease applied area.

The Major District Road (MD - 1102) Vavipalayam - Uthukuli Road is situated about 2.0km on the North side of the lease applied area

8.6 Places of worships:

There is no place of worships within the radius of 500m from the lease applied area.

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

There is no reserved forest / social forest / wild life sanctuary etc., situated within 1km radius of the lease applied area.

SALIENT FEATURES

Table - 10

	41	V.	1able - 10	(35)
S. No.	Salient Features Present around the site	Prescribed safety distance	If any present within Prescrib Actual Distance and direction	ed distance- from the site
1.	Railways, Highways, Reservoirs or Canal	50m	There is no Railways, Highways Canal situated within 50m radiu applied area.	
2.	Village Road	10m	No Village Road is passing within 10m of the lease applied area.	n the radius o
3.	Habitation / Village	300m	There is no approved habitation wit from the lease applied area.	hin 300m radius
4.	Adjacent Patta/Govt. Land	7.5m/10m	Direction Classification	Safety Distance
			North Stone Quarry East Patta land	10m 7.5m
			South Stone Quarry West Patta land	10m 7.5m
5.	Power House, EB line (HT & LT Line)	50m	(Refer Plate No. II). There is no EB (LT/HT) line local radius of the area.	ted within 50m
6.	Boundaries of the permitted area	7.5m/10m	The boundaries of the permitted are: North - S.F.Nos. 209/1A (P), 209/1B East - S.F.Nos. 211 & 382 South - S.F.Nos. 382 & 205 West - S.F.Nos. 206 & 208 (Refer Plate No. II).	errore are more an armine
7.	Reserve forest / protected area / ECO sensitive area	1km	There is no reserved forest located v of 1km from the lease applied area.	
8.	Protected area / ECO sensitive area/ Wild Life Sanctuary/ Interstate Border	10km	There is no ECO sensitive Zo. Sanctuary/ Interstate Border/ Crit Area/ HACA/ CRZ located within the area.	ically Polluted

9.0 EMPLOYMENT POTENTIAL & WELFARE MEASURES

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

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

a. Mine official & Competent Persons:

Mines Manager/Mines Foreman : 1

Mate/Blaster : 1

b. <u>Machinery Operators</u>

Jack hammer operator : 8

Excavator Operator : 1

Tipper Driver : 1

c. Ordinary Employee

Helper : 3

Cleaner & Co-Operator : 2

Security : 1

Total : 18

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

9.2 Welfare Measures:

a) Drinking Water:

Packaged drinking water is available from the nearby water vendors in Sarkar Periyapalayam which is located about 2.0km on the Southwest side of the lease applied area.

b) Sanitary Facilities:

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

c) First aid facility:

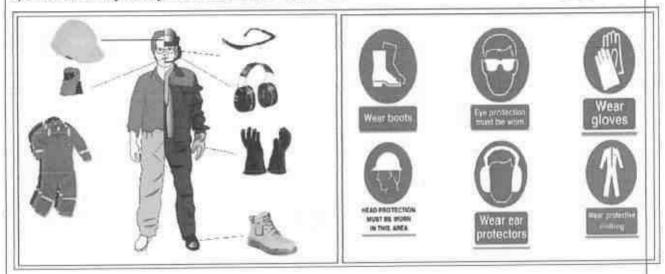
First aid kits are kept in Mines office room, in case of such eventuality is the victim will be given first aid immediately at the site by the competent and statutory foreman/permit manager/mate will be in charge of first aid and injured person will be taken to the hospital by the applicant's vehicle. Hospital is available in Uthukuli located at a distance of 3.0km on the Northeast side.

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d) Labour Health:

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

e) Precautionary safety measures to the labourers:



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

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

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PART - B

10.0 ENVIRONMENT MANAGEMENT PLAN

10.1 Existing Land use pattern:

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

LAND USE PATTERN

Table - 11

Description	Present area (Ha)	Area at the end of this quarrying period (Ha)
Area under quarrying	1.47.5	1.93.5
Infrastructure	Nil	0.01.0
Roads	0.02.0	0.02.0
Green Belt	Nil	0.08.0
Unutilized Area	0.76.0	0.21.0
Grand Total	2.25.5	2.25.5

10.2 Water Regime:

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

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

10.3 Flora and Fauna:

		Tab	de - 12		(2)
S.No	Name of the plant (Scientific)	Family Name	Common Name	Habit \	Picture
1,	Prosopis juliflora	Fabaceae	Seemai karuvelam	Tree	
2.	Azadirachta indica	Meliaceae	Neem, Vembu	Tree	
3.	Cocos nucifera	Arecaceae	Thennai	Tree	
4.	Aloe vera	Asphodelaceae	Katralai	Shrub	
5.	Borassus flabellifer	Arecaceae	Panai	Tree	
6.	Cissus quadrangularis	Vitaceae	Pirandai	Shrub	1

		List of Fauna	
S.No.	Scientific Name	Common Name	Picture
1.	Capra aegagrus hircus	Goat	A
2.	Funambulus palmarum	Squirrel	্
3.	Bos taurus	Cow	
4.	Danaus plexipppus	Striped tiger	X
5.	Corvus levaillantii	Crow	1
6.	Agrion sp & Petalura sp	Dragon fly	

10.4 Climatic Conditions:

The area receives rainfall of about 607mm/annum and the rainy season is mainly from Oct - Dec during monsoon. The summer is hot with maximum temperature of 40°C and winter encounters a minimum temperature of 21°C.

10.5 Human settlement:

There are few villages located within 5.0km radius of the area; the approximate distance, direction and populations are given below:

Table - 13

S.No.	Name of the Village	Approximate distance & Direction from lease applied area	Approximate population	
1.	Velampalayam	2.0km - NE	1,600	
2.	Morattupalayam	3.0km - NW	5,900	
3.	Anaipalayam	3.0km - SE	2,000	
4.	Sarkar Periyapalayam	2.0km - SW	6,100	

Basic human welfare Amenities such as Health Centre, Schools, Communication Facilities, and Commercial Centres etc., are available at Uthukuli located at a distance of 3.0km on the Northeast side of the area.

10.6 Plan for air, dust suppression:

The air quality will be affected by the Suspended Particulate Matter (SPM) generated by the blasting, jack hammer drilling, Loading and unloading during the Rough Stone quarry operation. The following Mitigations measures will be carried out:

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

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

10.7 Plan for Noise level control:

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

Engineering Noise control:

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

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

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

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

10.8 Environmental impact assessment statement describing impact of mining on the next five years:

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

10.9 Proposal for waste management:

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

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

In the mining plan only to a maximum depth of 30m has been envisaged as workable depth for safe & economic mining during entire lease applied 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. There is no waste hence, no proposal for backfilling. The barbed wire fencing cost would be around Rs.1,44,000/-.

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

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

Table - 14

Year	No. of tress proposed to be planted	Survival %	Area to be covered sq.m.	Name of the species	No. of trees expected to be grown
1	20	80%	160		16
II	20	80%	160	Neem, Pongamia	16
Ш	20	80%	160	pinnata, Casuarina,	16
IV	20	80%	160	etc.,	16
V	20	80%	160		16

Nearly 800 sq.m area is proposed to use under Greenbelt by planting 100 Numbers of trees during mining plan period with an anticipated survival rate of 80% (Please refer Plate No.III). The estimated budget for plantation and maintenance of Green belt development would be around Rs. 10,000/- for the period of five years.

The Greenbelt Development will be formed in around quarried out top Benches, Approach Road and Panchayat Road. The cost would be around Rs. 20,000/-

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

Budget Provision for the Mining Plan period:

Table - 15

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

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

WI DIRECT

i) Land cost	The Land value	e as per the	e Governmen	t Guideline land	SAMAS)
1) Land cost	cost is calcula			Concenterato	
	S.F.Nos.	Extent	Cost/Ha	Total	
	209/1A (P)	1.23.5	580000	716300	
	209/1B (P)	0.04.5	580000	26100	Rs. 14,70,000/
	209/2 (P)	0.97.5	745500	726862.5	
	Total	2.25.5	Total	1469262.5	
	i.e., Rs. 14,70,	000/-			
	(Source: https:	//tnreginet.	gov.in/portal	0	
ii) Machinery	The following	machineri	es are propos	sed to meet out	
to be used		or mount	ed compres	ith rock breaker sor with jack	Rs.20,00,000/-
Fencing will be constructed around the quarry pit to prevent the inadvertent entry of public and cattle cost would be around					Rs.1,44,000/-
iv) Labourers shed	Labour sheds structure. The			semi permanent	Rs. 2,00,000/-
v) Sanitary facility	C-0.0000#M10000017F-0000	onveniently		nmodation has places the cost	Rs. 80,000/-
vi) Others items	First aid room	& accessor	ies		Rs.1,00,000/-
vii) Drinking Packaged drinking water will be provided for all the water facility for Labours. Drinking water will be readily available at conveniently accessible points during the whole of the working shift the cost would be around					Rs.1,00,000/-
viii) Sanitary arrangement	The latrine an		2.5	nn and sanitary I be around	Rs. 80,000/-
ix) Safety kit	Reflector Jack	ets, Safety	shoes etc., w	nuffs, Goggles, vill be provided est which would	Rs.1,50,000/-

Minin	o Plan	and	POCP
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Morattupalayam Rough Stone and Gravel Quarry

	Total Cost cost would be around fifty one lakhs and fifty five		W2-03000-30(C))				
Government So	r, Bench & Table facilities to the nearby chool at 2.0% from the total project cost. The Cost at Rs.1,01,000/		51,55,00				
The applicant responsibilities facilities to the	1,01,00						
	Total Project Cost (A+ B)		50,54,00				
B. EMP Cost			3,80,00				
A. Operation	al Cost		46,74,00				
	Description	Amou	nt (Rs.)				
	Total EMP Cost for the five years period is Rs.3,80	,000/-					
	Total Cost		Rs. 76,000				
Ground vibration t	est		Rs. 4,000				
Noise Monitoring	Energy	Rs. 2,000					
Water Quality San	S.		Rs. 18,000				
Air Quality monito	24 137		Rs. 52,000				
B. EMP Cost	Total Project Cost		Rs.46,74,000/				
	Greenbelt development and maintenance we carried out in the quarried out top benches, approad and panchayat road		Rs.20,000/-				
xii) Greenbelt etc.	carried out in the boundary barriers the cost wo around	Greenbelt development and maintenance will be carried out in the boundary barriers the cost would be around					
xi) Garland drain	am to	Rs. 1,20,000/-					
sprinkling	sprinklers the cost would be around		Rs.2,00,000/				
x) Water	water	50 - 2 00 000					

07291 - 516

11.0 PROGRESSIVE QUARRY CLOSURE PLAN

11.1 Introduction:

The Progressive Quarry Closure Plan for Rough Stone and Gravel quarry lease applied area over an extent of 2.25.5 Hectares of patta lands in S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared for **Tmt.V.Revathi**, W/o. M.Vijayakumar residing at No. 8/223, Chinna Kadapalayam, Uthukuli Taluk, Tiruppur District – 638 812.

11.2 Present Land use pattern:

Land Use Table - 16

Description	Present area (Ha)
Quarrying Pit	1.47.5
Infrastructure	Nil
Roads	0.02.0
Green Belt	Nil
Unutilized Area	0.76.0
Grand Total	2,25,5

11.3 Method of Mining:

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

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

11.4 Mineral Processing Operations:

The quarried out Rough Stone will be transported by the 10/20tons capacity Tippers to the needy crushers. Splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and blasting, hydraulic excavators are used for loading the Rough Stone from pithead to the needy crushers.

11.5 Reasons for closure:

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

11.6 Statutory obligations:

The applicant ensures to comply all the conditions stipulated in the precise area communication letter before grant of quarry lease and during the course of quarry operations.

11.7 Progressive quarry closure plan preparation:

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

Dr.P.Thangaraju, M.Sc., Ph.D.,

Qualified Person

No.17, Advaitha Ashram Road,

Alagapuram, Salem - 636 004.

Cell: 94433 56539, 94422 78601

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

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

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

11.9 Closure Plan:

(i) Mined Out Land:

At the end of mining plan period, about 1.93.5 Ha of area will be mined out. Land use at various stages is given in the table below.

Land Use Table - 17

Description	Present area (Ha)	Area at the end of Lease period (Ha)		
Area Under Quarrying	1.47.5	1.93.5		
Infrastructure	Nil	0.01.0		
Roads	0.02.0	0.02.0		
Green Belt	Nil	0.08.0		
Unutilized Area	0.76.0	0.21.0		
Grand Total	2.25.5	2.25.5		

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

(ii) Water quality management:

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

 Construction of Garland drain with check dams / gully plugs at strategic places to arrest silt wash off from broken up area.

- Collection of surface run-off from broken up area in mine pits for settling and only
 properly settled excess water from mine pit will be discharged to nearby users. The storm
 water/mine water will be used for dust suppression, greenbelt development, etc.
- Periodic analysis of mine pit water and ground water quality in nearby villages.
- The quarried out pit will be allowed to collect rain and seepage water which will act as a
 reservoir for storage. This water storage will enhance the static level and ground water
 recharge of nearby wells and it will be used for agriculture purpose to the nearby
 agriculture lands.
- 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. Workers will be provided with personnel protective equipment like face-mask, earplug/ muffs.

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

(iv) Top Soil and Waste Management:

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

(v) Disposal of mining machinery:

All the machineries will be engaged on rental basis. After completion of quarry operation all purchased machineries will be utilized another quarry area. 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 unauthorized person 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 nor more than 1 in 16.
- The bench height will be 5.0m.
- Width of working bench will be kept about 5.0 m for ease of operations and provide sufficient room for the movement of equipments.
- Protective equipment like dust masks, ear-plugs/ muffs and other equipments shall be provided for use by the work persons.
- Notices giving warning to prevent inadvertent entry of persons shall be displayed at all conspicuous places and in particular near mine entries.
- Danger signs shall be displayed near the excavations and proper signal by siren alarm will be given to the public before blasting to prevent accident.
- Security guards will be posted.
- > 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 applicant to meet such eventualities and the assistance to be required from the local authorities should be described.

- The mechanized mining activities in the area may involve any high risk accident due to side falls/collapse, flying stones due to blasting etc.
- The complete 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.
- The quarried out benches, Greenbelt Development will be formed in all around the benches and safety barrier of the lease applied area.

(viii) Care and Maintenance during Temporary Discontinuance:

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

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

Quarry roads and approach roads,

Fencing on approach roads,

Checking and maintenance of machines and equipment,

Drinking water arrangements,

Quarry office, first aid stations etc.

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

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

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

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

(x) Time Scheduling for Abandonment:

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

(xi) Abandonment Cost:

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

Land Use Table - 18

. Vigeneral reserve		YEAR					Man of Principles	AMOUNT
ACTIVITY		1	П	Ш	III IV	v v	RATE	(INR)
Plantation under	Nos.	20	20	20	20	20		
safety zone	Cost	2000	2000	2000	2000	2000		Rs.10,000/-
Plantation cost in	Nos.	40	40	40	40	40	@100	
the quarried out top benches, approach road and panchayat road	Cost	4000	4000	4000	4000	4000	Rs Per sapling	Rs,20,000/-
Wire Fencing (In Mtrs) 480		1,44,000	ē	×		320	@300 Rs Per Meter	Rs.1,44,000/-
Garland drain (In 400	1,20,000	3	(6)		**	@300 Rs Per Meter	Rs.1,20,000/-	
		TOTA	L					Rs.2,94,000/-

12 ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT

This Mining plan for Rough Stone (Charnockite) and Gravel is under Rules 1 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959. The provisions of the Mines Act, Rules and Regulations and orders made there under shall be complied within the quarrying operation, so that the safety of the mine, machinery and person will be well protected. Permission, relaxation or exemption wherever required for the safe and scientific quarrying of the deposit will be obtained from the Department of Mines Safety. Any violation pointed out by the inspecting authorities shall be rectified as per the guidelines of the Concerned Department.

Prepared by

Dr.P. Thangaraju, M.Sc., Ph.D., Qualified Person

Place: Salem

Date: 21.11.2022

SPREAD GREEN
SAVE BLUE

This Mining Plan is approved subject to the Conditions Indicated in the Mining Plan approved Letter No. 584 / Mines / 2022

Dated 5 • 12 2022

This Mining Plan is approved as per the Powers conferred under rule 41(2) of Tamil Nadu Minor Mineral Concession Rules, 1959

ASSISTANT DIRECTOR
Geology and Mining

ANNEXURE

உதவி இயக்குநர் ஆலுவலகம், புவியியல் மற்றும் தரங்கத்துறை, திருப்பூர்.

ந.க. 584/கனிமம்/2022

நாள்: 17.11.2022.

குறிப்பாணை

பொருள்: கனிமங்களும் சுரங்கங்களும் - சிறுகனிமம் - சாதாரண கற்கள் கிராவல் - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம் - புல எண்கள். 209/1A (ப), (1.23.5), 209/1B (ப) (0.04.5) and 209/2 (ப) (0.97.5) ஆகியவற்றில் மொத்தம் 2.25.5 ஹெக்டர் பட்டா நிலப்பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி திருமதி. வி. ரேவதி, க/பெ. எம். விஜயகுமார் என்பவர் விண்ணப்பம் அளித்தது - அங்கீகரிக்கப்பட்ட சுரங்கத்திட்டம் மற்றும் சுற்றுச் குழல் ஒப்புதல் பெற்று அளிக்க கோருதல் - தொடர்பாக.

பார்வை:

- திருமதி. வி. ரேவதி, க/பெ. எம். விஜயகுமார், எண். 8/223, சின்ன காடே பாளையம், ஊத்துக்குளி வட்டம், திருப்பூர் மாவட்டம் - 638 812 என்பவரின் விண்ணப்பம் நாள்: 23.05.2022 (இவ்வலுவலகத்தில் கிடைக்கப்பெற்ற நாள்: 28.06.2022).
- ஊத்துக்குளி வட்டார வளர்ச்சி அலுவலர் (வ.உ) கடிதம் 2921/2022/அ2, நாள்: 19.07.2022.
- ஊத்துக்குளி வட்டாட்சியர் கடிதம் ந.க. 1936/2022/அ2, நாள்: 16.08.2022.
- திருப்பூர் வருவாய் கோட்டாட்சியர் கடிதம் ந.க.
 3396/2022/ஈ1, நாள்: 26.09.2022.
- திருப்பூர், புவியியல் மற்றும் சுரங்கத்துறை, உதவி இயக்குநர் அவர்களின் புலத்தணிக்கை அறிக்கை நாள்: 16.11.2022.
- இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, சென்னை ந.க. 1870/எம்.எம்.1/2020 நாள்: 10.08.2020 கடிதத்துடன் அரசாணை (பல்வகை) எண். 169, தொழில் (எம்எம்.சி-1) துறை நாள்: 04.08.2020 இணைத்து வரப்பெற்றுள்ளது.

7. மற்றும் உரிய ஆவணங்கள்.

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண்கள். 209/1A (ப), (1.23.5), 209/1B (ப) (0.04.5) and 209/2 (ப) (0.97.5) ஆகியவற்றில் மொத்தம் 2.25.5 ஹெக்டர் பரப்பில் சாதாரண கற்கள் / கிராவல் குவாரி செய்ய உரிமம் வழங்கக் கோரி திருமதி. வி. ரேவதி, க/பெ. எம். விஜயகுமார் என்பவர் பார்வை 1-ல் கண்டுள்ளபடி உரிய ஆவணங்களுடன் விண்ணப்பம் அளித்துள்ளார்.

 மேற்படி விண்ணப்பம் தொடர்பாக, ஊத்துக்குளி வட்டார வளர்ச்சி அலுவலர், ஊத்துக்குளி வட்டாட்சியர், திருப்பூர் வருவாய் கோட்டாட்சியர் மற்றும் திருப்பூர், புவியியல் மற்றும் சுரங்கத்துறை, உதவி இயக்குநர் ஆகியோர் புலத்தணிக்கை மேற்கொண்டு திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண்ணி 209/1A/
(ப), (1.23.5), 209/1B (ப) (0.04.5) and 209/2 (ப) (0.97.5) ஆகியவற்றில் போத்தும்
2.25.5 ஹெக்டர் பரப்பில் திருமதி. வி. ரேவதி, க/பெ. எம். விஜயகுமார் என்பவருக்கு சாதூரண
கற்கள் / கிராவல் குவாரி உரியம் வழங்க கீழ்கண்ட நிபந்தனைகளுக்குட்பட்டு அனுமதி
வழங்கலாம் என பரிந்துரை செய்துள்ளனர்.

- புலத்தை சுற்றி அமைந்துள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு குவாரி பணிபுரிய வேண்டும்.
- விண்ணப்பப் புலத்தின் வடக்கு மற்றும் தெற்குப் பகுதியில் உள்ள பட்டா நில கற்குவாரிக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளி அளித்து குவாரிப்பணி புரிய வேண்டும்.

எனவே, ஊத்துக்குளி வட்டார வளர்ச்சி அலுவலர், ஊத்துக்குளி வட்டாட்சியர், திருப்பூர் வருவாய் கோட்டாட்சியர் மற்றும் திருப்பூர், புவியியல் மற்றும் சுரங்கத்துறை, உதவி இயக்குநர் ஆகியோர்களின் பரி<u>ந்து</u>ரைகளின் அடிப்படையி<u>ல</u>ும், திருப்பூர் வருவாய் கோட்டாட்சியர் அவர்களின் குவாரி உரிமம் -வழங்குவது தொடர்பான பரிந்துரை அளிக்கையில் தெரிவிக்கப்பட்டுள்ள நிபந்தனைகளுக்கு உட்பட்டும், உதவி இயக்குநர் (கனிமம்) அவர்களின் மேற்குறிப்பிட்ட நிபந்தனைகளுக்கு உட்பட்டும், திருமதி. வி. ரேவதி, க/பெ. எம். விஜயகுமார் என்பவருக்கு திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண்கள். 209/1A (ப), (1.23.5), 209/1B (ப) (0.04.5) and 209/2 (ப) (0.97.5) ஆகியவற்றில் மொத்தம் 2.25.5 ஹெக்டர் பரப்பில் தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959-இன் விதி எண். 19 (1) (b), 20 ம<u>ற்று</u>ம் 33-ன்படி குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றப்பட்ட நாளிலிருந்து 5 ஆண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டி எடுக்க குவாரி குத்தகை உரியம் வழங்குவது தொடர்பாக பேற்காணும் நிபந்தனைகளுக்கு உட்பட்டு திருப்பூர் உதவி இயக்குநரால் ஏற்பளிக்கப்பட்ட சுரங்கத் திட்டம் மற்றும் மாநில சுந்றுச் குழல் அமைப்பிடம் இருந்து பெறப்பட்ட சுற்றுச்சூழல் ஒப்புதல் ஆகியன உரிய காலத்திற்குள் விண்ணப்பதாரால் பெற்றளிக்கப்பட வேண்டும் என தெரிவிக்கப்படுகிறது.

> உதவி இயக்குநர், 14 [۱] 2 புவியியல் மற்றும் சுரங்கத்துறை, திருப்பூர்.

பெறுநர்

திருமதி. வி. ரேவதி, க/பெ. எம். விஜயகுமார், எண். 8/223, சின்ன காடே பாளையம், ஊத்துக்குளி வட்டம், திருப்பூர் மாவட்டம் - 638 812

12 Pertition



Dr. S. KALYANASUNDARAM ,LF.S. (Retd.)
CHAIRMAN

STATE LEVEL ENVIRONMENT IMPACTS
ASSESSMENT AUTHORITY TAMINATE

3rd Floor, Panagal Maaligai,
No.1 Jeenis Road, Saidapet,
Chennai-15.
Phone No.044-24359974
Fax No. 044-24359975

ENVIRONMENTAL CLEARANCE

Lr. No.SEIAA-TN/F.No.5470/1(a)/ EC.No: 3292 /2016 dated: 11.07.2016

To Thiru. P.K. Krishnasamy & Thiru. K. Muthusamy Senapathichettipalayam Sengappalli Perundurai Erode - 638812

Sir,

Sub:

SEIAA-TN — Proposed Rough Stone & Gravel quarry located at S.F.No 209/1A (P), 209/1B (P), & 209/2 (P), Morattupalayam Village, Uthukuli Taluk, Tiruppur District-Issue of Environmental Clearance — Reg.

Ref;

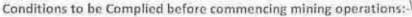
- 1. Your Application for Environmental Clearance dt: 29.06.2016
- 2. Minutes of the 77th SEAC held on 08.07.2016
- 3. N inutes of the SEIAA meeting held on 11.07.2016

Details of Minor Mineral Activity:-

This has reference to your application for cited. The proposal is for obtaining environmental clearance for mining/quarrying of minor minerals based on the particulars furnished in your application as shown below.

1	Name of Project Proponent and address	Thiru. P.K. Krishnasamy & Thiru. K. Muthusamy Senapathichettipalayam Sengappalli Perundurai Erode - 638812					
2	Location of the Proposed Activity						
	Survey Number	209/1A (P), 209/1B (P), & 209/2 (P)					
	Latitude and Longitude	11"08'19.06"N to 11"08'24.75"N 77*25'10.17"E to 77*25'16.61"E					
	Village	Morattupalayam					





- The project proponent shall advertise in at least two local newspapers which disculated in the region, one of which shall be in the vernacular language informing the public that
 - I. The project has been accorded Environmental Clearance.
 - II. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.
 - III. Environmental Clearance may also be seen on the website of the SEIAA.
 - IV. The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.
- The applicant has to obtain land use classification as Industrial use before issue/renewal of mining lease.
- NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
- The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
- 5. A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.
- Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
- 7. The proponent shall ensure that First Aid Box is available at site.
- 8. The excavation activity shall not alter the natural drainage pattern of the area.
- The excavated pit shall be restored by the project proponent for useful purposes.
- The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
- 11. The quarrying operation shall be restricted between 7AM and 5 PM.
- 12. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
- A minimum distance of 15 mts. From any civil structure shall be kept from the periphery of any excavation area.
- 14. Depth of quarrying shall be 2m above the ground water table /approved depth of mining whichever is lesser to be considered as a safe guard against Environmental Contamination and over exploitation of resources.

CHAIRMAN SEIAA-TN

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- 29 Waste oils, used oils generated from the EM machines, mining operations, if any, shall ne disposed as per the Hazardous Wastes (Management, Handling, and trans boundary movement).

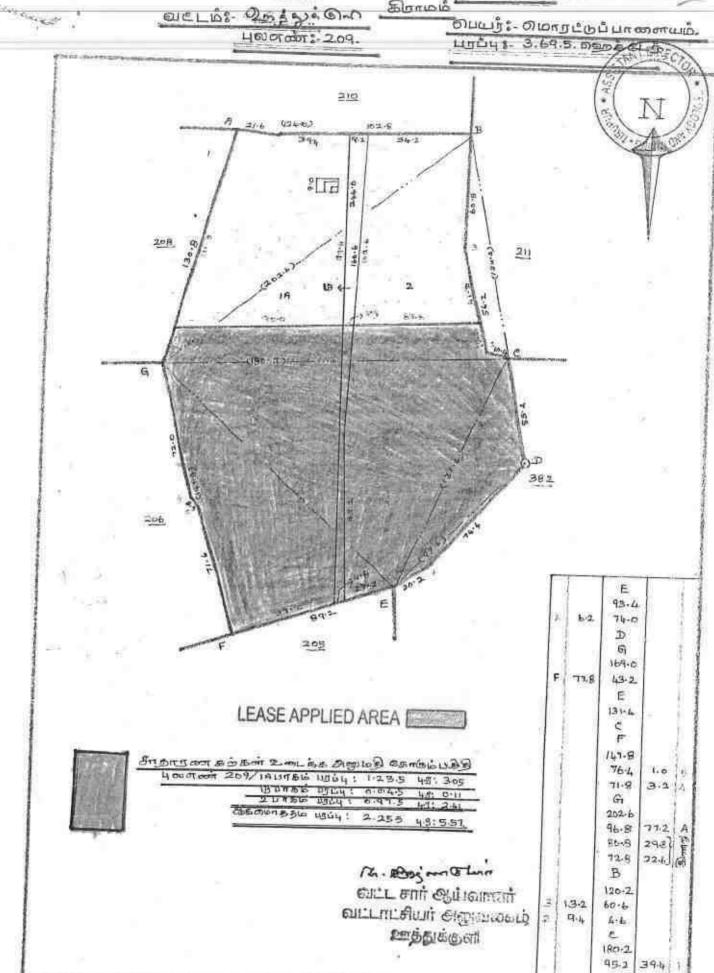
 Rules, 2008 and its amendments thereof to the recyclers authorized by TNPOR.
- Concealing the factual data or failure to comply with any of the conditions mentioned above
 may result in withdrawal of this clearance and attract action under the provisions of
 Environment (Protection) Act, 1986.
- Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
- 32. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
- 33. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out. District Collector/mining officer shall ensure this,
- 34. No tree-felling shall be done in the leased area, except only with the permission from competent Authority.
- 35. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic institution.
- 36. It shall be ensured that the total extent of nearby quarries(existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 25 hectares within the mining lease period of this application.
- 37. It shall be ensured that there is no habitation is located within 300 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 500m radius from the periphery of the quarry site
- 38. Ground water quality monitoring should be conducted once in 3 Months
- Transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village road.
- Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOL
- Air sampling at Intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI..
- 42. Bunds to be provided at the boundary of the project site.
- 43. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Hz. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.

CHAIRMAN SEIAA-TN

General Conditions:

- EC is given only on the factual records, documents and the commitment furnished an non judic stamp paper by the proponent.
- The Proponent shall obtain the Consent for Establishment from the TNPC Board before commencing the activity.
- No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
- No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
- 5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
- A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
- Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
- Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
- 11. All Personnel shall be provided with protective respiratory devices including safety shoes, Masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- 12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
- Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
- The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
- 15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennal.

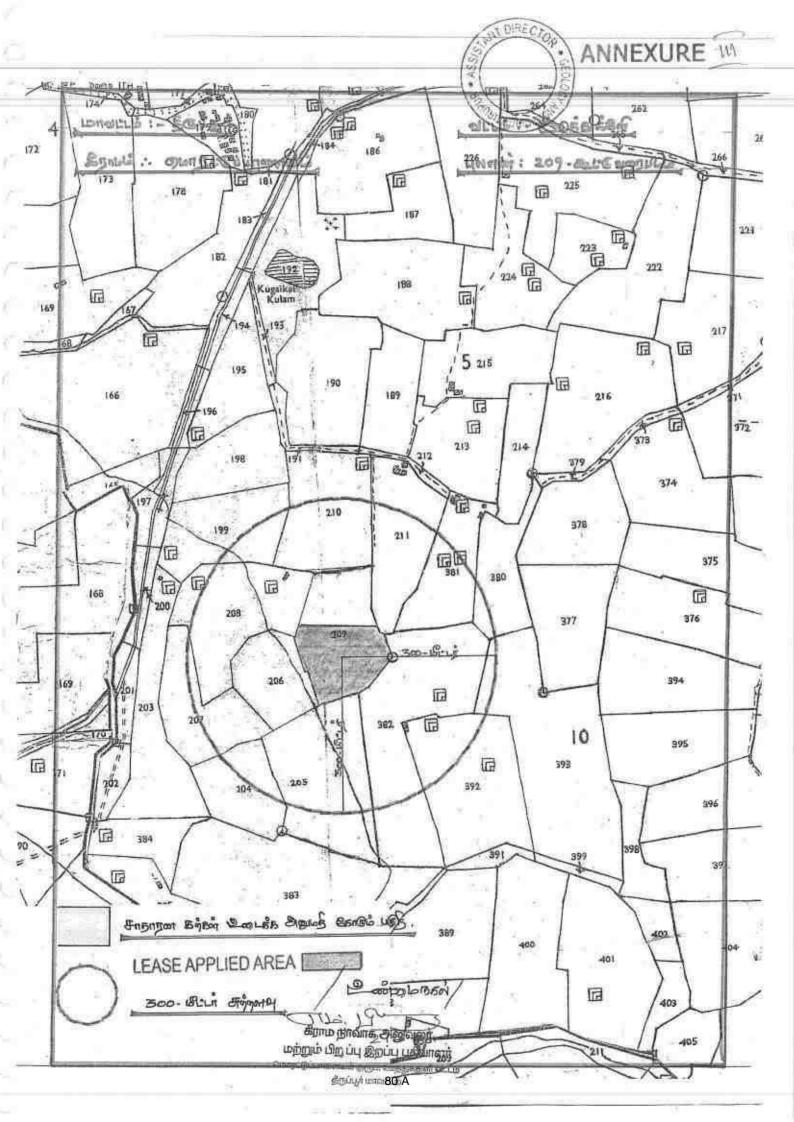
CHAIRMAN SEIAA-TN



Storay: (16). 16: 2000 10.16

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வருவாய்த் துறை

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

மாவட்டம் : திருப்பூர்

வட்டம் : ஊத்துக்குளி

வருவாய் கிராமம் : மொரட்டுப்பாளையம்

பட்டா எண் : 273

உரிமையாளர்கள் பெயர்

கருப்பண்ண கவுண்டர்

மகன் கிருஷ்ணசாமி

நாச்சிமுத்துக் கவுண்டர்

மகன் சிதம்பரம்

3. முத்துசாமி

மகன் விஜயகுமார்

1. 1. 47.3	0.9971.5-1-111	(1)							
प्रक सन्त्रंग	உட்பிரிவு	புன்செய்		gs car G	ते <i>क्वां</i> ।	மற்ற	குறிப்புரைகள்		
		այմպ	தீர்வை	սյոնպ	திர்வை	บรบัน	தீர்வை		
м		ஹெக் - ஏர்	ത്ര - ബറ	ஹெக் - ஏர்	ത്ര - വെ	ஹெக் - ஏர்	ரு - பை		
209	1A	2 - 2.50	6.84	=	1 801	:#4	***	2019/0103 /32/173868 26-04-2019	
		2 - 2.50	6.84			-			

குறிப்பு2:



- மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை.
 இவற்றை தாங்கள் https://eservices.tn.gov.in என்ற இணைய தளத்தில் 32/09/081
 /00273/70122 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
- 2. இத் தகவல்கள் 24-08-2021 அன்று 03:14:20 PM நேரத்தில் அச்சடிக்கப்பட்டது.
- கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்





தமிழக அரசு

வருவாய்த் துறை

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

மாவட்டம் : திருப்பூர்

வட்டம் : ஊத்துக்குளி

வருவாய் கிராமம் : மொரட்டுப்பாளையம்

பட்டா எண் : 570

உரிமையாளர்கள் பெயர்

கருப்ப கவுண்டர்

மகன்

கிருஷ்ணசாமி

-

2. முத்துசாமி

மகன்

விஜயகுமார்

4. W	இது சாய			- Contract	96			
புல எண்	உட்பிரிவு	புன்(செய்	Pegic	சுப்	மற்ற	തഖ	குறிப்புரைகள்
		սյմպ	தீர்வை	பரப்பு	தர்வை	பரப்பு	தர்வை	
		ஹெக் - ஏர்	ന്നു - വെ	ஹெக் - ஏர்	ரூ - பை	ஹெக் - ஏர்	എ - ബப	
209	18	0 - 11.50	0.39		722		***	2019/0103/32/173868- 26-04-2019
		0 - 11.50	0.39					

குறிப்பு 2:

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை.
இவற்றை தாங்கள் https://eservices.tn.gov.in என்ற இணைய தளத்தில்
32/09/081/00570/100192 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி
செய்துகொள்ளவும்.

2. இத் தகவல்கள் 12-04-2022 அன்று 03:01:18 PM நேரத்தில் அச்சடிக்கப்பட்டது.

3. கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி
இணையதளத்தில் சரிபார்க்கவும்





வருவாய்த் துறை

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

மாவட்டம் : திருப்பூர்

வட்டம் : ஊத்துக்குளி

வருவாய் கிராமம் : மொரட்டுப்பாளையம்

பட்டா என் : 152

உரிமையாளர்கள் பெயர்

கருப்ப கவுண்டர்

மகன்

கிருஷ்ணசாயி

2. முத்துசாமி

மகன்

விஜயகுமார்

புல எண்	<u>कां</u> भीतीव्	புன்செய்		தன்செய்		மற்றவை		குறிப்புரைகள்
		ម្រាប់រដ្ឋ	தீர்வை	արմպ	தீர்வை	այնպ	தீர்வை	
		ஹெக் - ஏர்	ල - ග u	ஹெக் - ஏர்	ര്ര - ബ	ஹெக் - ஏர்	சு - பை	
209	2	1 - 55.50	5.26	925		22	V See	2019/0103 /32/173868 26-04-2019
		1 - 55.50	5.26					

குறிப்பு2:



- மேற்கண்ட தகவல் / சான்றிநழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை.
 இவற்றை தாங்கள் https://eservices.tn.gov.in என்ற இணைய தளத்தில் 32/09/081
 /00152/60118 என்ற குறிப்பு எண்ணை உள்ளிடு செய்து உறுதி செய்துகொள்ளவும்.
- இத் தகவல்கள் 24-08-2021 அன்று 03:16:19 PM நேரத்தில் அச்சடிக்கப்பட்டது.
- கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

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அுபதிவேடு விவரங்கள்

மாவட்டம் : திருப்பூர்

வட்டம் : ஊத்துக்குளி

கிராமம் : மொரட்டுப்பாளையம்



2பேர்

குறிப்பு 1:



1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் http://eservices.tn.gov.in என்ற இணைய தளத்தில் 70122 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.

அ-பதிவேடு விவரங்கள்

மாவட்டம் : இருப்பூர் வட்டம் : ஊத்துக்குளி

இராமம் : மொரட்டுப்பாளையம்



209	9. மண் வயனமும் ரகமும்	8 - 1
18	10. மண் தரம்	3
¹⁴ 180,181	Charles agost to the Charles of the	3,00
P	12. பரப்பு (ஹெக்டேர் - ஏர்)	0 - 11.50
ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	0.39
புஞ்சை	14. பட்டா எண்	570
	15. குறிப்பு	கெணறு
	16. பெயர்	1. இருஷ்ணசாமி 2. விஜயகுமார்
	1B ¹ 180,181 P ரயத்துவாரி புஞ்சை	78 ரகமும் 18 10. மண் தரம் 11. தீர்வை (ரூ - ஹெ) 12. பரப்பு (ஹெக்டேர் - ஏர்) ரயத்துவாரி 13. மொத்த தீர்வை (ரூ - பை) புஞ்சை 14. பட்டா எண் - 15. குறிப்பு

குறிப்பு 1:



மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் http://eservices.tn.gov.in என்ற இணைய தளத்தில் 70192 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.

அ-பதிவேடு விவரங்கள்

மாவட்டம் : திருப்பூர்

வட்டம் : ஊத்துக்குளி

கிராமம் : மொரட்டுப்பாளையம்



209	9. மண் வயனமும் ரகமும்	8 - 1
2	10. மண் நரம்	3
181	11. தீர்வை (ரு - ஹெ)	3.38
P	12. பரப்பு (ஹெக்டேர் - ஏர்)	1 - 55.50
ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	5.26
புஞ்சை	14. மட்டா எண்	152
	15. குறிப்பு	-
# E	16. பெயர்	1.கிருஷ்ணசாமி 2.விஜயகுமார்
	2 181 P ரயந்துவாரி புஞ்சை	2 10. மண் தரம் 181 11. தீர்வை (ரூ - ஹெ) p 12. பரப்பு (ஹெக்டேர் - எர்) 13. மொத்த தீர்வை (ரூ - பை) புஞ்சை 14. பட்டா எண்

குறிப்பு 1:



1.மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை நூங்கள் http://eservices.tn.gov.in என்ற இணைய தளத்தில் 70118 என்ற குறிப்பு என்பணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.



तिमलनाड् TAMIL NADU 27/8/2004 Mrsugle/8/FC A ori or Brill Lymonius

சம்மதக் கடிதம்

முற்திரைந்தாள் விற்பணையா**ள**். 2. flumis er soit: :3/2008/4-Girm (). ஊற்றுக்குளிடலுள், தமிழ்நாடு

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், செங்கப்பள்ளி கிராமம், மஜரா சேனாதிபதி செட்டிபாளையம் என்ற முகவரியில் வசிக்கும் கருப்பண கவுண்டர் மகன் பி.கே. கிருஷ்ணசாமி (1), திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், செங்கப்பள்ளி கிராமம், சின்னகாட்பாளையம் என்ற முகவுரியில் வசிக்கும் திரு. முத்துசாமி மகன் எம். விஜயகுமார் (2) மற்றும் திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், செங்கப்பள்ளி கிராமம், மஜரா சேணாதிபதி செட்டிபாளையம் என்ற முகவுரியில் வசிக்கும் நாச்சிமுத்து கவுண்டர் மகன் சிதம்பரம் (3) ஆகிய நாங்கள் திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், செங்கப்பள்ளி கிராமம், சின்னகாடபாளையம் என்ற முகவரியில் வசிக்கும் திரு. எம். விஜயகுமார் மனைவி ரேவதி (4) ஆகிய உங்களுக்கு எழுதிக் கொடுக்கும் சம்மதக் கடிதம் என்னவென்றால்.

ADVISATE & ROTARY PUBLIC (Government of India) Keg. Rol: 22124

Vo T. Many Plantos Syam Amigateyam (Po),

Athekini (Tk), Tangguer (Dr. - 133-752. Fitting Cig. 103,05:2025 Sub Bu498 48428 1. P18 & G 09 0001 B+ 102

2. M. J. J.

.2.

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல என். 209/1ஏ-ல் 2.02.5 ஹெக்டர் பரப்பு பட்டா பூமியானது பட்டா எண். 273-ன்பட் மூம்மில் (1) முதல் (3) இலக்கமிட்டவர் பெயரில் கூட்டுப்பட்டாவாக தாக்கலாகியுள்ளது.

மேற்படி பூமியில நம்மில் (4) இலக்கமிட்ட திருமதி. எம். ரேவதி என்பவர் சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க விண்ணப்பம் செய்துள்ளார். மேற்படி புலத்தில் துணை இயக்குநர் (கனிமம்) அவர்களால் அனுமதி வழங்கும் நாளிலிருந்து ஐந்து வருட காலத்திற்கு குவாரிக் குத்தகை உரிமம் வழங்க (1) முதல் (3) இலக்கமிட்ட எங்களுக்கு எவ்விதமான ஆட்சேபணையும் இல்லை. பின்னிட்டு எவ்வித பிரச்சனையும் செய்யமாட்டோம். முழுமனதுடன் சம்மதம் அளிக்கிறேன் என உறுதி கூறுகிறோம்.

> 1.1° H. & E 03 0001 An 107 2. M. ~ 7. 3. N. & M. ~ 1.



15/4/12

V.SUNDARARAJU B.A., B.L., ADVOCATE & NOTARY PUBLIC (Government of India) Reg. No.: 22124 No.3, Naduvelampalayara Anaipalayara (Po)

Uthukuli (Tk), Tiruppur (Dt) = 638 752. Expiry Dt : 63.05 2025 | Cell = 94435 48426 Entered in Notary Register

Visual Co. 1. Supports 90

St. No. 3145 1998 9-41-22



திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், செங்கப்பள்ளி கிராமம், மஜரா சேனாதிபதி செட்டிபாளையம் என்ற முகவரியில் வசிக்கும் கருப்பண கவுண்டர் மகன் பி.கே. கிருஷ்ணசாயி (1), திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், செங்கப்பள்ளி கிராமம், சின்னகாடபாளையம் என்ற முகவரியில் வசிக்கும் திரு. முத்துசாமி மகன் எம். விஜயகுமார் (2) ஆகிய நாங்கள் திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், செங்கப்பள்ளி கிராமம், சின்னகாடபாளையம் என்ற முகவரியில் வசிக்கும் திரு. எம். விஜயகுமார் மனைவி ரேவதி (3) ஆகிய உங்களுக்கு எழுதிக் கொடுக்கும் சம்மதக் கடிதம் என்னவென்றால்.

1.10128 GRAGOON BAILOR

NDARARAJU S.A. S.L.

ADVOCATE & HOTARY PUBLIC (Government of finish Reg. No.: 22124 No.3, Naduvelampslayam Analpalayam (Fe),

Unsuladi (FA), Tirappor (ER) - 1538 752. Expiry Dt : 03.05.2025 | Call : 98435 48426

7

தீருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொறட்டுப்பாளையம் கீறாகும். புல என் (209/IB ல் 0.11.5 ஹெக்டர் பரப்பு பூமியானது பட்டா எண்.570 ன் படியும் மேலும் 209/2 ல் 1.55.5 ஹெக்டர் பரப்பு பூமியானது பட்டா எண்.152 ன்படி நம்மில் (1) முதல் (2) இலக்கமிட்டவர் பெயரில் கூட்டாக தாக்கலாகியுள்ளது.

மேற்படி பூமியில் நம்மில் (3) இலக்கமிட்ட திருமதி எம். ரேவதி என்பவர் சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க விண்ணப்பம் செய்துள்ளார். மேற்படி புலத்தில் துணை இயக்குநர் (கனிமம்) அவர்களால் அனுமதி வழங்கும் நாளிலிருந்து ஐந்து வருட காலத்திற்கு குவாரிக் குத்தகை உரிமம் வழங்க (1) முதல் (2) இலக்கமிட்ட எங்களுக்கு எவ்விதமான ஆட்சேபனையும் இல்லை. பின்னிட்டு எவ்வித பிரச்சனையும் செய்யமாட்டோம். முழுமனதுடன் சம்மதம் அளிக்கிறேன் என உறுதி கூறுகிறோம்.

> 1. PK& Bajoon on 102 2. M. m J.



V.SUNDARARAJU BALE

ADVOCATE & NOTARY PUBLIC (Government of India) Reg. No : 22124 No.3, Naduvelampslayem Analpalayam (Po), Uthukuli (Tk), Tiruppur (Dt) - 638 752. Expiry Dt : 03.05.2025 Cell : 94435 48428

Entered in Notary Register
Volume No
St. 10. 444 Dev. 9.4. 22

आयकर विमाग INCOME TAX DEPARTMENT भारत सरकार GOVE OF INDIA

स्थापी लेखा संख्या पत्रहे Permanent Account Number Card

CKWPR0254F

Tritt sur HIN i Father's Name KRISHNASAMY

Rest all militar (Oute of Birth 09/07/1987



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Government of India



Greed REVATHI மிழந்த நாள்/DOB: 08/07/1967 பேண்/ FEMALE

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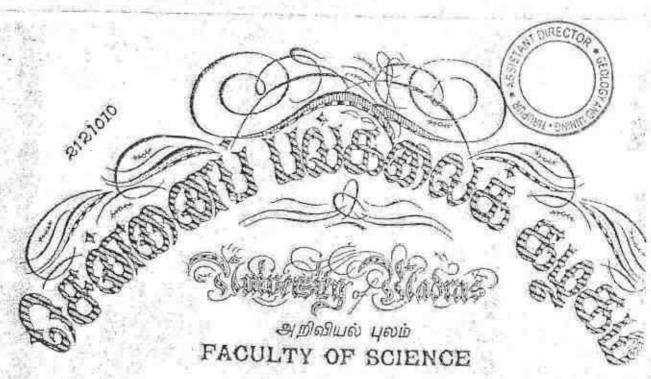
ஆதார். எனது அடையாளம் எனது

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் சன்னைப் பல்கலைக் கழகப் பேரலை... 1994 ஆண்டு... தப்ரல் மாதம் கடித்த ககிமகியுல் தோலில் நடிதங்களுக மாதம் கடித்த ககியகியுல் தொலில் சேச்ச்ச் பெற்றன என்ற கக்க செர்வானர்கள வரக்றுவிதப்படி அறிவியல் நிறை சூ என்னும் பட்டத்தை அலகுக்குப் பல்கலைக் சுழக இவச்சினையில் வழங்குகிறது.



Given under the seal of the Universely

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Oscironos, Madeas 125-01-1999 94 A Listoinean P.T. Tyun Det

GOVERNMENT OF INDIA MINISTRY OF LABOUR AND REHABILITATION OFFICE OF THE DIRECTOR GENERAL OF MINES SAFE Y

N Sign PECTOR

Certificate of Practical experience granted by the Manager to a candidate for a Manager's / Surveyor's / Foremen's / Over man's / Sirdar's / Mate's / Short firer's/ Blaster's Certificate of competency (Restricted) examination under the Metalliferous Mines Regulations 1961.

1 T.VENKATARAJAGOPALAN being the Mines Agent of M/S.LIMENAPH CHEMICALS, RAJAPALAYAM OF LIMESTONE PRODUCTS (Thenmali Limestone Mine) do hereby certify that Thiru. P.THANGARAJU, son of S.P.ERIASAMY (whose signature is appended) worked as a Geologist in the above mine from 02.05.1994 to 30.12.1999. During his term of work aforesaid, he has obtained practical experience as detailed overleaf. The duties connected with his work have involved continuous attendance at the mine and have been efficiently performed by him.

I believe him to be of good character and a fit and proper candidate to be examined for Certificate of Competency.

Certificate of Competency.

THE DESTONS MINES

(Signature with date and official Scal)

[T.VENKATARAJAGOPALAN]

Mines Agent:

P.O.

: ARUKANGULAM

District

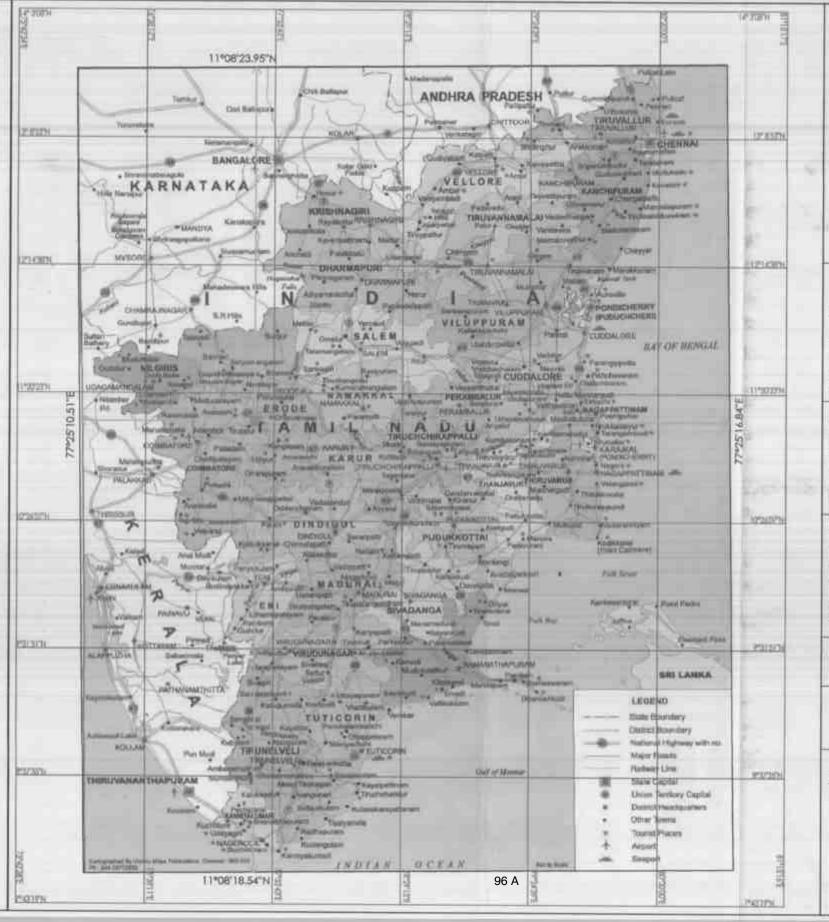
: TIRUNELVELI

State

: TAMIL NADU

(Signature of Candidate)

(State name of Mineral) : LIMESTONE







INDEX

Q.L.APPLIED AREA:



TOPO SHEET NO.: 58 E/08

LATITUDE : 11"08"18.54"N to 11"08"23.95"N LONGITUDE: 77"25"10.51"E to 77"25"16.84"E

APPLICANT:

Tmt. V. REVATHI, S/o. M. VIJAYAKUMAR, No. 8/ 223, CHINNA KADAPALAYAM, UTHUKULI TALUK, TIRUPPUR DISTRICT - 638 812.

LOCATION OF Q.L. APPLIED AREA:

S.F.No's : 209/1A(P), 209/1B(P) & 209/2(P).

EXTENT : 2.25.5 Ha.

VILLAGE: MORATTUPALAYAM,

TALUK : UTHUKUU, DISTRICT : TIRUPPUR, STATE : TAMILNADU,

PLATE NO - I

DATE OF SURVEY: 19.11,2022

LOCATION PLAN

SCALE. 1:24,00,000

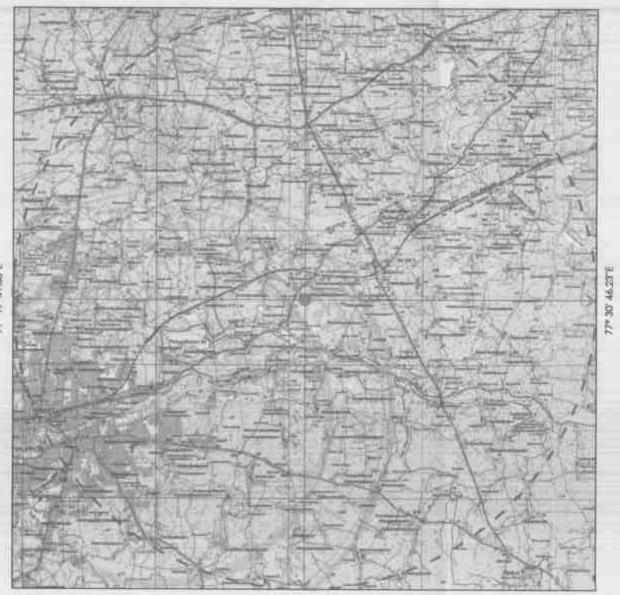
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11° 13' 49.24"N



11° 02' 53.26"N

TOPO SHEET NO.: 58 E/08

LATITUDE : 11"08'18.54"N to 11"08'23.95"N LONGITUDE : 77"25'10.51"E to 77"25'16.84"E

10km RADIUS

12

97 A Q.L. APPLIED AREA :

INDEX

Express highway: with toll; with bridge; with distance stone. Roads metalled: according to importance. Results, double narriageway, according to importance Unmetallishmad, Cut-track, Pack-track with pass, Poot-path. Stream: with truck in bed; undefined. Canal. Dams: massing or rock-filling; earthwork, Weit... River; thy with water channel, with attend & rocks. Total river Submerged rocks. Shoot, Swamp, Reeds Wells lined, unlined, Tubewell, Spring, Tanks personnal, Embankments: roud or mil; tank, Broken ground. Railways, broad gauge: double: single with station. Railways, other gauges: double; single with distance more; d Mineral line or transway. Kilo. Cotting with tamed. Comours with sub-frontures. Rocky slopes. Cliffs. Sand femore: (1)Out. (2) and hills(premanent). Towns or Villages: inhobited, deserted, Fort... Huts: permanent, temporary. Tower. Accignities.... Temple Chlutti, Church Mineper, lighth, Tomb. Craves. Lightheuse, Lightship, Booyer Ughned, milighted. Auchurage. Mine. Vinc on trellin, Orana, Serub, Palms: palmyen; other, Plantain, Conifer, Bambioo, Other trees Arms: ontrivated: Wooded, Surveyed trees... Beambuy, immunicoal... Boundary, state demarcated, undemarcated, Boundary, district; subdivision, tabuil or tulox; forcus. Beonday pillers: surveyed; indocuted... Heights; triungulatest: station: point; approximate. Bench-mark: prodetic; tertiory; canal. AMPRICA. Post office. Telegraph office. Overhead tank. Rest bouse or impecting bungslow. Circuit house. Camping Ground. Purest: reserved; posteriol... Spaces names: administrative; locality or tribal. Hospital Dispensity Veteriosty Hospital/Dispensity. Aerodomic Helipal Toorist site. Powerfine: with pylone surveyed; with poles unnurveyed.

APPLICANT:

Tint. V, REVATHI, 5/o. M. VUAYAKUMAR, NO. 8/223, CHINNA KADAPALAYAM, UTHUKUU TALUK, TIRUFFUR DISTRICT - 638 812.

LOCATION OF Q.L. APPLIED AREA:

5.F.No's : 209/1A(P), 209/1B(P) & 209/2(P).

EXTENT : 2.25.5 Ha.

VILLAGE: MORATTUPALAYAM.

TALUK : UTHUKULI, DISTRICT : TIRUPPUR, STATE : TAMILNADU,

PLATE NO-1-A

DATE OF SURVEY: 19.11.2022

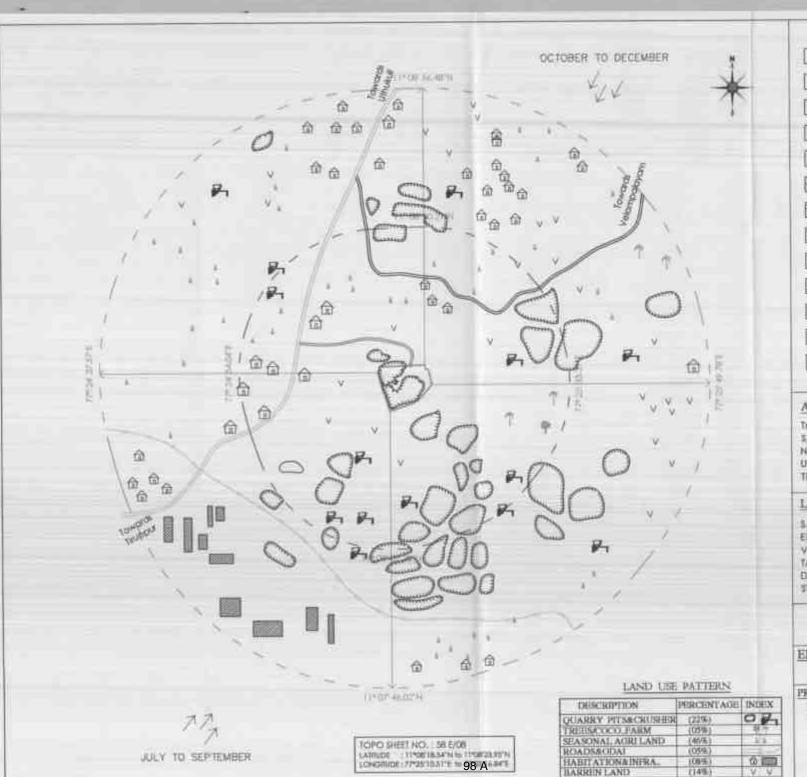
APPLIED AREA FOR 10Km RADIUS

SCALE, 1:1,00,000

PREPARED BY:

THE IE TO CERTIFY THAT THE PROGRATION IN THIS PLATE TO THE SEED OF MY KNOWLEDGE BASED UPON THE LEASE MAP AUTHENTICATED BY STATE SOVERNMENT

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INDEX

Q.L. APPLIED AREA

1 Km RADIUS

500m RADIUS

SEASONAL AGRICULTURE LAND

TREES & COCONUT FARM

HABITATION & INFRASTRUCTURE

QUARRY PIT & CRUSHER UNIT

WIND DIRECTION

STATE HIGHWAY

EARTHEN ROAD

APPROACH ROAD

V V BARREN LAND

ODAI

APPLICANT:

TIMI. V. REVATHL
5/O. M. VUAYAKUMAR.
NO. 8/ 223. CHINNA KADAPALAYAM.
UTHUKUU TALUK
TIRUPPUR DISTRICT - 638 812.

LOCATION OF Q.L. APPLIED AREA:

S.F.No's : 209/1A(P), 209/18(P) & 209/2(P).

EXTENT : 2.25.5 Ha.

VILLAGE: MORATTUPALAYAM.

TALUK : LITHUKUU, DISTRICT : TIRUPPUR, STATE : TAMILINADU.

PLATE NO- I-B

DATE OF SURVEY: 19,11,2022

ENVIRONMENTAL & LAND USE PLAN

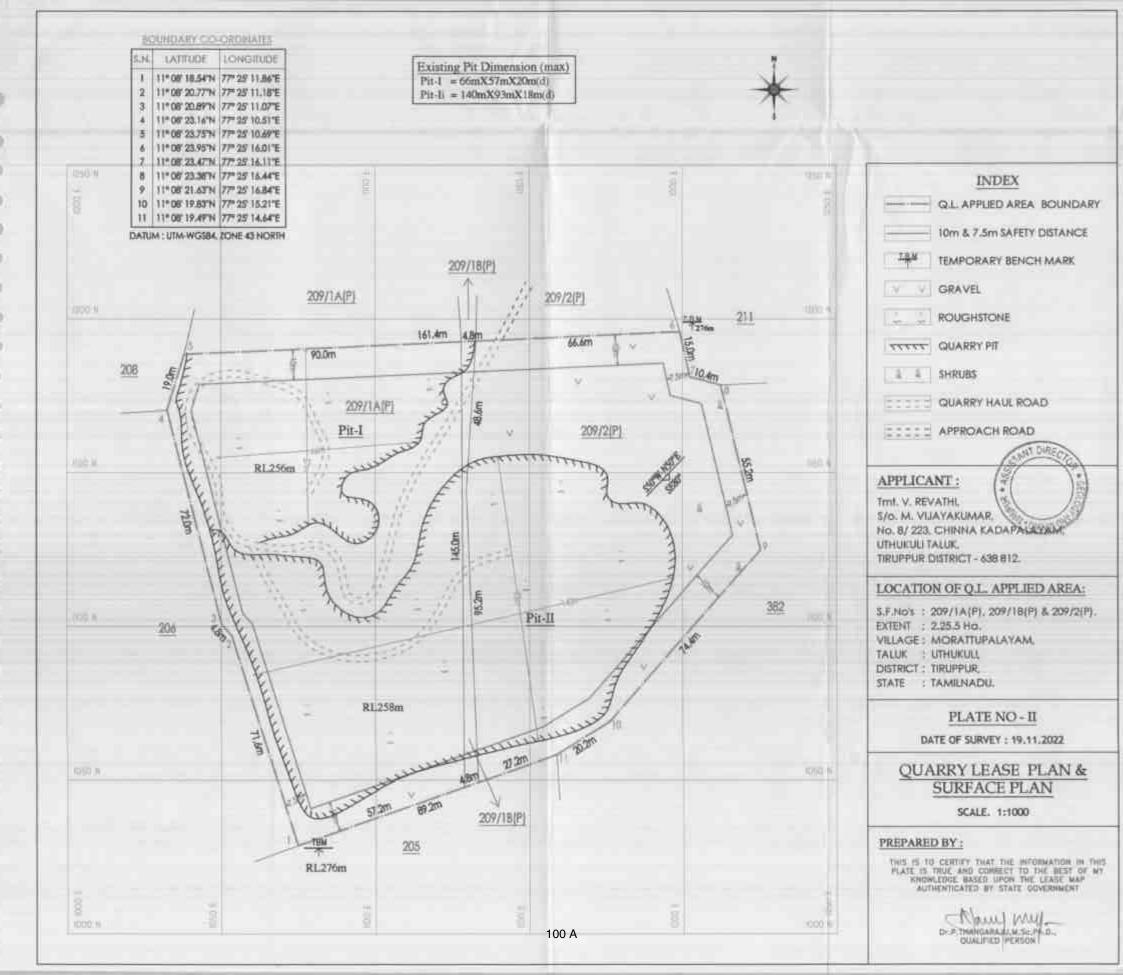
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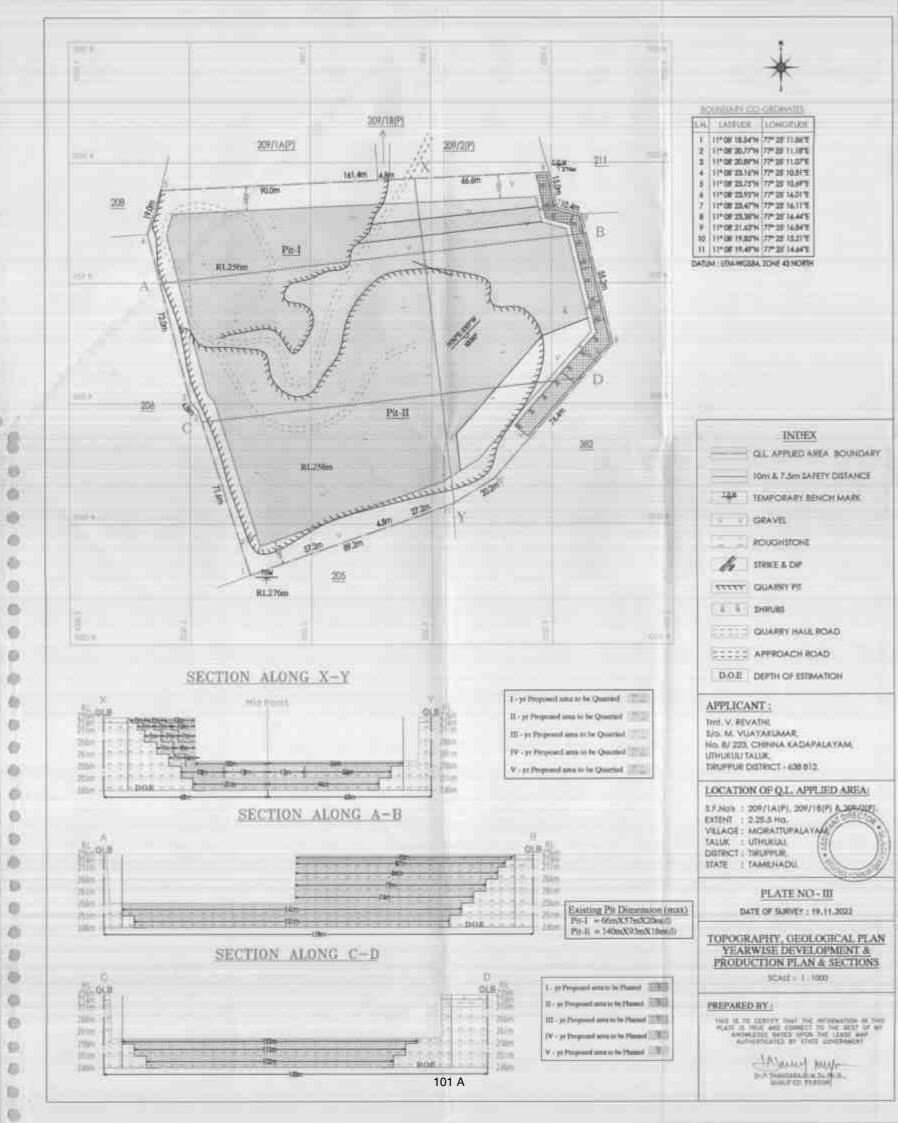
PREPARED BY:

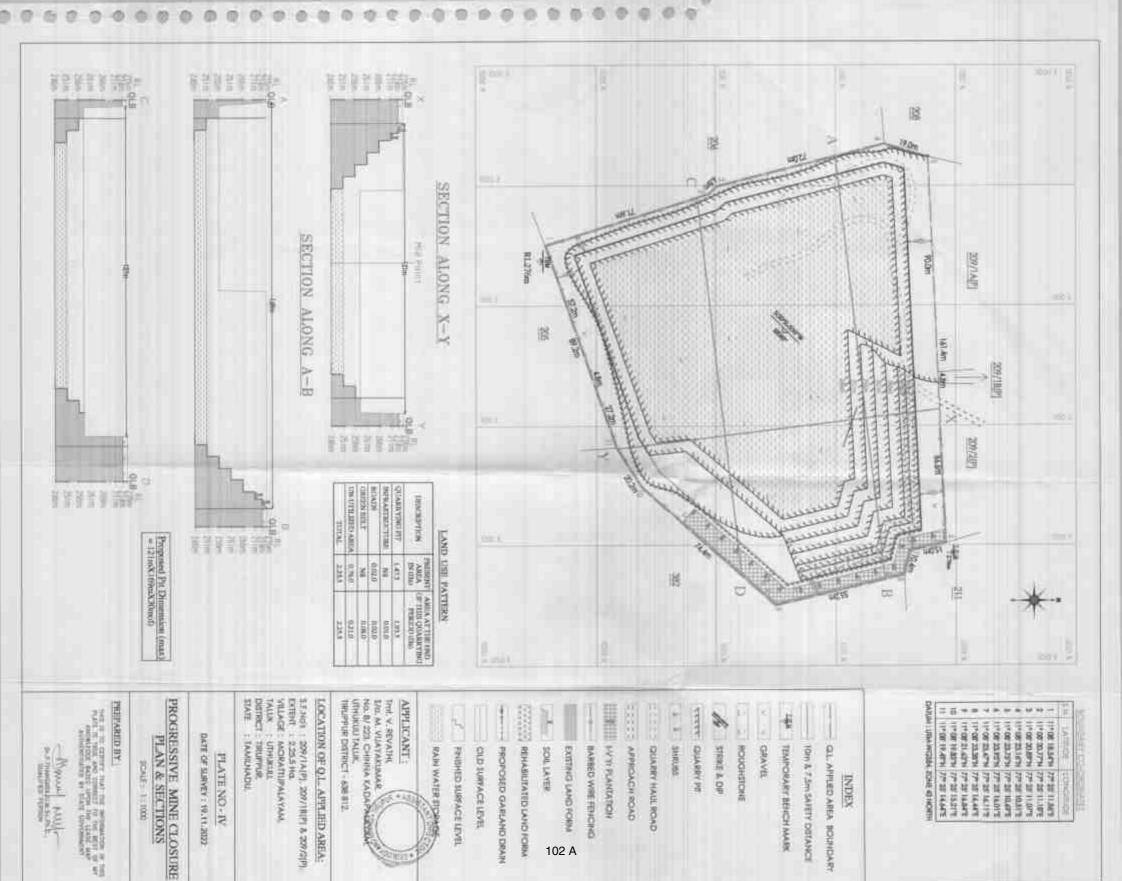
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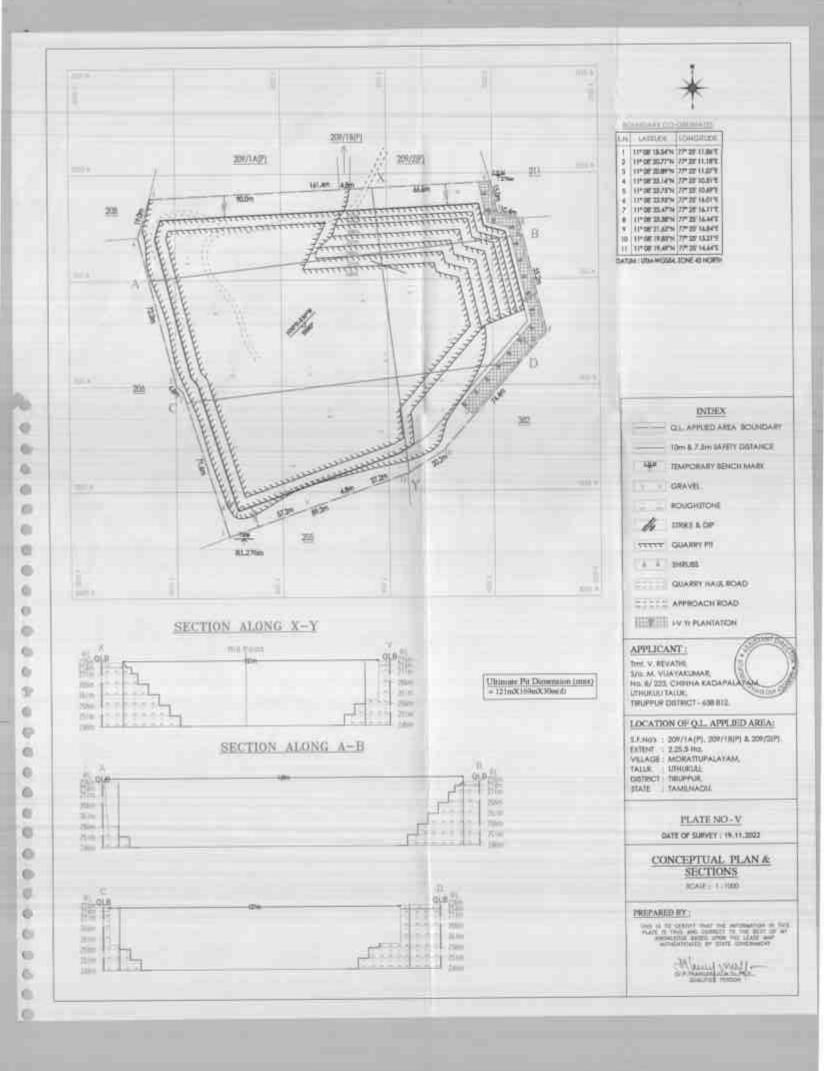
401 PLATE NO: I-C ROUTE MAP 6 Uthukuli 3.0km 6 0.5km Pettikadai 1.500 Vellaiyampalayam 0.5km Sarkar periyapalayam 9.0km 0 ⊚ Tiruppur 60 Ð APPLICANT: SCALE: INDEX Tmt. V. REVATHI, NOTTO SCALE S/O. M. VIJAYAKUMAR, PREPARED BY: Q.L.APPLIED AREA No. 8/223, CHINNA KADAPALAYAM UTHUKULI TALUK, STATE HIGHWAY TIRUPPUR DISTRICT - 638 812. THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLATE IS TRUE AND CORRECT TO THE BEST OF MY ENGWLEDGE BASED UPON THE LEASE MAP AUTHENTICATED BY STATE GOVERNMENT CART TRACK LOCATION OF Q.L. A. AREA: APPROACH ROAD DY F. THANGARADUM, SE. P. D., OUALIFICD (CRSON S.F.No's: 209/1A(P),18(P)&209/2(P). EXTENT : 2.25.5 Ha. VILLAGE: MORATTUPALAYAM, TALUK : UTHUKULL DISTRICT : TIRUPPUR, STATE : TAMILNADU.

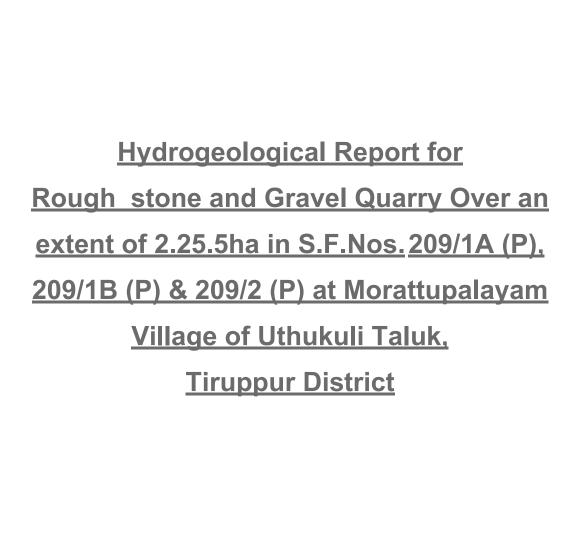






102 A





HYDROGEOLOGICAL REPORT FOR MORATTUPALAYAM

ROUGH STONE AND GRAVELQUARRY

1. INTRODUCTION

NAME OF THE APPLICANT WITH ADDRESS-

Applicant Name : Tmt.V.Revathi,

Address : W/o. M.Vijayakumar,

No. 8/223, Chinna Kadapalayam,

Uthukuli Taluk,

Tiruppur District - 638 812

State : Tamilnadu.

Mobile : 98430 60018

DETAILS OF THE AREA-

Land Classification : Patta Land

Survey No : 209/1A (P), 209/1B (P) & 209/2 (P)

Extent : 2.25.5ha

Village : Morattupalayam

Taluk : Uthukuli District : Tiruppur

The Clients requires detailed information on Ground Water Occurrences at Proposed Project Site is rough stone quarry. The objective of the present study is to assess the availability of groundwater and comment on aspects of depth to potential aquifers, aquifer availability and type, possible yields and water quality. For this purpose all available hydrogeological information of the areas has been analyzed, and a geophysical survey was done.

The investigations involved hydrogeological, geophysical field investigations and a detailed study in which the available relevant geological and hydrogeological data were collected, analyzed, collated and evaluated within the context of the Client's requirements. The data sources consulted were mainly:

- a) Central Ground Water Board (CGWB) Data
- b) State & District Geological and Hydrogeological Reports and Maps.
- c) Technical reports of the area by various organizations.

2. SCOPE OF THE WORKS -

The scope of works includes:

- Site visits to familiarize with the project areas. Identify any issues that might impact the Ground Water Scenario due to proposed mining activities.
- To obtain, study and synthesize background information including the geology, hydrogeology and existing borehole data, for the purpose of improving the quality of assessment and preparing comprehensive hydrogeological reports,
- To carry out hydrogeological evaluation and geophysical investigations in the selected sites in order to determine potential for groundwater at project site.
- To prepare hydrogeological survey reports in conformity with the provisions of the
 rules and procedure outlined by the Central Ground Water Board (CGWB), by
 Assessment of water quality and potential infringement of National standards,
 Assessment of availability of groundwater and Impact of proposed activity on aquifer,
 water quality and other abstractors.

3. BACKGROUND INFORMATION

Location

The investigated site falls in the Toposheet No: 58 - E/08 Latitude between: 11°08'18.54"N to 11°08'23.95"N and Longitude between: 77°25'10.51"E to 77°25'16.84"E on WGS datum-1984.

4.0. REGIONALGEOLOGY OF TIRUPPUR DISTRICT-

Tiruppur district of Tamil Nadu forms a part of southern Granulitic terrain and is predominantly occupied by crystalline rocks of Archaean to late Proterozoic age. Regionally, the rocks can be grouped under five categories namely i) Charnockite Group represented by Charnockite, Pyroxene Granulite and Magnetite Quartzite, ii) Peninsular Gneissic Complex (II) comprising hornblende-biotite gneiss, iii) Basic intrusive include Pyroxinite/Dunite iv) Younger intrusive comprising, Nepheline-Syenite, Pink Granite, Pegmatite and Quartz veins and v) Quaternary sediments of Kankar and soil.

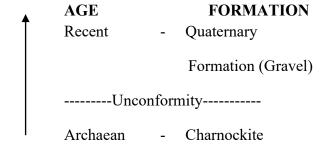
Regional Geology of the District-

Tiruppur District is predominantly occupied by hornblende Biotite gneisses of PGC (II) with enclaves of Magnetite Quartzite, Pyroxene Granulite and Charnockite. The area exposes several bands of Pyroxene Granulite which is medium grained, medium to dark grey

in colour and stand out prominently in the gneissic country generally parallel to regional foliation. Charnockite is coarse grained, massive, many places it is foliated, grey coloured and greasy and exposed as bouldery outcrops and small knolls. It is well exposed in Central, Western and Southern parts of the Tiruppur District. The general strike of foliation varies from ENE-WSW, E-W with dipping towards NW and N respectively. Hornblende-Biotite gneiss is well foliated, medium to coarse grained, pale grey and exposed as sheets and small knolls. Pink Granite gneiss occurs as thin bands and lensoidal bodies. It is a medium grained rock composed of alternating bands of mafic (mainly of biotite and hornblende) and felsic (Feldspar and Quartz) minerals. It is well recognized in Avinashi area. Basic intrusives such as pyroxinite/dunite occurs as bouldery outcrop and lensoidal bodies in the country rock and mostly concordant to the regional foliation. Many basic intrusives are reported in south and south-east of Tiruppur town. The trend of these bodies is east-west.

Peninsular gneiss forms the oldest rock formations, in which the massive formation of Charnockite lies over with rich accumulation of recent quaternary formation. On regional scale the Charnockite body N50°E – S50°W with dipping SE80°.

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



Peninsular Gneiss complex

GEOPHYSICAL INVESTIGATION METHODS

A variety of methods are available to assist in the assessment of geological subsurface conditions. The main emphasis of the fieldwork undertaken was to determine the thickness and composition of the sub-surface formations and to identify water-bearing zones. This information was principally obtained in the field using, and vertical electrical soundings (VES). The VES probes the resistivity layering below the site of measurement. This method is described below.

Resistivity Method

Vertical electrical soundings (VES) were carried out to probe the condition of the subsurface and to confirm the existence of deep groundwater. The VES investigates the resistivity layering below the site of measurement.

Basic Principles

The electrical properties of rocks in the upper part of the earth's crust are dependent upon the lithology, porosity, and the degree of pore space saturation and the salinity of the pore water. Saturated rocks have lower resistivity than unsaturated and dry rocks. The higher the porosity of the saturated rock, or the higher the salinity of the saturating fluids, the lower is the resistivity. The presence of clays and conductive minerals also reduces the resistivity of the rock.

The resistivity of earth materials can be studied by measuring the electrical potential distribution produced at the earth's surface by an electric current that is passed through the earth. Current is moved through the subsurface from one current electrode to the other and the potential difference is recorded as the current passes. From this information, resistivity values of various layers are acquired and layer thickness can be identified.

The apparent resistivity values determined are plotted as a log function versus the log of the spacing between the electrodes. These plotted curves identify thickness of layers. If there are multiple layers (more than 2), the acquired data is compared to a master curve to determine layer thickness.

This method is least influenced by lateral in-homogeneities and capable of providing higher depth of investigation.

The resistance R of a certain material is directly proportional to its length L and cross-sectional area A, expressed as:

$$R = Rs * L/A (in Ohm)$$

Where Rs is known as the specific resistivity (characteristic of the material and independent of its shape or size)

With Ohm's Law,

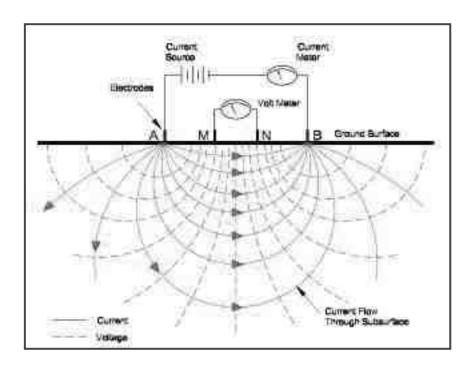
$$R = dV/I$$
 (Ohm)

Where dV is the potential difference across the resistor and I is the electric current through the resistor. The specific resistivity may be determined by:

$$Rs = (A/L) * (dV/I) (in Ohm m)$$

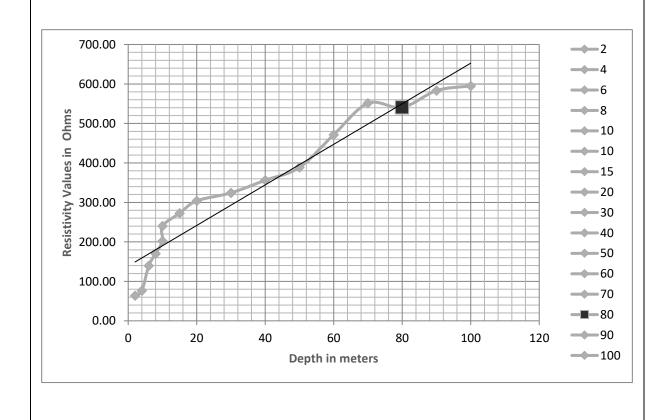
Vertical Electrical Sounding (VES)

When carrying out a resistivity sounding, current is led into the ground by means of two electrodes. With two other electrodes, situated near the center of the array, the potential field generated by the current is measured. From the observations of the current strength and the potential difference, and taking into account the electrode separations, the ground resistivity can be determined. During a resistivity sounding, the separation between the electrodes is step-wise increased (known as a Schlumberger Array), thus causing the flow of current to penetrate greater depths. When plotting the observed resistivity values against depth on double logarithmic paper, a resistivity graph is formed, which depicts the variation of resistivity with depth. This graph can be interpreted with the aid of a computer, and the actual resistivity layering of the subsoil is obtained. The depths and resistivity values provide the hydro geologist with information on the geological layering and thus the occurrence of groundwater.

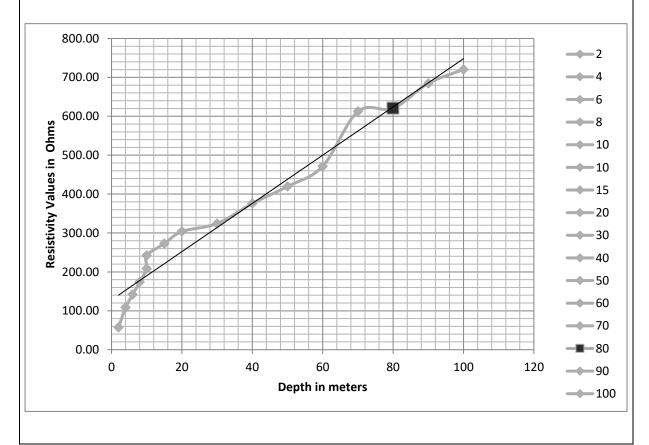


Vertical electrical sounding data's and Diagrams

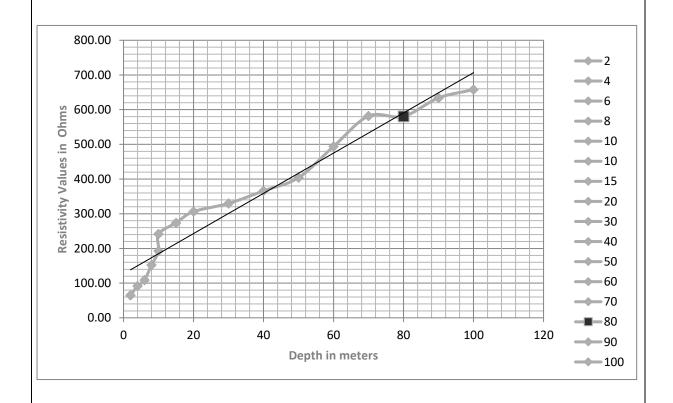
STATION-1											
	GPS Coordinates - 11° 3'58.38"N 77°17'45.50"E										
S.No	Ab/2(m)	Mn/2(m)	Geometrical factor (G)	Resistance Value in Ohms	Apparent Resistance in Ohms						
1	2	1	4.71	13.56	63.87						
2	4	1	23.55	3.24	76.30						
3	6	1	54.95	2.54	139.57						
4	8	1	98.91	1.72	170.13						
5	10	1	155.45	1.30	202.09						
6	10	5	23.55	10.20	240.21						
7	15	5	62.80	4.34	272.55						
8	20	5	117.75	2.58	303.80						
9	30	5	274.75	1.18	324.21						
10	40	5	494.55	0.72	356.08						
11	50	5	777.15	0.50	388.58						
12	60	5	1122.55	0.42	471.47						
13	70	5	1530.75	0.36	551.07						
14	80	5	2001.75	0.27	540.47						
15	90	5	2535.55	0.23	583.18						
16	100	5	3132.15	0.19	595.11						



	STATION-2									
	GPS Coordinates - 11° 3'58.15"N 77°17'43.84"E									
S.No	Ab/2(m)	Mn/2(m)	Geometrical factor (G)	Resistance Value in Ohms	Apparent Resistance in Ohms					
1	2	1	4.71	12.24	57.65					
2	4	1	23.55	4.60	108.33					
3	6	1	54.95	2.58	141.77					
4	8	1	98.91	1.76	174.08					
5	10	1	155.45	1.34	208.30					
6	10	5	23.55	10.28	242.09					
7	15	5	62.80	4.34	272.55					
8	20	5	117.75	2.58	303.80					
9	30	5	274.75	1.18	324.21					
10	40	5	494.55	0.76	375.86					
11	50	5	777.15	0.54	419.66					
12	60	5	1122.55	0.42	471.47					
13	70	5	1530.75	0.40	612.30					
14	80	5	2001.75	0.31	620.54					
15	90	5	2535.55	0.27	684.60					
16	100	5	3132.15	0.23	720.39					



STATION-3											
	GPS Coordinates - 11° 3'57.34"N 77°17'44.40"E										
S.No	Ab/2(m)	Mn/2(m)	Geometrical factor (G)	Resistance Value in Ohms	Apparent Resistance in Ohms						
1	2	1	4.71	13.78	64.90						
2	4	1	23.55	3.90	91.85						
3	6	1	54.95	1.98	108.80						
4	8	1	98.91	1.54	152.32						
5	10	1	155.45	1.24	192.76						
6	10	5	23.55	10.26	241.62						
7	15	5	62.80	4.36	273.81						
8	20	5	117.75	2.60	306.15						
9	30	5	274.75	1.20	329.70						
10	40	5	494.55	0.74	365.97						
11	50	5	777.15	0.52	404.12						
12	60	5	1122.55	0.44	493.92						
13	70	5	1530.75	0.38	581.69						
14	80	5	2001.75	0.29	580.51						
15	90	5	2535.55	0.25	633.89						
16	100	5	3132.15	0.21	657.75						



• Vertical electrical Sounding Graph indicates purple mark point is fracture zone.

6. CONCLUSION -

Based on the available information and the geophysical investigations it is concluded that the project area is considered to have medium groundwater potential. Productive aquifers are expected at depth of 75m to 80m where minor fractures are observed and shallow aquifers are expected above 65m-70m BGL. The ultimate pit limit as per the approved mining plan depth is 32m BGL (2m Gravel + 30m Rough Stone), which will have no impact on the Ground Water.

Huynm/-

Dr. P. Thangaraju, M.Sc., Ph.D.,

Govt. Approved Hydro Geologist

M/s. Geo Exploration and Mining Solutions,

Regd. Office: No. 17, Advaitha Ashram Road,

Alagapuram, Salem – 636 004, Tamil Nadu

Mobile: +91 - 94433 56539

E-Mail: infogeoexploration@gmail.com



அனுப்பநர்: திருமதி.சு.ஷைலஜா,பி.ஏ., வட்டாட்சியர், 939 6 (99 09 பெற்கர்: வருவாம் சே

வருவாய் கோட்டாட்சியர், திருப்பூர்.

ந.க.1936/2022/அ2 நாள்: 16.08.2022.

அய்யா,

ஊத்துக்குளி.

பொருள்:-

கனிமங்களும் குவாரிகளும் - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் - ஊத்துக்குளி உள்வட்டம் - மேர்பட்டுப்பாளையம் கிராமம் - புல எண். 209/ 1A பகுதி பு.ஹெ 1.23.50 , 209/1B-ல்பகுதி பு.ஹெ 0.04.50 மற்றும் 209/2 ல் பகுதி பு.ஹெ 0.97.50 ஆக மொத்தம் 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவர்க்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்கக்கோரி வரபெற்ற மனு மீது புலத்தணிக்கை மற்றும் விசாரணை செய்து அறிக்கை அனுப்புதல் - தொடர்பாக

(Setzen)

பார்வை :-

- திருப்பூர் வருவாப் கோட்டாட்சியர் அவர்களின் அலுவலக ந.க.2427/2022/ஈ1 நாள்: 07.07.2022
- இவ்வலுவலக ந.க.1936/2022/அ2, நாள்:-15.07.2022
- ஊத்துக்குளி நில வருவாய் ஆய்வாளர் அறிக்கை நாள்:10.08.2022.

திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 209/ I A பகுதி, 209/1B-ல்பகுதி மற்றும் 209/2 ல் பகுதி 2-25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ வினுபகுமார் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்க கேட்டு மனு செய்ததின் பேரில் 11.08.2022 அன்று புலத்தணிக்கை மற்றும் விசாரணை மேற்கொண்டு எனது அறிக்கையினை கீழ்கண்டவாறு சமர்ப்பிக்கிறேன்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செவ்கப்பள்ளி கிராமம் மஜரா சேனாதிபதிசெட்டிபாளையம் என்ற முகவரியில் வசிக்கும் கருப்பணகவுண்டர் மகன் திரு.P.K கிருஷ்ணசாமி என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/2 ல் பு.ஏ.2.13, பட்டா எண். 152, புல.எண். 209/1A பு.ஏக்கர் 2.67 பட்டா என். 273 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண்கள்739/2000 நாள்: 12.07.2000 ,591/2001 நாள்: 13.06.2001, 369/2002 நாள்: 21.03.2002 ன் படி பாத்தியபட்டதாகும் மற்றும் மொரட்டுப்பாளையம் கிராமம் புல எண் 209/1B பு.ஏ. 0.14 பூ.பட்டா எண். 570 ன் படி ஆக மொத்தம் பு.எ. 4.94 பு. பாத்தியபட்டதாகும்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செவ்கப்பள்ளி கிராமம் மஜரா சேனாதிபதிசெட்டிபாளையம் என்ற முகவரியில் வசிக்கும் நாச்சிமுத்து மகன் சிதம்பரம் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/1 பு.ஏ 1.00 பூமியானது ஊத்துக்குளி சார்பதிவளர் ஆவண எண். 740/2000 நாள்: 12..07.2000-ன் படி பாத்தியப்பட்டதாகும்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சின்னகாடாபாளையம் என்ற முகவரியில் வசிக்கும் திரு. முத்துச்சாயி மகன் ஆ. விஜயகுமார் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/2ல் பு.ஏ.1.70 மற்றும் புல எண் 209/1A பு.ஏ. 1.33½ பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 3610/2018- நாள்:10.11.2018 ன் படி பாத்தியப்டடதாகும். மற்றும் யொரட்டுப்பாளையம் கிராமம் புல எண் 209/1B பு.ஏ. 0.14 ம. பட்டா எண். 570 ன் படி ஆக மொத்தம் பு.எ. 3.17 3/4 பாத்தியபட்டதாகும்.

திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணை ந.க.508/கனியம்/2015 நாள்21.09.2016-ன் படி 21.09.2016 முதல் 20.09.2021 வரை 5 ஆண்டுகளுக்கு கல் குவாரி குத்தகை சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரிமம் திரு.P.K கிருஷ்ணசாமி மற்றும் K. முத்துச்சாமி என்பவர்களுக்கு வழங்கப்பட்டுள்ளது. மேற்படி நபர்கள் திரு.P.K கிருஷ்ணசாமி, திரு. முத்துச்சாமி மகன் M.விஜயகுமார் மற்றும் சிதம்பரம் ஆகியோர்கள் சேர்ந்து திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவருக்கு குத்தகை உரிமம் பெறுவதற்கு ஆட்சேபனை இன்மை சான்று வழங்கப்பட்டுள்ளனர்.

மனுதாரர் மேற்படி புலத்தில் கல் குவாரி குத்தகை உரியம் வழங்க கோரும் புலத்தில்,

- குவாரி குத்தகை உரிமம் வழங்கக் கோரும் நிலத்தின் மீதான உரிமை (Surface right) விண்ணப்பராரருக்கு இல்லை, மேற்கண்ட நிலத்தில் அரசு புறபோக்கு நிலம் எதும் இணையவில்லை.
- உரிமம் கோரும் பூமியைச் சுற்றி 300 மீ சுற்றளவில் அங்கீகரிக்கப்பட்ட மனைபிடங்கள்,குடியிருப்புகள்,கட்டிடங்கள், பொது இடங்கள், மின் கம்பி பாதைகள், நீர் நிலைகள், மயானங்கன, மாநில நெடுஞ்சாலைகள்,மற்றும் ஒரு கிலோ மீட்டர் தூரத்தில் இரயில் பாதைகள், காடுகள், வன விலங்கு சரணாலயங்கள், மற்றும் தேசிய நெடுஞ்சாலைகள் ஏதுமில்லை.
- குவாரி குத்தகை கோரும் புலத்திருந்து 500 மீட்டர் தொலைவிற்குள் அமைந்துள்ள தொல்லியியல் துறை கட்டுக்பாட்டில் உள்ள புராதான சின்னங்கள் ஏதுயில்லை
- குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு செல்லுவதற்காக வழித்தடங்கள் உள்ளது
- 5. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் எல்லைகள் வரையருக்கப்பட்டு எல்லை கற்கள் நடப்பட்டு மஞ்சள் சிலப்பு பெயின்ட் அடிக்கப்பட்டு கற்கள் நடப்பட்டுள்ளது, கம்பி வேலி அமைக்கப்பட்டுள்ளது கிராம ஆவணங்கள் சான்றிட்டு இணைக்கப்பட்டுள்ளது.
- குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு ஆட்சேபணை ஏதும் வரப்பெறவில்லை
- குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் மீது வழக்குகள் ஏதுமில்லை
- 8. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து 500 மீட்டர் சுற்றளவிற்குள் தெற்கு திசையில் 10 மீட்டர் தொலைவில் புல எண். 382/2A- ல் சிவசக்தி கல்குவாரி உள்ளது. கிழக்கு திசையில் 300 மீட்டர் தொலைவில் புல எண். 392 (பகுதி) ல் அப்யாதுரை கல்குவாரி உள்ளது. வடக்கு திசையில் 20 மீட்டர் தொலைவில் 209/1A,209/1B, 209/2 (பகுதி) சிதம்பரம் கல்குவாரி உள்ளது. மேற்கு திசையில் குவாரிகள் ஏதுமில்லை.
- குவாரி குத்தகை வழங்கக் கோரும் புலம் பாதுகாக்கப்பட்ட மலைப்பகுதியின் ஆணையத்தின் (HACA) கட்டுப்பட்டில் இல்லை
- 10 குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து ஒரு கிலோ மீட்டர் சுற்றளவில் பாதுகாக்கப்பட்ட வனப்பகுதி உயில் குழலியல் பாதுகாக்கப்பட்ட பகுதி, தேசிய பூங்கா, வனவிலங்கு சரணாலயம் மற்றும் புலிகள் காப்பகம், யானை வழித்தடங்கள் ஏதுமில்லை.

எனவே, திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 209/ 1A பகுதி பு.ஹெ 1.23.50 , 209/1B-ல்பகுதி பு.ஹெ 0.04.50 மற்றும் 209/2 ல் பகுதி பு.ஹெ 0.97.50 ஆக மொத்தம் 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவருக்கு 1959 ஆம் ஆண்டு தமிழ் நாடு சிறு கணிமங்கள் சலுகை விதி 19(1) மற்றும் 33 ன் படி குவாரி குத்தகை உரிமம் 5 ஆண்டுகளுக்கு வழங்கலாம் என்பதை பணிவுடன் தெரிவித்துக்கொள்கிறேன்.

இணைப்பு: ஆவணங்கள்.

தங்கள் உண்மையுள்ள,

வட்டரட்சியர், ஊத்துக்குளி.

நகல்:

மாவட்ட ஆட்சியர்,

திருப்பூர் அவர்களுக்கு தகவலுக்காக பணிந்து அனுப்பப்படுகிறது

மனுதாரர் மேற்படி புலத்தில் கல் குவாரி குத்தகை உரியம் வழங்க கோரும் புலத்தில்,

- குவாரி குத்தகை உரிமம் வழங்கக் கோரும் நிலத்தின் மீதான உரிமை (Surface right) விண்ணப்பராரருக்கு இல்லை, மேற்கண்ட நிலத்தில் அரசு புறபோக்கு நிலம் எதும் இணையவில்லை.
- உரியம் கோரும் பூமியைச் சுற்றி 300 மீ சுற்றளவில் அங்கீகரிக்கப்பட்ட மனையிடங்கள்,குடியிருப்புகள்,கட்டிடங்கள், பொது இடங்கள், மின் கம்பி பாதைகள், நீர் நிலைகள், மயானங்கள, மாநில நெடுஞ்சாலைகள்,மற்றும் ஒரு கிலோ மீட்டர் தூரத்தில் இரயில் பாதைகள், காடுகள், வன விலங்கு சரணாலயங்கள், மற்றும் தேசிய நெடுஞ்சாலைகள் ஏதுமில்லை.
- குவாரி குத்தகை கோரும் புலத்திருந்து 500 மீட்டர் தொலைவிற்குள் அமைந்துள்ள தொல்லியியல் துறை கட்டுக்பாட்டில் உள்ள புராதான சின்னங்கள் ஏதுயில்லை
- குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு செல்லுவதற்காக வழித்தடங்கள் உள்ளது
- 5. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் எல்லைகள் வரையருக்கப்பட்டு எல்லை கற்கள் நடப்பட்டு மஞ்சள் சிவப்பு பெயின்ட் அடிக்கப்பட்டு கற்கள் நடப்பட்டுள்ளது, கம்பி வேலி அமைக்கப்பட்டுள்ளது கிராம ஆவணங்கள் சான்ரிட்டு இணைக்கப்பட்டுள்ளது.
- குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு ஆட்சேபணை ஏதும் வரப்பெறவில்லை
- 7. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் மீது வழக்குகள் ஏதுமில்லை
- 8. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து 500 மீட்டர் சுற்றாவிற்குள் தெற்கு திசையில் 10 மீட்டர் தொலைவில் புல எண். 382/2A- ல் சிவசக்தி கல்குவாரி உள்ளது. கிழக்கு திசையில் 300 மீட்டர் தொலைவில் புல எண். 392 (பகுதி) ல் அய்யாதுரை கல்குவாரி உள்ளது. வடக்கு திசையில் 20 மீட்டர் தொலைவில் 209/1A,209/13, 209/2 (பகுதி) சிதம்பரம் கல்குவாரி உள்ளது. மேற்கு திசையில் குவாரிகள் ஏதுமில்லை.
- குவாரி குத்தகை வழங்கக் கோரும் புலம் பாதுகாக்கப்பட்ட மலைப்பகுதியின் ஆணையத்தின் (HACA) கட்டுப்பட்டில் இல்லை
- 10 குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து ஒரு கிலோ மீட்டர் சுற்றளவில் பாதுகாக்கப்பட்ட வனப்பகுதி உயில் சூழலியல் பாதுகாக்கப்பட்ட பகுதி, தேசிய பூங்கா, வணவிலங்கு சரணாலயம் மற்றும் புலிகள் காப்பகம், யானன வழித்தடங்கள் ஏதுயில்லை.

எனவே, திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 209/ 1A பகுதி பு.ஹெ 1.23.50 , 209/1B-ல்பகுதி பு.ஹெ 0.04.50 மற்றும் 209/2 ல் பகுதி பு.ஹெ 0.97.50 ஆக மொத்தம் 2.25.50 ஹெக்டேர் பரப்பு பூ.மியில் திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவருக்கு 1959 ஆம் ஆண்டு தமிழ் நாடு சிறு கணிமங்கள் சலுகை விதி 19(1) மற்றும் 33 ன் படி குவாரி குத்தகை உரிமம் 5 ஆண்டுகளுக்கு வழங்கலாம் என கிருப்புர் வருவாய் கோட்டாட்சியர் அவர்களுக்கு முன்மொழிவுகள் தயார் செய்து வைத்கவும்.

कार्य प्रतिस्थित । श्रीकार्यक्रमा

புலத்தணிக்கைக்குறிப்பு

தணிக்கை அலுவலர்:

வட்டாட்சியர், ஊத்துக்குளி.

கிராமம்:

மொரட்டுப்பாளையம்.

ប្រស តាលារ៉ាះ

209/1A, 209/1B, 209/2

தணிக்கை நாள்:

11.08.2022.

திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 209/ 1A பகுதி, 209/1B-ல்பகுதி மற்றும் 209/2 ல் பகுதி 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்கக்கோரி மனு செய்ததின் பேரில் 11.08.2022 அன்று புலத்தணிக்கை மற்றும் விசாரணை மேற்கொண்டு எனது அறிக்கையினை கீழ்கண்டவாறு சமர்ப்பிக்கிறேன்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சேனாதிபதிசெட்டியாளையம் என்ற முகவரியில் வசிக்கும் கருப்பணகவுண்டர் மகன் திரு.P.K கிருஷ்ணசாயி என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/2 ல் பு.ஏ.2.13, பட்டா எண். 152, புல.எண். 209/1A பு.ஏக்கர் 2.67 பட்டா எண். 273 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண்கள்739/2000 நாள்: 12.07.2000 ,591/2001 நாள்: 13.06.2001, 369/2002 நாள்: 21.03.2002 ன் படி பாத்தியபட்டதாகும் மற்றும் மொரட்டுப்பாளையும் கிராமம் புல எனர் 209/1B பு.ஏ. 0.14 பூ. பட்டா எண். 570 ன் படி ஆக மொத்தம் பு.எ. 4.94 பு. பாத்தியபட்டதாகும்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஐரா சேனாதிபதிசெட்டிபாளையம் என்ற முகவரியில் வசிக்கும் நாச்சிமுத்து மகன் சிதம்பரம் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/1 பு.ஏ 1.00 பூமியானது ஊத்துக்குளி சார்பதிவளர் ஆவண எண். 740/2000 நாள்: 12..07.2000-ன் படி பாத்தியப்பட்டதாகும்.

திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணை ந.க.508/கனிமம்/2015 நாள்21.09.2016-ன் படி 21.09.2016 முதல் 20.09.2021 வரை 5 ஆண்டுகளுக்கு கல் குவாரி சூத்தகை சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரிமம் திரு.P.K கிருஷ்ணசாயி மற்றும் K. முத்துச்சாமி என்பவர்களுக்கு வழங்கப்பட்டுள்ளது. மேற்படி நபர்கள் திரு.P.K கிருஷ்ணசாயி, திரு. முத்துச்சாமி மகன் M.விஜயகுயார் மற்றும் சிதம்பரம் ஆகியோர்கள் சேர்ந்து திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவருக்கு குத்தகை உரிமம் பெறுவதற்கு ஆட்சேபனை இன்மை சான்று வழங்கப்பட்டுள்ளனர்.

9.96/2022

பணிந்தனுப்பப்படுகிறது.

நில வருவாய் ஆய்வாளர் அலுவலகம், ஊத்துக்குளி.

நாள்: 10.08.2022.

பொருள்:-

கனியங்களும் குவாரிகளும் - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் - ஊத்துக்குளி உள்வட்டம் - மோரட்டுப்பாளையம் கிராமம் - புல எண். 209/ I A பகுதி பு.ஹெ 1.23.50 , 209/1B-ல்பகுதி பு.ஹெ 0.04.50 மற்றும் 209/2 ல் பகுதி பு.ஹெ 0.97.50 ஆக மொத்தம் 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவர்க்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரியம் வழங்கக்கோரி வரபெற்ற மனு மீது புலத்தணிக்கை மற்றும் விசாரணை செய்து அறிக்கை அனுப்புதல் - தொடர்பாக

பார்வை :-

 திருப்பூர் வருவாய் கோட்டாட்சியர் அவர்களின் அலுவலக ந.க.2427/2022/ஈ1 நாள்: 07.07.2022

2. ஊத்துக்குளி வட்டாட்சியர் அலுவலக ந.க. 1936/2022 /அ2 நாள்: 15.07.2022

 பொரட்டுப்பாளையம் கிராம நிர்வாக அலுவலர் அறிக்கை நாள்:-08.08.2022

திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 209/ IA பகுதி , 209/1B-ல்பகுதி மற்றும் 209/2 ல் பகுதி 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திரு.P.K கிருஷ்ணசாமி மற்றும் K. முத்துச்சாமி என்பவர்களுக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்கப்பட்டது. குத்தகைதாரர் உரிமம் காலக்கொடு முடிவடைந்து விட்டதால் உரிமம் ரத்து செய்ய வரவெற்ற மனு செய்ததின் பேரில் புலத்தணிக்கை மற்றும் விசாரணை செய்து கீழ்ண்டவாறு அறிக்கை சமர்பிக்கப்படுகிறது.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சேனாதிபதிசெட்டிபாளையம் என்ற முகவரியில் வசிக்கும் கருப்பணகவுண்டர் மகன் திரு. P.K கிருஷ்ணசாமி என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/2 ல் பு.ஏ.2.13, புல.எண். 209/1A பு.ஏக்கர் 2.67 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண்கள்739/2000 நாள்: 12.07.2000 ,591/2001 நாள்:-13.06.2001, 369/2002 நாள்: 21.03.2002 ன் படி பாத்தியபட்டதாகும் மற்றும் மொரட்டுப்பாளையம் கிராமம் புல எண் 209/1B பு.ஏ. 0.14 பு. பட்டா எண். 570 ன் படி ஆக மொத்தம் பு.எ. 4.94 பு. பாத்தியபட்டதாகும்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சேனாதிபதிசெட்டியாளையம் என்ற முகவரியில் வசிக்கும் நாச்சிமுத்து மகன் சிதம்பரம் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/1 பு.ஏ 1.00 பூமியானது ஊத்துக்குளி சார்பதிவளர் ஆவண எண். 740/2000 நாள்: 12.07.2000-ன் படி பாத்தியப்பட்டதாகும்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சின்னகாடாபாளையம் என்ற முகவரியில் வசிக்கும் திரு. முத்துச்சாமி மகன் ஆ. விஜயகுமார் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எனர். 209/2ல் பு.ஏ.1.70 மற்றும் புல எனர் 209/1A பு.ஏ. 1.33½ பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 3610/2018நாள்:10.11.2018 ன் படி பாத்தியப்படதாகும். மற்றும் மொரட்டுப்பாளையம் கிராமம் புல எண் 209/1B பு.ஏ. 0.14 பட்டா எண். 570 ன் படி ஆக மொத்தம் பு.எ. 3.17 படி பாத்தியபட்டதாகும்.

திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணை ந.க.508/கனிமம்/2015 நாள்21.09.2016-ன் படி 21.09.2016 முதல் 20.09.2021 வரை 5 ஆண்டுகளுக்கு கல் குவாரி குத்தகை சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரிமம் திரு.P.K கிருஷ்ணசாயி மற்றும் K. முத்துச்சாயி என்பவர்களுக்கு வழங்கப்பட்டுள்ளது. மேற்படி நபர்கள் திரு.P.K கிருஷ்ணசாயி, திரு. முத்துச்சாயி மகன் M.விஜயகுமார் மற்றும் சிதம்பரம் ஆகியோர்கள் சேர்ந்து திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவருக்கு குத்தகை உரிமம் பெறுவதற்கு ஆட்சேபனை இன்மை சான்று வழங்கப்பட்டுள்ளனர்.

மனுதாரர் மேற்படி புலத்தில் கல் குவாரி குத்தகை உரிமம் வழங்க கோரும் புலத்தில்,

- குவாரி குத்தகை உரிமம் வழங்கக் கோரும் நிலத்தின் மீதான உரிமை (Surface act) வின்னப்பராரருக்கு இல்லை மேற்கண்ட நிலத்தில் அரசு பறபோக்கு நிலமோ அல்லது அரசினால் நிலம் எடுப்பு செய்யப்பட்டுள்ள நிலம் எதும் இணையவில்லை.
- உரிமம் கோரும் பூமியைச் சுற்றி 300 மீ சுற்றளவில் அங்கீகரிக்கப்பட்ட மணையிடங்கள், குடியிருப்புகள், கட்டிடங்கள், பொது இடங்கள், மின் கம்பி பாதைகள், நீர் நிலைகள், மயானங்கள, மாநில நெடுஞ்சாலைகள், மற்றும் ஒரு கிலோ மீட்டர் தூரத்தில் இரயில் பாதைகள், காடுகள், வன விலங்கு சரணாலயங்கள், மற்றும் தேசிய நெடுஞ்சாலைகள் ஏதுமில்லை.
- குவாரி குத்தகை கோரும் புலத்திருந்து 500 மீட்டர் தொலைவிற்குள் அமைந்துள்ள தொல்லியியல் துறை கட்டுக்பாட்டில் உள்ள புராதான சின்னங்கள் ஏதுமில்லை
- குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு செல்லுவதற்காக வழித்தடங்கள் உள்ளது
- 5. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் எல்லைகள் வரையருக்கப்பட்டு எல்லை கற்கள் நடப்பட்டு மஞ்சள் சிவப்பு பெயின்ட் அடிக்கப்பட்டு கற்கள் நடப்பட்டுள்ளது, கம்பி வேலி அமைக்கப்பட்டுள்ளது கிராம ஆவணங்கள் சான்றிட்டு இணைக்கப்பட்டுள்ளது.
- குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு ஆட்சேபணை ஏதும் வரப்பெறவில்லை
- குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் மீது வழக்குகள் ஏதுமில்லை
- 8. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து 500 மீட்டர் சுற்றாவிற்குள் தெற்கு திசையில் 10 மீட்டர் தொலைவில் புல எண். 382/2A- ல் சிவசக்தி கல்குவாரி உள்ளது. கிழக்கு திசையில் 300 மீட்டர் தொலைவில் புல எண். 392 (பகுதி) ல் அய்யாதுரை கல்குவாரி உள்ளது. வடக்கு திசையில் 20 மீட்டர் தொலைவில் 209/1A,209/1B, 209/2 (பகுதி) சிதம்பரம் கல்குவாரி உள்ளது. மேற்கு திசையில் குவாரிகள் ஏதுமில்லை.
- குவாரி குத்தகை வழங்கக் கோரும் புலம் பாதுகாக்கப்பட்ட மழைப்பகுதியின் ஆணையத்தின் கட்டுப்பட்டில் இல்லை
- 10 குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து ஒரு கிலோ மீட்டர் சுற்றலவில் பாதுகாக்கப்பட்ட வனப்பகுதி உயில் சூழலியல் பாதுகாக்கப்பட்ட பகுதி, தேசிய பூங்கா, வனவிலங்கு சரணாலயம் மற்றும் புலிகள் காப்பகம் , யானை வழித்தடங்கள் ஏதுயில்லை.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 209/ 1A பகுதி பு.ஹெ 1.23.50 , 209/1B-ல்பகுதி பு.ஹெ 0.04.50 மற்றும் 209/2 ல் பகுதி பு.ஹெ 0.97.50 ஆக மொத்தம் 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ என்பவருக்கு 1959 ஆம் ஆண்டு தமிழ் நாடு சிறு கணிமங்கள் சலுகை விதிகளின் படி 19(1) மற்றும் 33 ன் படி குவாரி குத்தகை உரிமம் 5 ஆண்டுகளுக்கு வழங்க பரிந்துரைக்கலாம் என்பதைபணிவுடன் தெரிவித்துக்கொள்கிறேன்.

> நில வருவாய் ஆய்வாளர். ஊற்றுக்குக்குளி வட்டம்

வாத்துக்குளி வட்டி

இணைப்பு : ஆவணங்கள்

பெறுநர்:-

வட்டாட்சியர் அவர்கள், ஊத்துக்குளி.

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அ1 அறிவிப்பு

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம் மொரட்டுப்பாளையம் கிராமத்தில் வசிக்கும் பொதுமக்களுக்கு தெரிவிப்பது என்னவென்றால்,

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 209/IA(ப) (1.23.5) 209/IB(ப) (0.04.5) மற்றும் 209/2(ப) (0.97.5) ஆகமொத்தம் 2.25.5 ஹேக்டேர் பட்டா நிலப்பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டி எடுக்க ஐந்து வருடங்களுக்கு குத்தகை உரிமம் வழங்க கோரி, செங்கப்பள்ளி கிராமம், சின்ன காடபாளையம் கதவு எண் 8/233 என்ற முகவரியில் வசிக்கும் திருமதி.ரேவதி க/பெ.விஜயகுமார் என்பவர் மனு அளித்தன் பேரில் முன்மொழி அறிக்கை அனுப்ப நடவடிக்கை எடுக்கப்பட்டு வருகிறது.

மனுதாரர் கோரும் குவாரிக்கு உரிமம் வழங்குவது எனவே, மேற்காண் ஆட்சேபணை தெரிவிப்போர், அது குறித்து, ஊத்துக்குளி வட்டாட்சியர் அவர்களிடமோ அல்லது ஊத்துக்குளி உள்வட்ட நிலவருவாய் ஆய்வாளர் அவர்களிடமோ மூலமாக 15 தினங்களுக்குள் தெரிவிக்குமாறு கேட்டுக் கொள்ளப்படுகிறார்கள். குறிப்பிட்ட காலக்கெடுவிற்குள் ஆட்சேபணை ஏதும் வரப்பெறாவிடின், குவாரிக்கு உரிமம் புகுழிக்க நடவடிக்கைகள் மேற்கொள்ளப்படும் இதன் ഡെഡ് தெரிவித்துக் 61601 கொள்ளப்படுகிறது.

> நிலவருவாப் ஆய்வாளர், நிலத்தஞ்சையி தழ்க்க்கள் ஊத்துக்குளி உள் வட்டம் ஊத்துக்குளி வட்டம்

மேற்காண் அ1 விளம்பரத்தை மொரட்டுப்பாளையம் கிராம மக்களிடையே விளம்புகை செய்து பொது மக்களிடம் கையொப்பம் பெற்று மீள சமர்ப்பிக்குமாறு மொரட்டுப்பாளையம் கிராம நிர்வாக அலுவலர் கேட்டுக் கொள்ளப்படுகிறார்.

நிலவருவாய் ஆய்வாளர், இத்துக்குவிரம் ஆய்வாளர் ஊத்துக்குளி உள் வட்டம் ஊத்துக்குளி வட்டம்

பெறுநர்:

கிராம நிர்வாக அலுவலர், மொரட்டுப்பாளையம் கிராமம்.

(Son was) K-Bhoobatan. Oun & Donasee Arem P. Manikudh. Mik. Andery F. Como

குமற்பு அடி விளம்பாத்தை அபரது மக்கரைடம் கையைப்படி அபற்ற கேன திரும்ப அபறப்படுகிறது.

> திராம் நிர்வாக கழு பலர் மநிழ் மீ பிறப்பு முதல் மர் நெர் பயாணையம் குளுட்

பொதுமக்கள் வாக்குமூலம்

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம் புல எண். 209/ IA பகுதி பு.ஹெ 1.23.50, 209/1B-ல் பகுதி பு.ஹெ 0.04.50 மற்றும் 209/2 ல் பகுதி பு.ஹெ 0.97.50 ஆக மொத்தம் 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவர்க்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் புதுப்பிக்க கோரி விண்ணப்பம் செய்ததைத் கொடர்ந்து, மேற்படி மனுதாரருக்கு கல்குவாரி உரிமம் புதுப்பித்து உத்தேசிக்கப்பட்டுள்ளது என்பதை தெரிந்து கொண்டோம். மேற்படி திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவர்க்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் புதுப்பித்து வழங்குவது குறிக்கு ஹர் பொதுமக்களாகிய எங்களுக்கு எந்தவிதமான ஆட்சேபனையும் இல்லை என்பதை இதன் மூலம் தெரிவித்துக்கொள்கிறோம்.

7 Gozogi

N. Branz

இராம் நிர்வாக ஒரு அகர் மற்றும் பிறப்பு இறப்பு பதிவாகள் வாருப்தப்பாளையம் களுட், இது இதுக்கும் வடுக்

(ज्यावं क्रिकार)

நில் வருவாய் ஆய்வாவிய 125 A ஊத்துக்குளி உள் வட்டம் பணிந்தனுப்பப்படுகிறது.

நாள்: 08.08.2022.

பொருள்:-

கனிமங்களும் குவாரிகளும் - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் - ஊத்துக்குளி உள்வட்டம் - மொரட்டுப்பாளையம் கிராமம் - புல எண். 209/ 1A பகுதி பு.ஹே 1.23.50 , 209/1B-ல்பகுதி பு.ஹெ 0.04.50 மற்றும் 209/2 ல் பகுதி பு.ஹெ 0.97.50 ஆக மொத்தம் 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவர்க்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்கக்கோரி வரபெற்ற மனு மீது புலத்தணிக்கை மற்றும் விசாரணை செய்து அறிக்கை அனுப்புதல் - தொடர்பாக

பார்வை :-

 திருப்பூர் வருவாய் கோட்டாட்சியர் அவர்களின் அலுவலக ந.க.2427/2022/ஈ1 நாள்: 07.07.2022

2. ஊத்துக்குளி வட்டாட்சியர் அலுவலக ந.க. 1936/2022 /அ2 நாள்:- 15.07.2022

திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 209/ 1A பகுதி, 209/1B-ல்பகுதி மற்றும் 209/2 ல் பகுதி 2-25.50 ஹெக்டேர் பரப்பு பூமியில் திரு.P.K கிருஷ்ணசாயி மற்றும் K. முத்துச்சாமி என்பவர்களுக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்கப்பட்டது. குத்தகைதாரர் உரிமம் காலக்கொடு முடிவடைந்து விட்டதால் உரிமம் ரத்து செய்ய வரவெற்ற மனு செய்ததின் பேரில் புலத்தணிக்கை மற்றும் விசாரணை செய்து கீழ்ண்டவாறு அறிக்கை சமர்பிக்கப்படுகிறது.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சேனாதிபதிசெட்டிபாளையம் என்ற முகவரியில் வசிக்கும் கருப்பணகவுண்டர் மகன் திரு. P.K கிருஷ்ணசாமி என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/2 ல் பு.ஏ.2.13, புல.எலர். 209/1A பு.ஏக்கர் 2.67 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண்கள்739/2000 நாள்: 12.07.2000 ,591/2001 நாள்:-13.06.2001, 369/2002 நாள்: 21.03.2002 ன் படி பாத்தியபட்டதாகும் மற்றும் மொரட்டுப்பாளையம் கிராமம் புல எண் 209/1B பு.ஏ. 0.14 1/4 பட்டா எண். 570 ன் படி ஆக மொத்தம் பு.எ. 4.94 1/4 பாத்தியபட்டதாகும்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சேனாதிபதிசெட்டிபாளையம் என்ற முகவரியில் வசிக்கும் நாச்சிமுத்து மகன் சிதம்பரம் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/1 பு.ஏ 1.00 பூமியானது ஊத்துக்குளி சார்பதிவளர் ஆவண எண். 740/2000 நாள்: 12.07.2000-ன் படி பாத்தியப்பட்டதாகும்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சின்னகாடாபாளையம் என்ற முகவரியில் வசிக்கும் திரு. முத்துச்சாமி மகன் ஆ. விஜயகுமார் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/2ல் பு.ஏ.1.70 மற்றும் புல எண் 209/1A பு.ஏ. 1.33½ பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 3610/2018நாள்:10.11.2018 ன் படி பாத்தியப்டடதாகும். மற்றும் மொரட்டுப்பாளையம் கிராமம் புல எண் 209/1B பு.ஏ. 0.14 பு. பட்டா எண். 570 ன் படி ஆக மொத்தம் பு.எ. 3.17 3/4 பாத்தியபட்டதாகும்.

திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணை ந.க.508/கனிமம்/2015 நாள்21.09.2016-ன் படி 21.09.2016 முதல் 20.09.2021 வரை 5 ஆண்டுகளுக்கு கல் குவாரி குத்தகை சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரிமம் திரு.P.K கிருஷ்ணசாமி மற்றும் K. முத்துச்சாமி என்பவர்களுக்கு வழங்கப்பட்டுள்ளது. மேற்படி நபர்கள் திரு.P.K கிருஷ்ணசாமி, திரு. முத்துச்சாமி மகன் M.விஜயகுமார் மற்றும் சிதம்பரம் ஆகியோர்கள் சேர்ந்து திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவருக்கு குத்தகை உரிமம் பெறுவதற்கு ஆட்சேபனை இன்மை சான்று வழங்கப்பட்டுள்ளனர்.

மனுதாரர் மேற்படி புலத்தில் கல் குவாரி குத்தகை உரிமம் வழங்க கோரும் புலத்தில்,

- குவாரி குத்தகை உரிமம் வழங்கக் கோரும் நிலத்தின் மீதான உரிமை (Surface act) வின்னப்பராருக்கு இல்லை மேற்கண்ட நிலத்தில் அரசு புறபோக்கு நிலமோ அல்லது அரசினால் நிலம் எடுப்பு செய்யப்பட்டுள்ள நிலம் எதும் இணையவில்லை.
- உரிமம் கோரும் பூமியைச் சுற்றி 300 மீ சுற்றளவில் அங்கீகரிக்கப்பட்ட மனையிடங்கள், குடியிருப்புகள், கட்டிடங்கள், பொது இடங்கள், மின் கம்பி பாதைகள், நீர் நிலைகள், மயானங்கள, மாநில நெடுஞ்சாலைகள், மற்றும் ஒரு கிலோ மீட்டர் தூரத்தில் இரயில் பாதைகள், காடுகள், வன விலங்கு சரணாலயங்கள், மற்றும் தேசிய நெடுஞ்சாலைகள் ஏதுமில்லை.
 கூலாரி குக்ககை சேசிய நெடுஞ்சாலைகள் ஏதுமில்லை.
- குவாரி குத்தகை கோரும் புலத்திருந்து 500 மீட்டர் தொலைவிற்குள் அமைந்துள்ள தொல்லியியல் துறை கட்டுக்பாட்டில் உள்ள புராதான சின்னங்கள் ஏதுமில்லை
- குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு செல்லுவதற்காக வழித்தடங்கள்
- குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் எல்லைகள் வரையருக்கப்பட்டு எல்லை கற்கள் நடப்பட்டு மஞ்சள் சிவப்பு பெயின்ட் அடிக்கப்பட்டு கற்கள் நடப்பட்டுள்ளது, கம்பி வேலி அமைக்கப்பட்டுள்ளது கிராம ஆவணங்கள் சான்றிட்டு இணைக்கப்பட்டுள்ளது.
 கூவாரி குக்கரைக் வட்டுள்ளது.
- குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு ஆட்சேபணை ஏதும் வரப்பெறவில்லை
- குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் மீது வழக்குகள் ஏதுமில்லை
- குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து 500 மீட்டர் சுற்றளவிற்குள் தெற்கு திசையில் 10 மீட்டர் தொலைவில் புல எண். 382/2A- ல் சிவசக்தி கல்குவாரி உள்ளது. கிழக்கு திசையில் 300 மீட்டர் தொலைவில் புல எண். 392 (பகுதி) ல் அய்யாதுரை கல்குவாரி உள்ளது. வடக்கு திசையில் 20 மீட்டர் தொலைவில் 209/1A,209/1B, 209/2 (பகுதி) சிதம்பரம் கல்குவாரி உள்ளது. மேற்கு திசையில் குவாரிகள் ஏதுமில்லை.
- 9. குவாரி குத்தகை வழங்கக் கோரும் புலம் பாதுகாக்கப்பட்ட மழைப்பகுதியின் ஆணையத்தின் கட்டுப்பட்டில் இல்லை
- 10 குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து ஒரு கிலோ மீட்டர் சுற்றலவில் பாதுகாக்கப்பட்ட வனப்பகுதி உயில் சூழலியல் பாதுகாக்கப்பட்ட பகுதி, தேசிய பூங்கா, வனவிலங்கு சரணாலயம் மற்றும் புலிகள் காப்பகம் , யானை வழித்தடங்கள் ஏதுமில்லை.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 209/ IA பகுதி பு.மெற 1.23.50 , 209/1B-ல்பகுதி பு.ஹெ 0.04.50 மற்றும் 209/2 ல் பகுதி பு.ஹெ 0.97.50 ஆக மொத்தம் 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவருக்கு 1959 ஆம் ஆண்டு தமிழ் நாடு சிறு கணிமங்கள் சலுகை விதிகளின் படி 19(1) மற்றும் 33 ன் படி குவாரி குத்தகை உரிமம் 5 ஆண்டுகளுக்கு வழங்க பரிந்துரைக்கலாம் என்பதைபணிவுடன் தெரிவித்துக்கொள்கிறேன்.

இணைப்பு : ஆவணங்கள்

தாம் நிர்விரக கழுவனர் மற்றும் பிறப்பு இறப்பு பதிவடனர் டை நட்டுப்பாளையம் குகுட்,

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SRI SELVANAYAGIAMMAN EXPLOSIVES

P.Thirunavukarasu
(Explosive Blasting Contractor)

94451-30006 NO.52, Kaveri Street

Bhavani Tk, Erode Dt.

Magazine at: 97/2, Thalavaipalayam Village, Uthukuli (Tk), Tirupur(Dt)

Date: 01.12.2022

To:

V. REVATHI W/O Vijayakumar, No. 8/223, Chinna Kadapalayam, Sengapalli Post, Uthukuli Taluk, Tirupur District.

Ref: Your Letter dated

Sub: Regarding blasting work using explosives in your proposed quarry.

We are having explosives license in Form 22 holding No: E/SC/TN/22/339 (E10241) situate in Survey S.F.No.97/2 Thalavaipalayam Village, Uthukuli Taluk, Tirupur District. Our office functions at Address No.52, Kaveri Street, Bhavani (Tk), Erode (Dt).

We are enacting 2 explosives vans for transporting detonators and class 2 separately for our Magazine to our site and well experienced and licensed blasters and shot firer for safe Blasting work since 5 years without untoward incident.

We are willing to undertake work on contract basis at your SF.No.209/1A(Part) 1.23.5 Hectors & 209/1B(part) 0.04.5 Hector & 209/2 (Part) 0.97.5 Hector, over an extent of 2.25.5 hec. Morattupalayam Village, Uthukuli Taluk, Tirupur District.

Thanking You,

Signature

For Sri Selvanayagiamman Explosives

P. Thirunavukarasu

Proprietor

Enclosure:

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अनुजन्मि सं (1.wence No.) : E/SC (1.N/22/33%) 10241) वार्षिक कीस रूपर (Ammul Fice Res. 1.110)

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SRESTEVASAVAGI ASIMAS UNPLOSIVES (新聞節) (Occupior) P.THIRUSAVI KAHASU 1, 32. Causery Street, Singland form Village - Himami, District-FRODE, State Jamil Nada, Promoc. (63836)

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ा अनुवादितपारी की प्राविधिति States of Incensee Partnership Firm

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nossess for use of Safety Fase, Electric and/or Ordinary Detonators, Surviv.

acree is valid only for the following partners

ा अन्यापित विकासिकों के विकासिकित किएनों प्रकार और गएन के लिए प्रिटिमान्य है।

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15 mines as alone.

ी विरम्भिक्षित रेखवित रेखवित । असुरूपा परिवा की पृष्टि होती है। The becased premises shall contain to the following drawing st.

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पुलिस धाना (Police Station) : L'thukuli (Permis (Pincode)

SHEET (Fax)

े अध्यानिक परिवार के निकालिकित अधिकार अनेकिए हैं।

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🧸 अनुसन्ति सम्बद्धः स्टब्कः पर काम्प्यतिकः विकारक अधिनियतः १८६१ और उनके अधीन विविधाः विकार विकार २००३ के उपबंधी सामे और अधिनिकः धानी और

निर्मादेखित अपन्य के अधीत कर प्रमुख्य के बाती है। The beares is granted subject to the procession of Pepissaces Ac 1885 as unreaded from time to sing and the Highway Rules, 2008 framed there under and the conditions, additional conditions and the following Armenites

ा उपयोग्त क्या स 5 में सभा कवित रेखारिय (स्थान, सिन्धांन सकती और अन्य विवरण दक्षित करते हुएत Dawing (shoring site, constructional and other details) के since in serial No. Sabore अमुस्रानित प्राधिकारी ब्दारर) इस्सा धरिए इस अमुस्रानित की शरी और अधिरिक्ति शरी। Conditions and Additional Conditions of this before signed by the language authority 3 (2) 480 (0)-2 Denance (see Dis-2)

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यह अनुवादित अपेरिनियम या उर्ला अपीन विद्यात विकार या उल्लाह एक बात व की विद्यार और एत के अपीन तथा उपवर्णित इस अनुवादित की शहरे का इतिहास करते था विदे अनुवास परिवास योजना या उससे अलग अवस्थ है होति विवास में अनुका नहीं पाए जाने पर निलीवत या प्रतिसहत की जा सकती है जाए

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Andrew or applicable, referred to in Part 4 of Schedule V or if the fractional promises are not found confirmment to the description shown in the plage and America annelsed.

2100 The Place - 06-09-300 t

w बांधकत मुख्य विक्रपोटक नियंकक Moint Chief Committee of Explosio South Cirrie, Chenn

Amendmenty:

Amendment of Quantity of Explosives/Monthly Purchase Land dated 17/08/2011

American of Quantity of Explosing Monthly Practics Limit dutal 19570 2021

Transfers

Change in Licensee Name Address Status dated 26/03/2018

sultiflacent & grander & this parar Space for Endocument of Renewal

सबीकदण के तारीख Date of Renoval.

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अस्तापन पाधिकारी के हमताकार और स्टाम्प Signature of freeming authority and stamp

63.03.3606

11/05/2035

Jt. Charl Controller of Explosives, South Circle, Obennar

कानूनी बेलावती : विस्फोटको को गलल दंग शे चलाने या उनका दुरुपयोग विधि के अधीन गंभीर दांडिक अपराध होगा। Statutory Warning: Mishandling and income of explosives shall constitute secure criminal affence under the law.

Note: - This is system generated document does not require physical signature. Applicant may take printout for their records.

அனுப்புநர்

திருமதி.டி.சாந்திலட்சுமி., வட்டார வளர்ச்சி அலுவலர்(வ.ஊ), ஊத்துக்குளி வட்டாரம்.

பெறுநர்

துணை இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, திருப்பூர்.

ந.க.எண் : 2921/2022/அ2

MUIT.

நாள்: 19.07.2022.

பொருஎ		் விசாரணை அறிக்கை கனிமங்களும் சுரங்கங்களும் - சிறுகனிமம் - சாதாரணகற்கள் மற்றும் கிராவல் மண் -திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம் பட்டாபுல எண்கள் 209/1A(ப)(1.23.5) 209/1B(ப)(0.04.5) மற்றும் 209/2(ப)(0.97.5), ஆகியவற்றில் மொத்தம் 2.25.5 ஹெக்டர் பட்டா நிலப் பரப்பில சாதாரணகற்கள்/கிராவல் மண் வெட்டிஎடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி திருமதி.வி.ரேவதி க/பெ.எம்.விஜயகுமார் மொரட்டுப்பாளையம் என்பவர் மனு தெய்துள்ளார் குவாரி உரிமம் கோரியது - விசாரணை அறிக்கை
பார்வை	:	துணை இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, திருப்பூர் அவர்களின் ந.க.எண்: 584/2022/கனிமம், நாள்: 04.07.2022.

திருப்பூர் மாவட்டம், ஊத்துக்குளி -திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம் பட்டாபுல எண்கள் 209/1A(ப)(1.23.5) 209/1B(ப)(0.04.5) மற்றும் ஆகியவற்றில் மொத்தம் 2.25.5 ஹெக்டர் பட்டா சாதாரணகற்கள்/கிராவல் மண் வெட்டிஎடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி திருமதி.வி.ரேவதி க/பெ.எம்.விஜயகுமார் மொரட்டுப்பாளையம் என்பவர் மனு செய்துள்ளார் குவாரி உரிமம் கோரியது விண்ணப்பித்ததையடுத்து, பார்வையில் காணும் துணை இயக்குநர் புவியியல் மற்றும் சுரங்கத்துறை அவர்களின் கடிதத்தில் மேற்படி பிரஸ்தாப புலங்களிலிருந்து 300 மீட்டர் சுற்றளவிற்குள் அங்கீகரிக்கப்பட்ட குடியிருப்புமனைகள் (Layout) மற்றும் அங்கீகரிக்கப்பட்ட கட்டுமானங்கள் ஏதும் உள்ளதா என அறிக்கை கோரப்பட்டுள்ளது.

மேற்படி பிரஸ்தாப புலங்களிலிருந்து 300 மீட்டர் சுற்றனவிற்குள் அங்கீகரிக்கப்பட்ட குடியிருப்பு மனைகள் (Layout) மற்றும் அங்கீகரிக்கப்பட்ட கட்டுமானங்கள் ஏதும் இல்லை என்ற விவரமும், புலத் தணிக்கை மற்றும் விசாரணையின் மூலமாக தெரியவருகிறது என்பதை

> வட்டார வளர்ச்சி அலுவர்(வ.ண), ஊத்துக்குளி.

Jital 31

> கீராம் நிர்வரக அலுவலா மற்றும் பிற ப்பு இறப்பு பதிவாளர் மாரட்டுப்பாளையம் கருப். ஊத்துக்குளி வட்டம் திருப்பூர் மாவட்டம்

TOPOGRAPHICAL VIEW OF MORATTUPALAYAM ROGH STONE AND GRAVEL QUARRY LEASE APPLIED AREA



Name of the Applicant

V.Revathi,

Address

W/o. M.Vijayakumar,

No. 8/223, Chinna Kadapalayam,

Uthukuli Taluk,

Tiruppur District - 638 812.

Location:

S.F. Nos.

209/1A (P), 209/1B (P) & 209/2 (P)

Extent

2.25.5 Ha

Village

Morattupalayam

Taluk

Uthukuli

District

Callored

t : Tiruppur

2

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2

3

Signature of the Applicant

V.Revathi

மற்றும் பிற்கு இநிப்பு பதிவாளர்

ிமாரட்டுப்பாளையம் குருப், ஊத்துக்குளி வட்டம்

திருப்பூர் மாவட்டம்

தமிழ்நாடு அரசு வனத்துறை

அனுப்புநர்

பெறுநு

திரு.சு.ந.தேஜஸ்வி, இ.வ.ப., துணை இயக்குநர் ஆணைமலை புலிகள் காப்பகம், திருப்பூர் வனக்கோட்டம்,

உதவி இயக்குநர். புவியியல் மற்றும் சுரங்கத்துறை, திருப்பர்.

துருப்பூர் வனக்கோட்டம், உடுமலைப்பேட்டை – 642 126.

இ.மு.என்.13382/2022/வர், நாள்.20.12.2022

SELUT,

: கணிமங்களும் சுரங்கங்களும் – சிறுகனிமம் – சாதாரண கற்கள் – திருப்பூர் மாவட்டம் – ஊத்துக்குளி வட்டம் – மொரட்டுப்பாளையம் கிராமம் – புல எண்.209/1A (ப) (1.23.5), 209/1B (ப) (0.04.5) மற்றும் 209/2 (ப) (0.97.5) ஆகியவற்றில் மொத்தம் 2.25.5 ஹெக்டர் பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் மண் குவாரி குத்தகை உரிமம் கோரி திருமதி.வி.ரேவதி, க/பெ.எம்.விஜயகுமார், என்பவர் மனு செய்துள்ளது – அறிக்கை கேட்டல் – கொடர்பாக.

பார்வை

பொருள்

- : 1. உதவி இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, திருப்பூர் ந.க.எண்.584/கனிமம்/2022, நாள்.05.12.2022.
 - 2. திருமதி.வி.ரேவதி. க/பெ.எம்.விஜயகுமார், என்பவரின் மனு நாள்.29.11.2022.

மேற்காண் பொருள் தொடர்பாக, பார்வையிலான கடிதத்தில் திருப்பூர் மாவட்டம் – ஊத்துக்குளி வட்டம் – மொரட்டுப்பாளையம் கிராமம் – புல எண்.209/1A (ப) (1.23.5), 209/1B (ப) (0.04.5) மற்றும் 209/2 (ப) (0.97.5) ஆகியவற்றில் மொத்தம் 2.25.5 ஹெக்டர் பரப்பில் திருமதி.னி.ரேவதி, க/பெ.எம்.விஜயகுமார், என்பவர் சாதாரண கற்கள் மற்றும் கிராவல் மண் குவாரி குத்தகை உரிமம் கோரி கேட்கப்பட்ட குவாரி அமையவுள்ள இடத்தினை திருப்பூர் வனச்சரக அலுவலரால் 14.12.2022–ம் தேதியன்று களத்தணிக்கை செய்யப்பட்டதில் மேற்படி குவாரியானது அருகில் உள்ள சென்னிமலைக் காப்புக்காடு எல்லையிலிருந்து சுமார் 14.20 கி.மீ., தொலைவிலும், ஆனைமலை புலிகள் காப்பக தெரிவித்துக்கொள்கிறேன்.

ஒம்/- சு.ந .தேஜஸ்வி திணை இயக்குநர் திருப்பூர் வனக்கோட்டம் ஆணைமலை புலிகள் காப்பகம் உடுமலைப்பேட்டை

நகல்:– திருமதி.வி.ரேவதி, க/பெ.எம்.விஜயகுமார், எண்.8/223, சின்னகாடேபாளையம், ஊத்துக்குளி வட்டம், திருப்பூர் மாவட்டம் – 638 812.

- உண்மை நகல்/ உத்தாவுப்படி -

வரைதொழில் அலுவலா



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.8614/SEAC/ToR-1019/2021 Dated:23.08.2021

Ta

Thiru. U. Prabhakuran, S/o. Udhayakumar, No.6/67, Sappattanaickenpalayam, Morattupalayam Village, Uthukuli Taluk, Tiruppur District – 638 752.

Sir / Madam,

Sub: SEIAA, Tamil Nadu - Terms of Reference (ToR) with Public Hearing for the Proposed Rough Stone & Gravel Quarry lease over an extent of 0.68.8 Ha at S.F.No. 389/1C2 of Morantupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu by Thiru. U. Prabhakaran 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/64360/2021, Dated: 01.07.2021

- 2. Your application submitted for Terms of Reference dated: 07.07.2021
- 3. Minutes of the 220th Meeting of SEAC held on 20.07.2021
- 4. Minutes of the 454th Meeting of SEIAA held on 16.08.2021

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

The proponent, Thiru. U. Prabhakaran submitted application for ToR on 07.07.2021, in Form-I, Pre-Feasibility report for the Proposed Rough Stone & Gravel Quarry lease over an

134 A

MEMBER SECRETARY SEIAA-TN extent of 0.68.8 Ha at S.F.No, 389/1C2 of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.

Discussion by SEAC and the Remarks:-

The proposal was placed in the 220th meeting of SEAC held on 20.07.2021. Based on the presentation and documents furnished by the project proponent, SEAC decided to recommend the proposal for the grant of Terms of Reference (ToR) with Public Hearing, subject to the following ToR in addition to the standard terms of reference for EIA study for non-coal mining projects and details issued by the MoEF & CC to be included in EIA/EMP report:

- 1. A detailed study of the lithology of the mining lease area shall be furnished.
- The proponent shall form the proper benches as per the approved mining plan during the
 operation of the quarry considering the hydro-geological regime of the surrounding area
 as well as for safe mining.
- 3. 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.
- 4. The Project Proponent shall conduct the hydro-geological study to assess the impact considering the contour map of the ground 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 water levels for both monsoon and non-monsoon seasons from the PWD / TWAD.
- The Proponent shall carry out the Cumulative impact study due to mining from all the mines on the environment in terms of air pollution, water pollution, & health impacts, accordingly the Environment Management plan should be prepared.
- The Socio-economic studies should be carried out within a 10 km buffer zone from the mines.
- A tree survey study shall be carried out (nos., name of the species, age etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity.
- 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, &

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MEMBER SECRETARY SELAA-TN flora/fauna including traffic/vehicular movement study to assess the cumulative impact of the proposed project on the environment and in order to propose Environment management plan including CER activities proposed with implementation and cost estimation details, considering the requirement raised during public hearing by the local habitants in regard to as per Office Memorandum of MoEF&CC accordingly.

- Fugitive emission measurements should be carried out during the mining operation and the report on the same may be submitted to SEIAA once in six months.
- The proponent shall submit waste/reject handling and management /mode of disposal for the proposed mining activity.
- A detailed mining closure plan for the proposed project shall be submitted.
- 12. A detail report on the safety and health aspects of the workers and for the surrounding habitations during operation of mining for drilling and blasting shall be submitted.
- The Ambient silica analysis needs to be carried out once in six months and report the same to SEIAA.
- 14. The recommendation for the issue of "Terms of Reference" is subjected to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.A. No.186 of 2016 (M.A.No.350/2016) and O.A. No.200/2016 and O.A.No.580/2016 (M.A.No.1182/2016) and O.A.No.102/2017 and O.A.No.404/2016 (M.A.No. 758/2016, M.A.No.920/2016, M.A.No.1122/2016, M.A.No.12/2017 & M.A. No. 843/2017) and O.A.No.405/2016 and O.A.No.520 of 2016 (M.A.No. 981/2016, M.A.No.982/2016 & M.A.No.384/2017).
- 15. The project proponent shall furnish the details of the existing Green belt area earmarked with GPS coordinates and list of trees planted/to be planted with a copy of photos/documents of the existing green belt, and be included in the EIA Report.
- 16. The project proponent should provide a detailed plan regarding the green belt area surrounding the mining area at least with a width of 3m.

Discussion by SEIAA and the Remarks:-

The proposal was placed in the 454th meeting of SEIAA held on 16.08.2021. After detailed discussions, the Authority unanimously accepts the recommendation of SEAC and decided to grant Terms of Reference (ToR) with Public Hearing under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment

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MEMBER SECRETARY SEIAA-TN Management Plan subject to the conditions as recommended by SEAC & normal condition in addition to the following conditions:

 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.

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.
- 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

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focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.

- 8) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.
- 9) The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.
- 10) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be undicated. 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.
- (4) 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

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MEMBER SECRETARY SEIAA-TN 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, Ramsur 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 faura, 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 &

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

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

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

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- 34) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.
- 35) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
- 36) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
- 37) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
- 38) Detailed Environmental Management Plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
- 39) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
- 40) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
- 41) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
- 42) A Disaster management Plan shall be prepared and included in the EIA/EMP Report.
- 45) 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
 - All documents to be properly referenced with index and continuous page numbering.

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MEMBER SECRETARY SEIAA-TN

- 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.
- 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(1) 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-tA:II(I) dated 30.5/2012, certified report of the status of compliance of the conditions stipulated in the Environment Clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.
- j) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

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

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

1. Project name and location (Village, District, State, Industrial Estate (if applicable).

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MEMBER SECRETARY SEIAA-TN

- 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.
- 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.
- 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 Minerala/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.
- 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
- 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

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MENBER SECRETARY SEIAA-TN safety system provided to mitigate the risk.

- 20. Likely impact of the project on air, water, land, flora-fauna and nearby population
- 21. Emergency preparedness plan in case of natural or in plant emergencies
- 22. Issues raised during public hearing (if applicable) and response given
- 23. CER plan with proposed expenditure.
- 24. Occupational Health Measures
- 25. Post project monitoring plan
- 26. The project proponent shall carry out detailed hydro geological study through intuitions/NABET Accredited agencies.
- 27. A detailed report on the green belt development already undertaken is to be furnished and also submit the proposal for green belt activities.
- 28. The proponent shall propose the suitable control measure to control the fugitive emissions during the operations of the mines.
- 29. A specific study should include impact on flora & fiuma, 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 Nada 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.
- 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

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- 4th August 2009, which are available on the website of this Ministry should also be followed.
- e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J-11013/77/2004-IA-II(I) dated 2nd December 2009, 18th Murch 2010, 28th May 2010, 28th June 2010, 31th 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 OM
 No.J-11013/41/2006-IA-II(I)(part) dated 29th August 2017.

MEMBER SECRETARY SELAA-TN

Copy to:

- The Principal Secretary to Government, Environment & Forests Dept. Govt. of Tamil Nadu, Fort St. George, Chennai - 9.
- The Chairman, Central Pollution Control Board, Parivesh Bhavan,
 CBD Cum-Office Complex, East Arjun Nagar, New Delhi 110 032.
- The Member Secretary, Tamil Nadu Pollution Control Board,
 Mount Salai, Guindy, Chennai 600 032.
- 4. The APCCF (C), Regional Office, MoEF & CC (SZ),

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- 34, HEPC Building, 1st & 2nd Floor, Cathedral Garden Road, Nungambakkam, Chennai -34.
- Monitoring Cell, IA Division, Ministry of Environment, Forests & CC, Paryavaran Bhavan, CGO Complex, New Delhi - 110 003.
- 6. The District Collector, Tiruppur District.
- 7. Stock File.



From

Dr. S.Vediappan, M.Sc., Ph.D., Deputy Director, Dept. of Geology and Mining, Tiruppur, To

Thiru. U. Prabhakaran, S/o. Udhayakumar, No. 6/67, Sarppattaickenpalayam, Morattupalayam village, Uthukuli Taluk, Tiruppur District

R.c. No. 465/2021/Mines Dated: 17.06.2021

Sub: Mines and Minerals – Minor Mineral – Rough Stone and Gravel – Tiruppur District – Uthukuli Taluk – Morattupalayam Village – Patta land in S.F.No. 389/1C2 over an extent of 0.68.8 Hectares – Quarry lease application preferred by Thiru. U. Prabhakaran, S/o. Udhayakumar - Precise area communicated - Draft mining plan submitted – Approved – Other quarries situated in 500m radius details - Requested - Regarding.

Ref: 1. Thiru. U. Prabhakaran, S/o. Udhayakumar, No. 6/67, Sarppattaickenpalayam, Morattupalayam village, Uthukuli Taluk, Tiruppur District quarry lease application dated: 31.03.2021.

 The Deputy Director, Geology and Mining, Tiruppur letter R.C. No. 465/2021/Mines dated 10.06.2021

 Mining Plan submitted by Thiru. U. Prabhakaran, S/o. Udhayakumar in letter dated 14.06.2021.

- Thiru. U. Prabhakaran, S/o. Udhayakumar has preferred application for the grant of Rough Stone and Gravel quarry lease in Patta land in S.F.No. 389/1C2 over an extent of 0.68.8 Hectares of Morattupalayam Village of Uthukuli Taluk of Tiruppur District.
- Based on reports and records available, precise area has been communicated to the applicant with a direction to submit mining plan and also to submit environmental clearance as stipulated in rule 41 and 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 vide memo dated 10.06.2021.
- 3. Accordingly Thiru. U. Prabhakaran, S/o. Udhayakumar has submitted the draft mining plan and the same has been approved by the Deputy Director (Geology & Mining) on 17 .06.2021 and also requested to furnish the details of Quarry Lease / Mining Lease situated within 500 mts radius and pit dimension details from the subject quarry for obtaining Environment Clearance from the State level Environment Impact Assessment Authority.

 In this connection the details of existing / abandoned quarries located within 500m radius from the proposed area are as follows.

a. Existing quarries

S. No	Name of the lessee	Village	S.F. No	Extent Hect.	Collector's proceedings No. & Date	Lease period
1	N. Ayyadurai	Morattu palayam	392 Part	2.02.5	341 / Mines / 2017 DATE 28.9.2018	28.09.2018 - 27.09.2023
	S. Rajasekar	Morattu palayam	382/2A (Part)	1.98.5	105 / Mines / 2017 Date 25.9.2018	25.09.2018 - 24.09.2023
	T.S. Udhaya kumar	Morattu palayam	388 Part A	1.26.5	174 / MINES / 2017 DATED 6.4,2018	(6.4.2018 TO 5.4.2023)
	S. Raju	Morattu palayam	388 Part B	1.58.0	175 / MINES / 2017 DATED 9.4.2018	(9.4.2018 TO 8.4.2023)

b. Abandoned / expired quarries

S. No	Name of the lessee	Village	S.F. No	Extent Hect.	Collector's proceedings No. & Date	Lease period expired on
Ħ	S. Raju	Morattu palayam	389/1B1	1.62.0	292 / Mines / 2014 date 19.06.2015	24.06.2015 – 23.06.2020 Lease expired
2	M. Palanisamy	Morattu palayam	385/2 (Part)	0.59.5	300/ Mines /2015 dated 13.01.2016	21.01.2016 – 20.01.2021 lease expired

c. Present proposed quarries

S. No	Name of the lessee	Village	S.F. No	Extent Hect.	Collector's proceedings No. & Date	Lease periomd
100	P. Thanga muthusamy	Morattu palayam	383/2A1 382/2B	3.24.0		Nearby applied area
2	T. Thangaraj	Morattu palayam	383/2A2B, 383/2A 2A2A	1.88.72	-	Nearby applied area
3	K. Senthil kumar	Morattu palayam	383/1 (P), 383/2A2A1 (P)	0.71.5	98	Nearby applied area
4	M. Thangaraj	Morattu palayam	383/2B2	1.51.0	22	Nearby applied area
5	U. Prabha karan	Morattu palayam	389/1C2	0.68.8		Proposed area.

In this regard, as per the approved Mining Plan, the dimension of the existing pit for which previously lease was granted to Thiru. T.S. Udhayakumar for a period of 5 years over

an extent of 0.68.8 in S.F. No. 389/1C2 vide District Collector, Tiruppur proceedings R.C. 195/Mines/2014 dated 23.05.2015 for the period from 28.05.2015 to 27.05.2020 is given detailed below:-

Length in (m) (Max)	Width in (m) (Max)	Depth in (m) (Max)
94	42	11 m below ground leve

Deputy Director, Geology and Mining, Tiruppur,

Copy to

The Chairman, State Level Environment Impact, Assessment Authority, Tamil Nadu, 3rd Floor, PanagalMaaligai, No.1 Jeenis Road, Saidapet, Chennai-15. From

Dr. S.Vediappan, M.Sc., Ph.D., Deputy Director, Dept. of Geology and Mining, Tiruppur. To

Thiru. U. Prabhakaran, S/o. Udhayakumar, No. 6/67, Sarppattaickenpalayam, Morattupalayam village, Uthukuli Taluk, Tiruppur District

R.c. No. 465/2021/Mines Dated: 17.06.2021

Sub: Mines and Minerals – Minor Mineral – Rough Stone and Gravel – Tiruppur District – Uthukuli Taluk – Morattupalayam Village – Patta land in S.F.No. 389/1C2 over an extent of 0.68.8 Hectares – Quarry lease application preferred by Thiru. U. Prabhakaran, S/o. Udhayakumar - Precise area communicated – Draft mining plan submitted – Approved – Other quarries situated in 500m radius details - Requested - Regarding.

Ref: 1. Thiru. U. Prabhakaran, S/o. Udhayakumar, No. 6/67, Sarppattaickenpalayam, Morattupalayam village, Uthukuli Taluk, Tiruppur District quarry lease application dated: 31.03.2021.

 The Deputy Director, Geology and Mining, Tiruppur letter R.C. No. 465/2021/Mines dated

10.06.2021

 Mining Plan submitted by Thiru. U. Prabhakaran, S/o. Udhayakumar in letter dated 14.06.2021.

- Thiru, U. Prabhakaran, S/o. Udhayakumar has preferred application for the grant of Rough Stone and Gravel quarry lease in Patta land in S.F.No. 389/1C2 over an extent of 0.68.8 Hectares of Morattupalayam Village of Uthukuli Taluk of Tiruppur District.
- Based on reports and records available, precise area has been communicated to the applicant with a direction to submit mining plan and also to submit environmental clearance as stipulated in rule 41 and 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 vide memo dated 10.06.2021.
- Accordingly, Thiru. U. Prabhakaran, S/o. Udhayakumar has submitted the Draft Mining Plan and the same has been examined in detail and it is found correct. Therefore, in exercise of the powers delegated under Rule 42 of Tamil Nadu

Minor Mineral Concession Rules, 1959, and as per the guidelines / instructions issued by the Commissioner of Geology and Mining, Chennai vide letter Roc.No.3868/LC/2012 dated 19.11.2012, the mining plan submitted by Thiru. U. Prabhakaran, S/o. Udhayakumar in respect of the subject area is hereby approved subject to the following conditions:

- (i). That the mining plan is approved without prejudice to any other Law applicable to the quarry lease from time to time whether such Laws are made by the Central Government, State Government or any other authority.
- (ii). This 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 the Tamil Nadu Minor Mineral Concession Rules, 1959.
- (iii). That the mining plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.
- (iv). Quarrying shall be done as per the approved Mining Plan and that the mining plan is approved without prejudice to any other law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.
- (v). If anything is found to be concealed as required by the Mines Act in the contents of the Mining Plan and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.
- (vi). Safety distances mentioned in the precise area has to be maintained for the entire duration of the lease period.

- (vii). Waste material should be dumped within the lease granted area as earmarked in the Mining Plan.
- (viii). Necessary Environmental Clearance has to be obtained by the applicant from the competent authority before the grant of quarry lease as per the rules.
- (ix). Quarrying operations and production shall be carried out as per the approved Mining Plan and the applicant shall be liable to pay the cost of mineral if there is any deviation in the quantum indicated in the approved year wise quantum of production and any such cases as on date are to be dealt with as per Court direction.
- (x). If any violation is found during quarrying operation, the penal provisions of Tamil Nadu Minor Mineral Concession Rules shall attract.
- (xi). The applicant should strictly adhere to the statutory and safety requirements.

Encl: Approved Mining Plan.

Deputy Director, Geology and Mining, Tiruppur.

Copy to

- The Commissioner, Department of Geology and Mining, Guindy, Chennai - 600 032.
- The Chairman , State Level Environment Impact Assessment Authority, Panagal park Building, Saidapet, Chennai -600 015.
- Dr. P. Thangaraju, RQP, Reg.off.No.17, Advaitha Ashram Road, Alagapuram, Salem-636 004.

MINING PLAN AND PROGRESSIVE QUARRY CLOSURE PLAN FOR MORATTUPALAYAM ROUGH STONE AND GRAVEL QUARRY

(PREPARED UNDER RULES 4) & 42 AS AMENDED IN TAMIL NADU MINOR MINERAL CONCESSION RULES, 1939)

Patta Land / Lease Period = Five Years

IN

LOCATION OF THE QUARRY LEASE APPLIED AREA

EXTENT

0.68.8ha

S.F.NO

389/1C2

VILLAGE:

MORATTUPALAYAM

TALUK :

UTHUKULI

DISTRICT:

TIRUPPUR

STATE :

TAMIL NADU

FOR

APPLICANT

Thiru.U.Prabhakaran,

S/o. Udhayakumar,

No.6/67, Sappattanaickenpalayam,

Morattupalayam Village, Uthukuli Taluk,

Tiruppur District,

Tamil Nadu State - 638 752.

PREPARED BY

Dr. P. Thangaraju, M.Sc., Ph.D.,

Qualified Person

Regd Off No.17, Advaitha Ashram Road,

Alagapuram, Salem District - 636 004.

Cell: +91 94422 78601 & 94433 56539.

E-mail: infogeoexploration@gmail.com



U.Prabhakaran,

S/o. Udhayakumar,

No.6/67, Sappattanaickenpalayam,

Morattupalayam Village, Uthukuli Taluk,

Tiruppur District,

Tamil Nadu State - 638 752.

CONSENT LETTER FROM APPLICANT

The Mining Plan and Progressive Quarry Closure Plan in Respect of Morattupalayam Rough stone and Gravel Quarry in S.F.No.389/1C2 over an extent of 0.68.8ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared by

Dr. P. Thangaraju, M.Sc., Ph.D.,

Qualified Person

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

Dr. P. Thangaraju, M.Sc., Ph.D.,

Regd. Off. No. 17.

Advaitha Ashram Road,

Alagapuram, Salem District - 636 004.

Cell: +91 94422 78601 & 94433 56539.

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

Signature of the Applicant

U.Prabhakaran

Place: Tiruppur

Date: 11.06.2021



U.Prabhakaran.

S/o, Udhayakumar,

No.6/67, Sappattanaickenpalayam,

Morattupalayam Village, Uthukuli Taluk,

Tiruppur District,

Tamil Nadu State - 638 752.

DECLARATION OF THE APPLICANT

The Mining Plan and Progressive Quarry Closure Plan in Respect of Morattupalayam Rough stone and Gravel Quarry in S.F.No.389/1C2 over an extent of 0.68.8ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared in full consultation with me.

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

Signature of the Applicant

U.Prabhakaran

Place: Tiruppur

Date: 11.06.2021



CERTIFICATE

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

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

Accordingly, I am prepare this Mining Plan and Progressive Quarry Closure Plan in Respect of Morattupalayam Rough stone and Gravel Quarry in S.F.No.389/IC2 over an extent of 0.68.8ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State for Thiru.U.Prabhakaran, S/o. Udhayakumar, No.6/67, Sappattanaickenpalayam, Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State – 638 752. Since the Mining Plan is prepared as per the provisions contained in Rule 15(I)(a) and (I)(b) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016.

Signature of the Qualified Person

Dr. P. Thangaraju, M.Sc., Ph.D.,

Place: Salem

Date: 14.06.2021



Dr. P. Thangaraju, M.Sc., Ph.D.,

Regd. Off. No. 17,

Advaitha Ashram Road,

Alagapuram, Salem District - 636 004.

Cell: +91 94422 78601 & 94433 56539.

CERTIFICATE FROM THE QUALIFIED PERSON

This is to certify that the Provisions of under Rules 41 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959 have been observed in the preparation of Mining Plan and Progressive Quarry Closure Plan for Morattupalayam Rough stone and Gravel Quarry in S.F.No.389/1C2 over an extent of 0.68.8ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared for

Thiru.U.Prabhakaran,

S/o. Udhayakumar,

No.6/67, Sappattanaickenpalayam,

Morattupalayam Village, Uthukuli Taluk,

Tiruppur District,

Tamil Nadu State - 638 752.

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

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

Signature of the Qualified Person

Dr. P. Thangaraju, M.Sc., Ph.D.,

Place: Salem

Date: 14.06.2021



Dr. P. Thangaraju, M.Sc., Ph.D.,

Regd. Off. No. 17,

Advaitha Ashram Road,

Alagapuram, Salem District - 636 004.

Cell: +91 94422 78601 & 94433 56539.

CERTIFICATE FROM THE QUALIFIED PERSON

Certified that the Provisions of Mines Act, Rules and Regulations and Orders made there under have been observed in the preparation of Mining Plan and Progressive Quarry Closure Plan for Morattupalayam Rough stone and Gravel Quarry in S.F.No.389/1C2 over an extent of 0.68.8ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared for

Thiru.U.Prabhakaran.

S/o. Udhayakumar,

No.6/67, Sappattanaickenpalayam,

Morattupalayam Village, Uthukuli Taluk,

Tiruppur District,

Tamil Nadu State - 638 752.

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

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

Signature of the Qualified Person

Dr. P. Thangaraju, M.Sc., Ph.D.,

Place: Salem

Date: 14.06.2021



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MINING PLAN AND PROGRESSIVE QUARRY CLOSURE PLAN FOR MORATTUPALAYAM ROUGH STONE AND GRAVEL QUARRY OVER AN EXTENT OF 0.68.8ha IN MORATTUPALAYAM VILLAGE, UTHUKULI TALUK, TIRUPPUR DISTRICT, TAMIL NADU STATE.

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

1.0 INTRODUCTION AND EXECUTIVE SUMMARY

This Mining Plan and Environment Management Plan are prepared for Thiru.U.Prabhakaran, S/o. Udhayakumar, residing at No.6/67, Sappattanaickenpalayam, Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State - 638 752.

The applicant applied for Rough stone and Gravel quarry over an extent of 0.68.8ha of Patta land in S.F.No.389/1C2 of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State under Rules 19 of Tamil Nadu Minor Mineral Concession Rules, 1959.

The application was processed by the Deputy Director, Department of Geology and Mining, Tiruppur District and passed a Precise Area Communication letter vide Rc.No.465/Mines/2021, Dated:10.06.2021 to submit Mining Plan for the approval in Department of Geology and Mining. Tiruppur District and obtain Environmental Clearance from the Competent Authority, Tamil Nadu State, with the conditions to provide:

- 1. The quarried out minerals should be transported after paid the necessary seniorage fee as per Appendix- II of Tamil Nadu Minor Mineral Concession Rules, 1959.
- 2. Quarrying should be leaving a safety distance of 7.5m to the adjacent Patta land.
- 3. Quarrying should be leaving a safety distance of 10m to the Geographical Cart Track of East-West direction in S.F.No.389/2C in Southwest side of the applied area.
- 4. Quarrying should be leaving a safety distance of 10m to the Government Poramboke land in S.F.No.388 in South side of the applied area.
- 5. Quarrying should be leaving a safety distance of 50m to the LT line of North-South direction in Eastern side about 45m away from the applied area.
- 6. The quarry operation should be carried out with slurry explosives by an authorized explosive agency and no hindrance shall be caused to the adjacent Patta land and Government lands, the This Mining Plan is approved subject Powers conformed upder rule 41(2) of Timil to the Conditions Indicated in the Nadu Mison his sout Cancession Putes, 1959.

465/2001/minus Dated 17.06.2021

Geology and Mining

- The applicant shall submit the approved mining plan within the time stipulated in the precise area communication letter.
- Prior Environment clearance should be obtained from the competent authority in respect of the area applied for quarry lease before grant of quarry lease.

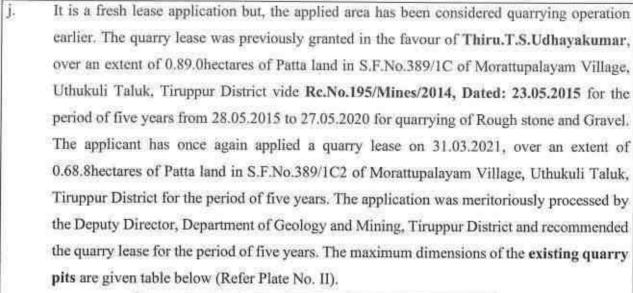
(Please refer Annexure No - I).

In order to ensure compliance of the order of the Honourable Supreme Court Dated: 27.02.2012 in LA.No.12.13.2011 in Special Leave Petition SLP (C) No 19628-19629/2009, it has been now decided that all mining projects of minor minerals including their renewal irrespective of sizes of the lease would hence forth require prior environmental clearance mining project within the lease applied area up to less than 100ha including projects or minor mineral with lease applied area less then 5ha would be treated as category B as defined in the EIA notification 2006 and will be considered by the state notified by MoEF as prescribed procedure under EIA notification 2006.

In the above circumstances the applicant through his consultant is hereby preparing the Mining Plan, Environmental Management Plan and Progressive Quarry Closure Plan for approval and subsequent submission of Form-I, Form-IM and Pre feasibility report to obtain environmental clearance from the Competent Authority, Tamil Nadu State, Rough stone and Gravel quarry. This mining plan is prepared by considering the Rules 41 & 42 as Amended in Tamil Nadu Minor Mineral Concession Rules, 1959 and as per the EIA Notification 2006 and its subsequent Amendment and judgments till 24,01,2019.

Short Notes of Mining Plan:

- a. Village Panchayat Morattupalayam
- b. Panchayat Union Uthukuli
- c. The Geological Resources are 1,66,730m³ of Rough stone and 288m³ of Gravel formation in the entire area.
- d. The Total Mineable Reserves are 48,125m³ of Rough stone in the entire area and Gravel was removed in previous lease period.
- e. The proposed quantity of reserves/ (level of production) to be mined are 48,125m³ of Rough stone for five years in the entire area.
- Total extent of the lease applied area = 0.68.8ha
- g. Topography of the area = The area exhibits plain topography
- Proposed Depth of mining = 36m (1m Gravel + 35m Rough stone) below ground level
- i. Mining Plan Period = Five years



Length (m) (max)	Width (m) (max)	Depth (m) (max)
94	42	11m below ground level

Method of mining / level of mechanization.

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

- I. Type of machineries proposed in the quarrying operation is given below:
 - Excavators attached with rock breaker (Rental Basis).
 - Jack hammer, Compressor (Diesel drive) (4 Jack hammer capacity) (Rental Basis).
- Mo trees will be uprooted due to this quarrying operation.
- n. The existing road from the main road to quarry is in good condition. The same will be maintained and utilized for Transportation of quarry materials and machineries.
- There is No Export of this Rough stone and Gravel.
- p. Topo sketch covering 10km and 1km radius around the proposed area with markings of habitations, water bodies including streams, rivers, roads, major structure like bridges, wells, archaeological importance, places of worships is marked and enclosed as Plate Nos. IA & IB.
- q. The lease applied area is about 0.68.8ha bounded by five corners; the corners are designated as 1-5 Clockwise from the Southwestern corner the Co ordinates for the all the corners are clearly marked in the Quarry Lease and Surface Plan enclosed as Plate No. II.
- The plans of proposed quarrying area showing the dimensions of the pit, their proposed depth and maximum area of proposed quarrying are enclosed as Plate Nos. III and IV.

- General conditions will not be applicable for the proposed area. The area applied for lease is 10Km away from the.
 - i) Interstate Boundary
 - ii) Protected area under wild life protection ACT, 1972,
 - iii) Critically polluted areas as identified by CPCB,
 - iv) Notified Eco sensitive areas.
- t. There is no waste anticipated during this quarry operation, hence waste dump is not proposed in the lease applied area.
- a. Around 14 employees are deploying in the quarrying operation.
- v. Total Cost of the project is about Rs.25,31,000/-.
- w. Infrastructures around the lease applied area given below in the table:

TABLE-1

Particulars	Location	Approximate aerial distance and direction from lease applied are		
Nearest Post Office	Sarkar Periyapalayam	2km - Southwest		
Nearest School	Sarkar Periyapalayam	2km - Southwest		
Nearest Dispensary	Uthukuli	5km - Northeast		
Nearest Town	Uthukuli	5km - Northeast		
Nearest Police Station	Uthukuli	5km - Northeast		
Nearest Hospital	Uthukuli	5km - Northeast		
Nearest D.S.P. Office	Tiruppur	9km - Southwest		
Nearest Railway Station	Uthukuli	5km - Northeast		
Nearest Airport	Coimbatore	53km - Southwest		
Nearest Seaport	Kochi	184km - Southwest		
District Head quarters	Tiruppur	9km - Southwest		



2.1 a) Name of the Applicant

Thiru.U.Prabhakaran,

S/o. Udhayakumar,

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

Address

No.6/67, Sappattanaickenpalayam,

Morattupalayam Village, Uthukuli Taluk,

Tiruppur District.

Pin Code

638 752

Mobile No

+91 98422 12353

Aadhaar No

5073 2763 0533

Email ID

prabhupunk@gmail.com

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

The applicant is an Individual.

2.2 a) Mineral which the Applicant intends to mine:

The Applicant intends to quarry Rough stone and Gravel only.

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

The precise area communication letter was received from the Deputy Director, Department of Geology and Mining, Tiruppur District vide Rc.No.465/Mines/2021, Dated: 10.06.2021 to submit approved mining plan and to obtain Environmental Clearance from the Competent Authority, Tamil Nadu State.

Period of permission / lease to be granted: c)

Five Years.

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

Name

Dr. P. Thangaraju, M.Sc., Ph.D.,

Qualified Person

Address

Reg. No.17,

Advaitha Ashram Road.

Alagapuram, Salem District - 636 004.

Telephone

0427-2431989 (Office)

Cell No

+91 94422 78601 & 94433 56539

Email

infogeoexploration@gmail.com

(Refer Annexure Nos. VIII and IX).

3.0 LOCATION

a) Details of the area with location map:

The lease applied area is about 9km Northeastern side of Tiruppur town and 5km Southwestern side of Uthukuli town, the lease applied area located along Morattupalayam Village at a distance of 1km Southwestern side.



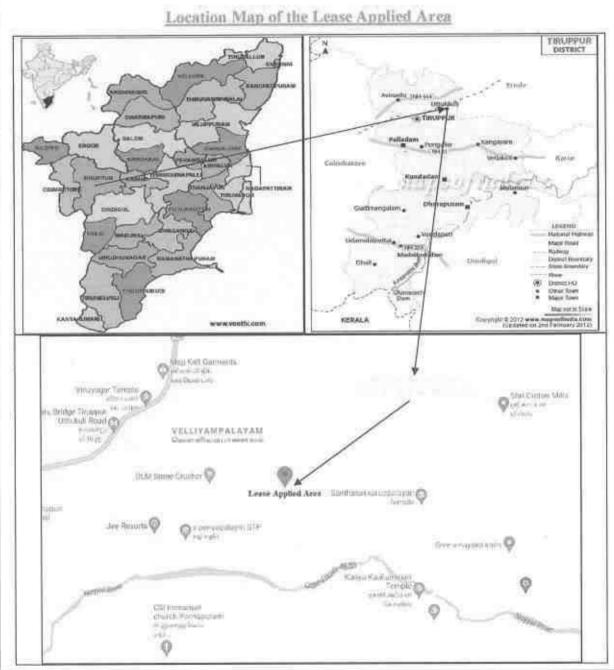


		TABLE	-2		
District	Taluk	Village	S.F. No.	Lease Applied Area in ha.	Patta Nos.
Tiruppur	Uthukuli	Morattupalayam	389/1C2	0.68.8	1088
	7	otal Extent		0.68.8ha	

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

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

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

It is a Patta land. Registered in the name of the applicant (Thiru,U.Prabhakaran), vide Patta No.1088. Refer Annexure No. IV.

Topo sheet No. with latitude and longitude:

The lease applied area falls in the Topo sheet No: 58 - E/08 Latitude between: 11°07'59.75"N to 11°08'03.55"N and Longitude between: 77°25'21.19"E to 77°25'23.61"E on WGS datum-1984. Please refer the Plate Nos. I to IL

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

The approach (metal) road is situated on the Northeastern side which connects the Tirupur – Vijayamangalam (SH-19A) State Highway Road at a distance 900m from the Northwestern side of the applied area.

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

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

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

Mr. OH

PART - A

4.0 GEOLOGY AND MINERAL RESERVES

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

The lease applied area is exhibits plain topography. The area has gentle sloping towards Northeast side. The altitude of the area is 360m (max) above Mean Sea level. The area is covered by 1m thickness of Gravel and formation. Massive Charnockite is found after 1m (Gravel) which is clearly inferred from the existing quarry pits.

The Water table is found at a depth of 78m in summer and at 73m in rainy seasons. Average annual rainfall is about 618mm.



Topographical View of lease applied area

Peninsular gneiss forms the oldest rock formations, in which the massive formation of Charnockite lies over with rich accumulation of recent quaternary formation. On regional scale of the Charnockite body is N35°E – S35°W with dipping towards SE70°.

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

	AGE		FORMATION
•	Recent	20	Quaternary
			Formation (Gravel)
	Un	confe	ormity
Y	Archaean	360	Charnockite
			Peninsular Gneiss complex

4.2 Details of exploration already carried out if any:

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

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

4.3 Estimation of Reserves:

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

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

Totally two sections have been drawn, one section is drawn Length wise as (X-Y) and other one cross section is drawn Width wise as (A-B) to cover the maximum area considered for lease.

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

Geological Resources (Plate No. III):

The Geological Resources of Rough stone and Gravel are calculated up to a maximum depth of 36m (1m Gravel + 35m Rough stone) below ground level. The total Geological resources are calculated by sectional method and the resources are estimated after depletion of existing quarry pits. The total geological resources are given below:

TABLE-3

GEOLOGICAL RESOURCES								
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Geological Resources in Rough stone (m³)	Gravel Formation (m³)		
	I	18	16	1		288		
	11	18	16	5	1440	-		
	III	18	16	5	1440	-		
	IV	113	58	5	32770			
XY-AB	V	113	58	5	32770	(*)		
	VI	113	58	5	32770	7		
	VII	113	58	5	32770	(#)		
	VIII	113	58	5	32770	2.00		
		Tot	al	166730	288			

Total Geological Resources of Gravel formation

288m3

))2

Total Geological Resources of Rough stone

1,66,730m3

Existing Pit Dimension:

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

TABLE-4

Length (m) Width (m) (max) (max)		Depth (m) (max)		
94	42	11m below ground level		

Available Mineable Reserves:

The available Mineable reserves are calculated after leaving the safety distance and bench loss to a maximum depth of 36m below ground level.

TABLE-5

		MINEAB	LE RESE	RVES	W
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Mineable Reserves in Rough stone (m³)
	IV	95	43	5	20425
2	V	85	33	5	14025
XY-AB	VI	75	23	5	8625
A I-AD	VII	65	13	5	4225
	VIII	55	3	5	825
		Tot	al		48125

The mineable reserves have been computed as 48,125m³ of Rough stone at the rate of 100% recovery upto a maximum depth of 36m below ground level for a period of five years and Gravel was removed in previous quarry operation.

5.0 MINING

5.1 Method of mining (opencast / underground):

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

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

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

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

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

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

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

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

5.3 Proposed Bench Height and Width:

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

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

The overburden in the form of Gravel formation, the Gravel formation was removed in previous quarrying operation earlier. The excavated Rough stone will be directly loaded into tipper to the needy customers. The Composite year wise Development and production plan and sections indicating the Pit lay out, Green belt development are shown in Plate No-III.

Yearwise development and Production

TABLE-6

	3	EARWIS	E PRODU	CTION D	ETAILS		
Years	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Recoverable Reserves in Rough stone (m³)	
		IV	30	43	5	6450	
1		V	20	33	5	3300	
			Tot	al		9750	
		IV	25	43	5	5375	
П	XY-AB	V	25	33	5	4125	
		Total					9500
		IV	40	43	- 5	8600	
Ш		V	8	33	5	1320	
	A1-AD		Tot	9920			
		v	32	33	5	5280	
IV		VI	40	23	5	4600	
			Tot	9880			
		VI	35	23	5	4025	
V		VII	65	13	5	4225	
×		VIII	55	3	5	825	
			Tot	al		9075	
		Grand '	Fotal			48125	

The Recoverable reserves have been computed as 48,125m³ of Rough stone for five years of 100% recovery upto depth of 36m below ground level for a mining period.

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

Mining Plan and PQCP

Morattupalayam Rough stone and Gravel Quarry

One lorry load		6m³ (approx.)
Total No of Working days	100	300 Days per year
Total quantity to be removed in this five years plan perio	d =	48,125m ³
Hence total lorry loads per day	199	48,125m ³ /6m ³
	=	8021 lorry loads
	: =	8021/5 years
	=	1604/300 Days
Rough stone		5 lorry loads per day
Working hours = 8.30 am to 5.30 pm (w	ith 12.30-	1.30 pm lunch break)

5.5 Machineries to be used:

For Mining:

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

TABLE-7

I. DRILLING MACHINE:

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

II. EXCAVATION & LOADING EQUIPMENT:

S. No.	Туре	Nos	Capacity	Motive Power
1	Excavator with Bucket and Rock Breaker	1	300	Diesel Drive

III. HAULAGE WITHIN THE MINE & TRANSPORT EQUIPMENT:

S. No.	Type	Nos	Capacity	Motive Power
1	Tipper	1	20 tonnes	Diesel Drive

5.6 Disposal of Overburden/Waste:

The overburden in the form of Gravel formation, the Gravel formation was removed in previous quarrying operation earlier. The excavated Rough stone (100%) will be directly loaded into tipper to the needy customers. There is no Waste anticipated during this plan period hence, disposal of waste does not arise.



Morattupalayam Rough stone and Gravel Quarry

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

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

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

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

TABLE-8

Length (m) (max)	Width (m) (max)	Depth (m) (max)
94	42	36m below ground level

Greenbelt has proposed on the safety zone by planting Neem, Pongamia Pinnata, Casuarina, etc., trees of native species. All the base line information studies like Air quality monitoring, Noise and vibration monitoring, Water analysis studies will be carried out every year as per the MoEF&CC Norms. Please refer Plate Nos. III & IV.

It is propose to engage any local institution to monitor the EIA and EMP during the course of quarrying operation after the grant of quarry lease.

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



Mining Plan and PQCP

6.0 BLASTING

6.1 Blasting pattern:

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

Drilling and blasting parameters are as follows:

Depth of Each hole

1.5m

Diameter of hole

30-32mm

Spacing between holes

1.2m

Burden for hole

1.0m

Pattern of hole

Zigzag - Multi-rows

Inclination of holes

80° from horizontal

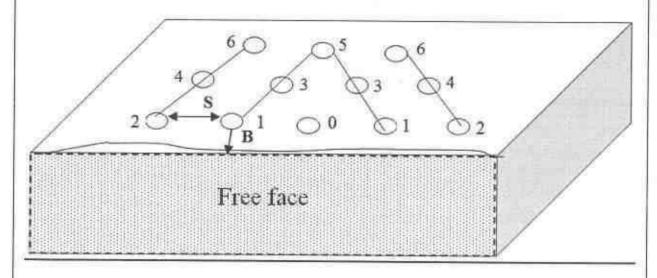
Use of delay detonators

25millisecond relays

Detonating fuse

"Detonating" Cord

BLASTING PATTERN DRAWING



Staggered "V" Pattern of Blasting Design

Spacing

1.2m

Burden

1.0m

Depth of the hole

1.5m

No of holes proposed per day=

28 Holes

6.2 Type of explosives to be used:

Small Dia. 25mm slurry explosives are proposed to be used for shattering and heaving effect for removal and winning of Rough stone. No deep hole drilling or primary blasting is proposed.

6.3 Measures proposed to minimize ground vibration due to blasting:

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

Shallow depths jackhammer drilling & blasting is proposed to be carried out with minimum use of explosive mainly to give hearing effect in Rough stone for easy excavation and to control fly rock.

Delay detonators:

Delay blasting (millisecond delays) permits to divide the shot in to smaller charges, which are detonated in a predetermined millisecond sequence at specific time intervals.

The major advantages of delay blasting are:

- · Reduction of ground vibration.
- Reduction in air blast.
- Reduction in over break.
- Improved fragmentation.
- Better control of fly-rock.

Blasting program for the production per day:

No of Holes

= 28 Holes

Yield

= 83 Tons

Powder factor

= 6 Tons/Kg of explosives

Total explosive required

= 14 Kg-Slurry explosives

Charge/hole

= 0.5 Kg

Blasting at day time only

= 12.00 - 12.30p.m (whenever required)

6.4 Storage and safety measures to be taken while blasting:

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

7.0 MINE DRAINAGE

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

The Water Table in the area is 78m in summer season and 73m in rainy season which is observed from the nearby bore wells and the data obtained from existing private boreholes. The lease area is fully covered by Massive Charnockite formation. Hence the Ground Water problem will not arise. If water seepage may occur due to the fracture, the same will be used for Greenbelt.

TABLE-9

Type	Distance & Direction	Location
Bore Well	270m Courbon side	11°07'48.08"N
Dore wen	370m Southern side	77°25'23.30"E

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

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

8.0 OTHER PERMANENT STRUCTURES (also shown in the map)

8.1 Habitations/ Villages natham:

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

8.2 Power Lines (HT/LT):

There is an LT line is situated about 45m away in North-South direction of Eastern side of the lease applied area hence 50m safety distance has been maintained. There is no other Housing area, EB line (HT & LT Line) within the radius of 50m from the lease applied area.

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

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

8.4 Archaeological / historical monuments:

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

8.5 Road (NH, SH, others):

The Nearest National Highway (NH-47) Salem – Coimbatore is situated about 7km on the Northern side of the lease applied area.

The State Highway (SH-19A) Tiruppur – Vijayamangalam is situated about 900m on the Northwestern side of the lease applied area.

The District Major Road (MD-1102) Vavipalayam – Uthukuli Road is situated about 3km on the Northeastern side of the lease applied area.

8.6 Places of worships:

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

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

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

SALIENT FEATURES

S. No.	Salient Features Present around site	Prescribed safety distance	If any present within Prescribed distance it actual distance and direction from the area			
1a	Railways, Highways, Reservoirs or Canal	50m	None of the above situated within 50m radius.			
2.	Village Road	10m	The second secon	cal Cart Track is passing in S 10m radius of the lease appl		
3.	Habitation / Village	300m		approved habitation within ase applied area (Refer Plate		
4.	Adjacent Patta land / 7.5m/10m Govt. Land		Direction	Classification	Safety Distance	
			North	Patta land	7.5m	
			East	Patta land	7.5m	
			South	Govt, land	7.5m	
				Patta land	7.5m	
		West	West	Govt. land / Geographical Cart Track	10m	
			(Refer Plate No. II).			
5.	Housing area, EB line (HT & LT Line)	50m	North-South applied are maintained.	a LT line is situated about 4 in direction of Eastern side a hence 50m safety distance. There is no other Housing a Line) within the radius of 50 and area.	of the lease ce has beer rea, EB line	
6.	Boundaries of the permitted area	7.5m/10m	North - S. East - S. South - S.	F.No.388 F.Nos.389/1B2 & 389/2C	as follows:	
7.	Reserve forest	60m	of 60m fron	reserved forest located within the lease applied area. No. IA and IB).	n the radius	
8.	Protected area / ECO sensitive area/Wild Life Sanctuary	10km	Sanctuary/	no ECO sensitive Zone/ Critically Polluted Area/ H. nin 10km radius of the area. No. IA).		

Mining Plan and POCP

Morattupalayam Rough stone and Gravel Quarry

9.0 EMPLOYMENT POTENTIAL & WELFARE MEASURES

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

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

1

Skilled labour: 8.

Mine Foreman 4 1 Blaster/mate 1 00 Excavator - Operator & Driver 2 Jack hammer operator 4 Semi-skilled:

b.

C.

Security

Unskilled: Labour & Helper 2 Co-operator and Cleaner 3

Total 14

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

9.2 Welfare Measures:

Drinking Water: 2.

Packaged drinking water is available from the nearby approved water vendors in Morattupalayam which is about 1km on the Northeastern side of the lease applied area.

b. Sanitary Facilities:

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

c. First aid facility:

First aid kits are kept in Mines office room, in case of such eventuality is the victim will be given first aid immediately at the site by the competent and statutory foreman/permit manager/mate will be in charge of first aid and injured person will be taken to the hospital by the applicant vehicle. Hospital is available in Uthukuli located at a distance of 5km on the Northeastern side.

d. Labour Health:

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

e. Precautionary safety measures to the labourers:



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

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

PART-B

10.0 ENVIRONMENT MANAGEMENT PLAN

10.1 Existing Land use pattern:

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

LAND USE TABLE-10

Description	Present area in (ha)	Area at the end of this quarrying period (ha)
Quarrying Pit	0.40.0	0.40.0
Infrastructure	Nil	0.01.0
Roads	0.02.0	0.02.0
Green Belt	Nil	0.08.0
Unutilized Area	0.26.8	0.17.8
Grand Total	0.68.8	0.68.8

10.2 Water Regime:

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

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

Morattupalayam Rough stone and Gravel Quarry

10.3 Flora and Fauna:

TABLE-11

S.No.	Name of the plant (Scientific)	Family Name	Common Name	Habit	Picture
1.	Thespesia populnea	Indian Tulip Tree	Poovarasu	Tree	
2	Tamarindus indica	Caesalpiniaceae	Puli	Tree	
3.	Pangamia pinnata	Fahaceae	Pungai	Tree	
4.	Cassia auriculata	Fabaceae	Aavarampoo	Shurb	5 to
5,	Ziziphus oenoplia.	Rhamnaceae	Suraimullu, Surai ilantai	Shurb	3

S.No.	Scientific Name	List of Fauna Common Name	Picture
1,	Capra hircus	Goat	
2.	Bolgaspp	Cat snake	
3.	Athene brama	Spotted owlet	(0)
4.	Passer domesticus	House sparrow	13/
5.	Precis hierta	Yellow pansy	103
6.	Funambuluspalmarum	Indian palm squirrel	

10.4 Climatic Conditions:

The area receives rainfall of about 618mm/annum and the rainy season is mainly from Oct -Dec during monsoon. The summer is hot with maximum temperature of 42°C and winter encounters a minimum temperature of 20°C.

10.5 Human settlement:

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

TABLE-12

S. No	Name of the Village	Approximate distance & Direction from lease applied area	Approximate population
1.	Morattupalayam	1km - Northeast	5,900
2,	Sarkar Periyapalayam	2km - Southwest	6,100
3.	Agrahara Periyapalayam	2km - Northwest	3,000

Basic human welfare Amenities such as Health Centre, Schools, Communication Facilities, and Commercial Centres etc., are available at Uthukuli located at a distance of 5km on the Northeastern side of the area.

10.6 Plan for air, dust suppression:

The air quality will be affected by the Suspended Particulate Matter (SPM) generated by the slurry blasting, Jack hammer drilling, loading and unloading during the Rough stone quarry operation. The following Mitigations measures will be carried out:

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

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

10.7 Plan for Noise level control:

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

Engineering Noise control:

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

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

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

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

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

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

10.9 Proposal for waste management:

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

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

In the mining plan proposed only to a maximum depth of 36m below ground level has been envisaged as workable depth for safe & economic mining during entire lease applied area. There is no waste generated hence, backfilling is not possible. Hence, the quarry area will be fenced with Barbed wire fencing also safety bund constructed around the quarry to prevent inadvertent entry of public and cattle. The barbed wire fencing cost would be around Rs.96,000/-.

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

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

TABLE-13

Years	No. of tress proposed to be planted	Survival %	Area to be covered sq.m	Name of the species	No. of trees expected to be grown
1	20	80	160	The second second	16
11	20	80	160	Neem,	16
Ш	20	80	160	Pongamia	16
IV	20	80	160	Pinnata,	16
V	20	80	160	Casuarina, etc.,	16

Nearly 800sq.m area is proposed to use under Greenbelt by planting 20 Number of tree saplings during every year with an anticipated survival rate of 80% (Please refer Plate No. III). The estimated budget for plantation and maintenance of Greenbelt development would be around Rs.10,000/- for the period of five years.

The Greenbelt Development will be formed in around in the approach road and nearby village road of the lease applied area. The cost would be around Rs.10,000/-.

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

Budget Provision for the entire quarrying period:

TABLE-14

S. No	Monitory and Analysis Description	Rate per location	No. of location	Total Charges/ six months	Total Charges/ year	
1	1 Ambient air quality monitoring	1. (5.0)	6500	6500 4 26000	26000	52000
2	Noise level monitoring	250	4	1000	2000	
3	Ground vibration monitoring	1000	2	2000	4000	
4	Water sampling and analysis	9000	1	9000	18000	
	Total	EMP Cost/ y	ear		76,000	

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

i)	Land cost	The Land value as per the Government Guideline land cost is about, Rs.7,45,500/ha, hence the total land cost is calculated about 0.68.8ha X Rs.7,45,500/- = Rs.5,12,904/- i.e., Rs.5,13,000/- (source: https://tnreginet.gov.in/portal/)	= Rs.5,13,000/-
ii) be us	Machinery to	The following machineries are proposed to meet out the productions. Excavator attached with rock breaker, Tippers, Tractor mounted compressor with Jack hammer and loose tools (Rental Basis)	= Rs.10,00,000/-
iii) Fenc	Refilling/ ing	Fencing will be constructed around the quarry pit to prevent the inadvertent entry of public and cattles cost would be around	= Rs.96,000/-
iv) shed	Labourers	Labour sheds will be constructed as semi permanent structure. The cost would be around	= Rs.60,000/-
v) facili	Sanitary	Adequate latrine and urinal accommodation shall be provided at conveniently accessible places the cost would be around	= Rs.50,000/-
vi)	Others items	First aid room & accessories	= Rs.45,000/-

Mining Plan and PQCP

Morattupalayam Rough stone and Gravel Quarry

vii) Drinking water facility for the labourers	Packaged drinking water will be provided for all the Labours. Drinking water will be readily available at conveniently accessible points during the whole of the working shift the cost would be around	= Rs.62,000/-
viii) Sanîtary arrangement	The latrine and urinal will keep clean and sanitary condition. The maintenance cost would be around	= Rs.50,000/-
ix) Safety kit	All the Safety kit such as Helmet, Earmuffs, Goggles, Reflector Jackets, Safety shoes etc., will be provided to the workers by the applicant own cost which would be around	= Rs.50,000/-
x) Water sprinkling	Water will be sprinkled in the haul roads by water sprinklers the cost would be around	= Rs.80,000/-
xi) Garland drains Construction	Construction of garland drains to divert surface run- off from virgin area away from mining area	= Rs.75,000/-
xii) Greenbelt etc.	Greenbelt program will be carried out in the boundary barriers the cost would be around	= Rs.10,000/-
	Greenbelt program will be carried out in the approach road and nearby village road	= Rs.10,000/-
	Total Operational Cost	= Rs.21,01,000/-

B. EMP Cost;- (Per year)	
Air Quality monitoring	Rs.52,000/
Water Quality Sampling	Rs.18,000/
Noise Monitoring	Rs. 2,000/
Ground Vibration test	Rs. 4,000/
Total Cost	Rs.76,000/
Total EMP Cost for the five years period is Rs.3,80,000/-	
Description	Amount (Rs.)
A. Operational Cost	21,01,000
B. EMP Cost	3,80,000
Total Project Cost (A+ B)	24,81,000
The applicant indents to involve corporate environment responsibilities (CER) activity like Water Purifier and Medicine Storage rack facilities to the nearby Dispensary at 2.0% from the total project cost. The Cost would be around Rs.50,000/	50,000
Total Cost	25,31,000

11.0 PROGRESSIVE QUARRY CLOSURE PLAN

11.1 Introduction:

The Progressive Quarry Closure Plan for Rough stone and Gravel quarry over an extent of 0.68.8ha of Patta land in S.F.No.389/1C2 of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared for **Thiru.U.Prabhakaran**, S/o. Udhayakumar, residing at No.6/67, Sappattanaickenpalayam, Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State – 638 752.

11.2 Present Land use pattern:

LAND USE TABLE-15

Description	Present area in (ha)
Quarrying Pit	0.40.0
Infrastructure	Nil
Roads	0.02.0
Green Belt	Nil
Unutilized Area	0.26.8
Grand Total	0.68.8

11.3 Method of Mining:

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

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

11.4 Mineral Processing Operations:

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

11.5 Reasons for closure:

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

11.6 Statutory obligations:

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

11.7 Progressive quarry closure plan preparation:

32

10

(2)

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

Name

Dr. P. Thangaraju, M.Sc., Ph.D.,

Qualified Person

Address

Reg. No.17, Advaitha Ashram Road,

Alagapuram, Salem District - 636 004.

Telephone

0427-2431989 (Office)

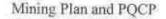
Cell No

+91 94422 78601 & 94433 56539

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

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

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



11.9 Closure Plan:

(i) Mined Out Land:

At the end of mining plan period, about 0.40.0ha of area will be mined out. Land use at various stages is given in the table below.

LAND USE TABLE-16

Present area in (ha)	Area at the end of this quarrying period (ha)
0.40.0	0.40.0
Nil	0.01.0
0.02.0	0.02.0
Nil	0.08.0
0.26.8	0.17.8
0.68.8	0.68.8
	in (ha) 0.40.0 Nil 0.02.0 Nil 0.26.8

The Greenbelt Development will be formed in around in the approach road and nearby village road of the lease applied area.

(ii) Water quality management:

Following control measures will be adopted for controlling water pollution:

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

(iii) Air Quality Management:

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

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

(iv) Top Soil and Waste Management:

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

(v) Disposal of mining machinery:

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

(vi) Safety & Security:

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

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

(vii) Disaster Management and Risk Assessment:

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

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

(viii) Care and Maintenance during Temporary Discontinuance:

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

- Notice of temporary discontinuance of work in mine shall be given to the DGMS as per the MMR 1961.
- All the mining machinery shall be shifted to a safe place.
- Entrance to the mine or part of the mine, to be discontinued shall be fenced off. Fencing shall be as per the circular 11/1959 from DGMS.
- Security Guards shall be posted for the safety and to prevent any unauthorized entry to the area.



Mining Plan and PQCP

Morattupalayam Rough stone and Gravel Quarry

Carry out regular maintenance of the facilities/area detailed below in such a way as would have been done as if the mines were operation:

Quarry roads and approach roads,

Fencing on approach roads,

Checking and maintenance of machines and equipment,

Drinking water arrangements,

Quarry office, first aid stations etc.

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

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

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

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

(x) Time Scheduling For Abandonment:

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



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

LAND USE TABLE-17

ACTIVITY			YEAR	RATE	COST (Rs.)			
		I	Ш	Ш	IV.	V		
Plantation under safety	Nos.	20	20	20	20	20		10.000/
zone	Cost	2000	2000	2000	2000	2000	@100 Rs	10,000/-
Plantation in the approach road and nearby village	Nos.	20	20	20	20	20	Per sapling	
road	Cost	2000	2000	2000	2000	2000	G 054	2524672530
Wire Fencing (In Mtrs) 320	96000		(€)	*	¥	@300 Rs Per Meter	96,000/-	
Garland drain (In Mtrs) 250	75000	ũ	0)	30	(0)	@300 Rs Per Meter	75,000/-	
		TOT	AL					1,91,000/-

12.0 ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT

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

Prepared by

Dr. P. Thangaraju, M.Sc., Ph.D., Qualified person

Place: Salem

Date: 14.06.2021

DONATE RED SPREAD GREEN SAVE BLUE

This Mining Plan is approved subject to the Conditions Indicated in the Mining Plan approved Latter No. 465/2021/Mines. Dated 17-06-2021.

This Mining Plan is approved as per the Powers conferred under rule 41(2) of Tamil Nadu Minor Mineral Concession Rules, 1959

> DEPUTY DIRECTOR Geology and Mining Tiruppur

Pilan



ந.க.எண். 465/களியம்/ 2021

புவியியல் மற்றும் சுரங்கத்துறை மாவட்ட ஆட்சியர் அலுவலகம், திருப்பூர்.

நாள்: 10 .06.2021.

குறிப்பானன

பொருள் : கனிமங்களும் சுரங்கங்களும் - சிறு கனிமம் - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் - மொரட்டுப்பாளையம் சிராமம் - பட்டா புல எனர். 389/1சி2-ல் 0.68.8 ஹெக்டர் பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் மண்குவாரி குத்தகை உரிமம் கோரி திரு. உ. பிரபாகரன், த/பெ, உதயகுமார் என்பவர் விண்ணப்பம் அளித்தது -புலத்தணிக்கை அறிக்கை சமர்பிக்கப்பட்டது - தகுதியான நிலப்பரப்பாக கருதி ஏற்பளிக்கப்பட்ட சுரங்க திட்டம் மற்றும் சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணைய இசைவிணை பெற்று சமர்பிக்கக் கோருதல் - தொடர்பாக.

பார்வை:

 திரு. உ. பிரபாகரன், த/பெ. உதயகுமார், 6/67, சப்பட்டநாயக்கன்பாளையம், மொரட்டுப்பாளையம் கிராமம், ஊத்துக்குளி வட்டம் என்பவரின் விண்ணப்பம் நாள்: 31.03.2021

 இவ்வலுவலக ந.க.எண். 465/2021/கனியம் நாள்: 07.04.2021

 இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, சென்னை ந.க. 1870/எம்.எம்.1/2020 நாள்: 10.08.2020 கடிதத்துடன் அரசாணை (பல்வகை) எண். 169, தொழில் (எம்எம்.சி-1) துறை நாள்: 04.08.2020 இணைத்து வரப்பெற்றுள்ளது. (தமிழ்நாடு அரசிதழ் சிறப்பு வெளியீடு எண். 315 நாள்: 04.08.2020).

 வட்டார வளர்ச்சி அலுவலர் (வ.ஊ),ஊத்துக்குளி கடிதம் ந.க. 992/2021/அ2 நாள்: 22.04.2021 (இவ்வலுவலகத்தில் பெறப்பட்ட நாள்: 03.05.2021).

 வட்டாட்சியர்,ஊத்துக்குளி கடிதம் ந.க. 703/2021/அ2 நாள்: 29.04.2021

 வருவாய் கோட்டாட்சியர், திருப்பூர் கடிதம் ந.க. 924/2021/ஈ1 நாள்: 30.04.2021.

 உதவிப் புவியியலாளர் (கனிமம்), திருப்பூர் புலத்தணிக்கை அறிக்கை நாள்: 05.05.2021.

8. மற்றும் உரிய ஆவணங்கள்

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், பொரட்டுப்பாளையம் கிராமம், பட்டா புல எனர். 389/1சி2-ல் 0.68.8 ஹெக்டர் பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் குவாரிக் குத்தகை உரியம் வழங்க கோரி திரு. உ. பிரபாகரன், த/பெ. உதயகுமார் என்பவர் பார்வை 1-ல் கண்டுன்னபடி உரிய ஆவணங்களுடன் விண்ணப்பம் அளித்துள்ளார்.

 மேற்படி விண்ணப்பங்கள் தொடர்பாக, வட்டார வளர்ச்சி அலுவலர், ஊத்துக்குளி, வட்டாட்சியர், ஊத்துக்குளி, வருவாய் கோட்டாட்சியர், திருப்பூர், மற்றும்



உதவிப் புவியியலாளர் (கனிமம்), திருப்பூர் ஆகியோர் புலத்தணிக்கை மேற்கொண்டு திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண். 389/1சி2-ல் 0.68.8 ஹெக்டர் பரப்பில் திரு. உ பிரபாகரன், த/பெ உதயகுமார் என்பவருக்கு சாதாரண கற்கள் மற்றும் கிராவல் மண் குவாரி உரியம் வழங்க கீழ்கண்ட நிபந்தனைகளுக்குட்பட்டு அனுமதி வழங்கலாம் என பரிந்துரை செய்துள்ளனர்.

நிபந்தனைகள்:

- ப. 1959ம் வருடத்திய தமிழ்நாடு சிறு கனிம சலுகை விதிகள், அட்டவணை 1|ல் கண்டுள்ளபடி குவாரி செய்யப்படும் கனிமங்களுக்குரிய சீனியரேஜ் தொகை அவ்வப்போது செலுத்தி கனிமம் கொண்டு செல்லப்பட வேண்டும்.
- அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீ பாதுகாப்பு இடைவெளி விட்டு குவாரிப் பணி மேற்கொள்ள வேண்டும்.
- விண்ணப்பப் புலத்தின் தென்மேற்குப் பகுதியில் புல எண். 389/2சி-ல் கிழக்கு மேற்காக செல்லும் நிலவியல் வண்டிப்பாதைக்கு 10மிட்டர் பாதுகாப்பு இடைவெளி அளித்து குவாரிப்பணி புரிய வேண்டும்.
- d. விண்ணப்பப் புலத்தின் தெற்கே உள்ள அரசு புறம்போக்கு புல எண். 388-ற்கு 10மீட்டர் பாதுகாப்பு இடைவெளி அளித்து குவாரிப்பணி புரிய வேண்டும்.
- குவாரியின் கிழக்குப் பகுதியில் 45மீட்டர் தொலைவில் வடக்கு தெற்காக செல்லும் தாழ்வழுத்த மின்சும்பிப் பாதைக்கு 50மீட்டர் பாதுகாப்பு இடைவெளி அளித்து குவாரிப்பணி புரிய வேண்டும்.
- f. அனுபவம் வாய்ந்த வெடிபொருள் பயன்படுத்துவோர் மூலம் குறைந்த அளவு சக்தி கொண்ட வெடிபொருட்களை பயன்படுத்தி அருகிலுள்ள பட்டாதாரர்களுக்கு எவ்வித இடையூறுமின்றி / அருகிலுள்ள பட்டா மற்றும் அரசு புலங்களில் எவ்வித ஆக்கிரமிப்பும் இன்றி குவாரிப்பணி மேற்கொள்ள வேண்டும்.
- g. விதிகளின் படி ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டத்தினை உரிய காலத்திற்குள் சமர்பிக்க வேண்டும்.
- குவாரி உரிமம் வழங்க உள்ள பகுதிக்கு சுற்றுச்சூழல் தாக்க மதிட்பீட்டு ஆணையத்தின் முன் அனுமதி பெற்று சமர்பிக்கும் பட்சத்தில் மட்டுமே குவாரி உரிமம் வழங்கப்படும்.
- 3. எனவே, வட்டார வளர்ச்சி அலுவவர், ஊத்துக்குளி, வட்டாட்சியர், ஊத்துக்குளி, வருவாய் கோட்டாட்சியர், திருப்பூர், மற்றும் உதவிப் புவியியனாளர் (கனிமம்), திருப்பூர் ஆகியோரின் பரிந்துனர மற்றும் நிபந்தனைகளின் அடிப்படையில், திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புவ எண். 389/1சி2-ல் 0.68.8 ஹெக்டர் பரப்பில் மட்டும் 1959ம் வருட தமிழ்நாடு சிறுகனிம விதிகள், விதி எனர்.19-ன் படி மேற்கண்ட நிபந்தனைகளுக்குட்பட்டு 5 (ஐந்து) வருட காலத்திற்கு



திரு. உ. பிரபாகரன், த/பெ. உதயகுமார் என்பவருக்கு சாதாரண கற்கள் மற்றும் கிராவல் மண் குவாரி உரிமம் வழங்குவதற்குரிய தகுதியான நிலப்பரப்பாக கருதப்படுகிறது.

4. மேலும், தமிழ்நாடு சிறு கனிம சலுகை விதிகள்-1959 விதி எனர். 41-ன்படி குவாரிப்பணி மேற்கொள்வது தொடர்பாக வரைவு சுரங்க திட்டத்தினை 90 தினங்களுக்குள் சயர்ப்பிக்குமாறு மனுதாரரைக் கேட்டுக்கொள்ளப்படுகிறது. மேலும் ஏற்பனிக்கப்பட்ட சுரங்கத்திட்டத்தின் தொடர்ச்சியாக 1959ம் வருடத்திய தமிழ்நாடு சிறுகனிம் சலுகை விதிகள், விதி எண்.42-ன் படி சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆனையத்தின் இசைவினைப் பெற்று சமர்பிக்கும் பட்சத்தில் மட்டுமே குவாரி உரிமம் வழங்கப்படும் என இதன் மூலம் தெரிவிக்கப்படுகிறது.

> துணை இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, திருப்பூர்.

பெறுநர்:

திரு. உ. பிராபகரன், த/பெ, உதயகுமார், 6/67, சப்பட்டநாயக்கன்பாளையம், மொரட்டுப்பாளையம் கிராமம், ஊத்துக்குளி வட்டம் District : Tiruppur

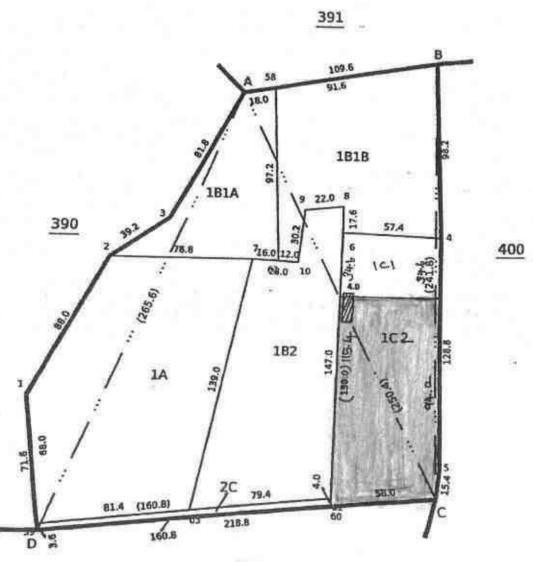
Taluk ; UTHUKKULI

VIIIage: MORATTUPPALAYAM [81]

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Scale: 1:2000



388

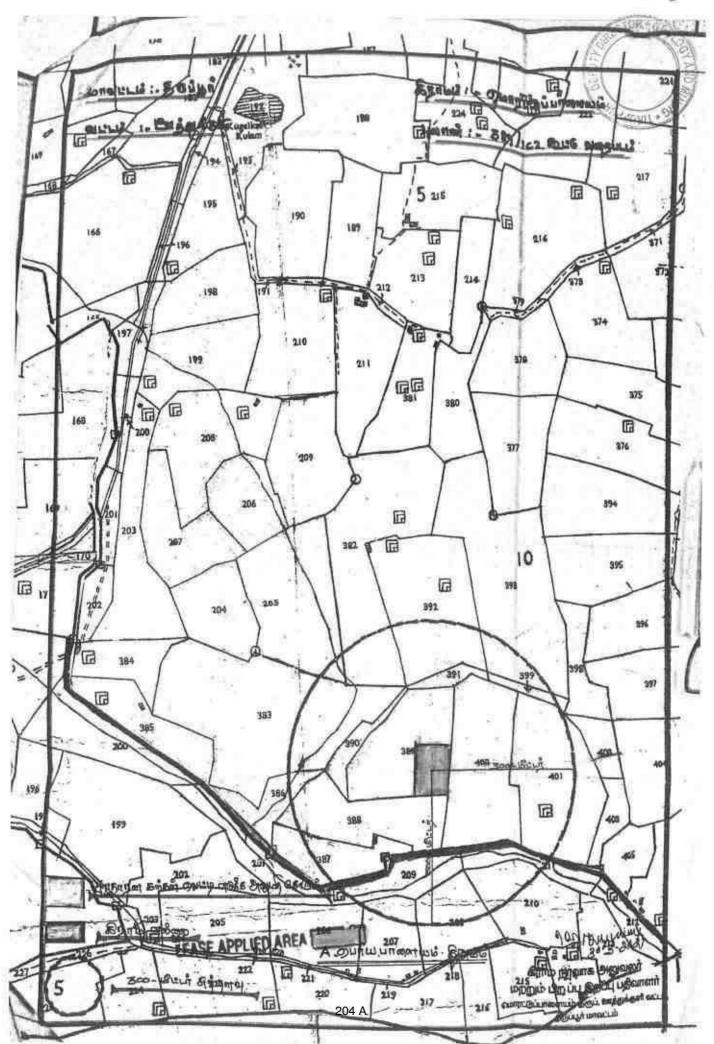
ട്ടുവായ ഇപ്പെട്ടു വേരു വരുട്ടെ എത്രില്ല് അവരു വരുട്ട

LEASE APPLIED AREA

கிராம நாவாக அலுவலர் மற்றும் பிறப்பு இறப்பு பதிவாளர்

மொறப்டுப்பாளையம் குரூப், ஊத்துக்குளி வட்டம் திருப்பூர் மாவட்டம்

203 A







இமிழக அரக

வருவாய்த் துறை

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

மாவட்டம் : இருப்பூர்

வட்டம் : ஊத்துக்குளி

வருவாய் இராமம் : மொரட்டுப்பாளையம்

LILLE eredor : 1088

உரிமையாளர்கள் பெயர்

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		0 - 68.80	1,38					

குறிப்பு2 :	
	1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிகிருந்து பெறப்பட்டவை. இலற்றை தாங்கள் https://eservices.tn.gov.in என்ற இணைய தளத்தில் 32/09/081/01088/60177 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுடு செய்துகொள்ளவும்.
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அ-பதிவேடு விவரங்கள்

மாவட்டம் : இருப்பூர் வட்டம் : ஊத்துக்குளி

இராமம் : மொரட்டுப்பாளையம்



1. Uso credit	389	9. மண் வயணமுரி ரசுமும்	W-3
2. உட்பிரிவு என்	102	10. usedar march	
3. பழைய புல உட்பிரி எண்	⁰⁴ 389-1C	2.5	2.00
4. 山田原	P	63 (1.3	
5. அரசு / ரயத்துவாரி	மார்க்கியையூ	13. மொத்த தீர்வை (ரு - பை)	1.38
6. நிலத்தின் வகை	புற்கை	14. LILLIT Greder	2022
7. பாசன ஆகாரம்	•	15. ഇതിப்பு	
8. இரு போகமா		16. பெயர்	1.பிரபாகரன்
	உட்பிரிவு எண் பழைய புல உட்பிரி எண் பறுடு . அரசு / ரயத்துவாரி . நிலத்தின் வகை . பாசன ஆதாரம்	2. உட்பிரிவு எண் 1C2 3. பழைய புல உட்பிரிவு 389-1C எண் 4. பறுநி P 5. அரசு / ரயத்துவாரி ரயத்துவாரி 6. நிலத்தின் வகை புஞ்சை 7. பாசன ஆதாரம் –	2. உட்பிரிவு எண் 1C2 10. மண் தரம் 3. பழைய புல உட்பிரிவு 389-1C 11. இர்வை (ரு - ஹொ) 4. பறுடு ந 12. பரப்பு (ஹெக்டேர் - ஏர்) 5. அரசு / ரயத்துவாரி ரயத்துவாரி 13. மொத்த இர்வை (ரூ 6. நிலத்தின் வகை புஞ்சை 14. பட்டா எண் 7. பாசன ஆதாரம் - 15. குறிப்பு

குறிப்பு 1:



மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் http://eservices.tn.gov.in என்ற இணைய தளத்தில் 80177 என்ற தறிப்பு எண்ணை உள்ளிடு செய்து உறுதி செய்துகொள்ளவும்.







இந்திய அரசாங்கம் Unique Identification Authority of India Government of India

LigSeq aums aumsh/Enrollment No. : 1111/98981/07691

To
Prabhakaran Udhayakumar
Gipmiguir e.gugundi
S/O: Udhayakumar
6/67
S N PALAYAM
Morattupalayam
Morattupalayam Bo, Tiruppur
Tamil Nadu - 638752
9363039619



KL790241695FT

79024169



உங்கள் ஆதார் எண் / Your Aadhaar No. :

5073 2763 0533

ஆதார் - சாதாரண மனிதனின் அதிகாரம்



இந்திய அரசாங்கம் —

Government of India



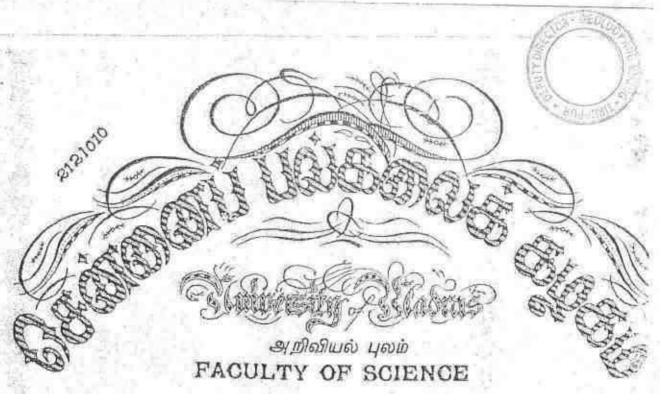
thjumajeir a.g.ugum) Prabhakaran Udhayakumar

ода pmDOB: 03/09/1992 датий / Male

5073 2763 0533



ஆதார் - சாதாரண மனிதனின் அதிகாரம்



சென்னைப் பல்கலைக் கழகப் பேரலை... 1994 ஆம் ஆண்டு தப்ரல் மாதம் கடந்த ககிமவியல் குசாலில் பை, கங்தூரசு என்பலா டிதல் வகப்பில் தோச்சி டுபுறார் என்று தகக் தேர்வரலாகவ் சான்றனித்தபடி அறிவியல் நிறைஞர் என்றும் பட்டத்தை அலகுக்குப் பல்கலைச் கழக் இலச்சிலையிட்ல் உழங்குக்றது.

Given under the seal of the University

Estinenciasió, Chopaule E Ossivenen, Machas mair. Dated 25-01-1999

209 A Serman.

7.7. June - Essent Costs Vice-Chancel

GOVERNMENT OF INDIA MINISTRY OF LABOUR AND REHABILITATION OFFICE OF THE DIRECTOR GENERAL OF MINES SAFETY

Certificate of Practical experience granted by the Manager to a candidate for a Manager's / Surveyor's / Foremen's / Over man's / Sirdar's / Mate's / Short firer's/ Blaster's Certificate of competency (Restricted) examination under the Metalliferous Mines Regulations 1961.

T.VENKATARAJAGOPALAN being the Mines Agent of M/S.LIMENAPH CHEMICALS, RAJAPALAYAM OF LIMESTONE PRODUCTS (Thermali Limestone Mine) do hereby certify that Thiru. P.THANGARAJU, son of S.PERIASAMY (whose signature is appended) worked as a Geologist in the above mine from 02.05.1994 to 30.12.1999. During his term of work aforesaid, he has obtained practical experience as detailed overleaf. The duties connected with his work have involved continuous attendance at the mine and have been efficiently performed by him.

I believe him to be of good character and a fit and proper candidate to be examined for Certificate of Competency.

THE INDIAL LIDE STONE MINES

(Signature with date and official Scal)

[T.VENKATARAJAGOPALAN]

Mines Agent:

PO

: ARUKANGULAM

District

TIRUNELVELI

State

: TAMIL NADU

(Signature of Candidate)

that was

(State name of Mineral) : LIMESTONE



S.No	Particulars of practical Expercince	Place of Experience (h)	Period of experie	March Control of the	Total Experience (e)			
	(a)		From	To	Yr.	Month	Day	
-01.	As a Traines in Drilling Operation	Sens Mechanised Openeast working	02,05,1994	15.07.1995	0.1	4.2	14	
02.	As a Trainee in Blasting Operation	The second	16:07.1995	10.12.1996	01	-04	25	
03.	Exploration		11.12.1996	31,01,1998	91	0)	20	
04.	Surveying		DI 02 1998	25,06,1998	1901	tist	25	
0.5	Sampling Quality control and		26.06.1998	20.07.1999	01	00	24	
06,	Supervision in HEMM Operation		21.07.1999	30.12.1999	00	(15	10	
	West, and the second	GRAND TOTAL			05	07	28	
	(Five	Years Seven Months T	wenty Eight Da	iys Only)				

AVERAGE MONTHLY OUTPUT (D) / AVERAGE DAILY EMPLOYMENT (c) DURING THE ABOVE PERIOD IS GIVEN BELOW:

In below ground working	In open - cast working	In all
Nil	35	35
Nai		

от тикмация влок втоик минек

Signature of Candidate

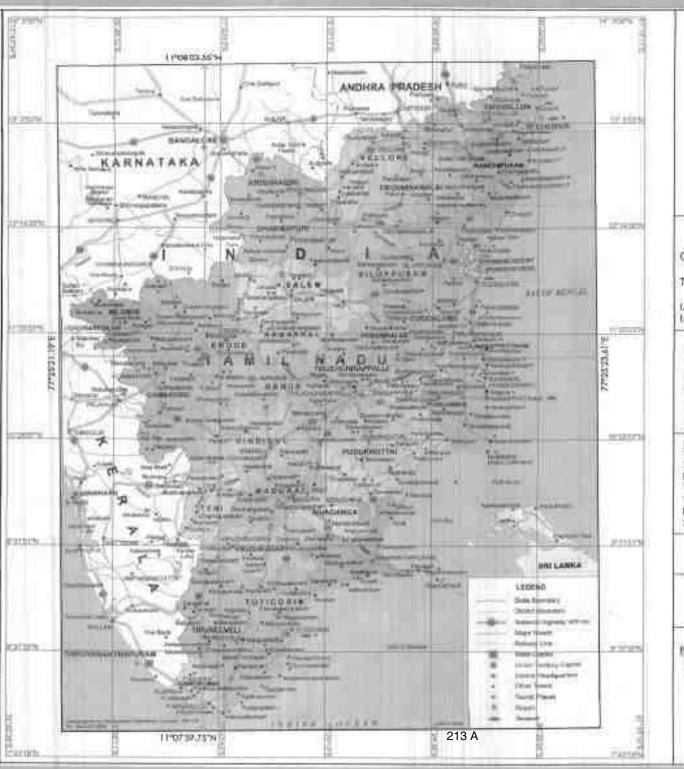
Signature of Manager with Unications)

Name of the Mine :

Instructions :-

- 01. State clearly the nature of duties
- 02. State whether on surface, in open east workings or below ground
- O3 State specifically the period spent by the applicant in different mining operations, or surveying operations, as the case may be. If the employment has not been such as to involve continuous attendance of the applicant at the mine, it must be stated how many days a week he was employed at the mine, whether underground or above ground and in what capacity.
- 04. Delete if the mine is a Metalliferous mine.
- 05. Delete if the mine is a Coal mine







INDEX

Q.L.APPLIED AREA:

TOPO SHEET NO : 58 E/08

LATITUDE : 11°07'57,75'H to 11°18'03'55'N LONCHUDE : 77°25'21 17°E to 77°25'23'51'E

APPLICANT:

THRUS, PRABHAKARAM,
E.M. IDHAYAKIMAR,
HO.JOF, SAPPATIAHAICKENPACAYAM,
MORATTUPALAYAM VELACE,
URHURUU CALUR,
EBUPPUR AND YST.

LOCATION OF Q.L.A. AREA:

SERIO 389/ ICO
EXTENT OABLE HO.
VILAGE MORATTUPALAYAM.
TALLE UTHORILL

DIGTRICT TRUFFUR. STATE TAMIL NACIO.

PLATE NO -1

DATE OF SURVEY (12.06.2021

LOCATION PLAN

SCALE_1:24,00,000

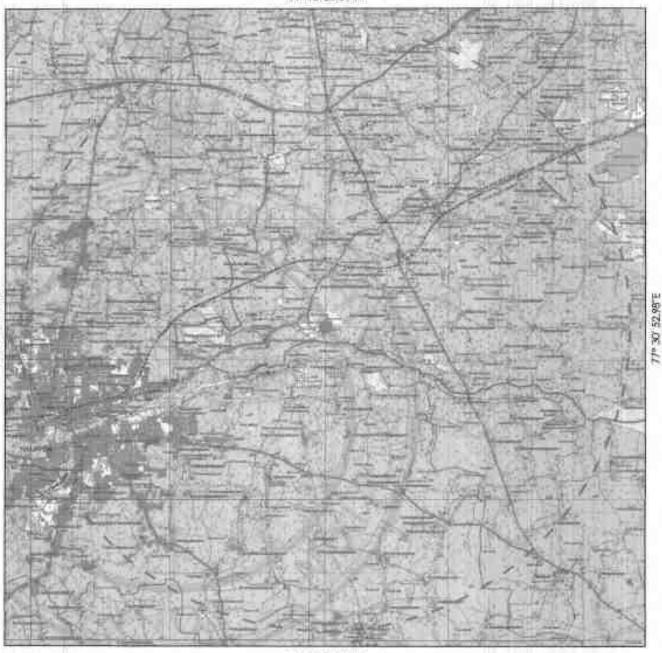
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11° 13' 28.84°N



77" 19' 51 BZ'E

11° 02' 34.46"N

TOPO SHEET NO.: 58 E/08

LATITUDE : 11"07'59.75"N to 11"08'03.55"N LONGITUDE : 77"25'21.19"E to 77"25'23.61"E

10km RADIUS

214 A Q.L. APPLIED AREA



INDEX

Express highway: with toll; with bedge; with thetance stone... Roads numbed according to importance.

Roads, double carriageway: according to importance. Usercalled road. Cart-track. Pack-track with pass, Fast-path. Streams with track in bod; undefined. Caral. Danc massey or such filled; surfavort, Weig-River; dry with water thereof; with lateral A rocks. Talei river Somerged rocks, Sheat, Swanty, Resch. Welle lines, united, Topewell, Spring, Tasks premise. Embourants and or salt nest. Broken ground Railways, broad gauge; double; single with station... ffailways, other gauges: double; single with distance stone; do... Mineral line or manyway, Kiln, Catting with neural Cremes with not-lastness. Rocky slopes. Cliffs. Sand features. (1) flat. (Zwani-hills (personness)... Towns or Villages: inhabited; deserted. Fort... Hair pomunet; umpoury. Towe: Antiquities. Temple Chiari Church Mesque Mgah Touth Grayes Lightween, Lightchip: Busys: lighted: unlighted: Anchorage Mine, Vine on millis, Grass. Scrab. Palms: palmyrs; other: Plantain, Confirr, Hamboo, Other trees... Area: rultiment, Wooderl, forveyed trees. floundary, letterational Boardary, year: thmorround; underspround. Bispedary, district; subdivision; tabuli or tabal; forest, Boundary pillers, surveyed; unknown!... Heights, mangalated: station; point, approximate Bench-mark: geodetic, terriary; canal Post office: Telegraph office: Overhead suck Rest haze or impection lungality. Citral bean. Camping Ground, Frenct reserved, proceed. Spaces names: administrative, locality or wibal. Hopital Dispensity. Ventiury: Hospital Dispensity. Accelerate, Helipad, Tourist site... Powerline: with pytom surveyor, with poles amorroyor...



APPLICANT:

Thiru.U. PRABHAKARAN, S/O. UDHAYAKUMAR, NO.6/67, SAPPATTANAICKENPALAYAM, MORATTUPALAYAM VILLAGE, UTHUKULI TALUK, TIRUPPUR- 638 752.

LOCATION OF Q.L.A AREA:

5.F.No : 389/1C2 EXTENT : 0.68.8 Ho.

VILLAGE : MORATTUPALAYAM.

TALUK : UTHUKULL DISTRICT : TIRUPPUR, STATE : TAMIL NADU,

PLATE NO - I-A

DATE OF SURVEY : 12.06.2021

TOPO SKETCH OF QUARRY LEASE APPLIED AREA FOR 10Km RADIUS

SCALE. 1:1,00,000

PREPARED BY:

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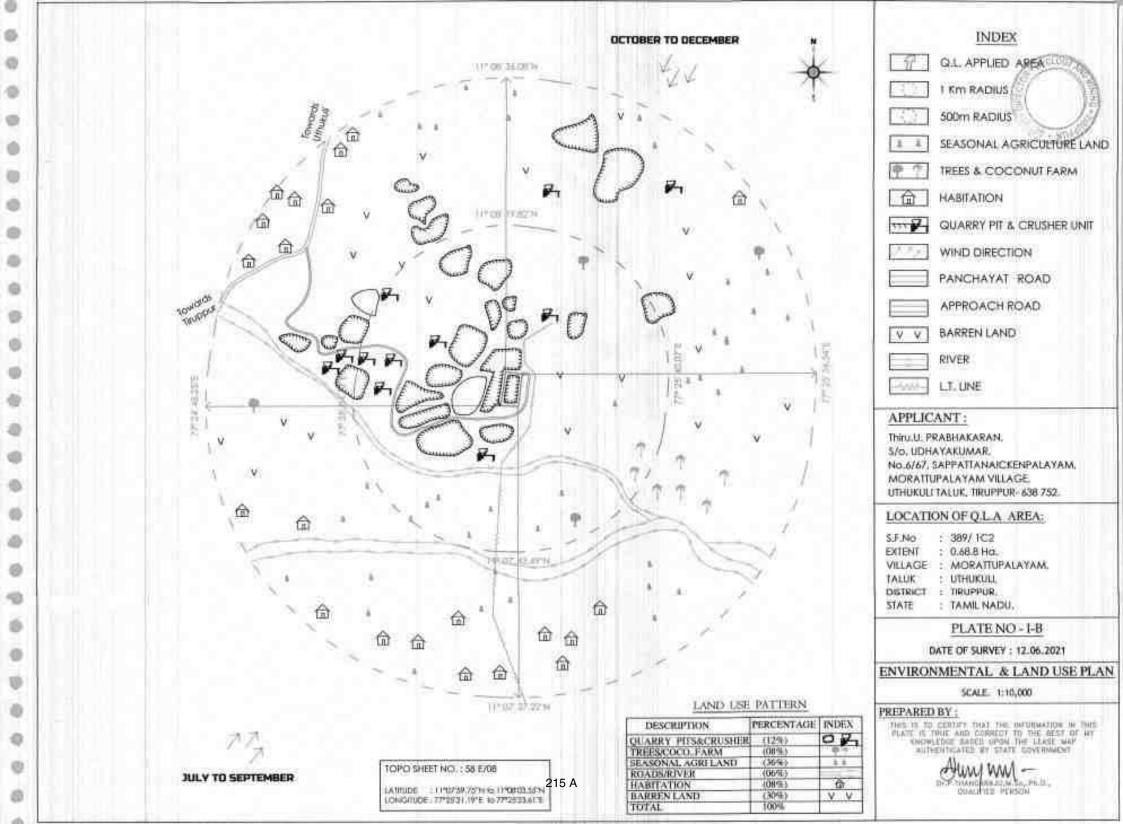
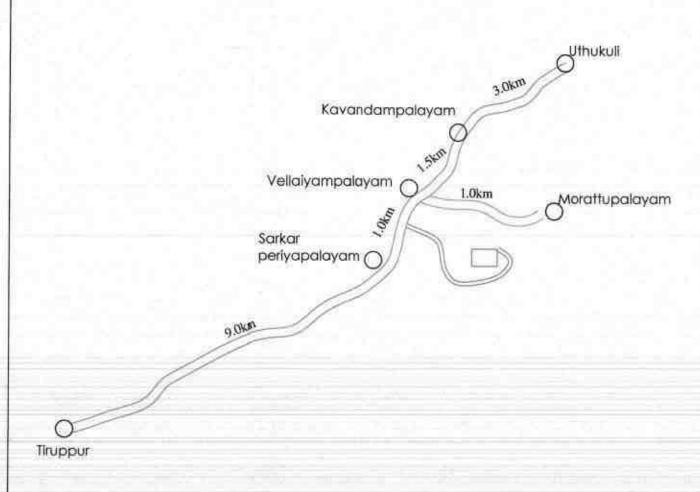


PLATE NO : I-C

ROUTE MAP





INDEX

Q.L.APPLIED AREA

STATE HIGHWAY

PANCHAYAT ROAD

APPROACH ROAD

APPLICANT:

Thiru.U. PRABHAKARAN.

S/o. UDHAYAKUMAR,

No.6/67, SAPPATTANAICKENPALAYAM,

MORATTUPALAYAM VILLAGE,

UTHUKULI TALUK, TIRUPPUR- 638 752

LOCATION OF Q.L.A AREA:

S.F.No

: 389/1C2

EXTENT

: 0.68.8 Ha.

VILLAGE :

MODIFIE

TALUK

STATE

: MORATTUPALAYAM, : UTHUKUU,

DISTRICT

: TIRLEPAUR,

: 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

Dr.P. THANGERAJU, M.Sc., Ph.D., QUALIFIED PERSON



5.14,	CATITUDE	LONGITUDE
1	111072980W	77:35 (LHP)
3	11°08 00:38°N 11°08 00:38°N	- 2 11-VIII.
3	11/07/07/09	7715 22.1071

DATUM: UTM-WG584



APPLICANT:

Thiru. B., PRABHAKARAN, 5/o. UDHAYAKUMAR, No.6/67, SAPPATTANAICKENPALAYAM, MORATTUPALAYAM VILLAGE, UTHUKULI TALUK, TIRUFPUR- 638 752.

INDEX

Q.L. APPLIED AREA BOUNDARY

10m & 7.5m SAFETY DISTANCE

TEMPORARY BENCH MARK

GRAVEL

TYTEY QUARRY PIT

ROUGHSTONE

CONTOUR

QUARRY HAUL ROAD

APPROACH ROAD

IIII CARTTRACK

LT. LINE

SHRUBS

LOCATION OF Q.L.A. AREA:

S.F.No : 389/1C2 EXTENT : 0.68.6 Ha.

VILLAGE : MORATTUPALAYAM. TALUK : UTHUKULI,

DISTRICT : TIRUPPUR, STATE : TAMIL NADU.

PLATE NO - II

DATE OF SURVEY : 12:06:2021

QUARRY LEASE PLAN & SURFACE PLAN

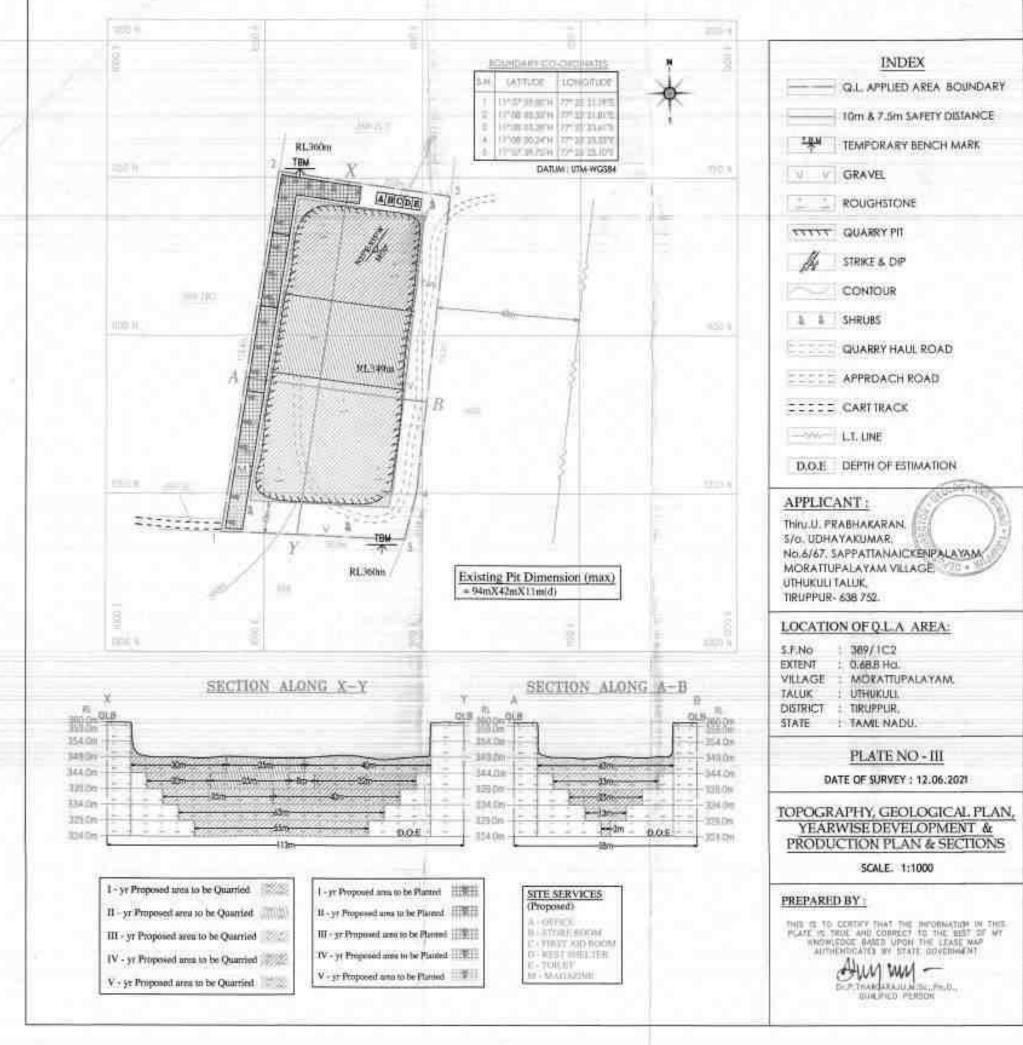
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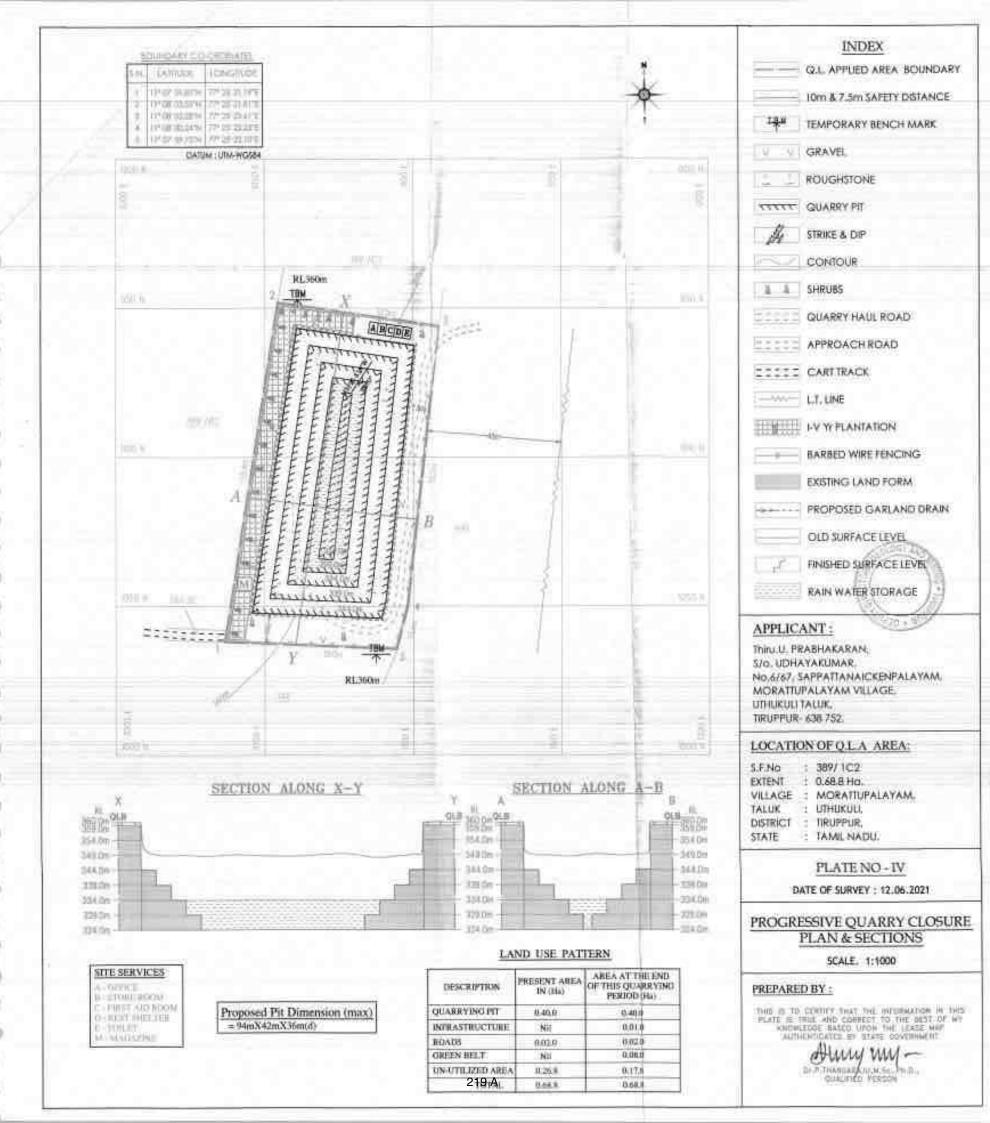
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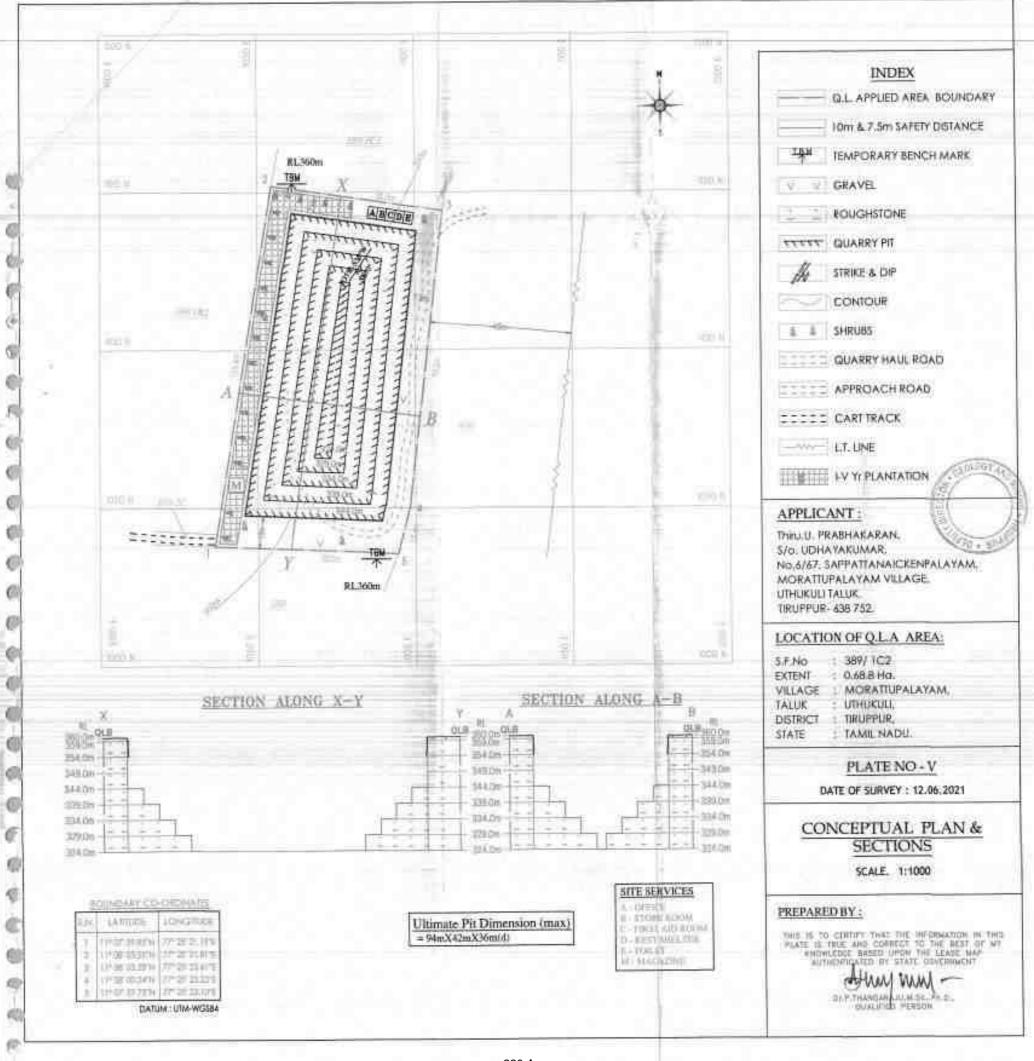
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ROUGH STONE AND GRAVEL QUARRY

1. INTRODUCTION

NAME OF THE APPLICANT WITH ADDRESS-

Name of the applicant : Thiru.U.Prabhakaran

Address : S/o. Udhayakumar,

No.6/67, Sappattanaickenpalayam,

Morattupalayam Village, Uthukuli Taluk,

Tiruppur District – 638 752.

State : Tamil Nadu.

Mobile : 98422 12353

DETAILS OF THE AREA-

Land classification : Patta Land

Survey No : 389/1C2

Extent : 0.68.8ha.

Village : Morattupalayam,

Taluk : Uthukuli,
District : Tiruppur.

The Client requires detailed information on Ground Water Occurrences at Proposed Project Site of rough stone and gravel quarry. The objective of the present study is to assess the availability of groundwater and comment on aspects of depth to potential aquifers, aquifer availability and type, possible yields and water quality. For this purpose all available hydrogeological information of the areas has been analyzed, and a geophysical survey was done.

The investigations involved hydrogeological, geophysical field investigations and a detailed study in which the available relevant geological and hydrogeological data were collected, analyzed, collated and evaluated within the context of the Client's requirements. The data sources consulted were mainly:

- a) Central Ground Water Board (CGWB) Data
- b) State & District Geological and Hydrogeological Reports and Maps.
- c) Technical reports of the area by various organizations.

2. SCOPE OF THE WORKS -

The scope of works includes:

- Site visits to familiarize with the project areas. Identify any issues that might impact the Ground Water Scenario due to proposed mining activities.
- To obtain, study and synthesize background information including the geology, hydrogeology and existing borehole data, for the purpose of improving the quality of assessment and preparing comprehensive hydrogeological reports,
- To carry out hydrogeological evaluation and geophysical investigations in the selected sites in order to determine potential for groundwater at project site.
- To prepare hydrogeological survey reports in conformity with the provisions of the
 rules and procedure outlined by the Central Ground Water Board (CGWB), by
 Assessment of water quality and potential infringement of National standards,
 Assessment of availability of groundwater and Impact of proposed activity on aquifer,
 water quality and other abstractors.

3. BACKGROUND INFORMATION

Geographical information of the study area-

The investigated site falls in the Toposheet No: 58 - E/08 Latitude between 11°07'59.75"N to 11°08'03.55"N and Longitude between 77°25'21.19"E to 77°25'23.61"E on WGS datum-1984.

REGIONAL GEOLOGY OF TIRUPPUR DISTRICT-

Tiruppur district of Tamil Nadu forms a part of southern Granulitic terrain and is predominantly occupied by crystalline rocks of Archaean to late Proterozoic age.Regionally, the rocks can be grouped under five categories namely i) Charnockite Group represented by Charnockite, Pyroxene Granulite and Magnetite Quartzite, ii) Peninsular Gneissic Complex (II) comprising hornblende-biotite gneiss, iii) Basic intrusive include Pyroxinite/Dunite iv) Younger intrusive comprising, Nepheline-Syenite, Pink Granite, Pegmatite and Quartz veins and v) Quaternary sediments of Kankar and soil.

STRATIGRAPHY OF THE AREA

Tiruppur District is predominantly occupied by hornblende Biotite gneisses of PGC (II) with enclaves of Magnetite Quartzite, Pyroxene Granulite and Charnockite. The area exposes several bands of Pyroxene Granulite which is medium grained, medium to dark grey in color and stand out prominently in the gneissic country generally parallel to regional foliation. Charnockite is coarse grained, massive, many places it is foliated, grey colored and

greasy and exposed as boulder outcrops and small knolls. It is wellexposed in Central, Western and Southern parts of the Tiruppur District. The general strike of foliation varies from ENE-WSW, E-W with dipping towards NW and N respectively.

Hornblende-Biotite gneiss is well foliated, medium to coarse grained, pale grey and exposed as sheets and small knolls. Pink Granite gneiss occurs as thin bands and lensoidal bodies. It is a medium grained rock composed of alternating bands of mafic (mainly of biotite and hornblende) and felsic (Feldspar and Quartz) minerals. It is well recognized in Avinashi area.

Age	Group	Lithology
Holocene		Block Cotton
		Soil/Clay±Gypsum
Cenozoic		Kankar/calc-tufa
		Quartz veins
	Acid intrusive	Pegmatite
		Pink Granite
Neoproterozoic	Sivamalaisyenite Complex	Nepheline-syenite
	Chalk Hills (Basic	Pyroxenite/Dunite
	Intrusive)	
Archaean-	Peninsular Gneissic	Pink Granite Gneiss
Palaeoproterozoic	Complex (II)	
	PGC (II)	Hornblende Biotite gneiss
		Charnockite
Archaean	Charnockite Group	(Unclassified)
		Pyroxene Granulite
		Banded Magnetite
		Quartzite

Basic intrusives such as pyroxinite/dunite occurs as bouldery outcrop andlensoidal bodies in the country rock and mostly concordant to the regional foliation. Many basic intrusives are reported in south and south-east of Tiruppur town. The trend of these bodies is east-west.

Nephelinesyenite is a leucocratic, coarse grained rock and composed mainly of Feldspar with Nepheline and shows pitted appearance due to removal of Nepleline. This alkaline rock is available in and around Sivanmalai area only.

Acid intrusive are overlain by sediments of Quaternary age, represented by Kankar and black cotton soil with Gypsum. Most of the area is covered by brown and red brown soil. Some part of the area covered with black cotton soil contains Gypsum as lumps. Black cotton soil covers south-western part of the district.

4. GEOPHYSICAL INVESTIGATION METHODS

A variety of methods are available to assist in the assessment of geological sub-surface conditions. The main emphasis of the fieldwork undertaken was to determine the thickness and composition of the sub-surface formations and to identify water-bearing zones. This information was principally obtained in the field using, and vertical electrical soundings (VES). The VES probes the resistivity layering below the site of measurement. This method is described below.

Resistivity Method

Vertical electrical soundings (VES) were carried out to probe the condition of the subsurface and to confirm the existence of deep groundwater. The VES investigates the resistivity layering below the site of measurement.

Basic Principles

The electrical properties of rocks in the upper part of the earth's crust are dependent upon the lithology, porosity, and the degree of pore space saturation and the salinity of the pore water. Saturated rocks have lower resistivity than unsaturated and dry rocks. The higher the porosity of the saturated rock, or the higher the salinity of the saturating fluids, the lower is the resistivity. The presence of clays and conductive minerals also reduces the resistivity of the rock.

The resistivity of earth materials can be studied by measuring the electrical potential distribution produced at the earth's surface by an electric current that is passed through the earth. Current is moved through the subsurface from one current electrode to the other and the potential difference is recorded as the current passes. From this information, resistivity values of various layers are acquired and layer thickness can be identified.

The apparent resistivity values determined are plotted as a log function versus the log of the spacing between the electrodes. These plotted curves identify thickness of layers. If there are multiple layers (more than 2), the acquired data is compared to a master curve to determine layer thickness.

This method is least influenced by lateral in-homogeneities and capable of providing higher depth of investigation.

The resistance R of a certain material is directly proportional to its length L and cross-sectional area A, expressed as:

$$R = Rs * L/A (in Ohm)$$

Where Rs is known as the specific resistivity (characteristic of the material and independent of its shape or size)

With Ohm's Law,

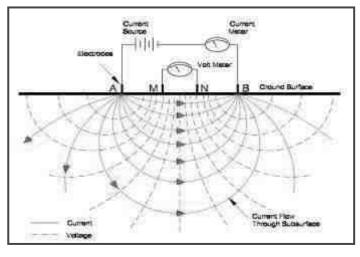
$$R = dV/I \text{ (Ohm)}$$

Where dV is the potential difference across the resistor and I is the electric current through the resistor. The specific resistivity may be determined by:

$$Rs = (A/L) * (dV/I) (in Ohm m)$$

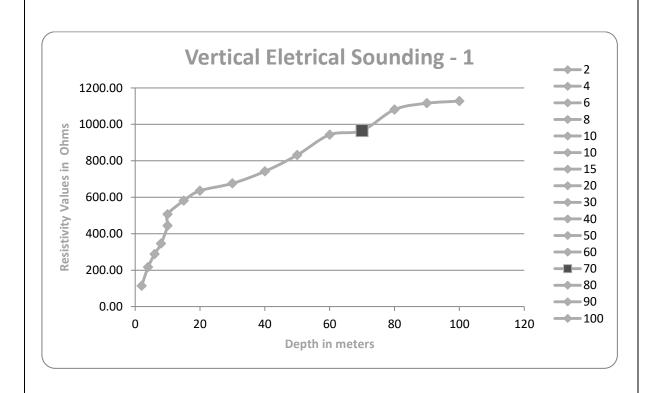
Vertical Electrical Sounding (VES)

When carrying out a resistivity sounding, current is led into the ground by means of two electrodes. With two other electrodes, situated near the center of the array, the potential field generated by the current is measured. From the observations of the current strength and the potential difference, and taking into account the electrode separations, the ground resistivity can be determined. During a resistivity sounding, the separation between the electrodes is step-wise increased (known as a Schlumberger Array), thus causing the flow of current to penetrate greater depths. When plotting the observed resistivity values against depth on double logarithmic paper, a resistivity graph is formed, which depicts the variation of resistivity with depth. This graph can be interpreted with the aid of a computer, and the actual resistivity layering of the subsoil is obtained. The depths and resistivity values provide the hydro geologist with information on the geological layering and thus the occurrence of groundwater.



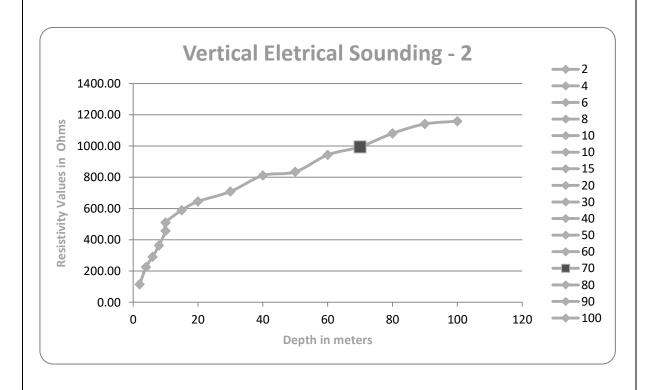
Graphs

STATION-1					
GPS Coordinates - 11° 8'2.83"N 77°25'22.38"E					
S.No	Ab/2(m)	Mn/2(m)	Geometrical factor (G)	Resistance Value in Ohms	Apparent Resistance in Ohms
1	2	1	4.71	24.24	114.26
2	4	1	23.55	9.19	216.66
3	6	1	54.95	5.22	287.94
4	8	1	98.91	3.48	346.19
5	10	1	155.45	2.85	444.59
6	10	5	23.55	21.45	506.33
7	15	5	62.80	9.25	581.53
8	20	5	117.75	5.39	635.85
9	30	5	274.75	2.45	675.89
10	40	5	494.55	1.47	741.83
11	50	5	777.15	1.06	831.55
12	60	5	1122.55	0.82	942.94
13	70	5	1530.75	0.62	965.90
14	80	5	2001.75	0.53	1080.95
15	90	5	2535.55	0.46	1115.64
16	100	5	3132.15	0.33	1127.57



♦ This vertical electrical sounding graphs purple color level is fracture zone.

STATION-2					
	GPS Coordinates - 11° 8'0.38"N 77°25'22.21"E				
S.No	Ab/2(m)	Mn/2(m)	Geometrical factor (G)	Resistance Value in Ohms	Apparent Resistance in Ohms
1	2	1	4.71	24.24	114.26
2	4	1	23.55	9.55	225.14
3	6	1	54.95	5.28	291.24
4	8	1	98.91	3.67	363.99
5	10	1	155.45	2.93	457.02
6	10	5	23.55	21.65	510.09
7	15	5	62.80	9.37	589.06
8	20	5	117.75	5.47	645.27
9	30	5	274.75	2.56	708.86
10	40	5	494.55	1.63	811.06
11	50	5	777.15	1.06	834.66
12	60	5	1122.55	0.85	942.94
13	70	5	1530.75	0.66	994.99
14	80	5	2001.75	0.55	1080.95
15	90	5	2535.55	0.42	1141.00
16	100	5	3132.15	0.36	1158.90



♦ This vertical electrical sounding graphs purple color level is fracture zone.

5. Conclusion -

Based on the available information and the geophysical investigations it is concluded that the project area is considered to have medium groundwater potential. Productive aquifers are expected at depth of 80m to 85m where minor fractures are observed and shallow aquifers are expected above 65m-70m BGL. The ultimate pit limit as per the approved mining plan depth is 36m (1m Gravel + 35m Rough stone) below ground level which will have no impact on the Ground Water.

Dr. P. Thangaraju, M.Sc., Ph.D.,

Daymy-

Govt. Approved Hydro Geologist

M/s. Geo Exploration and Mining Solutions,

Regd. Office: No. 17, Advaitha Ashram Road,

Alagapuram, Salem – 636 004, Tamil Nadu

Mobile: +91 - 94433 56539

E-Mail: infogeoexploration@gmail.com

அ 1 விளம்பரம்

திருப்பூர் மாவட்டம். ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமத்தில் புலஎண் 389/1A2-m 0.68.8 ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பரப்பில் சப்பட்டநாயக்கன்பாளையம், க.எண். 6/67 என்ற முகவரியில் வசித்து வரும் உதயகூார் மகன் U.பிரபாகரன் என்பவருக்கு சாதாரணகல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரிமம் புதுப்பிக்கக்கோரி விண்ணப்பம் செய்ததைத் தொடர்ந்து, மேற்படி மனுதாரருக்கு கல்குவாரி உரிமம் வழங்குவது குறித்து ஆட்சேபனை தெரிவிக்க விரும்பினால் நேரிலோ கடிதம் வாயிலாகவோ திருப்பூர் கோட்டாட்சியரிடமோ. ஊ<u>க்</u>துக்குளி வட்டாட்சியரிடமோ தெரிவிக்கலாம். இவ்விளம்பரம் செய்த 15 தினங்களுக்குள் ஆட்சேபனை ஏது வரப்பெறாவிடில் கல்குவாரி உரிமம் வழங்குவது தொடர்பாக மேல் நடவடிக்கை தொடரப்படும் என இதன் மூலம் அறிவிக்கப்படுகிறது.

> தத்துக்குளி உள் வட்டம். க்கக்களி வட்டம்.

மேற்படி இவ்விளம்பரத்தினை கிராம பொதுமக்களிடையே பரப்புரை செய்து மீள அனுப்ப மொரட்டுப்பாளையம் (குரூப்) கிராம நிர்வாக அலுவலர் கேட்டுக் கொள்ளப்படுகிறார்.

2 A. 2 mashmanin

M. Mally

P. Mally

R. Mindely

P. Mindely

A. Kaffely

M. Mally

பெற்படி இரு விறுப்படுக்றது. தில் நெய்பது பாப்படுக்றது. தில் நெய்பது பாப்படுக்றது. கீராம நிர்வர்க் அலுவலா மற்றும் பிறுப்பு இநப்பு பதிவாளர் மொருட்டுப்பாளையும் கருப், ஊத்துக்குளி வட்டம் திருப்பூர் மாவட்டம்

15mm .. 97. 04, 202)

பிணிந்தனுப்பட்பகிறது

திருழ்கள் மாவட்டம் இனத்திக்குள் இடியும் இனத்திக்குள் உள்வடியில் அமாமும் பாறையைக் திருமும் மதுரா சிப்பட்ட நோயக்கள் பாறையைக் கத்து எணர் 6/67-ல் வசிக்குக், திரு. T.S. உதயடுமார் ஆவர்களின் மகள் திரு. U. பிரபாகரண் எண்பவர் அமாநுமும் பாறையைம் திராமக் புரை 389/102 ல் பு. அ 0.68.8 பரப்பில் சிறநாநனர் கிறிகள் அவடிமுடிக் கல்டுவளி உளமல் கொடுய மனும்தோன் அசாறனை கல்டுவளி உளமல் கொடுய மனும்தான் அசாறனை மரிவம் புலத்தனிக்கை கிற்கண்டவால் சிமர் வுக்கப்படுக்கு

கொற்பு இதுகிறில் அடிக்கு இரு. TS. உதுயடுமார் கொற்ப ப. பிறபாதன் அன்பவடின் சி.ஷ சு.கே. பூடியாளுள் கொற்க புல சான் 389/10-மன் பு.ஷ சு.கே. பூடியாளுக் சொத்துக்குவி சாள்பதியாளர் அவன் சி.ஜ சு.கே. பூடியாளுக் கொற்குக்குவி சாள்பதியாளர் அவன் சி.ஜ சு. 2021-ன் காள் 10-02-2021-ன் படி பாத்தியப்பட்டதாகுக் குக்குப்பு பூடியானது தற்கால இட்டிரிவைக் படி 389/102-ல் பு.ஷ சு.கே.கே சின் இட்டிரிவ சி.ம்மப்படின்றை பெரியத் புல் எண் 389/102, செற்றியுள்ள 300 முன் கூறி மேய் சிறிறின்றியில் ருடிராம்பியாகுள்மைக் கிறியில் குடியாம்பியாகுள் கிறியாகில் க

இத் செர்த்த அராம்பியாவையம் தொடைக்கில் A1' இன்பெற்று இன்று அரும் இரும் இரும் இரும் இரும் இரும் இரும் இரும் இரும் அரும் இரும் அரும் அ

கிராம நிர்வாக அலுவலா மற்றும் பிறுப்பு இறப்பு பதிவாளர் மாரட்டுப்பாளையம் கருப், ஊத்துக்குளி வட்பும் திருப்பூர் மாவட்டம்

நில வருவாய் ஆய்வாளர் அலுவலகம், ஊத்துக்குளி.

000806

Ref. No. 703/2021/2021

பார்வை: ஊத்துக்குளி வட்டாட்சியர் அலுவகை ந.க.703/2021/அ2, நாள்: 12.04.2021

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுபாளையம் கிராமம், மஜரா சப்பட்டநாயக்கள்பாளையம் க.எண்.6/67 என்ற முகவரியில் வசித்து வரும் திரு.பிரபாகரன் த/பெ. உதயகுமார், என்பவர் ஊத்துக்குளி வட்டம், மொரட்டுபாளையம் கிராமம், புல எனர். 389/1சி2-ல் மொத்தப்பரப்பு 0.68.80 ஹெக்டேர் பரப்புள்ள பூமியில் சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குத்தகை உரிமம் புதுப்பிக்க கோரிய மனுவின்பேரில் புலத்தணிக்கையும், விசாரணையும் மேற்கொள்ளப்பட்டது.

மனுதாரர் மேற்கண்ட முகவரியில் வசித்து வருகிறார். திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுபாளையம் கிராமம், புல.எண். 389/1சி2-ல் பு.ஹெக். 0.68.8 பரப்புள்ள பூமியானது மனுதாரர் U.பிராபாகரன் என்பவருக்கு ஊத்துக்குளி சார் பதிவாளர் அலுவலக எண்.687/2001, நாள்:10.02.2001-ன் படி பாத்தியப்பட்டுள்ளது. மேற்படி பூமியானது தற்கால உட்பிரிவுன் படி 389/1சி2-ல் பு.ஹெ.0.68.80 என உட்பிரிவுசெய்யப்பட்டுள்ளது. விண்ணப்பதாரருக்கு மேற்படி புலத்தில் கல் மற்றும் கிராவல் வெட்டியெடுத்துக்கொள்ள நில உரிமை உள்ளது என்பது விசாரணை மற்றும் ஆவணங்களின்படி தெரியவருகிறது.

மேற்படி மனுதாரருக்கு திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணை ந.க.195/கனியம்/2014 நாள்23.05.2015-ன் படி 23.05.2015 முதல் 22.05.2020 வரை 5 ஆண்டுகளுக்கு கல் குவாரி குத்தகை சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரியம் வழங்கப்பட்டுள்ளது.

மனுதாரர் பேற்படி புலத்தில் கல் சூவாரி குத்தகை உரியம் வழங்க கோரும் புலத்தில்,

- புலத்தின் எல்லைகள் வரையறுக்கப்பட்டு எல்லைக்கற்கள் நடப்பட்டு வெள்ளை பெயிண்ட் அடிக்கப்பட்டு சிகப்பு வண்ணக்கொடி கட்டப்பட்டுள்ளது.
- இது தொடர்பாக மேற்படி கிராமத்தில் அ1 விளம்பரம் பரப்புரை செய்யப்பட்டு நாளது தேதி வரை பொதுமக்களிடமிருந்து எவ்வித ஆட்சேபணையும் வரவில்லை.
- உரியம் கோரும் பூமியைச் சுற்றி 300 மீ சுற்றனவில் அங்கீகரிக்கப்பட்ட வீட்டுமனைகள், நத்தம் குடியிருப்புகள், மசூதி, தேவாலயம் உள்ளிட்ட புராதன சின்னங்கள் உள்ளிட்டவைகள் ஏதுமில்லை. மற்றும் தேசிய நெடுஞ்காலைகள் ஏதுமில்லை

எனவே மனுதாரருக்கு ஏற்கனவே திருப்பூர் மாவட்டஆட்சியரால் ந.க.195/கனிமம்/2014 நாள்: 23.0.2015 ன் படி வழங்கப்பட்டுள்ள கனிம உரிமத்தை 5 ஆண்டுகளுக்கு புதுப்பித்து வழங்க பரிந்துரைக்கலாம் என்பதைபணிவுடன் தெரிவித்துக்கொள்கிறேன்.

இணைப்பு : ஆவணங்கள்

பெறுநர்:

வருவாய் வட்டாட்சியர், ஊத்துக்குளி, عروريندر والمراورة

திருமதி.டி. சாந்திலட்கமி வட்டார வளர்ச்சி அலுவலர்(ல.ஊ.), ஊத்துக்குளி வட்டாரம். பெறுநர்

துணை இயக்குநர், புவியியல் மற்றும் கரங்கத்துறை, திருப்பூர்.

ந.க.எள் :992/2021/அ2

gur,

நாள்: 22.04.2021

பொருள் : விசாரணை அழிக்கை களியங்களும் சுரங்கங்களும் - சிறுகனியம் -சாதாரணகற்கள் மற்றும் கிராவல் மண் - - திருப்பூர் மாவட்டம் -ஊத்துக்குளி வட்டம் - மொரட்டுப்பாளையம் கிராமம்- பட்டாபுல எனர்கள் 389/1சி2-ல் (0.68.0) ஹெக்டர் பட்டா நிலப் பரப்பில் சாதாரணகற்கள் மற்றும் கிராவல் மண் வெட்டி எடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி திரு.யு.பிரபாகரன் த/பெ உதயகுமார் என்பவர் மனுசெய்துள்ளது - குவாரி உரிமம் கோரியது - விசாரணை அறிக்கைகோரியது - விசாரணை அறிக்கை அனுப்பிவைத்தல் - தொடர்பாக.

பார்வை

துணை இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, திருப்பூர் அவர்களின் ந.க.எண்: 465/2021/களியம், நாள்: 07.4.2021

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமத்தில் பட்டாபுல என்கள் 389/1சி2-ல் (0.68.0) ஹெக்டர் பட்டா நிலப் பரப்பில் சாதாரணகற்கள் மற்றும் கிராவல் மண் வெட்டிஎடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி திரு.யுபிரபாகரன் த/பெ உதயகுமார் எள்பவர் விளர்ணப்பித்ததையடுத்து, பார்வையில் காணும் துணை இயக்குநர் புவியியல் மற்றும் சுரங்கத்துறை அவர்களின் கடிதத்தில் மேற்படி பிரஸ்தாப புலங்களிலிருந்து 300 மீட்டர் சுற்றளவிற்குள் அங்கீகரிக்கப்பட்ட குடியிருப்புமனைகள் (Layout) மற்றும் அங்கீகரிக்கப்பட்ட கட்டுமானங்கள் ஏதும் உள்ளதா என அறிக்கை கோரப்பட்டுள்ளது.

மேற்படி பிரஸ்தாப புலங்களிவிருந்து 300 மீட்டர் சுற்றளவிற்குள் அங்கீகரிக்கப்பட்ட குடியிருப்பு மனைகள் (Layout) மற்றும் அங்கீகரிக்கப்பட்ட கட்டுமானங்கள் ஏதும் இல்லை என்ற விவரமும், புலத் தணிக்கை மற்றும் விசாரணையின் மூலமாக தெரியவருகிறது என்பதை பணிவுடன் தெரிவித்துக் கொள்கிறேன்.

> வட்டார வளர்ச்சி அலுவர்(வ.ஊ.). ஊத்துக்குளி.

327 44 9204

புலதணிக்கைக் குறிப்பு

நாள்:28.04.2021

கிராமம்: மொரட்டுப்பாளையம்

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், சப்பட்டநாயக்கன் பாளையம், க.ச.எண்.6/67 என்ற முகவரியில் வசித்து வரும் திரு.பிரபாகரன் த/பெ. உதயகுமார் என்பவர் குவாரி குத்தகை உரிமம் கோரிய மனுவின்பேரில் இன்று (28.04.2021)ல் புலத்தணிக்கை செய்யப்பட்டது.

திரு.பிரபாகரன் த/பெ. உதயகுமார் என்பவருக்கு மொட்டுப்பாளையம் கிராமம். ரீ.ச.எண்.389/1சி2 நெ.காலையில் 0.68.8 பு.ஹெக்டேர் பூமியானது திரு.பிரபாகரன் த/பெ. உதயகுமார் என்பவருக்கு ஊத்துக்குளி சார் பதிவாளர் அலுவலக எண்.687/2001, நாள்:10.02.2001-ன் LIQUILD LILLIT-61600ा 1088-ன் Lileunin பாத்தியப்பட்டுள்ளது. . ரீ.ச.எண்.389/1சி2 நெ.காலையில் 0.68.8 பு.ஹெக்டேர் பரப்பு புமியில் சாதாரணக்கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குத்தகை உரிமத்தினை புதுப்பித்து வழங்க கோரியுள்ளார்.

புலத்தின் எல்லைகள் வரையறுக்கப்பட்டு எல்லைக்கற்கள் நடப்பட்டுள்ளது. இது தொடர்பாக மேற்படி கிராமத்தில் அ1 விளம்பரம் பரப்புரை செய்யப்பட்டதில், உரிமம் கோரும் பூமியைச் சுற்றி 300ம் சுற்றளவில் அங்கீகரிக்கப்பட்ட வீட்டுமனைகள், இடுகாடு, மின்மாற்றி, நத்தம் குடியிருப்புகள், மசூதி, தேவாலயம் உள்ளிட்ட புராதன சின்னங்கள் உள்ளிட்ட வரைகள் ஏதுமில்லை. பாதை வசதி உள்ளது. எனவே, மேற்படி பூமியில் கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க அனுமதி வழங்கலாம் வருவாய் கோட்டாட்சியருக்கு கடிதம் வைக்கவும்.

வட்டாட்சியர், ஊத்துக்குவி.

28 4.20 21

அனுப்புநர் திருமதி.கா.கலாவதி, வட்டாட்சியர், ஊத்துக்குளி. பெறுநர் வருவாய் கோட்டாட்சியர், திருப்பூர்.

ந.க.எனர்.703/2021/அ2

நாள் :29.04.2021

அய்யா,

பொருள் :

கனிமங்களும் சுரங்கங்களும் - திருப்பூர் மாவட்டம்- ஊத்துக்குளி வட்டம் - மொரட்டுப்பாளையம் கிராமம் - ரீ.சு.எண்.389/1C2 -ல் 0.68.80 பு.ஹெக்டேர் நிலபரப்பில் சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க - 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி திரு.பிரபாகரன் த/பெ. உதயகுமார் என்பவரது மனு - அறிக்கை சமர்பித்தல் -தொடர்பாக.

பார்வை:

- திருப்பூர் வருவாப் கோட்டாட்சியர் கடித எண். ந.க. 924 /2021 / அ5 நாள்: 09.04.2021.
- ஊத்துக்குளி நில வருவாய் ஆய்வாளர் அறிக்கை நாள் : 27.04.2021.

கிருப்புர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், முகவரியில் வசிக்கு வரும் តាល់ាំ៣ சப்பட்டநாயக்கன் பாளையம், க.ச.எனர்.6/67 கிரு.பிரபாகரன் கு/பெ. உதயகுமார் என்பவர் குவாரி குத்தகை உரிமம் கோரி- திருப்பூர் அளிக்க அட்சியர் அவர்களிடம் மனுவின்பேரில், புலத்தணிக்கையும், மாவட்ட விசாரணையும் மேற்கொண்டு எனதுறிக்கையை கீழ்காணுமாறு சமர்ப்பித்துக் கொள்கிறேன்.

மனுதாரர் மேற்கண்ட முகவரியில் நிரந்தரமாக வசித்து வருகிறார். மனுதாரர் மொரட்டுப்பாளையம் என்பவருக்கு திரு.பிரபாகரவ் த/பெ. உதயகுமார் ரீ.ச.எண்.389/1C2 நெ.காலையில் 0.68.80 பு.ஹெக்டேர் பூமியானது திரு.பிரபாகரன் த/பெ. பகிவாளர் ஊத்துக்குளி गंगफ ച്ചത്വലെക്ക என்பவருக்கு உகயகமார் எண்.687/2001,நாள்:10.02.2001-ன் Liguito LLLIT हा हुए हो 1088-eu Mentio பாக்கியப்பட்டதாகும்.

மனுதார் திரு.உதயகுமார் என்பவருக்கு திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணைகள் ந.க.எண் ந.க.1959/கனிமம்/2014 நாள்: 23.05.2015-ன்படி மேற்படி ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண்.389/1சி காலையில் 0.89.0 ஹெக்டர் பட்டா நிலப்பரப்பில் மட்டும் சாதாரணக் கற்கள் மற்றும் கிராவல் மண் வெட்டி எடுக்க 23.05.2015 முதல் 22.05.2020 வரை 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் வழங்கப்பட்டுள்ளது. தற்போது, திரு.பிரபாகரன் என்பவர், 5 வருடங்களுக்கு ரீ.ச.என்.389/1சி2 நெ.காலையில் 0.68.80 பு.ஹெக்டேர் பட்டா நிலத்தில் சாதாரணக் கற்கள் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி குத்தகை உரிமம் கோரி விண்ணப்பித்துள்ளார்.

மனுதாரர் திரு.பிரபாகரன் த/பெ. உதயகுபார் என்பவர், மேற்படி ரீ.ச.எண்.389/1C2 நெ.காலையில் 0.68.80 பு.ஹெக்டேர் பட்டா நிலத்தில் கல் குவாரி குத்தகை உரிமம் வழங்க கோரும் புலத்தில்,

- புலத்தின் எல்லைகள் வரையறுக்கப்பட்டு எல்லைக்கற்கள் நடப்பட்டுள்ளது.
- இது தொடர்பாக மேற்படி கிராமத்தில் அ1 விளம்பரம் பரப்புரை செய்யப்பட்டதில், பொது மக்களிடமிருந்து எவ்வித ஆட்சேபணையும் வரவில்லை
- 3. உரிமம் கோரும் பூமியைச் சுற்றி 300 மீட்டர் சுற்றளவில் அங்கீகரிக்கப்பட்ட வீட்டுமனைகள், இடுகாடு, மின்மாற்றி, நத்தம் குடியிருப்புகள், மசூதி, தேவாலயம் உள்ளிட்ட புராதன சின்னங்கள் மற்றும் தேசிய நெடுஞ்சாலை உள்ளிட்டவைகள் ஏதுமில்லை.
- 4. உயர் மின்னமுத்த கம்பி தடம் இல்லை.
- குவாரிக்கு சென்று வர பாதை வசதி உள்ளது.

எணவே மனுதாரர் திரு.பிரபாகரன் த/பெ. உதயகுமார் என்பவர் கோரியுள்ள, திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், ரீ.ச.எண்.389/1C2 நெ.காலையில் 0.68.80 பு.ஹெக்டேர் பரப்புள்ள பட்டா நிலத்தில் சாதாரணக்கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க 5 ஆண்டுகளுக்கு குத்தகை உரிமம் வழங்க பரிந்துரை செய்கிறேன் என்பதைப் பணிவுடன் தெரிவித்துக்கொள்கிறேன்.

இணைப்பு : ஆவணங்கள்

தங்கள் உண்மையுள்ள,

வட்டாட்சியர், ஊத்துக்குளி

08-10-20-2

அனுப்புநர்

திரு.எம்.ஜெகநாதன்,M.Sc., வருவாய் கோட்டாட்சியர், திருப்பூர்,

5.5.924/2021/F-1

பெறுநர்

மாவட்ட ஆட்சியர் திருப்பூர்

நாள்: .04.2021.

அய்யா,

பொருள்:

களிமங்களும் சுரங்கங்களும் - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் -மொரட்டுப்பாளையம் கிராமம் - புல எண்.389/1C2 நெ.காலையில் மொத்தம் 0.68.80 ஹெக்டர் பரப்பளவில் சாதாரண கற்கள்/கிராவல் மண் வெட்டியெடுக்க 5 வருடங்களுக்கு திரு.பிரபாகரன், த/பெ.உதயகுமார் என்பவர் குவாரி குத்தகை உரிமம் கோரியது - அறிக்கை அனுப்புதல் - தொடர்பாக.

பார்வை:

ஊத்துக்குளி வட்டாட்சியர் அறிக்கை ந.க.703/2021/அ2, நாள்:29.04.2021.

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுபாளையம் கிராமம், சப்பட்டநாயக்கன்பாளையம், க.ச. எண்:6/67 என்ற முகவரியில் வசிக்கும் திரு.பிரபாகரன், த/பெ.உதயகுமார் என்பவர் ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 389/1C2 நெ.காலையில் பு.ஹெக்.0.68.80 விஸ்தீரணமுள்ள பூமியில் சாதாரண கற்கள்/கிராவல் மண் வெட்டியெடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி மனு அளித்தது தொடர்பாக, பார்வையில் காணும் கடிதத்தில் ஊத்துக்குளி வட்டாட்சியர் அறிக்கை சமர்பித்துள்ளதை தொடர்ந்து, மேற்படி புலத்தினை 30.04.2021 அன்று புலத்தணிக்கை மேற்கொண்டு எனதறிக்கையினை கீழ்க்கண்டவாறு சமர்பித்து கொள்கிறேன்.

மனுதாரர் குவாரி குத்தகை உரிமம் வழங்கக் கோரிய பிரஸ்தாப புலமான ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 389/1C2 நெ.காலையில் பு.ஹெக்.0.68.80 விஸ்தீரணமுள்ள பூமியானது ஊத்துக்குளி சார்பதிவாளர் அலுவலக தானசெட்டில்மெண்ட் பத்திர எண்:687/2021, நாள்:10.02.2021 -ன் படியும், மெராட்டுப்பாளையம் கிராம பட்டா எண்:1088-ன் படியும் மனுதாரர் திரு.பிரபாகரன், த/பெ.உதயகுமார் என்பவருக்கு பாத்தியப்பட்டு அனுபவத்தில் உள்ளது.

மனுதாரருக்கு குத்தகை உரிமம் கோரியது தொடர்பாக மெராட்டுப்பாளையம் கிராமத்தில் 12.04.2021 அன்று "அ1" விளம்பரம் செய்யப்பட்டதில் நாளது வரை எவ்வித ஆட்சேபனையும் பொதுமக்களிடம் இருந்து வரப்பெறவில்லை. இந்நோவில் மனுதாரர் அரசுக்கு செலுத்த வேண்டிய கனிம வரி நிலுவை இல்லை எனவும், வருமான வரி நிலுவை இல்லை எனவும், அதற்கான உறுதிமொழி மற்றும் குத்தகை உரிமம் வழங்குவது தொடர்பாக மனுதாரர் திரு.பிரபாகரன், த/பெ.உதயகுமார் என்பவர் உறுதிமொழி ஆவணங்கள் ஆகியவற்றை சமர்ப்பித்துள்ளார்.

Gunniti குவாரி உரிமம் குத்தகை FFIN கோரும் கொடர்பாக புலத்தணிக்கையின் போது பின்வரும் விபரங்கள் தெரியவருகிறது. குவாரி குத்தகை கோரும் புலங்களின் எல்லைகள் வரையறுக்கப்பட்டு எல்லைக்கற்கள் நடப்பட்டுள்ளன. குவாரி உரிமம் வழங்க கோரும் பூமியில் விலையுயர்ந்த மரங்கள் ஏதும் இல்லை. குத்தகை கோரும் புலங்களைச் சுற்றி 300மீ சுற்றளவில் ஊர் நத்தம், குடியிருப்பு பகுதிகள், தேசிய நெடுஞ்சாலைகள் மற்றும் வழிபாட்டு தலங்கள் ஏதுமில்லை. குவாரி குத்தகை கோரும் புலங்களைச் சுற்றி 300மீ தொல்பொருள் துறையின் கட்டுப்பாட்டில் உள்ள புராதனச்சின்னங்களோ ஏதுமில்லை. குவாரி குத்தகை உரிமம் கோரும் புலத்தில் உயர் மின்னமுக்க கம்பிகள் ஏதும் செல்லவில்லை.

எனவே திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராயம், புல எண். 389/1C2 நெ.காலையில் பு.ஹெக்.0.68.80 விஸ்தீரணமுள்ள பூயியிலிருந்து சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டி எடுக்க திரு.பிரபாகரன், த/பெ.உதயகுமார் என்பவருக்கு, 1959 - ஆம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதி - 19(1) மற்றும் 33 ன் படி குத்தகை குறித்த நிபந்தனைகளின் பேரில் குவாரி குத்தகை உரிமம் வழங்க பரிந்துரை செய்து, தொடர்புடைய ஊத்துக்குளி வட்டாட்சியர் அறிக்கை மற்றும் கிராம ஆவணங்கள் ஆகியவற்றினை இத்துடன் இணைத்தனுப்பியுள்ளேன் என்பதை பணிவுடன் தெரிவித்துக் கொள்கிறேன்.

இணைப்பு : கிராம ஆவணங்கள்.

குங்கள் உண்மையள்ள

வருவாய் கோட்டாட்சியர் திருப்பூர்.

30 11 /34

புலத்தணிக்கை குறிப்பு

வட்டம்:

ஊக்குக்குளி

கிராமம்:

மெருட்டுப்பாளையம்

புல எண்:

புல எண். 389/1C2 நெ.காலையில்

பு.ஹெக்.0.68.80

தணிக்கை நூள்:

30.04.2021.

நோக்கம் :

குவாரி குத்தகை உரிமம் வழங்கக்

கோரியது தொடர்பாக.

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுபாளையம்

கிராமம், சப்பட்டநாயக்கன்பாளையம், க.ச. எண்:6/67 என்ற முகவரியில் வசிக்கும் திரு.பிரபாகரன், த/பெ.உதயகுமார் என்பவர் ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 389/1C2 நெ.காலையில் பு.ஹெக்.0.68.80 விஸ்தீர்ணமுள்ள பூமியில் சாதாரண கற்கள்/கிராவல் மண் வெட்டியெடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி மனு அளித்தது தொடர்பாக, மேற்படி புலமானது 30.04.2021 அன்று தணிக்கை செய்யப்பட்டது.

மனுதாரர் குவாரி குத்தகை உரிமம் வழங்கக் கோரிய பிரஸ்தாப புலமான ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 389/1C2 நெ.காலையில் பு.ஹெக்.0.68.80 விஸ்தீர்ணமுள்ள பூமியானது ஊத்துக்குளி சார்பதிவாளர் அலுவலக தானசெட்டில்மெண்ட் பத்திர எண்:687/2021, நாள்:10.02.2021 -ன் படியும், மொரட்டுப்பாளையம் கிராம பட்டா எண்:1088-ன் படியும் மனுதாரர் திரு.பிரபாகரன், த/பெ.உதயகுமார் என்பவருக்கு பாத்தியப்பட்டு அனுபவத்தில் உள்ளது.

மேலும் குவாரி குத்தகை உரிமம் கோரும் பூமி தொடர்பாக புலத்தணிக்கையின் போது பின்வரும் விபரங்கள் தெரியவருகிறது. குவாரி குத்தகை கோரும் புலங்களின் எல்லைகள் வரையறுக்கப்பட்டு எல்லைக்கற்கள் நடப்பட்டுள்ளன. குவாரி உரிமம் வழங்க கோரும் பூலியில் விலையுயர்ந்த மரங்கள் ஏதும் இல்லை. குத்தகை கோரும் புலங்களைச் சுற்றி 300மீ சுற்றனவில் ஊர் நத்தம், குடியிருப்பு பகுதிகள், தேசிய நெடுஞ்சாலைகள் மற்றும் வழிபாட்டு தலங்கள் ஏதுமில்லை. குவாரி குத்தகை கோரும் புலங்களைச் சுற்றி 300மீ சுற்றனவில் தொல்பொருள் துறையின் கட்டுப்பாட்டில் உள்ள புராதனச்சின்னங்களோ

ஏதுயில்லை. குவாரி குத்தகை உரிமம் கோரும் புலத்தில் உயர் மின்னழுத்த கம்பிகள் ஏதும் செல்லவில்லை.

எனவே திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராயம், புல எண். 389/1C2 நெ.காலையில் பு.ஹெக்.0.68.80 விஸ்தீர்ணமுள்ள பூமியிலிருந்து சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டி எடுக்க திரு.பிரபாகரன், த/பெ.உதயகுமார் என்பவருக்கு, 1959 - ஆம் ஆண்டு தமிழ்நாடு சிறுகனிம் சலுகை விதி -19(1) மற்றும் 33 ன் படி குத்தகை குறித்த நிபந்தனைகளின் பேரில் குவாரி குத்தகை உரிமம் வழங்க பரிந்துரை செய்து, மாவட்ட ஆட்சியருக்கு கடித வரைவு வைக்கவும்.

> வருவாய் கோட்டாட்சியர் திருப்பூர்.

SRI SELVANAYAGIAMMAN EXPLOSIVES

P.Thirunavukarasu (Explosive Blasting Contractor)

94451-30006 NO.52, Kaveri Street Bhavani Tk, Erode Dt.

Magazine at: 97/2, Thalavaipalayam Village, Uthukuli (Tk), Tirupur(Dt)

Date: 18.06.2021

To:

U. Prabhakaran, S/O Udhayakumar, 6/67, SN Palayam, Morattupalayam, Uthukuli Taluk, Tirupur District.

Ref: Your Letter dated

Sub: Regarding blasting work using explosives in your proposed quarry.

We are having explosives license in Form 22 holding No: E/SC/TN/22/339 (E10241) situate in Survey S.F.No.97/2 Thalavaipalayam Village, Uthukuli Taluk, Tirupur District. Our office functions at Address No.52, Kaveri Street, Bhavani (Tk), Erode (Dt).

We are enacting 2 explosives vans for transporting detonators and class 2 separately for our Magazine to our site and well experienced and licensed blasters and shot firer for safe Blasting work since 5 years without untoward incident.

We are willing to undertake work on contract basis at your SF.No.389/1c2, over an extent of 0.68.8 hec. Moratupalayam post, Uthukuli Taluk, Tirupur District.

Thanking You,

Signature

For Sri Selvanayagiamman Explosives

P. Thirunavukarasu Proprietor

Enclosure:

1. License Copy

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SHID/A

अनुज्ञाप्ते प्ररूप एल. ई.-३ | LICENCE FORM LE-3

(विस्फोटक नियम, 2008 की अनुसूची 4 के भाग 1 के अनुच्छेद 3(क) से (छ) देखिए।) (See article 3(a) to (d) of Part 1 of Schedule 1V of Explosives Rules, 2008)

(ग) उपयोग के लिए एक समय पर वर्ग 1,2,1,4,5 या वर्ग 7 के विस्फोटक या किसी मेगजीम में वर्ग 6 के विस्फोटक प Licence to possess: (c) for use explosives of class 1, 2,3,4,5,6 or 7 in a magazine

अनुक्षप्ति सं. (Licence No.) : E/SC/TN/22/339(E10241) वार्षिक फीस रूपए (Annual Fee Rs): 3000/-

1. Licence is hereby granted to

SRISELVANAYAGI AMMAN EXPLOSIVES (SPENTIT / Occupier : F.THIRUNAVUKARASU), 52. Cauvery Street, Bhavam, Town/Village - Bhavam, District-ERODE, State-Tamil Nado, Pincode - 638301

को अनुजापि अनुदत्त की जाती है।

2. अनुज्ञान्तिधारी की प्रास्थिति। Status of ticensee: Partnership Firm

 अनुङ्खि निम्नलिखित प्रयोजनों के लिए विधिमान्य है। Licence is valid only for the following purpose.

possess for use of Safety Fuse, Electric and/or Ordinary Defonators, Nitrate Mixture, - के उपयोग के लिए

 अनुशक्ति विस्कोटको के निम्नतिखित किस्मों, प्रकार और मात्रा के लिए विधिमान्य है। Licence is valid for the following kinds and quantity of explosives: - (4) (a)

Sr. No.	नाम और विवरण Name and Description	वर्ग और प्रभाग	उप-प्रभाग	मात्रा किसी एक समय में
	Nitrate Mixture	Class & Division	Sub-division	Quantity at any one time
4	Safety Fuse		0	700 Ku
	Electric and/or Ordinary Detonators स में खरीदे जाने वाले विस्फोटक की माता।अनु s to be musclessed	6.0	. 0	5000 Mtrs

(ख) किसी एक कर्तेंडर मास में खरीदे जाने वाले विस्फोटक की माना (अनुच्छेद 3(ख) और (ग) के अधीन अनुक्रांत के लिए) (b) Quantity of explosives to be purchased in a calendar month[applicable for licence under article 3(b) and (c)]

9 times as above.

 निम्नशिखित रेखाचित्र (रेखाचित्रों) से अनुकास परिसर की पृष्टि होती है। The licensed premises shall conform to the following drawing(s):

रेखाचित्रं ज्ञ. (Drawing No.) E/SC/TN/22/339(E10241) दिनकि (Dated) 96/09/2004

6. अनुज्ञाप्ते परिसर निम्नालेखित पर्त घर स्थित हैं। The licenaed premises are sinuated at following address Survey No(s), S.F.97/2 , WH (Town/Village) - Thalavoipalayam, Uthukuli taluka

TIRUPUR दूरभाष (Phone) 7502930006

(State) ई मेल (E-Mail)

Tamil Nadu

पुलिस थाना (Police Station) : Uthukuli पेनकोड (Pincode) hatt (Fax)

 अनुसप्ति परिसर में निम्नतिखित सुविधाएं अंतर्विष्ट है। The ficensed premises consist of following facilities.

Main room, lobby and detonator room

8. अनुरुद्धि सूमय् – समय पर यथासुगोषित विस्फोटक अधिनियम्, 1884 और उनके अधीन विरचित विस्फोटक नियम, 2004 के उपबंधी, शर्तों और अतिरिक्त

आतुआहा समय - समय पर प्रमास्थापक विस्तारक आधानपम, 1884 आहं उनक अधान विरायक विस्कारक निवस 2004 क उपलया, शता आर आतारक यातीं और निम्नाशिखेत उपाद्यक्षों 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 Amexicus.

उपर्युवत 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 अनुज्ञप्ति प्राधिकारी व्याररा हस्ता क्षरित इस अनुज्ञप्ति की शर्ते और अतिरिक्ति शर्ते।

Conditions and Additional Conditions of this licence signed by the licensing authority.

दूरी प्ररूप DE-2 | Distance Form DE-2

9. यह अनुज्ञाप्ति तारीख 31 मार्च 2008 तक विधिमान्य रहेगी। This license shall remain valid till 31st day of March 2008.

पह अनुज्ञानि, अधिनियम या उसके अधीन विरचित नियमों या अनुसूची V के भाग 4 के प्रति निर्दिष्ट सेट-VII के अधीन तथा उपवर्णित इस अनुज्ञानि की हातों का अधिक्रमण करने या यदि अनुइष्ट परिसर योजना या उससे संलग्न उपबंध में दक्षित विवरण के अनुरूप नहीं पाए जाने पर निलंबित या प्रतिसंहत की जा सकती

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 in if the licensed premises are not found conforming to the description shown in the plans and Annexure attached hereto-

तारीख | The Date - 06/09/2004

संयुक्त मुख्य विस्फोटक नियंत्रक | Joint Chief Controller of Explosives South Circle, Cheunai

DAM

Amendments:

Amendment of Quantity of Explosives/Monthly Porchase Limit dated 17/08/2011 Transfers :

Change in Licensee Name/Address/Status dated : 26/03/2018

नवोनीकरण के पृष्ठीकन के लिए स्थान Space for Endorsement of Renewal

नवीकरण की तारीख समाप्ते की तारील Dale of Renewal अनुशापन प्राधिकारी क हस्ताक्षर और स्टाम्प Date of Expiry Signature of licensing authority and stamp 05/03/2020 31/03/2025 Jt. Chief Controller of Explosives, South Circle, Chennal

कानूनी चैतावनी : विस्फोटको को गलत हंग से चलाने या उनका दुरूपयोग विधि के अधीन गभीर दांडिक अपराध होगा। Statutory Warning: Mishandling and misuse of explosives shall constitute serious criminal offence under the law

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> கீராம் நாவாக அலுவலா மற்றும் பிறுப்பு இறப்பு பதிவாளர் மொரட்டுப்பாளையம் குருப். ஊத்துக்குளி வப்பம திருப்பூர் மாவட்டம்

TOPOGRAPHICAL VIEW OF MORATTUPALAYAM ROUGH STONE AND GRAVEL QUARRY LEASE APPLIED AREA



Name of the Applicant : U.Prabhakaran,

S/o. Udhayakumar,

Address No.6/67, Sappattanaickenpalayam,

Morattupalayam Village, Uthukuli Taluk,

Tiruppur District,

Tamil Nadu State - 638 752.

LOCATION DETAILS

Extent : 0.68.8ha

S.F.No. : 389/1C2

Village : Morattupalayam

Taluk : Uthukuli District : Tiruppur

State : Tamil Nadu

Signature of the applicant

U. Prabhakaran

(Village Administrative Officer) கீறாம் நிர்விகினிலுவலர் மற்றும் பிற ப்பு இறப்பு பதிவாளர் மொரட்டுப்பாளையம் கருப், ஊத்துக்குளி வட்டம்

திருப்பூர் மாவட்டம்



File No: 10781

Government of India

Ministry of Environment, Forest and Climate Change (Issued by the State Environment Impact Assessment Authority(SEIAA), TAMIL NADU)





Dated 03/06/2024



To,

SEMALAIGOUNDER RAJASEKAR SEMALAIGOUNDER RAJASEKAR

6/41, Thimmanaickenpalayam, Morattupalayam, Tiruppur, TIRUPPUR, TAMIL NADU, 638752

sivasakthiukl@gmail.com

Subject:

Grant of Terms of Reference (ToR) along with Public Hearing under the provision of the EIA Notification 2006-regarding.

Sir/Madam,

This is in reference to your application for Grant of Terms of Reference (ToR) along with Public Hearing under the provision of the EIA Notification 2006-regarding in respect of project S. Rajasekar, Rough Stone and Gravel Quarry Extent: 2.48.5ha S.F.No. 382/2A (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District. submitted to Ministry vide proposal number SIA/TN/MIN/466801/2024 dated 02/05/2024.

Ref: 1. Online proposal No. SIA/TN/MIN/466801/2024, Dated:21.03.2024.

2. Your application submitted for Terms of Reference dated:28.03.2024.

2. The particulars of the proposal are as below:

(i) TOR Identification No. TO24B0108TN5560449N

(ii) File No. 10781 (iii) Clearance Type TOR (iv) Category B1

(v) **Project/Activity Included Schedule No.** 1(a) Mining of minerals

S. Rajasekar, Rough Stone and Gravel Quarry

(vii) Name of Project Extent: 2.48.5ha S.F.No. 382/2A (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur

District.

(viii) Name of Company/Organization SEMALAIGOUNDER RAJASEKAR

(ix) Location of Project (District, State) TIRUPPUR, TAMIL NADU

(x) Issuing Authority SEIAA (xii) Applicability of General Conditions no

- 3. In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(Part A and B) were submitted to the SEIAA for an appraisal by the State Environment Impact Assessment Authority(SEIAA) under the provision of EIA notification 2006 and its subsequent amendments.
- 4. The above-mentioned proposal has been considered by State Environment Impact Assessment Authority(SEIAA) in the meeting held on 24/05/2024. The minutes of the meeting and all the Application and documents submitted [(viz. Form-1 Part A, Part B,)] are available on PARIVESH portal which can be accessed by scanning the QR Code above.
- 5. The State Expert Appraisal Committee (SEAC), based on the information & clarifications provided by the project proponent and after detailed deliberations recommended the proposal for grant of Terms of Reference (ToR) along with Public Hearing under the provision of EIA Notification, 2006 and as amended thereof subject to the stipulation of specific and general conditions as detailed in Annexure (2)
- 6. The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the SEAC hereby decided to grant Terms of Reference for instant proposal of Thiru.S.Rajasekar under the provisions of EIA Notification, 2006 and as amended thereof.
- 7. The Ministry/SEIAA-TN reserves the right to stipulate additional conditions, if found necessary.
- 8. The Terms of Reference to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.
- 9. This issues with the approval of the Competent Authority.
- 10. The TORs with public hearing prescribed shall be <u>valid for a period of three years</u> 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

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, Tiruppur District.
- 7. Stock File

Annexure 1

Specific Terms of Reference for (Mining Of Minerals)

1. Seiaa Specific Condititons:

S. No	Terms of Reference
1.1	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

2. Seac Conditions - Site Specific

S. No	Terms of Reference
2.1	1. The project proponent shall submit a Certified Compliance Report obtained from the office of the concerned DEE/TNPCB (or) IRO, MoEF & CC, Chennai as per the MoEF&CC O.M dated.08.06.2022 for the previous EC and appropriate mitigating measures for the non-compliance items, if any. 2. For the existing quarry, the PP shall obtain a letter from the concerned AD (Mines) which shall stipulate the following information: i. Original pit dimension of the existing quarry ii. Quantity achieved Vs EC Approved Quantity iii. Balance Quantity as per Mineable Reserve calculated. iv. Mined out Depth as on date Vs EC Permitted depth v. Details of illegal/illicit mining carried out, if any vi. Non-compliance/Violation in the quarry during the past working. vii. Quantity of material mined out outside the mine lease area (or) in the adjacent quarry/land. viii. Existing condition of Safety zone/benches ix. Details of any penalties levied on the PP for any violation in the quarry operation 4. As it has been observed that no benches are formed in the existing quarry, for ensuring the safety of the persons employed in the quarry, the PP shall carry out the scientific studies to assess the slope stability of the existing quarry walls by determining the angle of safety for the entire quarry but 'zone-wise' to decide whether the existing slope is safer to work or otherwise enumerate the achievable mitigation measures if any, which will also helpful in designing the proposed benches, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research / Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus. A copy of such scientific study report shall be submitted to the SEIAA, MoEF, TNPCB, AD/Mines-DGM and DMS, Chennai as a part of Environmental Compliance without any deviation. 5. The structures within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m & upto 1 km shall be enu

3. Seac Standard Conditions

S. No	Terms of Reference
3.1	1. In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following: (i) Original pit dimension (ii) Quantity achieved Vs EC Approved Quantity (iii) Balance Quantity as per Mineable Reserve calculated. (iv) Mined out Depth as on date Vs EC Permitted depth (v) Details of illegal/fillicit mining (vi) Voloation in the quarry during the past working. (vii) Quantity of material mined out outside the mine lease area (viii) Condition of Safety zone/benches (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m. 2. Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site. 3. The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc. 4. The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc are located within 1 km of the proposed quarry. 5. The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report. 6. The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site. 7. In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall the PP shall carry out

S. No	Terms of Reference
	issued by the AD/DD mines?
	14. Quantity of minerals mined out.
	Highest production achieved in any one year
	Detail of approved depth of mining.
	Actual depth of the mining achieved earlier.
	Name of the person already mined in that leases area.
	• If EC and CTO already obtained, the copy of the same shall be submitted.
	• Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.
	15. All corner coordinates of the mine lease area, superimposed on a High-Resolution
	Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone). 16. The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc.,
	17. The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water
8	bodies nearby provided as per the approved mining plan. 18. The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures
	for the same. 19. The Project Proponent shall provide the Organization chart indicating the appointment of
	various statutory officials and other competent persons to be appointed as per the provisions of
	the Mines Act' 1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.
	20. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping & open wells, and surface
G.	water bodies such as rivers, tanks, canals, ponds, etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD
	so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.
	21. The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality &
	flora/fauna including traffic/vehicular movement study. 22. The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health,
	biodiversity, air pollution, water pollution, climate change and flood control & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned
	quarry and the surrounding habitations in the mind. 23. Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.
	24. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other
	ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
	25. Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any,
	should be provided. 26. Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the

S. No	Terms of Reference
	43. Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.

4. Seiaa Standard Condititons:

S. No	Terms of Reference
4.1	Cluster Management Committee 1. Cluster Management Committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry. 2. The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc., 3. The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines. 4. Detailed Operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network. 5. The committee shall deliberate on risk management plan pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan. 6. The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the environmental policy devised shall be given in detail. 7. The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner. 8. The committee shall furnish the Emergency Management plan within the cluster. 9. The committee shall furnish an action plan to achieve sustainable development goals with reference to water, sanitation & safety. 11. The committee shall furnish an action plan to achieve sustainable development goals with reference to water, sanitation & safety. 12. 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 i

S. No	Terms of Reference
	16. The Environmental Impact Assessment should study the biodiversity, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem. 17. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services. 18. The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.
	Forests 19. The project proponent shall detailed study on impact of mining on Reserve forests free ranging wildlife. 20. The Environmental Impact Assessment should study impact on forest project and arrive and arrive.
	20. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.21. The Environmental Impact Assessment should study impact on standing trees and the existing
	trees should be numbered and action suggested for protection. 22. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site. Water Environment
	23. Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period. 24. Erosion Control measures.
	25. 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.26. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.
	 27. The project proponent shall study and furnish the details on potential fragmentation impact on natural environment, by the activities. 28. The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts. 29. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil
	physical, chemical components and microbial components. 30. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.
	Energy 31. The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished. Climate Change
	32. The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities. 33. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock. Mine Closure Plan
	34. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued. EMP
	35. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.36. The Environmental Impact Assessment should hold detailed study on EMP with budget for

S. No	Terms of Reference
	Green belt development and mine closure plan including disaster management plan. Risk Assessment 37. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.
	Disaster Management Plan 38. To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued.
	Others 39. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, Structures, railway lines, roads, water bodies such as streams, odai, vaari, canal, channel, river, lake pond, tank etc. 40. 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. 41. The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impacts of plastic & microplastics on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.

Standard Terms of Reference for (Mining of minerals)

1.

S. No	Terms of Reference
1.1	An EIA-EMP Report shall be prepared for peak capacity (MTPA)operation in an ML/project area ofha based on the generic structure specified in Appendix III of the EIA Notification, 2006.
1.2	An EIA-EMP Report would be prepared for peak capacity operation to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for MTPA of mineral production based on approved project/Mining Plan forMTPA. Baseline data collection can be for any season (three months) except monsoon.
1.3	Propoer KML file with pin drop and coordinate of mine at 500-1000 m interval be provided
1.4	A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries, mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given. The above details to be furnished in tabular form also
1.5	Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical

S. No Terms of Reference					
	features such as water bodies, etc should be furnished.				
1.6	A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.				
1.7	Catchment area with its drainage map of 25 km area within and outside the mine shall be provided with names, details of rivers/ riverlet system and its respective order. The map should clearly indicate drainage pattern of the catchment area with basin of major rivers. Diversion of drains/ river need eloboration in form of lengthe, quantity and quality of water to be diverted				
1.8	(Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.				
1.9	Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.				
1.10	Impact of mining on hydrology, modification of natural drainage, diversion and channeling of existing rivers/water courses flowing though the ML and adjoining the lease/project and the im on the existing users and impacts of mining operations thereon.				
1.11	A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.				
1.12	Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified. Area under Surface Rights S.N ML/Project Land use Area under Surface Area Under Mining Rights(ha) Rights(ha) Rights(ha) Area under Both (ha) 1 Agricultural land 2 Forest Land 3 Grazing Land 4 Settlements 5 Others (specify)				

S. No	Terms of Reference				
	S.N. Details Area (ha) 1 Buildings 2 Infrastructure 3 Roads 4 Others (specify) Total				
1.13	Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.				
1.14	One-season (other than monsoon) primary baseline data on environmental quality - air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided. The detail of NABL/ MoEF&CC certification of the respective laborartory and NABET accreditation of the consultant to be provided.				
1.15	Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.				
1.16	For proper baseline air quality assessment, Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ shall be planned by the collection of air quality data by adequate monitoring stations in the downwind areas. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area. In case of expansion, the displayed data of CAAQMS and its comparison with the monitoring data to be provided				
1.17	A detailed traffic study along with presence of habitation in 100 mts distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road. The project will increase the no. of vehicle along the road which will indirectly contribute to carbon emission so what will be the compensatory action plan should be clearly spell out in EIA/ EMP report.				
1.18	The socio-economic study to conducted with actual survey report and a comparative assessment to be provided from the census data should be provided in EIA/ EMP report also occupational status & economic status of the study area and what economically project will contribute should be clearly				

S. No	Terms of Reference					
	mention. The study should also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data to be provided and to link it with the initialization and quantification of need based survey for CSR activities to be followed.					
1.19	The Ecology and biodiversity study should also indicate the likely impact of change in forest area for surface infrastructural development or mining activity in relation to the climate change of that area and what will be the compensatory measure to be adopted by PP to minimize the impact of forest diversion.					
1.20	Baseline data on the health of the population in the impact zone and measures for occupation health and safety of the personnel and manpower for the mine should be submitted.					
1.21	Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted					
1.22	Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.					
1.23	Study on land subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.					
Detailed water balance should be provided. The break up of water requirement a activities in the mining operations, including use of water for sand stowing sl separately. Source of water for use in mine, sanction of the Competent Authority in and impacts vis-à-vis the competing users should be provided.						
PP shall submit design details of all Air Pollution control equipment (APCEs) to be import of Environment Management Plan vis-à-vis reduction in concentration of emiss APCEs						
PP shall propose to use LNG/CNG based mining machineries and trucks for mining transportation of mineral. The measures adopted to conserve energy or use of rend shall be explored						
1.27	PP to evaluate the green house emission gases from the mine operation and corresponding carbon absorption plan.					
1.28	Site specific Impact assessment with its mitigation measures, Risk Assessment and Disaster Preparedness and Management Plan should be provided.					
1.29	Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.					
1.30	Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from					

S. No	Terms of Reference					
	workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.					
1.31	Details of various facilities to be provided to the workers in terms of parking, rest areas and ca and effluents/pollution load resulting from these activities should also be given.					
1.32	The number and efficiency of mobile/static water jet, Fog cannon sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.					
1.33	Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to pre- mining status should be provided. A Plan for the ecological restoration of the mined out a and post mining land use should be prepared with detailed cost provisions. Impact and managem of wastes and issues of re-handling (wherever applicable) and backfilling and progressive m closure and reclamation should be furnished.					
1.34	Adequate greenbelt nearby areas, mineral stock yard and transportation area of mineral shall be provided with details of species selected and survival rate Greenbelt development should be undertaken particularly around the transport route.					
1.35	Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.					
1.36	Details of R&R. Detailed project specific R&R Plan with data on the existing socio- economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.					
1.37	CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.					
1.38	Corporate Environment Responsibility:					
1.39	a) The Company must have a well laid down Environment Policy approved by the Board of Directors.					
1.40	b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.					
1.41	c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.					
1.42	d) To have proper checks and balances, the company should have a well laid down 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.					
1.43	e) Environment Managament Cell and its responsibilities to be clearly spleel out in EIA/ EMP					

S. No	Terms of Reference report					
1.44	f) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.					
1.45	Status of any litigations/ court cases filed/pending on the project should be provided.					
1.46	PP shall submit clarification from DFO that mine does not falls under corridors of any National Park and Wildlife Sanctuary with certified map showing distance of nearest sanctuary.					
1.47	Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer pla approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.					
1.48	Details on the Forest Clearance should be given as per the format given: Total ML Total Project Area Forest (ha) land (ha) If more than one provide details of each FC					
1.49	In case of expansion of the proposal, the status of the work done as per mining plan and appromine closure plan shall be detailed in EIA/ EMP report					
1.50	Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the time bound action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.					
1.51	PP shall carry out survey through drone highlighting the ground reality for atleast 10 minutes					
1.52	Detailed Chronology of the project starting from the first lease deed alloted/Block allotment/ Land acquired to its No. of renewals, CTO /CTE with details of no. renewals, previous EC(s) granted details and its compliance details, NOC details from various Govt bodies like Forest NOC(s), CGWA permissions, Power permissions, etc as per the requisites respectively to be furnished in tabular form.					
1.53	The first page of the EIA/ EMP report must mention the peak capacity production, area, detail of PP, Consultant (NABET acrreditation) and Laboratory (NABL / MoEF & CC certification)					
1.54	The compliances of ToR must be properly cited with respective chapter section and page no in tabular form and also mention sequence of the respective ToR complied within the EIA-EMP report in all the chapter,s section.					
	Digitally Signed by : A R Rahul Nadh Member Secretary, SEIAA					

Date: 03/06/2024

From

Thiru.A.Perumal, M.Sc., M.Phil Deputy Director, Geology and Mining, Tiruppur To

Thiru.S.Rajasekar, S/o.Semalai Gounder, No.71. Thimmanaickenpalayam, Morattupalayam Post, Uthukuli Taluk, Tiruppur District.

R.c. No.761/ Mines / 2023 dated: 12.2023.

Sub: Mines and Minerals – Minor Mineral – Rough Stone and Gravel- Tiruppur District - Uthukuli Taluk - Morattupalayam Village- S.F.Nos. 382/2A(P) - Over an Extent of 2.48.50 Hectares of patta land- Quarry lease for Rough Stone and Gravel - Application preferred by Thiru.S.Rajasekar - Precise area communicated for the proposed grant of quarry lease - Mining Plan Submitted for approval - Approved - further details requested - furnished regarding.

- Ref: 1. Application for grant of Rough Stone and Gravel quarry lease preferred by Thiru.S.Rajasekar dated: 07.12.2022.
 - G.O. Ms. No. 79 / Industries (MMC 1) Department dated 06.04.2015.
 - The Assistant Director (i/c), Geology and Mining, Tiruppur letter R.C. No. 48/Mines/2023 dated 20.09.2023
 - Thiru.S.Rajasekar letter dated:Nil received on 04.11.2023.
 - This office letter even no. dated. 10.11.2023 (Mining Plan approved)

In the reference 5th cited above, the applicant Thiru.S.Rajasekar has requested to furnish details of other quarry leases of expired, existing and proposed within 500mtr radius from the proposed rough stone and gravel lease over an extent of 2.48.50 Hect in S.F.No. 382/2A(P) Morattupalayam Village of Uthukuli Taluk, Tiruppur District.

As requested by the applicant, the details of existing, proposed and expired quarries situated within the radius of 500 meters from the subject area are furnished as follows:-

1. Existing quarries:

SNo	Name of the Applicant	S.F.Nos	Extent(Hect)	Lease Period
1.	N.Chithambaram	, 508/1Y(b)	70.79.0	20.06.2022 to 19.06.2027
2.	K.Senthilkumar	383/1 (P), 383/2A2A1 (P)	0.71.5	13.04.2023 to 12.04.2028
3.	P.Thangamuthusamy	383/2A1 382/2B	2.63.0	12.04.2023 to 11.04.2028
4.	T.Thangaraj	383/2A2B, 383/2A2A2A22	1.88.72	09.11.2022 to 08.11.2027
5.	M.Thangaraj	389/1B1A, 389/1B1B, 389/1B2	2.19.50	09.11.2022 to 08.11.2027
б.	M.Devaraj	389/1A	1,29.0	25.08.2022 to 24.08.2027

2. Proposed quarries:

Sl.No	Name of the Applicant	S.F.Nos	Extent (Hect)	Remarks	
1:	S.Rajasekar	382/2A(P)	2.48.50	Previously held under quarrying lease. Lastly held under quarrying lease for the period from 25.09.2018 to 24.09.2023 granted vide District Collector proceeding R.C.No.105 /Mines/2017 dated 25.09.2017 Again afresh application has been received on 07.12.2022 and the same is under process.	
2.	V.Revathi	209/1A(P), 209/1B(P), 209/2C(P)	2.25.5	Applied for Quarry lease	
3.	N.Ayyadurai	392 (Part)	0.99.50	Applied for Quarry lease	

3. Lease expired and abandoned quarries:

SNo Name of the Applicant		the S.F.Nos Extent(H	Extent(Hect)	t) Lease Period	
1.	i		Ref		- : 20

Deputy Director Geology and Mining, Tiruppur

Copy to : State Level Environment Impact Assessment Authority-Tamil Nadu, 3rd Floor, Panagal Maaligai, No.1 Jeenis Road, Saidapet. Chennai-15



From

Thiru. A.Perumal, M.Sc., M.Phil., Deputy Director. Geology and Mining, Tiruppur To

Thiru, S. Rajasekar, S/o. Semalai Gounder, No. 71. Thimmanaickenpalayam, Morattupalayam Post, Uthukuli Taluk, Tiruppur District.

R.c. No. 761/ Mines / 2022 dated: 12.12.2023.

Sub: Mines and Minerals - Minor Mineral - Rough Stone and Gravel- Tiruppur District - Uthukuli Taluk - Morattupalayam Village- S.F.Nos. 382/2A(P) - Over an Extent of 2.48.50 Hectares of patta land- Quarry lease for Rough Stone and Gravel - Application preferred by Thiru.S.Rajasekar - Precise area communicated for the proposed grant of quarry lease - Mining Plan Submitted for approval - Approved - regarding.

Ref: 1. Application for grant of Rough Stone and Gravel quarry lease preferred by Thiru.S.Rajasekar dated: 07.12.2022.

2. G.O. Ms. No. 79 / Industries (MMC 1)

Department dated 06.04.2015.

 The Assistant Director (i/c), Geology and Mining, Tiruppur letter R.C. No. 48/Mines/2023 dated 20.09, 2023.

 Thiru.S.Rajasekar letter dated:Nil received on 04.11.2023.

Thiru.S.Rajasekar preferred an application for the grant of Rough Stone and Gravel quarry lease over an extent of 2.48.50 Hectare of Patta land in S.F.No.382/2A(P). Morattupalayam Village, Uthukuli Taluk, Tiruppur District vide the reference 1st cited and the precise area was communicated to the applicant vide the reference 3rd cited with a direction to submit the approved mining plan and Environmental Clearance.

As directed, the applicant submitted three copies of mining plan for approval vide the reference 4th cited. The Mining Plan has been verified in detail and found that it was prepared in accordance with the guidelines / instructions issued by the Commissioner of Geology and Mining in letter RC. No. 3868 / LC / 2012 dated 19.11.2012.

Therefore in exercise of the powers conferred under Rule 41(2) of Tamil Nadu Minor Mineral Concession Rules, 1959, read with G.O. (Ms). No.79 / Industries (MMC 1) Department dated 06.04.2015, the mining plan is hereby approved, subject to the following conditions:

The mining plan is approved without prejudice to any other Law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or

any other authority.

This approval of the mining plan does not in any way convey the (ii) approval of the Government in terms or 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, Explosives Act, 1884 (Central Act IV of 1884) Minor Mineral Concession and Development Rules, 2010 and the Rules made there under and the Tamil Nadu Minor Mineral Concession Rules, 1959.

The mining plan is approved without prejudice to any other order (iii)

or direction from any court of competent jurisdiction.

The validity of the mining plan is co-terminus with the lease (iv)

period.

Quarrying shall be done in accordance with the approved Mining (v) Plan and that the mining plan is approved without prejudice to any other law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.

If anything is found to be concealed as required by the Mines Act (VI) in the contents of the Mining Plan and the proposal for rectification has not been made, the approval shall be deemed to

have been withdrawn with immediate effect.

A safety distance of 7.5 meters shall be provided for the patta (vii) lands situated adjacent to the applied area.

Encl.: Approved Mining Plan.

Deputy Director. Geology and Mining, Tiruppur

MINING PLAN AND PROGRESSIVE QUARRY CLOSURE PLAN FOR MORATTUPALAYAM ROUGH STONE AND GRAVEL QUARRY

(PREPARED UNDER RULES 4) ± 42 A5 AMENDED IN TAMIL NADU MINOR MINERAL CONCESSION RULES, (939).

Patta Land / Lease Period = Five Years

IN

LOCATION OF THE QUARRY LEASE APPLIED AREA

EXTENT :

2.48.5ha

S.F.NO :

382/2A (P)

VILLAGE :

MORATTUPALAYAM

TALUK

UTHUKULI

DISTRICT:

TIRUPPUR

STATE

TAMIL NADU

FOR

APPLICANT

Thiru. S. Rajasekar,

S/o. Semalai Gounder,
No.71, Thimmanaickenpalayam,
Morattupalayam Post, Uthukuli Taluk,
Tiruppur District – 638 752,
Tamil Nadu State.

PREPARED BY

Dr. P. Thangaraju, M.Sc., Ph.D.,

Qualified Person

(As per Rule 15(I)(a) and (I)(b) of MCR, 2016)

No.17, Advaitha Ashram Road,

Alagapuram, Salem District - 636 004.

Cell: +91 94422 78601 & 94433 56539

E-mail: infogeoexploration@gmail.com



S. Rajasekar,

S/o. Semalai Gounder,

No.71, Thimmanaickenpalayam,

Morattupalayam Post, Uthukuli Taluk,

Tiruppur District - 638 752,

Tamil Nadu State.

CONSENT LETTER FROM APPLICANT

The Mining Plan and Progressive Quarry Closure Plan in Respect of Morattupalayam Rough stone and Gravel Quarry in S.F.No.382/2A (P) over an extent of 2.48.5ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared by

Dr. P. Thangaraju, M.Sc., Ph.D.,

Qualified Person

I request to the Assistant Director (i/c) / Assistant Geologist, Department of Geology and Mining, Tiruppur District to make further correspondence regarding the modification of the Mining Plan with the said Qualified Person at his following address.

Dr. P. Thangaraju, M.Sc., Ph.D.,

No. 17, Advaitha Ashram Road,

Alagapuram, Salem District - 636 004.

Cell: +91 94422 78601 & 94433 56539

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

Signature of the Applicant

S. Rajasekar

Place: Tiruppur

Date: 22.09.2023



S. Rajasekar,

S/o. Semalai Gounder,

No.71, Thimmanaickenpalayam,

Morattupalayam Post, Uthukuli Taluk,

Tiruppur District - 638 752,

Tamil Nadu State.

DECLARATION OF THE APPLICANT

The Mining Plan and Progressive Quarry Closure Plan in Respect of Morattupalayam Rough stone and Gravel Quarry in S.F.No.382/2A (P) over an extent of 2.48.5ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared in full consultation with me.

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

Signature of the Applicant

S. Rajasekar

Place: Tiruppur

Date: 22.09.2023



CERTIFICATE

Certified that I am, Dr. P. THANGARAJU, M.Sc., Ph.D., having an office at No. 17, Advaitha Ashram Road, Alagapuram, Salem – 636 004, holding a Post Graduate Degree in Geology (M.Sc. Geology) from Madras University, Chennai and I worked in the field of Geology in a role of Geologist.

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

Accordingly, I am preparing this Mining Plan and Progressive Quarry Closure Plan in Respect of Morattupalayam Rough stone and Gravel Quarry in S.F.No.382/2A (P) over an extent of 2.48.5ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State for **Thiru. S. Rajasekar** S/o. Semalai Gounder, No.71, Thimmanaickenpalayam, Morattupalayam Post, Uthukuli Taluk, Tiruppur District – 638 752, Tamil Nadu State. Since the Mining Plan is prepared as per the provisions contained in Rule 15(I)(a) and (I)(b) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016.

Signature of the Qualified Person

Dr. P. Thangaraju, M.Sc., Ph.D.

Place: Salem

Date: 26.09,2023

Dr. P. Thangaraju, M.Sc., Ph.D.,

No. 17, Advaitha Ashram Road,

Alagapuram, Salem District - 636 004.

Cell: +91 94422 78601 & 94433 56539



CERTIFICATE FROM THE QUALIFIED PERSON

This is to certify that the Provisions of under Rules 41 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959 have been observed in the preparation of Mining Plan and Progressive Quarry Closure Plan for Morattupalayam Rough stone and Gravel Quarry in S.F.No.382/2A (P) over an extent of 2.48.5ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared for

Thiru. S. Rajasekar,

S/o. Semalai Gounder,

No.71, Thimmanaickenpalayam,

Morattupalayam Post, Uthukuli Taluk,

Tiruppur District - 638 752,

Tamil Nadu State.

Whenever specific permissions/ exemptions/ relaxations and approvals are required, the Applicant will approach the concerned authorities of the Assistant Director (i/c) / Assistant Geologist, Department of Geology and Mining, Tiruppur District, Tamil Nadu State for such permissions/ exemptions/ relaxations and approvals.

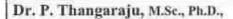
It is also certified that information furnished in the above Mining Plan are true and correct to the best of my knowledge.

Signature of the Qualified Person

Dr. P. Thangaraju, M.Sc., Ph.D.,

Place: Salem

Date: 26.09.2023



No. 17, Advaitha Ashram Road,

Alagapuram, Salem District - 636 004.

Cell: +91 94422 78601 & 94433 56539



CERTIFICATE FROM THE QUALIFIED PERSON

Certified that the Provisions of Mines Act, Rules and Regulations and Orders made there under have been observed in the preparation of Mining Plan and Progressive Quarry Closure Plan for Morattupalayam Rough stone and Gravel Quarry in S.F.No.382/2A (P) over an extent of 2.48.5ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared for

Thiru. S. Rajasekar,

S/o. Semalai Gounder,

No.71, Thimmanaickenpalayam,

Morattupalayam Post, Uthukuli Taluk,

Tiruppur District - 638 752,

Tamil Nadu State.

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

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

Signature of the Qualified Person

Dr. P. Thangaraju, M.Sc., Ph.D.

Place: Salem

Date: 26.09.2023

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MINING PLAN AND PROGRESSIVE QUARRY CLOSURE PLAN FOR

MORATTUPALAYAM ROUGH STONE AND GRAVEL QUARRY OVER A

EXTENT OF 2.48.5HA OF PATTA LAND IN MORATTUPALAYAM

VILLAGE, UTHUKULI TALUK, TIRUPPUR DISTRICT,

TAMIL NADU STATE.

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

1.0 INTRODUCTION AND EXECUTIVE SUMMARY

This Mining Plan and Environment Management Plan are prepared for **Thiru**. **S. Rajasekar** S/o. Semalai Gounder, residing at No.71, Thimmanaickenpalayam, Morattupalayam Post, Uthukuli Taluk, Tiruppur District – 638 752, Tamil Nadu State.

The applicant applied for Morattupalayam Rough stone and Gravel Quarry in S.F.No.382/2A (P) over an extent of 2.48.5ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State under Rule 19 as per the Tamil Nadu Minor Mineral Concession Rules, 1959.

The application was processed by the Assistant Director (i/c) / Assistant Geologist, Department of Geology and Mining, Tiruppur District and passed a Precise Area Communication letter vide Rc.No.761/Mines/2022, Dated: 20.09.2023 to submit Mining Plan for the approval in Department of Geology and Mining, Tiruppur District and obtain Environmental Clearance from the Competent Authority, Tamil Nadu State, with the conditions to provide (Please refer Annexure No. I):

- As per Table II of the Tamil Nadu Minor Mineral Concession Rules, 1959, the seigniorage fees for mined minerals shall be paid from time to time and then the mineral must be transported.
- Quarry operation should be carried out by leaving a safety distance of 7.5m to adjacent patta and quarry lands.
- Explosives should be carried out by experienced explosive users using low power explosives without any disturbance to the adjacent pattadars / without any encroachment on the adjacent patta and government lands.
- 4. As per the rules, the approved mining plan should be submitted within the due time.

- A quarrying license will be issued only after obtaining prior approval of the Environmental.
 Impact Assessment Authority for the area for which the quarrying license is to be issued.
- In the applied area, DGPS should be measured and the corresponding may should be submitted in original and on CD.
- If any violations are found in the quarry, penal action will be taken as per provisions
 mentioned in the Tamil Nadu Minor Mineral Concession Rules, 1959.

In order to ensure compliance of the order of the Honourable Supreme Court Dated: 27.02.2012 in I.A.No.12.13.2011 in Special Leave Petition SLP (C) No 19628-19629/2009, it has been now decided that all mining projects of minor minerals including their renewal irrespective of sizes of the lease would hence forth require prior environmental clearance mining project within the lease applied area up to less than 100ha including projects or minor mineral with lease applied area less then 5ha would be treated as category B as defined in the EIA notification 2006 and will be considered by the state notified by MoEF as prescribed procedure under EIA notification 2006.

In the above circumstances the applicant through his consultant is hereby preparing the Mining Plan, Environmental Management Plan and Progressive Quarry Closure Plan for approval and subsequent submission of Form-I, Form-IM and Pre-feasibility report to obtain environmental clearance from the Competent Authority, Tamil Nadu State, Rough Stone and Gravel quarry. This mining plan is prepared by considering the Rules 41 & 42 as Amended in Tamil Nadu Minor Mineral Concession Rules, 1959 and as per the EIA Notification 2006 and its subsequent Amendment and judgments till 2023.

Short Notes of Mining Plan:

- Village Panchayat Morattupalayam
- b. Panchayat Union Uthukuli
- c. The Geological Resources are 4,10,685m³ of Rough Stone and 9,166m³ of Gravel formation in the entire area.
- d. The Total Mineable Reserves are 1,63,614m³ of Rough Stone and 6,052m³ of Gravel in the entire area.
- e. The proposed quantity of reserves/ (level of production) to be mined are 1,63,614m³ of Rough Stone for five years and 6,052m³ of Gravel for one year in the entire area.
- f. Total extent of the lease applied area = 2.48.5ha
- g. Topography of the area = The area exhibits plain topography

h. Proposed Depth of mining = 37m (2m Gravel + 35m Rough Stone)>

below ground level

- This Mining Plan period = Five years
- j. It is a fresh lease application but, the applied area has been considered quarrying operation earlier. The quarry lease was previously granted with three spells, these spells are given table below:

TABLE-1

Spells	Name of the lease holder	S.F. No. & Extent	District Collector's Proceedings No. & Date	Lease Period
1. Thiru, S	Thiru. S. Rajasekar	382/2A (P) & 1.98.5ha	Rc.No.21516/2007/X-2, Dated: 09.07.2007	09.07.2007 to 08.07.2012
2.	Thiru. S. Rajasekar	382/2A (P) & 1.98,5ha	Rc.No.207/Mines/2012, Dated: 07.07.2012	07.07.2012 to 06.07.2017
3.	Thiru. S. Rajasekar	382/2A (P) & 1.98.5ha	Rc.No.105/Mines/2017, Dated: 25.09.2018 (Refer Annexure No. IA)	25.09.2018 to 24.09.2023

Note: Finally, the quarry operation was carried out by Thiru. S. Rajasekar. The applicant has obtained Environmental Clearance from the District Level Environmental Assessment Authority, Tiruppur District vide Lr.No.DEIAA-TPR/F.No.358/1(VIII)/2018, Dated:14.08.2018 (Refer Annexure No. IB). At present there are two existing pits situated within the lease applied area, the maximum dimensions of existing quarry pits are given table below (Refer Plate No. II).

TABLE-1A

Pit ID	Length in m	Width in m	Depth in m
1	160	87	30m below from the existing ground profile
П	35	115	22m below from the existing ground profile

k. Method of mining / level of mechanization.

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

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

Excavators attached with rock breaker (Rental Basis).

- Jack hammer, Compressor (Diesel drive) (4 Jack hammer capacity) (Rental Basis).
- No trees will be uprooted due to this quarrying operation.
- The existing road from the main road to quarry is in good condition. The same will be maintained and utilized for Transportation of quarry materials and machineries.
- There is No Export of this Rough Stone and Gravel.

- Morattupalayam Rough Stone and Gravel Quarry
- p. Topo sketch covering 10km and 1km radius around the proposed area with markings of habitations, water bodies including streams, rivers, roads, major structure like bridges, wells, archaeological importance, places of worships is marked and enclosed as Plate Nos. IA & IB.
- q. The lease applied area is about 2.48.5ha bounded by seven corners; the corners are designated as 1-7 Clockwise from the Northeastern corner the Co ordinates for the all the corners are clearly marked in the Quarry Lease and Surface Plan enclosed as Plate No. II.
- r. The plans of proposed quarrying area showing the dimensions of the pit, their proposed depth and maximum area of proposed quarrying are enclosed as Plate Nos. III and IV.
- General conditions will not be applicable for the proposed area. The area applied for lease is 10Km away from the,
 - i) Interstate Boundary,
 - ii) Protected area under wild life protection ACT, 1972,
 - iii) Critically polluted areas as identified by CPCB,
 - iv) Notified Eco sensitive areas.
- t. There is no waste anticipated during this quarry operation, hence waste dump is not proposed in the lease applied area.
- Around 24 employees are deploying in the quarrying operation.
- Total Cost of the project is about Rs.62,93,000/-.
- w. Infrastructures around the lease applied area given below in the table:

TABLE-2

Particulars	Location	Approximate aerial distance and direction from lease applied area
Nearest Post Office	Uthukuli	3.3km - NE
Nearest School	Uthukuli	3.3km - NE
Nearest Dispensary	Uthukuli	3.3km – NE
Nearest Town	Uthukuli	3.3km – NE
Nearest Police Station	Uthukuli	3.3km – NE
Nearest Hospital	Tiruppur	9.4km – SW
Nearest D.S.P. Office	Tiruppur	9.4km – SW
Nearest Railway Station	Vanjipalayam	6.6km – NW
Nearest Airport	Coimbatore	35.4.0km - SW
Nearest Seaport	Kochi	167,0km - SW
District Head Quarters	Tiruppur	9.4km – SW

There is no National Monuments, Places of Worship, Places of Public Interest and Permanent structures situated around 300m radius from the lease applied area. The nearest Wildlife Sanctuary is Vellode Birds Sanctuary, which is located at 47.3km on the Northeastern side of the lease applied area.

2.0 GENERAL INFORMATION

2.1 a) Name of the Applicant : Thiru. S. Rajasekar,

S/o. Semalai Gounder,

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

Address :

No.71, Thimmanaickenpalayam,

Morattupalayam Post, Uthukuli Taluk,

Tiruppur District.

Pin Code

32

8

638 752

Mobile No

Email ID

+91 94432 43167

Aadhaar No

6955 6747 4577 (Annexure No. VII)

65

sivasakthiukl@gmail.com

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

The applicant is an Individual.

2.2 a) Mineral which the Applicant intends to mine:

The Applicant intends to quarry Rough Stone and Gravel only.

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

The precise area communication letter was received from the Assistant Director (i/c) / Assistant Geologist, Department of Geology and Mining, Tiruppur District vide Rc.No.761/Mines/2022, Dated: 20.09.2023.

c) Period of permission / lease to be granted:

Five Years.

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

Name

Dr. P. Thangaraju, M.Sc., Ph.D.,

Oualified Person

(As per Rule 15(I)(a) and (I)(b) of MCR, 2016)

Address

Reg. No.17, Advaitha Ashram Road,

Alagapuram, Salem District - 636 004.

Telephone

0427- 2431989 (Office)

Cell No :

+91 94422 78601 & 94433 56539

Email

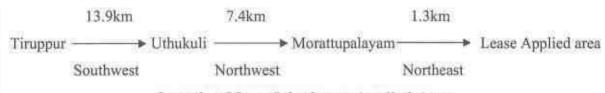
infogeoexploration@gmail.com

(Refer Annexure Nos. IX & X).

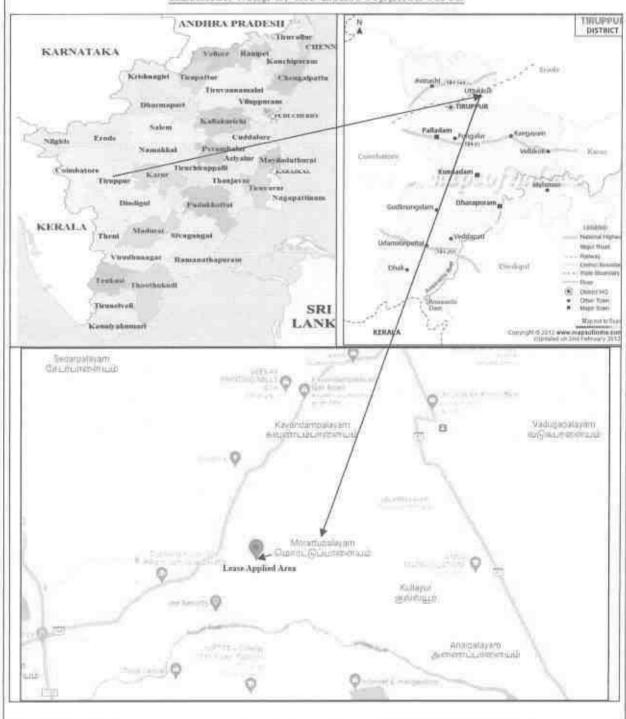
3.0 LOCATION

a) Details of the area with location map:

The lease applied area is about 9.4km Northeastern side of Tiruppur town and 3.3km. Southwestern side of Uthukuli Town, the lease applied area located along Morattupalayam Village at a distance of 1.3km (NE).



Location Map of the Lease Applied Area



District	Taluk	Village	S.F. No.	Lease Applied Area in ha	Patta Nos.
Tiruppur	Uthukuli	Morattupalayam	382/2A (P)	2.48.5	ALRU
	Т	otal Extent		2.48.5ha	

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

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

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

It is a Patta land. Jointly Registered in the name of the applicant (Thiru. S. Rajasekar), Tmt.R.Palaniyammal, Thiru.R.Hariprasath, Thiru.R.Harisankar and Thiru.K.Thirumoorthi, vide Patta No. 421. The applicant has obtained consent from the other pattadars for the period of five years from the lease granted date. Refer Annexure Nos. IV & VII.

d) Topo sheet No. with latitude and longitude:

The lease applied area falls in the Topo sheet No: 58 – E/08 Latitude between: 11°08'12.23"N to 11°08'20.17"N and Longitude between: 77°25'14.88"E to 77°25'19.13"E on WGS datum-1984. Please refer the Plate Nos. I to II.

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

The approach (metal) road is situated on the Western side which connects the Tiruppur to Vijayamangalam Road (SH-19A) at a distance of 470m from the lease applied area.

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

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

The Nearest Railway line is Coimbatore – Erode which is about 1.8km on the Northern side of the lease applied area.

PART - A

4.0 GEOLOGY AND MINERAL RESERVES

4.1 Brief description of the Topography and general Geology of the area with plans.

The lease area is exhibits plain topography. The area has gentle sloping nowards Northeastern side and altitude of the area is 292m (max) above from Mean Sea Level. The area is covered by 2m thickness of Gravel formation. Massive Charnockite is found after 2m (Gravel) which is clearly inferred from the existing quarry pit.

The Water table is found at a depth of 68m. Average annual rainfall is about 607mm.







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

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

	AGE		FORMATION
1	Recent	(8)	Quaternary
			Formation (Gravel)
	Un	confe	ormity
	Archaean	*	Charnockite
			Peninsular Gneiss complex

4.2 Details of exploration already carried out if any:

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

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

4.3 Estimation of Reserves:

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

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

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

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

Estimation of Geological Resources (Plate No. III):

The Geological Resources of Rough Stone and Gravel are calculated up to a maximum depth of 37m (2m Gravel + 35m Rough Stone) below ground level. The total Geological resources are calculated by sectional method and the resources are estimated after depletion of existing quarry pit. The total available geological resources are given table below:

W ALONE

TABLE-4

		GEOLOG	ICAL RE	SOURCE	S	151
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Rough stone (m³)	Grave (m ³)
	VI	35	77	5	13475	25
	VII	35	77	3	8085	13
XY-AB	VII	65	77	2	10010	這
	VIII	48	77	5	18480	1 5
		Tota	al		50050	- 3
	1	3	1	2	mar.	2
	п	1	1	5	5	=
j	Ш	1	1	5	5	
	IV	1	1	5	5	
XY-CD	V	I.	8	5	40	
A1-CD	VI	a	8	5	40	
	VII	1	8	3	24	
1	VII	100	89	2	17800	
	VIII	100	89	5	44500	
		Tota	62419	2		
	ĭ	43	106	2	9	9116
	п	43	106	5	22790	14
	Ш	43	106	3	13674	×
	III	71	106	2	15052	12
XY-EF	IV	72	106	5	38160	
VI-EL	V	72	106	5	38160	*
	VI	72	106	5	38160	
	VII	72	106	5	38160	=
	VIII	72	106	5	38160	
		Tota	ıl		242316	9116
	1	2	12	2		48
	II	2	13	5	130	8
	Ш	2	13	5	130	
	IV	2	13	5	130	- 3
XIYI-AB	V	2	13	5	130	8,
	VI	71	52	5	18460	- 3
	VII	71	52	5	18460	*
	VIII	71	52	5	18460	
		Tota	ıl		55900	48
	Gra	and Total			410685	9166

Total Geological Resources of Gravel Formation

9,166m3

Total Geological Resources of Rough Stone

4,10,685m3

Estimation of Available Mineable Reserves:

The available Mineable reserves are calculated after leaving the safety distance and bench loss to a maximum depth of 37m below ground level.

TABLE-5

			IABLE-5	8		
	_	MINEA	BLE RES	ERVES		
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Rough stone (m³)	Gravel (m³)
	VI	27	69	5	9315	
	VII	23	64	3	4416	3
XY-AB	VII	53	64	2	6784	
Postson Mark	VIII	48	59	5	14160	
		Tota	il		34675	9
	VII	100	63	2	12600	-
XY-CD	VIII	100	53	5	26500	-
		Tota	39100	- E		
	I	34	89	2	č ≨ 1	6052
	11	31	83	5	12865	
	Ш	26	73	3	5694	-
	Ш	55	73	2	8030	le:
XY-EF	IV	50	63	5	15750	F
A1-EP	V	45	53	5	11925	188
	VI	40	43	-5	8600	561
	VII	35	33	5	5775	V2:
ĺ	VIII	30	23	-5	3450	-
		Tota	ıl		72089	6052
	VI	56	30	5	8400	-
VIVI AD	VII	46	25	5	5750	
X1Y1-AB	VIII	36	20	5	3600	~
		Tota	d		17750	•
	Gra	and Total			163614	6052

The mineable reserves have been computed as 1,63,614m³ of Rough Stone at the rate of 100% recovery and 6,052m³ of Gravel upto a maximum depth of 37m below ground level for a period of five years.

5.0 MINING

5.1 Method of mining (opencast / underground):

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

However, as far as the quarrying of Rough Stone is concerned, observance of the provisions of Regulation 106 (2) (b) is available with Director General of Mines Safety. If the applicant/lessee intends to modify the dimensions of benches, relaxation and permission are available with Director General of Mines Safety under 106 (2) (b) of Metalliferous Mines Regulations, 1961. In such a scenario if there is any drastic change in the Resources and Reserves a modified plan will be submitted to the concerned authority for necessary relaxation, clearance and permission. The relaxation will be applied and obtained after the execution of lease deed / commencement of quarry operation.

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

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

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

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

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

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

5.3 Proposed Bench Height and Width:

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

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

The overburden in the form of Gravel, the Gravel will be directly loaded into trucks for the filling and levelling of low-lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government. The excavated Rough stone will be directly loaded into Tippers to the needy customers. The Composite year wise Development and production plan and sections indicating the Pit lay out, Greenbelt development are shown in Plate No. III.

Year wise development and Production TABLE-6

		YEARW	ISE PROD	UCTION	DETAILS		2 W 2
Years	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Rough stone (m ³)	Grave (m)
		1	34	89	2	30	6052
I		П	31	83	5	12865	· ·
		ш	26	73	3	5694	12
1180		Ш	55	73	2	8030	75
		IV	20	63	-5	6300	- 3
	XY-EF		Tota	ıl		32889	6052
	A1-EF	IV	30	63	5	9450	-
		V	45	53	5	11925	
п		VI	40	43	5	8600	3
		VII	35	33	5	5775	9
			Tota	ıl		35750	3
ш		VIII	30	23	5	3450	=
		VII	100	63	2	12600	-
	VV CD	VIII	60	53	5	15900	≅
XY-CD		Total			31950		
		VIII	40	53	5	10600	=
		VI	27	69	5	9315	=
IV		VII	23	64	3	4416	Zi.
	XY-AB	VII	53	64	2	6784	8
_			Tota	il	//	31115	- E
		VIII	48	59	5	14160	
		VI	56	30	5	8400	2
\mathbf{v}	XIYI-AB	VII	46	25	5	5750	
	ATTI-AD	VIII	36	20	5	3600	=
			Tota	ıl		31910	
		Grand T	otal			163614	6052

The Recoverable reserves have been computed as 1,63,614m³ of Rough Stone at the rate of 100% recovery for five years and 6,052m³ of Gravel for one year upto depth of 37m below ground level for a mining period.

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

Morattupalayam Rough Stone and Gravel Quarry

3 lorry loads per day

Willing Flatt and FQCF	шрагауан	r Kough Stone and Marche
One lorry load	=	6m³ (approx.)
Total No of Working days	=	300 Days per year
Total quantity to be removed in this five years plan perio	d =	1,63,614m³
Hence total lorry loads per day	==	1,63,614m ³ /6m ³
	200	27269 lorry loads
	=:	27269/5 years
	#	5454/300 Days
Rough Stone	± 0	18 lorry loads per day
Total quantity to be removed in this one year plan period	₩.	6,052m ³
Hence total lorry loads per day	≣;	6,052m ³ /6m ³
	=0	1009 lorry loads
	≅)	1009/300 Days

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

5.5 Machineries to be used:

Gravel

For Mining:

The following machineries are utilized on rental basis for the development and production work at this quarry. The proposed and adopted machinery make may variable, if machinery making companies provide upgraded machines the same will be applied as per availability in market.

TABLE-7

I. DRILLING MACHINE:

S. No.	Туре	Nos	Dia Hole mm	Size Capacity	Motive power
1	Jack hammer	5	30-35	1.2m to 2.0m	Compressed air
2	Compressor	1		400 psi	Diesel Drive

II. EXCAVATION & LOADING EQUIPMENT:

S. No.	Туре	Nos	Capacity	Motive Power
1	Excavator with Bucket and	1	300	Diesel Drive
	Rock Breaker		NAMES OF THE PERSON OF THE PER	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

III. HAULAGE WITHIN THE MINE & TRANSPORT EQUIPMENT:

S. No.	Туре	Nos	Capacity	Motive Power
1	Tippers	3	20 tonnes	Diesel Drive

The above machineries are adequate to meet out the development and production schedule drawn out during this mining plan period.

5.6 Disposal of Overburden/Waste:

The overburden in the form of Gravel, the Gravel will be directly loaded into tracks for the filling and levelling of low-lying areas. The excavated Rough Stone (100%) will be directly loaded into Tippers to the needy customers. There is no Waste anticipated during this plan period hences disposal of waste does not arise.

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

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

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

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

TABLE-8

Pit ID	Length (m) (max)	Width (m) (max)	Depth (m) (max)
1	65	115	27 - Information of front
П	163	87	37m below ground level

Greenbelt has proposed on the safety zone by planting Aathi, Iruvathi & Punnai, etc., trees of native species. All the base line information studies like Air quality monitoring, Noise and vibration monitoring, Water analysis studies will be carried out every year as per the MoEF&CC Norms (Please refer Plate Nos. III & IV).

It is proposed to engage any local institution to monitor the EIA and EMP during the course of quarrying operation after the grant of quarry lease.

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

6.0 BLASTING

6.1 Blasting pattern:

The quarrying operation is proposed to carried out by Mechanized Opencast Method in conjunction with conventional method of mining using Jack hammer drilling and slurry blasting of shattering effect for loosen the Rough stone. Besides those are noise free Eco friendly machineries.

Drilling and	blasting	parameters are as follows	ž
Diffining and	DIASHIN	parameters are as ronows	ļ

Depth of Each hole : 1.5m

Diameter of hole : 30-32mm

Spacing between holes : 1.2m

Burden for hole : 1.0m

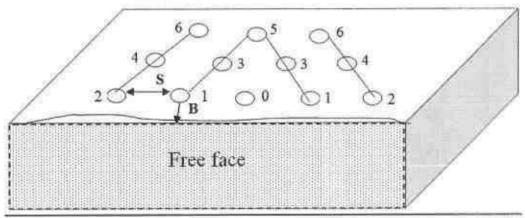
Pattern of hole : Zigzag - Multi-rows

Inclination of holes : 80° from horizontal

Use of delay detonators : 25millisecond Delays

Detonating fuse : Non-Electric Detonators

BLASTING PATTERN DRAWING



Staggered "V" Pattern of Blasting Design

Spacing = 1.2m

Burden = 1.0m

Depth of the hole = 1.5m

No of holes proposed per day= 94 Holes

6.2 Type of explosives to be used:

Small Dia. 25mm slurry explosives are proposed to be used for shattering and heaving effect for removal and winning of Rough Stone. No deep hole drilling or primary blasting is proposed.

6.3 Measures proposed to minimize ground vibration due to blasting:

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

Shallow depths jackhammer drilling & blasting is proposed to be carried out with minimum use of explosive mainly to give hearing effect in Rough Stone for easy excavation and to control fly rock.

Delay detonators:

Delay blasting (millisecond delays) permits to divide the shot in to smaller charges, which are detonated in a predetermined millisecond sequence at specific time intervals. The major advantages of delay blasting are:

- · Reduction of ground vibration.
- Reduction in air blast.
- · Reduction in over break.
- Improved fragmentation.
- · Better control of fly-rock.

Blasting program for the production per day:

No of Holes

Yield = 282 Tons

Powder factor = 6 Tons/Kg of explosives

Total explosive required = 47 Kg-Slurry explosives

Charge/ hole = 0.5 Kg

Blasting at day time only = 12.00 - 12.30p.m (whenever required)

= 94 Holes

6.4 Storage and safety measures to be taken while blasting:

The applicant will engage authorized explosive agency to carry out the small amount of blasting and it will be supervised by competent and statutory foreman/Permit Mines Manager. The explosives agencies should be having the valid Blaster certificate. He will blast holes in the quarry site. After the completion of Blasting the Explosive Agencies will take it out back the remaining quantity of Explosives. The Competent Qualified Statutory personnels of the Company will maintain the records of Explosives as per the Indian Explosives Act.

7.0 MINE DRAINAGE

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

The Water Table in the area is 68m, which is observed from the nearby existing private boreholes. The lease area is fully covered by Massive Charnockite formation. Hence the Ground Water problem will not arise. If water seepage may occur due to the fracture, the same will be used for Greenbelt. Anyhow, Garland drain will be constructed all along the boundary to prevent surface run-off water entering into the quarry.

TABLE-9

Type	Distance & Direction	Location
Bore Well	1 m 1 m - 11	11°09'08.74"N
Bore Well	1.5km Northern side	77°25'21.38"E

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

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

8.0 OTHER PERMANENT STRUCTURES (also shown in the map)

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		\mathbf{D}	6.44		ш

S. No.	Salient Features Present around site	Prescribed safety distance	If any present within Prescribed distance it's actual distance and direction from the area
8.1	Railways, Highways	50m	None of the above situated within 50m radius.
			Nearest National Highway - Coimbatore to Salem (NH-544) - 6.9km - North side
			Nearest State Highway – Tiruppur to Vijayamangalam Road (SH-19A) – 470m – West side
			Nearest Major District Road - Vavipalayam to Uthukuli Road (MD-1102) - 2.4km - NE
8.2	Water Bodies (River, Pond, Lake, Odai, Canal)	50m	There is no River, Pond, Lake, Odai, Canal located within 50m radius of the lease applied area.
8,3	Village Road	10m	No village road is passing within 10m radius of the lease applied area.
8.4	Habitation / Village, Archaeological / historical monuments & Places of worships	300m	There is no approved habitation, archaeological / historical monuments & place of worships within 300m radius from the lease applied area (Refer Plate No I-B).
8.5	Housing area, EB line (HT & LT Line)	50m	There is no Housing area, EB line (HT & LT Line) within the radius of 50m from the lease applied area.

8.6	Adjacent Patta lands /	7.5m/10m	6		THE STATE OF
0.0	Govt, Land	7.5110,10111	Direction	Classification	Safety Distance
	Govi, Land		North	Patta land	100 Times
			East	Patta land	Z.Smirus
			South	Patta land	7.5m
			West	Patta land	7.5m
			(Refer Plate	e No. II).	
8.7	Boundaries of the permitted area	7.5m/10m	The boundaries of the lease applied area as follows: North - S.F.Nos.209 & 382/2A (P) East - S.F.Nos.382/2A (P) & 392 South - S.F.No.382/2B West - S.F.No.205 (Refer Plate No. II).		
8.8	Reserve forest	60m	forest / wil	d life sanctuary ne lease applied	/ forest / social etc., within 60m area (Refer Plate
8.9	Protected area / ECO sensitive area/ Wild Life Sanctuary	10km	Sanctuary/	Critically Polluted within 10km r	Zone/ Wild Life ed Area/ HACA/ adius of the area.

9.0 EMPLOYMENT POTENTIAL & WELFARE MEASURES

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

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

a. Skilled labour:

Mine Foreman : 1

Blaster/mate : 1

Excavator – Operator : 1

Tippers Driver : 3

Jack hammer operator : 10

b. <u>Semi-skilled:</u>

Security : 1

c. Unskilled:

Labour & Helper : 3

Co-operator and Cleaner : 4

Total : 23

The above manpower is adequate to meet out the production schedule and the machinery strength envisaged in the mining plan and to comply with the statutory provisions of the Mines Safety Regulations. It is been ensured that the labour will not be employed less than 18 years, No child

labour will engaged or entertained for any kind of quarrying operations. All the labours engaged for quarrying operations will be insured during the quarry lease period.

9.2 Welfare Measures:

a. Drinking Water:

Packaged drinking water is available from the nearby approved water vendors in Uthukuli which is about 3.3km on the Northeastern side of the lease applied area.

b. Sanitary Facilities:

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

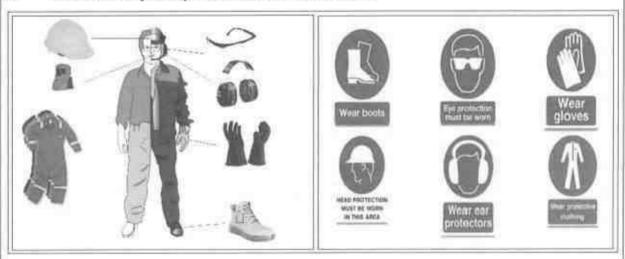
First aid facility:

First aid kits are kept in Mines office room, in case of such eventuality is the victim will be given first aid immediately at the site by the competent and statutory foreman/permit manager/mate will be in charge of first aid and injured person will be taken to the hospital by the applicant vehicle. Hospital is available in Uthukuli located at a distance of 3.3km on the Northeastern side.

d. Labour Health:

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

e. Precautionary safety measures to the labourers:



- Helmets,
- Mine Goggles,
- Ear plugs,
- Ear muffs,

- > Dust mask,
- > Reflector jackets,
- > Safety Shoes

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

PART - B

10.0 ENVIRONMENT MANAGEMENT PLAN

10.1 Existing Land use pattern:

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

LAND USE TABLE-11

Description	Present area in (ha)
Quarrying Pit	1.85.0
Infrastructure	Nil
Roads	0.02.0
Green Belt	Nil
Unutilized Area	0.61.5
Grand Total	2.48.5

10.2 Water Regime:

It is a simple opencast quarry operation. The quality of water will not be affected due to this quarrying operation. However, mitigation measures will be carried out like Garland drains constructed on all sides of quarry pit to avoid surface run-off rain water entering into the pit. During rainy season the water table in the adjacent area may raise up. The subject area is a hard batholithic formation hence, the water table will not encounter from adjacent lands.

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

10.3 Flora and Fauna:

1	V24	Section 1		-	-
OR O	Α.	13.1	110	-1	-0
118.0	m.	131		1.40	-2

		List	of Flora		1000
S. No.	Name of the plant (Scientific)	Family Name	Common Name	Habit	PletureIRUP
1	Azadirachta indica	Meliaceae	Neem, Vembu	Tree	
2	Calotropis gigantea	Asclepiadaceae	Crown Flower, Erukku	Shrub	· 1
3.	Opuntia vulgaris	Cactaceae	Sappattukkalli	Shurb	YEY
4.	Borassus flabellifera	Arecaceae	Palmyra Palm	Tree	Jane.
5.	Prosopis juliflora	Fabaceae	Seemai Karuvelam	Tree	

	Lis	st of Fauna	
S. No.	Scientific Name	Common Name	Picture
1_{s}	Utetheisa pulchelloides	Heliotrope Moth	
2.	Probergrothius sanguinolens	Indian Red Bug	
3.	Capra aegagrus hircus	Goat	A
4.	Diplacodes trivialis	Chalky Percher	*
5.	Corvus levaillantii	Crow	1
6.	Calotes versicolor	Garden Lizard	-

10.4 Climatic Conditions:

The area receives rainfall of about 607mm/annum and the rainy season is mainly from Oct

- Dec during monsoon. The summer is hot with maximum temperature of 42°C and winter encounters a minimum temperature of 23°C.

10.5 Human settlement:

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

TABLE-13

S. No.	Name of the Village	Approximate distance & Direction from lease applied area	Approximate population
1.	Velampalayam	2,1km - NE	3,600
2.	Agraharaperiapalayam	2.0km - NW	3,000
3.	Mudalipalayam	4.4km - SE	2,200
4.	Sircar Periyapalayam	2.0km - SW	6,000

Basic human welfare Amenities such as Health Centre, Schools, Communication Facilities, and Commercial Centres etc., are available at Uthukuli located at a distance of 3.3km on the Northeastern side of the area.

10.6 Plan for air, dust suppression:

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

The following Mitigations measures will be carried out:

- Compaction, gradation and drainage on both sides for haulage road.
- Fixed water sprinkling arrangements by own water tankers.
- Muffle blasting on overburden an waste to control fly rocks during blasting.
- Enforcing speed limits of 20km/hr within quarry area.
- Regular monitoring of exhaust fumes as per RTO norms.
- All personnel protective equipment like Nose-mask, earplug/ muffis will be provided to the Workers.
- Vegetations will be formed on the non-quarrying area.

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

10.7 Plan for Noise level control:

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

Engineering Noise control:

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

- Proper maintenance at done with regular interval by the Oiling and greasing for the machineries and vehicles to control the Source of noise during operation and transportation.
- NONEL blasting will be practiced to control Noise, ground vibration and fly rocks for removal
 of Overburden and Waste rocks.
- Transporting vehicles are enforcing the speed limits of 20km/hr within quarry area to reduce Noise level.
- The drivers will be strictly instructed to running the vehicle during the transportation not exceed 40km per hour from despatch to destination.
- All personnel protective equipment like earplug/ muffs will be provided to the Workers.
- Selection of new low noise equipments for the Rough stone quarry operation.
- Modifications of older equipments,
- Implementation of effective preventive maintenance which reduces noise more than 50%.
- Developing Green belts which act as Acoustic barrier, pollution absorbent and noise controller.
- Sentries with flags & whistle will be posted in village road junction and populated area to control and regulate traffic.

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

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

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

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

10.9 Proposal for waste management:

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

d affected during mining activities and at the end of

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

In the mining plan only to a maximum depth of 37m below ground level has been envisaged as workable depth for safe & economic mining during entire lease applied area. There is no waste generated hence, backfilling is not possible. Hence, the quarry area will be fenced with Barbed wire fencing also safety bund constructed around the quarry to prevent inadvertent entry of public and cattle. The barbed wire fencing cost would be around Rs.1,35,000/-.

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

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

TABLE-14

Years	No. of tress proposed to be planted	Survival %	Area to be covered sq.m.	Name of the species	No. of trees expected to be grown
1	30	80	280	Aathi, Iruvathi & Punnai, etc.,	24
П	30	80	280		24
Ш	30	80	280		24
IV	30	80	280		24
V	30	80	280		24

Nearly 1,400sq.m area is proposed to use under Greenbelt by planting 30 Number of tree saplings during every year with an anticipated survival rate of 80% (Please refer Plate No. III). The estimated budget for plantation and maintenance of Greenbelt development would be around Rs.30,000/- for the period of five years.

The Greenbelt Development will be formed in around the quarried out top benches with 150 tree saplings during fourth and five years of this mining plan period, approach road and nearby village road with 100 tree saplings during first year of this mining plan period. The cost would be around Rs.50,000/-.

10.12 Proposed financial estimate / budget for (EMP) environment managements

Budget Provision for the entire quarrying period:

TABLE-15

S. No.	Monitory and Analysis Description	Rate per location	No. of location	Total Charges/ six months	Total Chargest
13	Ambient air quality monitoring	6500	4	26000	52000
2	Noise level monitoring	250	4	1000	2000
3	Ground vibration monitoring	1000	2	2000	4000
4	Water sampling and analysis	9000	111	9000	18000
Total EMP Cost/ year				76,000	

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

A. Project / in	vestment / Operational cost	
i) Land cost	The Land value as per the Government Guideline land cost is about, Rs.11,12,000/ha, hence the total land cost is calculated about 2.48.5Ha X Rs.11,12,000/- Rs.27,63,320/- i.e., Rs.27,64,000/- (Source: https://tnreginet.gov.in/portal/)	Rs.27,64,000/
ii) Machinery to be used	The following machineries are proposed to meet out the productions. Excavator attached with Rock Breaker, Tippers, Tractor mounted compressor with Jack hammer and loose tools (Rental Basis)	Rs.20,00,000/-
iii) Refilling/ Fencing	Fencing will be constructed around the quarry pit to prevent the inadvertent entry of public and cattles cost would be around	Rs.1,35,000/-
iv) Labourers	Labour sheds will be constructed as semi-permanent structure. The cost would be around	Rs.1,50,000/-
v) Sanitary facility	Adequate latrine and urinal accommodation shall be provided at conveniently accessible places the cost would be around	Rs.1,00,000/-
vi) Others items	First aid room & accessories	Rs.80,000/-

Mining Plan and PC	QCP Morattupalayam Rough Stone	and Gravel Ouaris
vii) Drinking water facility for the labourers	Packaged drinking water will be provided for all the Labours. Drinking water will be readily available at conveniently accessible points during the whole of the working shift the cost would be around	Ra 1.00,000/-
viii) Sanitary arrangement	The latrine and urinal will keep clean and sanitary condition. The maintenance cost would be around	Rs.60,000/-
ix) Safety kit	All the Safety kit such as Helmet, Earmuffs, Goggles, Reflector Jackets, Safety shoes etc., will be provided to the workers by the applicant own cost which would be around	Rs.80,000/-
x) Water sprinkling	Water will be sprinkled in the haul roads by water sprinklers the cost would be around	Rs.1,50,000/-
xi) Garland drains Construction	Construction of garland drains to divert surface run-off from virgin area away from mining area	Rs.90,000/-
xii) Greenbelt etc.	Green belt development under safety zone during this Plan period (150 sapling x Rs. 200/- per sapling)	Rs.30,000/-
	Green belt development on around the quarried out top benches during fourth and five years of this mining plan period (150 sapling x Rs. 200/- per sapling)	Rs.30,000/-
	Green belt development on around the approach road and nearby village road during first year of this mining plan period (100 sapling x Rs. 200/- per sapling)	Rs.20,000/-
	Total Operational Cost	Rs.57,89,000/-

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B. EMP Cost: (Per year)	1 1 Company
Air Quality monitoring	Rs 52,000
Water Quality Sampling	Rs. 18,000
Noise Monitoring	Rs. 2,000/-
Ground Vibration test	Rs. 4,000/-
Total Cost	Rs.76,000/-
Total EMP Cost for the five years period is Rs.3,80,000/-	
Description	Amount (Rs.)
A. Operational Cost	Rs.57,89,000/-
B. EMP Cost	Rs.3,80,000/-
Total Project Cost (A+ B)	Rs.61,69,000/-
The applicant indents to involve corporate environment responsibilities (CER) activity like Books to the library, Water Purifier, Table & Chair, Plantation and Sanitary Facilities to the Uthukuli Govt. School at 2.0% from the total project cost. The Cost would be around Rs.1,24,000/	Rs.1,24,000/-
	Rs.62,93,000/-

11.0 PROGRESSIVE QUARRY CLOSURE PLAN

11.1 Introduction:

The Progressive Quarry Closure Plan for Rough Stone and Gravel quarry over an extent of 2.48.5ha of Patta land in S.F.No.382/2A (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared for **Thiru. S. Rajasekar** S/o. Semalai Gounder, residing at No.71, Thimmanaickenpalayam, Morattupalayam Post, Uthukuli Taluk, Tiruppur District – 638 752, Tamil Nadu State.

11.2 Present Land use pattern:

LAND USE TABLE-16

Description	Present area in (ha)
Quarrying Pit	1.85.0
Infrastructure	Nil
Roads	0.02.0
Green Belt	Nil
Unutilized Area	0.61.5
Grand Total	2.48.5

11.3 Method of Mining:

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

However, as far as the quarrying of Rough Stone is concerned, observance of the provisions of Regulation 106 (2) (b) is available with Director General of Mines Safety. If the applicant/lessee intends to modify the dimensions of benches, relaxation and permission are available with Director General of Mines Safety under 106 (2) (b) of Metalliferous Mines Regulations, 1961. In such a scenario if there is any drastic change in the Resources and Reserves a modified plan will be submitted to the concerned authority for necessary relaxation, clearance and permission. The relaxation will be applied and obtained after the execution of lease deed / commencement of quarry operation.

11.4 Mineral Processing Operations:

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

11.5 Reasons for closure:

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

11.6 Statutory obligations:

The applicant ensures to comply all the conditions stipulated in the precise area communication letter before the execution of lease deed and during the course of quarry operations.

11.7 Progressive quarry closure plan preparation:

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

Name : Dr. P. Thangaraju, M.Sc., Ph.D.,

Qualified Person

(As per Rule 15(I)(a) and (I)(b) of MCR, 2016)

Address : Reg. No.17, Advaitha Ashram Road,

Alagapuram, Salem District - 636 004.

Telephone : 0427-2431989 (Office)

Cell No : +91 94422 78601 & 94433 56539

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

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

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

11.9 Closure Plan:

(i) Mined Out Land:

At the end of mining plan period, about 2.22,0ha of area will be mined out. Land tise at various stages is given in the table below:

LAND USE TABLE-17

Description	Present area in (ha)	Area at the end of this quarrying period (ha)
Quarrying Pit	1.85.0	2.22.0
Infrastructure	Nil	0.01.0
Roads	0.02.0	0.02.0
Green Belt	Nil	0.14.0
Unutilized Area	0.61.5	0.09,5
Grand Total	2.48.5	2,48.5

The Greenbelt Development will be formed in around the approach road and nearby village road during first year of this mining plan period.

(ii) Water quality management:

Following control measures will be adopted for controlling water pollution:

- Construction of garland drains to divert surface run-off from virgin area away from mining area.
- Construction of check dams / gully plugs at strategic places to arrest silt wash off from broken up area.
- Collection of surface run-off from broken up area in mine pits for settling and only properly settled excess water from mine pit will be discharged to nearby users. The storm water/ mine water will be used for dust suppression, greenbelt development, etc.
- Periodic analysis of mine pit water and ground water quality in nearby villages.
- The quarried-out pit will be allowed to collect rain and seepage water which will act as a
 reservoir for storage. This water storage will enhance the static level and ground water
 recharge of nearby wells and it will be used for agriculture purpose to the nearby agriculture
 lands.
- 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. Workers will be provided with personnel protective equipment like face-mask, earplug/ muffs.

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

(iv) Top Soil and Waste Management:

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

(v) Disposal of mining machinery;

Part of the Machineries will be purchased by fresh condition also part of machineries has been utilized on rental basis. After completion of quarry operation all purchased machineries will be utilized 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 unauthorized persons as per Mine Act 1952, MMR 1961.

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

(vii) Disaster Management and Risk Assessment:

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

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

Environmental Monitoring Cell:

A dedicated team nominated by the mine manager or Agent will monitor and maintain the environmental compliances of the quarry as per the approved Environment Management Plan and report the Compliance to the Mine Manager half yearly.

Disaster Management Cell:

The Competent Qualified Statutory managers appointed by the lessee as per the Director of Mines Safety will be responsible for Disaster Management. It care of any eventualities his mobile number will be displayed and he will take all the precautions and safety measures as per Mines and Minerals (Development and Regulations) Act, 1957.

(viii) Care and Maintenance during Temporary Discontinuance:

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

- Notice of temporary discontinuance of work in mine shall be given to the DGMS as per the MMR 1961.
- All the mining machinery shall be shifted to a safe place.
- Entrance to the mine or part of the mine, to be discontinued shall be fenced off. Fencing shall be as per the circular 11/1959 from DGMS.

- > Security Guards shall be posted for the safety and to prevent any unauthorized entry to the area.
- > Carry out regular maintenance of the facilities/area detailed below in such a way as would have been done as if the mines were operation:

Quarry roads and approach roads,

Fencing on approach roads,

Checking and maintenance of machines and equipment,

Drinking water arrangements,

Quarry office, first aid stations etc.

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

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

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

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

(x) Time Scheduling for Abandonment:

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

(xi) Abandonment Cost:

As at present mining is not going to be closed so abandonment cost could not be assessed.

However, based on the progressive quarry closure activities during the plan period, cost is assessed as given below:

LAND USE TABLE-18

ACTIVITY			3	EARS			RATE	COST
ACHVILL		1	II	ш	IV	V	KAIL	(Rs.)
Plantation under safety	Nos.	30	30	30	30	30		70.0007
zone	Cost	6000	6000	6000	6000	6000		30,000/-
Plantation in the	Nos.	120	:::	Ret	75	75		
quarried out top benches	Cost	=	:83	DE.	15000	15000	@200 Rs Per sapling	30,000/-
Plantation in the	Nos.	100	S#X	125	Je:	Ħ		2060/25/2000
approach road and nearby village road	Cost	20000	ren	164	7/21	¥		20,000/-
Wire Fencing (In Mtrs)	450 Mtrs		1	35000			@300 Rs	1,35,000/-
Garland Drain (In Mtrs)	300 Mtrs		3	90000			Per Meter	90,000/-
		то	TAL					3,05,000/-

12.0 ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT/

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

I hereby ensure that the information provided is correct to best of my knowledge and experience, some of the information contained in this report has been provided by external sources and by the applicant and is presented as the form as submitted by the applicant. The information is not intended to serve as legal advice related to the individual situation. I do not owe and specifically disclaim any liability resulting from the use during the course of quarrying operations after the grant of lease. The document may be scrutinized by the competent authority before approval.

Prepared by

Dr. P. Thangaraju, M.Sc., Ph.D.,

Qualified Person

(As per Rule 15(I)(a) and (I)(b) of MCR, 2016)

Place: Salem

Date: 26.09.2023

DONATE RED

SPREAD GREEN

SAVE BLUE

This Mining Plan is approved subject to the Conditions Indicated in the Mining Plan approved Letter No. 161 Munica 2022.
Dated 124(2)2023

This Mining Plan is approved as per the Powers conferred under rule 41(2) of Tamil Nadu Minor Minoral Concession Rules, 1959

> DEPUTY DIRECTOR Geology and Mining Tiruppur

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Barro .

புவியியல் மற்றும் சுரங்கத்துறை மாவட்ட ஆட்சியர் அலுல்லகும் திருப்பூர்

நாள்: 20.09.2023.

குறிப்பாணை

கோருதல் - தொடர்பாக.

பொருள் : கனிமங்களும் சுரங்கங்களும் - சிறுகனிமம் - சாதாரண கற்கள் - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் மோர்ட்டும் பாளையம் கிராமம் - புல எண். 382/2A (Part) ல 2.48.5 ஹெக்டர் பட்டா நிலப்பரப்பில் சாதாரண கற்கள் / கிராவல் மண் வெட்டி எடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி திரு. எஸ். ராஐசேகர், த/பெ. சேமலை கவுண்டர் என்பவர் விண்ணப்பம் அளித்தது - புலத்தணிக்கை அறிக்கை சமர்பிக்கப்பட்டது - தகுதியான நிலப்பரப்பாக கருதி ஏற்பளிக்கப்பட்ட சுரங்க திட்டம் மற்றும் சுற்றுச்சூழல் தூக்க மதிப்பீட்டு ஆணைய இசைவிணை பெற்று சமர்பிக்கக்

பார்வை :

- திரு. எஸ். ராஜசேகர், த/பெ. சேமலை கவுண்டர், 71, திம்மநாயக்கன்பானையம், மொரட்டுப்பாளையம் அஞ்சல், ஊத்துக்குளி வட்டம் என்பவரின் மனு நாள்: 07.12.2022.
- இவ்வலுவலக ந.க.எண். 761/2022/கனிமம் நாள்:08.12.2022.
- இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, சென்னை ந.க. 1870/எம்.எம்.1/2020 நாள்: 10.08.2020 கடிதத்துடன் அரசாணை (பல்வகை) எண். 169, தொழில் (எம்எம்.சி-1) துறை நாள்: 04.08.2020 இணைத்து வரப்பெற்றுள்ளது. (தமிழ்நாடு அரசிதழ் சிறப்பு வெளியீடு எண். 315 நாள்: 04.08.2020).

 வட்டார வளர்ச்சி அலுவலர் (வ.ஊ), ஊத்துக்குளி கடிதம் ந.க. 2115/2023/அ2 நாள்: 18.05.2023.

 வட்டாட்சியர், ஊத்துக்குளி கடிதம் ந.க. 3273/2022/அ2 நாள்: 31.01.2023

6. சார் ஆட்சியர், திருப்பூர் கடிதம் ந.க. 6207/2022/அ3 நாள்: 05.05.2023.

 உதவி இயக்குநர் (பொ) / உதவிப் புவியியலாளர் (கனிமம்), திருப்பூர் புலத்தணிக்கை அறிக்கை நாள்: 08.2023.

8. மற்றும் உரிய ஆவணங்கள்

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 382/2A (Part)-ல் 2.48.5 ஹெக்டர் பரப்புள்ள பட்டா பூமியிலிருந்து 5 வருடங்களுக்கு சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க திரு. எஸ். ராஜசேகர், த/பெ. சேமலை கவுண்டர் என்பவர் பார்வை 1-ல் கண்டுள்ளபடி உரிய ஆவணங்களுடன் விண்ணப்பம் அளித்துள்ளார்.

மேற்படி விண்ணப்பங்கள் தொடர்பாக, வட்டார வளர்ச்சி அலுவலர்,
 ஊத்துக்குளி, வட்டாட்சியர், ஊத்துக்குளி, சார் ஆட்சியர், திருப்பூர், மற்றும் உதவி இயக்குநர்

(பொ) / உதவிப் புவியியலாளர் (கனிமம்), திருப்பூர் ஆகியோர் புலத்தணிக்கை மேற்கொண்டு திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பூல எண். 382/2A (Part) ல் 2.48.5 ஹெக்டர் பரப்பில் திரு. எஸ். ராஜசேகர், த/பெ. சேம்லை கவுண்டர் என்பவருக்கு சாதூரண கற்கள் மற்றும் கிராவல் மண் எடுக்க குவரரி உரிமம். வழங்க கீழ்கண்ட நிபந்தனைகளுக்குட்பட்டு அனுமதி வழங்கலாம் என மரிந்துன்ற கூற்குள்ளனர்.

நிபந்தனைகள்:

i,

1959ம் வருடத்திய தமிழ்நாடு சிறு கனிம சலுகை விதிகள், அட்டவணை II ல் கண்டுள்ளபடி குவாரி செய்யப்படும் கனிமங்களுக்குரிய சீனியரேஜ் தொகை அவ்வப்போது செலுத்தி கனிமம் கொண்டு செல்லப்பட வேண்டும்.

அருகிலுள்ள பட்டா மற்றும் குவாரி நிலங்களுக்கு 7.5 மீ பாதுகாப்பு இடைவெளி விட்டு குவாரிப் பணி மேற்கொள்ள வேண்டும்.

- ட அனுபவம் வாய்ந்த வெடிபொருள் பயன்படுத்துவோர் மூலம் குறைந்த அளவு சக்தி கொண்ட வெடிபொருட்களை பயன்படுத்தி அருகிலுள்ள பட்டாதாரர்களுக்கு எவ்வித இடையூறுமின்றி / அருகிலுள்ள பட்டா மற்றும் அரசு புலங்களில் எவ்வித ஆக்கிரமிப்பும் இன்றி குவாரிப்பணி மேற்கொள்ள வேண்டும்.
- விதிகளின் படி ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டத்தினை உரிய காலத்திற்குள் சுமர்பிக்க வேண்டும்.
- கூறாரி உரிமம் வழங்க உள்ள பகுதிக்கு சுற்றுச்சூழல் தாக்க மதிப்பீட்டு
 ஆணையத்தின் முன் அனுமதி பெற்று சமர்பிக்கும் பட்சத்தில் மட்டுமே குவாரி
 உரிமம் வழங்கப்படும்.
- பிரஸ்தாப புலத்திற்கு DGPS அளவீடு செய்யப்பட்டு அதற்கான வரைபடத்தினை
 அசல் மற்றும் குறுந்தகட்டிலும் சமாப்பிக்க வேண்டும்.
- குவாரியில் விதிமீறல்கள் ஏதேனும் கண்டறியப்பட்டால் தபிழ்நாடு சிறுகனிம சலுகை விதிகள், 1959 ல் குறிப்பிட்டுள்ள விதிகளின்படி அபராத நடவடிக்கை மேற்கொள்ளப்படும்.
- சுவாரி உரிமம் வழங்க உள்ள பகுதிக்கு சுற்றுச்சூழல் தாக்க மதிப்பீட்டு
 ஆணையத்தின் முன் அனுமதி பெற்று சமர்பிக்கும் பட்சத்தில் மட்டுமே குவாரி
 உரிமம் வழங்கப்படும்.
- எனவே, வட்டார வளர்ச்சி அலுவலர், ஊத்துக்குளி, வட்டாட்சியர், ஊத்துக்குளி, சார் ஆட்சியர், திருப்பூர், மற்றும் உதவி இயக்குநர் (பொ) / உதவிப் புவியியலாளர் (கனிமம்), திருப்பூர் ஆகியோரின் பரிந்துரை மற்றும் நிபந்தனைகளின்

அடிப்படையில், திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிரந்மம் பட்டா புல எண். 382/2A (Part) ல் 2.48.5 ஹெக்டர் பரப்பில் மட்டும் 1959ம் வருட தமிழ்நாடு சிறுகனிம விதிகள், விதி எண்.19-ன் படி மேற்கண்ட நிபந்தனைகளுக்குட்பட்டு 5 (ஐந்து) வருட காலத்திற்கு திரு. எஸ். ராஜசேகர், த/பெ. சேமலை கவுண்டர் என்பவருக்கு சாதாரண வருட காலத்திற்கு கிரு. எஸ். ராஜசேகர், த/பெ. சேமலை கவுண்டர் என்பவருக்கு சாதாரண தற்கள் மற்றும் கிராவல் மண் குவாரி உரிமம் வழங்குவதற்குரிய தகுதியான நிலப்பரப்பாக கருதப்படுகிறது.

4. மேலும், தமிழ்நாடு சிறு கனிம சலுகை விதிகள்-1959 விதி எண். 41-ன்படி
நவாரிப்பணி மேற்கொள்வது தொடர்பாக வரைவு சுரங்க திட்டத்தினை 90 தினங்களுக்குள்
சமர்ப்பிக்குமாறு மனுதாரரைக் கேட்டுக்கொள்ளப்படுகிறது. மேலும் ஏற்பளிக்கப்பட்ட
சுரங்கத்திட்டத்தின் தொடர்ச்சியாக 1959ம் வருடத்திய தமிழ்நாடு சிறுகனிம சலுகை
விதிகள், விதி எண்.42-ன் படி சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் இசைவினைப்
பற்று சமர்பிக்கும் பட்சத்தில் மட்டுமே குவாரி உரிமம் வழங்கப்படும் என இதன் மூலம்
நரிவிக்கப்படுகிறது.

உதவி இயக்குநர்(பொ)/ உதவி புவியியலாளர், புவியியல் மற்றும் சுரங்கத்துறை, திருப்பூர்.

`பறுநர்:

திரு. எஸ். ராஜசேகர், த/பெ. சேமலை கவுண்டர், 71, திம்மநாயக்கன்பாளையம், மொரட்டுப்பாளையம் அஞ்சல், ஊத்துக்குளி வட்டம். ক্রিকার্নিত ক্রিকার্নিত করিব ক্রিকার্নিত

ANNEXURE

திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணை

முன்னிலை:- டாக்டர். கே.எஸ். பழனிசாமி, இ.ஆ.ப.,

ந.க. 105 / கனிமம் / 2017

நாள்: 25.09.2018.

பொருள்:

கனிமங்களும் குவாரிகளும் - சாதாரண கற்கள் -ஊத்துக்குளி வட்டம் - மொரட்டுப்பாளையம் கிராமம் -பட்டா புல எண். 382/2A (பகுதி)-ல் 1.98.5 ஹெக்டர் பரப்பிலிருந்து சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க ஐந்தாண்டுகளுக்கு குவாரிக் குத்தகை உரிமம் கோரிய திரு. எஸ். ராஜசேகர், த/பெ (லேட்). சேமலைக் கவுண்டர் என்பவருக்கு ஐந்து ஆண்டுகளுக்கு குவாரி குத்தகை உரிமம் உத்தரவிடப்படுகிறது.

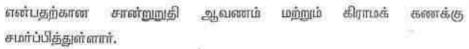
பார்வை:

- திரு. எஸ். ராஜசேகர், த/பெ. (லேட்). சேமலைக் கவுண்டர் என்பவரின் குவாரிக் குத்தகை உரிமம் கோரிய விண்ணப்பம் நாள்: 07.02.2017.
- திருப்பூர் சார் ஆட்சியர் அவர்களின் அறிக்கை ந.க.
 671 / 2017 / அ3 நாள்: 16.05.2017.
- திருப்பூர் புவியியல் மற்றும் சுரங்கத்துறை துணை இயக்குநர் அவர்களின் இடப்பார்வை அறிக்கை நாள்: 29.01.2018.
- இவ்வலுவலக இதே எண்ணிட்ட கடிதம் நாள்: 29.1-2018 (Precise area communication letter).
- திருப்பூர் மாவட்ட சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் தடையின்மைச் சான்று DEIAA – TPR / F. NO. 358 / 1 (VIII) / 2018 dated 14.8.2018.
- மனுதாரர் திரு. எஸ். ராஜசேகர் என்பவர் கடிதம் நாள்: 4.9.2018 மற்றும் 19.09.2018.

உத்தரவு:-

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண். 382/2A (பகுதி)-ல் 1.98.5 ஹெக்டர் பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் மனர் வெட்டியெடுக்க ஐந்தாண்டுகளுக்கு திரு. எஸ். ராஜசேகர், த/பெ. (லேட்). சேமலைக் கவுண்டர் என்பவர் குவாரிக் குத்தகை உரிமம் கோரி பார்வை 1ல் காணும் விண்ணப்பத்தினை சமர்ப்பித்துள்ளார்.

2. மனுதாரர் உரிய படிவத்தில் மனு செய்திருப்பதுடன், வின்ணப்பக் கட்டணம் மற்றும் அடிப்படைச் செலவினங்களுக்காக ரு. 1500/-ஐ சலான் எண். 122, நாள்: 07.02.2017-ல் திருப்பூர் பாரத மாநில வங்கியில் செலுத்தியுள்ளார். மேலும், மனுதாரர் செலுத்த வேண்டிய வருமான வரி மற்றும் கனிம வரி எதுவும் நிலுவையில் இல்லை



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- இவ்விண்ணப்பத்தின் மீது உரிய நில இருப்பு அறிக்கை வழங்கக் கோர் இவ்வலுவலக கடிதத்தின் வாயிலாக திருப்பூர் சார் ஆட்சியர் கேட்டுக் கொள்ளப்பட்டார்.
- 4. திருப்பூர் சார் ஆட்சியர் சம்பந்தப்பட்ட புலத்தினை தணிக்கை செய்து, பார்வை 2-ல் கண்டவாறு தனது நில இருப்பு அறிக்கையினை சமர்ப்பித்துள்ளார். அவர் தனது அறிக்கையில்,

"ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், க.ச. 382/2ஏ நெ. காலையில் பு.ஹெக். 5.19.5 பூமியானது ஊத்துக்குளி சார் பதிவாளர் அலுவலக கிரைய ஆவண எண். 1184 / 1999ன்படி மனுதாரருக்கு கூட்டாக பாத்தியப்பட்டது எனவும், இதில் 0.11.94 ஹெக்டர் பரப்புள்ள பூமியானது ஆவண எண். 810/2012ன்படி கமலன் என்பவரால் நந்தகோபால் என்பவருக்கு கிரையம் வழங்கப்பட்டது எனவும், மேற்படி புலம் அடங்கியுள்ள பட்டா எண். 421ல் கூட்டாக பாத்தியப்பட்டுள்ள நபர்கள் மனுதாரருக்கு குத்தைக உரிமம் வழங்குவது தொடர்பாக, சம்மத கடிதம் கொடுத்துள்ளனர் எனவும், மேற்படி பூமியில் 1.98.5 ஹெக்டர் பூமியில் மனுதாரருக்கு மாவட்ட ஆட்சியரின் செயல்முறைகளின்படி ந.க. 207 / கனிமம் / 2012 நாள்: 07.07.2012ன்படி 06.07.2017 வரை குத்தகை உரிமம் வழங்கப்பட்டுள்ளது எனவும் தெரிவித்துள்ளார்.

மேலும், மனுதாரர் திரு. ராஜசேகர் என்பவர் குவாரி உரிமம் கோரும் புலத்தின் எல்லைகள் வரையறுக்கப்பட்டு எல்லைக் கற்கள் நடப்பட்டு வெள்ளை பெயிண்ட் அடிக்கப்பட்டு கிகப்பு வண்ணக்கொடி கட்டப்பட்டுள்ளது எனவும், இது தொடர்பாக மேற்படி கிராமத்தில் அ1 விளம்பரம் பரப்புரை செய்யப்பட்டுள்ளது எனவும், நாளது தேதி வரை பொதுமக்களிடமிருந்து எவ்வித ஆட்சேபணையும் வரப்பெறவில்லை எனவும், உரிமம் கோரும் பூமியிணைச் சுற்றி 300 மீ சுற்றளவில் அங்கீகரிக்கப்பட்ட வீட்டுமனைகள், நத்தம் குடியிருப்புகள், மகுதி, தேவாலயம் உள்ளிட்ட புராதனச் சின்னங்கள் உள்ளிட்டவைகள் ஏதுமில்லை" என தெரிவித்து, மனுதாரர் திரு. எஸ். ராஜசேகர், த/பெ. (லேட்). சேமலைக் கவுண்டர் என்பவருக்கு ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம் பட்டா எண். 382/2A (பகுதி)-ல் 1.98.5 ஹெக்டர் பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க குவாரிக் குத்தகை உரிமம் வழங்கலாம் என பரிந்துரை செய்துள்ளார்.

5. இதனைத் தொடர்ந்து, இப்புலத்தினை தணிக்கை செய்துள்ள துணை இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, திருப்பூர் பார்வை 3-ல் காணும் கடிதத்தில் தனது அறிக்கையினை சயர்ப்பித்துள்ளார். அவர் தனது அறிக்கையில்,

- 6. மேற்கண்ட தணிக்கை அலுவலர்களின் பரிந்துரை அறிக்கைகளை ஏற்று, ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண் 382/2A (பகுதி) பரப்பு 1.98.50 ஹெக்டேர் பட்டா நிலப்பரப்பு குவாரி குத்தகை உரிமம் வழங்க முடிவு செய்யப்பட்ட பகுதி (Precise Area) என அறிவிக்கப்பட்டு விண்ணப்பத்தாரர் திரு. எஸ். ராஜசேகர், த/பெ. (லேட்). சேமலைக் கவுண்டர் என்பவருக்கு ஏற்பளிக்கப்பட்ட சுரங்க திட்டம் மற்றும் சுற்றுச்சூழல் பெற்று சமர்ப்பிக்கும்படி பார்வை 4-ல் காணும் கடிதத்தின்படி கேட்டுக் கொள்ளப்பட்டது.
- 7. அதன்படி, மனுதாரர் திரு. எஸ். ராஜசேகர், த/பெ. (லேட்). சேமலைக் கவுண்டர் என்பவர் துணை இயக்குநர் (கனிமம்), திருப்பூர் அவர்களால் ஏற்பளிக்கப்பட்ட சுரங்கத் திட்டத்தினையும், மாவட்ட அளவிலான சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையம், திருப்பூர் (District Level Environment Impact Assessment Autority, Tiruppur) (DEIAA)-யிடமிருந்து சுற்றுச்சூழல் ஒப்புதலையும் பெற்று இவ்வலுவலகத்தில் பார்வை 5-ல் கண்டவாறு சமர்ப்பித்துள்ளார்.
- மேலும், மனுதாரர் திரு. எஸ். ராஜசேகர், த/பெ. (லேட்). சேமலைக் கவுண்டர் 8. அளவிலான கற்றுச்குமுல் மாவட்ட மகிப்பட்டு என்பவர் கிருப்பூர் காக்க ஆணையத்திடமிருந்து QUMULLL சு<u>ற்று</u>ச்சூழல் ஒப்புகலில் தெரிவிக்கப்பட்டுள்ள நிபந்தனைகளின்படி, தமிழ் மற்றும் ஆங்கில நாளிதழ்களில் அறிவிப்பு வெளியீடு செய்து. அதன் விபரத்தினை பார்வை 6-ல் காணும் கடிதத்தின்படி தெரிவித்துள்ளார். மேற்கண்ட அலுவலர்களின் பரிந்துரை மற்றும் சிறுகனிம சலுகை விதிகளின் பேரில், மனுதாரருக்கு குவாரி குத்தகை உரிமம் வழங்க ஒப்புதல் தெரிவிக்கப்பட்டதன் பேரில், மனுதாரர் விதிகளின்டி காப்புத் தொகையாக ரூ. 10000/-ஐ பாரத மாநில வங்கி, திருப்பூர், சலான் எண். 27, நாள்: 18.09.2018-ன்படி செலுத்தி அசல் சலானையும், 1959-ம் தமிழ்நாடு சிறுகளிம் சலுகை விதிகளின் பின் இணைப்பு V கண்டுள்ள படிவத்தில் உரிய முத்திரைத்தாளில் குத்தகை ஒப்பந்தப் பத்திரம் தயார் செய்து அளித்துள்ளார்.

எனவே, திருப்பூர் சார் ஆட்சியர் மற்றும் துணை இயக்குநர் (கனியம்), திருப்பூர் ஆகியோரின் பரிந்துரை அறிக்கைகளின்படியும் திருப்பூர் மாவட்ட சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் (District level Environment Impact Assessment Authority) (DEIAA) சுற்றுச்சூழல் ஒப்புதல்படியும் திரு. எஸ். ராஜசேகர், த/பெ. (லேட்). சேமலைக் கவுண்டர் என்பவருக்கு ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண் 382/2A (பகுதி) பரப்பு 1.98.50 ஹெக்டேர் நிலபரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுத்துச் செல்ல தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959-ன் விதி 19(1), 20 மற்றும் 33-ன்படி குத்தகை ஒப்பந்தப் பத்திரம் நிறைவேற்றிய நாளான 25.09.2018 முதல் ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமக் கணக்கு பட்டா எண் 421-னிப்டி விண்ணப்பப் புலம் 382/2A ஆனது விண்ணப்பதாரர் திருராஜகேள் து/பெர்சம்றை கவுண்டர் மற்றும் நான்கு நபர்களின் பெயரில் கூட்டுப்பட்டாவாகத் தாக்கலாகியுள்ளது எனவும், கூட்டுப் பட்டாதாரர்களான திருமதிபழனியம்மாள்-1, ஹரிபிரசாத்-2, ஹரிசம்கர்-3 மற்றும் திருமூர்த்தி-4 ஆகியோர் மேற்படி காலையில் 1.98.5 ஹெக்டேர் பரப்பளவுள்ள பூமியில் விண்ணப்பதாரர் திரு ராஜசேகர் எனப்பவர் மாவட்ட ஆட்சியர் அனுமதி வழங்கும் நாளிலிருந்து 5 ஆண்டுகளுக்கு கல்குவாரிக் குத்தகை உரிமம் பெற சம்மதம் தெரிவித்து சம்மதப் பத்திரம் அளித்துள்ளனர் எனவும், இதன் மூலம் விண்ணப்பதாரர் திரு. ராஜசேகர் எனப்பவருக்கு மேற்படி புல எண்ணில் கல் குவாரி உரிமம் பெற ஸ்தல பாத்தியதை உள்ளது எனவும், விண்ணப்பப் புலத்தில் கீழ்க்கண்டவாறு ஏற்கனவே குவாரிக் குத்தகை உரிமம் வழங்கப்பட்டு குவாரி உரிம காலம் முடிவடைந்துள்ளது என தெரிவித்துள்ளார்.

- ஈரோடு மாவட்ட ஆட்சியரின் ந.க. 21516 / 2007 / எக்ஸ்-2 நாள் 9.7-2007-ன்படி ஐந்து ஆண்டுகளுக்கு குவாரிக் குத்தகை உரிமம் வழங்கப்பட்டு, அந்த உரிமமானது 8.7.2012ல் முடிவடைந்துள்ளது.
- திருப்பூர் மாவட்ட ஆட்சியரின் ந.க. 267 / கணிமம் / 2017 நாள் 7.7.2012-ன்படி சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டி எடுக்க ஐந்து ஆண்டுகளுக்கு வழங்கப்பட்ட குவாரி குத்தகை உரிமம் 6.7.2017 உடன் முடிவடைந்துள்ளது.

மேலும், விண்ணப்படிலம் சமதளமானது எனவும், இதில் ஏற்கனவே கல் குவாரி குத்தகை உரிமம் வழங்கப்பட்ட காலத்தில் கல் உடைத்த சமச்சீரற்ற கற்குழி உள்ளது எனவும். இரண்டு மீட்டர் முதல் நான்கு மீட்டர் ஆழம் வரை கிராவல் மண்ணும் அதன் கீழ் சார்னோகைட் வகை பாறையும் காணப்படுகிறது எனவும்,இவ்வகைப் பாறை சாதாரண கற்கள் மற்றும் ஐல்லிக் கற்கள் உற்பத்தி செய்ய ஏற்றவையாக உள்ளது எனவும், கற்குழியின் ஆழம் பன்னிரண்டு மீட்டர் முதல் இருபத்தி நான்கு மீட்டர் வரை ஆழம் மாறுபட்டு காணப்படுகிறது எனவும், மேலும், பிரஸ்தாப புலத்தினைச் சுற்றி 50 மீட்டர் சுற்றளவில் எவ்வித நிலையான அமைப்புகளும் இல்லை என தெரிவித்துள்ளார்.

இறுதியாக, ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண். 382/2A (பகுதி)-ல் 1.98.5 ஹெக்டரிலிருந்து சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுத்து குவாரிப் பணி செய்ய திரு. எஸ். ராஜசேகர், த/பெ. (லேட்), சேமலைக் கவுண்டர் என்பவருக்கு தமிழ்நாடு சிறுகனிம் சலுகை விதிகள் 1959-ன் விதி எண். 19 (1), 20 மற்றும் 33-ன் கீழ் ஐந்து ஆண்டுகளுக்கு சாதாரண கல்குவாரி குத்தகை உரிம அனுமதி வழங்க சில நிபந்தனைக்கு உட்பட்டு பரிந்துரை செய்துள்ளார்.

24.09.2023 வரை ஐந்து ஆண்டுகளுக்கு கீழ்க்கண்ட நிபந்தனைகளுக்கு உடஙட்டு குறியரி உரிமம் வழங்கி உத்தரவிடப்படுகிறது.

நிபந்தனைகள்:-

- குத்தகை ஒப்பந்த பத்திரம் நிறைவேற்றப்படும் நாள் குவாரி பணி தொடங்கப்படும் முதல் நாளாக கருதப்பட்டு அன்றைய தினத்திலிருந்து 5 ஆண்டுகளுக்கு மட்டுமே திருப்பூர் மாவட்ட அளவிலான சுற்றுச் குழல் தாக்க மதிப்பீட்டு ஆணையம் (DEIAA) வழங்கிய சுற்றுச்சூழல் ஒப்புதல் சான்று செல்லத்தக்கது.
- குத்தகை புலத்திலை அடுத்துள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் இடைவெளி அளித்து குவாரிப்பணி புரிய வேண்டும்.
- பொதுமக்களுக்கோ, பொது சொத்துக்களுக்கோ யாதொரு சேதமும் இன்றி பாதுகாப்பான முறையில் குவாரிப்பணி செய்ய வேண்டும்.
- 4. பொதுமக்களின் நலன் கருதி பாதுகாப்பான முறையில் குறைந்த அழுத்தமுள்ள வெடிபொருட்கள் பயன்படுத்தியும், கைத்துளைப்பான் கருவி கொண்டு துளையிட்டும், தொழிலாளர்களின் பாதுகாப்பினை உறுதி செய்ய பாதுகாப்பானதும், அகலமான Benches அமைத்து குவாரிப்பணி செய்ய வேண்டும்.
- 5. மாவட்ட அளவிலான சுற்றுச்சூழல் செயல் விளைவு மதிப்பீட்டு ஆணையம், திருப்பூர் (DEIAA-Tiruppur) சுற்றுச்சூழல் ஒப்புதல் கடிதத்தில் தெரிவிக்கப்பட்டுள்ள பொது மற்றும் சிறப்பு நிபந்தனைகளை முறையாக கடைபிடித்து குவாரிப்பணி செய்வதுடன், குவாரிப் பணி ஆரம்பிப்பதற்கு முன்பாக தமிழ்நாடு மாசுக்கட்டுப்பாட்டு வாரியத்தின் தடையின்மை சான்று பெற்று மாவட்ட நிர்வாகத்திற்கு சமர்ப்பித்து அதன் பின்னரே குவாரிப்பணி துவங்க வேண்டும்.
- குத்தகைதூரர் தனக்கு அளிக்கப்பட்ட குத்தகை பகுதியின் எல்லைகளை தெளிவாக காட்டும் வகையில் கல் நட்டு வண்ணம் இட்டு குத்தகை காலம் முழுமைக்கும் பராமரிக்க வேண்டும்.
- 7- குத்தகைதாரர் குவாரியின் அருகே குத்தகைதாரர் பெயர், கிராமத்தின் பெயர், வட்டத்தின் பெயர், புல எண். பரப்பு, குத்தகை ஆணை எண். குத்தகை காலம், கனிமத்தின் பெயர், போன்ற விபரங்கள் குறிக்கப்பட்ட தகவல் பலகையை தமது சொந்த செலவில் வைத்து நன்கு பராமரிக்க வேண்டும்.
- குவாரிக்கு சென்றுவரும் பாதை வசதிகள் குத்தகைதாரர்கள் அவர் தம் சொந்த பொறுப்பிலேயே அமைத்துக் கொள்ள வேண்டும்.
- குத்தகை வழங்கப்பட்ட பாறையில் குண்டுக்கல், ஐல்வி, அரவை கல், வேலிக்கற்கள், போன்ற சிறுகனிமங்கள் உடைத்தெடுக்க மட்டுமே அனுமதியுண்டு. வெளிநாடுகளுக்கு ஏற்றுமதியாகும் மெருகூட்டும் கனவடிவ கற்கள் வெட்டி எடுக்கக் கூடாது.
- 10. குவாரியிலிருந்து கொண்டு செல்லப்படும் மேற்கண்ட வகை கற்களுக்கு 1959ம் ஆண்டு தமிழ்நாடு சிறுகனிம் சலுகை விதிகள் பின் இணைப்பு II-ல் கண்டுள்ளவாறு உரிமவரி (சீனியரேஜ் தொகை) செலுத்த வேண்டும். அரசு அவ்வப்போது அறிவிக்கும் உரிமவரி மாற்றங்களுக்கு ஏற்ப எவ்வித ஆட்சேபணை இன்றி செலுத்துதல் வேண்டும். 316 A

- 11. திருப்பூர் மாவட்ட கனிம கட்டமைப்பு அறக்கட்டனை (District Mineral Foundation Trust) நிதிக்காக சாதாரண கற்கள் எடுத்துச் செல்ல செலுத்தப்படும் சூரியரேஜ் தொகைக்கு 10% சதவீத தொகை மற்றும் அரசு அவ்வப்போது அறிவித்கும் மாற்றங்களுக்கு ஏற்ப அறக்கட்டளை நிதி செலுத்தப்பட வேண்டும்.
- 12. குத்தகை அனுமதி வழங்கப்பட்ட நிலத்திலிருந்து கொண்டு செல்லப்பட்ட கனிமத்திற்கு முறையான கணக்குகளும், குழிவாயில் பதிவேடும் முறையாக பராமரித்தல் வேண்டும். அவற்றை சம்பந்தப்பட்ட அலுவலர்கள் தணிக்கைக்கு ஆஜர்படுத்த கோரினால் தவறாது சமர்ப்பிக்க வேண்டும்.
- 13. துணை / உத்வி இயக்குநர் (புவியியல் மற்றும் சுரங்கத்துறை)-ன் அலுவலக முத்திரை, கையொப்ப முத்திரையுடன் கூடிய உரிய அனுப்புகைச் சீட்டை வாகனங்களுக்கு கொடுக்கப்படும் போது அனுப்புகைச் சீட்டில் வாகன எண். தேதி, புறப்படும் நேரம், செல்லும் இடம் ஆகியவற்றை முறையாகக் குறிப்பிட்டு கையொப்பம் இட்ட பின்னரே, குத்தகைதாரரோ அல்லது அவரது அனுமதி பெற்ற நபரோ கொடுக்க வேண்டும். மேற்கண்டவாறு குறிப்பிடுவதில் ஏதேனும் தவறுகள் இருந்தாலோ, கலங்கள் பூர்த்தி செய்யப்படாமல் இருந்தாலோ முறையற்ற வகையில் கனிமம் எடுத்துச் செல்வதாகக் கருதப்பட்டு வாகனத்தை கைப்பற்றி அபராதம் விதிப்பதோடு, அதற்கு குத்தகைதாரரை பொறுப்பாக்கி கனிம விதிகளின் படி மேல் நடவடிக்கை எடுக்கப்படும்.
- குத்தகை அனுமதி வழங்கப்பட்ட புலத்ததை முழுமையாகவோ, பகுதியாகவோ எவருக்கும் உள் குத்தகைக்கு விடுவதோ அல்லது கிரையம் செய்வதோ கூடாது.
- 15. குத்தகைதாரர் ஒவ்வொரு நாளும் குவாரியில் இருந்து எவ்வளவு சாதாரண கற்கள் எடுக்கப்பட்டது என்பதையும் எந்த அளவு சாதாரண கற்கள் வாரி/ வாகனங்கள் மூலம் வெளியே அனுப்பப்பட்டது என்ற விபரத்ததையும் காட்டும் பதிவேட்டினைப் பராமரித்து வரவேண்டும்.
- குத்தகைதாரர், தமக்கு குத்தகை வழங்கப்பட்ட பகுதிக்கு அருகில் உள்ள பட்டா நிலத்திற்கு எவ்வித இடையூறும் இல்லாமல் குவாரிப் பணி செய்யப்பட வேண்டும்.
- 17. வண்டிப்பாதை மற்றும் நடைபாதைகளில் இருந்து 10 மீட்டர் தூரம் தள்ளி குவாரி செய்ய வேண்டும். ரோடுகள், புகைவண்டிப்பாதை, பொதுப்பணித்துறை, வாய்க்கால், பொதுமக்கள் உபயோகத்திற்கான பகுதிகள், மின்சாரம் மற்றும் தொலைபேசி கம்பி செல்லும் பகுதிகள், வழிபாட்டு இடங்கள் மற்றும் பழங்கால சின்னங்கள் உள்ள பகுதிகள் ஆகியவற்றில் இருந்து 50 மீட்டர் பாதுகாப்பு தூரம் விட்டு குவாரி செய்ய வேண்டும்.
- 18. குத்தகைக்கு விடப்பட்டுள்ள விஸ்தீரணத்தில் மட்டுமே குத்தகைதாரர் குவாரி செய்ய வேண்டும். அதற்கான கூடுதலான விஸ்தீரணத்தில் குவாரி செய்வது தெரியவந்தால் அபராத நடவடிக்கை மேற்கொள்வதுடன் குவாரி குத்தகை உரிமம் இரத்து செய்ய நடவடிக்கை எடுக்கப்படும்.
- 19. குத்தகை நிபந்தனை மிறப்பட்டால் குத்தகை இரத்து செய்யவோ, செய்யப்பட்ட தவறுதலுக்கு அபராத நடவடிக்கை எடுத்து தண்டம் விதிக்கவோ அல்லது கிரிமினல் வழக்குத் தொடுக்க மாவட்ட ஆட்சியருக்கு அதிகாரம் உண்டு. குத்தகை ரத்து செய்யப்பட்டால் காப்புத் தொகை உட்பட அனைத்து தொகைகளும் அரசுக்கு ஆதாயமாக்கப்படும்.

- குத்தகைதாரர் தமிழ்நாடு சிறுவகைக்களிம் சலுகை விதிகள் 1959ல் கிண்டுள்ள விதிகளுக்கும் மற்றும் அரசு அவ்வப்போது அறிவிக்கும் சட்டதிட்டங்களுக்குர் உட்பட்டு குவாரிப்பணிகள் செய்ய வேண்டும்.
- குவாரி குத்தகை உரிமம் காலாவதியான பின்பு எக்காரணத்தை முன்னிட்டும் மீண்டும் புதுப்பிக்கவோ அல்லது கால நீட்டிப்போ செய்து தரப்பட மாட்டாது.
- 22. வெடிபொருள் சட்டம் 1884ல் தெரிவிக்கப்பட்ட சரத்துக்கள்படி குறைந்த அளவு வெடிபொருளை உபயோகித்து கற்கள் வெளியே சிதறாமலும், சத்தம் அதிகர் ஏற்படாமலும், பொதுமக்களுக்கும், கால்நடைகளுக்கும், எவ்வித பாதிப்பும் இன்றியுர் கல்குவாரி பணி செய்யப்பட வேண்டும்.
- 23. வெடிபொருள்கள் அரசு உரிமம் பெற்ற விற்பனைதாரரிடம் மட்டுமே பெற்ற வெடிப்பதற்கு உரிய உரிமம் / அங்கீகாரம் பெற்ற வெடிப்பாளர்களை (Blaster / Mine mate) கொண்டு கல் குவாரியில் வெடி வைத்து பாறைகளை உடைக்க வேண்டும்.
- குவாரிப்பணி ஆரம்பிப்பதற்கு முன்னதாக குவாரி பணி செய்யப்பட இருக்கு புலங்களின் எல்லையைச் சுற்றிலும் . முள் கம்பி வேலி (Barbed wire fencing அமைக்கப்பட வேண்டும்.
- குழந்தை தொழிலாளர்கள் எவரையும் வேலைக்கு அமர்த்துதல் கூடாது.

மேற்கூறிப்பிட்ட நிபந்தனைகள் மற்றும் கனிம சட்டம் விதிகளை மீறியுள்ளது உறுதிபடும் தருணத்தில் விதிமுறைகளுக்கு உட்பட்டு குத்தகை இரத்து செய்ய நடவடிக்கை எடுக்கப்படும். மேற்கண்ட நிபந்தனைகள் ஒப்பந்தப் பத்திரத்தில் கண்டுள்ள நிபந்தனைகள் திருப்பூர் மாவட்ட சுற்றுச் சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் நிபந்தனைகள் மற்று தமிழ்நாடு சிறுகனிம் சலுகை விதிகள் 1959, கனிமம் மற்றும் சுரங்கம் (ஒழுங்குமுறை மற்று மேம்பாடு)-1957, பெட்டாலி..பேரஸ் மைன்ஸ் ரெகுலேசன் -1961 மற்றும் கனிம் சட்டம் 195 ஆகியவற்றின் அடிப்படையில் குத்து நகுரர் குவாரிப் பணி புரிய வேண்டும்.

(ஒம்)... கே.எஸ். பழனிசாமி, மாவட்ட ஆட்சியர், திருப்பூர்.

// உண்மை நகல் / உத்தரவுப்படி //

மாவட்ட ஆட்சியருக்காக, திருப்பூர்.

பெறுநர்

திரு எஸ்.ராஜசேகர், த/பெ. (லேட்) சேமலைக் கவுண்டர், 71, திம்மநாயக்கன்பாளையம், மொரட்டுப் பாளையம் - 638 752, ஊத்துக்குளி வட்டம்.

நகல்:-

சார் ஆட்சியர், திருப்பூர்

வட்டாட்சியர், ஊத்துக்குளி

 கிராம நிர்வாக அலுவலர் - மொரட்டுப்பாளையம். (வட்டாட்சியர் மூலமாக)



ANNEXUNETTE

DR. K.S. PALANISAMY, I.A.S., CHAIRMAN DISTRICT LEVEL ENVIRONMENT
IMPACT ASSESSMENT AUTHORITY
Collectorate,
Master Plan Complex,
Palladam Road,
Tirupour- 641 604

ENVIRONMENTAL CLEARANCE

1

Lr. No. DEIAA - TPR / F. No. 358 / 1 (VIII) / 2018 dated: 14.08.2018.

To

Thiru S.Rājāsēkār, S/o. (Late) Semalai Gounder, 71 Dhimmanaickenpalayam, Morattupalayam, Uthukuli Taluk, Tiruppur District - 638 752.

Sir.

Sub: DEIAA- Tiruppur – Proposed Rough Stone and Gravel quarry located at S.F. No. 382/2A (Part) - over an extent of 1.98.50 Hectares – Morattupalayam Village – Uthukuli Taluk – Tiruppur District – grant of Environmental Clearance – Reg.

- Ref: 1. Your application For Environmental Clearance dated 16.02.2018.
 - Minutes of the 4th meeting of DEAC, Tiruppur, held on 05.06.2018.
 - Minutes of the 3rd meeting of DEIAA, Tiruppur, held on 10.07.2018.

Details of Minor Mineral Activity:-

This has reference to your application first cited. The proposal is for obtaining Environmental Clearance for quarrying of Rough Stone and Gravel (Minor minerals) under "B2" Category, based on the particulars furnished in your application as shown below.

Name of Project Proponent and Address
 Thiru S.Rajasekar,
 S/o. (Late) Semalai Gounder,
 71 Dhimmanaickenpalayam,
 Morattupalayam,
 Uthukuli Taluk,
 Tiruppur District - 638 752.

Sd/-14.08.2018, Chairman, DEIAA, Tiruppur,

For Chairman

2.	Location of the Proposed Activity	A STORY TOURS TOURS
-	Survey Number	S.F. No. 382/2A (Part)
-		11° 08' 14.89" N to 11° 08 ' 20.80" N
	Latitude and Longitude	77° 25' 15.05" E to 77° 25' 20.01 " E
	Village	Morattupalayam
	Taluk	Uthukuli
	District	Tiruppur
3.	Proposed Activity	
	i. Minor Mineral	Rough stone and Gravel
	ii. Quarry Lease Area	1.98.50 Hectares
	iii. Approved Quantity	1,70,830 M³ of Rough stone and 5,472 M³ of Gravel
	iv. Depth of Mining	The quarry operation proposed upto a depth of 37 meters below ground level.
W-8	v. Type of quarrying	Semi Mechanized Opencast Quarrying
m s	vi. category (B1/B2)	B2
	vii. Precise area Communication	District Collector, Tiruppur, Letter No.Na. Ka 105 / Mines / 2017, dated 29.01.2018.
	viii. Mining Plan Approved	Deputy Director, Geology and Mining, Tiruppur R.C. No. 105 / Mines / 2017 dated 14.02.2018.
	ix. Mining Lease period	5 Years
ži.	Whether project area attracts any General condition Specified in the EIA notification, 2006 as amended:-	Not attracted.
5	Man Power requirement per day:	11 Employees
6	Utilities	1,4
	i. Source of Water	Water vendors
	ii. Quantity of Water Requirement in KLD	
	a. Drinking & Domestic purposes b. Dust Suppression c. Green belt	0.2 KLD 0.4 KLD 0.4 KLD
		1.0 KLD
	iii. Power Requirement: a. Domestic Purpose b. Industrial Purpose	Not required.

Sd/-14.08.2018, Chairman, DEIAA, Tiruppur.

For Chairman

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7.	i. Project Cost ii. EMP Cost	Rs. 60,27,000/- (Inclusive of EMP Cost) Rs. 7,30,000/-
8	Public Consultation:-	Not required.
9.	Date of Appraisal by DEAC:- Agenda No.	05.06.2018 Item No. 8
10.	agenda Item No.8 and the Authority af grant of Environmental Clearance to t	AA and the Remarks:- DEIAA, Tiruppur in its 3 rd Meeting held on 10.07.2018 as ter careful examination has approved the proposal for the he said project for quarrying of Rough stone and Gravel stipulated under the provisions of Environment Impact
	Assessment Notification, 2006 as ame Validity:-	

Conditions to be Complied before commencing quarrying operation:-

- The Project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that
 - The project has been accorded Environmental Clearance.
 - ii. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.
 - iii. Environmental Clearance may also be seen on the website of the DEIAA, Tiruppur.
 - iv. The advertisement should be made within 7 days from the date of receipt of the Clearance letter and a copy of the same shall be forwarded to the DEIAA, Tiruppur.
- No Objection Certificate from the Standing Committee of the National Board of Wild Life shall be obtained, if protected areas are located within 10 Kilo meters from the proposed project site.
- The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Mineral Concession Rules, 1959.
- 4. A copy of the Environmental Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat Union, Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.
- Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
- The proponent shall ensure that First Aid Box is available at site.

Sd/-14.08.2018, Chairman, DEIAA, Tiruppur.

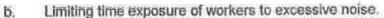
- The excavation activity shall not alter the natural drainage pattern of the area.
- 8. The excavated pit shall be restored by the project proponent for useful purposes
- The proponent shall quarry and remove only in the permitted areas as per the Approved Mining Plan.
- 10. The quarrying operation shall be restricted between 7 AM and 6 PM.
- 11. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
- A minimum distance of 50 meters from any Public/Civil structure shall be kept from the periphery of the quarry permitted area.
- 13. Depth of quarrying shall be 2 meters above the ground water table or upto the approved depth of mining whichever is lesser to be considered as a safe guard against Environmental Contamination and over exploitation of resources.
- 14. The mined out pits should be backfilled where warranted and the area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
- 15. Wet drilling method is to be adopted to control dust emission. Delay detonator and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
- Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
- The explosives shall not be stored at quarry site unless proper license should be obtained from the Petroleum Explosives and Safety Organization under Explosives Act.
- Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
- 19. A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and the records kept for inspection.
- The proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF, Gol on 16.11.2009.
- The following measures are to be implemented to reduce Air Pollution during transportation of mineral.

Roads shall be graded to mitigate the dust emission.

- Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust.
- 22. The following measures are to be implemented to reduce Noise Pollution.
 - Proper and regular maintenance of vehicle and other equipment.

Sd/-14.08.2018, Chairman, DEIAA, Tiruppur,

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 The workers employed shall be provided with protection equipment and earmuffs etc.

 Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.

- Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dated: 11.1.2010 issued by the MoE&F, Gol to control noise to the prescribed level.
- 24. Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
- Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
- 26. The following measures are to be adopted to control erosion of dumps:-
 - Retention / toe walls shall be provided at the foot of the dumps.
 - Worked out slops are to be stabilized by planting appropriate shrub / grass species on the slopes.
- Waste oils, used oils generated from the EM machines, mining operations, if any, shall
 be disposed as per the Hazardous Wastes (Management, Handling, and trans-boundary
 movement Rules, 2008 and its amendments thereof to the recyclers authorized by
 TNPCB.
- Concealing the factual date or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
- 30. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the over flow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
- 31. The proponent shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. It at any stage, if it is observed that the ground water table is getting depleted due to the mining activity; necessary corrective measures shall be carried out. The PWD, Ground Water Division shall ensure this.

Sd/-14.08.2018, Chairman, DEIAA, Tiruppur.

For Chairman

- 32. No tree-felling shall be done in the leased area, except only with the permission from competent authority.
- 33. To Take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air and flora / fauna environment, slurry water generated / disposed and method of disposal, involving a reputed academic institution.
- 34. It shall be ensured that the total extent of nearby quarries (existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 25 hectares within the quarry lease period of this application.
- 35. It shall be ensured that there is no habitation is located within 500 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 500 m radius from the periphery of the quarry site.
- Ground water quality monitoring should be conducted once in 6 months by the proponent and the records kept for inspection. The District Environment Engineer, TNPCB, shall ensure this.
- Transportation of the quarries material shall not cause any hindrance to the village people / existing village road.
- Free silica test should be conducted and reported to Tamil Nadu Pollution Control Board, Tiruppur, and Regional Director, MoEF, GOI.
- Air sampling at intersection point should be conducted and reported to Tamil Nadu Pollution Control Board, Tiruppur and Regional Director, MoEF, GOI.
- 40. Bunds to be provided at the boundary of the project site.
- 41. The project proponent shall undertake plantation/ afforestation work by planting the native species on all side of the lease area at the rate of 400 / Hec. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.
- At least 200 Neem Trees, 200 Tamarind Trees and 200 Palm Trees should be planted around the boundary of the quarry site.
- Floor of excavated pits should be leveled as per the Approved Mining Plan (Conceptual Mining Plan).
- The project proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR activity.
- The project proponent shall comply with the Tamil Nadu Minor Mineral Concession Rules, 1959 and other relevant Mining Rules and Regulations where ever applicable.

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46. Rainwater shall be pumped out via settling tank only.

Sd/-14.08.2018, Chairman, DEIAA, Tiruppur.

For Chairman.

- Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
- 48. As per MoEF& CC, Gol, Office Memorandum dated 30.03.2015, prior clearance from Forestry & Wild life angle including clearance from obtaining committee of the National Board for Wild Life as applicable shall be obtained before starting the quarrying operation, if the project site is located within 10 KM from National Park and Sanctuaries.
- 49. The quarrying activity shall be stopped if the entire quantity indicated in the Approved Mining Plan is quarried even before the expiry of the quarry lease period and the same shall be monitored by the Deputy Director/Assistant Director, Geology and Mining.
- 50. Safety equipments should be provided to all the employees.
- Safety distance of 50 meters has to be provided in case of railway, reservoir, canal / odai.
- 52. The proponent shall collect the Baseline data covering the Air, Water, Noise and land environment quality for the quarry site for every 6 months. The District Environment Engineer, TNPCB, shall ensure this.
- The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically.
- 54. The proponent shall furnish the data obtained from the Public Works Department regarding the details of Ground water table in the quarry site.
- 55. The proponent has to provide insurance protection to the workers.
- 56. The Proponent has to display the name board at the quarry site showing the details of proponent, lease period, extent, etc., with respect of the existing activity before the commencement of mining.
- If any Heavy earth machinery and equipments, utilized, necessary approval shall be obtained from the competent authority as per Metaliferous Mining Regulations 1961.

General Conditions:-

- Environmental Clearance is given only on the factual records, documents and details furnished by the Proponent.
- The Proponent shall obtain the Consent for establishment and Consent to operate from the Tamil Nadu Pollution Control Board, Tiruppur before commencing the quarry activity.
- No change in mining technology and scope of working should be made without prior approval of the DEIAA, Tiruppur.

Sd/-14.08.2018, Chairman, DEIAA, Tiruppur.

For Chairman

Sumo

- 4. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particular matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
- A 7.5 Meter berm shall be left from the boundary of adjoining field.
- Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- Vehicular emission shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
- Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
- 10. All personnel shall be provided with protective respiratory devises including safety shoes, masks, gleves, etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any constructions due to exposure to dust and take corrective measures, if needed.
- 11. Periodical medical examination of workers engaged in the project shall be carried out and records to be maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc. and a record should be maintained.
- Workers / labours shall be provided with facilities for drinking water and sanitation facility for female and male separately.
- The project proponent shall ensure that child labour is not employed / engaged in the quarrying activity.
- 14. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Officer located at Chennai.
- 15. The Environmental Clearance does not absolve the applicant / proponent of his obligation / requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.

Sd/-14.08.2018, Chairman, DEIAA, Tiruppur.

For Chairman.

- 16. This Environmental Clearance does not imply that the other statutory Fadministrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance.
- The DEIAA, Tiruppur may alter / modify the above conditions or stipulate any further condition in the interest of environment protection.
- 18. The DEIAA, Tiruppur may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, if, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this DEIAA, Tiruppur that the project proponent has deliberately concealed and / or submitted false or misleading information or inadequate date for obtaining the environmental clearance.
- Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
- 20. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India / Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
- Any other conditions stipulated by other statutory / Government authorities shall be complied.
- Any appeal against this environmental clearance shall lie with the Tamil Nadu State Environment Impact Assessment Authority, Chennal, if preferred, within a period of 30 days.

Sd/-14.08.2018, Chairman, DEIAA, Tiruppur.

/True copy / By order /

For Chairman

Copy to

EBICS.

- 1. The Secretary, Ministry of Mines, Government of India , Shastri Bhawan, New Delhi
- The Principal Secretary, Environment and Forest Department, Government of Tamil Nadu, Secretariat, Fort. St. George, Chennai- 600 009.

- The Additional Chief Secretary to Government, Industries Department, Government of Tamil Nadu, Secretariat, Fort. St. George, Chennai- 600 009.
- The Chairman, State Level Environment Impact Assessment Authority, Panaga Maaligai, Saidapet, Chennai – 600 015.
- The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building 1st & 2nd Floor, Cathedral Garden Road, Nungambakkam, Chennai-34.
- The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex East Arjun Nagar, New Delhi 110 032.
- 7. The Director of Geology and Mining, Guindy, Chennai-32.
- The District Environment Engineer, Tamil Nadu Pollution Control Board, Tiruppur (North).
- 9. The Assistant Director, Public Works Department, Ground Water Division, Colmbatore.
- 10. The District Forest Officer, Tiruppur.
- 11. Spare.

District : Tiruppur

Taluk : uTHUKKULI

Village : Moratuppalayam

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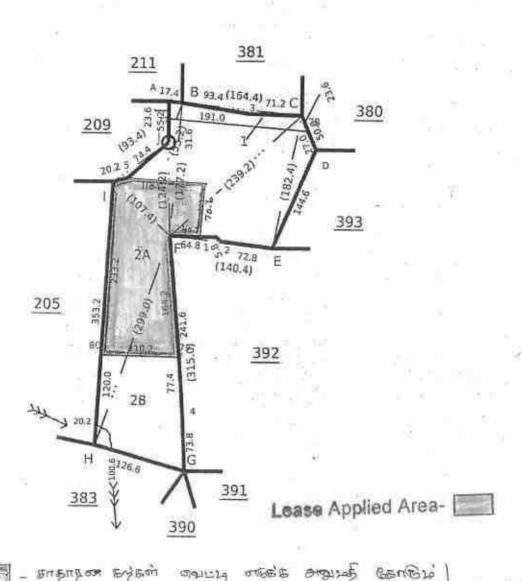
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ANNEXURE



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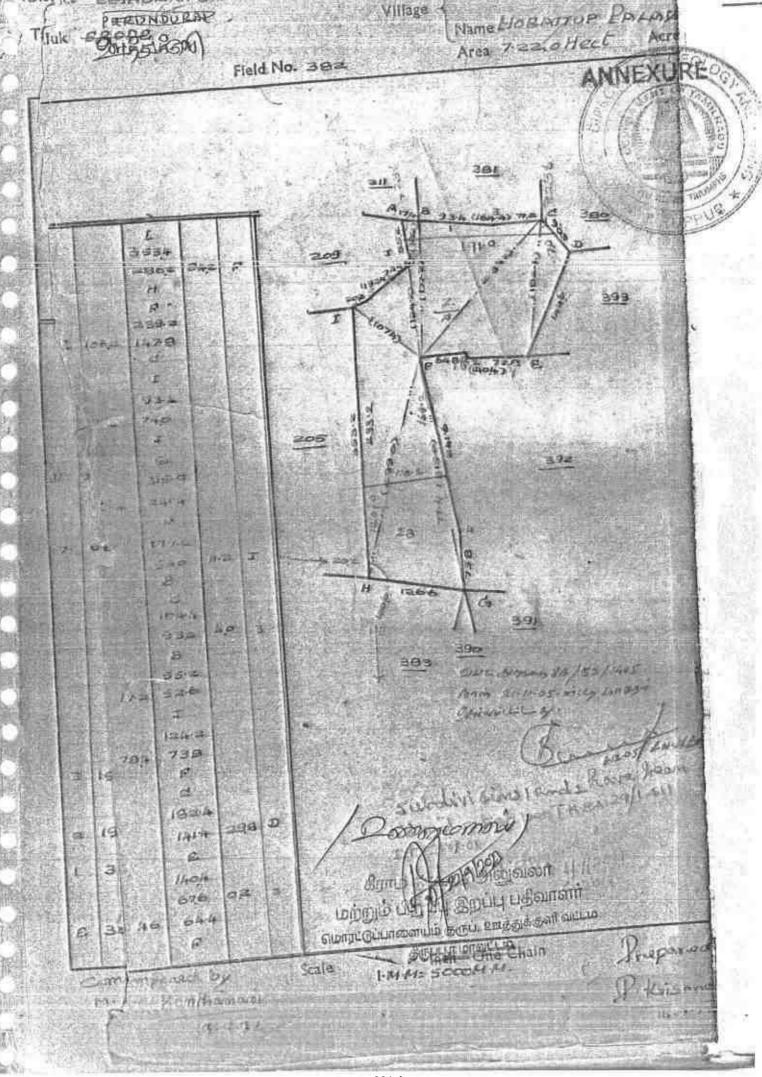
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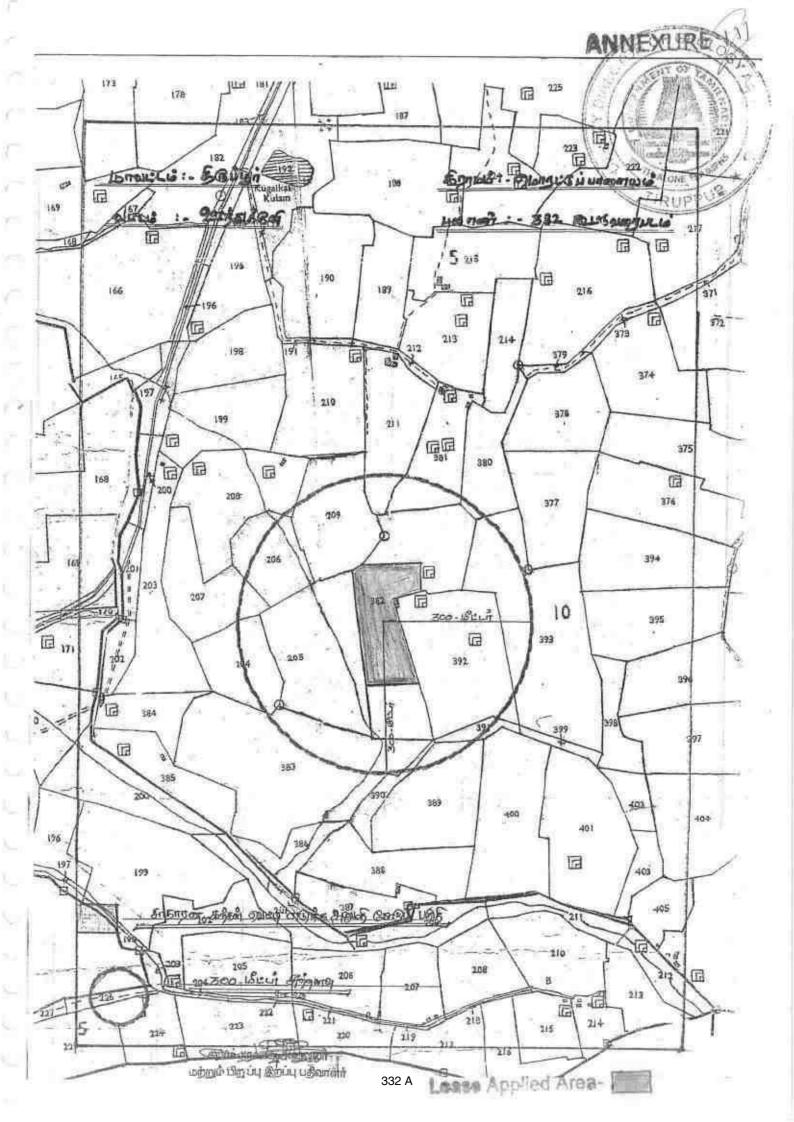
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வருவாய்த் துறை

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வட்டம் : ஊத்துக்குளி

வருவாய் கிராமம் : மொரட்டுப்பாளையம்

பட்டா எண் : 421

உரிமையாளர்கள் பெயர்

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குறிப்பு2 :	
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7. பாசன ஆதாரம் - 15. குறிப்பு -8. இரு போகமா - 16. பெயர் ப

16. பெயர் பழனியம்மான்மற்றும் 4பேர்

குறிப்பு 1:



மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் http://eservices.tn.gov.in என்ற இணைய தளத்தில் 80107 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.

ANNEXURE

ம் நொடு तमिलनाडु TAMILNADU

3.12.2022

S. InDecado

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S. considerations.

முத்திரைத்தாள் விற்பனையாளர். பெருந்துறை டவுன். உரிமம் எண்: 16/2008/ =ோடு.

பெருந்துறை. தம்பூரு எடு

சம்மதக் கடிதம்

கிருப்பூர் மாவட்டம். ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம். திம்மநாய்க்கள்பாளையத்தில் வசிக்கும் (அமரர்) சேமலைக்கவுண்டர் மகன் எஸ்.ராஜசேகர் ஆகிய உங்களுக்கு,

மாவட்டம். ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம். 71-திம்மநாய்க்கன்பாளையத்தில் வசிக்கும் (அமரர்) ராமசாமி மனைவி பழனியம்மாள் - (1) மேற்கண்ட முகவரியிவேயே வசிக்கும் மேற்படி (அமரர்) ராமசாமி மகன் ஆர்.ஹரிபிரசாத்-(2), வேற்கண்ட முகவரியிலேயே வசிக்கும் மேற்படி (அமரர்) ராமசாமியின் இன்னொரு மகன் ஆர்:ஹீசெல்கர்-(3) மற்றும் திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், சர்க்கார் தத்தாங்குண்ணி கிராமம், பாப்பம்பாளையம், 1-13D மேற்குத் தோட்டத்தில் வசிக்கும் .குமாரசாய் மகன் கே.திருமூர்த்தி -(4) ஆகிய நான்கு பேரும் எழுதிக் கொடுக்கும் சம்மதக் கடிகம் என்னவென்றால்,

에OD, 99695 41074 달 220074 S. MANIAN, M.A., B.L., Advocate & Notary Public

305, 308, Ram Negar, PERUNDURAL-638 682 Enute Dt. Taraheath, teda

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண்: 382/2A-ல் 5.19.5 ஹெக்டர் பரப்புள்ள பூமி, பட்டா எண்: 421-ல் நம்மில் 1,2,3,4 எண்ணிடப்பட்டுள்ளவர்களின் பெயரிலும் மேற்கண்ட எஸ்.ராஜசேகர் கூட்டுப்பட்டாவாகத் தாக்கலாகியுள்ள நம் ஐவருக்கும் சொந்தமான பட்டா நிலமாகும்.

மேற்கண்ட பூமியில் 1 எண்ணிடப்பட்ட எஸ்.ராஜசேகர் என்பவர் சாதாரணக் கற்கள் மற்றும் கிராவல் மண் எடுக்க விண்ணப்பம் செய்துள்ளார். மேற்கண்ட புலத்தில் உதவி இயக்குனர் (கனிமம்) அவர்களால் அனுமதி வழங்கும் நாளில் இருந்து, ஐந்து வருட காலத்திற்குக் குவாரிக் குத்தகை உரிமம் வழங்க 1, 2, 3 மற்றும் 4 எண்ணிடப்பட்டுள்ள எங்களுக்கு எவ்விதமான ஆட்சேபணையும் இல்லை. பின்னிட்டு எவ்விதப் பிரச்சனையும் செய்ய மாட்டோம் என முழுமனதுடன் சம்மதிக்கிறோம் என உறுதி கூறுகிறோம்.

R. Palin

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POINTING BURILINGS -

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ராஜசேகர் சேமலை S RAJASEKAR SEMALAI தந்தை செயலை Father: SEMALAI

பிறத்த நாள் / DOB : 03/65/1953

ஆன்யால் / Male

6955 6747 4577

ஆதார் - சாதாரண மனிதனின் அதிகாரம்

ஆநார் படுரி முகவரி ஸ். சேமாலை, 671, திம்மநாம்க்கன்பாளைம்,

பொரட்டுபாளையம்,

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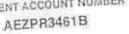
Address S/O: Semalai, 6/71, months THIMMANAICKENPALAIYAM, MORATTUPALAYAM, Morattupalayam, Uttekuli Rs, Tiruppur, Tamii Nadu, 638752

பெறாட்டுப்பணையும், உட்டுக்குழி ர்ச். இருப்பூர், தமிழ் நாடு, 638752

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NAME TATHERS NAME SEMALAI GOUNDER

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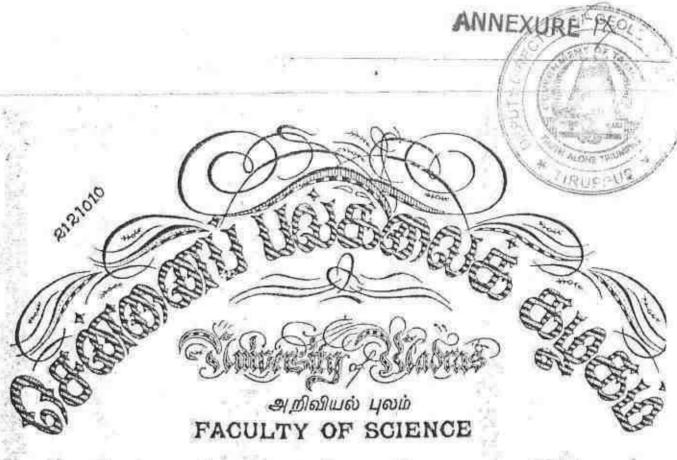
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கண்டடெடுக்கப்பட்டாலோ இய்வுட்டையம்! விறியோகித்த சிடிச்சுற்றும் அதன்றிக்கு தக்கை! அனுப்புள்ளு அவ்வது திரும்பி அனுப்புள்ளு கோரப்படுகிறு

வருமானவர்) ஆணையர் (கணிப்பொறிஇயக்கம்) 108, உத்தமர் சாந்தி சாவை மென்னை 600 034 THUMB TRANS

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Commissioner of Income - tax (Computer Operations) 108, Mahathma Gandhi Road Chennai - 600 034



் சென்னைப் பல்கலைக் கழகப் பேரவை 1994 ஆம் ஆண்டு ... தப்ரல் மாதம் கடக்க கூகிமகியுள் இதர்வில் பை தங்தாரக என்பவர் இதல் வகுப்பில் தேர்ச்சி பெற்றார் என்று தக்க தேர்வாளர்கள் சான்றனித்தபடி அறிவியல் நிறைஞர் என்னும் பட்டத்தை அவகுக்குப் பல்கலைக் கழக இலச்சினையில்ன் வழங்குகிறது.



Given under the seal of the University

Commissio, Chepauk

@ 500 mon. Madias 25-01-1009

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GOVERNMENT OF INDIA MINISTRY OF LABOUR AND REHABILITATION OFFICE OF THE DIRECTOR GENERAL OF MINES SAFETY

Certificate of Practical experience granted by the Manager to a candidate for a Manager's / Surveyor's / Foremen's / Over man's / Sirdar's / Mate's / Short firer's/ Blaster's Certificate of competency (Restricted) examination under the Metalliferous Mines Regulations 1961.

I T.VENKATARAJAGOPALAN being the Mines Agent of M/S.LIMENAPH CHEMICALS, RAJAPALAYAM OF LIMESTONE PRODUCTS (Thenmali Limestone Mine) do hereby certify that Thiru. P.THANGARAJU, son of S.PERIASAMY (whose signature is appended) worked as a Geologist in the above mine from 02.05.1994 to 30.12.1999. During his term of work aforesaid, he has obtained practical experience as detailed overleaf. The duties connected with his work have involved continuous attendance at the mine and have been efficiently performed by him.

I believe him to be of good character and a fit and proper candidate to be examined for OF THEMMILAI LIME STONE MINES

Certificate of Competency.

(Signature with date and official Scal) [T.VENKATARAJAGOPALAN]

Mines Agent:

P.O.

: ARUKANGULAM

District

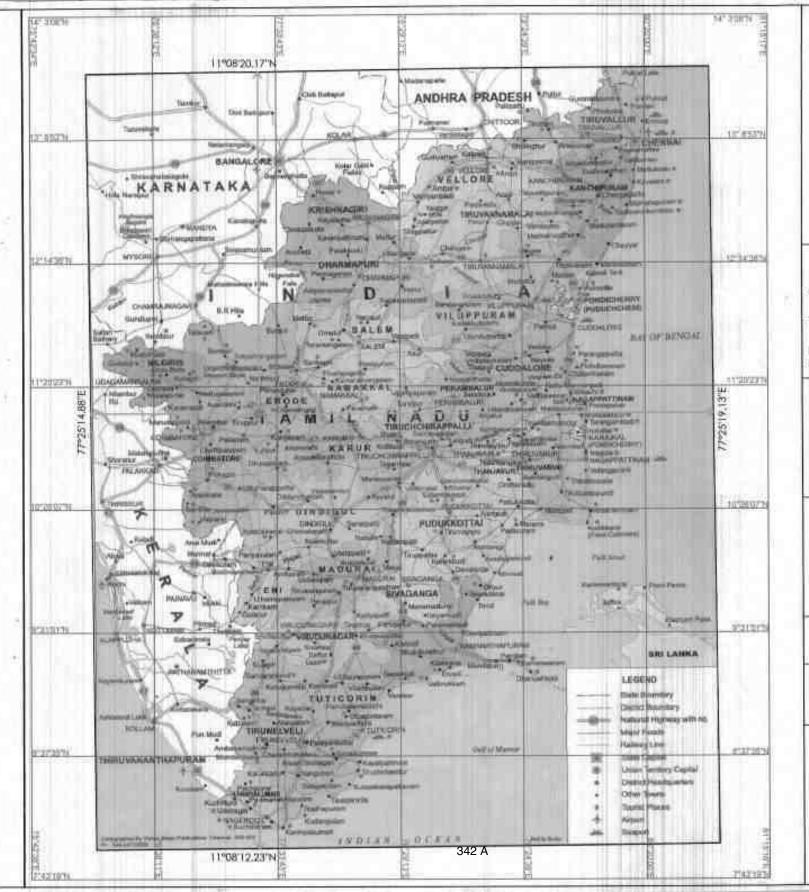
: TIRUNELVELI

State

TAMIL NADU

(Signature of Candidate)

(State name of Mineral) : LIMESTONE





INDEX

Q.L.APPLIED AREA:



TOPO SHEET NO.: 58 E/08

LATITUDE : 11"08"12.23"N to 11"08:20.17"N LONGITUDE: 77"25"14.88"E to 77"25"19:13"E

APPLICANT:

Thiru.5. RAJASEKAR.
S/O SEMALAI GOUNDER,
NO. 71.THIMMANAICKENPALAYAM.
MORAITUPALAYAM POST,
UTHUKULI TALUK.
TIRUPPUR DISTRICT-638752.

LOCATION OF O.L.A AREA:

SF.Na : 382/2A(P), EXTENT : 2.48.5 HA.

VILLAGE: MORATTUPALAYAM, TALUK : UTHUKULI,

DISTRICT : TIRUPPLIR, STATE : TAMILNADU,

PLATE NO - 1

DATE OF SURVEY: 25:09.2023

LOCATION PLAN

SCALE, 1:74,00,000

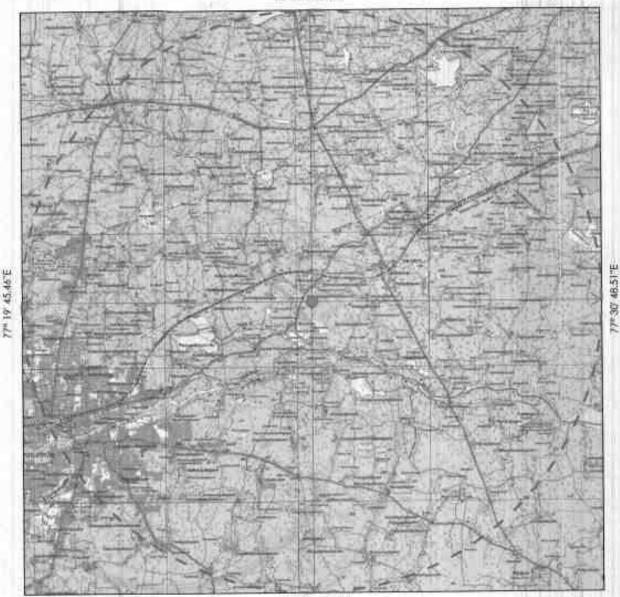
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THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLATE IS TRUE AND COMMENT TO THE BEST OF MY MUCH LOSS BUSINESS UPON THE LEASE WAP AUTHORITICATED BY STATE GOVERNMENT.





11" 13 45 46"N



11°02'46,94"N

TOPO SHEET NO.: 58 E/08

LATITUDE : 11°08°12.23°N to 11°08°20.17°N LONGITUDE : 77°25°14.88°E to 77°25°19.13°E

10km RADIUS

ADRUS : [

OL APPLIED AREA :



INDEX

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Investabled med. Carl-teack, Pack-track with pass. Post-path.

Investabled med. Carl-teack, Pack-track with pass. Post-path.

Investabled med. Carl-teack, with inland & rocks. Didal river.

Interpret med on roll; total Broken ground.

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Railways, other gauges double; single with station.

Railways, other gauges double; single with station.

Railways, other gauges double; single with station.

Railways, other gauges double; single with station.

Railways, other gauges double; single with station.

Railways, other gauges double; single with station.

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Railways, other gauges, double; single with station.

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APPLICANT:

Thiru.S. RAJASEKAR, S/O SEMALAI GOUNDER, NO. 71.THIMMANAICKENPALAYAM. MORATTUPALAYAM POST, UTHUKUU TALUK, TIRUPPUR DISTRICT-638752.

LOCATION OF Q.L.A. AREA:

SF.No : 382/2A(P), EXTENT : 12.48.5 HA.

VILLAGE: MORATTUPALAYAM.

TALUK : UTHUKULI, DISTRICT : TIRUPPUR, STATE : TAMILNADU,

PLATE NO - I-A

DATE OF SURVEY: 25.09.2023

TOPO SKETCH OF QUARRY LEASE APPLIED AREA FOR 10Km RADIUS

SCALE. 1:1,00,000

PREPARED BY:

THIS IS TO CERTURY THAT THE INFORMATION IN THIS PLAY, IS THOSE AND COMMET TO THE BEST OF MY ENDMEDDE BASES UPON THE LEASE MAP AUTHORITICATED OF STATE OCCUMENTATION.



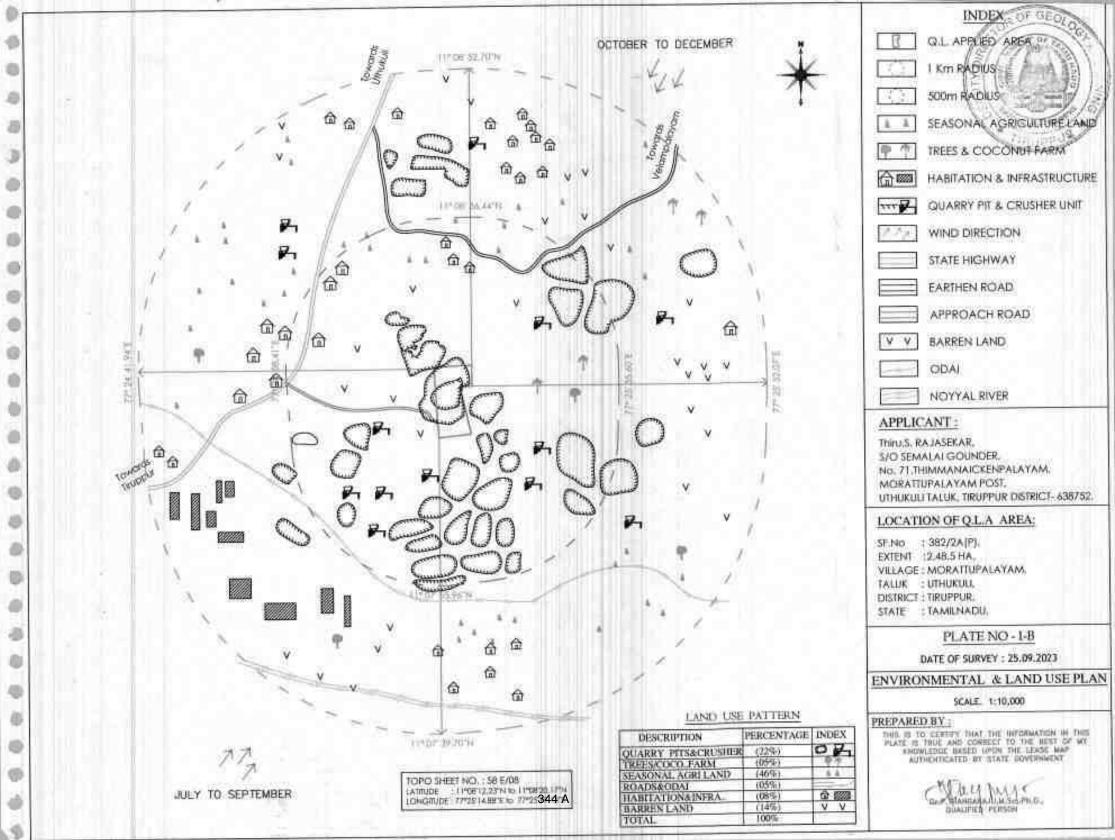
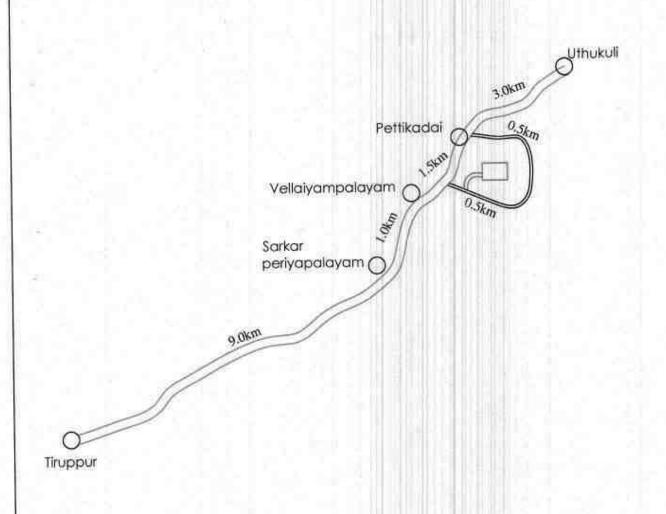


PLATE NO : I-C ROUTE MAP





INDEX Q.L.APPLIED AREA Q.L.APPLIED AREA STATE HIGHWAY CART TRACK APPROACH ROAD Thiru.S. RAY S/O SEMA NO. 71,TH MORATTU UTHUKULI TIRUPPUR LOCATI SENIO

APPLICANT:

Thiru.S. RAJASEKAR.
S/O SEMALAI GOUNDER,
NO. 71,THIMMANAICKENPALAYAM,
MORATTUPALAYAM POST,
UTHUKULI TALUK,
TIRUPPUR DISTRICT- 638752.

LOCATION OF Q.L.A AREA:

SF.No : 382/2A(P), EXTENT :2.48.5 HA,

VILLAGE: MORATTUPALAYAM.

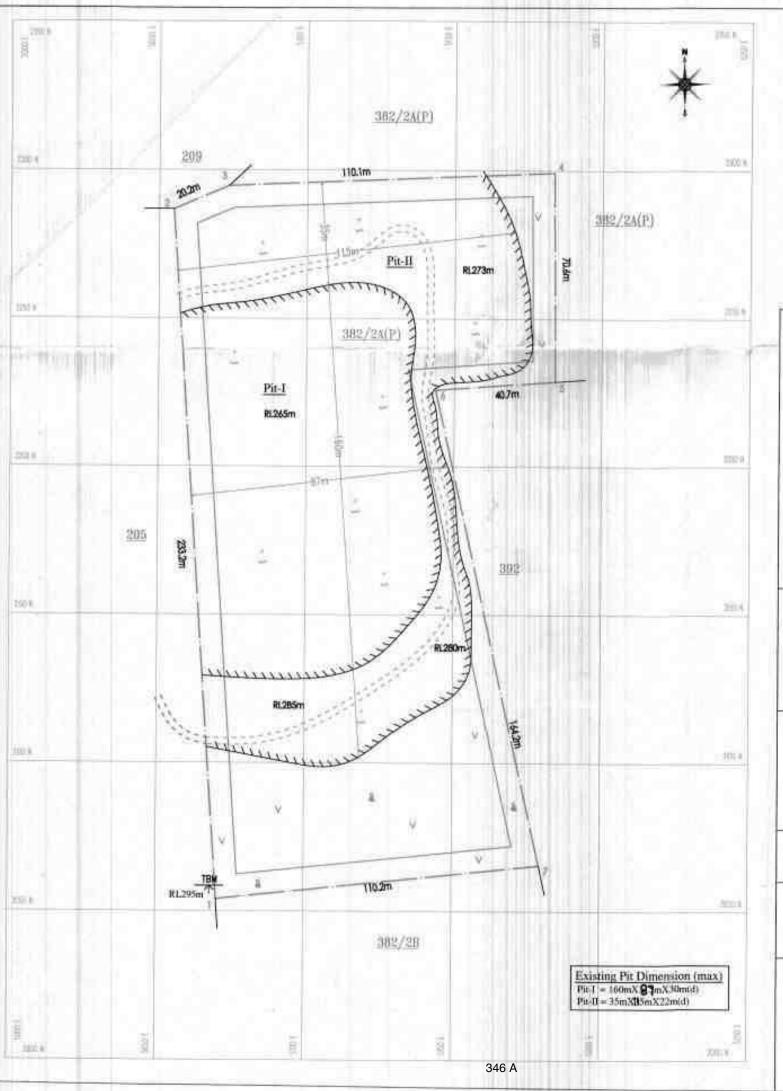
TALUK : UTHUKULI, DISTRICT : TIBUS AUR, STATE : TAMILNADU. SCALE:

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





BOUNDARY CO-ORDINATES

N.	CATITUDE	LONGITUDE
1	11100122091	77° 25' 15:33'E
2	11000 193009	
ä		777 357 15.537 E.
ž.	11"08"2017"N	
1	11"05 17.05%	77° 25' 17.13'E
A	11509:172994	77*35*17.79*5
7	11° III 1257W	77° 25' 18.50'E

DATUM: UTM-WGS84, ZONE 44 NORTH

INDEX

G.L. APPLIED AREA BOUNDARY

7.5m SAFETY DISTANCE

TEMPORARY BENCH MARK

V GRAVEL

2 2 ROUGHSTONE

TTTTT QUARRY PIL

SHRUBS

QUARRY HAUL ROAD

APPROACH ROAD

APPLICANT:

Thiru S. RAJASEKAR.
S/O SEMALAI GOUNDER.
NO. 71 THIMMANAICKERRALAYAM,
MORATTUPALAYAM POST,
UTHUKULI TALUK.
TIRUPPUR DISTRICT-638752.

LOCATION OF Q.L.A. AREA:

SF.No : 382/2A(P), EXTENT : 2.48.5 HA,

VILLAGE: MORATTUPALAYAM.

TALUK : UTHUKULI. DISTRICT : TIRUPPUR, STATE : TAMILNADU.

PLATE NO - II

DATE OF SURVEY: 25,09,2023

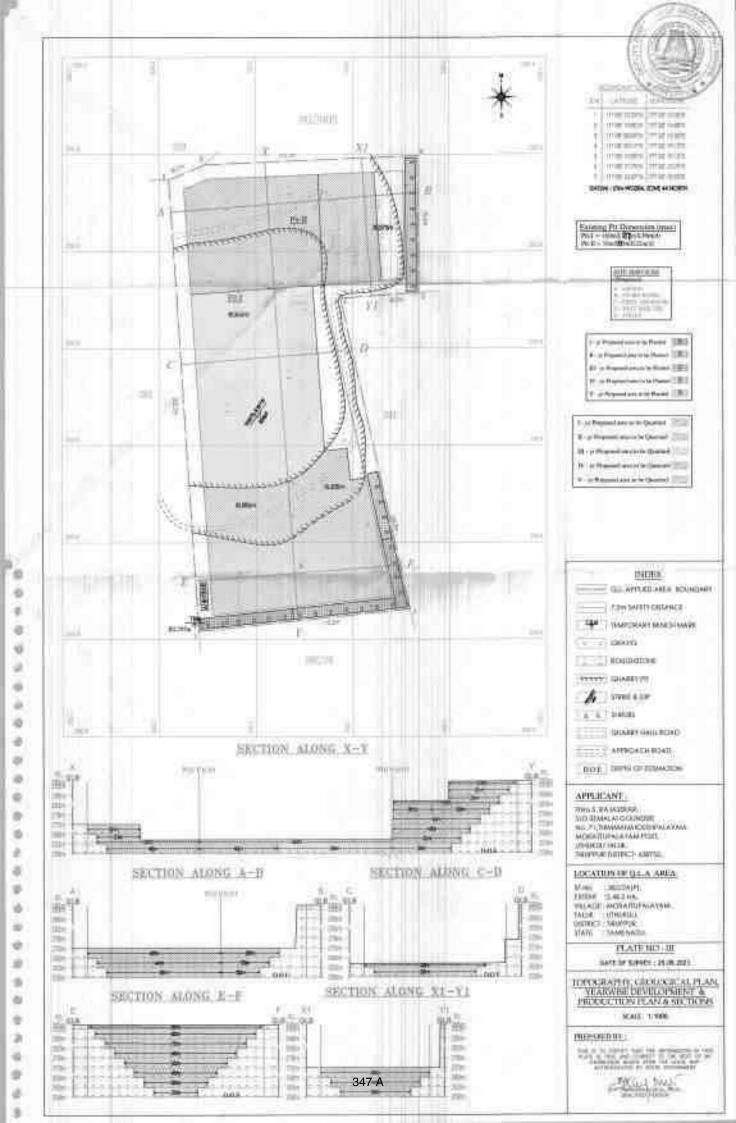
QUARRY LEASE PLAN & SURFACE PLAN

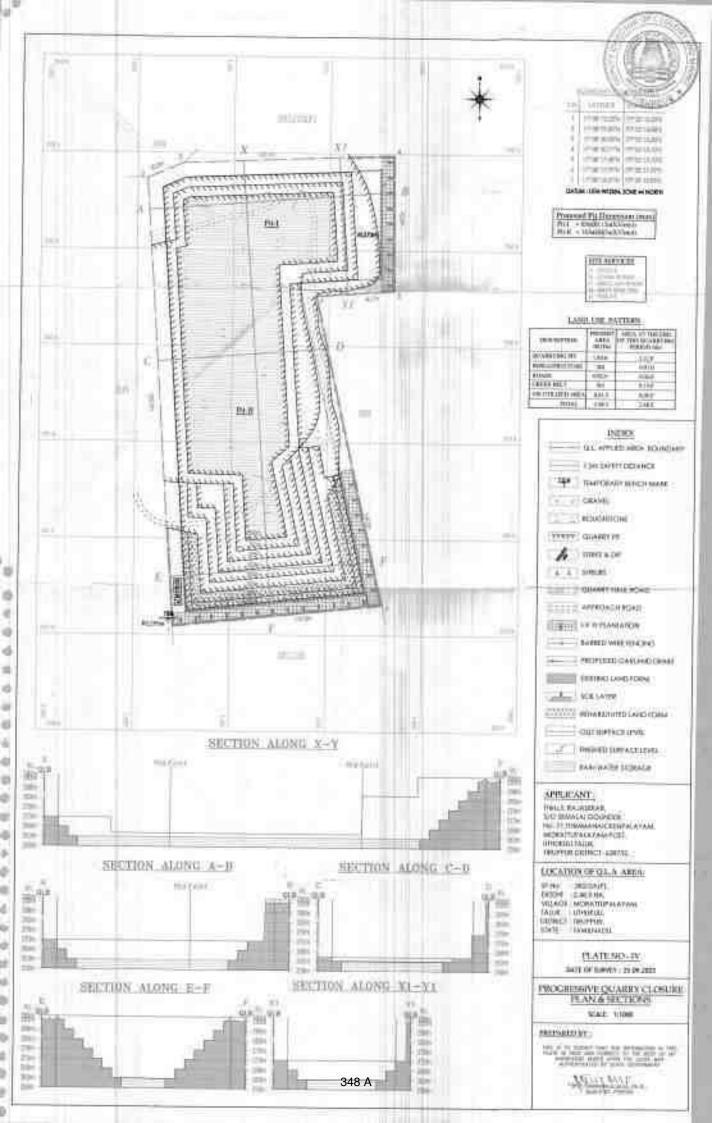
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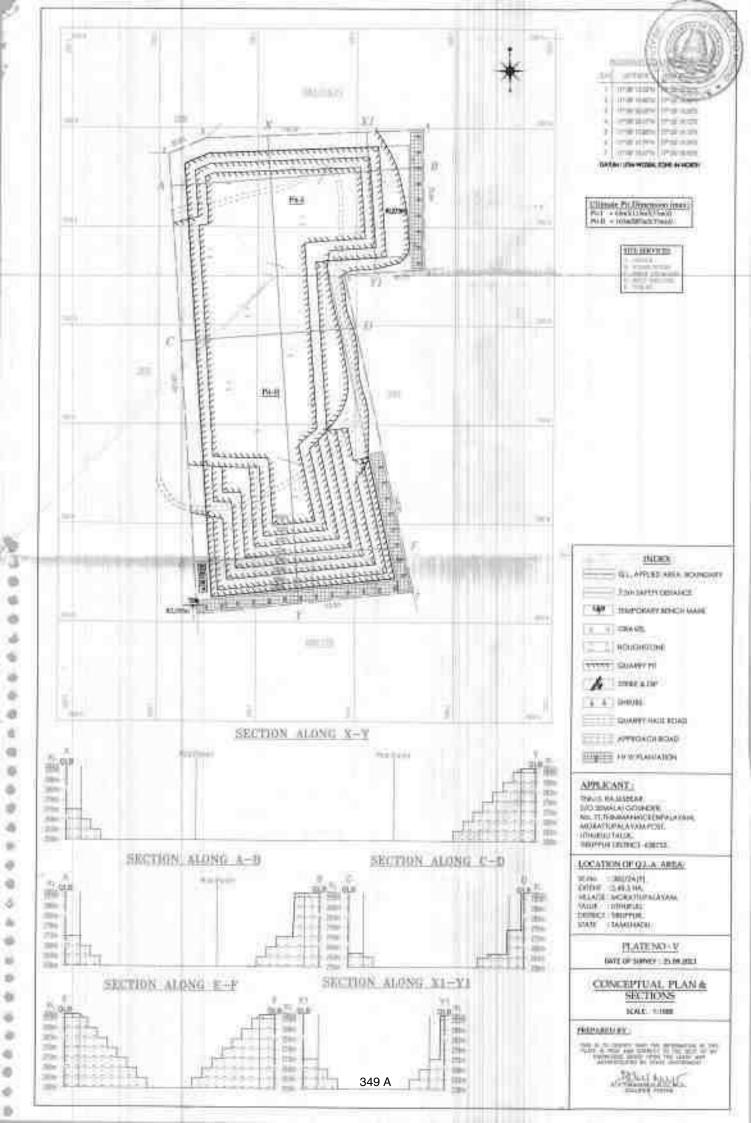
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GENTHURSHER, SOLEN, DURLING PERSON







DROGEOLOGICAL REPORT
Rough stone and Gravel Quarry Over an
f 2.48.5ha of Patta lands in S.F.Nos. 382/2A(P) of
Morattupalayam Village, Uthukuli Taluk,
Tiruppur District, Tamil Nadu State.

HYDRO - GEOLOGICAL STUDIES AT THIRU. S. RAJASEKAR ROUGH STONE AND GRAVEL QUARRY MORATTUPALAYAM VILLAGE, UTHUKULI TALUK, TIRUPPUR DISTRICT, TAMILNADU.

1. INTRODUCTION

Proprietor of Thiru. S. Rajasekar in Gravel and Rough Stone Quarry Over an extent of 2.48.5Ha (of patta land in S.F. Nos. 382/2A (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State on the hydrological regime of the area, The above area has been studied & investigated for finding out Ground water level and aquifer thickness and water quality in and around mine lease area. The electrical resistivity method, TEM study in Rough stone and gravel quarry and genesis rock with determine the shallow and deeper freshwater aquifer in the proposed mining area in Thiru. S. Rajasekar, Morattupalayam Village.

1.1. Scope of Study

In the present study, the main aim of the shallow and deeper aquifer investigation through electrical resistivity VES, Method is used to measure the apparent resistivity of the Study area. The present study is estimating the ground water level in S.F. Nos. 382/2A (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu of proposed leasehold area and their surrounding area. The study area is mostly covered by Water level, type of sand, type of rock and their basement rock characters. The main aim of the study is to determine the water table and flow movement of this Lease and surrounding area (Fig.1).

1.2. Profiles in the Study Area.

Name of the Lessee : Thiru. S. Rajasekar,

Survey No : S.F. No. 382/2A (P)

Extent : 2.48.5Ha.

Village : Morattupalayam village,

Taluka : Uthukuli Taluk,

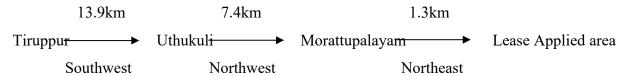
District : Tiruppur
State : Tamil Nadu

2. STUDY AREA DESCRIPTION



Figure.1. Shows proposed mine lease area

The lease area is about 9.4km Northeastern side of Tiruppur town and 3.3km Southwestern side of Uthukuli Town, the lease applied area located along Morattupalayam Village at a distance of 1.3km (NE).



2.1 Topography of the Lease Area and Its Surrounding Environments:

The lease applied area is exhibits plain topography. The area has gentle sloping towards Northeastern side and altitude of the area is 292m (max) above from Mean Sea Level. The area is covered by 2m thickness of Gravel formation. Massive Charnockite is found after 2m (Gravel) which is clearly inferred from the existing quarry pit.

The Water table is found at a depth of 68m. Average annual rainfall is about 607mm.



Figure 2. Topography and Outcrop in the lease area

3. REGIONAL GEOLOGY OF CHENGALPATTU DISTRICT

Tiruppur district of Tamil Nadu forms a part of southern Granulitic terrain and is predominantly occupied by crystalline rocks of Archaean to late Proterozoic age. Regionally, the rocks can be grouped under five categories namely

- i. Charnockite Group represented by Charnockite, Pyroxene Granulite and Magnetite Quartzite,
- ii. Peninsular Gneissic Complex (II) comprising hornblende-biotite gneiss,
- iii. Basic intrusive include Pyroxinite / Dunite
- iv. Younger intrusive comprising, Nepheline-Syenite, Pink Granite, Pegmatite and Quartz veins and
- v. Quaternary sediments of Kankar and soil.

Stratigraphy Sequence of Tiruppur District

Age	Group	Lithology
Holocene		Block cotton soil/clay±gypsum
Cenozoic		Kankar/ Calc-tufa
	Acid Intrusive	Quartz veins Pegmatite Pink Granite
Neoproterozoic	Sivamalai Synetite Complex	Nepheline - Syenite
	Chalk Hills (Basic intrusives)	Pyroxenite/ Dunite
Archean - Paleoproterozoic	Peninsular Gneissic Complex (II) PGC (II)	Pink Granite Gneiss Hornblende Biotite Gneiss
Archean	Charnockite Group	Charnockite (Unclassified) Pyroxene granulite Banded Magnetite Quartzite

Tiruppur District is predominantly occupied by hornblende Biotite gneisses of PGC (II) with enclaves of Magnetite Quartzite, Pyroxene Granulite and Charnockite. The area exposes several bands of Pyroxene Granulite which is medium grained, medium to dark grey in colour and stand out prominently in the gneissic country generally parallel to regional foliation. Charnockite is coarse grained, massive, many places it is foliated, grey coloured and greasy and exposed as bouldery outcrops and small knolls. It is well exposed in Central, Western and Southern parts of the Tiruppur District. The general strike of foliation varies from N30°E – S30°W with dipping towards SE60°

Hornblende-Biotite gneiss is well foliated, medium to coarse grained, pale grey and exposed as sheets and small knolls. Pink Granite gneiss occurs as thin bands and lensoidal bodies. It is a medium grained rock composed of alternating bands of mafic (mainly of biotite and hornblende) and felsic (Feldspar and Quartz) minerals. It is well recognized in Avinashi area.

Basic intrusives such as pyroxinite/dunite occurs as Outcrop and lensoidal bodies in the country rock and mostly concordant to the regional foliation. Many basic intrusive are reported in south and south-east of Tiruppur town. The trend of these bodies is east-west.

Nepheline syenite is a leucocratic, coarse grained rock and composed mainly of Feldspar with

Nepheline and shows pitted appearance due to removal of Nepleline. This alkaline rock is available in and around Sivanmalai area only.

Acid intrusives comprising pink granite, pegmatite and quartz veins are traversed country rocks in micro (cm wide-meter long) to meso-scale (few meter wide and several meter long) extend. Granite is exposed around 9 km SW of Avanashi. Small scale pegmatite and quartz veins are noticed almost in all the rock types.

Acid intrusives are overlain by sediments of Quaternary age, represented by Kankar and black cotton soil with Gypsum. Most of the area is covered by brown and red brown soil. Some part of the area covered with black cotton soil contains Gypsum as lumps. Black cotton soil covers southwestern part of the district.

4. RAINFALL OF THE DISTRICT AND CLIMATE CONDITIONS.

4.1 Rainfall

The area receives rainfall through both south-west and north-east monsoons. About 40 percent of the precipitation is contributed by south-west monsoon and northeast monsoon accounts for 50 to 60 percent. The average annual rainfall for the basin area is 607 mm.

4.2 Climatic Conditions.

The basin area experiences tropical climate being hot and dry for the greater part of the year. The period from March to June is generally hot. The temperature ranges from 23°C. to 42°C

5. HYDROGEOLOGY

(i) Major Geological formations:

Tiruppur District is underlain by crystalline metamorphic complex in the western parts of district and sedimentary tract in eastern side. An area of 4551 Sq.km is covered by crystalline rocks (63%) and 2671 Sq.km is covered by sediments (37%). The general geological sequence of formation is given below:

Quaternary - Laterites, Sands and Clays

Tertiary - Sandstone, Gravels and Clays

Cretaceous - Limestone, Calcareous Sandstone and Clay unconformity.

Archaean - Charnockites, Gneisses, Granites, Dolerites and Pegmatite

• The major part of the area is covered by metamorphic crystalline rocks of charnockite, granitic

gneiss of Archaean age intruded by dolerite dykes and pegmatite veins. These rocks are highly metamorphosed and have been subjected to very severe folding, crushing and faulting.

- Ground Water occurs under the phreatic condition and wherever there are deep seated fractures, it occurs under semi-confined to confined conditions.
- Occurrence of Ground Water in hard rock depends upon the intensity and depth of weathering, fractures and fissures present in the rocks.
- Granites and gneisses yield moderately compared to the yield in Charnockites.
- Depth of well in hard rock generally ranges between 8 and 15m below ground level.
- Generally yield in open wells ranges from 30 to 250m3 /day and in bore well between 260 and 430 m3 /day. The weathered thickness varies from 2.5 m to 42m in general there are 3 to 5 fracture zones within 100 m and 1 to 4 fracture zones between 100 and 200 m.

The Cretaceous formation is represented by Arenaceous Lime stone, Calcareous sand - stone and marl.

The Tertiary formation is argillaceous comprising of Silty clay stones, argillaceous Lime stone.

The Quaternary deposits represented by the river deposits of Ponnaiyar and Varahanadhi spread over as patches in Tiruppur District. The alluvium consists of unconsolidated sands, gravelly sands, clays and clayey sands. The thickness of the sands ranges between 15 and 25 m in the alluvial formation which also form potential aquifers. In some areas, sand stone of tertiary formation are the potential groundwater reservoirs.

(ii) Aquifer Systems:

Occurrence and storage of groundwater depend upon three factors viz., Geology, Topography and rainfall in the form of precipitation. Apart from Geology, wide variation in topographic profile and intensity of rainfall constitutes the prime factors of groundwater recharge. Aquifers are part of the more complex hydro geological system and the behavior of the entire system cannot be interpreted easily. In hard rock terrain the occurrence of Ground Water is limited to top weathered, fissured and fractured zone which extends to maximum 30 m on an average it is about 10-15 m in Tiruppur District.

In Sedimentary formations, the presence of primary inter granular porosity enhances the transmitting capacity of groundwater where the yield will be appreciable. The sedimentary area which occupies the eastern part of the District along the coastal tract is more favourable for groundwater recharge. Ground Water occurs both in semi confined and confined conditions. A brief description of occurrence of ground water in each formation is furnished below.

Alluvial Formations

In the river alluvium groundwater occurs under water table condition. The maximum thickness is 37 m and the average thickness of the aquifer is approximately 12 m. These formations are porous and permeable which have good water bearing zones.

Tertiary Cuddalore sandstone

Tertiary formations are represented by Cuddalore Sandstone and characterised as fluvial to brakish marine deposits. Predominantly this formation is divided into Lower and Upper Cuddalore formations. In the Upper Cuddalore formations the groundwater occurs in semi confined conditions, whereas in the Lower Cuddalore the groundwater occurs in confined condition with good groundwater potential.

Cretaceous Formations

Groundwater occurring in the lens shape in the sandy clay lenses and fine sand is underlain by white and black clay beds which constitute phreatic aquifer depth which ranges 10m to 15m below ground level. Phreatic aquifer in Limestone is potential due to the presence of Oolitic Limestone.

Hard Rock Formations

Groundwater occurs under water table conditions but the intensity of weathering, joint, fracture and its development is much less in other type of rocks when compared to gneissic formation. The groundwater potential is low, when compared with the gneissic formations.

• Granitic Gneiss

Groundwater occurs under water table conditions in weathered, jointed and fractural formations. The pore space developed in the weathered mantle acts as shallow granular aquifers and forms the potential water bearing and yielding zones water table is shallow in canal and tank irrigation regions and it is somewhat deeper in other regions.

• Charnockite

Groundwater occurs under water table conditions but the intensity of weathering, joint, fracture and its development is much less when compared to gneissic formations. The groundwater potential is low, when compared with the gneissic formations.

6. METHODOLOGY OF STUDY

- 1. Open well and bore well water level measurement, depth of water level diameter of open well, agriculture land survey.
- 2. Geophysical survey for deep aquifer in nearby site Rock and soil geology also collected for the aquifer characteristic study
- 3. Aquifer thickness and quality measurement study in nearby proposed mine site areas of the study area

6.1 Geophysical Investigation

6.1.1 Vertical Electrical resistivity sounding for aquifer study.

The electrical resistivity study is used to determine aquifer and occurred rock in the proposed site. The DDR 3 equipment was used for data collection (Fig.3)



Figure 3. Electrical resistivity survey in the mine lease area.

6.1.2 Basic Principles

The electrical properties of rocks in the upper part of the earth's crust are dependent upon the lithology, porosity, and the degree of pore space saturation and the salinity of the pore water. Saturated rocks have lower resistivity than unsaturated and dry rocks. The higher the porosity of the saturated rock, or the higher the salinity of the saturating fluids, the lower is the resistivity. The presence of clays and conductive minerals also reduces the resistivity of the rock.

The resistivity of earth materials can be studied by measuring the electrical potential distribution produced at the earth's surface by an electric current that is passed through the earth. Current is moved through the subsurface from one current electrode to the other and the potential difference is recorded as the current passes. From this information, resistivity values of various layers are acquired and layer thickness can be identified.

The apparent resistivity values determined are plotted as a log function versus the log of the spacing between the electrodes. These plotted curves identify thickness of layers. If there are multiple layers (more than 2), the acquired data is compared to a master curve to determine layer thickness.

This method is least influenced by lateral in-homogeneities and capable of providing higher depth of investigation.

The resistance R of a certain material is directly proportional to its length L and cross-sectional area A, expressed as:

$$R = Rs * L/A (in Ohm)$$

Where Rs is known as the specific resistivity (characteristic of the material and independent of its shape or size)

With Ohm's Law,

$$R = dV/I$$
 (Ohm)

Where dV is the potential difference across the resistor and I is the electric current through the resistor. The specific resistivity may be determined by:

$$Rs = (A/L) * (dV/I) (in Ohm m)$$

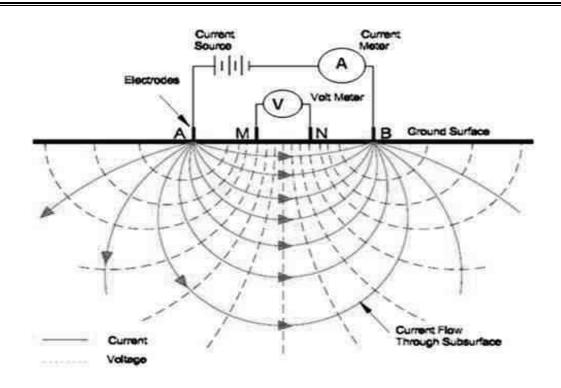


Figure 4. Schematic Diagram of Electrical resistivity principle



Figure 5. Geophysical survey location in the lease area

6. GEOPHYSICAL DATA INTERPRETATION & GRAPH

Table 1 Geophysical data of Station 1

S. No	<i>Ab/2</i>	Mn /2	K	R	Rho
1	2	1	4.7	39.68	186.99
2	4	1	23.6	11.42	269.08
3	6	1	55.0	6.3	346.36
4	8	1	99.0	4.1	405.74
5	10	1	155.5	2.85	443.20
6	10	5	23.6	12.23	288.16
7	15	5	62.8	5.27	331.12
8	20	5	117.8	2.95	347.54
9	25	5	188.5	1.85	348.72
10	30	5	274.9	1.44	395.84
11	35	5	377.0	1.06	399.61
12	40	5	494.8	0.68	336.47
13	50	5	775.5	0.52	404.32

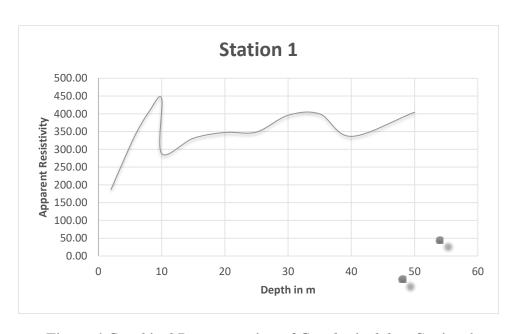


Figure 6 Graphical Representation of Geophysical data Station 1

Table 2 Geophysical data of Station 2

S. No	<i>Ab</i> /2	Mn /2	K	R	Rho
1	2	1	4.7	25.84	121.77
2	4	1	23.6	9.8	230.91
3	6	1	55.0	4.75	261.15
4	8	1	99.0	2.83	280.06
5	10	1	155.5	2.01	312.57
6	10	5	23.6	10.55	248.58
7	15	5	62.8	4.65	292.17
8	20	5	117.8	2.47	290.99
9	25	5	188.5	1.62	305.36
10	30	5	274.9	1.2	329.87
11	40	5	494.8	0.74	366.15
12	50	5	777.5	0.69	536.51

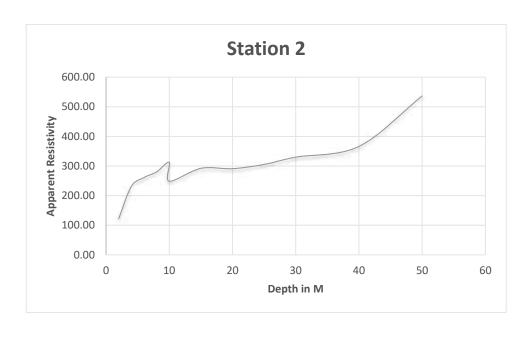


Figure 7 Graphical Representation of Geophysical data Station 2

Table 3 Geophysical data of Station 3

S. No	<i>Ab</i> /2	Mn/2	K	R	Rho
1	2	1	4.7	34.66	163.33
2	4	1	23.6	11.06	260.60
3	6	1	55.0	5.63	309.53
4	8	1	99.0	3.62	358.24
5	10	1	155.5	2.34	363.89
6	10	5	23.6	12.92	304.42
7	15	5	62.8	5.45	342.43
8	20	5	117.8	3.06	360.50
9	25	5	188.5	2.08	392.07
10	30	5	274.9	1.6	439.82
11	40	5	494.8	1.07	529.44
12	50	5	777.5	0.96	746.44

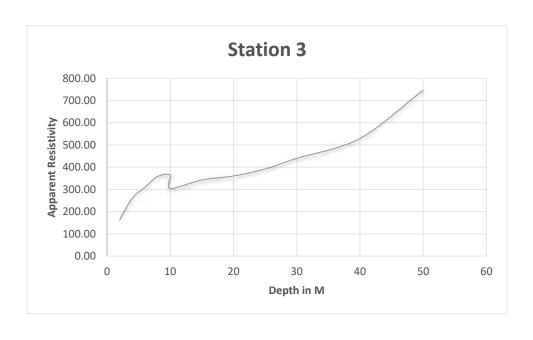


Figure 8 Graphical Representation of Geophysical data Station 3

Table 4 Geophysical data of Station 4

S. No	<i>Ab</i> /2	Mn/2	K	R	Rho
1	2	1	4.7	22.68	106.88
2	4	1	23.6	7.52	177.19
3	6	1	55.0	4.34	238.60
4	8	1	99.0	2.65	262.25
5	10	1	155.5	1.89	293.91
6	10	5	23.6	11.12	262.01
7	15	5	62.8	4.92	309.13
8	20	5	117.8	2.65	312.20
9	25	5	188.5	1.7	320.44
10	30	5	274.9	1.22	335.37
11	40	5	494.8	0.79	390.89
12	50	5	777.5	0.67	520.96

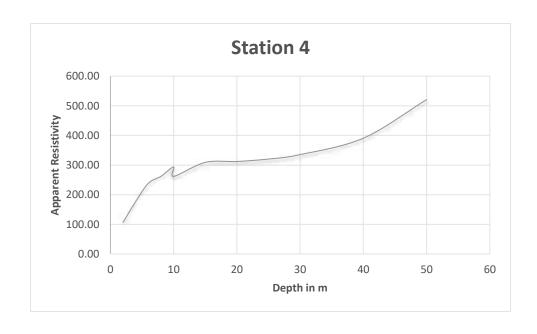


Figure 9 Graphical Representation of Geophysical data Station 4

Table 5 Geophysical data of Station 5

Sr. No.	<i>AB</i> /2	MN/2	K	R	Rho
1	2	1	4.7	27.93	131.62
2	4	1	23.6	8.64	203.58
3	6	1	55.0	5.09	279.84
4	8	1	99.0	3.35	331.52
5	10	1	155.5	2.52	391.88
6	10	5	23.6	11.95	281.57
7	15	5	62.8	6.38	400.87
8	20	5	117.8	4.6	541.93
9	25	5	188.5	3.37	635.23
10	30	5	274.9	2.7	742.20
11	40	5	494.8	1.73	856.01
12	50	5	777.5	1.69	1314.05

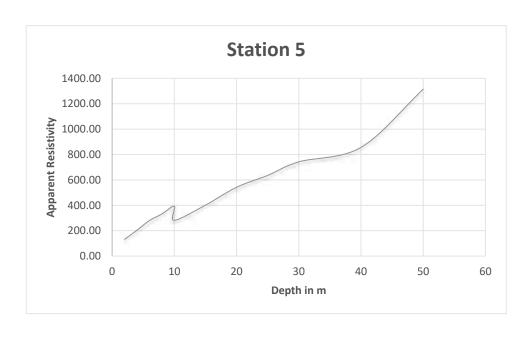


Figure 10 Graphical Representation of Geophysical data Station 5

7. CONCLUSION

- ❖ The lease applied area is flat terrain. The area has gentle sloping towards South side and altitude of the area is 292m (max) above from Mean Sea level.
- ❖ The geological study of the given area covered by gravel and rough stone in the entire area.

 The discharge of the groundwater controlled by the massive charnockite rock
- ❖ The study area exhibit almost (60° SE) vertical dipping formation. So it act as a barrier and restrict the groundwater flow movement.
- ❖ Based on the geophysical investigation, Vertical Electrical Sounding (VES) were conducted to determine the subsurface water table and rock types up to depth of 50 m.
- The subsurface formation up to this depth can be categorized as follows,
 - ❖ 0m to 2m (Average) Top Soil
 - **❖** 3m to 6m (Average) weathered formation
 - **❖** 6m to 50m (Average) Charnockite Formation (Massive Formation)
- ❖ Water level from open and bore in nearby proposed site −open well having recharge water in the Shallow perched aquifer well built by the rainwater.
- ❖ In this mine lease area, groundwater occurs at shallow depths, depending on the intensity of weathering and its development is much less compared to gneissic formation. The mine area such no major intersections of water table are expected up to 50m.
- ❖ The aquifer are found within the weathered / fractured metamorphic terrain. Currently the aquifers are located at 68 to 63 meters below ground level (BGL). However, considering the approved mining plan depth, which is 37 meters below ground level. It will not impact the groundwater table.

- ❖ To obviate the impact due to catchment of rainwater as surface runoff management, effective measures like construction of peripheral garland drain, settling pond and ensuring water flow to the nearby downstream users are devised and will be implemented during the course of mining.
- From the above study it can be concluded there will be no adverse effect on the hydrological regime, water drainage, environment, and livelihood. Agricultural activity in the region.

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நாள்: 19.01.2023.

பணிந்தனுப்பப்படுகிறது:-

25 AGH

பொருள்:-

கனிமங்களும் குவாரிகளும் - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் - ஊத்துக்குளி உள்வட்டம் - மொரட்டுப்பாளையம் கிராமம் - புலஎண். 382/ 2A பகுதி பு.ஹெ 2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் த/பெசேமலை கவுண்டர் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்கக் கோரி வரபெற்ற மனு மீது புலத்தணிக்கை மற்றும் விசாரணை செய்து அறிக்கை அனுப்புதல் - தொடர்பாக



பார்னவ :-

- திருப்பூர் சார் ஆட்சியர் அவர்களின் அலுவலக ந.க.761/2022/கனியம், நாள்: 08.12.2022.
- ஊத்துக்குளி வட்டாட்சியர் அலுவலக ந.க.3273/2022 /அ2 நாள்: 02.01.2023.

திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மோரட்டுப்பாளையம் கிராமம், புவஎனர்.382/ 2A பகுதி 2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலைகவுண்டர் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்க கேட்டு மனு செய்ததின் பேரில் புலத்தணிக்கை மற்றும் விசாரணை செய்து கீழ்ண்டவாறு அறிக்கை சமர்பிக்கப்படுகிறது.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம் திரு.S.ராஜசேகர் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புலஎண் 382/2A ல் பகுதி பு.ஹெ.2.48.50 பட்டா எண்.421 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 1184/1999, நாள்:15.12.1999-ன்படி கூட்டான பாத்தியபட்டதாகும்.

திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணை ந.க.105/கனிமம்/2017 நாள் 25.09.2018-ன்படி நாள்:25.09.2018 முதல் 24.09.2023 வரை 5 ஆண்டுகளுக்கு கல் குவாரி குத்தகை சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரிமம் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலைகவுண்டர் என்பவருக்கு வழங்கப்பட்டுள்ளது. மேற்படி குத்தகை உரிமம் புதுப்பித்து வழங்குவதற்கு மொட்டுப்பாளையும் கிராமம் வசிக்கும் மேற்படி குத்தகை உரிமம் புதுப்பித்து வழங்குவதற்கு மொட்டுப்பாளையும் கிராமம் வசிக்கும் கேட்டிற்ற ராமசாமி மகன்கள் ஆர்.ஹரிபிரசாத்-2,ஆர்.ஹரிசங்கா - 3 மற்றும் சர்க்கார் கத்தாங்கண்ணி கிராமத்தில் வசிக்கும் திரு.குமாரசாயி மகன் கே.திருமூர்த்தி-4 ஆகியார்கள் மேற்படி காலையில் 2.48.50 ஹெக்டேர் பப்பளவுள்ள பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ சேமலைகவுண்டர் என்பவருக்கு மாவட்ட ஆட்சியர் அனுமதி வழங்கும் நாளிலிருந்து 5 ஆண்டுகளுக்கு கல்குவாரிக் குத்தகை உரிமம் பெற சம்மதம் தெரிவித்து ஆட்சேபனை இன்மை சான்று வழங்கப்பட்டுள்ளனர்.

மனுதாரர் மேற்படி புலத்தில் கல் குவாரி குத்தகை உரிமம் வழங்க கோரும் புலத்தில்,

- குவாரி குத்தகை உரிமம் வழங்கக் கோரும் நிலத்தின் மீதான உரிமை (Surface right) விண்ணப்பராரருக்கு இல்லை, மேற்கண்ட நிலத்தில் அரசு புறபோக்கு நிலமோ அல்லது அரசினால் நிலம் எடுப்பு செய்யப்பட்டுள்ள நிலம் எதும் இணையவில்லை.
- உளிமம் கோரும் பூமியைச் சுற்றி 300மீ. சுற்றளவில் அங்கீகரிக்கப்பட்ட மனையிடங்கள், குடியிருப்புகள், கட்டிடங்கள், பொது இடங்கள், மின் கம்பிபாதைகள், நீர் நிலைகள், மயானங்கள், மாநில நெடுஞ்சாலைகள் மற்றும் ஒரு கிலோ மீட்டர் தூரத்தில் இரயில் பாதைகள், காடுகள், வன விலங்கு சரணாலயங்கள் மற்றும் தேசிய நெடுஞ்சாலைகள் ஏதுமில்லை.
- குவாரி குத்தகை கோரும் புலத்திருந்து 500 மீட்டர் தொலைவிற்குள் அமைந்துள்ள தொல்லியியல் துறை கட்டுக்பாட்டில் உள்ள புராதான சின்னங்கள் ஏதுமில்லை
- குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு செல்லுவதற்காக வழித்தடங்கள் உள்ளது.
- 5. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் எல்லைகள் வரையருக்கப்பட்டு எல்லைகற்கள் நடப்பட்டு மஞ்சன் சிவப்பு பெயின்ட் அடிக்கப்பட்டு கற்கள் நடப்பட்டுள்ளது, கம்பி வேலி அமைக்கப்பட்டுள்ளது கிராம ஆவணங்கள் சான்றிட்டு இணைக்கப்பட்டுள்ளது.
- குவாரி குத்தகை வழங்கக் கோருப் புலத்திற்கு அ1 விளம்பரம் செய்யப்பட்டது. ஆட்சேபணை ஏதும் வரப்பெறவில்லை.
- குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் மீது வழக்குகள் ஏதுமில்லை.
- குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து 500 மீட்டர் சுற்றளவிற்குள் தெற்கு திசையில் க.ச.389/1B1A, 1B, 1B, (உரிமம்-09.11.2022 முதல் 08.11.2027 வரை மற்றும் க.ச.எண்.289/1A, உரிமம் - 09.11.2022 முதல் 08.11.2027 வரை) டி.தங்கவேல் மற்றும் எம்.தங்கவேல் உரிமைாளர்கள். கிழக்கு திசையில் க.ச.எண்.392, அய்யாதுரை உரிமம் - 28.09.2018 முதல் 27.09.2023 வரை).
 - வடக்குதிசையில் 209/1A சிதம்பரம் கல்குவாரி (உரிமம் தேதி : 20.06.2022 முதல் 19.06.2027 லரை உள்ளது. மேற்குதிசையில் ஏதுவுமில்லை.
- குவாரி குத்தகை வழங்கக் கோகும் புலம் பாதுகாக்கப்பட்ட மலைப்பகுதியின் ஆணையத்தின் (HACA) கட்டுப்பட்டில் இல்லை.
- 10. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து ஒரு கிலோ மீட்டர் சுற்றளவில் பாதுகாக்கப்பட்ட வனப்பகுதி உயில் குழலியல் பாதுகாக்கப்பட்ட பகுதி, தேசிய பூங்கா, வன விலங்கு சரணாலயம் மற்றும் புலிகள் காப்பகம், யானை வழித்தடங்கள் ஏதுமில்லை.

நாள்: 20.01.2023.

பணிந்தனுப்பப்படுகிறது:-

பொருள்:-

கனிமங்களும் குவாரிகளும் - திருப்பூர் மாவட்டம் -ஊத்துக்குளி வட்டம் - ஊத்துக்குளி உள்வட்டம் -மொரட்டுப்பாளையம் கிராமம் - புலஎண். 382/ 2A பகுதி பு.ஹெ 2.48.50 ஹெக்டேர் பரப்பு பூ.மியில் திரு.எஸ்.ராஜசேகர் த/பெசேமலை கவுண்டர் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்கக் கோரி வரபெற்ற மனு மீது புலத்தணிக்கை மற்றும் விசாரணை செய்து அறிக்கை அனுப்புதல் - தொடர்பாக

பார்வை :-

- திருப்பூர் சார் ஆட்சியர் அவர்களின் அலுவலக ந.க.761/2022/கனியம் நாள்: 08.12.2022
- 2. ஊத்துக்குளி வட்டாட்சியர் அலுவலக ந.க.3273/2022 /அ2 நாள்:- 02.01.2023
- மொரட்டுப்பாளையம் கிராம நிர்வாக அலுவலர் அறிக்கை நாள்:-19.01.202.

திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புலஎண்.382/ 2A பகுதி 2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலைகவுண்டர் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்க கேட்டு மனு செய்ததின் பேரில் புலத்தணிக்கை மற்றும் விசாரணை செய்து கீழ்ண்டவாறு அறிக்கை சமர்பிக்கப்படுகிறது.

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ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராயம் திரு.S.ராஜசேகர் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புலஎண் 382/2A-ல் பகுதி பு.ஹெ.2.48.50 பட்டா எண்.421 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எனர். 1184/1999, நாள்:15.12.1999-ன்படி கூட்டான பாத்தியபட்டதாகும்.

ஆட்சியர் கிருப்பர் LOTTOLL அவர்களின் செயல்முறை 201,600,6001 ந.க.105/கனிமம்/2017 நாள் 25.09.2018-ன்படி நாள்:25.09.2018 முதல் 24.09.2023 வரை 5 ஆண்டுகளுக்கு கல் குவாரி குத்தகை சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரிமம் திரு,எஸ்,ராஜசேகர் த/பெ.சேமலைகவுண்டர் என்பவருக்கு வழங்கப்பட்டுள்ளது. மேற்படி குத்தகை உரிமம் புதுப்பித்து வழங்குவதற்கு மொட்டுப்பாளையம் கிராமம் வசிக்கும் (லேட்) ராமசாமி மனைவி பழனியம்மாள்-1, (லேட்) ராமசாமி மகன்கள் ஆர்.ஹரிபிரசாத்-2,ஆர்.ஹரிசங்கா - 3 மற்றும் சர்க்கார் கத்தாங்கண்ணி கிராமத்தில் வசிக்கும் திரு.குயாரசாமி யகன் கே.திருமூர்த்தி-4 ஆகியார்கள் மேற்படி காலையில் 2.48.50 ஹெக்டேர் பப்பளவுள்ள பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ சேமலைகவுண்டர் என்பவருக்கு மாவட்ட ஆட்சியர் அனுமதி வழங்கும் நாளிலிருந்து 5 ஆண்டுகளுக்கு கல்குவாரிக் குத்தகை உரிமம் பெற சம்மதம் தெரிவித்து ஆட்சேபணை இன்மை சான்று வழங்கப்பட்டுள்ளனர்.

மனுதாரர் மேற்படி புலத்தில் கல் குவாரி குத்தகை உரிமம் வழங்க கோரும் புலத்தில்,

- குவாரி குத்தகை உரிமம் வழங்கக் கோரும் நிலத்தின் மீதான உரிமை (Surface right) விண்ணப்பராரருக்கு இல்லை, மேற்கண்ட நிலத்தில் அரசு புறபோக்கு நிலமோ அல்லது அரசினால் நிலம் எடுப்பு செய்யப்பட்டுள்ள நிலம் எதும் இணையவில்லை.
- உரிமம் கோரும் பூமியைச் சுற்றி 300மி. சுற்றளவில் அங்கீகரிக்கப்பட்ட மனையிடங்கள், குடியிருப்புகள், கட்டிடங்கள், பொது இடங்கள், மின் கம்பிபாதைகள், நிர் நிலைகள், மயானங்கள், மாநில நெடுஞ்சாலைகள் மற்றும் ஒரு கிலோ மீட்டர் தூரத்தில் இரயில் பாதைகள், காடுகள், வன விலங்கு சரணாலயங்கள் மற்றும் தேசிய நெடுஞ்சாலைகள் ஏதுமில்லை.
- குவாரி குத்தகை கோரும் புலத்திருந்து 500 பீட்டர் தொலைவிற்குள் அமைந்துள்ள தொல்லியியல் துறை கட்டுக்பாட்டில் உள்ள புராதான சின்னங்கள் ஏதுமில்லை
- குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு செல்லுவதற்காக வழித்தடங்கள் உள்ளது.
- 5. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் எல்லைகள் வரையருக்கப்பட்டு எல்லைகற்கள் நடப்பட்டு மஞ்சள் சிவப்பு பெயின்ட் அடிக்கப்பட்டு கற்கள் நடப்பட்டுள்ளது, கம்பி வேலி அமைக்கப்பட்டுள்ளது கிராம ஆவணங்கள் சான்றிட்டு இணைக்கப்பட்டுள்ளது.
- குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு அ1 விளம்பரம் செய்யப்பட்டது. ஆட்சேபணை ஏதும் வரப்பெறவில்லை.
- குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் மீது வழக்குகள் ஏதுமில்லை.
- குவாரி குத்தகை வழங்கக் கோகும் புலத்திருந்து 500 மீட்டர் சுற்றளவிற்குள் தெற்கு திசையில் க.ச.389/1B1A, 1B, 1B, (உரிமம்-09.11.2022 முதல் 08.11.2027 வரை மற்றும் க.ச.எண்.289/1A, உரிமம் - 09.11.2022 முதல் 08.11.2027 வரை) டி.தங்கவேல் மற்றும் எம்.தங்கவேல் உரிமைரளர்கள். கிழக்கு திசையில் க.ச.எண்.392, அய்யாதுரை உரிமம் - 28.09.2018 முதல் 27.09.2023 வரை),

/ வடக்குதிசையில் 209/1A சிதம்பரம் கல்குவாரி (உரிமம் தேதி : 20.06.2022 முதல் 19.06.2027 லரை உள்ளது. மேற்குதிசையில் ஏதுவுமில்லை.

- குவாரி குத்தகை வழங்கக் கோரும் புலம் பாதுகாக்கப்பட்ட மலைப்பகுதியின் ஆணையத்தின் (HACA) கட்டுப்பட்டில் இல்லை.
- 10 குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து ஒரு கிலோ மீட்டர் சுற்றளவில் பாதுகாக்கப்பட்ட வனப்பகுதி உயில் குழலியல் பாதுகாக்கப்பட்ட பகுதி, தேசிய பூங்கா, வன விலங்கு சரணாலயம் மற்றும் புலிகள் காப்பகம், யானை வழித்தடங்கள் ஏதுமில்லை.

மற்றும் பிறப்பு இறப்பு

மொழப்போனையும் தருப், ஊத்து ஆகிட்டிய. திருப்பூர் மாவட்டு

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புலஎண்.382/2A பகுதி பு.ஹெ.2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் து/பெ சேமலை கவுண்டர் என்பவருக்கு 1959 ஆம் ஆண்டு தமிழ்நாடு சிறுகணிமங்கள் சலுகை விதி 19(1) மற்றும் 33-ன் படி குவாரி குத்தகை உரிமம் 5 ஆண்டுகளுக்கு வழங்க பரிந்துரைக்கலாம் என்பதை பணிவுடன் தெரிவித்துக்கொள்கிறேன்.

இணைப்பு : ஆவணங்கள்.

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அ1 அறிவிப்பு

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம் மொரட்டுப்பாளையம் கிராமத்தில் வசிக்கும் பொதுமக்களுக்கு தெரிவிப்பது என்னவென்றால்,

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம்,புல எண். 382/2A(ப) (2.48.5) ஹெக்டேர் பட்டா நிலப்பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டி எடுக்க ஐந்து வருடங்களுக்கு குத்தகை உரிமம் வழங்க கோரி, திரு.எஸ்.ராஜசேகர் த/பெ சேமலைக்கவுண்டர் என்பவர் மனு அளித்தன் பேரில் முன்மொழி அறிக்கை அனுப்ப நடவடிக்கை எடுக்கப்பட்டு வருகிறது.

எனவே, மேற்காண் மனுதாரர் கோரும் குவாரிக்கு உரிமம் வழங்குவது தொடர்பாக ஆட்சேபணை தெரிவிப்போர், அது குறித்து, ஊத்துக்குளி வட்டாட்சியர் அவர்களிடமோ அல்லது ஊத்துக்குளி உள்வட்ட நிலவருவாய் ஆய்வாளர் அவர்களிடமோ எழுத்து மூலமாக 15 தினங்களுக்குள் தெரிவிக்குமாறு கேட்டுக் கொள்ளப்படுகிறார்கள். குறிப்பிட்ட காலக்கெடுவிற்குள் ஆட்சேபணை ஏதும் வரப்பெறாவிடின், குவாரிக்கு உரிமம் புதுபிக்க நடவடிக்கைகள் மேற்கொள்ளப்படும் என இதன் மூலம் தெரிவித்துக் கொள்ளப்படுகிறது.

கள்த்துக்குளி வட்டத் தாதுதுக்குளி தீன்துட்டம், நில்விருவாப் ஆழியவிடு எள் நில்விருவாப் ஆழியவிடு எள்

மேற்காண் அ1 விளம்பரத்தை மொரட்டுப்பாளையம் கிராம மக்களிடையே விளம்புகை செய்து பொது மக்களிடம் கையொப்பம் பெற்று மீன சமர்ப்பிக்குமாறு மொரட்டுப்பாளையம் கிராம நிர்வாக அலுவலர் கேட்டுக் கொள்ளப்படுகிறார்.

> நிலவரு**வா**ய் ஆய்**கி**ளர். ஊத்துக்குளி உள்வட்டம்

பெறுநூர்:

கிராம நிர்வாக அலுவலர், மொரட்டுப்பாளையம் கிராமம்.

V N. Keny

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பொதுமக்கள் வாக்குமூலம்

ஊத்துக்குளி உள்ளட்டம், கிருப்பூர் மாவட்டம், अध्य संस्थासं (छ, नि வட்டம். மொரட்டுப்பாளையம் கிராமம் புல எண். 382/2Aபகுதி 2.48.5 ஹெக்டோ் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் து/பெ சேமலைக்கவுண்டர் என்பவர்க்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் புதுப்பிக்க கோரி விண்ணப்பம் செய்ததைத் தொடர்ந்து, மேற்படி மனுதாரருக்கு உத்தேசிக்கப்பட்டுள்ளது உரிமம் புகுப்பித்து வழங்க கல்குவாரி தெரிந்துகொண்டோம். மேற்படி திரு.எஸ்.ராஜசேகர் த/பெ சேமலைக்கவுண்டர் ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் புதுப்பித்து வழங்குவது குறித்து ஊர் பொதுமக்களாகிய ஆட்சேபனையும் எந்தவிதமான இல்லை என்பதை எங்களுக்கு தெரிவித்துக்கொள்கிறோம்.

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நகராப்சி பழவம் எண் : 6 பலவகை வரவு ரசீது

அசல்

பற்றுச்சீட்டு எண் :

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குறிப்பு :

 இந்த பற்றுச் சீட்டு ஊராட்சித் தலைவரின் Facsimile - யும் மற்றும் வரி வசூலிப்பவரின் கையொப்பமும் இருந்தால் தான் செல்லு படியாகும்.

 பணம் செலுத்துபவரின் கையொப்பம் கவறாது பெறப்பட வேண்டும். இடது கை பெருவிரல் ரேகை பெறும் இனத்தில் அகல் மற்றும் நகல் இரண்டு பிரதிகளிலும் பெறப்படவேண்டும். . அனுப்புநர்

திரு.ஸ்ருதஞ்ஜெய் நாராயணன், இ.ஆ.ப., சார் ஆட்சியர், திருப்பூர். பெறுநர்

மாவட்ட ஆட்சியர், திருப்பூர்.

ந.க.என்:6207/2022/அ3,

நாள்:05.05.2023

பொருள்:

கனிமங்களும் சுரங்கங்களும்-திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் -மொரட்டுப்பாளையம் - புல எனர்.382/2ஏ நெ.காலையில் ஹெக்டர் பரப்பனவில் 24 T 25 TT C 6001 பு.வெற 2.48.50 மண் வெட்டியெடுக்க 5 வருடங்களுக்கு கற்கள்/கிராவல் திரு.எஸ்.ராஜசேகர்,த/பெ(வேட்)சேமலை ereoi Lienii குவாரி உரிமம் கோரியது -அறிக்கை அனுப்புகுல் (குக்குகை கொடர்பாக.

பார்வை:

- திருப்பூர், புவியியல் மற்றும் சுரங்கத்துறை துணை இயக்குநரின் கடிதம் ந.க.761/2022/கனியம், நாள்:08.12.2022.
- 2. ஊத்துக்குளி வட்டாட்சியரின் ந.க.எண்.3273/2022/அ2, நாள்:31.01.2023.

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண்.382/2A(பகுதி), பு.ஹெக்.2.48.50 விஸ்தீர்ணமுள்ள பூ.மியில் திரு.எஸ்.ராஜசேகர், த/பெ.சேமலைக்கவுண்டர் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்க கேட்டு மனு செய்ததின் பேரில் புலத்தணிக்கை மற்றும் விசாரணை மேற்கொண்டு ஊத்துக்குளி வட்டாட்சியர் பார்வை 2-ல் காண் கடிதத்தில் பின்வருமாறு அறிக்கை சமர்ப்பித்துள்ளதன் பேரில் புலத்தணிக்கை மேற்கொண்டு எனத்தறிக்கையினை பின்வருமாறு சமர்பித்துக்கெர்ள்கிறேன்.

2)திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், திரு.எஸ்.ராஜசேகர் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எனர்.382/2ஏ -ல் பகுதி பு.ஹெ.5.19.5 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 1184/1999-ன்படி கூட்டாக பாத்தியப்பட்டுள்ளது.

3)திருப்பூர் மாவட்ட ஆட்சியரின் செயல்முறை ஆணை ந.க. 105/கனியம்/2017 நாள்:25.09:2018-ன் படி 25.09.2018 முதல் 24.09.2023 வரை 5 ஆண்டுகளுக்கு சாதாரணகல் மற்றும் கிராவல் மண் வெட்டியெடுக்க கல் குவாரி குத்தகை உரியம் திரு.எஸ்.ராஜசேகர், த/பெ(லேட்) சேமலைக்கவுண்டர் என்பவருக்கு வழங்கப்பட்டுள்ளது. மேற்படி குத்தகை உரியம் புதுப்பித்து வழங்குவது தொடர்பாக மனுதாரர் பூரியடின் உள்ள கூட்டுப்பட்டாதாரர்களான மெளரட்டுப்பாளையம் கிராமம், புல எண். 382/ஏ ராமசாமி மனைவி பழனியம்மாக மகன்கள் ஆர்.ஹரிபிரசாத்(2), ஆர்.ஹரிசங்கர்(3) குமாரசாமி மகன் திருமூர்த்தி(4) ஆட்டும் காலையில் திரு.எஸ்.ராஜசேகர்,த/பெ.சேமலைக்கவுண்டர் என்பவருக்கு மரு ஆட்சியர் அனுமதி வழங்கிய நாளிலிருந்து 5 ஆண்டுகளுக்கு கல்குவாரி குத்தகை உரிமம் பெற சம்மதம் தெரிவித்து ஆட்சேபணையின்மை அளித்துள்ளனர்.

- குவாரி குத்தகை உரிமம் வழங்கக் கோரும் நிலத்தின் மீதான உரிமை (Surface right) விண்ணப்பதாரருக்கு உண்டு மேற்காணும் புலத்துடன் அரசு புறம்போச்கு நிலம் ஏதும் இணையவில்லை.
- 2. குத்தகை வழங்கக் கோரும் புலத்திலிருந்து 300 மீ சுற்றளவில் அங்கீகரிக்கப்பட்ட மனையிடங்கள்/ குடியிருப்புகள், கட்டிடங்கள், பொது இடங்கள், மின் கம்பி பாதைகள், நீர் நிலைகள், மாநில மற்றும் தோசிய நெடுஞ்சாலைகள், ஒரு கிலோ மீட்டர் தூரத்தில் இரயில்வே பாதைகள், காடுகள், வனவிலங்கு சரணாலயங்கள், மயானங்கள் ஏதுமில்லை.
- குவாரி குத்தகை கோரும் புலத்திலிருந்து 500 மீட்டர் தொலைவிற்குள் அமைந்துள்ள தொல்லியல் துறைக் கட்டுப்பாட்டிலுள்ள புராதானச்சின்னங்கள் ஏதுமில்லை.
- குவாரி குத்தகை வழங்க கோரும் புலத்திற்கு செல்வதற்கான வழித்தடங்கள உள்ளது.
- 5. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் எல்லைகள் வரையறுக்கப்பட்டு எல்லை கற்கள் நடப்பட்டு மஞ்சன், சிகப்பு பெயிண்ட் அடிக்கப்பட்டு கற்கள் நடப்பட்டள்ளது. கம்பி வேலி அமைக்கப்பட்டு கிராம ஆவணங்கள் சான்றிட்டு இணைக்கப்பட்டுள்ளது.
- குவாரி குத்தகை உரியம் வழங்க கோரும் புலத்திற்கு ஆட்சேபணை ஏதும் வரப்பெறவில்லை.
- குவாரி குத்தகை உரியம் வழங்க கோரும் புலம் தொட்ர்பாக வழக்குகள் ஏதுமில்லை.
- 8. குவாறி குத்தகை வழங்க கோரும் புலத்திலிருந்து 500 மீட்டா சுற்றளவிற்குள் தெற்கு திசையில் 10 மீட்டர் தொலைவில் புல எண்.382/2A-ல் சிவசக்தி கல்குவாரி உள்ளது. கிழககு திசையில் 300 மீட்டர் தொலைவில் புல எண்.392(பகுதி) -ல் ஐய்யாத்துரை கல்குவாரி உள்ளது. வடக்கு திசையில் 20 மீட்டர் தொலைவில்



- 209/1A, 209/1B, 209/2(பகுதி) சிதம்பரம் கல்குவாரி உள்ளது. மேற்கு திசையில் குவாரிகள் ஏதுமில்லை.
- குவாரி குத்தகை வழங்க கோரும் புலம் பாதுகாக்கப்பட்ட மலைப்பகுதி ஆணையத்தின் கட்டுப்பாட்டில் இல்லை.
- 10. குவாரி குத்தகை கோரும் புலத்திலிருந்து 1 கி.மீட்டர் சுற்றளவில் பாதுகாக்கப்பட்ட வனப்பகுதி, உயிர் சூழலியல் பாதுகாக்கப்பட்ட பகுதி, தேசிய பூங்கா, வனவிலங்கு சரணாலயம், புலிகள் காப்பகம், யானை வழித்தடங்கள் ஏதுமில்லை.
- எனவே பார்வை-2ல் காணும் ஊத்துக்குளி வட்டாட்சியரின் பரிந்துரையின் அடிப்படையில், திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம் புல எண.382/2A(ப) 2.48.50 ஹெக்டேர் பட்டா நிலப்பரப்பில் கிராலல் மண் மற்றும் சாதாரண கற்கள் வெட்டியெடுக்க 5 வருடங்களுக்கு திரு.ராஜசேகர், த/பெ.சேமலைகவுண்டர் என்பவருக்கு, 1959 – ஆம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகைவிதி -19(1) மற்றும் 33 ன் படி குவாரி உரிமம் குத்தகை வழங்க பரிந்துரை செய்யலாம் என்பதை பணிவுடன் தெரிவித்துக்கொள்கிறேன்.

இணைப்பு: மேற்சொன்னவாறு.

ஒம்/-ஸ்ருதஞ்ஜெய் நாராயணன், சார் ஆட்சியர் திருப்பூர்

நேர்முக உ

//உண்மை நகல்/உத்தரவுப்படி//

619/23

அனுப்பருள்:

திருப்பி.தங்கவேலு,எம்.காம்., வட்டாட்சியர், ஊத்துக்குளி. பெறுநர்: சார் ஆட்சியர், திருப்பூர்.

ந.க.3273/2022/அ2 நாள்:31.01.2023.

அய்யா,

பொருள்:-

கனிமங்களும் குவாரிகளும் - திருப்பூர் மாவட்டம் -ஊத்துக்குளி வட்டம் - ஊத்துக்குளி உள்வட்டம் -மொரட்டுப்பாளையம் கிராமம் - புலஎண். 382/ 2A பகுதி பு.ஹெ 2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் த/பெசேமலை கவுண்டர் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்கக் கோரி வரபெற்ற மனு மீது புலத்தணிக்கை மற்றும் விசாரணை செய்து அறிக்கை அனுப்புதல் - தொடர்பாக

பார்வை :-

 திருப்பூர் சார் ஆட்சியர் அவர்களின் அலுவலக ந.க.761/2022/கனிமம் நாள்: 08.12.2022

2. ஊத்துக்குளி வட்டாட்சியர் அலுவலக ந.க.3273/2022/அ2

நாள்:- 02.01.2023

3. ஊத்துக்குளி நில வருவாய் ஆய்வாளர் அறிக்கை

நாள்:25.01.2023.

திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புலஎண்.382/ 2A பகுதி 2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் து/பெ.சேமலைகவுண்டர் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்க கேட்டு மனு செய்ததின் பேரில் புலத்தணிக்கை மற்றும் விசாரணை செய்து கீழ்ண்டவாறு எனது அறிக்கை சமர்ப்பித்துக்கொள்கிறேன்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம் திரு.S.ராஜசேகர் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புலஎண் 382/2A-ல் பகுதி பு.ஹெ.2.48.50 பட்டா எண்.421 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 1184/1999, நாள்:15.12.1999-ன்படி கூட்டான பாத்தியபட்டதாகும்.

ஆட்சியர் அவர்களின் செயல்முறை திருப்பூர் TDL. 21,5006001 ந.க.105/களிமம்/2017 நாள் 25.09.2018-ன்படி நாள்:25.09.2018 முதல் 24.09.2023 வரை 5 ஆண்டுகளுக்கு கல் குவாரி குத்தகை சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரிமம் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலைகவுண்டர் என்பவருக்கு வழங்கப்பட்டுள்ளது. மேற்படி குத்தகை உரிமம் புதுப்பித்து வழங்குவதற்கு மொட்டுப்பாளையம் கிராமம் வசிக்கும் (லேட்) ராமசாமி யனைவி பழனியம்மாள்−1, (லேட்) ராமசாபி மகன்கள் ஆர்.ஹரிபிரசாத்− 2, ஆர்.ஹரிசங்கா - 3 மற்றும் சர்க்கார் கத்தாங்கண்ணி கிராமத்தில் வசிக்கும் திரு.குயாரசாயி யகன் கே.திருமூர்த்தி-4 ஆகியார்கள் மேற்படி காலையில் 2.48.50 ஹெக்டேர் பப்பளவுள்ள பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ சேமலைகவுண்டர் என்பவருக்கு மாவட்ட ஆட்சியர் அனுமதி வழங்கும் நாளிலிருந்து 5 ஆண்டுகளுக்கு கல்குவாரிக் குத்தகை உரிமம் பெற சம்மதம் தெரிவித்து ஆட்சேபணை இன்மை சான்று வழங்கப்பட்டுள்ளனர்.

- குவாரி குத்தகை உரியம் வழங்கக் கோகும் நிலத்தின் மீதான உரிமை (Surface right) விண்ணப்பராரருக்கு இல்லை, மேற்கண்ட நிலத்தில் அரசு புறபோக்கு நிலமோ அல்லது அரசினால் நிலம் எடுப்பு செய்யப்பட்டுள்ள நிலம் எதும் இணையவில்லை.
- உரிமம் கோரும் பூமியைச் சுற்றி 300ம். சுற்றளவில் அங்கீகரிக்கப்பட்ட மனையிடங்கள், குடியிருப்புகள், கட்டிடங்கள், பொது இடங்கள், மின் கம்பிபாதைகள், நீர் நிலைகள், மயானங்கள், மாநில நெடுஞ்சாலைகள் மற்றும் ஒரு கிலோ மீட்டர் தூரத்தில் இரயில் பாதைகள், காடுகள், வன விலங்கு சரணாலயங்கள் மற்றும் தேசிய நெடுஞ்சாலைகள் ஏதுமில்லை.
- குவாரி குத்தகை கோரும் புலத்திருந்து 500 மீட்டர் தொலைவிற்குள் அமைந்துள்ள தொல்லியியல் துறை கட்டுக்பாட்டில் உள்ள புராதான சின்னங்கள் ஏதுமில்லை
- குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு செல்லுவதற்காக வழித்தடங்கள் உள்ளது.
- குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் எல்லைகள் வரையருக்கப்பட்டு எல்லைகற்கள் நடப்பட்டு மஞ்சன் சிவப்பு பெயின்ட் அடிக்கப்பட்டு கற்கள் நடப்பட்டுள்ளது, கம்பி வேலி அமைக்கப்பட்டுள்ளது கிராம ஆவணங்கள் சான்றிட்டு இணைக்கப்பட்டுள்ளது.
- குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு அ1 விளம்பரம் செய்யப்பட்டது. ஆட்சேபணை ஏதும் வரப்பெறவில்லை.
- குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் மீது வழக்குகள் ஏதுமில்லை.
- 8. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து 500 மீட்டர் சுற்றளவிற்குள் தெற்கு திசையில் க.ச.389/1B1A, 1B, 1B, (உரிமம்-09.11.2022 முதல் 08.11.2027 வரை மற்றும் க.ச.எண்.289/1A, உரிமம் 09.11.2022 முதல் 08.11.2027 வரை) டி.தங்கவேல் மற்றும் எம்.தங்கவேல் உரிமைாளர்கள். கிழக்கு திசையில் க.ச.எண்.392, அய்யாதுரை உரிமம் 28.09.2018 முதல் 27.09.2023 வரை), வடக்குதிசையில் 209/1A சிதம்பரம் கல்குவாரி (உரிமம் தேதி : 20.06.2022 முதல்

19.06.2027 வரை உள்ளது. மேற்குதிசையில் ஏதுவுமில்லை.

- 9. குவாரி குத்தகை வழங்கக் கோரும் புலம் பாதுகாக்கப்பட்ட யலைப்பகுதியின் ஆணையத்தின (HACA) கட்டுப்பட்டில் இல்லை.
- 10 குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து ஒரு கிலோ மீட்டர் சுற்றளவில் பாதுகாக்கப்பட்ட வனப்பகுதி உயில் குழலியல் பாதுகாக்கப்பட்ட பகுதி, தேசிய பூங்கா, வன விலங்கு சரணாலயம் மற்றும் புலிகள் காப்பகம், யானை வழித்தடங்கள் ஏதுமில்லை.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புலஎண்.382/2 A பகுதி பு.ஹெ.2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ சேமலை கவுண்டர் என்பவதிக்கு 1959 ஆம் ஆண்டு தமிழ்நாடு சிறுகணிமங்கள் சலுகை விதி 19(1) மற்றும் 33-ன் படி குவாரி குத்தகை உரிமம் 5 ஆண்டுகளுக்கு வழங்க பரிந்துரைக்கலாம் என்பதை பணிவுடன் தெரிவித்துக்கொள்கிறேன்.

இணைப்பு : ஆவணங்கள்.

தங்கள் உண்மையுள்ள,

ार्ट्सिक्टिमीत् भाक्षिकेस्त्रिक्ति

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புகர்தணிக்கைக்குறிப்பு

கணிக்கை ஆலுவலர்:

வட்டாட்சியர், ஊத்துக்குளி.

Abortoria:

Change (Biremononunia.

புல எண்:

382/21.

தணிக்கை நாள்:

31.01.2023.

திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புலஎண்.382/2 பகுதி 2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலைகவுண்டர் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்க மனு செய்ததின் பேரில் 01.2023 அன்று புலத்தணிக்கை மற்றும் விசாரணை மேற்கொண்டு எனது அறிக்கையினை கீழ்கண்டவாறு சமர்ப்பிக்கிறேன்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம் திரு.S.ராஜசேகர் என்பவருக்கு மொரட்டுப்பாளையம் கிராயம் புலஎண் 382/2A-ல் பகுதி பு.ஹெ.2.48.50 பட்டா எண்.421 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 1184/1999, நாள்:15.12.1999-ன்படி கூட்டான பாத்தியபட்டதாகும்.

. திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் . செயல்முறை ஆணை ந.க.105/கனிமம்/2017 நாள் 25.09.2018-ன்படி நாள்:25.09.2018 முதல் 24.09.2023 வரை 5 ஆண்டுகளுக்கு கல் குவாரி குத்தகை சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரிமம் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலைகவுண்டர் என்பவருக்கு வழங்கப்பட்டுள்ளது. மேற்படி குத்தகை உரிமம் புதுப்பித்து வழங்குவதற்கு மொட்டுப்பாளையம் கிராமம் வசிக்கும் (லேட்) ராமசாமி மனைவி பழனியம்மாள்-1, (லேட்) ராமசாமி மகன்கள் ஆர்.ஹரிபிரசாத்- 2, ஆர்.ஹரிசங்கா - 3 மற்றும் சர்க்கார் கத்தாங்கண்ணி கிராமத்தில் வசிக்கும் திரு.குமாரசாமி மகன் கே.திருமூர்த்தி-4 ஆகியார்கள் மேற்படி காலையில் 2.48.50 ஹெக்டேர் பப்பளவுள்ள பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ சேமலைகவுண்டர் என்பவருக்கு மாவட்ட ஆட்சியர் அனுமதி வழங்கும் நாளிலிருந்து 5 ஆண்டுகளுக்கு கல்குவாரிக் குத்தகை உரிமம் பெற சம்மதம் தெரிவித்து ஆட்சேபனை இன்மை சான்று வழங்கப்பட்டுள்ளனர்.

மனுதாரர் பேற்படி புலத்தில் கல் குவாரி குத்தகை உரிமம் வழங்க கோரும் புலத்தில்,

- 1- குவாரி குத்தகை உரிமம் வழங்கக் கோரும் நிலத்தின் மீதான உரிமை (Surface right) விண்ணப்பராரருக்கு இல்லை, மேற்கண்ட நிலத்தில் அரசு புறபோக்கு நிலமோ அல்லது அரசினால் நிலம் எடுப்பு செய்யப்பட்டுள்ள நிலம் எதும் இணையவில்லை.
- உரிமம் கோரும் பூமியைச் சுற்றி 300ம். சுற்றளவில் அங்கீகரிக்கப்பட்ட மனையிடங்கள், குடியிருப்புகள், கட்டிடங்கள், பொது இடங்கள், மின் கம்பியாதைகள், நீர் நிலைகள், மயானங்கள், மாநில நெடுஞ்சாலைகள் மற்றும் ஒரு கிலோ மீட்டர் தூரத்தில் இரயில் பாதைகள், காடுகள், வன விலங்கு சரணாவாங்கள் மற்றும் தேசிய நெடுஞ்சாலைகள் ஏதுமில்லை.

- குவாரி குத்தகை கோரும் புலத்திருந்து 500 மீட்டர் தொலைவிற்குள் அமைந்துள்ள தொல்லியியல் துறை கட்டுக்பாட்டில் உள்ள புராதான சின்னங்கள் ஏதுமில்லை
- குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு செல்லுவதற்காக வழித்தடங்கள் உள்ளது.
- குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் எல்லைகள் வரையருக்கப்பட்டு எல்லைகற்கள் நடப்பட்டு மஞ்சள் சிவப்பு பெயின்ட் அடிக்கப்பட்டு கற்கள் நடப்பட்டுள்ளது, கம்பி வேலி அமைக்கப்பட்டுள்ளது கிராம ஆவணங்கள் சான்றிட்டு இணைக்கப்பட்டுள்ளது.
- குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு அ1 விளம்பரம் செய்யப்பட்டது. ஆட்சேபணை ஏதும் வரப்பெறவில்லை.
- குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் மீது வழக்குகள் ஏதுமில்லை.
- குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து 500 மீட்டர் சுற்றளவிற்குள் தெற்கு திசையில் க.ச.389/1B1A, 1B, 1B, (உரிமம்-09.11.2022 முதல் 08.11.2027 வரை மற்றும் க.ச.எண்.289/1A, உரிமம் - 09.11.2022 முதல் 08.11.2027 வரை) டி.தங்கவேல் மற்றும் எம்.தங்கவேல் உரிமைாளர்கள்.
 - கிழக்கு திசையில் க.ச.எண்.392, அய்யாதுரை உரியம் 28.09.2018 முதல் 27.09.2023 வரை),
 - வடக்குதிசையில் 209/1A சிதம்பரம் கல்குவாரி (உரியம் தேதி : 20.06.2022 முதல் 19.06.2027 லரை உள்ளது.
 - மேற்குதிசையில் ஏதுவுமில்லை.
- குவாரி குத்தகை வழங்கக் கோரும் புலம் பாதுகாக்கப்பட்ட மலைப்பகுதியின் ஆணையத்தின் (HACA) கட்டுப்பட்டில் இல்லை.
- 10 குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து ஒரு கிலோ மீட்டர் சுற்றளவில் பாதுகாக்கப்பட்ட வனப்பகுதி உயில் குழலியல் பாதுகாக்கப்பட்ட பகுதி, தேசிய பூங்கா, வன விலங்கு சரணாலயம் மற்றும் புலிகள் காப்பகம், யானை வழித்தடங்கள் ஏதுமில்லை.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புலஎண்.382/2 ஆப்குதி பு.ஹெ.2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் தட்டெ சேமலை கவுண்டர் என்பவருக்கு 1959 ஆம் ஆண்டு தமிழ்நாடு சிறுகணிமங்கள் சலுகை விதி 19(1) மற்றும் 33-ன் படி குவாரி குத்தகை உரியம் 5 ஆண்டுகளுக்கு வழங்க பரிந்துரைக்கலாம் என திருப்பூர் சார் ஆட்சியர் அவர்களுக்கு முன்மொழிவுகள் தயார் செய்து வைக்கவும்.



அனுப்புநர் திரு.நா.கரேஷ்குமார்., வட்டார வளர்ச்சி அலுவலர்(வ.ஊ.), ஊத்துக்குளி வட்டாரம். பெறுநர் துணை இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, திருப்பூர்.

ந.க.எண் : 2115/2023/அ2

நாள்: 18.05.2023.

ஐயா,

பொருள் : விசாரணை அறிக்கை கனிமங்களும் சுரங்கங்களும் - -திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம் - பட்டா புல எண் 382/2A(part) ஸ் ஆகியவற்றில் மொத்தம் 2.48.5 ஹெக்டர் பட்டா நிலப் பரப்பில சாதாரணகற்கள்/கிராவல் மண் வெட்டிஎடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி திரு.எஸ் ராஜசேகர் த/பெ சேமலைக்கவுண்டர் 71. திம்மநாய்க்கன்பாளையம் மொரட்டுப்பாளையம் (அஞ்சல்) ஊத்துக்குளி வட்டாரம் என்பவர் மனு செய்துள்ளார் குவாரி உரிமம் கோரியது- விசாரணை அறிக்கை அனுப்பிவைத்தல் - தொடர்பாக.

பார்வை : துணை இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, திருப்பூர் அவர்களின் ந.க.எண்: 761/2022/கனிமம், நாள்:05.12.2022.

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம் - பட்டா புல எண் 382/2A(part) 60 ஆகியவற்றில் மொக்கம் 2.48.5 ஹெக்டர் LILIT நிலப் சாதாரணகற்கள்/கிராவல் மண் வெட்டிஎடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி திரு.எஸ் ராஜசேகர் த/பெ சேமலைக்கவுண்டர் 71.திம்மநாய்க்கன்பாளையும் மொரட்டுப்பாளையும் (அஞ்சல்) ஊத்துக்குளி வட்டாரம் என்பவர் LDGOT செய்துள்ளார் குவாரி a Music கோரி விண்ணப்பித்ததையடுத்து, பார்வையில் காணும் துணை இயக்குநர் புவியியல் மற்றும் சுரங்கத்துறை அவர்களின் கடிதத்தில் மேற்படி பிரஸ்தாப புலங்களிலிருந்து 300 மீட்டர் சுற்றளவிற்குள் அங்கீகரிக்கப்பட்ட குடியிருப்புமனைகள் (Layout) மற்றும் அங்கீகரிக்கப்பட்ட கட்டுமானங்கள் ஏதும் உள்ளதா என அறிக்கை கோரப்பட்டுள்ளது.

மேற்படி பிரஸ்தாப புலங்களிலிருந்து 300 மீட்டர் சுற்றளவிற்குள் அங்கீகரிக்கப்பட்ட குடியிருப்பு மனைகள் (Layout) மற்றும் அங்கீகரிக்கப்பட்ட கட்டுமானங்கள் ஏதும் இல்லை என்ற விவரமும், புலத் தணிக்கை மற்றும் விசாரணையின் மூலமாக தெரியவருகிறது என்பதை தெரிவித்துக் கொள்கிறேன்

> வட்டார வளர்ச்சி அலுவர்(வ.ஊ), ஊத்துக்குளி.

205/1025

SENTHAMARAI EXPLOSIVES

Form 22 Licence No: E/SC/TN/22/66 (E-10217)

5/247, Pettikadai, Morattupalayam(P.O), Uthukuli R.S - 638752 Uthukuli(TK) Tiruppur(DT)

Magazine at Edayapalayam, Kunnathur

Mobile: 9443361609

Date:14/12/2023

To

S.Rajasekar,

71, Thimmanaicken palayam,

Morattupalayam,

Uthikuli.RS,

Tiruppur(Dt).

SUB: Regarding Blasting work using explosives in your proposed quarry.

Sir,

We are having exploives licensee in form 22 holding E/SC/TN22/66(E10217) Situated in survey SF.NO.103,V.No.5.Edayapalayam village, Uthukuli taluk, Tiruppur district. Our office functioning at Door No 5/247,Pettikadai, Moratupalayam post, Uthukuli taluk, Tiruppur District.

We are enacting 2 explosive vans for transporting detonators and class 2 separately from our magazine to our work site and well experienced and licensed blasters and short firer for safe blasting works since 22 years without untoward incident

We are willing to undertake blasting work on contract basis at your

SF.NO.382/2A, Measuring about 1.98.5 hectares in Morattupalayam village, Uthukuli Taluk, Tiruppur District, Tamilnadu.

Thank You,

Enclousre:

1.Licence Copy

For Senthamarai Explosives

Proprietor



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சான்று

திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம் ஊத்துக்குளி உள்வட்டம் மொரட்டுப்பாளையம் கிராமம் மஜரா திம்மநாயக்கன்பாளையம் வசிக்கும் திரு (லேட்) சேமலைக்கவுண்டர் மக்கள் S.ராஜசேகர் .1 s.ராமசாமி 2 என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் ரீ.ச.எண் 382/2A-ல் பு.ஹெக் 5.07.56 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண் 1184/1999-ன் நாள் 15/12/1999-15 பாத்தியப்பட்டதாகும்.மேற்படி LILL ராமசாமி என்பவர் கடந்த 19/9/2006 அன்று காலமாகி விட்டார் அவருக்கு வட்டாட்சியர் அலுவலகம் வாரிசு பெருந்துறை சான்று ப.மு.என்17148/2006/A8-ன் நாள் 16/12/2006-ன் படி ராமசாமி மனைவி பழனியம்மாள்.1 ராமசாமி மக்கள் ஹரிபிரசாத்.2 ஹரிசங்கர்.3 ஆகியோருக்கு மேற்படி பூமியானது கூட்டாக பாத்தியப்பட்டதாகும்.

மேற்படி புல எண் 382/2A சுற்றியுள்ள 300 மீட்டர் சுற்றளவில் மொரட்டுப்பாளையம் கிராமத்தின் ஊர்நத்தம் அங்கீகரிக்கப்பட்ட DTCP வீட்டுமனைப்பிரிவுகள் உயர் அழுத்த மின்பாதை, கோவில், மகுதி. தேவாலயம் போன்ற வழிபாட்டுத்தளங்கள் புரதானச்சின்னங்கள் தேசிய நெடுஞ்சாலைகள் போன்றவை எதுவும் இல்லை.மேலும் கல்குவாரி புலத்தின் நான்கு புறமும் எல்லைக்கற்கள் நடப்பட்டுள்ளன பணிவுடன் 61 601 தெரிவித்துக்கொள்கிறேன்.

> மற்றும் பிற ப்பு இறப்பு பதிவானர் மைறும் பிற ப்பு இறப்பு பதிவானர் மொருட்டுப்பாளையம் கருப் ஊத்துக்குளி வட்டம் திருப்பூர் மாவட்டம்

TOPOGRAPHICAL VIEW OF MORATTUPALAYAM ROUGH STONE AND GRAVEL QUARRY LEASE AREA



Name of the Applicant : S. Rajasekar,

S/o. (Late) SemalaIgounder,

Address : 71, Dhimmanaikenpalayam,

Morattupalayam Village,

Uthukuli Taluk,

Tiruppur District,

Tamil Nadu State -638 752.

LOCATION OF THE AREA:

Extent : 1.98.5Ha

S.F.Nos. : 382/2 A (P),

Village : Morattupalayam,

Taluk : Uthukuli District : Tiruppur

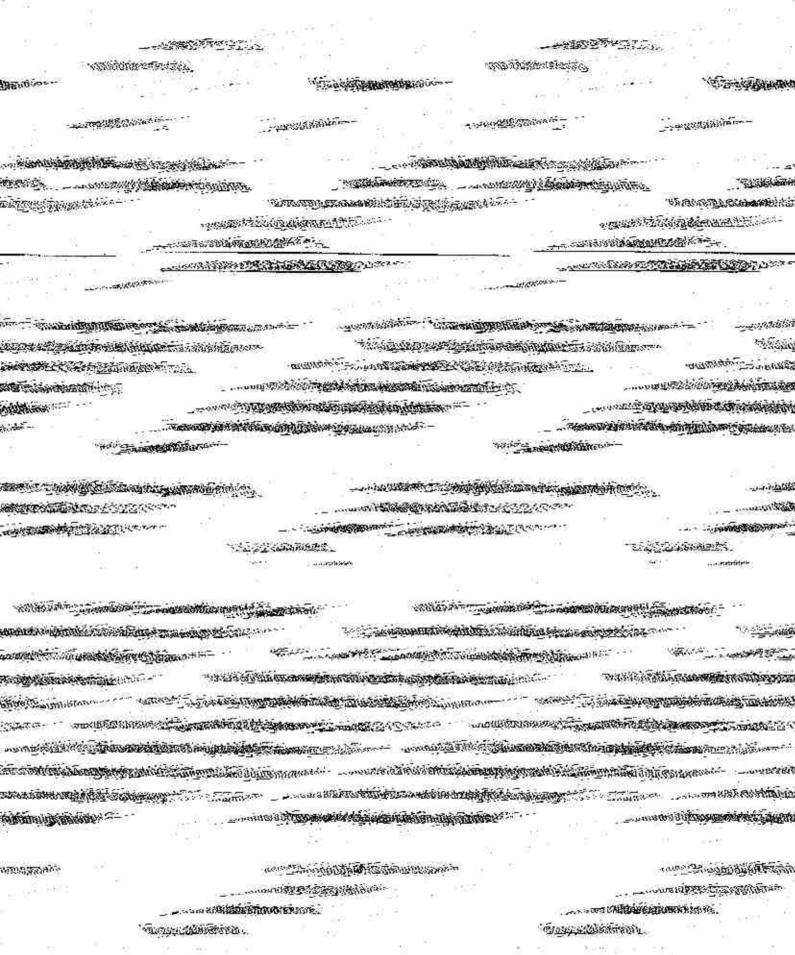
State : Tamil Nadu

Signature of the lessee

C Dalagalran

S. Rajasekar

(Vil) நடித்தில் இதிக்கூர் மற்றும் பிறுப்பு அதிவாளர் மொரட்டுப்பாளையம் கருப், ஊத்துக்குளி வட்டம திருப்பூர் மாவட்டம்



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# Government of India Ministry of Environment, Forest and Climate Change (Issued by the State Environment Impact Assessment Authority(SEIAA), Tamil Nadu)

To,

The owner

THANGARAJ M RSG TIRUPPUR

Morattupalayam Village Uthukuli TK tiruppur DT -638751

Subject: Grant of Environmental Clearance (EC) to the proposed Project Activity

under the provision of EIA Notification 2006-regarding

Sir/Madam,

4.

6.

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/TN/MIN/55413/2020 dated 20 Apr 2022. The particulars of the environmental clearance granted to the project are as below.

1. EC Identification No. EC22B001TN192401

File No.
 Project Type
 New

Category

5. Project/Activity including 1(a) Mining of minerals Schedule No.

Name of Project

M. Thangaraj, New Rough Stone and
Gravel Quarry Project over an Extent of

0.84.5 ha

7. Name of Company/Organization THANGARAJ M RSG TIRUPPUR

8. Location of Project Tamil Nadu9. TOR Date 16 Mar 2021

The project details along with terms and conditions are appended herewith from page no 2 onwards.

(e-signed)
Tmt.P.RAJESWARI,IFS
Date: 08/06/2022
Member Secretary
SEIAA - (Tamil Nadu)

Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH.Please quote identification number in all future correspondence.

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

#### STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY - TAMIL NADU

3rd Floor, Panagal Maaligal, No.1 Jeenis Road, Saidapet, Chennal-15. Phone No.044-24359973 Fax No. 044-24359975

#### ENVIRONMENTAL CLEARANCE

#### Lr.No.SEIAA-TN/F.No.7740/1(a)/EC.No:5068/2021 dated:23.05.2022

#### Sir/Madam

Sub: SEIAA, TN - Proposed Rough stone and Gravel quarry over an extent of 0.84.5Ha in S.F.No. 383/2B2 (P) at Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu by Thiru. M. Thangaraj under project category - "B1" and Schedule S.No. 1(a)-Issue of Environmental Clearance -Regarding.

Ref: 1. Lr.No.SEIAA-TN/F.No.7740/SEAC/ToR-909/2020 dated 16.03.2021

- 2. Public Hearing conducted on 23.08.2021
- Online Proposal No. SIA/TN/MIN/55413/2020 dated 25:09:2021
- Application seeking Environmental Clearance dated: 18.08.2020
- Minutes of the 265th Meeting of SEAC held on 21.04.2022
- Minutes of the 510th Meeting of SEIAA held on 23.05.2022

#### Details of Minor Mineral Activity:-

This has reference to your application cited, the proposal for obtaining Environmental Clearance for mining/quarrying of minor minerals based on the particulars furnished in your application as shown below.

| SL No. | Details of the proposal | Data furnished         |
|--------|-------------------------|------------------------|
| 1.     | Name of the Owner/Firm  | Thiru.M.Thangaraj      |
|        |                         | S/o.M.P.Marimuthu      |
|        |                         | No.18, Bharathi Nagar  |
|        |                         | Kaspa Parappu Thottanj |

MEMBER SECRETARY SEIAA-TN

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|     |                                                                                            | Uthukuli taluk                                |  |  |
|-----|--------------------------------------------------------------------------------------------|-----------------------------------------------|--|--|
|     |                                                                                            | Tiruppur District - 638 751                   |  |  |
| 2   | Type of quarrying (Savudu/Rough<br>Stone/Sand/Granite)                                     | Rough Stone and Gravel quarry                 |  |  |
| 3.  | S.F No. Of the quarry site with area<br>break-up                                           | S.F.No. 383/2B2(P)                            |  |  |
| 4.  | Village in which situated                                                                  | Morattupalayam Village,                       |  |  |
| 5.  | Taluk in which situated                                                                    | Uthukuli Taluk                                |  |  |
| 6.  | District in which situated                                                                 | Tiruppur District                             |  |  |
| 7.  | Extent of quarry (in ha.)                                                                  | 0.84.5Ha patta land                           |  |  |
| 8.  | Period of quarrying proposed                                                               | Five Years                                    |  |  |
| 9.  | Type of mining                                                                             | Opencast Mechanized method                    |  |  |
| 10. | Production (Quantity in m <sup>3</sup> )                                                   | 34,526cu,m of Rough stone, 640 cu m of Gravel |  |  |
| 11. | Latitude & Longitude of all corners<br>of the quarry site                                  | 77°25'09.13"E to 77°25'15,38"E                |  |  |
| 12. | Topo Sheet No.                                                                             | 58 - E/08                                     |  |  |
| 13. | Man Power requirement per day:                                                             | 15 Employees                                  |  |  |
| 14. | Precise area communication<br>approved by the District Collector<br>with date              | 7.55                                          |  |  |
| 15. | Mining Plan approved by the<br>Deputy Director of Geology and<br>Mining Tirrupur with date | Re:No. 305/2019/Mines,<br>Dated:10.07.2020    |  |  |
| 16. | 500m Cluster letter issued by<br>AD/DD mines                                               | Rc.No. 305/2019/Mines,<br>Dated:10.07.2020    |  |  |
| 17. | Water requirement:  1. Drinking & domestic purposes (in KLD)  2. Dust suppression & Green  | 3.5 KLD<br>2.0 KLD<br>1.0 KLD                 |  |  |
|     | Belt (in KLD)                                                                              | 0.5 KLD                                       |  |  |

SEIAA-TN of 28

EC Identification No. - EC22B001TN192401 File No. - 7740 Date of Issue EC - 08/06/2022

| 18. | Power requirement:  a. Domestic Purpose  b. Machinery Works | TNEB 500 Liters of HSD                                           |
|-----|-------------------------------------------------------------|------------------------------------------------------------------|
| 19. | Depth of Mining                                             | 26m(1m+25m)                                                      |
| 20. | Depth of water table                                        | 58 - 62m bgl                                                     |
| 21. | Whether any habitation within 300m distance                 | No.                                                              |
| 22  | Project Cost (excluding EMP cost)                           | 22.92 lakhs                                                      |
| 23. | EMP cost                                                    | 42.41 lakhs (5 years)                                            |
| 24. | CER cost                                                    | Revised CER Rs.5 lakhs as per SEAC minutes                       |
| 25, | VAO letter dated                                            | Letter dated 13:07:2020                                          |
| 26. | TOR Issued                                                  | Lr.No.SEIAA-TN/F.No.7740/SEAC/ToR-<br>909/2020 dated 16.03.2021. |
| 27  | Public Hearing                                              | 23.08.2021                                                       |
| 28. | - I F 19.7                                                  | TANK BERLEVILLE                                                  |

#### Validity:

This Environmental Clearance is granted for the production in 34,526cu,m of Rough stone, 640 cu.m of Gravel for the period of 5 Years from the date of execution of the mining lease.

#### Affidavit

The Proponent has furnished affidavit in Hundred Rupees stamp paper dated 13.07.2020 attested by the Notary stating that

 M. Thangaraj, S/o. M.P. Marimuthu, No. 18, Bharathi Nagar, Kaspa Parappu Thottam, Uthukuli Taluk, Tiruppur District, Tamil Nadu State – 638 751, solemnly declare and sincerely affirm that:

I have apply for getting Environment Clearance to Appropriate Authorities, Tamil Nadu for quarry lease for quarrying of Rough stone and Gravel Quarry over an extent of 0.84.5 Hectares of patta land in S.F.No. 383/2B2(Part) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.

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- I swear to state and confirm that within 10km area of the quarry site, I have applied for environment clearance, none of the following is situated.
  - a. Protected areas notified under the wild life (Protection) Act, 1972.
  - Critically polluted areas as notified by the central pollution control board constituted under water (Prevention and Control of Pollution) Act, 1974,
  - c. Eco-Sensitive areas as notified,
  - d. Interstate boundaries within 10km radius from the boundary of the proposed site.
- I will complete the following Corporate Environment Responsibility (CER) activities before commencement of the quarrying activities.

| CER Activity                                                                               | Project Cost<br>(Rs. In Lakh) | CER Cost<br>2.0% of project cost<br>(Rs in Lakh) |
|--------------------------------------------------------------------------------------------|-------------------------------|--------------------------------------------------|
| . Water purifier Cot and Bed facility to the                                               |                               |                                                  |
| Morattupalayam Dispensary etc.,  2. If we are instructed by PWD/ Competent                 |                               |                                                  |
| bodies to desilt the water bodies nearby. I<br>assure to spend out CER Cost for desilting/ | 22.92                         | 0.46                                             |
| strengthening the bunds of the nearby water<br>bodies                                      |                               | -0                                               |
| Total Cost Allocation                                                                      | 22.92                         | 0.46                                             |

The following quarries are located within the radius of 500m from the periphery of my quarry.

#### Existing Quarry

| S.<br>No. | Name of the<br>lessee | Village            | S.F. No's.        | Extent<br>(in<br>Hects) | Collectors<br>Proceeding No. &<br>Date | Lease<br>Period                |
|-----------|-----------------------|--------------------|-------------------|-------------------------|----------------------------------------|--------------------------------|
| ij        | N.Ayyadurai           | Morattu<br>palayam | 392 Part          | 3.52.0                  | 182/Mines/2015<br>Dated 23.9.2016      | 23.09.2016<br>to<br>22.09.2021 |
| 2         | T.S.Udhaya<br>kumar   | Morattu<br>palayam | 389/IC            | 0.89.0                  | 195/mines/2014<br>Dated 23.5.2015      | 28.05.2015-                    |
| 3         | S.Raju                | Morattu<br>palayam | 389/IB1           | 1.62.0                  | 292/ mines /2014<br>Dated 19.06.2015   | 24.06.2015-<br>23.06.2020      |
| 4         | P.ThangaMuth<br>usamy | Morattu<br>palayam | 383/2A1<br>382/2B | 3.24.0                  | 301/mines/2015<br>Dated 15:6J.2016     | 19.01.2016-<br>18.01.2021      |

MEMBER SECRETARY

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| 3 | T.Sumathi         | Morattu<br>palayam | 383/2A23                        | 0.89.5 | 299/mines/2015<br>Dated 13.01.2016 | 20.01.2016-<br>19.01.2021 |
|---|-------------------|--------------------|---------------------------------|--------|------------------------------------|---------------------------|
| 6 | M.Palanisamy      | Morattu<br>palayam | 385/2 (Part)                    | 0.59.5 | 300/mines/2015<br>Dated 13.01.2016 | 21.01.2016-<br>20.01.2021 |
| 7 | M.Thangaraj       | Morattu<br>palayam | 389/1B1A<br>389/1B1B<br>389/1B2 | 2.19.5 | 357/mines/2015<br>dated 15.01.2016 | 21.01.2016-<br>20.01.2021 |
| 8 | K.Karuppusam<br>y | Morattu<br>palayam | 383/1(P),<br>383/2A2A1<br>(P)   | 0.71.5 | 529/mines/2015<br>Dated 21.09.2016 | 21.09.2016-<br>20.09.2021 |
| 9 | S.Raja Sekar      | Morattu<br>palayam | 382/2A(P)                       | 1.98.5 | 105/mines/2017<br>dated 25.09.2018 | 25.09.2018-<br>24.09.2023 |

#### Abandoned/expired quarries

| S.<br>No. | Name of the<br>Owner | Village | S.F. No's. | Extent (in<br>Hects) | Expired<br>on |
|-----------|----------------------|---------|------------|----------------------|---------------|
|           |                      |         | Nil        |                      |               |

#### Proposed Quarry

| S.<br>No. | Name of the<br>Lessee | Village            | S.F. No.          | Extent (in<br>Hects) | Collectors<br>Proceeding<br>No. & Date | Classificatio<br>n of land |
|-----------|-----------------------|--------------------|-------------------|----------------------|----------------------------------------|----------------------------|
| Ü         | M.Thangaraj           | Morattu<br>palayam | 383/2B2<br>(Part) | 0.84.5               | 17/7                                   | Proposed<br>area           |

- There will not be hindrance or disturbance to the people living duringquarrying and transportation.
- 5. There is no approved habitation within 300m radius from the periphery of my quarry.
- I swear that afforestation will be carried out during the course of quarrying operation and maintained.
- The required insurance will be taken in the name of the laborers working in my quarry site.
- The approach road from the main road to quarry is already exists and same will be maintained in a good condition for the haulage of quarry materials and machineries.
- I will not engage any child labor in my quarry site and I aware that engaging child labor is punishable under the law.
- All types of safety/ protective equipment will be provided to all the laborers working in my quarry.

MEMBER SECRETARY SEIAA-TN

Date of Issue EC - 08/06/2022 Page 6 of 28 395 A

 No permanent structures, temples etc., are located within 300m radius from the periphery of my quarry.

I ensure to do all the social and Environment commitment as mentioned in the Mining Plan to the best of my knowledge.

#### Details of Quarries located within 500M radius from the proposed quarry:

The Project Proponent has submitted a copy of the letter obtained from the Deputy Director Department of Geology & Mining, Tiruppur District in his letter Rc.No. 305/2019/Mines, Dated: 10.07.2020 has stated that the details of other quarries within a radius 500m from the boundary of the proposed quarry site as follows:

| S.<br>No. | Name of the lessee    | Village            | S.F. No's.                      | Extent<br>(in<br>Hects) | Collectors<br>Proceeding No. &<br>Date | Lease<br>Period                |
|-----------|-----------------------|--------------------|---------------------------------|-------------------------|----------------------------------------|--------------------------------|
| 1         | N.Ayyadurai           | Morattu<br>palayam | 392 Part                        | 3.52.0                  | 182/Mines/2015<br>Dated 23,9.2016      | 23.09.2016<br>to<br>22.09.2021 |
| 2         | T.S.Udhaya<br>kumar   | Morattu<br>palayam | 389/1C                          | 0.89.0                  | 195/mines/2014<br>Dated 23.5,2015      | 28.05.2015-<br>27.05.2020      |
| 3         | S.Raju                | Morattu<br>palayam | 389/1B1                         | 1.62.0                  | 292/ mines /2014<br>Dated 19.06,2015   | 24.06.2015-<br>23.06.2020      |
| 4         | P.ThangaMuth<br>usamy | Morattu<br>palayam | 383/2A1<br>382/2B               | 3.24.0                  | 301/mines/2015<br>Dated 15.01.2016     | 19.01.2016-<br>18.01.2021      |
| 5         | T.Sumathi             | Morattu<br>palayam | 383/2A23                        | 0.89.5                  | 299/mines/2015<br>Dated 13.01.2016     | 20.01.2016-<br>19.01.2021      |
| 6         | M.Palanisamy          | Morattu<br>palayam | 385/2 (Part)                    | 0.59.5                  | 300/mines/2015<br>Dated 13.01.2016     | 21.01.2016-<br>20.01.2021      |
| 7         | M.Thangaraj           | Morattu<br>palayam | 389/IB1A<br>389/IB1B<br>389/IB2 | 2.19.5                  | 357/mines/2015<br>dated 15:01:2016     | 21.01.2016-<br>20.01.2021      |
| 8         | K.Karuppusam<br>y     | Morattu<br>palayam | 383/1(P),<br>383/2A2A1<br>(P)   | 0.71,5                  | 529/mines/2015<br>Dated 21.09.2016     | 21.09.2016-<br>20.09.2021      |
| 9         | S.Raja Sekar          | Morattu<br>palayam | 382/2A(P)                       | 1.98.5                  | 105/mines/2017<br>dated 25.09.2018     | 25.09.2018-<br>24.09.2023      |

Abandoned/expired quarries

| S.<br>No. | Name of the<br>Owner | Village | S.F. No's. | Extent (in<br>Hects) | Expired<br>on |
|-----------|----------------------|---------|------------|----------------------|---------------|
|           |                      | 3       | Nil        |                      |               |

Proposed Quarry

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| S.<br>No. | Name of the<br>Lessee | Village            | S.F. No.          | Extent (in<br>Hects) | Collectors<br>Proceeding<br>No. & Date | Classificatio<br>n of land |
|-----------|-----------------------|--------------------|-------------------|----------------------|----------------------------------------|----------------------------|
| a.        | M.Thangaraj           | Morattu<br>palayam | 383/2B2<br>(Part) | 0.84.5               |                                        | Proposed<br>area           |

#### Appraisal by SEAC:-

Proposed Rough stone and Gravel quarry over an extent of 0.84.5Ha in S.F.No. 383/2B2 (P) at Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu by Thiru. M. Thangaraj - For Environmental Clearance.

(SIA/TN/MIN/ 55413/ 2020 dated: 25.09.2021)

#### The SEAC noted the following:

- 1. The project proponent, Thiru. M. Thangaraj has applied for Environmental Clearance for the proposed Rough stone and Gravel quarry over an extent of 0.84.5 Ha at S.F.No. 383/2B2 (P). Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.
- 2. The project/activity is covered under Category "B1" of Item 1(a) "Mining of Mineral Projects" of the Schedule to the EIA Notification, 2006.
- 3. As per mining plan the the lease period is for 5 years. The production for the five years states that the total quantity of recoverable should not exceed 37,931cu.m of Rough stone, 640 cu.m of Gravel with an ultimate depth of mining is 26m (1m Gravel + 25m Rough Stone) below ground level. The Annual peak production as per mining plan is 26,150cu.m of rough stone.
- ToR issued vide Lr.No.SEIAA-TN/F.No.7740/SEAC/ToR-909/2020 dated 16.03.2021.
- Public hearing conducted on 23.08.2021.

Based on the presentation and document furnished by the project proponent, SEAC decided to recommend the proposal for the grant of Environmental Clearance, subject to the standard conditions as per the Annexure of this minutes & normal conditions stipulated by MOEF&CC, in addition to the following specific conditions:

- 1. The prior Environmental Clearance granted for this mining project shall be valid for the project life including production value as laid down in the mining plan approved and renewed by competent authority, from time to time, subject to a maximum of thirty years, whichever is earlier.
- 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 adhere the EMP as committed.

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 As accepted by the Project Proponent the revised CER cost is Rs. 5 lakhs and the amount shall be spent for the following activities in Panchayat union primary school. Kodiyam Palayam Village, Tiruppur District before obtaining CTO from TNPCB.

| SL No. | Description                                                              |
|--------|--------------------------------------------------------------------------|
| 1      | Painting compound wall with environment awareness slogans                |
| 2      | Construction of water tank                                               |
| 2      | Construction of hand washing units at 2 locations                        |
| 3      | Providing Environmental related books to the school library              |
| 45     | Carrying out avenue plantation and gardening school class rooms entrance |

#### ANNEXURE

- The proponent shall mandatorily appoint the required number of statutory officials and the competent persons in relevant to the proposed quarry size as per the provisions of Mines Act 1952 and Metalliferrous Mines Regulations, 1961.
- The proponent shall erect fencing all around the boundary of the proposed area with gates for entry/exit before the commencement of the operation and shall furnish the photographs/map showing the same before obtaining the CTO from TNPCB.
- Perennial maintenance of haulage road/village / Panchayat Road shall be done by the project proponent as required in connection with the concerned Govt. Authority.
- 4. The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form of Short Term Permit (STP), Query license or any other name.
- 5. The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the gaidelines/circulars issued.

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- by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.
- 6. The proponent shall ensure that the slope of dumps is suitably vegetated in scientific manner with the native species to maintain the slope stability, prevent erosion and surface run off. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps.
- 7. Perennial sprinkling arrangement shall be in place on the haulage road for fugitive dust suppression. Fugitive emission measurements should be carried out during the mining operation at regular intervals and submit the consolidated report to TNPCB once in six months.
- 8. The Project Proponent shall carry out slope stability study by a reputed academic/research institution such as NIRM, III, Anna University for evaluating the safe slope angle if the proposed dump height is more than 30 meters. The slope stability report shall be submitted to concerned Regional office of MoEF&CC, Govt. of India, Chennai as well as SEIAA, Tamilnadu.
- 9. The Proponent shall ensure that the Noise level is monitored during mining operation at the project site for all the machineries deployed and adequate noise level reduction measures undertaken accordingly. The report on the periodic monitoring shall be submitted to TNPCB once in 6 months.
- 10. Proper barriers to reduce noise level and dust pollution should be established by providing greenbelt along the boundary of the quarrying site and suitable working methodology to be adopted by considering the wind direction.
- 11 The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
- 12. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted in proper escapements 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.

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- 13. Noise and Vibration Related: (i) The Proponent shall carry out only the Controlled Blasting operation using NONEL shock tube initiation system during daytime. Usage of other initiation systems such as detonating cord/fuse, safety fuse, ordinary detonators, cord relays, should be avoided in the blasting operation. The mitigation measures for control of ground vibrations and to arrest fly rocks should be implemented meticulously under the supervision of statutory competent persons possessing the I / II Class Mines Manager / Foreman / Blaster certificate issued by the DGMS under MMR 1961, appointed in the quarry. No secondary blasting of boulders shall be carried out in any occasions and only the Rock Breakers (or) other suitable non-explosive techniques shall be adopted if such secondary breakage is required. The Project Proponent shall provide required number of the security sentries for guarding the danger zone of 500 m radius from the site of blasting to ensure that no human/animal is present within this danger zone and also no person is allowed to enter into (or) stay in the danger zone during the blasting. (ii) Appropriate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs, (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone.
- 14. Ground water quality monitoring should be conducted once in every six months and the report should be submitted to TNPCB.
- 15. The operation of the quarry should not affect the agricultural activities & water bodies near the project site and a 50 m safety distance from water body should be maintained without carrying any activity. The proponent shall take appropriate measures for "Silt Management" and prepare a SOP for periodical de-siltation indicating the possible silt content and size in case of any agricultural land exists around the quarry.
- 16. The proponent shall provide sedimentation tank / settling tank with adequate capacity for runoff management.
- 17. The proponent shall ensure that the transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village Road and shall take adequate safety precautionary measures while the vehicles are passing through the schools / hospital. The Project Proponent shall ensure that the road may not be damaged due to transportation of the quarried rough stones; and transport of rough stones will be as per IRC Guidelines with respect to complying with traffic congestion and density.

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- 18. To ensure safety measures along the boundary of the quarry site, security guards are to be posted during the entire period of the mining operation.
- 19. After mining operations are completed, the mine closure activities as indicated in the mine closure plan shall be strictly carried out by the Proponent fulfilling the necessary actions as assured in the Environmental Management Plan.
- 20. The Project proponent shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition that is fit for the growth of fodder, flora, fauna etc.
- 21. The Project Proponent shall comply with the provisions of the Mines Act, 1952, MMR 1961 and Mines Rules 1955 for ensuring safety, health and welfare of the people working in the mines and the surrounding habitants.
- 22. The project proponent shall ensure that the provisions of the MMRD, 1956, the MCDR 2017 and Tamilnadu Minor Mineral Concession Rules 1959 are compiled by carrying out the quarrying operations in a skillful, scientific and systematic manner keeping in view proper safety of the labour, structure and the public and public works located in that vicinity of the quarrying area and in a manner to preserve the environment and ecology of the area.
- 23. The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be informed to the District AD/DD (Geology and Mining) District Environmental Engineer (TNPCB)and the Director of Mines Safety (DMS), Chennai Region by the proponent without fail.
- 24. The Project Proponent shall abide by the annual production scheduled specified in the approved mining plan and if any deviation is observed, it will render the Project Proponent liable for legal action in accordance with Environment and Mining Laws.
- 25. Prior clearance from Forestry & Wild Life including clearance from committee of the National Board for Wildlife as applicable shall be obtained before starting the quarrying operation, if the project site attracts the NBWL clearance, as per the existing law from time to time.
- 26. All the conditions imposed by the Assistant/Deputy Director, Geology & Mining, concerned District in the mining plan approval letter and the Precise area communication letter issued by concerned District Collector should be strictly followed.
- 27. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.

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- 28. The Project proponent shall install a Display Board at the entrance of the mining lease area/abutting the public Road, about the project information as shown in the Appendix -II of this minute.
- 29. The recommendation for the issue of environmental clearance is subject to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.ANo.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).

#### Appendix - I

#### List of Native Trees for Planting

- Aegle marmelos Vilvam
- 2. Adenaanthera pavonina Manjadi
- 3. Albizia lebbeck Vangni
- 4. Albizia amara Usil
- 5. Bauhinia purpurea Mantharai
- 6. Bauhinia rocemosa Aathi
- 7. Bauhinia tomentosa Iruvathi
- 8. Buchanania aillaris Kattuma
- 9. Borussus flabellifer Panai
- 10. Butea monosperma Murukka maram
- 11. Bobax ceiba Havu, Sevvilavu
- 12. Calophyllum inophyllum Punnai
- 13. Cassia fistula Sarakondrai
- 14. Cassia roxhurghii- Sengondrai
- 15. Chloroxylon sweitenia Purasa maram
- 16. Cochlospermum religiosum Kongu, Manjal Havu
- 17. Cordia divhotoma Mookuchali maram
- 18. Creteva adansanii Mavalingum
- 19. Dillenia indica Uva, Uzha
- 20. Dillenia pentagyna Siru Uva, Sitruzha

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

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- 53. Strychnox potatorum Therthang Kottai
- 54. Syzygium cumini Naval
- 55. Terminalia bellerica Thandri
- 56. Terminalia arjuna Ven marudhu
- 57. Toona ciliate Sandhana vembu
- Thespesia populnea Puvarasu
- Walsura trifoliata valsura
- 60. Wrightia tinctoria Vep

#### Appendix-II Display Board

#### (Size 6' x5' with Blue Background and White Letters)

அறிகள்களில் நன்றி செய்யாடுகளுக்கான கற்றுச்தும்? அனுவதி சிழக்கை நடித்தனைகளுக்கு உட்டம். ் தேத்திய பயட்டு, கற்றுச்தும்ல் அனும்றி CHIEFMACKET (Defining) HOWA-Cad many Cardiniga Sagra Edicina குவாநிலின் என்னவணைச் சுற்றி வேலி அணைக்க வேண்டும் வ பகுதி வளர்ச்சி வெய்யாட்டுக்கான கரங்கத் திட்டம் entinciare within augus personal administra Michelle allement Binder Graderijist காற்றில் மாக ஏற்படாதவாறு அரங்க பணிகளை பேற்கொள்ள பேண்டும். nonnentered Geologist termpellels tenn open og asmellete nør mi. ikni. (E paramety conflictation consumes assisted George Operfice George Bib. நினர்க்கை அணைவுகள் தூசி மாகமாட்டையும் அறைப்பதற்காக அவர் ஆந்தி அடர்த்தியான பகளை பகுதினை ஏற்படுத்த பேண்டும். த்தில் Gove, சைபக்கும்பொழுது திலத்திர்வுகள் ஏற்படாதனாறும் மற்றும் சுற்கள் பறக்காதனாறும் g demonstrut a etrefficiera Countrajia mich. Countrijia வுக்கத்தில் இருந்து ஏற்படுக் இரைச்சல் அமை 85 டேசியல்ஸ் (Albe) அமைந்த கேல் ஏற்படாதவாறு தகுந்த கட்டுப்பாடுகள்ள நேற் கொள்ள வேண்டும் a mil. விதிகள் வகள் கீழ் கரங்கத்தில் உள்ள பணியார்களுக்கு தகுத்த பாதுகாப்பு சுருவிகள் வழங்களிதாடு நாருகள்ள சழிப்பறை வாதிகளை செய்து நா சென்றும். ர் அர்வது பஞ்சாயத்து வழியாக வாகமா ந்து செற்றும் சார்வரை தொடர்ந்து நன்கு பாயரிக்க வேண்டும். enter அருகில் உள்ள விவசாவர் பணிகள் மற்றும் நிறிசாய்கள் பசுதிக்கப்படக் கூடாஜு வட்டை பாற்கல் டி. அவர் இருப்பார் உறுத் செய்யும் பயாக்டிய நியத்தும். இதன் காக்கியை கொடர்ந்து கண்களைக்க வேண்டும் சத்திலிருந்து கணிய போரும், கணை எழுத்துச் செய்யது. கிரம்ம முக்கருக்கு எந்தத் சிறமத்தினையும் ஏற்படுத்தாதமாறு கூடை நடித்துக்குக்களை முடித்துக்கும். அறிக்கப் பகுதி மற்றும் அறிக்க நடித்துக்குகளால் இரைந்தும் ஏறியடக் Googs எந்தப் பதுதினையம் மறுகட்டுயானம் செய்து நாயரங்கள் விசன்துகள் ஆகொயற்றின் வசுர்சனிக்கு ஏற்ற வணைசில் munching. Garner a. Charles Country (in). ுற்றதுள்ளத்த பார்க்குக்கு சென்னையே) உள்ள அற்றுக்குமுல் மற்றும் வார் கணம்ச்சத்தின் ஒருக்கினைக்க வட்ட அதுகணைப் 664 – 20.22225 (அன்னது) தமிழ்நாடு மாக வட்டும்.மாடு வாரியத்தில் மாடைட்ட சுற்றுச்தும் பொறியாணம் அனுகவும்

#### iscussion by SEIAA and the Remarks:-

The proposal was placed in the 510th Authority meeting held on 23.05.2022. The Authority after detailed discussion with reference to specific condition (1) of SEAC, SEIAA decided to grant Environmental Clearance for a period of 5 years confining to the depth and the quantity upto 26m BGL only as per approved mining plan issued by the Department of Geology & Mining subject to the standard conditions as per Annexure - (1) of SEAC minutes, other normal conditions stipulated

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by MOEF&CC & all other specific conditions as recommended by SEAC in addition to the following conditions.

- As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 accepted by the Project proponent the revised CER cost is Rs.5 Lakhs and the amount shall be spent for the following activities in Panchayat union primary school, Kodiyam Palayam Village, Tiruppur District before obtaining CTO from TNPCB.
- 2. No trees in the area should be removed and all the trees numbered and protected. In case trees fall within the proposed come quarry site the trees may be transplanted in the Greenbelt zone.
- The proponent shall ensure that the activities should in no way result in disturbance to forest and trees in vicinity.
- The proponent shall ensure that the operations shall not result in loss of soil biological properties and nutrients.
- The activity should not result in Co<sub>2</sub> release and temperature rise and add to micro climate alternations.
- The mining closure plan should be strictly adhered with appropriate soil rehabilitation measures to ensure ecological stability of the area.
- Reclamation/Restoration of the mine site should ensure that the Geotechnical, physical, chemical properties are sustainable that the soil structure composition is buildup, during the process of restoration.
- The proponent shall ensure that the activity does not disturb the movement of grazing animals and free ranging wildlife.
- The proponent shall ensure that the activity does not disturb the biodiversity, the flora & fauna in the ecosystem.
- 10. The proponent shall ensure that the activity does not disturb the water bodies and natural flow of surface and ground water, nor cause any pollution, to water sources in the area.
- The proponent shall ensure that the activities undertaken should not result in carbon emission, and temperature rise, in the area.
- 12. The proponent shall ensure that the mine closure plan are followed as per mining plan and the mine restoration should be done with native species, and site restored to near original status.
- 13. The proponent shall ensure that Monitoring be carried out with reference to the quantum of particulate matter during excavation; blasting; material transport and also from cutting waste dumps and haul roads.

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- 14. The proponent shall ensure that the area is ecologically restored to conserve the ecosystems and ensure flow of goods and services.
- 15. The proponent shall ensure that the activities shall not disturb the agro-biodiversity and agro-farms.
- 16. The proponent shall ensure that the activity shall not result in invasion by invasive alien species.
- Actions to be taken to promote agro forestry, mixed plants to support biodiversity conservation in the mine restoration effort.
- 18. The proponent shall ensure that activity shall not deplete the indigenous soil seed bank and disturb the mycorrizal fungi, soil organism, soil community nor result in eutrophication of soils and water.
- 19. The activities should not disturb the soil properties and seed and plant growth. Soil amendments as required to be carried out, to improve soil heath
- Bio remediation using an microorganisms should be carried out to restore the soil environment to enable carbon sequestration.
- 21. The proponent shall ensure that all mitigation measures listed in the EIA/EMP are taken to protect the biodiversity and natural resources in the area.
- The proponent shall ensure that the activities should not impact the water bodies/wells in the neighbouring open wells and bore wells.
- 23. The proponent shall ensure that the activities should not in any way affect the water quantity and quality in the open wells and bore wells in the vicinity, nor impact the water table and levels.
- 24. The proponent shall ensure that in the green belt development more indigenous trees species (Appendix as per the SEAC Minutes) to be planted.
- 25. The proponent shall ensure that the activities should not disturb the resident and migratory birds.
- 26. The proponent shall ensure the area should be restored and rehabilitated with native trees as recommended SEAC Minutes (in Appendix).
- 27. The proponent shall ensure that the mine restoration should be done using mycorrizal VAM, vermicasting, Biofertilizers to ensure soil health and, biodiversity conservation.
- 28. The proponent shall ensure that the topsoil should be protected and used in planting activities in the area.

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- 29. The proponent shall ensure that the activities should not disturb the river flow, nor affect the Odai, Water bodies, Dams in the vicinity.
- 30. The proponent shall ensure that the activities should not disturb the vegetation and wildlife in the adjoin reserve forests and areas around.
- 31. The proponent should ensure that there is no disturbance to the agriculture plantations, social forestry plantations, waste lands, forests, sanctuary or national parks. There should be no impact on the land, water, soil and biological environment and other natural resources due to the mining activities.
- The proponent shall ensure that topsoil to be utilized for site restoration and Green belt alone within the proposed area.
- 33. The proponent shall ensure that activities should not impact greenlands/grazing fields of all types surrounding the mine lease area which are food source for the grazing cattles.

### Part-A: Conditions to be Complied before commencing mining operations:-

- The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that
  - The project has been accorded Environmental Clearance.
  - II. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.
  - III. Environmental Clearance may also be seen on the website of the SEIAA.
  - IV. The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.
- Mining activity should be reviewed by the District Collector after three years and decide for further extension.
- NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
- The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
- A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations,

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if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.

- Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
- 7. The proponent shall ensure that First Aid Box is available at site.
- 8. The excavation activity shall not alter the natural drainage pattern of the area.
- 9. The excavated pit shall be restored by the project proponent for useful purposes.
- The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
- 11. The quarrying operation shall be restricted between 7AM and 5 PM.
- 12. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
- A minimum distance of 50mts, from any civil structure shall be kept from the periphery of any excavation area.
- 14. The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
- 15. Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
- 16. Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
- Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
- 18. A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.

 The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF& CC, GoI on 16.11.2009.

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- 20. The following measures are to be implemented to reduce Air Pollution during transportation of mineral
  - Roads shall be graded to mitigate the dust emission.
  - Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust
- 21. The following measures are to be implemented to reduce Noise Pollution
  - Proper and regular maintenance of vehicles and other equipment
  - ii. Limiting time exposure of workers to excessive noise.
  - The workers employed shall be provided with protection equipment and earmuffs etc.
  - Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.
  - All noise generating machinery the compressor, generator to be enclosed in acoustic enclosure so as to reduce noise in working area.
- 22. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11:01:2010 issued by the MoEF& CC, GoI to control noise to the prescribed levels.
- 23. Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
- 24. Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
- 25. Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
- 26. The following measures are to be adopted to control crosion of dumps:-
  - Retention/ toe walls shall be provided at the foot of the dumps.
  - Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.
- 27. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous& other wastes (Management, and Trans Boundary Movement) Rules, 2016 and its amendments thereof to the recyclers authorized by TNPCB.

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- 28. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
- 30. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
- 31. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out. District Collector/mining officer shall ensure this.
- 32. No tree-felling shall be done in the leased area, except only with the permission from competent Authority.
- 33. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic institution.
- 34. It shall be ensured that the total extent of nearby quarries(existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 5 hectares within the mining lease period of this application.
- 35. It shall be ensured that there is no habitation is located within 300 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 300m radius from the periphery of the quarry site.
- Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOL

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- Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
- 38. Bunds to be provided at the boundary of the project site.
- 39. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.
- 40. Floor of excavated pit to be levelled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
- The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity
- 42. The Project Proponent shall provide solar lighting system to the nearby villages.
- 43. Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
- 44. Safety equipments to be provided to all the employees.
- 45. Safety distance of 50m has to be provided in case of milway, reservoir, canal/odai
- 46. The Assistant/Deputy Director, Department of Geology & mining shall ensure that the proponent has engaged the blaster with valid Blasting license/certificate obtained from the competent authority before execution of mining lease.
- 47. The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.
- 48. The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
- 49. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
- 50. The proponent has to display the name board at the quarry site showing the details of Proponent, lease period, extent, etc., with respect to the existing activity before execution of mining.
- 51. Heavy earth machinery equipments if utilized, after getting approval from the competent authority.

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- 52. The Proponent shall ensure that the project activity including blasting, mining transportation etc should in no way have adverse impact to the other forests, such as reserve forests and social forests, tree plantation and bio diversity, surrounding water bodies etc.
- 53. The proponent shall provide Green Belt development at the rate of not less than 400 trees/Hectare. The tree saplings shall be not less than 3m height.
- 54. The fugitive emissions should be monitored during the mining activity and should be reported to TNPCB once in a month and the operation of the quarry should no way impact the agriculture activity & water bodies near the project site.
- 55. All the commitment made by the project proponent in the proposal shall be strictly followed
- 56. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
- 57. The Project proponent has to strictly comply the outcome/direction of the Hon'ble NGT, Principle Bench, New Delhi in the O.A No.186 of 2016 (M.A.No.350/2016), O.A. No.200/2016, O.A.No.580/2016 (M.A.No.1182/2016), O.A.No.102/2017, 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), 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).
- 58. All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
- 59. The company shall stress upon the preventive aspects of occupational health.
- 60. A separate environment and safety management cell with qualified staff shall be set up before commissioning of construction activities and shall be retained throughout the lifetime of the industry, for implementation of the stipulated environmental safeguards.
- 61. A scientific site/ ecological rehabilitation and restoration plan on long term basis should be drawn to carryout restoration with native species and Bio diversity.
- 62. The Green/Blue plan should guide the restoration of the site. The rehabilitation/restoration plan should be submitted to SEIAA-TN within one month. If applicable.
- 63. The existing water bodies should not be disturbed to ensure sustainable environment for aquatic life forms.
- 64. The proponent should completely implement all environmental pollution control measures as detailed in the EIA report and in the additional report.

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- 65. Avenue plantation wherever needed has to be carried out along the route for dust suppression.
- 66. The green belt developed for the prevention of dust pollution should not form a part of the larger green belt development envisaged in the EIA report.
- 67. Regular monitoring and check up for pulmonary and carcinogenic diseases to be carried out regularly, not only for the workers involved in the mines but also to the people in the villages adjoining the mines. Interaction with the Primary Health Centre & district medical officer should be on regular basis to monitor the incidence of the diseases if any and to provide suitable medical facility for the patients.
- 68. Monitoring of well water levels and water quality of the wells in the locations furnished in the EIA report shall be done during pre-monsoon and post monsoon period and results submitted to the Regional Office of MoEF, Chennai and SEIAA.
- 69. Monitoring of water quality and air quality in and around the project site in the selected monitoring points as mentioned in the EIA report shall be continued regularly involving Academic Institutions.
- Hydro geological study including infiltration test shall be conducted by any reputed agency to estimate leachate quantity.
- Regular medical check-up for mine workers and nearby residents around the project site involving community medical centre/NIMH shall be conducted.
- 72 As per norms, the health study should be conducted through competent/approved health organization and report submitted for one year.
- 73. The effective safe guard measures shall be provided to control particulate dust level in critical areas, transfer points and haul road within the mine area.
- 74. NOC from the State GWA for drawing ground water shall be obtained, if ground water table is intersected.
- Green belt shall be provided as per norms of MoEF & CC, GOI, in consultation with local DFO.
- 76. All the recommendations made in the EIA report of the project shall be effectively implemented.
- 77. A booklet containing the Dos and Don'ts shall be prepared in vernacular languages for the use of the mine engineers/ managers and the workers to ensure that all necessary environmental, safety and health measures are undertaken.

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- 78. All the environmental protection measures and safeguards as recommended in the EIA report shall be complied with.
- 79. Hydro geological study of the area shall be reviewed annually and report submitted to the Authority. No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the operation of the Mining activity.
- 80. A separate Environmental Management Cell equipped with full fledged laboratory facilities to carry out the various Environmental Management and Monitoring functions shall be set up under the control of a Senior Executive.
- 81. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF at Chennai, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; RSPM, SO2, NOx or critical sector parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

### Part B: General Conditions:

EC Identification No. - EC22B001TN192401

- EC is given only on the factual records, documents and the commitment furnished in nonjudicial stamp paper by the proponent.
- The Proponent shall obtain the Consent from the TNPC Board before commencing the activity.
- No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
- No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
- 5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.

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- A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
- Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
- 10. Access and hauf roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
- 11. All Personnel shall be provided with protective respiratory devices including safety shoes, masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- 12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
- Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
- 14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
- 15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.
- 16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
- 17. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities

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- would be considering the project on merits and be taking decisions independently of the Environmental Clearance
- 18. The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.
- 19. The SEIAA, Tamil Nadu may cancel the Environmental Clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this Environmental Clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining tphe Environmental Clearance.
- 20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
- 21. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Biodiversity Conservation Act, 2016, the Biological Diversity Act, 2002 and Biological diversity Rules, 2004 and Rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
- 22. Any other conditions stipulated by other Statutory/Government authorities shall be complied.
- 23. Any appeal against this Environmental Clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
- 24. The Environmental Clearance is issued based on the documents furnished by the project proponent. In case any documents found to be incorrect/not in order at a later date the Environmental Clearance issued to the project will be deemed to be revoked/cancelled.

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Copy to:

- 1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
- 2. The Principal Secretary to Government, Environment and Forests Department, Tamil Nadu.
- 3. The Principal Secretary to Government, Industries Department, Tamil Nadu.
- The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1<sup>st</sup> & 2<sup>nd</sup> Floor, Cathedral Garden Road, Nungambakkam, Chennai - 34.
- The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
- 6. The Chairman, TNPC Board, 76. Mount Salai, Guindy, Chennai 32.
- 7. The District Collector, Tiruppur District.
- 8. The Commissioner of Geology and Mines, Guindy, Chennai 32.
- 9. El Division, Ministry of Environment & Forests, Paryavaran Bhawan, New Delhi.
- 10. Spare.

## PAKIVESH

# Pro-Active and Responsive Facilitation by Interactive, and Virtuous Environmental Single-Window Hub)





### Government of India Ministry of Environment, Forest and Climate Change (Issued by the State Environment Impact Assessment Authority(SEIAA), Tamil Nadu)

To,

The Proprietor
CHIDAMBARAM N
Morattupalayam Village -638752

**Subject:** Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/TN/MIN/35051/2019 dated 23 Mar 2022. The particulars of the environmental clearance granted to the project are as below.

| 1. | EC Identification No.                   | EC22B0011N174381                                                             |
|----|-----------------------------------------|------------------------------------------------------------------------------|
| 2. | File No.                                | 6799/2019                                                                    |
| 3. | Project Type                            | New                                                                          |
| 4. | Category                                | B1                                                                           |
| 5. | Project/Activity including Schedule No. | 1(a) Mining of minerals                                                      |
| 6. | Name of Project                         | N.Chidambaram, Rough stone and Gravel quarry from over an Extent of 0.79.0ha |
| 7. | Name of Company/Organization            | CHIDAMBARAM N                                                                |
| 8. | Location of Project                     | Tamil Nadu                                                                   |
| 9. | TOR Date                                | 15 Sep 2020                                                                  |

The project details along with terms and conditions are appended herewith from page no 2 onwards.

(e-signed)
Tmt.P.RAJESWARI,IFS
Date: 18/05/2022
Member Secretary
SEIAA - (Tamil Nadu)

Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH.Please quote identification number in all future correspondence.

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

### STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY – TAMIL NADU

3rd Floor, Panagal Maaligai, No.1 Jeenis Road, Saidapet, Chennai-15. Phone No.044-24359973 Fax No. 044-24359975

### ENVIRONMENTAL CLEARANCE

### Lr.No.SEIAA-TN/F.No.6799/1(a)/EC.No:5034/2021 dated:20.04.2022

### Sir/Madam

Sub: SEIAA, TN - Proposed Rough Stone & Gravel Quarry over an extent of 0.79.0 Ha located at S.F. No, 209/1A (P) Morattupalyam Village, Uthukuli Taluk, Tiruppur District by Thiru. N. Chidambaram under project category -"B1" and Schedule S.No. 1(a) - Issue of Environmental Clearance -Regarding.

Ref: 1. Lr. No.SEIAA-TN/T.No.6799/SEAC/ToR-749/2020 Dated: 15.09.2020

- 2. Public Hearing conducted on 23.08.2021
- 3. Online Proposal No. SIA/TN/MIN/ 35051/2019 dated 23.03.2022
- 4. Application seeking Environmental Clearance dated: 13.02.2022
- 5. Minutes of the 256th Meeting of SEAC held on 24.03.2022
- 6. Minutes of 500th Meeting of SEIAA held on 18.04.2022

### **Details of Minor Mineral Activity:**

This has reference to your application cited, the proposal for obtaining Environmental Clearance for mining/quarrying of minor minerals based on the particulars furnished in your application as shown below.

| Sl. No. | Details of the proposal | Data furnished          |
|---------|-------------------------|-------------------------|
| 1.      | Name of the Owner/Firm  | Thiru. N. Chidambaram   |
|         |                         | S/o. Nachimuthu Gounder |
|         |                         | No.2/197,               |

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|     |                                                                                          | Senapathy Chettipalayam Uthukuli Tiruppur - 638 812              |  |
|-----|------------------------------------------------------------------------------------------|------------------------------------------------------------------|--|
| 2.  | Type of quarrying (Savudu/Rough Stone/Sand/Granite)                                      | Rough Stone & Gravel                                             |  |
| 3.  | S.F No. Of the quarry site with area break-up                                            | 209/1A(P)                                                        |  |
| 4.  | Village in which situated                                                                | Morattupalyam                                                    |  |
| 5.  | Taluk in which situated                                                                  | Uthukuli                                                         |  |
| 6.  | District in which situated                                                               | Tiruppur                                                         |  |
| 7.  | Extent of quarry (in ha.)                                                                | 0.79.0ha                                                         |  |
| 8.  | Period of quarrying proposed                                                             | 5 years                                                          |  |
| 9.  | Type of mining                                                                           | Open cast Mechanized mining                                      |  |
| 10. | Production (Quantity in m <sup>3</sup> )                                                 | 61,850 m3 of Rough stone and 10,384 m3 of Gravel                 |  |
| 11. | Depth of quarrying                                                                       | 32m below ground level                                           |  |
| 12. | Depth of water table                                                                     | 45m-50m                                                          |  |
| 13. | Latitude & Longitude of all corners of the quarry site                                   | 11°08'23.65"N to 11°08'27.26"N<br>77°25'10.44"E to 77°25'13.66"E |  |
| 14. | Topo Sheet No.                                                                           | 57 E/08                                                          |  |
| 15. | Man Power requirement per day:                                                           | 15 Nos.,                                                         |  |
| 16. | Precise area communication issued<br>by the District Collector with date                 | Na.Ka.No1391/Kanimam/2018, dated                                 |  |
| 17. | Mining Plan approved by Joint<br>Director, Department of Geology<br>and mining with date | Rc.No.1391/Mines/2018, dated 22.03.2019                          |  |
| 18. | 500m cluster letter issued by<br>Assistant Director Department of<br>Geology & Mining,   | Rc.No.1391/Mines/2018, dated 31.01.2020                          |  |
| 19. | Water requirement:                                                                       | 3.5 KLD                                                          |  |
|     | Drinking & domestic purposes (in                                                         | 1.0 KLD                                                          |  |

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|     | KLD)                                                  | 1.2 KLD                                                         |
|-----|-------------------------------------------------------|-----------------------------------------------------------------|
|     | Dust suppression , Green Belt (in KLD)                | 0.8 KLD                                                         |
| 20. | Power requirement Domestic Purpose Industrial Purpose | TNEB                                                            |
| 21. | Whether any habitation within 300m distance           | VAO letter dated: 14.04.2019                                    |
| 22. | Project Cost                                          | Rs. 22.307 Lakh                                                 |
| 23. | EMP cost                                              | Capital Cost-Rs. 14.61 Lakh Recurring cost-Rs. 13.44 Lakh/Annum |
| 24. | CER cost                                              | Rs. 6.0 lakh as per SEAC minutes                                |

### Validity:

This Environmental Clearance is granted for the production in 61,850 m3 of Rough stone and 10,384 m3 of Gravel for the period of 5 Years from the date of execution of the mining lease.

### **Affidavit**

The Proponent has furnished affidavit in Hundred Rupees stamp paper attested by the Notary stating that

I Thiru. N. ChidambaramS/o. Nachimuthu Gounder No.2/197, Senapathy Chettipalayam Uthukuli Tiruppur - 638 812. Do hereby solemnly declare and sincerely affirm that,

I have applied for getting environment clearance to SEIAA, Tamil Nadu for quarry lease for Rough Stone & Gravel Quarry over an extent of 0.79.0 Ha located at S.F. No, 209/1A (P) Morattupalyam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State,

- I swear to state and confirm that within 10km area of the quarry site, we have applied for environmental clearance, none of the following is situated
  - a. Protected areas notified under the wild life (Protection) Act, 1972
  - Critically polluted areas as notified by the central pollution control board constituted under water (Prevention and Control of Pollution) Act 1974.
  - c. Eco-Sensitive areas as notified

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File No. - 6799/2019 Date of Issue EC - 18/05/2022 Pa

- d. Interstate boundary within 10km radius from the boundary of the proposed site
- I will complete the following Corporate Environment Responsibility (CER) activities before commencement of the quarrying activities.

Government Higher Secondary School, Morattupalayam, Tiruppur

| CER Activity                                            | Project cost<br>(Rs) lakh | CER cost (Rs)  |
|---------------------------------------------------------|---------------------------|----------------|
| Re construction of School Kitchen.                      |                           | 1,50,000/-     |
| Re construction of Boys Toilet                          |                           | 2,00,000/-     |
| Re construction of Girls Toilet                         | 22.307                    | 2,00,000/-     |
| Avenue Plantation along the School Boundary @ 100 trees | CSS.                      | 50,000/-       |
| Total cost Allocation                                   | 22.307                    | Rs. 6,00,000/- |

3. Details of quarry within 500m radius from the applied area:

| S.<br>No | Name of the Lessee           | Village &<br>S.F. No                       | Extent (Ha) | Distance from this proposed quarry |
|----------|------------------------------|--------------------------------------------|-------------|------------------------------------|
| Existi   | ing Quarries:                | AT AND THE STATE OF                        |             | proposed quarry                    |
| 1        | S. Rajasekar                 | Morattupalayam Village<br>382/2A           | 5.19.5      |                                    |
| 2        | P.K.Krishnasamy<br>Muthusamy | Morattupalayam Village<br>209/1A(P), 2A(P) | 2.25.30     |                                    |
| 3        | N. Ayyasurai                 | Morattupalayam Village<br>392(P)           | 3.52.0      | 2                                  |
| Aban     | doned Quarries:              | Vanagara (III)                             |             | of.                                |
|          | 32.                          | Nil                                        |             |                                    |
| Presen   | nt Proposed quarries:        | William Co.                                | - NO        |                                    |
| 1        | N. Chidambaram               | Morattupalayam Village<br>209/1A part      | 0.79.0      |                                    |
| Expir    | ed Quarries:                 |                                            | y           |                                    |
|          |                              | Nil                                        |             |                                    |

- 4. There will not be any hindrance or disturbance to the people living on enroute / nearby my quarry site while transporting the minded out material and due to mining / quarrying activities.
- 5. No habitations are located within 500m radius from the periphery of my applied quarry.
- We swear that afforestation will be carried with native species along the periphery of the project boundary during the course of quarrying operation and will be maintained properly.

7. The required insurance will be taken in the name of laborers working in the quarry site

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- The Approach road is belongs to local panchayath only and no other private patta roads encountered.
- I will not engage any child labor in the quarry and I aware that engaging child labor is punishable under the law.
- 10. All types of safety/protective equipment will be provided to all the laborers in the proposed quarry.
- 11. No permanent structures, temples etc., are located within 500m radius from the periphery of our quarry.

We ensure to do all the Social and Environmental Commitment as mentioned in the mining plan to the best of our knowledge.

### Details of Quarries located within 500M radius from the proposed quarry:

The Project Proponent has submitted a copy of the letter obtained from the Assistant Director Department of Geology & Mining, Tiruppur District in his letter Rc.No.1391/Mines/2018, dated 31.01.2020 has stated that the details of other quarries within a radius 500m from the boundary of the proposed quarry site as follows:

| S.<br>No | Name of the Lessee           | Village &<br>S.F. No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Extent (Ha) | Distance from this<br>proposed quarry |
|----------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------|
| Existi   | ing Quarries:                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 7 1/1/1     |                                       |
| 1        | S. Rajasekar                 | Morattupalayam Village<br>382/2A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 5.19.5      | 3                                     |
| 2        | P.K.Krishnasamy<br>Muthusamy | Morattupalayam Village<br>209/1A(P), 2A(P)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2.25.30     |                                       |
| 3        | N. Ayyasurai                 | Morattupalayam Village<br>392(P)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3.52.0      | **                                    |
| Aban     | doned Quarries:              | The same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the sa | 24          |                                       |
|          |                              | Nil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ****        |                                       |
| Preser   | nt Proposed quarries:        | 13/1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             | - 1                                   |
| 1        | N. Chidambaram               | Morattupalayam Village<br>209/1A part                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.79.0      |                                       |
| Expir    | red Quarries:                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                                       |
| -        |                              | Nil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                                       |

### Appraisal by SEAC:-

The proposal was placed in 256<sup>th</sup> SEAC meeting held on 24.03.2022. The details of the project furnished by the proponent are given in the website (parivesh.nic.in).

The SEAC noted the following:

EC Identification No. - EC22B001TN174381

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File No. - 6799/2019 Date of Issue EC - 18/05/2022 Page

- The Project Proponent, Thiru.N.Chidambaram has applied for Environmental Clearance for the proposed Rough Stone and Gravel Quarry lease over an extent of 0.79.0 Ha at S.F.No.209/1A(P) of Morattupalayam village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.
- The project/activity is covered under Category "B1" of Item 1(a) "Mining Projects" of the Schedule to the EIA Notification, 2006.
- The production for the five years should not exceed 61,850 m<sup>3</sup> of rough stone & 10,384 m<sup>3</sup> of gravel with a ultimate depth of mining is 32m below ground level, as per the mining plan.
- ToR issued vide Lr No.SEIAA-TN/T.No.6799/SEAC/ToR-749/2020 Dated: 15.09.2020.
- 5. Public hearing was conducted on 23.08.2021.

After examining the documents & project proposals furnished by the project proponent and based on the presentations & detailed deliberations, SEAC decided to recommend the proposal for the grant of Environmental Clearance for the total Production for the period of five years states that total quantity should not exceed Rough Stone of 61850m<sup>3</sup> and Gravel of 10384m<sup>3</sup> with the ultimate depth of 32 m BGL, subject to the conditions mentioned in the Annexure of this minutes and standard conditions stipulated by MOEF &CC, in addition to the following specific conditions,

 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 adhere the EMP as committed.

| SI.No. | Description                  | Item                                                                                  | Capital cost<br>(Rs. In<br>Lakhs) | Recurring cost<br>per annum<br>(Rs. in Lakhs) |
|--------|------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------|
| 1      | Occupational health & safety | Dust Mask, Safety Shoes, Helmets Ear<br>Plugs, Gloves, Goggle, Safety Belt            | 0.00                              | 0.63                                          |
| 2      | Environmental<br>Monitoring  | Air, Water, Noise & Vibration, Soil<br>Parameters                                     | 0.00                              | 0.76                                          |
| 3      | Water & Soil<br>erosion      | Garland drains &Settling tanks, check<br>dam/gully plugs, etc                         | 2.00                              | 0.30                                          |
| 4      | Drinking Water F             | acilities and Sanitation Facilities                                                   | 1.00                              | 0.25                                          |
| 5      |                              | rinkling Arrangements + Two times a day<br>by water tankers @ 100 Rs. per tanker with | 8.00                              | 0.50                                          |

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|    | Total                                                                                                                                                        | 14.61 | 13.44 |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|
| 10 | Adopting new blasting technology like NONEL Blasting and Controlled Blasting Method will reduce the impacts due to blasting @ Rs 3000/- per blasting session | 0.00  | 9.00  |
| 9  | Boundary Fencing (Barbe wire fencing / chain link fencing)                                                                                                   | 1.11  | 0.25  |
| 8  | Environmental Awareness Programme                                                                                                                            | 0.00  | 0.25  |
| 7  | Green belt Development & Plantation @ 500 Trees proposed for plantation and maintenance includes Fertilizer, Manure, Manpower, etc                           | 2.50  | 1.00  |
| 6  | Haul Road Maintenance                                                                                                                                        | 0.00  | 0.50  |

As accepted by the Project Proponent the revised CER cost is Rs. 6 lakhs and the amount shall be spent for the benefit of Government Higher Secondary School, Morattupalayam, Tiruppur before obtaining CTO from TNPCB.

| Sl.No. | Description                                             | CER Cost INR   |
|--------|---------------------------------------------------------|----------------|
| 1      | Re construction of School Kitchen.                      | 1,50,000/-     |
| 2      | Re construction of Boys Toilet                          | 2,00,000/-     |
| 3      | Re construction of Girls Toilet                         | 2,00,000/-     |
| 4      | Avenue Plantation along the School Boundary @ 100 trees | 50,000/-       |
|        | TOTAL                                                   | Rs. 6,00,000/- |

All the commitments made by the proponent during the Public Hearing, as per the minutes of Public Hearing should be implemented in total.

### ANNEXURE

- The proponent shall mandatorily appoint the required number of statutory officials and the competent persons in relevant to the proposed quarry size as per the provisions of Mines Act 1952 and Metalliferrous Mines Regulations, 1961.
- The proponent shall erect fencing all around the boundary of the proposed area with gates for entry/exit before the commencement of the operation and shall furnish the photographs/map showing the same before obtaining the CTO from TNPCB.

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- Perennial maintenance of haulage road/village / Panchayat Road shall be done by the project proponent as required in connection with the concerned Govt. Authority.
- 4. The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form of Short Term Permit (STP), Query license or any other name.
- 5. The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.
- 6. The proponent shall ensure that the slope of dumps is suitably vegetated in scientific manner with the native species to maintain the slope stability, prevent erosion and surface run off. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps.
- 7. Perennial sprinkling arrangement shall be in place on the haulage road for fugitive dust suppression. Fugitive emission measurements should be carried out during the mining operation at regular intervals and submit the consolidated report to TNPCB once in six months.
- 8. The Project Proponent shall carry out slope stability study by a reputed academic/research institution such as NIRM, IIT, Anna University for evaluating the safe slope angle if the proposed dump height is more than 30 meters. The slope stability report shall be submitted to concerned Regional office of MoEF&CC, Govt. of India, Chennai as well as SEIAA, Tamilnadu.
- The Proponent shall ensure that the Noise level is monitored during mining operation at the project site for all the machineries deployed and adequate noise level reduction measures

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- undertaken accordingly. The report on the periodic monitoring shall be submitted to TNPCB once in 6 months.
- 10. Proper barriers to reduce noise level and dust pollution should be established by providing greenbelt along the boundary of the quarrying site and suitable working methodology to be adopted by considering the wind direction.
- 11. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
- 12. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted in proper escapements 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.
- 13. Noise and Vibration Related: (i) The Proponent shall carry out only the Controlled Blasting operation using NONEL shock tube initiation system during daytime. Usage of other initiation systems such as detonating cord/fuse, safety fuse, ordinary detonators, cord relays, should be avoided in the blasting operation. The mitigation measures for control of ground vibrations and to arrest fly rocks should be implemented meticulously under the supervision of statutory competent persons possessing the I / II Class Mines Manager / Foreman / Blaster certificate issued by the DGMS under MMR 1961, appointed in the quarry. No secondary blasting of boulders shall be carried out in any occasions and only the Rock Breakers (or) other suitable non-explosive techniques shall be adopted if such secondary breakage is required. The Project Proponent shall provide required number of the security sentries for guarding the danger zone of 500 m radius from the site of blasting to ensure that no human/animal is present within this danger zone and also no person is allowed to enter into (or) stay in the danger zone during the blasting. (ii) Appropriate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs, (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone.

- 14. Ground water quality monitoring should be conducted once in every six months and the report should be submitted to TNPCB.
- 15. The operation of the quarry should not affect the agricultural activities & water bodies near the project site and a 50 m safety distance from water body should be maintained without carrying any activity. The proponent shall take appropriate measures for "Silt Management" and prepare a SOP for periodical de-siltation indicating the possible silt content and size in case of any agricultural land exists around the quarry.
- 16. The proponent shall provide sedimentation tank / settling tank with adequate capacity for runoff management.
- 17. The proponent shall ensure that the transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village Road and shall take adequate safety precautionary measures while the vehicles are passing through the schools / hospital. The Project Proponent shall ensure that the road may not be damaged due to transportation of the quarried rough stones; and transport of rough stones will be as per IRC Guidelines with respect to complying with traffic congestion and density.
- 18. To ensure safety measures along the boundary of the quarry site, security guards are to be posted during the entire period of the mining operation.
- 19. After mining operations are completed, the mine closure activities as indicated in the mine closure plan shall be strictly carried out by the Proponent fulfilling the necessary actions as assured in the Environmental Management Plan.
- 20. The Project proponent shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition that is fit for the growth of fodder, flora, fauna etc.
- 21. The Project Proponent shall comply with the provisions of the Mines Act, 1952, MMR 1961 and Mines Rules 1955 for ensuring safety, health and welfare of the people working in the mines and the surrounding habitants.
- 22. The project proponent shall ensure that the provisions of the MMRD, 1956, the MCDR 2017 and Tamilnadu Minor Mineral Concession Rules 1959 are compiled by carrying out the quarrying operations in a skillful, scientific and systematic manner keeping in view proper safety of the labour, structure and the public and public works located in that vicinity of the quarrying area and in a manner to preserve the environment and ecology of the area.

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- 23. The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be informed to the District AD/DD (Geology and Mining) District Environmental Engineer (TNPCB)and the Director of Mines Safety (DMS), Chennai Region by the proponent without fail.
- 24. The Project Proponent shall abide by the annual production scheduled specified in the approved mining plan and if any deviation is observed, it will render the Project Proponent liable for legal action in accordance with Environment and Mining Laws.
- 25. Prior clearance from Forestry & Wild Life including clearance from committee of the National Board for Wildlife as applicable shall be obtained before starting the quarrying operation, if the project site attracts the NBWL clearance, as per the existing law from time to time.
- 26. All the conditions imposed by the Assistant/Deputy Director, Geology & Mining, concerned District in the mining plan approval letter and the Precise area communication letter issued by concerned District Collector should be strictly followed.
- 27. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
- 28. The recommendation for the issue of environmental clearance is subject to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.ANo.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).

### Appendix

### List of Native Trees for Planting

- 1. Aegle marmelos Vilvam
- 2. Adenaanthera pavonina Manjadi
- 3. Albizia lebbeck Vaagai
- 4. Albizia amara Usil
- 5. Bauhinia purpurea Mantharai
- 6. Bauhinia racemosa Aathi
- 7. Bauhinia tomentosa Iruvathi
- 8. Buchanania aillaris Kattuma

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- 9. Borassus flabellifer Panai
- 10. Butea monosperma Murukka maram
- 11. Bobax ceiba Ilavu, Sevvilavu
- 12. Calophyllum inophyllum Punnai
- 13. Cassia fistula Sarakondrai
- 14. Cassia roxburghii- Sengondrai
- 15. Chloroxylon sweitenia Purasa maram
- 16. Cochlospermum religiosum Kongu, Manjal Ilavu
- 17. Cordia dichotoma Mookuchali maram
- 18. Creteva adansonii Mavalingum
- 19. Dillenia indica Uva, Uzha
- 20. Dillenia pentagyna Siru Uva, Sitruzha
- 21. Diospyros ebenum Karungali
- 22. Diospyros chloroxylon Vaganai
- 23. Ficus amplissima Kal Itchi
- 24. Hibiscus tiliaceous Aatru poovarasu
- 25. Hardwickia binata Aacha
- 26. Holoptelia integrifolia Aayili
- 27. Lannea coromandelica Odhiam
- 28. Lagerstroemia speciosa Poo Marudhu
- 29. Lepisanthus tetraphylla Neikottai maram
- 30. Limonia acidissima Vila maram
- 31. Litsea glutinosa -Pisin pattai
- 32. Madhuca longifolia Illuppai
- 33. Manilkara hexandra Ulakkai Paalai
- 34. Mimusops elengi Magizha maram
- 35. Mitragyna parvifolia Kadambu
- 36. Morinda pubescens Nuna
- 37. Morinda citrifolia Vellai Nuna
- 38. Phoenix sylvestre Eachai
- 39. Pongamia pinnata Pungam
- 40. Premna mollissima Munnai

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- 41. Premna serratifolia Narumunnai
- 42. Premna tomentosa Purangai Naari, Pudanga Naari
- 43. Prosopis cinerea Vanni maram
- 44. Pterocarpus marsupium Vengai
- 45. Pterospermum canescens Vennangu, Tada
- 46. Pterospermum xylocarpum Polavu
- 47. Puthranjiva roxburghii Puthranjivi
- 48. Salvadora persica Ugaa Maram
- 49. Sapindus emarginatus Manipungan, Soapu kai
- 50. Saraca asoca Asoca
- 51. Streblus asper Piraya maram
- 52. Strychnos nuxvomica Yetti
- 53. Strychnos potatorum Therthang Kottai
- 54. Syzygium cumini Naval
- 55. Terminalia bellerica Thandri
- 56. Terminalia ariuna Ven marudhu
- 57. Toona ciliate Sandhana vembu
- 58. Thespesia populnea Puvarasu
- 59. Walsura trifoliata valsura
- 60. Wrightia tinctoria Vep

### Discussion by SEIAA and the Remarks:-

The proposal was placed in the 500th meeting of Authority held on 18.04.2022. After detailed discussion, the Authority accepts the recommendation of SEAC and decided to grant Environmental Clearance subject to the conditions as recommended by SEAC meeting in addition to the following condition.

- 1. No trees in the area should be removed and all the trees numbered and protected. In case trees fall within the proposed come quarry site the trees may be transplanted in the Greenbelt zone.
- 2. The proponent shall ensure that the activities should in no way result in disturbance to forest and trees in vicinity.
- 3. The proponent shall ensure that the operations shall not result in loss of soil biological properties and nutrients.

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- The activity should not result in Co<sub>2</sub> release and temperature rise and add to micro climate alternations.
- The mining closure plan should be strictly adhered with appropriate soil rehabilitation measures to ensure ecological stability of the area.
- Reclamation/Restoration of the mine site should ensure that the Geotechnical, physical, chemical properties are sustainable that the soil structure composition is buildup, during the process of restoration.
- The proponent shall ensure that the activity does not disturb the movement of grazing animals and free ranging wildlife.
- The proponent shall ensure that the activity does not disturb the biodiversity, the flora & fauna in the ecosystem.
- The proponent shall ensure that the activity does not disturb the water bodies and natural flow of surface and ground water, nor cause any pollution, to water sources in the area.
- 10. The proponent shall ensure that the activities undertaken should not result in carbon emission, and temperature rise, in the area.
- 11. The proponent shall ensure that the mine closure plan are followed as per mining plan and the mine restoration should be done with native species, and site restored to near original status.
- 12. The proponent shall ensure that Monitoring be carried out with reference to the quantum of particulate matter during excavation; blasting; material transport and also from cutting waste dumps and haul roads.
- 13. The proponent shall ensure that the area is ecologically restored to conserve the ecosystems and ensure flow of goods and services.
- 14. The proponent shall ensure that the activities shall not disturb the agro biodiversity and agro farms.
- 15. The proponent shall ensure that the activity shall not result in invasion by invasive alien species.
- 16. Actions to be taken to promote agro forestry, mixed plants to support biodiversity conservation in the mine restoration effort.
- 17. The proponent shall ensure that activity shall not deplete the indigenous soil seed bank and disturb the mycorrizal fungi, soil organism, soil community nor result in eutrophication of soils and water.

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- 18. The activities should not disturb the soil properties and seed and plant growth. Soil amendments as required to be carried out, to improve soil heath
- 19. Bio remediation using an microorganisms should be carried out to restore the soil environment to enable carbon sequestration.
- 20. The proponent shall ensure that all mitigation measures listed in the EIA/EMP are taken to protect the biodiversity and natural resources in the area.
- 21. The proponent shall ensure that the activities should not impact the water bodies/wells in the neighbouring open wells and bore wells.
- 22. The proponent shall ensure that the activities should not in any way affect the water quantity and quality in the open wells and bore wells in the vicinity, nor impact the water table and levels.
- 23. The proponent shall ensure that in the green belt development more indigenous trees species (Appendix as per the SEAC Minutes) to be planted.
- 24. The proponent shall ensure that the activities should not disturb the resident and migratory birds.
- 25. The proponent shall ensure the area should be restored and rehabilitated with native trees as recommended SEAC Minutes (in Appendix).
- 26. The proponent shall ensure that the mine restoration should be done using mycorrizal VAM, vermicasting, Biofertilizers to ensure soil health and, biodiversity conservation.
- 27. The proponent shall ensure that the topsoil should be protected and used in planting activities in the area.
- 28. The proponent shall ensure that the activities should not disturb the river flow, nor affect the Odai, Water bodies, Dams in the vicinity.
- 29. The proponent shall ensure that the activities should not disturb the vegetation and wildlife in the adjoin reserve forests and areas around.
- 30. The proponent should ensure that there is no disturbance to the agriculture plantations, social forestry plantations, waste lands, forests, sanctuary or national parks. There should be no impact on the land, water, soil and biological environment and other natural resources due to the mining activities.

Part-A: Conditions to be Complied before commencing mining operations:-

1. The project proponent shall advertise in at least two local newspapers widely

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circulated in the region, one of which shall be in the vernacular language informing the public that

- I. The project has been accorded Environmental Clearance.
- II. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.
- III. Environmental Clearance may also be seen on the website of the SEIAA.
- IV. The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.
- Mining activity should be reviewed by the District Collector after three years and decide for further extension.
- NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
- The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
- 5. A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.
- Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
- 7. The proponent shall ensure that First Aid Box is available at site.
- 8. The excavation activity shall not alter the natural drainage pattern of the area.
- 9. The excavated pit shall be restored by the project proponent for useful purposes.
- 10. The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
- 11. The quarrying operation shall be restricted between 7AM and 5 PM.
- 12. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.

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- 13. A minimum distance of 50mts. from any civil structure shall be kept from the periphery of any excavation area.
- 14. The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
- 15. Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
- 16. Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
- 17. Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
- 18. A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.
- 19. The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF& CC, GoI on 16.11.2009.
- 20. The following measures are to be implemented to reduce Air Pollution during transportation of mineral
  - Roads shall be graded to mitigate the dust emission. i.
  - Water shall be sprinkled at regular interval on the main road and other service roads ii. to suppress dust
- 21. The following measures are to be implemented to reduce Noise Pollution
  - Proper and regular maintenance of vehicles and other equipment i.
  - ii. Limiting time exposure of workers to excessive noise.
  - The workers employed shall be provided with protection equipment and earmuffs etc. iii.
  - Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 iv. kmph to prevent undue noise from empty trucks.
  - All noise generating machinery the compressor, generator to be enclosed in acoustic ν. enclosure so as to reduce noise in working area.

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- 22. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoEF& CC, GoI to control noise to the prescribed levels.
- 23. Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
- 24. Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
- 25. Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
- 26. The following measures are to be adopted to control erosion of dumps:-
  - Retention/ toe walls shall be provided at the foot of the dumps.
  - Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.
- 27. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous& other wastes (Management, and Trans Boundary Movement) Rules, 2016 and its amendments thereof to the recyclers authorized by TNPCB.
- 28. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
- 30. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
- 31. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out

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- around the mine lease area during the mining operation. If at any stage, if it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out. District Collector/mining officer shall ensure this.
- 32. No tree-felling shall be done in the leased area, except only with the permission from competent Authority.
- 33. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic Institution.
- 34. It shall be ensured that the total extent of nearby quarries(existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 5 hectares within the mining lease period of this application.
- 35. It shall be ensured that there is no habitation is located within 300 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 300m radius from the periphery of the quarry site.
- 36. Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
- Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
- 38. Bunds to be provided at the boundary of the project site.
- 39. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.
- 40. Floor of excavated pit to be levelled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
- 41. The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity
- 42. The Project Proponent shall provide solar lighting system to the nearby villages.
- 43. Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
- 44. Safety equipments to be provided to all the employees.
- 45. Safety distance of 50m has to be provided in case of railway, reservoir, canal/odai

- 46. The Assistant/Deputy Director, Department of Geology & mining shall ensure that the proponent has engaged the blaster with valid Blasting license/certificate obtained from the competent authority before execution of mining lease.
- 47. The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.
- 48. The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
- 49. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
- 50. The proponent has to display the name board at the quarry site showing the details of Proponent, lease period, extent, etc., with respect to the existing activity before execution of mining.
- Heavy earth machinery equipments if utilized, after getting approval from the competent authority.
- 52. The Proponent shall ensure that the project activity including blasting, mining transportation etc should in no way have adverse impact to the other forests, such as reserve forests and social forests, tree plantation and bio diversity, surrounding water bodies etc.
- 53. The proponent shall provide Green Belt development at the rate of not less than 400 trees/Hectare. The tree saplings shall be not less than 3m height.
- 54. The fugitive emissions should be monitored during the mining activity and should be reported to TNPCB once in a month and the operation of the quarry should no way impact the agriculture activity & water bodies near the project site.
- 55. All the commitment made by the project proponent in the proposal shall be strictly followed.
- 56. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
- 57. The Project proponent has to strictly comply the outcome/direction of the Hon'ble NGT, Principle Bench, New Delhi in the O.A No.186 of 2016 (M.A.No.350/2016), O.A. No.200/2016, O.A.No.580/2016 (M.A.No.1182/2016), O.A.No.102/2017, 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 &

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- M.A.No.843/2017), 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).
- 58. All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
- 59. The company shall stress upon the preventive aspects of occupational health.
- 60. A separate environment and safety management cell with qualified staff shall be set up before commissioning of construction activities and shall be retained throughout the lifetime of the industry, for implementation of the stipulated environmental safeguards.
- 61. A scientific site/ ecological rehabilitation and restoration plan on long term basis should be drawn to carryout restoration with native species and Bio diversity.
- 62. The Green/Blue plan should guide the restoration of the site. The rehabilitation/restoration plan should be submitted to SEIAA-TN within one month. If applicable.
- 63. The existing water bodies should not be disturbed to ensure sustainable environment for aquatic life forms.
- 64. The proponent should completely implement all environmental pollution control measures as detailed in the EIA report and in the additional report.
- 65. Avenue plantation wherever needed has to be carried out along the route for dust suppression.
- 66. The green belt developed for the prevention of dust pollution should not form a part of the larger green belt development envisaged in the EIA report.
- 67. Regular monitoring and check up for pulmonary and carcinogenic diseases to be carried out regularly, not only for the workers involved in the mines but also to the people in the villages adjoining the mines. Interaction with the Primary Health Centre & district medical officer should be on regular basis to monitor the incidence of the diseases if any and to provide suitable medical facility for the patients.
- 68. Monitoring of well water levels and water quality of the wells in the locations furnished in the EIA report shall be done during pre-monsoon and post monsoon period and results submitted to the Regional Office of MoEF, Chennai and SEIAA.
- 69. Monitoring of water quality and air quality in and around the project site in the selected monitoring points as mentioned in the EIA report shall be continued regularly involving Academic Institutions.
- 70. Hydro geological study including infiltration test shall be conducted by any reputed agency to estimate leachate quantity.

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- Regular medical check-up for mine workers and nearby residents around the project site involving community medical centre/NIMH shall be conducted.
- 72. As per norms, the health study should be conducted through competent/approved health organization and report submitted for one year.
- 73. The effective safe guard measures shall be provided to control particulate dust level in critical areas, transfer points and haul road within the mine area.
- 74. NOC from the State GWA for drawing ground water shall be obtained, if ground water table is intersected.
- Green belt shall be provided as per norms of MoEF & CC, GOI, in consultation with local DFO.
- 76. All the recommendations made in the EIA report of the project shall be effectively implemented.
- 77. A booklet containing the Dos and Don'ts shall be prepared in vernacular languages for the use of the mine engineers/ managers and the workers to ensure that all necessary environmental, safety and health measures are undertaken.
- 78. All the environmental protection measures and safeguards as recommended in the EIA report shall be complied with.
- 79. Hydro geological study of the area shall be reviewed annually and report submitted to the Authority. No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the operation of the Mining activity.
- 80. A separate Environmental Management Cell equipped with full fledged laboratory facilities to carry out the various Environmental Management and Monitoring functions shall be set up under the control of a Senior Executive.
- 81. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF at Chennai, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; RSPM, SO2, NOx or critical sector parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

Part B: General Conditions:

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- 1. EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.
- 2. The Proponent shall obtain the Consent from the TNPC Board before commencing the activity.
- 3. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
- 4. No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
- 5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- 6. Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
- 7. A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
- 8. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- 9. Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
- 10. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
- 11. All Personnel shall be provided with protective respiratory devices including safety shoes, masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- 12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be

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- drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
- 13. Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
- 14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
- 15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.
- 16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
- 17. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance
- 18. The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.
- 19. The SEIAA, Tamil Nadu may cancel the Environmental Clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this Environmental Clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining tphe Environmental Clearance.
- 20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
- 21. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules,

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2006, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Biodiversity Conservation Act, 2016, the Biological Diversity Act, 2002 and Biological diversity Rules, 2004 and Rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.

- 22. Any other conditions stipulated by other Statutory/Government authorities shall be complied.
- 23. Any appeal against this Environmental Clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
- 24. The Environmental Clearance is issued based on the documents furnished by the project proponent. In case any documents found to be incorrect/not in order at a later date the Environmental Clearance issued to the project will be deemed to be revoked/cancelled.

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#### Copy to:

- 1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
- 2. The Principal Secretary to Government, Environment and Forests Department, Tamil Nadu.
- 3. The Principal Secretary to Government, Industries Department, Tamil Nadu.
- The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1<sup>st</sup> & 2<sup>nd</sup> Floor, Cathedral Garden Road, Nungambakkam, Chennai - 34.
- The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
- 6. The Chairman, TNPC Board, 76, Mount Salai, Guindy, Chennai 32.
- 7. The District Collector, Tirppur District.
- 8. The Commissioner of Geology and Mines, Guindy, Chennai 32.
- 9. EI Division, Ministry of Environment & Forests, Paryavaran Bhawan, New Delhi.
- 10. Spare.

Signature Not Verified

Digitally signed by Tmt.P.RAJESWAMI,IFS Member Secretary

Member Secretary Date: 5/18/2022 12:58:29 PM 22 Page 26 of 26

மாவட்ட ஆட்சியர் அலுவலகம், திருப்பூர் மாவட்டம், திருப்பூர்.

ந.கு. 341 / கனிமம் / 2017

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நாள்: 09.02.2018.

# குறிப்பாணை

பொருள்: கனிமங்களும் குவாரிகளும் - சாதாரண கற்கள் -ஊத்துக்குளி வட்டம் - மொரட்டுப்பாளையம் கிராயம் - பட்டா புல எண். 392 (பகுதி)-ல் 2.02.5 ஹெக்டரிலிருந்து சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க ஐந்தாண்டுகளுக்கு குவாரிக் குத்தகை உரிமம் கோரிய திரு. என். அப்யாத்துரை, த/பெ. நஞ்சப்பண்ணாடி என்பவர் மனு -அங்கீகரிக்கப்பட்ட சுரங்கத்திட்டம் மற்றும் ஏற்பளிக்கப்பட்ட கரங்கத்திட்டம் மற்றும் சுற்றுச் சூழல் ஒப்புதல் பெற்று அளிக்க கோருதல் - தொடர்பாக.

- பார்வை: 1. திரு. என். அய்யாத்துரை, த/பெ. நஞ்சப்பண்ணாடி என்பவரின் குவாரிக் குத்தகை உரிமம் கோரிய விண்ணப்பம் நாள்: 18.04-2017.
  - திரு. வெங்கடாசலம், மாவட்ட செயலாளர் சட்ட உரிமைகள் கழகம், திருப்பூர் மனு நாள்: 2.5.2017.
  - திருப்பூர் சார் ஆட்சியர் அவர்களின் அறிக்கை ந.க. 1802 / 2017 / அ3 நாள்: 04.08.2017.
  - திருப்பூர் புவியியல் மற்றும் சுரங்கத்துறை துணை இயக்குநர் அவர்களின் இடப்பார்வை அறிக்கை நாள்: 08.11.2017.
  - 5. அரசாணை எண். Ms. No. 79, தொழில் (எம்.எம்.சி-1) துறை நாள்: 6.4.2015.

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண். 392 (பகுதி)-ல் 2.02.5 ஹெக்டர் பரப்பில் சாதாரண கற்கள் வெட்டியெடுக்க ஐந்தாண்டுகளுக்கு திரு. என். அய்யாத்துரை, த/பெ. நஞ்சப்பண்ணாடி என்பவர் விண்ணப்பித்ததன் பேரில் குவாரிக் குத்தகை உரிமம் வழங்குவது தொடர்பாக, திருப்பூர் சார் ஆட்சியர் மற்றும் துணை இயக்குநர் (கனிமம்) ஆகியோர் மேற்காணும் விண்ணப்பப் புலத்தில் 2.02.5 ஹெக்டரில் ஐந்து ஆண்டுகளுக்கு தமிழ்நாடு சிறுகனிம் சலுகை விதிகள், 1959ன் விதி எண். 19 (1), 20, 33 ஆகியவற்றின் கீழ் சாதாரண கற்கள் மட்டும் குவாரிக் குத்தகை உரிம் அனுமதி கீழ்க்கண்ட நிபந்தனைக்குட்பட்டு வழங்கலாம் என பரிந்துரை செய்துள்ளனர்.

> அங்கீகரிக்கப்பட்ட சுரங்கத்திட்டத்தை (Approved Mining Plan) ஐந்து மாதத்திற்குள் மாலட்ட ஆட்சியர் முன்பு சமர்ப்பிக்க வேண்டும்.

- மேற்காணும் விண்ணப்பப் புல எண். 392 (பகுதி)-ல் 2.02.5 ஹெக்டரில் சாதாரண கற்கள் வெட்டியெடுக்க அனுமதி வழங்குவது தொடர்பாக சுற்றுச் குழல் ஒப்புதல் பெற்று சமர்ப்பிக்க வேண்டும்.
- விண்ணப்பப் புலத்தின் கிழக்கு எல்லையில் வட தென் மடலாகச் செல்லும் உயர் பின் அழுத்த கம்பிப் பாதைக்கும், புலஎண் 391-ல் அமைந்துள்ள பின் மாற்றிக்கும் 50 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு குவாரிப் பணி செய்யப்படவேண்டும்.

(ஒம்)... கே.எஸ். பழனிசாயி, மாவட்ட ஆட்சியர், திருப்பூர்.

// உண்மை நகல் / உத்தரவுப்படி //

மாவட்ட ஆட்சியருக்காக, திருப்பூர்.

பெறுநர்

திரு. என். அய்யாதுரை, த/பெ. நஞ்சப் பண்ணாடி, செல்லாங்காட்டுத் தோட்டம், எஸ். பெரிய பாளையம், ஊத்துக்குளி வட்டம், திருப்பூர் மாவட்டம். From

Thiru. L. Sattanathan Sankar, M.Sc., Deputy Director, Geology and Mining, Tiruppur To

Thiru. T.S. Udhayakumar S/o. Subramani, 6/85, Thimmanaickenpalayam, Morattupalayam post, Uthukuli Taluk.

# R.c. No. 174 / Mines / 2017 Dated : 03.07.2017.

Sir,

Sub: Mines and Minerals – Minor Mineral – Rough Stone permission in S.F. No. 388 (P) (Bit-A) (Old Pit D) of Morattupalayam Village – Uthukuli Taluk - total Extent 1.26.5 Hectares – Thiru. T.S. Udhyakumar, S/o. Subramani - Precise area communicated - Submission of Mining Plan – submitted - Approved - regarding.

- Ref: 1. Tiruppur District Gazette (Extra-ordinary) Issue No. 6 dated 20.10.2016.
  - Tiruppur District Gazette (Extra-ordinary) Issue No. 1 dated 3.2.2017.
  - G.O. Ms. No. 79 / Industries (MMC 1) Department dated 06.04.2015.
  - The District Collector's, Tiruppur letter R.C. No. 174 / Mines / 2017 dated 24.3.2017.
  - Mining Plan submitted by Thiru. T.S. Udhyakumar, S/o. Subramani in letter dated 23.5.2017.

As directed in the reference 4<sup>th</sup> cited, the applicant Thiru. T.S. Udhyakumar, S/o. Subramani has submitted three copies of Mining Plan prepared by RQP for approval in connection with the grant of Rough Stone Quarry permission in Poramboke land in S.F. No. 388 (P) (Bit-A) (Old Pit D) over an extent of 1.26.5 Hectare of Morattupalayam Village of Uthukuli Taluk in Tiruppur District.

The Mining Plan has been verified in detail and found that it has been prepared in accordance with the guidelines/ instructions issued by the Commissioner of Geology and Mining in letter RC. No. 3868 / LC / 2012 dated 19.11.2012.

Therefore in exercise of the powers conferred under Rule 41(2) of Tamil Nadu Minor Mineral Concession Rules, 1959, read with G.O. (Ms). No.79 / Industries (MMC 1) Department dated 06.04.2015, the mining plan is hereby approved, subject to the following conditions:

#### Part-I:-

- (i) The mining plan is approved without prejudice to any other Law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.
- (ii) This approval of the mining plan does not in any way convey the approval of the Government in terms or 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, Explosives Act, 1884 (Central Act IV of 1884) Minor Mineral Concession and Development Rules, 2010 and the Rules made there under and the Tamil Nadu Minor Mineral Concession Rules, 1959.
- (iii) The mining plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.
- (iv) The validity of the mining plan is co-terminus with the lease period.
- (v) Quarrying shall be done in accordance with the approved Mining Plan and that the mining plan is approved without prejudice to any other law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.
- (vi) If anything is found to be concealed as required by the Mines Act in the contents of the Mining Plan and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.

# Part-II

(a) There are five minor mineral quarries and three stone quarry proposals are situated within a radial distance of 500 meters from the applied fields.

| S. No | Name of the lessee | S.F. No.                           | Extent  | Status   |
|-------|--------------------|------------------------------------|---------|----------|
| 1.    | T.S. Raju          | 388 (P) (Bit-B)<br>(old Bit B & C) | 1.58.0  | Applied  |
| 2.    | N. Ayyadurai       | 392 (Part)                         | 3.52.0  | Applied  |
| 3.    | T.S. Udhayakumar   | 389/1C                             | 0.89.0  | Existing |
| 4.    | S. Raju            | 389/1B1                            | 1.62.0  | Existing |
| 5.    | P. Thangamuthusamy | 383/2A1,<br>382/2B                 | 3.24.0  | Existing |
| 6.    | T. Sumathi         | 383/2A2B                           | 0.89.5  | Existing |
| 7.    | M. Palanisamy      | 385/2                              | 0.59.5  | Existing |
| 8.    | R. Chinnasamy      | 389/1A                             | 1.29,0  | Applied  |
|       |                    | Total                              | 13.63.0 |          |

Encl.: One copy of Approved Mining Plan.

Deputy Director, Geology and Mining, Tiruppur

# Copy to

- Thiru. C. Natarajan, M.SC., M.Phil, Recognized Qualified Person, 93/36-E2, Subramaniyar Koil Street, Omalur Taluk, Salem District.
- The Commissioner, Geology and Mining, Chennai -32.

From

Thiru. L. Sattanathan Sankar, M.Sc., Deputy Director, Geology and Mining, Tiruppur To

Thiru. S. Raju, S/o. Subramani, 6/136, Thimmanaickenpalayam, Morattupalayam post, Uthukuli Taluk.

# R.c. No. 175 / Mines / 2017 Dated: 03.07.2017.

Sir.

Sub: Mines and Minerals – Minor Mineral – Rough Stone permission in S.F. No. 388 (P) (Bit-B) (Old Pit B & C) of Morattupalayam Village – Uthukuli Taluk - total Extent 1.58.0 Hectares – Thiru. S. Raju, S/o. Subramani – Precise area communicated - Submission of Mining Plan – submitted - Approved - regarding.

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  - G.O. Ms. No. 79 / Industries (MMC 1) Department dated 06.04.2015.
  - The District Collector's, Tiruppur letter R.C. No. 175 / Mines / 2017 dated 24.3.2017.
  - Mining Plan submitted by Thiru. S. Raju, S/o. Subramani in letter dated 22.5.2017.

\*\*\*\*\*\*

As directed in the reference 4<sup>th</sup> cited, the applicant Thiru. S. Raju, S/o. Subramani has submitted three copies of Mining Plan prepared by RQP for approval in connection with the grant of Rough Stone Quarry permission in Poramboke land in S.F. No. 388 (P) (Bit-B) (Old Pit B & C) over an extent of 1.58.0 Hectare of Morattupalayam Village of Uthukuli Taluk in Tiruppur District.

The Mining Plan has been verified in detail and found that it has been prepared in accordance with the guidelines/ instructions issued by the Commissioner of Geology and Mining in letter RC. No. 3868 / LC / 2012 dated 19.11.2012.

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- (i) The mining plan is approved without prejudice to any other Law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.
- (ii) This approval of the mining plan does not in any way convey the approval of the Government in terms or 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, Explosives Act, 1884 (Central Act IV of 1884) Minor Mineral Concession and Development Rules, 2010 and the Rules made there under and the Tamil Nadu Minor Mineral Concession Rules, 1959.
- (iii) The mining plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.
- (iv) The validity of the mining plan is co-terminus with the lease period.
- (v) Quarrying shall be done in accordance with the approved Mining Plan and that the mining plan is approved without prejudice to any other law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.
- (vi) If anything is found to be concealed as required by the Mines Act in the contents of the Mining Plan and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.

# Part-II

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|-------|-----------------------|--------------------------------|---------|----------|
| 1.    | T.S. Udhayakumar      | 388 (P) (Bit-A)<br>(old Bit D) | 1.26.5  | Proposed |
| 2.    | N. Ayyadurai          | 392 (Part)                     | 3.52.0  | Proposed |
| 3.    | T.S. Udhayakumar      | 389/1C                         | 0.89.0  | Existing |
| 4.    | S. Raju               | 389/1B1                        | 1.62.0  | Existing |
| 5.    | P. Thangamuthusamy    | 383/2A1, 382/2B                | 3.24.0  | Existing |
| 6.    | T. Sumathi            | 383/2A2B                       | 0.89.5  | Existing |
| 7.    | M. Palanisamy         | 385/2                          | 0.59.5  | Existing |
| 8.    | R. Chinnasamy         | 389/1A                         | 1.29.0  | Proposed |
|       |                       | Total                          | 13.31.5 |          |

Encl.: One copy of Approved Mining Plan.

Deputy Director, Geology and Mining, Tiruppur

# Copy to

 Thiru. C. Natarajan, M.SC., M.Phil, Recognized Qualified Person, 93/36-E2, Subramaniyar Koil Street, Omalur Taluk, Salem District.

 The Commissioner, Geology and Mining, Chennai -32. Pro-Active and Responsive Facilitation by Interactive

and Virtuous Environmental Single-Window Hub.





# Government of India Ministry of Environment, Forest and Climate Change (Issued by the State Environment Impact Assessment Authority(SEIAA), Tamil Nadu)

To,

The Proprietor MORATTUPALAYAM VILLAGE QUARRY Morattupalayam Village, Uthululi Tk, Tiruppur Dt -638752

Subject: Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/TN/MIN/59860/2021 dated 18 Aug 2022. The particulars of the environmental clearance granted to the project are as below.

1. EC Identification No. EC23B001TN174422 2. File No. 8243 3. **Project Type** New 4. Category 5. Project/Activity including 1(a) Mining of minerals Schedule No. K.Senthilkumar, Morattupalayam Rough 6. Name of Project stone and Gravel Quarry Project over an Extent of 0.71.5ha Name of Company/Organization MORATTUPALAYAM VILLAGE QUARRY 7. 8. **Location of Project** Tamil Nadu 9. **TOR Date** 16 Mar 2021

The project details along with terms and conditions are appended herewith from page no 2 onwards.

(e-signed) Thiru.Deepak S.Bilgi Date: 17/03/2023 Member Secretary SEIAA - (Tamil Nadu)

Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH.Please quote identification number in all future correspondence.

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

# STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY-TAMILNADU

3<sup>rd</sup> Floor, PanagalMaaligai, No.1, Jeenis Road, Saidapet, Chennai - 600 015. Phone No. 044-24359973 Fax No. 044-24359975

# ENVIRONMENTAL CLEARANCE

Lr. No. SEIAA-TN/F.No.8243/EC.No: 5559/2023, dated: 17.02.2023

#### Sir/Madam,

Sub: SEIAA-TN -Proposed Rough Stone & Gravel quarry lease over an extent of 0.71.5 Ha at S.F.Nos. 383/1(P) & 383/2A2A1 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu by Thiru.K.Senthilkumar – under Category "B1" of Item 1(a) "Mining of Minerals Projects" of the Schedule to the EIA Notification, -issue of Environmental Clearance Regarding.

- Ref: 1. TOR Issued vide letter No.SEIAA.TN/F.No.8243/SEAC/ToR-918/2020, Dated: 16.03.2021
  - 2. Public Hearing conducted on 23.08.2021
  - 3. Online Proposal No. SIA/TN/MIN/59860/2022, dated: 27.09.2021
  - 4. Project proponent submitted EIA Report to SEIAA-TN on 30.09.2021
  - Minutes of the 303<sup>rd</sup> SEAC Meeting held on 18.08.2022.
  - Minutes of the 548th SEIAA Meeting held on 01.09.2022.
  - 7. Proponent Reply Dated: 20,10,2022
  - 8. Minutes of the 575th SEIAA meeting held on 06.12.2022.
  - Minutes of the 348th SEAC meeting held on 19.01.2023.
  - 10. Minutes of the 593rd SEIAA meeting held on 17.02.2023.

# Details of Minor Mineral Activity: -

This has reference to your application 3<sup>rd</sup> & 4<sup>th</sup> cited. The proposal is for obtaining Environmental Clearance for mining / quarrying of minor minerals based on the particulars furnished in your application as shown below.

| SL<br>No | Details of the proposal                                                               | Data furnished                                                   |  |  |
|----------|---------------------------------------------------------------------------------------|------------------------------------------------------------------|--|--|
| 1        | Name of the Owner/Firm                                                                | Thiru.K.Senthilkumar<br>Anna Street                              |  |  |
|          |                                                                                       | Uthukuli Taluk<br>Tiruppur District - 638752                     |  |  |
| 2        | Type of quarrying                                                                     | Rough stone & Gravel                                             |  |  |
| 3        | S.F No. Of the quarry site                                                            | 383/1 (P) & 383/2A2A1(P)                                         |  |  |
| 4        | Village in which situated                                                             | Morattupalayam                                                   |  |  |
| 5        | Taluk in which situated                                                               | Uthukuli                                                         |  |  |
| 6        | District in which situated                                                            | Tiruppur                                                         |  |  |
| 7        | Extent of quarry (in ha.)                                                             | 0.71.5Ha                                                         |  |  |
| 8        | Latitude & Longitude of all corners of the quarry site                                | 11°08'07.70"N to 11°08'11.35"N<br>77°25'03.46"E to 77°25'06.97"E |  |  |
| 9        | Topo Sheet No.                                                                        | 58 - E/08                                                        |  |  |
| 10       | Type of mining                                                                        | Opencast Mechanized Mining                                       |  |  |
| 11       | Period of quarrying proposed                                                          | Syears                                                           |  |  |
| 12       | Production (Quantity in m <sup>3</sup> )                                              | 15,300 m <sup>3</sup> of Rough stone                             |  |  |
| 13       | Depth of quarrying                                                                    | 32m BGL                                                          |  |  |
| 14       | Depth of water table                                                                  | 62m in summer and 58m in rainy season                            |  |  |
| 15       | Man Power requirement per day:                                                        | 13Nos.                                                           |  |  |
| 16       | Water requirement:  1. Drinking & domestic purposes 2. Dust suppression 3. Green Belt | 4.5 KLD<br>0.5 KLD<br>3.0 KLD<br>1.0 KLD                         |  |  |
| 17       | Power requirement  a. Domestic Purpose  b. Industrial Purpose                         | TNEB<br>500 Liters of HSD/ day                                   |  |  |
| 18       | Precise area communication approved by<br>the,Assistant Director, with date           | Na.Ka.No.992/Kanimam/2020,<br>dated:26.11.2020                   |  |  |
| 19       | Mining Plan approved by the DeputyDirector,                                           | Rc.No.992/2020/Mines,                                            |  |  |

| 28 | Validity:  This Environmental Clearance is granted for the production quantity of 15,300 m <sup>3</sup> of Rough stone upto depth of 32m BGL as per the approved mining plan and is valid for the approved mining plan period. |                                                                     |  |  |  |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|--|--|--|
| 27 | EIA Report Received                                                                                                                                                                                                            | 30.09.2021                                                          |  |  |  |
| 26 | Public Hearing                                                                                                                                                                                                                 | 23.08.2021                                                          |  |  |  |
| 25 | TOR Issued                                                                                                                                                                                                                     | Lr.No.SEIAA-<br>TN/F.No.8243/SEAC/ToR-918/2020<br>Dated: 16.03.2021 |  |  |  |
| 24 | CER cost                                                                                                                                                                                                                       | 5 lakhs As per SEAC Minutes                                         |  |  |  |
| 23 | EMP cost                                                                                                                                                                                                                       | Capital Cost - Rs.10,70,000<br>Recurring Cost - Rs. 17,20,000       |  |  |  |
| 22 | Project Cost (excluding EMP cost)                                                                                                                                                                                              | Rs.13,72,000                                                        |  |  |  |
| 21 | VAO certificate regarding 300m radius cluster                                                                                                                                                                                  | Letter dated: 11.12.2020                                            |  |  |  |
| 20 | Deputy Director, Department of Geology and<br>Mining 500m cluster letter                                                                                                                                                       | Rc.No.992/2020/Mines,<br>dated: 16.12.2020                          |  |  |  |
|    | Department of Geology and Mining with date                                                                                                                                                                                     | dated:16.12.2020                                                    |  |  |  |

The Proponent has furnished affidavit in One Hundred Rupees stamp paper attested by the Notary stating that

I, K.Senthilkumar, S/o. Karuppusamy, Anna Street, Uthukuli Taluk, Tiruppur District - 638 752, Tamil Nadu State, solemnly declare and sincerely affirm that:

I have apply for getting Environment Clearance to Appropriate Authorities, Tamil Nadu for quarry lease for quarrying of Rough stone and Gravel Quarry over an extent 0.71.5ha of Patta lands in S.F.Nos.383/1 (P) & 383/2A2A1 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District.

- I swear to state and confirm that within 10km area of the quarry site, I have applied for environment 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.

MEMBER SECRÉTARY SEIAA-TN

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- c. Eco-Sensitive areas as notified,
- Interstate boundaries within 10km radius from the boundary of the proposed site.
- I will spend the amount of Rs.5 Lakhs towards Corporate Environment Responsibility (Revised CER) for the following activities to the Panchayat Union Middle School, Neelagoundapalayam, Tiruppur before commencement of quarrying activities.

| Sl.<br>No. | Description                                                               | CER Cost     |
|------------|---------------------------------------------------------------------------|--------------|
| 1          | Renovation of Existing toilets                                            |              |
| 2          | Painting of classrooms                                                    |              |
| 3          | Renovation of School Ground (filling and leveling of low-<br>lying areas) | Rs.5,00,000/ |
| 4          | Plantation along the School Boundary                                      |              |
| 5          | Providing book shelves to class rooms                                     |              |

 The following quarries are located within the radius of 500m from the periphery of my quarry.

# 1. Existing Quarries

| SL.<br>No | Name of the<br>Lessee | Village       | S.F.No.            | Extent<br>Hect | Collector's Proceedings No & Date   | Lease<br>Period                |
|-----------|-----------------------|---------------|--------------------|----------------|-------------------------------------|--------------------------------|
| L         | P.Thangamuthusamy     | Morattupalaym | 383/2A1,<br>382/2B | 3.24.0         | 301/Mines/2015<br>Dated; 13,01.2016 | 19.01.2016<br>To<br>18.01.2021 |
| 2.        | T.Sumathi             | Morattupalaym | 383/2A2<br>B       | 0.89.5         | 299/Mines/2015<br>Dated; 13.01.2016 | 20.01.2016<br>To<br>19.01.2021 |
| 3.        | M.Palanisamy          | Morattupalaym | 385/2<br>(P)       | 0.59.5         | 300/Mines/2015<br>Dated; 13.01.2016 | 21.01.2016<br>To<br>20.01.2021 |
| 4.        | S.Rajasekar           | Morattupalaym | 382/2A<br>(P)      | 1.98.5         | 105/Mines/2015<br>Dated; 25.09.2018 | 25.09.2018<br>To<br>24.09.2023 |

| 5. | M.Thangaraj    | Morattupalaym | 389/1B1<br>A,<br>389/1B1<br>B,<br>389/1B2 | 2.19.5 | 357/Mines/2015<br>Dated; 15.01.2016 | 21.01.2016<br>To<br>20.01.2021 |
|----|----------------|---------------|-------------------------------------------|--------|-------------------------------------|--------------------------------|
| 6. | T.S.Udayakumar | Morattupalaym | 388 Part                                  | 1.26.5 | 174/Mines/2017<br>Dated; 06.04.2018 | 06.04.2018<br>To<br>05.04.2023 |
| 7  | S.Raju         | Morattupalaym | 388 Part                                  | 1.58.0 | 175/Mines/2017<br>Dated; 09.04.2018 | 09.04.2018<br>To<br>08.04.2023 |

### II. Abandoned / Expired Quarries

| SL. | Name of the      | Village and S.F.No.     | Extent | Lease      |
|-----|------------------|-------------------------|--------|------------|
| No. | Owner            |                         | Hect   | Period     |
| 1.  | T.S.Udhaya Kumar | Morattupalaym<br>389/1C | 0.89.0 | 27.05.2020 |

# III. Present Proposed Quarries

| Sl.<br>No. | Name of the<br>Lessee | Village       | S.F.No.                   | Extent<br>Hect | Collector's Proceedings No & Date | Lease<br>Period           |
|------------|-----------------------|---------------|---------------------------|----------------|-----------------------------------|---------------------------|
| I.         | M.Thangaraj           | Morattupalaym | 383/2B                    | 1.51.0         | 100                               | Nearby<br>Applied<br>area |
| 2.         | S.Raju                | Morattupalaym | 389/IC1                   | 1.61.9         |                                   | Nearby<br>Applied<br>area |
| 3.         | K.Senthilkumar        | Morattupalaym | 383/1(P),<br>383/2A2A1(P) | 0.71.5         | ×                                 | Proposed<br>area          |

- 4. There will not be hindrance or disturbance to the people living during quarrying activities and transportation of the mineral.
- 5. There is no approved habitation within 300m radius from the periphery of my quarry.

MEMBER SECRETARY

- I swear that afforestation will be carried out during the course of quarrying operation and maintained.
- The required insurance will be taken in the name of the laborers working in my quarry site.
- The approach road from the main road to quarry area is already existence and same will be maintained in a good condition for the haulage of quarry materials.
- I will not engage any child labor in our quarry site and I aware that engaging child labor is punishable under the law.
- All types of safety / protective equipment will be provided to all the laborers working in my quarry.
- 11. No permanent structures, temples etc., are located within 500m radius from the periphery of my quarry.

I ensure to do all the social and Environment commitment as mentioned in the Mining Plan to the best of my knowledge

# Details of Quarries located within 500M radius from the proposed quarry:

The Project Proponent has submitted a copy of the letter obtained from the Deputy Director, Geology & Mining, Tiruppur District. In his letter Rc.No.992/2020/Mines, dated: 16.12.2020 has stated the details of other quarries within a radius 500m from the boundary of the proposed quarry site as follows:

# a. Existing quarries

| Sl.<br>No. | Name of the<br>Lessee | Village        | S.F. No.          | Extent<br>Hect. | Collector's proceedings No. & Date     | Lease<br>Period               |
|------------|-----------------------|----------------|-------------------|-----------------|----------------------------------------|-------------------------------|
| 1          | P.<br>Thangamuthusamy | Morattupalayam | 383/2A1<br>382/2B | 3.24.0          | 301/Mines/2015<br>dated15.01.2016      | 19.01.2016-<br>18.01.2021     |
| 2          | T. Sumathi            | Morattupalayam | 383/2A2B          | 0.89.5          | 299/Mines/2015dated<br>13.01.2016      | 20.01.2016<br>-<br>19.01.2021 |
| 3          | M.<br>Palanisamy      | Morattupalayam | 385/2(Part)       | 0.59.5          | 300/ Mines<br>/2015dated<br>13.01.2016 | 21.01.2016                    |
| 4          | S. Raja sekar         | Morattupalayam | 382/2A(P)         | 1.98.5          | 105/ Mine/2017dated                    | 25.09.2018                    |

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|   |                  |                |                                 |        | 25.09.2018                         | 24.09.2023 |
|---|------------------|----------------|---------------------------------|--------|------------------------------------|------------|
| 5 | M. Thangaraj     | Morattupalayam | 389/1B1A<br>389/1B1B<br>389/1B2 | 2.19.5 | 357/Mines/2015<br>dated 15.01.2016 | 21.01.2016 |
| 6 | Γ.S. Udhayakumar | Morattupalayam | 388 Part                        | 1.26.5 | 174/mines/2017<br>Dated 6.4.2018   | 06.04.2018 |
| 7 | S. Raju          | Morattupalayam | 388 Part                        | 1.58.0 | 175/mines/2017<br>Dated 9.4.2018   | 09.04.2018 |

# b. Abandoned / Expired quarries Area:

| Sl.<br>No. | Name of the Owner | Village and S.F. No.     | Extent in<br>Hects | Expired on |
|------------|-------------------|--------------------------|--------------------|------------|
| 1          | T.S. Udhayakumar  | Morattupalayam<br>389/1C | 0.89.0             | 27.05.2020 |

### c. Present proposed quarries

| Sl.<br>No. | Name of the<br>Lessee | Village        | S.F. No.                  | Extent<br>Hect. | Collector's<br>proceedings<br>No. & Date | Lease<br>Period           |
|------------|-----------------------|----------------|---------------------------|-----------------|------------------------------------------|---------------------------|
| 1          | M. Thangaraj          | Morattupalayam | 383/2B2                   | 1,51.0          | 200                                      | Nearby<br>applied<br>area |
| 2          | S. Raju               | Morattupalayam | 389/1B1                   | 1.61.9          | 24                                       | Nearby<br>applied<br>area |
| 3          | K. Senthil<br>Kumar   | Morattupalayam | 383/1(P),<br>383/2A2A1(P) | 0.71.5          | -                                        | Proposed area.            |

### Appraisal by SEAC: -

# The SEAC noted the following:

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

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- TOR was issued vide Lr No. SEIAA-TN/F.No.8243/SEAC/ToR-918/2020 Dated: 16.03.2021.
- Public Hearing was conducted on 23.08.2021.
- EIA report was submitted on 30,09,2021.

Based on the presentation made by the proponent, SEAC recommended to grant of Environmental Clearance for the production quantity of 15,300 m<sup>3</sup> of rough stone with Annual Peak Production Capacity of 4950 m<sup>3</sup> (4th year) of Rough stone keeping an ultimate depth of 32m as per the mining plan, subject to the standard conditions as per Annexure -I of this minutes & normal conditions stipulated by MOEF &CC, in addition to the following specific conditions:

- The prior Environmental Clearance granted for this mining project shall be valid for the project life including production value as laid down in the mining plan approved and renewed by competent authority, from time to time, subject to a maximum of thirty years, whichever is earlier, vide MoEF&CC Notification S.O. 1807(E) dated 12.04.2022.
- 2. The PP shall furnish the affidavit to the concerned AD (Geology & Mines) before obtaining the CTO from TNPCB stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent.
- 3. The PP shall carry out the shallow depth Jack hammer drilled holes (of 32-34 mm dia & 1.5 m depth) & NONEL initiation based controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled within the permissible limits as stipulated by the DGMS as well as no fly rock travel beyond 20 m from the blast site,
- 4. Since the quarry lies in a cluster situation, the PP shall submit a Standard Operating Procedure to the concerned AD (Geology & Mines) before obtaining the CTO from TNPCB for carrying out the safe blasting operation while considering the adjacent quarries lies in a radial distance of 500 m from their quarry.
- Since Effluent Treatment plant is located at a distance of 360m from the proposed lease area, 'Cumulative Blast-induced Vibration Study from the cluster of mines' shall be carried out within one year of commencement of mining operations by involving reputed

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academic/research institution such as Anna University-CEG Campus, IIT Madras, NITK Surathkal — Dept of Mining Engg, NIRM and other CSIR labs such that the blasts are designed to be conducted by achieving the PPV triggered value at the aforesaid Treatment Plant is not exceeding 2 mm/s and the copy of the above study report shall be submitted to the SEIAA, the concerned AD (Geology & Mines), the concerned DEE/TNPCB, MoEF-IRO, Chennai and the DMS, Chennai.

- 6. In the case of proposed lease in an existing (or old) quarry where the benches are nonexistent (or) partially formed critical of the bench geometry approved in the Mining Plan, the Project Proponent (PP) shall prepare and submit an 'Action Plan' for carrying out the realignment of the 'highwall' benches to ensure slope stability in the proposed quarry lease which shall be vetted by the concerned Asst. Director of Geology and Mining, to the concerned DEE/TNPCB before for obtaining the CTO.
- 7. As a part of EMP, the PP shall carry out the scientific studies during 3<sup>rd</sup> year of quarrying operations to assess the slope stability of the proposed working benches / quarry wall, by involving a reputed Research and Academic Institution such as NIRM, IITs, NITK-Dept of Mining Engg, Surathkal, Anna University Chennai-CEG Campus, and any CSIR Laboratories etc, A copy of such scientific study report shall be submitted to the SEIAA, the concerned AD (Geology & Mines), the concerned DEE/TNPCB, MoEF-IRO, Chennai and the DMS, Chennai.
- All the commitments made by the proponent during the Public Hearing, as per the minutes of Public Hearing should be implemented in total.
- 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 adhere EMP furnished.
- 10. As accepted by the Project proponent the CER cost is Rs. 5 lakhs and the amount shall be spent for the committed activities in Panchayat Union Middle School, Neelagoundapalayam, Tiruppur as committed, before obtaining CTO from TNPCB.

Subsequently, the proposal was placed in the 548th Authority meeting held on 01.09.2022 and the Authority after detailed deliberation decided to call for additional details from the proponent.

 The proponent is requested to furnish the certified compliance report for the quarrying activity carried out earlier in the proposed mine lease area.

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Again, the proposal was placed in the 575th Authority meeting held on 06.12.2022. The proponent had submitted the Certified Compliance Report to the O/o SEIAA on 20.10.2022. On the receipt of CCR, SEIAA noted that certain conditions have not been complied. Hence, SEIAA decided that SEAC shall examine the above submitted Certified Compliance Report for grant of Environmental Clearance and furnish the remarks to SEIAA.

Now the proposal was placed for reappraisal in this 348th meeting of SEAC held on 19.01.2023. The PP has furnished a detailed reply covering the points raised by SEIAA. Based on the presentation and documents furnished by the project proponent, SEAC decided to confirm the recommendation already made in 303rd meeting of SEAC held on 18.08.2022. All other conditions stipulated in the earlier minutes will remain unaltered.

#### ANNEXURE - I

- 1. The proponent shall mandatorily appoint the required number of statutory officials and the competent persons in relevant to the proposed quarry size as per the provisions of Mines Act 1952 and Metalliferrous Mines Regulations, 1961.
- 2. The proponent shall erect fencing all around the boundary of the proposed area with gates for entry/exit before the commencement of the operation and shall furnish the photographs/map showing the same before obtaining the CTO from TNPCB.
- 3. Perennial maintenance of haulage road/village / Panchayat Road shall be done by the project proponent as required in connection with the concerned Govt. Authority.
- 4. The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form of Short Term Permit (STP), Query license or any other name.
- 5. The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width

- and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.
- 6. The proponent shall ensure that the slope of dumps is suitably vegetated in scientific manner with the native species to maintain the slope stability, prevent erosion and surface run off. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps.
- Perennial sprinkling arrangement shall be in place on the haulage road for fugitive dust suppression. Fugitive emission measurements should be carried out during the mining operation at regular intervals and submit the consolidated report to TNPCB once in six months.
- 8. The Project Proponent shall carry out slope stability study by a reputed academic/research institution such as NIRM, IIT, Anna University for evaluating the safe slope angle if the proposed dump height is more than 30 meters. The slope stability report shall be submitted to concerned Regional office of MoEF&CC, Govt. of India, Chennai as well as SEIAA, Tamilnadu.
- 9. The Proponent shall ensure that the Noise level is monitored during mining operation at the project site for all the machineries deployed and adequate noise level reduction measures undertaken accordingly. The report on the periodic monitoring shall be submitted to TNPCB once in 6 months.
- 10. Proper barriers to reduce noise level and dust pollution should be established by providing greenbelt along the boundary of the quarrying site and suitable working methodology to be adopted by considering the wind direction.
- 11. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
- 12. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted in proper escapements as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent

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- 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.
- 13. Noise and Vibration Related: (i) The Proponent shall carry out only the Controlled Blasting operation using NONEL shock tube initiation system during daytime. Usage of other initiation systems such as detonating cord/fuse, safety fuse, ordinary detonators, cord relays, should be avoided in the blasting operation. The mitigation measures for control of ground vibrations and to arrest fly rocks should be implemented meticulously under the supervision of statutory competent persons possessing the 1 / II Class Mines Manager / Foreman / Blaster certificate issued by the DGMS under MMR 1961, appointed in the quarry. No secondary blasting of boulders shall be carried out in any occasions and only the Rock Breakers (or) other suitable non-explosive techniques shall be adopted if such secondary breakage is required. The Project Proponent shall provide required number of the security sentries for guarding the danger zone of 500 m radius from the site of blasting to ensure that no human/animal is present within this danger zone and also no person is allowed to enter into (or) stay in the danger zone during the blasting. (ii) Appropriate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs, (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone.
- 14. Ground water quality monitoring should be conducted once in every six months and the report should be submitted to TNPCB.
- 15. The operation of the quarry should not affect the agricultural activities & water bodies near the project site and a 50 m safety distance from water body should be maintained without carrying any activity. The proponent shall take appropriate measures for "Silt Management" and prepare a SOP for periodical de-siltation indicating the possible silt content and size in case of any agricultural land exists around the quarry.
- 16. The proponent shall provide sedimentation tank / settling tank with adequate capacity for runoff management.
- 17. The proponent shall ensure that the transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village Road and shall take adequate safety precautionary measures while the vehicles are passing through the schools / hospital. The Project Proponent shall ensure that the road may not be damaged due to

- transportation of the quarried rough stones; and transport of rough stones will be as per IRC Guidelines with respect to complying with traffic congestion and density.
- 18. To ensure safety measures along the boundary of the quarry site, security guards are to be posted during the entire period of the mining operation.
- 19. After mining operations are completed, the mine closure activities as indicated in the mine closure plan shall be strictly carried out by the Proponent fulfilling the necessary actions as assured in the Environmental Management Plan.
- 20. The Project proponent shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition that is fit for the growth of fodder, flora, fauna etc.
- 21. The Project Proponent shall comply with the provisions of the Mines Act, 1952, MMR 1961 and Mines Rules 1955 for ensuring safety, health and welfare of the people working in the mines and the surrounding habitants.
- 22. The project proponent shall ensure that the provisions of the MMRD, 1956, the MCDR 2017 and Tamilnadu Minor Mineral Concession Rules 1959 are compiled by carrying out the quarrying operations in a skillful, scientific and systematic manner keeping in view proper safety of the labour, structure and the public and public works located in that vicinity of the quarrying area and in a manner to preserve the environment and ecology of the area.
- 23. The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be informed to the District AD/DD (Geology and Mining) District Environmental Engineer (TNPCB)and the Director of Mines Safety (DMS), Chennai Region by the proponent without fail.
- 24. The Project Proponent shall abide by the annual production scheduled specified in the approved mining plan and if any deviation is observed, it will render the Project Proponent liable for legal action in accordance with Environment and Mining Laws.
- 25. Prior clearance from Forestry & Wild Life including clearance from committee of the National Board for Wildlife as applicable shall be obtained before starting the quarrying operation, if the project site attracts the NBWL clearance, as per the existing law from time to time.

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- 26. All the conditions imposed by the Assistant/Deputy Director, Geology & Mining, concerned District in the mining plan approval letter and the Precise area communication letter issued by concerned District Collector should be strictly followed.
- 27. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
- 28. The Project proponent shall install a Display Board at the entrance of the mining lease area/abutting the public Road, about the project information as shown in the Appendix – II of this minute.

Appendix -I List of Native Trees Suggested for Planting

| No |                           | Tamil Name Tamil Name |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
|----|---------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 1  | Acete marmeles            | Vilvam                | Tamil Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 2  | Ademainthera pavenina     | Manjadi               | eticans.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| -  |                           | returnation .         | மஞ்சார்.<br>அனைக்குன்றிமன்                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 3  | Albinia lebbeck           | Vaagas                | Self-street                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 4  | Albizia amara             | Und                   | 2.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 5  | Bandania purpurus         | Mantharai             | ichgrang                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| 6  | Basiliinia racemona       | Aathi                 | 4486                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 7  | Baulunia tomentos         | Iruvathi              | Bourse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| 8  | Buchanania axillaria      | Kattuma               | san Bun                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| 9  | Borassus flabellifer      | Panai                 | CHARLES .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| 10 | Butea menceperma          | Murukkamaram          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| 11 | Bobax cerbs               | Bavu, Sevvilavu       | いの名をおける中                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| 12 | Calophythum inophythum    | Punnai                | Beau                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 13 | Cassia fistula            | Sarakondras           | rigina                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| 14 | Cassia rexburghii         | Sengondrai            | #14.6年14年13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 15 | Chloroxylon sweitenia     | Purasamaram           | GESGATMING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 16 | Cochlopornuum religionum  |                       | raw many                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| 17 | Cordia dichatama          | Kongu Manjalllavu     | கோங்கு, மஞ்சள்<br>இலவு                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| 18 | Centera adameni           | Namyuli               | hipters.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| 19 | Dillenia milica           | Mavalingum            | ioneSecrisionis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| 20 | Dillenia pentapyna        | Uva, Uzha             | 0_81                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 21 | Disapyro sebenum          | StruUva, Struzba      | dig 4_40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| 22 | Ганаруго верешини         | Karungali             | same red                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| 23 | Disapyro schloroxylon     | Vaganai               | GAT SCATHERS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 24 | Ficus amplicaima          | Kalitchi              | 本心 (Sad)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| 25 | Hibiacus tilanceou        | Aatrupoovaranu        | -FAIRENCH SHOPE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| 26 | Hardwickia binata         | Aacha                 | 4400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 27 | Ekologetalna integrifolia | Aavili                | delayer steps, aguiled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|    | Lannea coronandelica      | Odhiam                | GET-LINE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| 28 | Lagerstroemia speciosa    | Poo Marudius          | U IPOBI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| 29 | Lepinanthus tetraphylla   | Netkottaimaram        | Spai Satilati upi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| 50 | Limonia acidisaima        | Vila maram            | effect with                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 31 | Litoon glutinez           | Pininpattai           | destruit, Lifetaturi enc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| 32 | Madhuca longifolia        | Ширраі                | Significant Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Communication Comm |  |
| 13 | Manifkara hexandra        | UlakkaiPaalai         | B. KAME UTIME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| 14 | Minnusopa elengi          | Magizhamaram          | webpent trees                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| 15 | Mitragana parvifolia      | Kadambu               | er er                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| 16 | Morinda justiciona        | Nuna                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| 17 | Morinda citrifolia        | Vellas Nuna           | Description 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| 8  | Phoenix sylvestre         | Eachai                | Grantment Brenn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| 19 | Pongamia pinnat           | Pungam                | THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE S |  |

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| 40 | Premna mollissima       | Munnai                  | (gratiana)                   |
|----|-------------------------|-------------------------|------------------------------|
| 41 | Premna serratifolia     | Narumunnai              | ந்து முன்னன                  |
| 42 | Premna tomentosa        | Malaipoovarasu          | மலை புவரக                    |
| 43 | Provopis cinerea        | Vanni maram             | क्रकेसी अपूर्व               |
| 44 | Pterocarpus marsupium   | Vengai                  | Sections.                    |
| 45 | Pterospermum canescens  | Vennangu, Tada          | Genetarrius                  |
| 46 | Pterospermum xylocarpum | Polavu                  | Lieun                        |
| 47 | Puthranjiva roxburghi   | Karipala                | <b>கறிபாலா</b>               |
| 48 | Salvadora persica       | Ugaa Maram              | समस्य प्रवृक्त               |
| 49 | Sapindus emarginatus    | Manipungan,<br>Soapukai | மணிப்புங்கள்<br>சோப்புக்காய் |
| 50 | Saraca asoca            | Asoca                   | அசோமா                        |
| 51 | Strebtus asper          | Piray maram             | பீராய் மரம்                  |
| 52 | Strychnos nuxvonuc      | Yetti                   | எட்டி                        |
| 53 | Strychnos potatorum     | Therthang Kottai        | தேத்தான் கொட்டை              |
| 54 | Syzygium cumini         | Naval                   | STRUK                        |
| 55 | Terminalia belleric     | Thandri                 | தான்றி                       |
| 56 | Terminalia arjuna       | Ven marudhu             | வென் மகுது                   |
| 57 | Toona ciliate           | Sandhana vembu          | சந்தன் வேம்பு                |
| 58 | Thespesia populnea      | Puvarasu                | (166)#                       |
| 59 | Walsuratrifoliata       | valsura                 | sunscargy                    |
| 60 | Wrightia tinctoria      | Veppalai                | GENERATION                   |
| 61 | Pithocellobium dulce    | Kodukkapuli             | கொடுக்காப்புளி               |

# Appendix -II

# Display Board

# (Size 6' x5' with Blue Background and White Letters)

கரங்கங்களில் குடார் செயல்பாடுகளுக்கான சுற்றுச்துமல் அனுமதி கிற்கண்ட நடந்தாவகளுக்கு உட்பட்டு compression (Square term) — appropriate (September 1991)

| பசுளமு பகுதி வளர்ச்சி                                               | குவாரியின் எய்மையைச் சுற்றி வேலி அமைக்க வேண்டும்                                                                                                                                                                                               |  |  |  |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| மேம்பாட்டுக்கான வரங்கத் திட்டம்                                     | கரக்கப்பாளதலின் ஆழம் நாரமட்டத்திலிருந்து <sub></sub> நீட்டர்க்கு யிசாமல் இருக்க வேண்டும்                                                                                                                                                       |  |  |  |
|                                                                     | காற்றில் யாக ஏற்படாதவாறு கரங்க பாசிகளை மேற்கொள்ள வேண்டும்.                                                                                                                                                                                     |  |  |  |
| scinc@                                                              | பாகணங்கள் செய்லும் யாசுதலில் மாசு ஏற்படாத அளவிற்கு தண்ணிரை முன்றயாக<br>தண்ணிர் மாநிகளின் நூலமாக அவ்வப்போது தெளிக்க வேண்டும்.                                                                                                                   |  |  |  |
| ஷாமதிக்கப்பட வேள்ளது மறுங்கள்<br>என்னசிக்கை                         | இளர்கள் அன்னவடம் நூகி மாகமாட்டையும் குறைப்பதற்காக குவாரியின் எம்மையை<br>சுற்றி அடர்த்தியாள பசுமை புத்தியை எற்படுத்த நேண்டும்                                                                                                                   |  |  |  |
| கரங்கத்தில் பெடி வைக்கும்போ<br>நடவடிக்கைகளை உள்ளிப்பாக செய          | ருது நிலக்இர்வுகள் ஏற்படாதவாறும் மற்றும் கற்கள் பறக்காகமாகம் பாகுகால்                                                                                                                                                                          |  |  |  |
| கரங்கத்தில் இருந்து ஏற்படும் தீனர்.<br>வேற் கொள்ள வேண்டும்.         | ச்சல் அளவு 85 (L. Aluksiro (ABA) அளவிற்கு மேல் ஏற்படாதவாறு நகுத்த கட்டுப்பாடுகளை                                                                                                                                                               |  |  |  |
| சுவரவிரேவை சரியாவர் வசிச்ச                                          | கரங்கத்தில் உள்ள பணியார்களுக்கு <u>நகந்த</u> பாதுகாப்பு கருவிகள் வழங்கவதோடு<br>ஊ செய்து தர வேண்டும்.                                                                                                                                           |  |  |  |
| கிராமம் அல்லது பஞ்சாடத்து வழியாக                                    | consuminate Decogniti entercomo Dem, étias sobre competitas (CoulerDe).                                                                                                                                                                        |  |  |  |
| வரங்கப்பணிகளால் அருகில் உள்ள                                        | வில்சால் பளிகள் மற்றும் நீற்றின்றுகள் பாதிக்கப்படக் கூடால                                                                                                                                                                                      |  |  |  |
| நிற்கால்கள் பாடுக்கப்படாமல் இருப்ப                                  | தை உறுதி செய்யும் முறையில் நிலத்து, கிரின் கரக்கினை தொடர்ந்து அற்கொணிக்க போண்டும்.                                                                                                                                                             |  |  |  |
| கரங்கத்தில்குந்து களிம் பொருட்க                                     | னை எடுத்துச் செல்வது கிராம மக்களுக்கு எந்தத் சிறமத்தினையும் ஏற்படுத்தாதவாறு<br>பாதிக்கவாத வண்ணம் வாகனங்களை நியக்க வேண்டும்.                                                                                                                    |  |  |  |
| கரங்கப்பணிகள் முடிக்கப்பட்ட ஷ. வ                                    | காங்களுடல் திட்டத்தில் உள்ளவர்று களுமகத்தியை ரம்ப (Countrille).                                                                                                                                                                                |  |  |  |
| aptia pronoment (pudad                                              | Seiner) அரங்கப் பகுதி மற்றும் அரங்க நடவடிக்கைகளால் இனடமூறு ஏற்படக்கூடிய<br>Summid செய்து அரவரங்கள் விலங்குகள் ஆகிலவற்றின் வளர்சிக்க என்ற வணையில்                                                                                               |  |  |  |
| (அழுளம்கள்ள திபத்தளைகளை அறிய<br>சுற்றுத்தும்! சாந்த புகர்கழுக்கு செ | ு<br>பாரிவேஷ் (repulpaneduncia) என்றே இளையுவந்தைப் பார்கையியலம் மேலும் எந்தவித<br>என்னையில் உள்ள சுற்றுச்துரன் மற்றும் வன அளவச்சகத்தின் முருக்கிணைந்த வட்டார<br>நமிழ்நாடு மாசு கட்டுப்பாடு வாரியத்தின் மாவட்ட சுற்றுச்துரன் பொறியானை அறுகளும். |  |  |  |

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# Discussion by SEIAA and the Remarks: -

The proposal was placed in the 593<sup>rd</sup> Authority meeting held on 17.02.2023. The authority noted that the subject was appraised in 348<sup>th</sup> SEAC meeting held on 19.01.2023. SEAC has furnished its recommendations for granting Environmental Clearance subject to the conditions stated therein.

After detailed discussions, the Authority taking into account the safety aspects and to ensure sustainable, scientific and systematic mining, decided to grant Environmental Clearance for the quantity of 15300m3 of Rough stone and depth restricted up to 32m BGL as per the mine plan approved by the Department of Geology & Mining. This is also subject to the standard conditions as per Annexure - (I) of SEAC minutes, other normal conditions stipulated by MOEF&CC & all other specific conditions as recommended by SEAC in addition to the following conditions and the conditions in Annexure 'A' of this minutes.

- Keeping in view of MoEF& CC's notification S.O.1533(E) dated.14.09.2006 and S.O. 1807(E) dated 12.04.2022, this Environmental Clearance is valid as per the approved mine plan period.
- The EC granted is subject to review by District Collector, Mines Dept. and TNPCB on completion of every 5 years till the project life. They should also review the EC conditions to ensure that they have all been adhered to and implemented.
- The project proponent shall furnish a Certified Compliance Report obtained from MoEF& CC while seeking a renewal of the mining plan to cover the project life.
- The progressive and final mine closure plan including the green belt implementation and environmental norms should be strictly followed as per the EMP.
- 5.The project proponent shall store/dump Top soil, Weathered Rock & Granite Waste generated within the earmarked area of the project site and the utilize the same for mine closure as per the approved mine closure plan

#### Annexure 'A'

#### **EC** Compliance

 The Environmental Clearance is accorded based on the assurance from the project proponent that there will be full and effective implementation of all the undertakings given in the Application Form, Pre-feasibility Report, mitigation measures as assured in the Environmental Impact Assessment/ Environment

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- Management Plan and the mining features including Progressive Mine Closure Plan as submitted with the application.
- 2. All the conditions as presented by the proponent in the PPT during SEAC appraisal should be addressed in Full.
- 3. The proponent shall submit Compliance Reports on the status of compliance of the stipulated EC conditions including results of monitored data. It shall be sent to the respective Regional Office of Ministry of Environment, Forests and Climate Change, Govt. of India and also to the Office of State Environment Impact Assessment Authority (SEIAA).
- 4. Concealing the factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

#### Applicable Regulatory Frameworks

5. The project proponent shall strictly adhere to the provisions of Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Biodiversity Conservation Act, 2016, the Biological Diversity Act, 2002 and Biological diversity Rules, 2004 and Rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter

#### Safe mining Practices

- 6. The AD/DD, Dept. of Geology &Mining shall ensure operation of the proposed quarry after the submission slope stability study conducted through the reputed research & Academic Institutions such as NIRM, IITs, NITS Anna University, and any CSIR Laboratories etc.
- The AD/DD, Dept. of Geology & Mining & Director General of Mine safety shall ensure strict compliance and implementation of bench wise recommendations/

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- action plans as recommended in the scientific slope stability study of the reputed research & Academic Institutions as a safety precautionary measure to avoid untoward accidents during mining operation.
- 8. A minimum buffer distance specified as per existing rules and statutory orders shall be maintained from the boundary of the quarry to the nearest dwelling unit or other structures, and from forest boundaries or any other ecologically sensitive and archeologically important areas or the specific distance specified by SEIAA in EC as per the recommendations of SEAC depending on specific local conditions.

# Water Environment - Protection and mitigation measures

- 9. The proponent shall ensure that the activity does not disturb the water bodies and natural flow of surface and groundwater, nor cause any pollution, to water sources in the area.
- 10. The proponent shall ensure that the activities do not impact the water bodies/wells in the neighboring open wells and bore wells. The proponent shall ensure that the activities do not in any way affect the water quantity and quality in the open wells and bore wells in the vicinity or impact the water table and levels. The proponent shall ensure that the activities do not disturb the river flow, nor affect the Odai, Water bodies, Dams in the vicinity.
- 11. Water level in the nearest dug well in the downstream side of the quarry should be monitored regularly and included in the Compliance Report.
- 12. Quality of water discharged from the quarry should be monitored regularly as per the norms of State Pollution Control Board and included in the Compliance Report.
- 13. Rain Water Harvesting facility should be installed as per the prevailing provisions of TNMBR/TNCDBR, unless otherwise specified. Maximum possible solar energy generation and utilization shall be ensured as an essential part of the project.
- 14. Regular monitoring of flow rates and water quality upstream and downstream of the springs and perennial nallahs flowing in and around the mine lease area shall be carried out and reported in the compliance reports to SEIAA.
- 15. Regular monitoring of ground water level and water quality shall be carried out around the mine area during mining operation. At any stage, if it is observed that

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ground water table is getting depleted due to the mining activity; necessary corrective measures shall be carried out.

16. Garland drains and silt traps are to be provided in the slopes around the core area to channelize storm water. De-silting of Garland canal and silt traps have to be attended on a daily basis. A labour has to be specifically assigned for the purpose. The proponent shall ensure the quality of the discharging storm water as per the General Effluent Discharge Standards of CPCB.

#### Air Environment - Protection and mitigation measures

- The activity should not result in CO<sub>2</sub> release and temperature rise and add to micro climate alternations.
- 18. The proponent shall ensure that the activities undertaken do not result in carbon emission, and temperature rise, in the area.
- 19. The proponent shall ensure that Monitoring is carried out with reference to the quantum of particulate matter during excavation; blasting; material transport and also from cutting waste dumps and haul roads.

#### Soil Environment - Protection and mitigation measures

- 20. The proponent shall ensure that the operations do not result in loss of soil biological properties and nutrients.
- 21. The proponent shall ensure that activity does not deplete the indigenous soil seed bank and disturb the mycorrizal fungi, soil organism, soil community nor result in eutrophication of soil and water.
- 22. The activities should not disturb the soil properties and seed and plant growth.
  Soil amendments as required to be carried out, to improve soil health.
- Bio remediation using microorganisms should be carried out to restore the soil environment to enable carbon sequestration.
- 24. The proponent shall ensure that the mine restoration is done using mycorrizal VAM, vermin-composting, Biofertilizers to ensure soil health and biodiversity conservation.
- 25. The proponent shall ensure that the topsoil is protected and used in planting activities in the area.
- 26. The proponent shall ensure that topsoil to be utilized for site restoration and Green belt alone within the proposed area.

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27. The top soil shall be temporarily stored at earmarked place (s) and used for land reclamation and plantation. The over burden (OB) generated during the mining operations shall be stacked at earmarked dump site(s) only. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. At critical points, use of geotextile shall be undertaken for stabilization of the dump. Protective wall or gabions should be made around the dump to prevent erosion / flow of sediments during rains. The entire excavated area shall be backfilled.

# Noise Environment - Protection and mitigation measures

- 28. The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.
- 29. The sound at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Hence, the PP shall ensure that the biological clock of the villages are not disturbed because of the mining activity.

#### Biodiversity - Protection and mitigation measures

- 30. The proponent should ensure that there is no disturbance to the agriculture plantations, social forestry plantations, waste lands, forests, sanctuary or national parks. There should be no impact on the land, water, soil and biological environment and other natural resources due to the mining activities.
- 31. No trees in the area should be removed and all the trees numbered and protected. In case trees fall within the proposed quarry site the trees may be transplanted in the Greenbelt zone. The proponent shall ensure that the activities in no way result in disturbance to forest and trees in vicinity. The proponent shall ensure that the activity does not disturb the movement of grazing animals and free ranging wildlife. The proponent shall ensure that the activity does not disturb the biodiversity, the flora & fauna in the ecosystem. The proponent shall ensure that the activity does not result in invasion by invasive alien species. The proponent shall ensure that the activities do not disturb the resident and migratory birds. The proponent shall ensure that the activities do not disturb the vegetation and wildlife in the adjoining reserve forests and areas around.

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- 32. The proponent shall ensure that the activities do not disturb the agro biodiversity and agro farms. Actions to be taken to promote agro forestry, mixed plants to support biodiversity conservation in the mine restoration effort.
- 33. The proponent shall ensure that all mitigation measures listed in the EIA/EMP are taken to protect the biodiversity and natural resources in the area.
- 34. The proponent shall ensure that the activities do not impact green lands/grazing fields of all types surrounding the mine lease area which are food source for the grazing cattle.

#### Climate Change

- 35. The project activity should not in any way impact the climate and lead to a rise in temperature.
- 36. There should be least disturbance to landscape resulting in land use change, contamination and alteration of soil profiles leading to Climate Change.
- 37. Intensive mining activity should not add to temperature rise and global warming.
- Operations should not result in GHG releases and extra power consumption leading to Climate Change.
- 39. Mining through operational efficiency, better electrification, energy use, solar usage, use of renewable energy should try to decarbonize the operations.
- 40. Mining Operation should not result in droughts, floods and water stress, and shortages, affecting water security both on site and in the vicinity.
- 41. Mining should not result in water loss from evaporation, leaks and wastage and should support to improve the ground water.
- 42. Mining activity should be flood proof with designs and the drainage, pumping techniques shall ensure climate-proofing and socio-economic wellbeing in the area and vicinity.

#### Green Belt Development

- 43. The proponent shall ensure that in the green belt development more indigenous trees species (Appendix as per the SEAC Minutes) are planted.
- 44. The proponent shall ensure the area is restored and rehabilitated with native trees as recommended in SEAC Minutes (in Appendix).

#### Workers and their protection

45. The project proponent is responsible for implementing all the provisions of labour laws applicable from time to time to quarrying/Mining operations. The workers on

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- the site should be provided with on-site accommodation or facilities at a suitable boarding place, protective equipment such as ear muffs, helmet, etc.
- 46. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
- 47. The workers shall be employed for working in the mines and the working hours and the wages shall be implemented/enforced as per the Mines Act, 1952.

#### Transportation

- 48. No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a bypass road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.
- 49. The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

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#### Storage of wastes

50. The project proponent shall store/dump the waste generated within the earmarked area of the project site for mine closure as per the approved mining plan.

#### CER/EMP

- The CER Should be fully Implemented and fact reflected in the Half-yearly compliance report.
- The EMP Shall also be implemented in consultation with local self-government institutions.
- 53. The follow-up action on the implementation of CER Shall be included in the compliance report.

#### Directions for Reclamation of mine sites

- 54. The mining closure plan should strictly adhere to appropriate soil rehabilitation measures to ensure ecological stability of the area. Reclamation/Restoration of the mine site should ensure that the Geotechnical, physical, chemical properties are sustainable that the soil structure composition is buildup, during the process of restoration.
- 55. The proponent shall ensure that the mine closure plan is followed as per the mining plan and the mine restoration should be done with native species, and site restored to near original status. The proponent shall ensure that the area is ecologically restored to conserve the ecosystems and ensure flow of goods and services.
- 56. A crucial factor for success of reclamation site is to select sustainable species to enable develop a self-sustaining eco system. Species selected should easily establish, grow rapidly, and possess good crown and preferably be native species. Species to be planted in the boundary of project site should be un palatable for cattle's/ goats and should have proven capacity to add leaf-litter to soil and decompose. The species planted should be adaptable to the site conditions. Should be preferably pioneer species, deciduous in nature to allow maximum leaf-litter, have deep root system, fix atmospheric nitrogen and improve soil productivity. Species selected should have the ability to tolerate altered pit and toxicity of and site. They should be capable of meeting requirement of local people in regard to fuel fodder and should be able to attract bird, bees and butterflies. The species should be planted in mixed association.

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- 57. For mining area reclamation plot culture experiments to be done to identify/ determine suitable species for the site.
- 58. Top soil with a mix of beneficial microbes (Bacteria/Fungi) to be used for reclamation of mine spoils. AM Fungi (Arbuscular mycorrhizal fungi), plant growth promoting Rhizo Bacteria and nitrogen fixing bacteria to be utilized.
- 59. Soil and moisture conservation and water harvesting structures to be used where ever possible for early amelioration and restoration of site.
- 60. Top soil is most important for successful rehabilitation of mined sites. Topsoil contains majority of seeds and plant propagation, soil microorganism, Organic matter and plant nutrients. Wherever possible the topsoil should be immediately used in the area of the for land form reconstruction, to pre mining conditions.
- 61. Over burdens may be analyzed and tested for soil characteristics and used in the site for revegetation. Wherever possible seeds, rhizome, bulbs, etc of pioneering spices should be collected, preserved and used in restoring the site.
- 62. Native grasses seeds may be used as colonizers and soil binders, to prevent erosion and allow diverse self- sustaining plant communities to establish. Grasses may offer superior tolerance to drought, and climatic stresses.
- 63. Reclamation involves planned topographical reconstruction of site. Care to be taken to minimize erosion and runoff. Topsoils should have necessary physical, chemicals, ecological, properties and therefore should be stored with precautions and utilized for reclamation process. Stocked topsoil should be stabilized using grasses to protect from wind. Seeds of various indigenous and local species may be broad casted after topsoil and treated overburden are spread.
- 64. Alkaline soils, acidic soils, Saline soils should be suitably treated/amended using green manure, mulches, farmyard manure to increase organic carbon. The efforts should be taken to landscape and use the land post mining. The EMP and mine closure plan should provide adequate budget for re-establishing the site to premining conditions. Effective steps should be taken for utilization of over burden. Mine waste to be used for backfilling, reclamation, restoration, and rehabilitation of the terrain without affecting the drainage and water regimes. The rate of rehabilitation should be similar to rate of mining. The land disturbed should be reshaped for long term use. Mining should be as far as possible be ecofriendly.

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- Integration of rehabilitation strategies with mining plan will enable speedy restoration.
- 65. Efforts should to taken to aesthetically improve the mine site. Generally, there are two approaches to restoration i.e Ecological approach which allows tolerant species to establish following the succession process allowing pioneer species to establish. The other approach i.e plantation approach is with selected native species are planted. A blend of both methods may be resorted to restore the site by adding soil humas and mycorrhiza.
- 66. Action taken for restoration of the site should be specifically mentioned in the EC compliances.

# Part-A: Conditions to be Complied before commencing mining operations: -

- The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that
  - I. The project has been accorded Environmental Clearance.
  - II. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.
  - III. Environmental Clearance may also be seen on the website of the SEIAA.
  - IV. The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.
- Mining activity should be reviewed by the District Collector after three years and decide for further extension.
- NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
- The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
- 5. A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.

MEMBER SECRETARY SEIAA-TN The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.

- Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
- 7. The proponent shall ensure that First Aid Box is available at site.
- 8. The excavation activity shall not alter the natural drainage pattern of the area.
- 9. The excavated pit shall be restored by the project proponent for useful purposes.
- The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
- 11. The quarrying operation shall be restricted between 7AM and 5 PM.
- 12. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
- A minimum distance of 50mts, from any civil structure shall be kept from the periphery of any excavation area.
- 14. The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
- 15. Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
- 16. Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
- Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
- 18. A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.
- The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF& CC, GoI on 16.11.2009.

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- 20. The following measures are to be implemented to reduce Air Pollution during transportation of mineral
  - Roads shall be graded to mitigate the dust emission.
  - Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust
- 21. The following measures are to be implemented to reduce Noise Pollution
  - i. Proper and regular maintenance of vehicles and other equipment
  - ii. Limiting time exposure of workers to excessive noise.
  - The workers employed shall be provided with protection equipment and earmuffs etc.
  - Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.
  - All noise generating machinery the compressor, generator to be enclosed in acoustic enclosure so as to reduce noise in working area.
- 22. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoEF& CC, Gol to control noise to the prescribed levels.
- 23. Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
- Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
- 25. Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
- 26. The following measures are to be adopted to control erosion of dumps: -
  - Retention/ toe walls shall be provided at the foot of the dumps.
  - Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.
- 27. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous& other wastes (Management, and Trans Boundary Movement) Rules, 2016 and its amendments thereof to the recyclers authorized by TNPCB.

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- 28. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
- 30. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
- 31. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out. District Collector/mining officer shall ensure this.
- No tree-felling shall be done in the leased area, except only with the permission from competent Authority.
- 33. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic Institution.
- 34. It shall be ensured that the total extent of nearby quarries (existing, abandoned and proposed) located within 500-meter radius from the periphery of this quarry is not exceeding 5 hectares within the mining lease period of this application.
- 35. It shall be ensured that there is no habitation is located within 300-meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 300m radius from the periphery of the quarry site.

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- Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
- Air sampling at intersection point should be conducted and reported to TNPCB,
   Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
- 38. Bunds to be provided at the boundary of the project site.
- 39. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.
- 40. Floor of excavated pit to be levelled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
- The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity
- 42. The Project Proponent shall provide solar lighting system to the nearby villages.
- 43. Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
- 44. Safety equipments to be provided to all the employees.
- 45. Safety distance of 50m has to be provided in case of railway, reservoir, canal/odai
- 46. The Assistant/Deputy Director, Department of Geology & mining shall ensure that the proponent has engaged the blaster with valid Blasting license/certificate obtained from the competent authority before execution of mining lease.
- 47. The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.
- 48. The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
- 49. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
- 50. The proponent has to display the name board at the quarry site showing the details of Proponent, lease period, extent, etc., with respect to the existing activity before execution of mining.

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- Heavy earth machinery equipments if utilized, after getting approval from the competent authority.
- 52. The Proponent shall ensure that the project activity including blasting, mining transportation etc should in no way have adverse impact to the other forests, such as reserve forests and social forests, tree plantation and bio diversity, surrounding water bodies etc.
- 53. The proponent shall provide Green Belt development at the rate of not less than 400 trees/Hectare. The tree saplings shall be not less than 3m height.
- 54. The fugitive emissions should be monitored during the mining activity and should be reported to TNPCB once in a month and the operation of the quarry should no way impact the agriculture activity & water bodies near the project site.
- 55. All the commitment made by the project proponent in the proposal shall be strictly followed.
- 56. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
- 57. All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
- 58. The company shall stress upon the preventive aspects of occupational health.
- 59. A separate environment and safety management cell with qualified staff shall be set up before commissioning of construction activities and shall be retained throughout the lifetime of the industry, for implementation of the stipulated environmental safeguards.
- 60. A scientific site/ ecological rehabilitation and restoration plan on long term basis should be drawn to carryout restoration with native species and Bio diversity.
- 61. The Green/Blue plan should guide the restoration of the site. The rehabilitation/restoration plan should be submitted to SEIAA-TN within one month. If applicable.
- 62. The existing water bodies should not be disturbed to ensure sustainable environment for aquatic life forms.

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- 63. The proponent should completely implement all environmental pollution control measures as detailed in the EIA report and in the additional report.
- 64. Avenue plantation wherever needed has to be carried out along the route for dust suppression.
- 65. The green belt developed for the prevention of dust pollution should not form a part of the larger green belt development envisaged in the EIA report.
- 66. Regular monitoring and check up for pulmonary and carcinogenic diseases to be carried out regularly, not only for the workers involved in the mines but also to the people in the villages adjoining the mines. Interaction with the Primary Health Centre & district medical officer should be on regular basis to monitor the incidence of the diseases if any and to provide suitable medical facility for the patients.
- 67. Monitoring of well water levels and water quality of the wells in the locations furnished in the EIA report shall be done during pre-monsoon and post monsoon period and results submitted to the Regional Office of MoEF, Chennai and SEIAA.
- 68. Monitoring of water quality and air quality in and around the project site in the selected monitoring points as mentioned in the EIA report shall be continued regularly involving Academic Institutions.
- 69. Hydro geological study including infiltration test shall be conducted by any reputed agency to estimate leachate quantity.
- 70. Regular medical check-up for mine workers and nearby residents around the project site involving community medical centre/NIMH shall be conducted.
- 71. As per norms, the health study should be conducted through competent/approved health organization and report submitted for one year.
- 72. The effective safe guard measures shall be provided to control particulate dust level in critical areas, transfer points and haul road within the mine area.
- 73. NOC from the State GWA for drawing ground water shall be obtained, if ground water table is intersected.
- 74. Green belt shall be provided as per norms of MoEF& CC, GOI, in consultation with local DFO.
- 75. All the recommendations made in the EIA report of the project shall be effectively implemented.

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- 76. A booklet containing the Dos and Don'ts shall be prepared in vernacular languages for the use of the mine engineers/ managers and the workers to ensure that all necessary environmental, safety and health measures are undertaken.
- 77. All the environmental protection measures and safeguards as recommended in the EIA report shall be complied with.
- 78. Hydro geological study of the area shall be reviewed annually and report submitted to the Authority. No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the operation of the Mining activity.
- 79. A separate Environmental Management Cell equipped with full fledged laboratory facilities to carry out the various Environmental Management and Monitoring functions shall be set up under the control of a Senior Executive.
- 80. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF at Chennai, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely, RSPM, SO2, NOx or critical sector parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

### Part B: General Conditions:

- EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.
- The Proponent shall obtain the Consent from the TNPC Board before commencing the activity.
- No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
- No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
- 5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality

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- parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
- A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
- Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
- 10. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
- 11. All Personnel shall be provided with protective respiratory devices including safety shoes, masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- 12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
- Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
- 14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
- 15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.

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- 16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
- 17. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance
- 18. The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.
- 19. The SEIAA, Tamil Nadu may cancel the Environmental Clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this Environmental Clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the Environmental Clearance.
- 20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
- 21. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Biodiversity Conservation Act, 2016, the Biological Diversity Act, 2002 and Biological diversity Rules, 2004 and Rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
- Any other conditions stipulated by other Statutory/Government authorities shall be complied
- 23. Any appeal against this Environmental Clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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24. The Environmental Clearance is issued based on the documents furnished by the project proponent. In case any documents found to be incorrect/not in order at a later date the Environmental Clearance issued to the project will be deemed to be revoked/ cancelled.

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### Copy to:

- 1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
- The Additional Chief Secretary to Government, Environment and Forests Department, Tamil Nadu.
- 3. The Additional Chief Secretary to Government, Industries Department, Tamil Nadu.
- The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1<sup>st</sup> & 2<sup>nd</sup> Floor, Cathedral Garden Road, Nungambakkam, Chennai – 34.
- The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
- 6. The Chairman, TNPC Board, 76, Mount Salai, Guindy, Chennai-32
- 7. The District Collector, Tiruppur District
- The Commissioner of Geology and Mines, Guindy, Chennai-32
- 9. El Division, Ministry of Environment & Forests, Paryavaran Bhawan, New Delhi.

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10. File Copy



# Pro-Active and Responsive Facilitation by Interactive, and Virtuous Environmental Single-Window Hub)



# Government of India Ministry of Environment, Forest and Climate Change (Issued by the State Environment Impact Assessment Authority(SEIAA), Tamil Nadu)

To,

The owner

THANGAMUTHUSAMY P RSG TIRUPPUR

Morattupalayam tiruppur -641602

Subject: Grant of Environmental Clearance (EC) to the proposed Project Activity

under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/TN/MIN/55451/2020 dated 18 Aug 2022. The particulars of the environmental clearance granted to the project are as below.

1. EC Identification No. EC23B001TN163085

File No.
 Project Type
 Category
 Page 1762
 New

5. **Project/Activity including** 1(a) Mining of minerals

Schedule No.

6. Name of Project P. Thangamuthusamy, Rough Stone and

Gravel Quarry Project over an Extent of

2.63.0Ha

7. Name of Company/Organization THANGAMUTHUSAMY P RSG

TIRUPPUR

8. Location of Project Tamil Nadu9. TOR Date 12 Mar 2021

The project details along with terms and conditions are appended herewith from page no 2 onwards.

(e-signed)
Thiru.Deepak S.Bilgi
Date: 14/03/2023
Member Secretary
SEIAA - (Tamil Nadu)



Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH.Please quote identification number in all future correspondence.

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

### STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY-TAMILNADU

3<sup>rd</sup> Floor, Panagal Maaligai, No.1, Jeenis Road, Saidapet, Chennai - 600 015. Phone No. 044-24359973 Fax No. 044-24359975

### ENVIRONMENTAL CLEARANCE

### Lr.No.SEIAA-TN/F.No.7762/1(a)/EC.No:5531/2020 dated:18.02.2023

Sub: SEIAA, TN - Proposed Rough Stone and Gravel quarry project over an extent of 2.63.0 Ha in S.F.No. 383/2A1(PART) & 382/2B at Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu by Thiru.P.Thangamuthusamy - under Category "B1" of Item 1(a) "Mining of Mineral Projects" of the Schedule to the EIA Notification, 2006 issue of Environmental Clearance - Regarding.

Ref:

- Your application submitted Terms of Reference dated: 24.08.2020.
- TOR Issued vide letter No.SEIAA.TN/F.No.7762/SEAC/ToR-865/2020 dated 12.03.2021.
- 3. Public Hearing conducted on 23.08.2021.
- Online Proposal No. SIA/TN/MIN/ 55451/2020 Dt. 24.09.2021.
- 5. Project proponent submitted EIA Report to SEIAA-TN on 27.09.2021
- Minutes of the 303<sup>rd</sup> SEAC meeting held on 18.08.2022.
- 7. Minutes of the 349th SEAC meeting held on 20.01.2023.
- 8. Minutes of the 594th SEIAA meeting held on 18.02.2023.

### Details of Minor Mineral Activity:-

This has reference to your application 4th & 5th cited. The proposal is for obtaining Environmental Clearance for mining / quarrying of minor minerals based on the particulars furnished in your application as shown below.

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| Sl. No. | Details of the proposal                                                                         | Data furnished                                                                                                                                         |  |
|---------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 1       | Name of the Owner/Firm                                                                          | Thiru.P.Thangamuthusamy                                                                                                                                |  |
|         |                                                                                                 | No.104, Komali Thottam                                                                                                                                 |  |
|         |                                                                                                 | Pichamapalayam Pudur                                                                                                                                   |  |
|         |                                                                                                 | Thottipalayam                                                                                                                                          |  |
|         |                                                                                                 | Tiruppur - 641 602                                                                                                                                     |  |
| 2.      | Type of quarrying                                                                               | Rough stone & Gravel quarry                                                                                                                            |  |
| 3.      | S.F No. Of the quarry site with area break-                                                     | 383/2A1(PART) & 382/2B                                                                                                                                 |  |
|         | up                                                                                              | U BO                                                                                                                                                   |  |
| 4.      | Village in which situated                                                                       | Morattupalayam                                                                                                                                         |  |
| 5.      | Taluk in which situated                                                                         | Uthukuli                                                                                                                                               |  |
| 6.      | District in which situated                                                                      | Tiruppur                                                                                                                                               |  |
| 7.      | Extent of quarry (in ha.)                                                                       | 2.63.0ha                                                                                                                                               |  |
| 8.      | Period of quarrying proposed                                                                    | 5 years                                                                                                                                                |  |
| 9.      | Type of mining                                                                                  | Opencast Mechanized Mining                                                                                                                             |  |
| 10.     | Production (Quantity in m³)                                                                     | As per the mining plan, the lease period is for 5 years and the total quantity of recoverable should not exceed 1,86,290 m <sup>3</sup> of Rough stone |  |
|         |                                                                                                 | & 2,352 m³ of gravel with an ultimate depth                                                                                                            |  |
|         | S CHARLES                                                                                       | of mining is 37m BGL (2m Gravel + 35m                                                                                                                  |  |
|         | 'e,                                                                                             | Rough stone). The annual peak production                                                                                                               |  |
|         | 70                                                                                              | and 2352 cu.m of Gravel As per ToR.                                                                                                                    |  |
|         | TCC+s if                                                                                        | 11°08'05.49"N to 11°08'12.66"N                                                                                                                         |  |
| 11.     | Latitude & Longitude of all corners of the                                                      | 77°25'14.04"E to 77°25'20.06"E                                                                                                                         |  |
| 10      | quarry site                                                                                     | 58 E/08                                                                                                                                                |  |
| 12.     | Topo Sheet No.                                                                                  | Manager                                                                                                                                                |  |
| 13.     | Man Power requirement per day:                                                                  | 23 Employees                                                                                                                                           |  |
| 14.     | Precise area communication approved by<br>the District Collector Tiruppur District with<br>date | Na.Ka.No.170/2020/Kannimam dated: 16.07.2020.                                                                                                          |  |

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| 15. | Mining Plan approved by the Deputy<br>Director of Geology and Mining with date                                                        | Rc. No. 170/2020/Mines dated: 29.07.2020.                                                               |
|-----|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| 16. | AD mines 500m cluster letter Deputy<br>Director of Geology and Mining with date                                                       | Rc. No. 170/2020/Mines dated: 29.07.2020.                                                               |
| 17. | Water requirement:                                                                                                                    | 2.5 KLD                                                                                                 |
|     | <ol> <li>Drinking &amp; domestic purposes (in<br/>KLD)</li> </ol>                                                                     | 0.5 KLD                                                                                                 |
|     | 2. Dust suppression                                                                                                                   | 1.0 KLD                                                                                                 |
|     | 3. Green Belt (in KLD)                                                                                                                | 1.0 KLD                                                                                                 |
| 18. | Power requirement:                                                                                                                    | <b>19</b>                                                                                               |
|     | a. Domestic Purpose                                                                                                                   | TNEB                                                                                                    |
|     | b. Machinery Works                                                                                                                    | 1,84,454 Liters of HSD                                                                                  |
| 19. | Depth of Mining                                                                                                                       | 37m (2m Gravel + 35m Rough Stone) As per                                                                |
|     | / 9 // 36                                                                                                                             | ToR                                                                                                     |
| 20. | Depth of water table                                                                                                                  | 62m -58m                                                                                                |
| 21. | Whether any habitation within 300m distance                                                                                           | No                                                                                                      |
| 22. | Project Cost                                                                                                                          | Rs,57.50 Lakhs                                                                                          |
| 23. | EMP cost                                                                                                                              | Rs.125.24 lakhs                                                                                         |
| 24. | CER cost                                                                                                                              | Rs.5 lakhs                                                                                              |
| 25. | VAO letter dated                                                                                                                      | 24.07.2020                                                                                              |
| 26. | ToR issued                                                                                                                            | Lr.No.SEIAA-TN/F.No.7762/SEAC/TOR-                                                                      |
|     | Public Hearing Details                                                                                                                | 865/2020 Dated 12.03.2021.                                                                              |
| 27. | Public Hearing Details                                                                                                                | Public hearing conducted on Dated:23.08.2021.                                                           |
| 28. | EIA Report Received                                                                                                                   | EIA received on : 27.09.2021                                                                            |
| 29. | Validity:                                                                                                                             |                                                                                                         |
|     | This Environmental Clearance is accorded & 2,352 m <sup>3</sup> of Gravel up to depth of 37m valid for the approved mine plan period. | d for the quantity 1,86,290 m <sup>3</sup> of Rough stone<br>BGL as per the approved mining plan and is |

The Proponent has furnished affidavit in Hundred Rupees stamp paper attested by the Notary stating that I, P. Thangamuthusamy, S/o. Palanisamy Gounder, No. 104, Komali Thottam, Pichamapalayam Pudur, Thottipalayam, Tiruppur District, Tamil Nadu State – 641 602, solemnly declare and sincerely affirm that:

I have apply for getting Environment Clearance to Appropriate Authorities, Tamil Nadu for quarry lease for quarrying of Rough stone and Gravel Quarry over an extent of 2.63.0 Hectares of patta land in S.F.Nos. 383/2A1(Part) and 382/2B of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.

- I swear to state and confirm that within 10km area of the quarry site, I have applied for environment 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,
  - c. Eco-Sensitive areas as notified,
  - d. Interstate boundaries within 10km radius from the boundary of the proposed site.
- I will spend the amount of Rs.5 Lakhs towards Corporate Environment Responsibility (Revised CER) for the following activities to the Government Higher Secondary School, Morattupalayam, Tiruppur District before commencement of quarrying activities.

| SL<br>No. | Description                                             | CER Cost INR  |
|-----------|---------------------------------------------------------|---------------|
| 1         | Renovation of Existing toilet                           |               |
| 2         | Providing Environmental related books to school library |               |
| 3         | Plantation in school ground                             | Rs.5,00,000/- |
| 4         | Construction of drinking water tank                     |               |
| 5         | Repair works to school furniture and benches            |               |

The following quarries are located within the radius of 500m from the periphery of my quarry.

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**Existing Quarries** 

| SI.<br>No. | Name of the<br>Lessee | Village        | S.F.No.                          | Extent<br>Hect | Collector's<br>Proceedings No<br>& Date | Lease<br>Period                |
|------------|-----------------------|----------------|----------------------------------|----------------|-----------------------------------------|--------------------------------|
| 1.         | N.Ayyadurai           | Morattupalayam | 392 Part                         | 3.52.0         | 182/Mines/2015<br>Dated: 23.09.2016     | 23.09.2016<br>To<br>22.09.2021 |
| 2.         | T.Thangaraj           | Morattupalayam | 383/2A2B                         | 0.89.5         | 299/Mines/2015<br>Dated: 13.01.2016     | 20.01.2016<br>To<br>19.01.2021 |
| 3.         | M.Thangaraj           | Morattupalayam | 389/IB1A,<br>389/IB1B<br>389/IB2 | 2.19,5         | 357/Mines/2015<br>Dated: 15.01.2016     | 21.01.2016<br>To<br>20.01.2021 |
| 4.         | M.Palanisamy          | Morattupalayam | 385/2 (Part)                     | 0.57.5         | 300/Mines/2015<br>Dated: 13.01.2016     | 21.06.2016<br>To<br>20.01.2021 |
| 5.         | K.Karuppusamy         | Morattupalayam | 383/1(P),<br>383/2A2A1(P)        | 0.71.5         | 529/Mines/2015<br>Dated: 21,09,2016     | 21.09.2016<br>To<br>20.09.2021 |
| 6.         | S.Raja                | Morattupalayam | 382/2A(P)                        | 1.98.5         | 105/Mines/2017<br>Dated: 25.09.2018     | 25.09.2018<br>To<br>24.09.2023 |

Abandoned / Expired Quarries

| SI.<br>No. | Name of the Lessee | Village        | S.F. No. | Extent<br>Hect | Expired on |
|------------|--------------------|----------------|----------|----------------|------------|
| 1.         | T.S.Udhaya Kumar   | Morattupalayam | 389/1C   | 0.89.0         | 25.05.2020 |
| 2.         | S.Raju             | Morattupalayam | 389/1B1  | 1.62.0         | 23.06.2020 |

Present Proposed Quarries

| SI.<br>No. | Name of the Lessee | Village        | S.F. No.              | Extent<br>Hect | Expired on                |
|------------|--------------------|----------------|-----------------------|----------------|---------------------------|
| 1.         | M.Thangaraj        | Morattupalayam | 383/2B2               | 1.51.0         | Nearby<br>Applied<br>Area |
| 2.         | P.Thangamuthusamy  | Morattupalayam | 383/2A1(P),<br>382/2B | 2.63.0         | Proposed<br>Area          |

- There will not be hindrance or disturbance to the people living during quarrying activities and transportation of the mineral.
- 5. There is no approved habitation within 300m radius from the periphery of my quarry.
- I swear that afforestation will be carried out during the course of quarrying operation and maintained.
- The required insurance will be taken in the name of the laborers working in my quarry site.
- The approach road from the main road to quarry area is already existence and same will be maintained in a good condition for the haulage of quarry materials.
- I will not engage any child labor in our quarry site and I aware that engaging child labor is punishable under the law.
- All types of safety / protective equipment will be provided to all the laborers working in my quarry.
- No permanent structures, temples etc., are located within 500m radius from the periphery of my quarry.

I ensure to do all the social and Environment commitment as mentioned in the Mining Plan to the best of my knowledge

# Details of Quarries located within 500M radius from the proposed quarry:

The Project Proponent has submitted a copy of the letter obtained from the Deputy Director Department of Geology & Mining, Tiruppur District in his letter Rc.No.170/2020/Mines dated 29.07.2020 has stated that the details of other quarries within a radius 500m from the boundary of the proposed quarry site as follows:

a. Existing Quarries

| SI. | Name of the | Village        | S.F.No.  | Extent<br>Hect | Collector's<br>Proceedings No & Date | Lease<br>Period                |
|-----|-------------|----------------|----------|----------------|--------------------------------------|--------------------------------|
| 1.  | N.Ayyadurai | Morattupalayam | 392 Part | 3.52.0         | 182/Mines/2015<br>Dated: 23.09.2016  | 23.09.2016<br>To<br>22.09.2021 |
| 2.  | T.Thangaraj | Morattupalayam | 383/2A2B | 0.89.5         | 299/Mines/2015<br>Dated: 13.01.2016  | 20.01.2016<br>To<br>19.01.2021 |

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| 3. | M.Thangaraj   | Morattupalayam | 389/1B1A,<br>389/1B1B<br>389/1B2 | 2.19.5 | 357/Mines/2015<br>Dated: 15.01.2016 | 21.01.2016<br>To<br>20.01.2021 |
|----|---------------|----------------|----------------------------------|--------|-------------------------------------|--------------------------------|
| Ã: | M.Palanisamy  | Morattupalayam | 385/2 (Part)                     | 0.57.5 | 300/Mines/2015<br>Dated: 13.01.2016 | 21.06.2016<br>To<br>20.01.2021 |
| 5. | K.Karuppusamy | Morattupalayam | 383/1(P),<br>383/2A2A1(P)        | 0.71.5 | 529/Mines/2015<br>Dated: 21.09.2016 | 21.09.2016<br>To<br>20.09.2021 |
| 6. | S.Raja        | Morattupalayam | 382/2A(P)                        | 1.98.5 | 105/Mines/2017<br>Dated: 25.09.2018 | 25.09.2018<br>To<br>24.09.2023 |

### b. Abandoned / Expired Quarries

| SI.<br>No. | Name of the Lessee | Village        | S.F. No. | Extent<br>Heet | Expired on |
|------------|--------------------|----------------|----------|----------------|------------|
| 1.         | T.S.Udhaya Kumar   | Morattupalayam | 389/1C   | 0.89.0         | 25.05.2020 |
| 2.         | S.Raju             | Morattupalayam | 389/1B1  | 1.62.0         | 23.06.2020 |

### c. Present Proposed Quarries

| SI.<br>No. | Name of the Lessee | CVillage S     | S.F. No.              | Extent<br>Hect | Expired on             |
|------------|--------------------|----------------|-----------------------|----------------|------------------------|
| 1.         | M.Thangaraj        | Morattupalayam | 383/2B2               | 1.51.0         | Nearby<br>Applied Area |
| 2.         | P.Thangamuthusamy  | Morattupalayam | 383/2A1(P),<br>382/2B | 2.63.0         | Proposed<br>Area       |

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### Appraisal by SEAC:-

Proposed Rough Stone and Gravel quarry project over an extent of 2.63.0 Ha in S.F.No. 383/2A1(PART) & 382/2B at Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu by Thiru.P.Thangamuthusamy - For Environmental Clearance.

(SIA/TN/MIN/55451/2020 dated: 24.09.2021)

The project proposal was placed in the 303<sup>rd</sup> SEAC meeting held on 18.08.2022. The details of the project furnished by the proponent are given in the website (parivesh.nic.in).

### The SEAC noted the following:

- The project proponent, Thiru.P. Thangamuthusamy has applied for Environmental Clearance for the proposed Rough Stone and Gravel quarry lease over an extent of 2.63.0 ha at S.F.No.383/2A1(P) & 382/2B of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.
- The project/activity is covered under Category "B1" of Item 1(a) "Mining of Mineral Projects" of the Schedule to the EIA Notification, 2006.
- As per the mining plan, the lease period is for 5 years and the total quantity of recoverable should not exceed 1,86,290m³ of Rough stone & 2,352m³ of gravel with an ultimate depth of mining is 37m BGL (2m Gravel + 35m Rough stone) [As per ToR issued].
- ToR issued vide Lr.No.SEIAA-TN/F.No.7762/SEAC/TOR-865/2020 Dated 12.03.2021.
- 5. Public hearing conducted on 23.08.2021.

Based on the presentation & details furnished by the PP, the SEAC decided to call for the following details.

 The PP shall furnish the certified compliance report from the MoEF&CC /TNPCB on the Existing EC issued.

On receipt of the reply, the Committee decided to deliberate further and to decide on future course of action.

Now the project proposal was placed in 349th SEAC meeting held on 20.01.2023.

Based on the presentation and documents furnished by the project proponent, SEAC decided to recommend the proposal for the grant of Environmental Clearance for total excavation quantity of 1,86,290m<sup>3</sup> of Rough Stone and 2352m<sup>3</sup> of gravel not exceeding the annual peak production of 47530m<sup>3</sup> of Rough Stone and 2352m<sup>3</sup> of gravel with maintaining an ultimate pit depth of 37m bgl subject to the standard conditions as per the Annexure I of this minutes & normal conditions

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- The prior Environmental Clearance granted for this mining project shall be valid
  for the project life including production value as laid down in the mining plan approved
  and renewed by competent authority, from time to time, subject to a maximum of thirty
  years, whichever is earlier vide MoEF&CC Notification S.O. 1807(E) dated 12.04.2022.
- The PP shall inform the notice of opening of the quarry to the Director of Mines Safety (DMS)/Chennai Region and get the necessary statutory permission under the MMR 1961 before obtaining the CTO.
- The mine manager and other statutory competent persons such as blaster (or) mine mate shall be
  appointed as per the provisions of Mines Act 1952 and Metalliferous Mines Regulations,
  1961before the obtaining the CTO from the DEE/TNPCB.
- 4. The proponent shall maintain the 'S3 (or) G2' type of fencing all around the boundary of the proposed working quarry with gates for entry/exit before the commencement of the operation as recommended in the DGMS Circular, 11/1959 and shall furnish the photographs showing the same before obtaining the CTO from TNPCB.
- Further, the PP shall maintain the garland drain with proper size, gradient and length along the boundary of the pit leaving behind the mandatory safety zone of 7.5 / 10 m as it is designed to take care of run-off water (size, gradient and length) before obtaining the CTO from TNPCB.
- 6. The PP shall use the area of excavation shown in section along X1-Y1 & C-D in the 'Year wise Production Plan' of the Mining Plan for the construction of ramp accessibility in the proposed quarry following the DGMS Haul Road guidelines provided under MMR 1961 without deviation.
- The PP shall ensure that the benches & haul road are properly designed and formed in accordance with the provisions of MMR 1991.
- 8. The Project Proponent (PP) shall submit a 'Slope stability action plan' incorporating the realignment of benches with adequate design considering the safety of men working for the proposed quarry lease as the depth is exceeding 30 m after having approved by the concerned AD (Geology & Mines) to the DEE/TNPCB before obtaining CTO.
- 9. No 'Deep-hole large diameter drilling and blasting' is permitted in the proposed quarry.
- 10. The PP shall use the jack hammer drill machine fitted with the dust extractor for the drilling operations such that the fugitive dust is controlled effectively at the source.

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- 11. The PP shall ensure that the blasting operations are carried out by the blaster/Mine Mate/Mine Foreman employed by him in accordance with the provisions of MMR 1961 and it shall not be carried out by the persons other than the above statutory personnel.
- 12. The PP shall ensure that the blasting operations shall be carried out during a prescribed time interval with a prior notice to the habitations situated around the proposed quarry after having posted the sentries/guards adequately to confirm the non-exposure of public within the danger zone of 500 m from the boundary of the quarry.
- 13. Within one year from the commencement of mining operations, the PP shall carry out the scientific studies in coordination with the other quarry owners located in the cluster domain on 'Design of Suitable blast parameters for reducing the cumulative impact of blast-induced ground/air vibrations and fly rock caused due to operation of the quarries in the cluster by adopting appropriate controlled blasting techniques', by involving any of the reputed Research and Academic Institution such as CSIR-Central Institute of Mining and Fuel Research / Dhanbad, NIRM, IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus, etc shall be carried out before the commencement of mining operations. A copy of such scientific study report shall be submitted to the SEIAA, MoEF, TNPCB, and DMS, Chennai as a part of Environmental Compliance
- 14. The PP shall meticulously carry out the mitigation measures as spelt out in the revised EMP.
- 15. The Project Proponent shall ensure that the funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Yearwise expenditure should be reported to the MoEF& CC Ministry and its Integrated Regional Office (IRO) located in Chennai.
- 16. The Project Proponent shall send a copy of the clearance letter marked to concerned Panchayat from whom any suggestion/representation has been received while processing the proposal.
- 17. The PP shall carry out the scientific studies to assess the slope stability of the benches and quarry wall when the depth of the quarry touches 30 m (or) after the completion of 4 years of operation whichever is earlier, by involving any of the reputed Research and Academic Institution such as CSIR-Central Institute of Mining and Fuel Research / Dhanbad, NIRM, IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus, etc shall be carried out before the commencement of mining operations. A copy of such scientific study report shall be

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- submitted to the SEIAA, MoEF, TNPCB, and DMS, Chennai as a part of Environmental Compliance.
- 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 adhere EMP furnished.
- 19. As accepted by the Project proponent the CER cost is Rs. 5 lakhs and the amount shall be spent towards the Govt High School, Morattupalayam, Tiruppur for the activities as committed, before obtaining CTO from TNPCB.

### ANNEXURE - 1

- The proponent shall mandatorily appoint the required number of statutory officials and the competent persons in relevant to the proposed quarry size as per the provisions of Mines Act 1952 and Metalliferrous Mines Regulations, 1961.
- The proponent shall erect fencing all around the boundary of the proposed area with gates for entry/exit before the commencement of the operation and shall furnish the photographs/map showing the same before obtaining the CTO from TNPCB.
- Perennial maintenance of haulage road/village / Panchayat Road shall be done by the project proponent as required in connection with the concerned Govt. Authority.
- 4. The Project proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form of Short Term Permit (STP), Query license or any other name.
- 5. The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.

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- 6. The proponent shall ensure that the slope of dumps is suitably vegetated in scientific manner with the native species to maintain the slope stability, prevent erosion and surface run off. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps.
- 7. Perennial sprinkling arrangement shall be in place on the haulage road for fugitive dust suppression. Fugitive emission measurements should be carried out during the mining operation at regular intervals and submit the consolidated report to TNPCB once in six months.
- 8. The Project proponent shall carry out slope stability study by a reputed academic/research institution such as NIRM, IIT, Anna University for evaluating the safe slope angle if the proposed dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC, Govt. of India, Chennai as well as SEIAA, Tamil Nadu.
- 9. The Proponent shall ensure that the Noise level is monitored during mining operation at the project site for all the machineries deployed and adequate noise level reduction measures undertaken accordingly. The report on the periodic monitoring shall be submitted to TNPCB once in 6 months.
- 10. Proper barriers to reduce noise level and dust pollution should be established by providing greenbelt along the boundary of the quarrying site and suitable working methodology to be adopted by considering the wind direction.
- 11. The PP shall carryout the plantation as committed within one year after commencement of operation.
- 12. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
- Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted with proper spacing as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner

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- 14. Noise and Vibration Related: (i) The Proponent shall carry out only the Controlled Blasting operation using NONEL shock tube initiation system during daytime. Usage of other initiation systems such as detonating cord/fuse, safety fuse, ordinary detonators, cord relays, should be avoided in the blasting operation. The mitigation measures for control of ground vibrations and to arrest fly rocks should be implemented meticulously under the supervision of statutory competent persons possessing the I / II Class Mines Manager / Foreman / Blaster certificate issued by the DGMS under MMR 1961, appointed in the quarry. No secondary blasting of boulders shall be carried out in any occasions and only the Rock Breakers (or) other suitable non-explosive techniques shall be adopted if such secondary breakage is required. The Project proponent shall provide required number of the security sentries for guarding the danger zone of 500 m radius from the site of blasting to ensure that no human/animal is present within this danger zone and also no person is allowed to enter into (or) stay in the danger zone during the blasting. (ii) Appropriate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs, (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone.
- 15. Ground water quality monitoring should be conducted once in every six months and the report should be submitted to TNPCB.
- 16. The operation of the quarry should not affect the agricultural activities & water bodies near the project site and a 50m safety distance from water body should be maintained without carrying any activity. The proponent shall take appropriate measures for "Silt Management" and prepare a SOP for periodical de-siltation indicating the possible silt content and size in case of any agricultural land exists around the quarry.
- 17. The proponent shall provide sedimentation tank / settling tank with adequate capacity for runoff management.
- 18. The proponent shall ensure that the transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village Road and shall take adequate safety precautionary measures while the vehicles are passing through the schools / hospital. The Project proponent shall ensure that the road may not be damaged due to transportation of the quarried rough stones; and transport of rough stones will be as per IRC Guidelines with respect to complying with traffic congestion and density.

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- 19. To ensure safety measures along the boundary of the quarry site, security guards are to be posted during the entire period of the mining operation.
- 20. After mining operations are completed, the mine closure activities as indicated in the mine closure plan shall be strictly carried out by the Proponent fulfilling the necessary actions as assured in the Environmental Management Plan.
- 21. The Project proponent shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition that is fit for the growth of fodder, flora, fauna etc.
- 22. The Project proponent shall comply with the provisions of the Mines Act, 1952, MMR 1961 and Mines Rules 1955 for ensuring safety, health and welfare of the people working in the mines and the surrounding habitants.
- 23. The project proponent shall ensure that the provisions of the MMRD, 1956, the MCDR 2017 and Tamil Nadu Minor Mineral Concession Rules 1959 are compiled by carrying out the quarrying operations in a skillful, scientific and systematic manner keeping in view proper safety of the labour, structure and the public and public works located in that vicinity of the quarrying area and in a manner to preserve the environment and ecology of the area.
- 24. The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be informed to the District AD/DD(Geology and Mining) District Environmental Engineer (TNPCB) and the Director of Mines Safety (DMS), Chennai Region by the proponent without fail.
- 25. The Project proponent shall abide by the annual production scheduled specified in the approved mining plan and if any deviation is observed, it will render the Project proponent liable for legal action in accordance with Environment and Mining Laws.
- 26. Prior clearance from Forestry & Wild Life including clearance from committee of the National Board for Wildlife as applicable shall be obtained before starting the quarrying operation, if the project site attracts the NBWL clearance, as per the existing law from time to time.
- 27. All the conditions imposed by the Assistant/Deputy Director, Geology & Mining, concerned District in the mining plan approval letter and the Precise area communication letter issued by concerned District Collector should be strictly followed.
- 28. The Project proponent shall install a Display Board at the entrance of the mining lease area/abutting the public Road if applicable, about the project as per Appendix –II of this Minutes.

MEMBER SECRETARY

SEIAA-TN

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# Appendix -I List of Native Trees Suggested for Planting

| No | The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon | Tamil Name         | Tamil Name                     |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------|
| 1  | Avgle marmelos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Vilvam             | ajacano                        |
| 2  | Astenaanthere pavenina                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Manjadi            | व्यक्तमञ्जू<br>अञ्चलकार्वेद्या |
| 3  | Albinia lebbeck                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Vaagai             | 91894                          |
| 4  | Albizia amara                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Usil               | a_£60                          |
| 5  | Saulunia purpurea                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Mantharai          | மந்தானர                        |
| 6  | Bauhmia racemosa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Aathi              | 456                            |
| 7  | Bauluma tomentos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Iruvathi           | இருவந்தி                       |
| 8  | Buchanania axillaris                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Kattuma            | காட்டுமா                       |
| 9  | Borassus flabellifer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Panai              | USHII                          |
| 10 | Buten monosperma                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Murukkamaram       | முகுக்கழைம்                    |
| 11 | Bobax ceiba                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Ilavu, Sevvilavu   | Same .                         |
| 12 | Calophylium inophylium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Punnai             | Usea                           |
| 13 | Cassia fistula                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Sarakondrai        | sys@snamp                      |
| 14 | Cassia roxburgini                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Sengondrai         | செங்கொன்றை                     |
| 15 | Chloroxylon sweitenia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Purasamaram        | LIFA COTO                      |
| 16 | Cochlospermum religiosum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Kongu, Manjalllavu | Carries, conjunt<br>Serve      |
| 17 | Cordia dichotoma                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Namwuli            | 339sf.                         |
| 18 | Creteva adansoni                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Mavalingum         | மாவிலங்கம்                     |
| 19 | Dillenia indica                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Uva, Uzha          | <b>0_81</b>                    |
| 20 | Dillenia pentagyna                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | SiruUva, Sitruzha  | ச்ற உள                         |
| 21 | <b>Diospyro sebenum</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Karungali          | #@sisted                       |
| 22 | Diospyro schloroxylon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Vaganai            | Set Local                      |
| 3  | Ficus amplissima                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Kalltchi           | an Bra                         |
| 14 | Hibiscus tiliaceou                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Aatrupoovarasu     | Sample, more                   |
| 15 | Hardwickia binata                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Aacha              | 26221                          |
| 6  | Holoptelia integrifolia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Aayili             | ஆயா மும், ஆயில்                |
| 7  | Lannea coromandelica                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Odhiam             | அதியம்                         |
| 8  | Lagerstroemia speciosa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Poo Marudhu        | U MBE                          |
| 9  | Lepisanthus tetraphylla                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Neikottaimaram     | தேப் கொட்டடை மற                |
| 0  | Limonia acidissima                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Vila maram         | வீலா மரம்                      |
| 1  | Litsea glutinos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Pisinpattai        | அரம்பா புரின்பட்டை             |
| 2  | Madhuca longifolia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Illuppai           | Spiseu                         |
| 3  | Manilkara hexandra                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | UlakkaiPaalai      | B_KIÉSKE UTIMO                 |
| 4  | Minusops clengi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Magizhamaram       | மகிழமரம்                       |
| 5  | Mitragyna parvifolia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Kadambu            | #LING                          |
| 6  | Morinda pubescens                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Nuna               | yan                            |
| 7  | Morinda citrifolia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Vellai Nuna        | Gostom grant                   |
| 3  | Phoenix sylvestre                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Eachai             | waantip                        |
| )  | Ponyamia pinnut                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Pungam             | ujimb                          |

| 40 | Premna mellissima       | Munrai                  | урава.                     |
|----|-------------------------|-------------------------|----------------------------|
| 41 | Promna serratifolia     | Narumunnai              | ந்த முன்ன                  |
| 42 | Primina tomunitosa      | Malaipoovarasu          | mean flett                 |
| 43 | Prosopis cineroa        | Vanni maram             | क्रक्रंडी प्रकृष           |
| 44 | Pterocurpus mae supinen | Vengai                  | Sersims.                   |
| 45 | Рінговрегним свиевсеня  | Vennangu, Tada          | Geseterning                |
| 46 | Pterespermum xylocarpum | Folavu                  | risted                     |
| 47 | Puthranjina roxburghi   | Karipala                | ağunut                     |
| 46 | Salvadora persica       | Ugaa Maram              | BEET USG                   |
| 49 | Squadus enarginatus     | Manipungan,<br>Soapukai | Benitykenii<br>Benitykenii |
| 50 | Sanaca aseca            | Asoca                   | estatur.                   |
| 51 | Strebbis asper          | Piray maram             | climic romo                |
| 52 | Strychnes muxpemic      | Yetti                   | en.is                      |
| 53 | Strychnes potatorum     | Therthang Kottai        | BASATA GATLEL              |
| 54 | <b>Syrygium cumini</b>  | Naval                   | 31000                      |
| 55 | Terminalia belleric     | Thandri                 | gradi.                     |
| 56 | Terminalia arjuna       | Ven marudhu             | மேன் மருது<br>-            |
| 57 | Toosa ciliste           | Sandhana vembu          | oppa Booti                 |
| 58 | Thespenia populment     | Puvarasu                | rietz.                     |
| 59 | Walouratrifoliate       | valsura                 | tutri.421                  |
| 60 | Wrightia finctoria      | Veppalai                | Gailman                    |
| 61 | Pithocellobium dulce    | Kodukkapuli             | GERBERTANT                 |

### Appendix-II Display Board (Size 6' x5' with Blue Background and White Letters)

| came ung grampe fi<br>Caulum Ghanar applant girl int<br>printing<br>upunghanian Gumbayar applant<br>enterflamo.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | confide existence and Cook parases Cook (Vi                                                                                                                                                                                                  |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ecialumgide agai premi Afrikata. Mintes idenut finate Committà                                                                                                                                                                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | желебіні шель офил. ядынару жарын (шебініне ФафОлектия Семеніўкі).                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | menaminat Geologia intengidai una egizany ameligia pameling ipangana<br>amelik melandai rossuma aminai Gung Gouldan Guntagia.                                                                                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | து அரச்சம் அனைவடில் ஓச்சி மாவடையை, பும் குறைப்புதற்காக குவாற்கின் என்னையும்<br>அவரி அடர்க்கொண்டுக்கும் புகுதியை அற்படுத்த வேண்டும்.                                                                                                          |
| and the same and the Alberta Cha                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ich herbiere einen beite wiede von einen einen erbente                                                                                                                                                                                       |
| nering Die Bridge ertribit Bere                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ந்தல் அளவு 85 OL Ruckets (அடி) அளவிற்கு வேல் ஏற்படாதவாறு நடித்த கட்டுப்பாதவான                                                                                                                                                                |
| netin ein allfant verit die                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | i aptiašģija sunor umburņaigāja piejas urgancių aigudais iugeliasudajniji<br>inim Orcijo jas Gundrijai.                                                                                                                                      |
| Remain automoty cultures also under                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | и сительной билорой еттости. Оди. 1845 року, сепцияль основную.                                                                                                                                                                              |
| and the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of th | e effermente confinct common firstement of confidences in the first state.                                                                                                                                                                   |
| Colombia and Labor to the State of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | wine a risk Deviant connection Studen, Sthirt and Street Vall, 1955 and an artist the recommendation                                                                                                                                         |
| apingglobyją sako Gungi.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ами и фарт Онинар барки шанадалд изда мунараменци суродальных р<br>из инвалита пиверти плантиямих фила Сонтона.                                                                                                                              |
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### Discussion by SEIAA and the Remarks:-

The subject was placed in the 594th Authority meeting held on 18.02.2023. The Authority noted that the subject was appraised in the 349th SEAC meeting held on 20.01.2023 and SEAC has furnished its recommendations for granting Environmental Clearance subject to the conditions stated therein.

After detailed discussions, the Authority decided to grant Environmental Clearance for the quantity of 186290 m3 of Rough Stone and the 2352 cu.m of Gravel with the depth of mining upto 37m BGL with the annual peak production shall not exceed 47,530cu.m of Rough stone and 2352 cu.m of Gravel as per the mine plan approved by the Department of Geology & Mining. This is also subject to the standard conditions as per Annexure - (1) of SEAC minutes, other normal conditions stipulated by MOEF&CC & all other specific conditions as recommended by SEAC in addition to the following conditions and the conditions in Annexure 'A' of this minutes.

- 1. Keeping in view of MoEF & CC's notification S.O.1533(E) dated.14.09.2006 and S.O. 1807(E) dated 12,04,2022, this Environmental Clearance is valid as per the approved mine plan period.
- 2. The EC granted is subject to review by District Collector, Mines Dept. and TNPCB on completion of every 5 years till the project life. They should also review the EC conditions to ensure that they have all been adhered to and implemented.
- 3. The project proponent shall furnish a Certified Compliance Report obtained from MoEF&CC while seeking a renewal of the mining plan to cover the project life.
- 4. The progressive and final mine closure plan including the green belt implementation and environmental norms should be strictly followed as per the EMP.
- 5. The project proponent shall store/dump generated within the earmarked area of the project site and the utilize the same for mine closure as per the approved mine closure plan.
- 6. As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 accepted by the Project proponent, the revised CER cost is Rs. 5.0 lakhs and the amount shall be spent for the activities detailed in the SEAC minutes before obtaining CTO from TNPCB.

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### Annexure-'A'

### **EC** Compliance

- The Environmental Clearance is accorded based on the assurance from the project proponent that there will be full and effective implementation of all the undertakings given in the Application Form, Pre-feasibilty Report, mitigation measures as assured in the Environmental Impact Assessment/ Environment Management Plan and the mining features including Progressive Mine Closure Plan as submitted with the application.
- All the conditions as presented by the proponent in the PPT during SEAC appraisal should be addressed in Full.
- The proponent shall submit Compliance Reports on the status of compliance of the stipulated EC conditions including results of monitored data. It shall be sent to the respective Regional Office of Ministry of Environment, Forests and Climate Change, Govt. of India and also to the Office of State Environment Impact Assessment Authority (SEIAA).
- Concealing the factual data or submission of false/fabricated data and failure to comply
  with any of the conditions mentioned above may result in withdrawal of this clearance and
  attract action under the provisions of Environment (Protection) Act, 1986.

### Applicable Regulatory Frameworks

5. The project proponent shall strictly adhere to the provisions of Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Biodiversity Conservation Act, 2016, the Biological Diversity Act, 2002 and Biological diversity Rules, 2004 and Rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter

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### Safe mining Practices

- The AD/DD, Dept. of Geology & Mining shall ensure operation of the proposed quarry after the submission slope stability study conducted through the reputed research & Academic Institutions such as NIRM, IITs, NITS Anna University, and any CSIR Laboratories etc.
- 7. The AD/DD, Dept. of Geology & Mining & Director General of Mine safety shall ensure strict compliance and implementation of bench wise recommendations/action plans as recommended in the scientific slope stability study of the reputed research & Academic Institutions as a safety precautionary measure to avoid untoward accidents during mining operation.
- 8. A minimum buffer distance specified as per existing rules and statutory orders shall be maintained from the boundary of the quarry to the nearest dwelling unit or other structures, and from forest boundaries or any other ecologically sensitive and archeologically important areas or the specific distance specified by SEIAA in EC as per the recommendations of SEAC depending on specific local conditions.

# Water Environment - Protection and mitigation measures

- The proponent shall ensure that the activity does not disturb the water bodies and natural flow of surface and groundwater, nor cause any pollution, to water sources in the area.
- 10. The proponent shall ensure that the activities do not impact the water bodies/wells in the neighboring open wells and bore wells. The proponent shall ensure that the activities do not in any way affect the water quantity and quality in the open wells and bore wells in the vicinity or impact the water table and levels. The proponent shall ensure that the activities do not disturb the river flow, nor affect the Odai, Water bodies, Dams in the vicinity.
- Water level in the nearest dug well in the downstream side of the quarry should be monitored regularly and included in the Compliance Report.
- 12. Quality of water discharged from the quarry should be monitored regularly as per the norms of State Pollution Control Board and included in the Compliance Report.
- 13. Rain Water Harvesting facility should be installed as per the prevailing provisions of TNMBR/TNCDBR, unless otherwise specified. Maximum possible solar energy generation and utilization shall be ensured as an essential part of the project.

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- 14. Regular monitoring of flow rates and water quality upstream and downstream of the springs and perennial nallahs flowing in and around the mine lease area shall be carried out and reported in the compliance reports to SEIAA.
- 15. Regular monitoring of ground water level and water quality shall be carried out around the mine area during mining operation. At any stage, if it is observed that ground water table is getting depleted due to the mining activity; necessary corrective measures shall be carried out.
- 16. Garland drains and silt traps are to be provided in the slopes around the core area to channelize storm water. De-silting of Garland canal and silt traps have to be attended on a daily basis. A labour has to be specifically assigned for the purpose. The proponent shall ensure the quality of the discharging storm water as per the General Effluent Discharge Standards of CPCB.

### Air Environment - Protection and mitigation measures

- 17. The activity should not result in CO2 release and temperature rise and add to micro climate alternations.
- 18. The proponent shall ensure that the activities undertaken do not result in carbon emission, and temperature rise, in the area.
- 19. The proponent shall ensure that Monitoring is carried out with reference to the quantum of particulate matter during excavation; blasting; material transport and also from cutting waste dumps and haul roads.

## Soil Environment - Protection and mitigation measures

- 20. The proponent shall ensure that the operations do not result in loss of soil biological properties and nutrients.
- 21. The proponent shall ensure that activity does not deplete the indigenous soil seed bank and disturb the mycorrizal fungi, soil organism, soil community nor result in eutrophication of soil and water.
- 22. The activities should not disturb the soil properties and seed and plant growth. Soil amendments as required to be carried out, to improve soil health.
- 23. Bio remediation using microorganisms should be carried out to restore the soil environment to enable carbon sequestration.

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- 24. The proponent shall ensure that the mine restoration is done using mycorrizal VAM, vermin-composting, Biofertilizers to ensure soil health and biodiversity conservation.
- 25. The proponent shall ensure that the topsoil is protected and used in planting activities in the area.
- 26. The proponent shall ensure that topsoil to be utilized for site restoration and Green belt alone within the proposed area.
- 27. The top soil shall be temporarily stored at earmarked place (s) and used for land reclamation and plantation. The over burden (OB) generated during the mining operations shall be stacked at earmarked dump site(s) only. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. At critical points, use of geotextile shall be undertaken for stabilization of the dump. Protective wall or gabions should be made around the dump to prevent erosion / flow of sediments during rains. The entire excavated area shall be backfilled.

### Noise Environment - Protection and mitigation measures

- 28. The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.
- 29. The sound at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Hence, the PP shall ensure that the biological clock of the villages are not disturbed because of the mining activity.

### Biodiversity - Protection and mitigation measures

- 30. The proponent should ensure that there is no disturbance to the agriculture plantations, social forestry plantations, waste lands, forests, sanctuary or national parks. There should be no impact on the land, water, soil and biological environment and other natural resources due to the mining activities.
- 31. No trees in the area should be removed and all the trees numbered and protected. In case trees fall within the proposed quarry site the trees may be transplanted in the Greenbelt zone. The proponent shall ensure that the activities in no way result in disturbance to forest and trees in vicinity. The proponent shall ensure that the activity does not disturb the movement of grazing animals and free ranging wildlife. The proponent shall ensure that

MEMBER SECRETARY SEIAA-TN the activity does not disturb the biodiversity, the flora & fauna in the ecosystem. The proponent shall ensure that the activity does not result in invasion by invasive alien species. The proponent shall ensure that the activities do not disturb the resident and migratory birds. The proponent shall ensure that the activities do not disturb the vegetation and wildlife in the adjoining reserve forests and areas around.

- 32. The proponent shall ensure that the activities do not disturb the agro biodiversity and agro farms. Actions to be taken to promote agroforestry, mixed plants to support biodiversity conservation in the mine restoration effort.
- 33. The proponent shall ensure that all mitigation measures listed in the EIA/EMP are taken to protect the biodiversity and natural resources in the area.
- 34. The proponent shall ensure that the activities do not impact green lands/grazing fields of all types surrounding the mine lease area which are food source for the grazing cattle.

### Climate Change

- 35. The project activity should not in any way impact the climate and lead to a rise in temperature.
- 36. There should be least disturbance to landscape resulting in land use change, contamination and alteration of soil profiles leading to Climate Change.
- 37. Intensive mining activity should not add to temperature rise and global warming.
- Operations should not result in GHG releases and extra power consumption leading to Climate Change.
- 39. Mining through operational efficiency, better electrification, energy use, solar usage, use of renewable energy should try to decarbonize the operations.
- 40. Mining Operation should not result in droughts, floods and water stress, and shortages, affecting water security both on site and in the vicinity.
- 41. Mining should not result in water loss from evaporation, leaks and wastage and should support to improve the ground water.
- 42. Mining activity should be flood proof with designs and the drainage, pumping techniques shall ensure climate-proofing and socio-economic wellbeing in the area and vicinity.

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### Green Belt Development

- 43. The proponent shall ensure that in the green belt development more indigenous trees species (Appendix as per the SEAC Minutes) are planted.
- 44. The proponent shall ensure the area is restored and rehabilitated with native trees as recommended in SEAC Minutes (in Appendix).

### Workers and their protection

- 45. The project proponent is responsible for implementing all the provisions of labour laws applicable from time to time to quarrying /Mining operations. The workers on the site should be provided with on-site accommodation or facilities at a suitable boarding place, protective equipment such as ear muffs, helmet, etc.
- 46. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
- 47. The workers shall be employed for working in the mines and the working hours and the wages shall be implemented/enforced as per the Mines Act, 1952.

### Transportation

- 48. No Transportation of the minerals shall be allowed in ease of roads passing through villages/ habitations. In such cases, PP shall construct a bypass road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.
- 49. The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be

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wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

### Storage of wastes

50. The project proponent shall store/dump the granite waste generated within the earmarked area of the project site for mine closure as per the approved mining plan.

### CER/EMP

- 51. The CER Should be fully Implemented and fact reflected in the Half-yearly compliance report.
- 52. The EMP Shall also be implemented in consultation with local self-government institutions.
- 53. The follow-up action on the implementation of CER Shall be included in the compliance report.

### Directions for Reclamation of mine sites

- 54. The mining closure plan should strictly adhere to appropriate soil rehabilitation measures to ensure ecological stability of the area. Reclamation/Restoration of the mine site should ensure that the Geotechnical, physical, chemical properties are sustainable that the soil structure composition is buildup, during the process of restoration.
- 55. The proponent shall ensure that the mine closure plan is followed as per the mining plan and the mine restoration should be done with native species, and site restored to near original status. The proponent shall ensure that the area is ecologically restored to conserve the ecosystems and ensure flow of goods and services.
- 56. A crucial factor for success of reclamation site is to select sustainable species to enable develop a self-sustaining eco system. Species selected should easily establish, grow rapidly, and possess good crown and preferably be native species. Species to be planted in the boundary of project site should be un palatable for cattle's/ goats and should have proven

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capacity to add leaf-litter to soil and decompose. The species planted should be adaptable to the site conditions. Should be preferably pioneer species, deciduous in nature to allow maximum leaf-litter, have deep root system, fix atmospheric nitrogen and improve soil productivity. Species selected should have the ability to tolerate altered pit and toxicity of and site. They should be capable of meeting requirement of local people in regard to fuel fodder and should be able to attract bird, bees and butterflies. The species should be planted in mixed association.

- For mining area reclamation plot culture experiments to be done to identify/ determine suitable species for the site.
- 58. Top soil with a mix of beneficial microbes (Bacteria/Fungi) to be used for reclamation of mine spoils. AM Fungi (Arbuscular mycorrhizal fungi), plant growth promoting Rhizo Bacteria and nitrogen fixing bacteria to be utilized.
- 59. Soil and moisture conservation and water harvesting structures to be used where ever possible for early amelioration and restoration of site.
- 60. Top soil is most important for successful rehabilitation of mined sites. Topsoil contains majority of seeds and plant propagation, soil microorganism, Organic matter and plant nutrients. Wherever possible the topsoil should be immediately used in the area of the for land form reconstruction, to pre mining conditions.
- 61. Over burdens may be analyzed and tested for soil characteristics and used in the site for revegetation. Wherever possible seeds, rhizome, bulbs, etc of pioneering spices should be collected, preserved and used in restoring the site.
- 62. Native grasses seeds may be used as colonizers and soil binders, to prevent erosion and allow diverse self- sustaining plant communities to establish. Grasses may offer superior tolerance to drought, and climatic stresses.
- 63. Reclamation involves planned topographical reconstruction of site. Care to be taken to minimize erosion and runoff. Topsoils should have necessary physical, chemicals, ecological, properties and therefore should be stored with precautions and utilized for reclamation process. Stocked topsoil should be stabilized using grasses to protect from wind. Seeds of various indigenous and local species may be broad easted after topsoil and treated overburden are spread.

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- 64. Alkaline soils, acidic soils, Saline soils should be suitably treated/amended using green manure, mulches, farmyard manure to increase organic carbon. The efforts should be taken to landscape and use the land post mining. The EMP and mine closure plan should provide adequate budget for re-establishing the site to pre-mining conditions. Effective steps should be taken for utilization of over burden. Mine waste to be used for backfilling, reclamation, restoration, and rehabilitation of the terrain without affecting the drainage and water regimes. The rate of rehabilitation should be similar to rate of mining. The land disturbed should be reshaped for long term use. Mining should be as far as possible be ecofriendly. Integration of rehabilitation strategies with mining plan will enable speedy restoration.
- 65. Efforts should to taken to aesthetically improve the mine site. Generally, there are two approaches to restoration i.e Ecological approach which allows tolerant species to establish following the succession process allowing pioneer species to establish. The other approach i.e plantation approach is with selected native species are planted. A blend of both methods may be resorted to restore the site by adding soil humas and mycorrhiza.
- 66. Action taken for restoration of the site should be specifically mentioned in the EC compliances.

# Part-A: Conditions to be Complied before commencing mining operations:-

- 1. The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that
  - The project has been accorded Environmental Clearance.
  - II. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.
  - III. Environmental Clearance may also be seen on the website of the SEIAA.
  - IV. The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.
- 2. Mining activity should be reviewed by the District Collector after three years and decide for further extension.
- 3. NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.

- The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
- 5. A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.
- Quarry lease area should be demarcated on the ground with wire fencing to show the boundary
  of the lease area on all sides with red flags on every pillar shall be erected before
  commencement of quarrying.
- 7. The proponent shall ensure that First Aid Box is available at site.
- 8. The excavation activity shall not alter the natural drainage pattern of the area.
- 9. The excavated pit shall be restored by the project proponent for useful purposes.
- The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
- 11. The quarrying operation shall be restricted between 7AM and 5 PM.
- 12. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
- A minimum distance of 50mts. from any civil structure shall be kept from the periphery of any excavation area.
- 14. The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
- 15. Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
- 16. Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
- 17. Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.

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- 18. A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.
- 19. The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF& CC, GoI on 16.11.2009.
- 20. The following measures are to be implemented to reduce Air Pollution during transportation of mineral
  - i. Roads shall be graded to mitigate the dust emission.
  - ii. Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust
- 21. The following measures are to be implemented to reduce Noise Pollution
  - 1. Proper and regular maintenance of vehicles and other equipment
  - ii. Limiting time exposure of workers to excessive noise.
  - iii. The workers employed shall be provided with protection equipment and earmuffs etc.
  - iv. Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.
  - All noise generating machinery the compressor, generator to be enclosed in acoustic enclosure so as to reduce noise in working area.
- 22. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoEF& CC, Gol to control noise to the prescribed levels.
- 23. Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
- 24. Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
- 25. Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
- 26. The following measures are to be adopted to control erosion of dumps:-
  - Retention/ toe walls shall be provided at the foot of the dumps.

- Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.
- 27. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous& other wastes (Management, and Trans Boundary Movement) Rules, 2016 and its amendments thereof to the recyclers authorized by TNPCB.
- 28. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
- 30. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
- 31. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out. District Collector/mining officer shall ensure this.
- No tree-felling shall be done in the leased area, except only with the permission from competent Authority.
- 33. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic Institution.
- 34. It shall be ensured that the total extent of nearby quarries(existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 5 hectares within the mining lease period of this application.

- 35. It shall be ensured that there is no habitation is located within 300 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 300m radius from the periphery of the quarry site.
- 36. Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
- 37. Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOL
- Bunds to be provided at the boundary of the project site.
- 39. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.
- 40. Floor of excavated pit to be levelled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase,
- 41. The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity
- 42. The Project Proponent shall provide solar lighting system to the nearby villages.
- 43. Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
- 44. Safety equipments to be provided to all the employees.
- 45. Safety distance of 50m has to be provided in case of railway, reservoir, canal/odai
- 46. The Assistant/Deputy Director, Department of Geology & mining shall ensure that the proponent has engaged the blaster with valid Blasting license/certificate obtained from the competent authority before execution of mining lease.
- 47. The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.
- 48. The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
- 49. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.

- 50. The proponent has to display the name board at the quarry site showing the details of Proponent, lease period, extent, etc., with respect to the existing activity before execution of mining.
- Heavy earth machinery equipments if utilized, after getting approval from the competent authority.
- 52. The Proponent shall ensure that the project activity including blasting, mining transportation etc should in no way have adverse impact to the other forests, such as reserve forests and social forests, tree plantation and bio diversity, surrounding water bodies etc.
- 53. The proponent shall provide Green Belt development at the rate of not less than 400 trees/Hectare. The tree saplings shall be not less than 3m height.
- 54. The fugitive emissions should be monitored during the mining activity and should be reported to TNPCB once in a month and the operation of the quarry should no way impact the agriculture activity & water bodies near the project site.
- 55. All the commitment made by the project proponent in the proposal shall be strictly followed.
- 56. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
- 57. The Project proponent has to strictly comply the outcome/direction of the Hon'ble NGT. Principle Bench, New Delhi in the O.A No.186 of 2016 (M.A.No.350/2016), O.A. No.200/2016, O.A.No.580/2016 (M.A.No.1182/2016), O.A.No.102/2017, 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), 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).
- 58. All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
- 59. The company shall stress upon the preventive aspects of occupational health.
- 60. A separate environment and safety management cell with qualified staff shall be set up before commissioning of construction activities and shall be retained throughout the lifetime of the industry, for implementation of the stipulated environmental safeguards.
- 61. A scientific site/ ecological rehabilitation and restoration plan on long term basis should be drawn to carryout restoration with native species and Bio diversity.

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- 62. The Green/Blue plan should guide the restoration of the site. The rehabilitation/restoration plan should be submitted to SEIAA-TN within one month. If applicable.
- 63. The existing water bodies should not be disturbed to ensure sustainable environment for aquatic life forms.
- 64. The proponent should completely implement all environmental pollution control measures as detailed in the EIA report and in the additional report.
- 65. Avenue plantation wherever needed has to be carried out along the route for dust suppression,
- 66. The green belt developed for the prevention of dust pollution should not form a part of the larger green belt development envisaged in the EIA report.
- 67. Regular monitoring and check up for pulmonary and carcinogenic diseases to be carried out regularly, not only for the workers involved in the mines but also to the people in the villages adjoining the mines. Interaction with the Primary Health Centre & district medical officer should be on regular basis to monitor the incidence of the diseases if any and to provide suitable medical facility for the patients.
- 68. Monitoring of well water levels and water quality of the wells in the locations furnished in the EIA report shall be done during pre-monsoon and post monsoon period and results submitted to the Regional Office of MoEF, Chennai and SEIAA.
- 69. Monitoring of water quality and air quality in and around the project site in the selected monitoring points as mentioned in the EIA report shall be continued regularly involving Academic Institutions.
- 70. Hydro geological study including infiltration test shall be conducted by any reputed agency to estimate leachate quantity.
- Regular medical check-up for mine workers and nearby residents around the project site involving community medical centre/NIMH shall be conducted.
- 72. As per norms, the health study should be conducted through competent/approved health organization and report submitted for one year.
- 73. The effective safe guard measures shall be provided to control particulate dust level in critical areas, transfer points and haul road within the mine area.
- 74. NOC from the State GWA for drawing ground water shall be obtained, if ground water table is intersected.

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- Green belt shall be provided as per norms of MoEF & CC, GOI, in consultation with local DFO.
- 76. All the recommendations made in the EIA report of the project shall be effectively implemented.
- 77. A booklet containing the Dos and Don'ts shall be prepared in vernacular languages for the use of the mine engineers/ managers and the workers to ensure that all necessary environmental, safety and health measures are undertaken.
- 78. All the environmental protection measures and safeguards as recommended in the EIA report shall be complied with.
- 79. Hydro geological study of the area shall be reviewed annually and report submitted to the Authority. No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the operation of the Mining activity.
- 80. A separate Environmental Management Cell equipped with full fledged laboratory facilities to carry out the various Environmental Management and Monitoring functions shall be set up under the control of a Senior Executive.
- 81. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF at Chennai, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; RSPM, SO2, NOx or critical sector parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

#### Part B: General Conditions:

- EC is given only on the factual records, documents and the commitment furnished in non
  judicial stamp paper by the proponent.
- 2. The Proponent shall obtain the Consent from the TNPC Board before commencing the activity.
- No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
- No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.

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- 5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
- A berm shall be left from the boundary of adjoining field having a width equal to at least half
  the depth of proposed excavation.
- Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
- 10. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
- 11. All Personnel shall be provided with protective respiratory devices including safety shoes, masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- 12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
- Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
- 14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.

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- 15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.
- 16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
- 17. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance
- 18. The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.
- 19. The SEIAA, Tamil Nadu may cancel the Environmental Clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this Environmental Clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining tphe Environmental Clearance.
- 20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
- 21. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Biodiversity Conservation Act, 2016, the Biological Diversity Act, 2002 and Biological diversity Rules, 2004 and Rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
- 22. Any other conditions stipulated by other Statutory/Government authorities shall be complied.

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- 23. Any appeal against this Environmental Clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
- 24. The Environmental Clearance is issued based on the documents furnished by the project proponent. In case any documents found to be incorrect/not in order at a later date the Environmental Clearance issued to the project will be deemed to be revoked/ cancelled.

Copy to:

- 1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
- The Principal Secretary to Government, Environment and Forests Department, Tamil Nadu.
- 3. The Principal Secretary to Government, Industries Department, Tamil Nadu.
- 4. The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1st & 2nd Floor, Cathedral Garden Road, Nungambakkam, Chennai - 34.
- 5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
- 6. The Chairman, TNPC Board, 76, Mount Salai, Guindy, Chennai 32.
- The District Collector, Tiruppur District.
- The Commissioner of Geology and Mines, Guindy, Chennai 32.
- 9. El Division, Ministry of Environment & Forests, Paryavaran Bhawan, New Delhi.
- 10. Spare.

and Virtuous Environmental Single-Window Hub.





#### Government of India Ministry of Environment, Forest and Climate Change (Issued by the State Environment Impact Assessment Authority(SEIAA), Tamil Nadu)

To,

The owner

THANGAMUTHUSAMY P RSG TIRUPPUR

Morattupalayam tiruppur -641602

Subject: Grant of Environmental Clearance (EC) to the proposed Project Activity

under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/TN/MIN/55469/2020 dated 23 Aug 2022. The particulars of the environmental clearance granted to the project are as below.

1. EC Identification No. EC22B001TN198292

2. File No. 7758 3. **Project Type** New 4. Category

5. Project/Activity including

Schedule No.

1(a) Mining of minerals

T.Thangaraj, Rough Stone and Gravel Quarry Project over an Extent of 6. Name of Project

1.88.72Ha

Name of Company/Organization THANGAMUTHUSAMY P RSG 7.

TIRUPPUR

8. **Location of Project** Tamil Nadu 9. **TOR Date** 12 Mar 2021

The project details along with terms and conditions are appended herewith from page no 2 onwards.

(e-signed) Thiru. Deepak S. Bilgi Date: 17/09/2022 **Member Secretary** SEIAA - (Tamil Nadu)

Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH.Please quote identification number in all future correspondence.

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#### THIRU.DEEPAK S.BILGI, LF.S. MEMBER SECRETARY

#### STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY- TAMILNADU

3<sup>rd</sup> Floor, Panagal Maaligai, No.1, Jeenis Road, Saidapet, Chennai - 600 015. Phone No. 044-24359973 Fax No. 044-24359975

### ENVIRONMENTAL CLEARANCE Lr.No.SEIAA-TN/F.No.7758/1(a)/EC.No:5233/2020 dated:30.08.2022

Sub: SEIAA, TN – Proposed Rough Stone and Gravel quarry lease over an extent of 1.88.72Ha at S.F. No. 383/2A2B & 383/2A2A2A2A2Of Morattupalayam Village, Uthakuli Taluk, Tiruppur District, Tamil Nadu by Thiru.T. Thangaraj– under Category "B1" of Item 1(a) "Mining of Mineral Projects" of the Schedule to the EIA Notification, 2006 issue of Environmental Cleatance – Regarding.

Ref

- Your application submitted Terms of Reference dated: 21.08.2020.
- TOR Issued vide Lr.No.SEIAA-TN/F.No. 7758/SEAC/ToR-864/2020
   Dated: 12:03:2021.
- Public Hearing conducted on 23.08,2021
- Online Proposal No. SIA/TN/MIN/55469/2020dated 11.08.2020
- Project proponent submitted EIA Report to SEIAA-TN on 21.08.2020
- Minutes of the 302 SEAC meeting held on 17.08.2022.
- Minutes of the 547<sup>th</sup> SEIAA meeting held on 30.08.2022

#### Details of Minor Mineral Activity:-

This has reference to your application 4<sup>th</sup> & 5<sup>th</sup> cited. The proposal is for obtaining Environmental Clearance for mining / quarrying of minor minerals based on the particulars furnished in your application as shown below.

> MEMBER-SECRETARY SEIAA-TN



| SL<br>No. | Details of the proposal                                                                                          | Data Furnished                                                                                                     |
|-----------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| 1.        | Name of the Owner / Firm:                                                                                        | Thiru T. Thangaraj, S/o. ThevanaGounder No.20, Ayyampalayam, Uthukuli taluk, Tiruppur District, Tamil Nadu-638172. |
| 2.        | Type of quarrying (savudu / Rough stone / Sand / Granite)                                                        | Rough Stone and Gravel quarry                                                                                      |
| 3.        | S.F No. of the quarry site with area break-up                                                                    | 383/2A2B and 383/2A2A2A2                                                                                           |
| 4         | Village in which situated                                                                                        | Morattupalayam                                                                                                     |
| 5.        | Taluk in which situated                                                                                          | Uthukuli                                                                                                           |
| 6.        | District in which situated                                                                                       | Tiruppur                                                                                                           |
| 7.        | Extent of Quarry (in ha.)                                                                                        | 1.88.72 Ha                                                                                                         |
| 8.        | Period of Quarrying proposed                                                                                     | Five years                                                                                                         |
| 9.        | Type of Mining                                                                                                   | Opencast semi Mechanized Mining.                                                                                   |
| 10.       | Production (Quantity in m³)                                                                                      | 151554m <sup>2</sup> of Rough Stone and1410<br>m <sup>3</sup> of gravel                                            |
| 114       | Latitude &Longitude of all corners of the quarry site                                                            | 11"08'03.11"N to 11"08'06.69"N<br>77"25'09.67"E to 77"25'17.50"E                                                   |
| 12.       | Topo sheet No.                                                                                                   | 58 - E/080                                                                                                         |
| 13.       | Man power requirement per day.                                                                                   | 19 Employees                                                                                                       |
| 14.       | Precise Area Communication approved<br>by the Assistant Director, G&M ,<br>District Collector District with date | Rc.No. 169/2020/mines, dated<br>16:07.2020                                                                         |
| 15.       | Mining plan approved by the Assistant<br>Director, dept of Geology and Mining,<br>Collectorate with date         | Rc.No. 169/2020/mines, dated 29:07:2020                                                                            |

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| 16. | 500mts letter approved by the Assistant                 | Rc.No. 169/2020/mines, dated                    |
|-----|---------------------------------------------------------|-------------------------------------------------|
|     | Director, department of Geology and<br>Mining with date | 29.07.2020                                      |
| 17. | Water requirement:  1. Drinking & domestic purposed     | 6.0 KLD                                         |
|     | (in KLD)                                                | 0.5 KLD                                         |
|     | 1. Dust Suppression & Green Belt                        | 3.5 KLD                                         |
|     | (in KLD)                                                | 2.0 KLD                                         |
| 18. | Power requirement:                                      | 0715                                            |
|     | a. Domestic purpose                                     | TNEB                                            |
|     | a. Machinery works                                      | 500 Litera of HSD                               |
| 19. | Depth of Mining                                         | 37m BGL (2m Gravel & 35 m Rough                 |
|     | 7.00m/                                                  | stone)                                          |
| 20. | Depth of Water table                                    | 62m in summer &58m in Rainy season              |
| 21, | Whether any habitation within 300m distance             | No.                                             |
| 22. | Project cost (excluding EMP cost)                       | 41.12 Lakhs                                     |
| 23. | EMP cost                                                | Capital cost- 11,70 Lakhs                       |
|     | 2/1//3                                                  | Recurring cost-18.88 lakhs                      |
| 24, | CER cost                                                | 5 lakhs                                         |
| 25. | VAO letter dated                                        | Furnished                                       |
| 26. | TOR Issued                                              | Lr.No.SEIAA-TN/F.No.                            |
|     |                                                         | 7758/SEAC/ToR-864/2020 Dated:                   |
|     | Directs if I                                            | 12.03.2021.                                     |
| 27. | Public Hearing                                          | Public Hearing Conducted, dated                 |
|     |                                                         | 23.08.2021                                      |
| 28. | EIA Report Received                                     | EIA received on :27.09.2021                     |
| 29. | Validity:                                               |                                                 |
|     | This Environmental Clearance is gran                    | sted for the production in 151554m <sup>3</sup> |
|     | Rough stone and 14104m <sup>3</sup> of Gravel f         | or the period of 5 Years from the date          |

MEMBER SECRETARY SEIAA-TN



of execution of the mining lease and ultimate depth of mining 37m BGL(2m Gravel & 35 m Rough stone).

The Proponent has furnished affidavit in Hundred Rupees stamp paper attested by the Notary stating that

 T. Thangaraj, S/o. Tevana Gounder, No. 20, Ayyampalayam, Uthukuli Taluk, Tiruppur District Tamil Nadu State — 638 172, solemnly declare and sincerely affirm that:

I have applied for getting Environment Clearance from SEIAA, Tamil Nadu for quarry lease for quarrying of Rough Stone and Gravel Quarry Project over an Extent of 1.88.72Ha of Patta lands in S.F.Nos. 383/2A2B and 383/2A2A2A2 of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.

- I swear to state and confirm that within 10km area of the quarry site, I have applied for environment 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.
  - e. Eco-Sensitive areas as notified,
  - Interstate boundaries within 10km radius from the boundary of the proposed site.
- I will complete the following Corporate Environment Responsibility (CER) activities before commencement of the quarrying activities. The project proponent Revised CER cost is Rs.5.
   Laklis amount shall be spent to the Ponchayath Union Primary School Karaipalayam Village,

| Sl. No.        | Description                                             | CER Cost INR  |
|----------------|---------------------------------------------------------|---------------|
| H <sub>0</sub> | Renovation and repairing works in Toilet                |               |
| 2              | Providing Environmental related books to school library |               |
| 3.             | Plantation in school ground                             | Rs:5,00,000/- |
| :4c            | Construction of drinking water tank                     |               |
| 5.             | Providing Sports equipment's                            |               |

The following quarries are located within the radius of 500m from the periphery of my quarry.
 Existing Quarry

| S.<br>No. | Name of the Lessee | Village | Extent in<br>Hectare | Collector's<br>Proceedings No. &<br>Date | Lease Period |
|-----------|--------------------|---------|----------------------|------------------------------------------|--------------|
|-----------|--------------------|---------|----------------------|------------------------------------------|--------------|

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| ١, | N.Ayyadurai      | Morattupalaym | 3.52.0 | 182/Mines/2015<br>Date:23.09.2016 | 23.09.2016<br>To<br>22.09.2021 |
|----|------------------|---------------|--------|-----------------------------------|--------------------------------|
| 2, | P.Thangamuthusam | Morattupalaym | 3.24.0 | 301/Mines/2015<br>Date:15.01.2016 | 23,09,2016<br>To<br>22,09,2021 |
| 3  | M.Thangaraj      | Morattupalaym | 2.19.5 | 357/Mines/2015<br>Date:15 01 2016 | 21.01.2016<br>To<br>20.01.2021 |
| 40 | M.Palanisam      | Moramupalaym  | 0.59.5 | 300/Mines/2015<br>Date:15.01.2016 | 21.01.2016<br>To<br>20.01.2021 |
| 5: | K.Karppusamy     | Morattupalaym | 0.71:5 | 529/Mines/2015<br>Date;21.09.2016 | 21.09.2016<br>To<br>20.09.2021 |
| 6. | S.Rajasekar      | Morattupalaym | 1.98.5 | 103/Mine/2017<br>Date:25:09.2018  | 25.09.2018<br>To<br>24.09.2023 |

#### Abandoned / Expired Quarries

| S.<br>No. | Name of the Lessee | Village       | S.F.No. | Extent in<br>Hectare | Lease Period |
|-----------|--------------------|---------------|---------|----------------------|--------------|
| 13        | T.S.Udhayakumar    | Morattupalaym | 389/1C  | 0.89.0               | 27.05.2020   |
| 2         | S.Rnju             | Morattupalaym | 389/1B1 | 1.62.0               | 23.06.2020   |

## Present Proposed Quarries

| S.<br>No. | Name of the Lessee | Village       | S.F.No.                 | Extent in<br>Hectare | Lease Period           |
|-----------|--------------------|---------------|-------------------------|----------------------|------------------------|
| 1).       | M.Thangaraj        | Morattupalaym | 383/2B2                 | 1.51.0               | Nearby applied<br>area |
| 2.        | T.Thangaraj        | Morattupalaym | 383/2A2B<br>383/2A2A2A2 | 1.88.72              | Proposed area          |

- 4. There will not be hindrance or disturbance to the people living during quarrying and transportation.
- 5. There is no approved habitation within 300m 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 laborers working in my quarry site.
- 8. The approach road belongs to us no other patta roads encounter for the haulage of quarry materials and machineries.

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- 9. I will not engage any child labor in my quarry site and I aware that engaging child labor is punishable under the law.
- 10. All types of safety! protective equipment will be provided to all the laborers working in my quarry.
- 11. No permanent structures, temples etc., are located within 300m radius from the periphery of my quarry.

I ensure to do all the social and Environment commitment as mentioned in the Mining Plan to the best of my knowledge.

#### Details of Quarries located within 500M radius from the proposed quarry:

The Project Proponent has submitted a copy of the letter obtained from the Assistant Director, department of Geology and Mining, Tiruppur District in his letter Re No. 169/2020/mines, dated : 29.07.2020 has stated that the details of other quarries within a radius 500m from the boundary of the proposed quarry site as follows:

#### Existing Quarry

| S.<br>No. | Name of the Lessee | Village       | Extent in<br>Hectare | Collector's<br>Proceedings No. &<br>Date | Lease Period                   |
|-----------|--------------------|---------------|----------------------|------------------------------------------|--------------------------------|
| į,        | N.Ayyadurai        | Monattupalaym | 3.52.0               | 182/Mines/2015<br>Date:23.09.2016        | 23.09.2016<br>To<br>22.09.2021 |
| 2.        | P. Thangamuthusam  | Morattupalaym | 3.24.0               | 301/Mines/2015<br>Date:15.01.2016        | 23.09.2016<br>To<br>22.09.2021 |
| 3,        | M.Thangaraj        | Morattupalaym | 2,19,5               | 357/Mines/2015<br>Date:15.01.2016        | 21.01,2016<br>To<br>20.01.2021 |
| 4.        | M.Palanisam        | Morattupalaym | 0.59.5               | 300/Mines/2015<br>Date:15.01.2016        | 21.01.2016<br>To<br>20.01.2021 |
| 5.        | K.Karppusamy       | Morattupalaym | 0.71.5               | 529/Mines/2015<br>Date:21.09.2016        | 21.09.2016<br>To<br>20.09.2021 |
| 6.        | S.Rajasekar        | Morattupalaym | 1.98.5               | 105/Mine/2017<br>Date:25.09.2018         | 25.09.2018<br>To<br>24.09.2023 |

Abandoned / Expired Quarries

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| S.<br>No. | Name of the Lessee | Village       | S.F.No. | Extent in<br>Hectare | Lease Period |
|-----------|--------------------|---------------|---------|----------------------|--------------|
| 1.        | T.S.Udhayakumar    | Morattupalaym | 389/1€  | 0.89.0               | 27.05.2020   |
| 2.        | S.Raju             | Morattupalaym | 389/IB1 | 1.62.0               | 23.06.2020   |

#### Present Proposed Quarries

| S.<br>No. | Name of the Lessee | Village       | S.F.No.                   | Extent in<br>Hectare | Lease Period           |
|-----------|--------------------|---------------|---------------------------|----------------------|------------------------|
| L,        | M.Thangaraj        | Morattupalaym | 383/2B2                   | 1,51.0               | Nearby applied<br>area |
| 2.        | T.Thangaraj        | Morattupalaym | 383/2A2A2B<br>383/2A2A2A2 | 1.88,72              | Proposed area          |

#### Appraisal by SEAC:-

Proposed Rough Stone and Gravel quarry lease over an extent of 1.88,72Ha at S.F. No. 383/2A2B & 383/2A2A2A2of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu by Thiru.T. Thangaraj- For Environmental Clearance. (SIA/TN/MIN/55469/2020dated 11.08,2020)

The proposal was placed in this 302 Meeting of SEAC held on 17,08,2022. The details of the project furnished by the proponent are available in the website (www.parivesh.nic.in).

#### The SEAC noted the following:

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

Based on the presentation and documents furnished by the project proponent, SEAC decided to recommend the proposal for the grant of Environmental Clearance for an annual peak production of 34350 cu.m of rough stone &6536 cu.m of gravel, subject to the standard conditions as per the Annexure-I of this minutes & normal conditions stipulated by MOEF&CC, in addition to the following specific conditions:

- 1. The prior Environmental Clearance granted for this mining project shall be valid for the project life including production value as laid down in the mining plan approved and renewed by competent authority, from time to time, subject to a maximum of thirty years, whichever is earlier, vide MoEF&CC Notification S.O. 1807(E) dated 12.04.2022.
- 2. The mine manager and other statutory competent persons such as blaster (or) mine mate shall be appointed before the commencement of mining operations per the provisions of Mines Act 1952 and Metalliferrous Mines Regulations, 1961.



- 3. Within one year of the commencement of mining operations, the PP shall carry out the scientific studies on controlled blasting for reducing the impact of blast-induced ground/air vibrations and fly rock, by involving a reputed Research and Academic Institution such as NIRM, IITs, Anna University Chennai-CEG Campus, NIT Surathkal - Dept of Mining Engg, and any other CSIR Laboratories etc. A copy of such scientific study report shall be submitted to the SEIAA, MoEF, TNPCB, AD/Mines-DGM and DMS, Chennai as a part of Environmental Compliance.
- 4. The Project Proponent (PP) shall submit an 'Action Plan' for carrying out the realignment of the benches in the existing quarry and shall also furnish a 'Slope stability action plan' incorporating the haul road ramp keeping the benches intact for the proposed quarry lease as the depth of the proposed quarry is exceeding 40 m to the office of concerned AD (Mines) before obtaining CTO from TNPCB.
- 5. The PP shall carry out the scientific studies to assess the slope stability of the benches and quarry wall when the depth of the quarry touches 40 m (or) after the completion of 3 years of operation. whichever is earlier, by involving a reputed Research and Academic Institution such as NIRM, IITs, NIT-Dept of Mining Engy, Surathkal, Anna University Chennai-CEG Campus, and any CSIR Laboratories etc. A copy of such scientific study report shall be submitted to the SEIAA. MoFF, TNPCB, AD Mines-DGM and DMS, Chennal as a part of Environmental Compliance without any deviation.
- 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 adhere EMP furnished.
- 7. As accepted by the Project Proponent the CER cost is Rs. 5 lakhs and the amount shall be spent to the committed activities for Panchayath Union Primary School, Karaipalayam Village before obtaining CTO from TNPCB.

#### ANNEXURE-I

- 1. The proponent shall mandatorily appoint the required number of statutory officials and the competent persons in relevant to the proposed quarry size as per the provisions of Mines Act. 1952 and Metalliferous Mines Regulations, 1961.
- 2. The proponent shall erect fencing all around the boundary of the proposed area with gates for entry/exit before the commencement of the operation and shall furnish the photographs/map showing the same before obtaining the CTO from TNPCB.

- 3. Perennial maintenance of haulage road/village / Panchayat Road shall be done by the project proponent as required in connection with the concerned Govt. Authority.
- 4. The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts; even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. In the form of Short Term Permit (STP), Query license or any other name.
- 5. The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps:
- 6. The proponent shall ensure that the slope of dumps is suitably vegetated in scientific manner with the native species to maintain the slope stability, prevent erosion and surface run off. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps.
- 7. Perennial sprinkling arrangement shall be in place on the haulage road for fugitive dust suppression. Fugitive emission measurements should be carried out during the mining operation at regular intervals and submit the consolidated report to TNPCB once in six months.
- 8. The Project Proponent shall carry out slope stability study by a reputed academic/research institution such as NIRM, IIT. Anna University for evaluating the safe slope angle if the proposed dump height is more than 30 meters. The slope stability report shall be submitted to concerned Regional office of MoEF&CC, Govt. of India, Chennai as well as SEIAA, Tamilnadu.
- 9. The Proponent shall ensure that the Noise level is monitored during mining operation at the project site for all the machineries deployed and adequate noise level reduction measures undertaken accordingly. The report on the periodic monitoring shall be submitted to TNPCB once in 6 months.

10. Proper barriers to reduce noise level and dust pollution should be established by providing

- greenbelt along the boundary of the quarrying site and suitable working methodology to be adopted by considering the wind direction.
- 11. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
- 12. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted in proper escapements 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.
- 13. Noise and Vibration Related; (i) The Proponent shall carry out only the Controlled Blasting operation using NONEL shock tube initiation system during daytime. Usage of other initiation systems such as detonating cord/firse, safety firse, ordinary detonators, cord relays, should be avoided in the blasting operation. The mitigation measures for control of ground vibrations and to arrest fly rocks should be implemented meticulously under the supervision of statutory competent persons possessing the I / II Class Mines Manager / Foreman / Blaster certificate issued by the DGMS under MMR 1961, appointed in the quarry. No secondary blasting of boulders shall be carried out in any occasions and only the Rock Breakers (or) other suitable nonexplosive techniques shall be adopted if such secondary breakage is required. The Project Proponent shall provide required number of the security sentries for guarding the danger zone of 500 m radius from the site of blasting to ensure that no human/animal is present within this danger zone and also no person is allowed to enter into (or) stay in the danger zone during the blasting. (ii) Appropriate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs, (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone.
- 14. Ground water quality monitoring should be conducted once in every six months and the report should be submitted to TNPCB.

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- 15. The operation of the quarry should not affect the agricultural activities & water bodies near the project site and a 50 m safety distance from water body should be maintained without carrying any activity. The proponent shall take appropriate measures for "Silt Management" and prepare a SOP for periodical de-siltation indicating the possible silt content and size in case of any agricultural land exists around the quarry.
- 16. The proponent shall provide sedimentation tank / settling tank with adequate capacity for runoff management.
- 17. The proponent shall ensure that the transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village Road and shall take adequate safety precautionary measures while the vehicles are passing through the schools / hospital. The Project Proponent shall ensure that the road may not be damaged due to transportation of the quarried rough stones; and transport of rough stones will be as per IRC Guidelines with respect to complying with traffic congestion and density.
- 18. To ensure safety measures along the boundary of the quarry site, security guards are to be posted during the entire period of the mining operation.
- 19. After mining operations are completed, the mine closure activities as indicated in the mine closure plan shall be strictly carried out by the Proponent fulfilling the necessary actions as assured in the Environmental Management Plan
- 20. The Project proponent shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition that is fit for the growth of fodder, flora, fauna etc.
- 21. The Project Proponent shall comply with the provisions of the Mines Act, 1952, MMR 1961 and Mines Rules 1955 for ensuring safety, health and welfare of the people working in the mines and the surrounding habitants.
- 22. The project proponent shall ensure that the provisions of the MMRD, 1956, the MCDR 2017 and Tamilnadu Minor Mineral Concession Rules 1959 are compiled by carrying out the quarrying operations in a skillful, scientific and systematic manner keeping in view proper safety of the labour, structure and the public and public works located in that vicinity of the quarrying area and in a manner to preserve the environment and ecology of the area.
- 23. The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be informed to the



- District AD/DD (Geology and Mining) District Environmental Engineer (TNPCB)and the Director of Mines Safety (DMS), Chennai Region by the proponent without fail.
- 24. The Project Proponent shall abide by the annual production scheduled specified in the approved mining plan and if any deviation is observed, it will render the Project Proponent liable for legal action in accordance with Environment and Mining Laws.
- 25. Prior clearance from Forestry & Wild Life including clearance from committee of the National Board for Wildlife as applicable shall be obtained before starting the quarrying operation, if the project site attracts the NBWL clearance, as per the existing law from time to time.
- 26. All the conditions imposed by the Assistant/Deputy Director, Geology & Mining, concerned District in the mining plan approval letter and the Precise area communication letter issued by concerned District Collector should be strictly followed.
- 27. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
- 28. The Project proponent shall install a Display Board at the entrance of the mining lease area/abutting the public Road, about the project information as shown in the Appendix -II of this minute.

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File No. - 7758

| 55a  | Sessantic Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Tenil Yams                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Total Nume          |
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| 34   | Atlanta Names                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Addressment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Outgoin make        |
| -11- | Elizabia has breake                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Anche                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | righter.            |
| 56   | Blakepitalar sodeprafelia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Aerik                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Agust step regulati |
| 17   | Language compression de financia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Officen                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | WENN                |
| 16   | Ligarymone species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Than bilanuction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | M. WIREL            |
| 15   | Larringsoffers totropolyptic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Nethortasinopum:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Cod Switzen, who    |
| 1a   | Lincoln and teams                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | "Nilla minimum."                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | MAR AND             |
| 10   | Latence effections                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Phongrathol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | SCHE WHILE          |
| 117  | Madheus bergebile                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | This parati                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Biologic            |
| #    | Manifora Senandra                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Uhanned neign                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2.0454 Utter        |
| 14   | Allowancer dange                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Megaphemanea                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | anigeté             |
| 32   | Alternative president                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Kadanibu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | and a               |
| 100  | Shorode pulsarion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Nisps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | guers .             |
| 17   | Afternal continue                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Walles Nieles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Graffetet green     |
| -    | Physics sylvante                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Earthal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | AARVEE              |
|      | A THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE | - Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Comm | USAS.               |

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| H            | Laborate Control of the Control of t | Narummen                | 10 Wells       |
| Œ            | Premius kinemites                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Melagorieman            | Julius Little  |
| G G          | Process course                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Varies macain.          | want em        |
| 44           | Physicipal manageme                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Vengu                   | Susura         |
| 45           | Exercises consists                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Yestunga, Tada          | SWINNEY TAKE   |
| 46           | Рыпоричания кубострин                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Polaru                  | SAR .          |
| ET.          | Padherengton residencies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Kampula.                | sdum.r         |
| 45           | Salmadone persona                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Ugua Marretti           | 6887 60E       |
| ar.          | Squadur marginister                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Manipungan,<br>Snapokai | Berougeans     |
| 90           | Sprain game                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Assex                   | pallater       |
| 31           | Smithia appr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Printy stutters         | dimo were      |
| 32           | Stryclines National                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Yetti                   | PL 86          |
| 5            | Titrychinus protestimum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Therthang Komas         | Spagnst Genum. |
| 중            | Syrymen camini                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Nord                    | 5FWR           |
| 줔            | Termoutia tetteric                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Thandri                 | gradit .       |
| 36           | Terminalis arpina                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Ven marwillis           | Seat ettal     |
| 중            | Toron ribute                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Sandisasa ventira       | enger Emire    |
| 56           | Thisperia psysilism                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Figvarani               | Unio.          |
| 읔            | Widowstrationals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | valoura                 | SALES STATES   |
| <del>=</del> | Pringiples (mutores                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Veppala                 | GMILTER        |
| 85           | Pitherelioboum Autor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Kodukkapuli             | SUPSEANLIST    |

MEMBER SECRETARY SEIAA-TN



# Appendix-II Display Board (Size 6° x5° with Blue Background and White Letters)

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| St. COLUMN THE STREET, S. CO. ST. CO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | iya diredireka eparamapii uspii epek ipekeyinga wyasi<br>idailana kumba                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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## Discussion by SEIAA and the Remarks:-

The proposal was placed in the 547th Authority meeting held on 30.08.2022. SEAC has furnished its recommendations to the Authority for granting Environmental Clearance to the Project subject to the conditions stated therein. After detailed discussion, SEIAA decided to grant Environmental Clearance for the quantity as per the mine plan for a period of 5 years approved by the Department of Geology & Mining subject to the conditions as recommended by SEAC in addition to the following conditions:

- Restricting the ultimate depth of mining upto 37m BGL(2m Gravel + 35m Rough Stone) and quantity of 1,51,554 cu.m of Rough stone & 14104 cu.m of Gravel are permitted for mining over a period of five years considering the environmental impacts due to the mining, safety precautionary measures of the working personnel and following the principle of the sustainable mining.
- As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 as accepted by the Project proponent the revised CER cost is Rs. 5 lakhs and

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- the amount shall be spent for the Panchayath Union Primary School, Karaipalayam village as committed, before obtaining CTO from TNPCB.
- The AD/DD, Dept. of Geology & Mining shall ensure operation of the proposed quarry after the submission slope stability study conducted through the reputed research & Academic Institutions such as NIRM, IITs, NITS Anna University, and any CSIR Laboratories etc.
- 4. The AD/DD, Dept. of Geology & Mining & Director General of Mine safety shall ensure strict compliance and implementation of bench wise recommendations/action plans as recommended in the scientific slope stability study of the reputed research & Academic Institutions as a safety precautionary measure to avoid untoward accidents during mining operation.
- 5. No trees in the area should be removed and all the trees numbered and protected. In case trees fall within the proposed quarry site the trees may be transplanted in the Greenbelt zone. The proponent shall ensure that the activities in no way result in disturbance to forest and trees in vicinity. The proponent shall ensure that the activity does not disturb the movement of grazing animals and free ranging wildlife. The proponent shall ensure that the activity does not disturb the biodiversity, the flora & fauna in the ecosystem. The proponent shall ensure that the activity does not result in invasion by invasive alien species. The proponent shall ensure that the activities do not disturb the resident and migratory birds. The proponent shall ensure that the activities do not disturb the resident and migratory birds. The proponent shall ensure that the activities do not disturb the vegetation and wildlife in the adjoing reserve forests and areas around.
- The proponent shall ensure that the operations do not result in loss of soil biological properties
  and nutrients.
- The activity should not result in CO2 release and temperature rise and add to micro climate alternations.
- The proponent shall ensure that the activity does not disturb the water bodies and natural flow of surface and ground water, nor cause any pollution, to water sources in the area.
- The proponent shall ensure that the activities undertaken do not result in carbon emission, and temperature rise, in the area.
- 10. The proponent shall ensure that Monitoring is carried out with reference to the quantum of particulate matter during excavation; blasting; material transport and also from cutting waste dumps and haul roads.





- 11. The proponent shall ensure that the activities do not disturb the agro biodiversity and agro farms. Actions to be taken to promote agro forestry, mixed plants to support biodiversity conservation in the mine restoration effort.
- 12. The proponent shall ensure that activity does not depicte the indigenous soil seed bank and disturb the mycorrizal fungi, soil organism, soil community nor result in eutrophication of soil and water.
- 13. The activities should not disturb the soil properties and seed and plant growth. Soil amendments as required to be carried out, to improve soil heath
- 14. Bio remediation using microerganisms should be carried out to restore the soil environment to enable carbon sequestration.
- 15. The proponent shall ensure that all mitigation measures fisted in the EIA/EMP are taken to protect the biodiversity and natural resources in the area.
- 16. The proponent shall ensure that the activities do not impact the water bodies/wells in the neighboring open wells and bore wells. The proponent shall ensure that the activities do not in any way affect the water quantity and quality in the open wells and bore wells in the vicinity or impact the water table and levels. The proponent shall ensure that the activities do not disturb the river flow, nor affect the Odai, Water bodies; Dams in the vicinity.
- 17. The proponent shall ensure that in the green belt development more indigenous trees species (Appendix as per the SEAC Minutes) to be planted.
- 18. The proponent shall ensure the area is restored and rehabilitated with native trees as recommended in SEAC Minutes (in Appendix).
- 19. The proponent shall ensure that the mine restoration is done using mycorrizal VAM, vermin-composting. Biofertifizers to ensure soil health and biodiversity conservation.
- The proponent shall ensure that the topsoil is protected and used in planting activities in the area.
- 21. The proponent should ensure that there is no disturbance to the agriculture plantations, social forestry plantations, waste lands, forests, sanctuary or national parks. There should be no impact on the land, water, soil and biological environment and other natural resources due to the mining activities.
- 22. The proponent shall ensure that topsoil to be utilized for site restoration and Green belt alone within the proposed area.

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- 23. The proponent shall ensure that the activities do not impact green lands/grazing fields of all types surrounding the mine lease area which are food source for the grazing cattle.
- 24. The project proponent shall store/dump the granite waste generated within the earmarked area of the project site for mine closure as per the approved mining plan,

#### Directions for Reclamation of mine sites

- 1. The mining closure plan should strictly adhere to appropriate soil rehabilitation measures to ensure ecological stability of the area. Reclamation/Restoration of the mine site should ensure that the Geotechnical, physical, chemical properties are sustainable that the soil structure composition is buildup, during the process of restoration.
- 2. The proponent shall ensure that the mine closure plan is followed as per the mining plan and the mine restoration should be done with native species, and site restored to near original status. The proponent shall ensure that the area is ecologically restored to conserve the ecosystems and ensure flow of goods and services.
- 3. A crucial factor for success of reclamation site is to select sustainable species to enable develop a self-sustaining eco system. Species selected should easily establish, grow rapidly, and possess good crown and preferably be native species. Species to be planted in the boundary of project site should be un pulatable for cattle's goats and should have proven capacity to add leaf-litter to soil and decompose. The species planted should be adaptable to the site conditions. Should be preferably pioneer species, deciduous in nature to allow maximum leaf-litter, have deep root system, fix atmospheric nitrogen and improve soil productivity. Species selected should have the ability to tolerate altered pit and toxicity of and site. They should be capable of meeting requirement of local people in regard to fuel fodder and should be able to attract bird, bees and butterflies. The species should be planted in mixed association.
- For mining area reclamation plot culture experiments to be done to identify/ determine suitable species for the site.
- 5. Top soil with a mix of beneficial microbes (Bucteria/Fungi) to be used for reclamation of mine spoils. AM Fungi (Arbuscular mycorrhizal fungi), plant growth promoting Rhizo Bacteria and nitrogen fixing bacteria to be utilized.
- Soil and moisture conservation and water harvesting structures to be used where ever possible for early amelioration and restoration of site.



- 7. Top soil is most important for successful rehabilitation of mined sites. Topsoil contains majority of seeds and plant propagation, soil microorganism, Organic matter and plant nutrients. Wherever possible the topsoil should be immediately used in the area of the for land form reconstruction, to pre mining conditions.
- 8. Over burdens may be analyzed and tested for soil characteristics and used in the site for revegetation. Wherever possible seeds, rhizome, bulbs, etc of pioneering spices should be collected, preserved and used in restoring the site.
- 9. Native grasses seeds may be used as colonizers and soil binders, to prevent erosion and allow diverse self- sustaining plant communities to establish. Grasses may offer superior tolerance to drought, and climatic stresses.
- 10. Reclamation involves planned topographical reconstruction of site. Care to be taken to minimize erosion and runoff. Topsoils should have necessary physical, chemicals, ecological, properties and therefore should be stored with precautions and utilized for reclamation process. Stocked topsoil should be stabilized using grasses to protect from wind. Seeds of various indigenous and local species may be broad casted after topsoil and treated overburden are specad.
- 11. Alkaline soils, acidic soils, Saline soils should be suitably treated/amended using green manure, mulches, farmyard manure to increase organic earbon. The efforts should be taken to landscape and use the land post mining. The EMP and mine closure plan should provide adequate budget for reestablishing the site to pre-mining conditions. Effective steps should be taken for utilization of over burden. Mine waste to be used for backfilling, reclamation, restoration, and rehabilitation of the terrain without affecting the drainage and water regimes. The rate of rehabilitation should be similar to rate of mining. The land disturbed should be reshaped for long term use. Mining should be as far as possible be ecofriendly. Integration of rehabilitation strategies with mining plan will enable speedy restoration.
- 12. Efforts should to taken to aesthetically improve the mine site. Generally there are two approaches to restoration i.e Ecological approach which allows tolerant species to establish following succession process allowing pioneer species to establish. The other approach i.e. plantation approach is with selected native species are planted. A blend of both methods may be resorted to restore the site by adding soil humas and mycorrhiza.
- 13. Action taken for restoration of the site should be specifically mentioned in the EC compliances.

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#### Part-A: Conditions to be Complied before commencing mining operations:-

- 1. The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that
  - The project has been accorded Environmental Clearance.
  - II. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.
  - III. Environmental Clearance may also be seen on the website of the SEIAA.
  - IV. The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.
- 2. Mining activity should be reviewed by the District Collector after three years and decide for further extension.
- 3. NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
- 4. The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
- 5. A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.
- 6. Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
- The proponent shall ensure that First Aid Box is available at site.
- 8. The excavation activity shall not alter the natural drainage pattern of the area.
- The excavated pit shall be restored by the project proponent for useful purposes.
- 10. The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
- 11. The quarrying operation shall be restricted between 7AM and 5 PM.

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- 12. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
- 13. A minimum distance of 50mts, from any civil structure shall be kept from the periphery of any excavation area.
- 14. The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
- 15. Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
- 16. Drilling and blasting shalf be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
- 17. Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
- 18. A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.
- 19. The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF& CC, Gol on 16.11.2009.
- 20. The following measures are to be implemented to reduce Air Pollution during transportation of mineral
  - Roads shall be graded to mitigate the dust emission.
  - Water shall be sprinkled at regular interval on the main road and other service roads to 11. suppress dust
- 21. The following measures are to be implemented to reduce Noise Pollution
  - Proper and regular maintenance of vehicles and other equipment i)
  - H. Limiting time exposure of workers to excessive noise.
  - iii. The workers employed shall be provided with protection equipment and earmuffs etc.
  - Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 iv. kmph to prevent undue noise from empty trucks.

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- All noise generating machinery the compressor, generator to be enclosed in acoustic enclosure so as to reduce noise in working area.
- 22. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoEF& CC, GoI to control noise to the prescribed levels.
- 23. Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
- 24. Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
- 25. Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
- 26. The following measures are to be adopted to control crosson of dumps:-
  - Retention/ toe walls shall be provided at the foot of the dumps.
  - ii. Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.
- 27. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous& other wastes (Management, and Trans Boundary Movement). Rules, 2016 and its amendments thereof to the recyclers authorized by TNPCB.
- 28. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- 29. Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
- 30. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.

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- 31. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out. District Collector/mining officer shall ensure this.
- No tree-felling shall be done in the leased area, except only with the permission from competent Authority.
- 33. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic institution.
- 34. It shall be ensured that the total extent of nearby quarries(existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 5 hectares within the mining lease period of this application.
- 35. It shall be ensured that there is no habitation is located within 300 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 300m radius from the periphery of the quarry site.
- Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOL
- Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
- 38. Bunds to be provided at the boundary of the project site.
- 39. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tail tree saplings should be planted on the bunds and other suitable areas in and around the work place.
- 40. Floor of excavated pit to be levelled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
- The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity
- 42. The Project Proponent shall provide solar lighting system to the nearby villages.
- 43. Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.

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- 44. Safety equipments to be provided to all the employees.
- 45. Safety distance of 50m has to be provided in case of railway, reservoir, canal/odai
- 46. The Assistant/Deputy Director, Department of Geology & mining shall ensure that the proponent has engaged the blaster with valid Blasting license/certificate obtained from the competent authority before execution of mining lease.
- 47. The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease,
- 48. The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
- 49. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
- 50. The proponent has to display the name board at the quarry site showing the details of Proponent, lease period, extent, etc., with respect to the existing activity before execution of mining.
- 51. Heavy earth machinery equipments if utilized, after getting approval from the competent authority.
- 52. The Proponent shall ensure that the project activity including blasting, mining transportation etc should in no way have adverse impact to the other forests, such as reserve forests and social forests, tree plantation and bio diversity, surrounding water bodies etc.
- 53. The proponent shall provide Green Belt development at the rate of not less than 400 trees/Hectare. The tree saplings shall be not less than 3m height.
- 54. The fugitive emissions should be monitored during the mining activity and should be reported to TNPCB once in a month and the operation of the quarry should no way impact the agriculture activity & water bodies near the project site.
- 55. All the commitment made by the project proponent in the proposal shall be strictly followed.
- 56. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
- 57. All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
- 58. The company shall stress upon the preventive aspects of occupational health.



- 59. A separate environment and safety management cell with qualified staff shall be set up before commissioning of construction activities and shall be retained throughout the lifetime of the industry, for implementation of the stipulated environmental safeguards.
- 60. A scientific site/ ecological rehabilitation and restoration plan on long term basis should be drawn to carryout restoration with native species and Bio diversity.
- 61. The Green/Blue plan should guide the restoration of the site. The rehabilitation/restoration plan should be submitted to SEIAA-TN within one month. If applicable.
- The existing water bodies should not be disturbed to ensure sustainable environment for aquatic life forms.
- 63. The proponent should completely implement all environmental pollution control measures as detailed in the EIA report and in the additional report.
- 64. Avenue plantation wherever needed has to be carried out along the route for dust suppression.
- 65. The green belt developed for the prevention of dust pollution should not form a part of the larger green belt development envisaged in the EIA report.
- 66. Regular monitoring and check up for pulmonary and carcinogenic diseases to be carried out regularly, not only for the workers involved in the mines but also to the people in the villages adjoining the mines. Interaction with the Primary Health Centre & district medical officer should be on regular basis to monitor the incidence of the diseases if any and to provide suitable medical facility for the patients.
- 67. Monitoring of well water levels and water quality of the wells in the locations furnished in the EIA report shall be done during pre-monsoon and post monsoon period and results submitted to the Regional Office of MoEF. Chennal and SEIAA.
- 68. Monitoring of water quality and air quality in and around the project site in the selected monitoring points as mentioned in the EIA report shall be continued regularly involving Academic Institutions.
- Hydro geological study including infiltration test shall be conducted by any reputed agency to estimate leachate quantity.
- Regular medical check-up for mine workers and nearby residents around the project site involving community medical centre/NIMH shall be conducted.
- As per norms, the health study should be conducted through competent/approved health organization and report submitted for one year.

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- 72. The effective safe guard measures shall be provided to control particulate dust level in critical areas, transfer points and haul road within the mine area.
- 73. NOC from the State GWA for drawing ground water shall be obtained, if ground water table is intersected.
- 74. Green belt shall be provided as per norms of MoEF & CC, GOL in consultation with local
- 75. All the recommendations made in the EIA report of the project shall be effectively implemented.
- 76. A booklet containing the Dos and Don'ts shall be prepared in vernacular languages for the use of the mine engineers/ managers and the workers to ensure that all necessary environmental, safety and health measures are undertaken.
- 77. All the environmental protection measures and safeguards as recommended in the EIA report shall be complied with.
- 78. Hydro geological study of the area shall be reviewed annually and report submitted to the Authority. No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the operation of the Mining activity.
- 79. A separate Environmental Management Cell equipped with full fledged laboratory facilities to carry out the various Environmental Management and Monitoring functions shall be set up under the control of a Senior Executive.
- 80. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF at Chennai, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely, RSPM, SO2, NOx or critical sector parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

#### Part B: General Conditions;

- 1. EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.
- The Proponent shall obtain the Consent from the TNPC Board before commencing the activity.



- No change in mining technology and scope of working should be made without prior approval
  of the SEIAA, Tamil Nadu.
- No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
- 5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
- A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
- Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
- 10. Access and hard roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
- 11. All Personnel shall be provided with protective respiratory devices including safety shoes, masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- 12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
- Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.

MEMBER SECRETARY

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Date of Issue EC - 17/09/2022 552 A

- 14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished
- 15. The funds earmarked for environmental protection measures should be kept in separate account. and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennai,
- 16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
- 17. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance
- 18. The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection,
- 19. The SEIAA, Tamil Nadu may cancel the Environmental Clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this Environmental Clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining tphe Environmental Clearance.
- 20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
- 21. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act. 1986, the Public Liability Insurance Act, 1991, along with their amendments, Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Biodiversity Conservation Act, 2016, the Biological Diversity Act, 2002 and Biological diversity Rules, 2004 and Rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
- 22. Any other conditions stipulated by other Statutory/Government authorities shall be complied.

MEMBER SECRE



- Any appeal against this Environmental Clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
- 24. The Environmental Clearance is issued based on the documents furnished by the project proponent. In case any documents found to be incorrect/not in order at a later date the Environmental Clearance issued to the project will be deemed to be revoked/ cancelled.

MEMBER SECRETARY SELAA-TN

Copy to:

- 1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi,
- 2. The Principal Secretary to Government, Environment and Forests Department, Tamil Nadu.
- 3. The Principal Secretary to Government, Industries Department, Tamil Nadu.
- The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1<sup>et</sup> & 2<sup>nd</sup> Floor, Cathedral Garden Road, Nungambakkam, Chennai - 34.
- The Chairman, Central Pollution Control Board, Parivesh Bhuwan, CBD-Cum-Office Complex, East Arjun Nagar, New Defhi - 110 032.
- 6. The Chairman, TNPC Board, 76, Mount Salai, Guindy, Chennai 32.
- 7. The District Collector, Tiruppur District.
- 8. The Commissioner of Geology and Mines, Guindy, Chennai 32.
- 9. El Division, Ministry of Environment & Forests, Paryavaran Bhawan, New Delhi.

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10. Spare.

#### Dr. S. KALYANASUNDARAM J.F.S. (Retu.) CHAIRMAN



3rd Floor, Panagal Maaligai, No.1 Jeenis Road, Saidapet. Chennal 15 Phone No.0 14-24359974 Pax No. 044-34359975

#### **ENVIRONMENTAL CLEARANCE**

#### Lr. No.SEIAA-TN/F.No.4216/EC/1(a)/2434/2015 dated:24 11.2015

Third, Mr. Thangaraj No:18. Eharathi Nagar Punjab Urhukuli Uthukull Taluk Tiruppur

Sir.

Sub:

SEIAA-TN - Proposed Rough Stone & Grave | quarry located at S.F.No 389/181A, 1818 & 182, Morattupalayam Village, Uthokoli Taluk, Tiruppur District- Issue of Environmental Clearance - Reg.

Ref:

- 1. Your Application for Environmental Clearance dt: 07.10.2015
- 2. Minutes of the 69th SEAG held on 13 11.2015 &14.11.2015
- 3. Minutes of the SEIAA meeting held on 24.11:2015

#### Details of Minor Mineral Activity:-

This has reference to your application first cited. The proposal is for obtaining environmental clearance for mining/quarrying of minor minerals based on the particulars furnished in your application as shown below.

| 1 | Name of Project Proponent and address | Thiru. M. Thangaraj<br>No.18, Bharathi Nagar<br>Punjab Uthukuli<br>Uthukuli Taluk<br>Tiruppur |
|---|---------------------------------------|-----------------------------------------------------------------------------------------------|
| 2 | Location of the Proposed Activity     |                                                                                               |
|   | Survey Number                         | 389/181A, 181B & 1B2                                                                          |
|   | Latitude and Longitude                | 11°07'59"N to 11°08'07"N<br>77°25'17"E to 77°25'23"E                                          |
|   | Village                               | Morattupalayam                                                                                |
| 1 | Taluk                                 | Uthukuli                                                                                      |
| M | District                              | Tiruppur                                                                                      |
| 3 | Proposed Activity                     |                                                                                               |
| Ī | L Minor mineral                       | Rough Stone & Gravel                                                                          |

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# 9

# STATE LEVEL ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY - TAMIL NADU

|   | Mining Lease Area                                                                                         | 2,19,5 Ha                                                    |
|---|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
|   | iii. Approved quantity                                                                                    | 77:199 cu.m of Rough Stone & 1013 cu.m.o<br>Gravel           |
|   | iv. Depth of Mining                                                                                       | 32 m                                                         |
|   | v. Type of mining                                                                                         | Semi Mechanized Opencast Method                              |
|   | v Category(B1/B2)                                                                                         | B2                                                           |
|   | vii. Precise area communication                                                                           | Rc.No. 357/Mines/2015 Dated:20.09.2015                       |
|   | viii. Mining plan approval                                                                                | Assistant Director<br>Rc.No. 357/Mines/2015 Dated:01.10.2015 |
|   | ix. Mining lease period                                                                                   | 5 Years                                                      |
| 4 | Whether Project area attracts any General conditions specified in the EIA notification, 2006 as amended:- | Not attracted. Affidavit furnished                           |
| 5 | Man Power requirement per day:                                                                            | 11 Employees                                                 |
| 6 | Utilities                                                                                                 |                                                              |
|   | i. Source of Water:                                                                                       | Water Vendors/Existing bore hole                             |
|   | ii. Quantity of Water Requirement in KLD:                                                                 |                                                              |
|   | a. Domestic b. Industrial c. Green Belt & Dust Suppression                                                | 0.3KLD<br>} <sub>0.7KLD</sub>                                |
|   | ill. Power Requirement:  a. Domestic Purpose  b. Industrial Purpose                                       | TNEB                                                         |
| 7 | Cost i. Project Cost ii. EMP Cost                                                                         | Rs.49.39 Lakhs<br>Rs.8,60 Lakhs                              |
| 8 | Public Consultation:-                                                                                     | Not required as per O.M. dated 24.12.2013 of MoEF, Gol.      |
| 9 | Date of Appraisal by SEAC:- Agenda No:                                                                    | 13.11.2015 &14.11,2015<br>69-13                              |

The proposal was placed before the SEIAA in its 143<sup>rd</sup> Meeting held on 24.11.2015 and the Authority after careful consideration, decided to grant environmental clearance to the said project Mining of Rough Stone & Gravel to terms and conditions stipulated under the provisions of Environment Impact Assessment Notification, 2006 as amended.

11 Validity:

The Environmental Clearance will be coterminous with the mine lease period or limited to a maximum period of 5 Years from the date of issue whichever is earlier.

CHAIRMAN SEIAA-TN

#### Conditions to be Complied before commencing mining operations:-

- The project proposent shall advertise in at least two local newspapers widely circulated in the region, one or which shall be in the vernacular language informing the public that
  - The project has been accorded Environmental Clearance.
  - If Cooles of clearance letters are available with the Tamil Nadu Pollution Control Board.
  - III. Environmental Clearance may also be seen on the website of the SEIAA.
  - The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.
- The applicant has to obtain land use classification as industrial use before issue/renewal of mining lease.
- 3. NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 km from the proposed project site.
- The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
- 5. A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.
- Quarry lease area should be demarcated on the ground with wire fencing to show the boundary
  of the lease area on all sides with red flags on every pillar shall be erected before
  commencement of quarrying.
- 7. The proponent shall ensure that First Aid Box is available at site.
- 8. The excavation activity shall not alter the natural drainage pattern of the area.
- 9. The excavated pit shall be restored by the project proponent for useful purposes.
- The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
- 11. The quarrying operation shall be restricted between 7AM and 5 PM.
- 12. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
- A minimum distance of 15 mts. From any civil structure shall be kept from the periphery of any excavation area.

CHAIRMAN SEIAA-TN

- 14 Death of quarrying shall be 2m above the ground water table /approved depth of mining whichever is lesser to be considered as a safe guard against Environmental Contamination and a wit man a ration of resources.
- is the inner out pits should be backfilled where warranted and area should be suitably and specific prevent environmental degradation. The mine closure plan as furnished in the crosses shall be strictly followed with back filling and tree plantation.
- 16. Wet an ing method is to be adopted to control dust emissions. Delay detonators and shock to be in that an existent for blasting shall be used so as to reduce vibration and dust.
- The and treating shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
- .8. The explosives shall be stored at site as per the conditions stipulated in the permits issued by: the ligensing Authority.
- 19. 3 asting shall be carried out after announcing to the public adequate through public address sistem to a rold any accident
- 20 A study has to be conducted to assess the optimum blast parameters and blast design to keep the storation limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.
- 21 The Proconent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAC norms notified by McEF, Gallon 16:11 2009.
- 22. The following measures are to be implemented to reduce Air Pollution during transportation of mineral
  - 1 Roads shall be graced to mitigate the dust emission.
  - Water shall be sprinkled at regular interval on the main road and other service roads to ii. suppress dust
- 23. The following measures are to be implemented to reduce Noise Pollution
  - Proper and regular maintenance of vehicles and other equipment
  - H. Limiting time exposure of workers to excessive noise.
  - The workers employed shall be provided with protection equipment and earmuffs etc. 101,
  - Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.

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- 24. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt. 11.01.2010 issued by the MoE&F, Gol to control noise to the prescribed levels.
- 25 Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
- Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
- Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
- 28. The following measures are to be adopted to control erosion of dumps:-
  - Retention/ toe walls shall be provided at the foot of the dumps.
  - Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.
- 29. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous Wastes (Management, Handling, and trans boundary movement) Rules, 2008 and its amendments thereof to the recyclers authorized by TNPCB.
- 30. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- 31. Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
- 32. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
- 33. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that



- the groundwater table is petting depleted the in the mining activity; necessary corrective measures shall be carried out Obarica Collector/inlining officer shall ensure this.
- on the follow shall be done in the leased area, except only with the permission from competers damenty.
- 15 To take up environmental monitoring of the proposed quarry site before, during and after the proposed activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic institution.
- 36 it shall be ensured that the total extent of nearby quarries(existing, abandoned and proposed) located within 300 meter radius from the periphery of this quarry is not exceeding 25 hectares within the mining lease period of this application.
- 42. If shall be ensured that there is no habitation is located within 500 meter radius from the puriphery of the quarry site and also ensure that no hindance will be caused to the people of the habitation located within 500m radius from the people y of the guarry site.
- 18. Ground water quality monitoring should be conducted once in 3 Months
- Transportation of the quarried materials shall not cause any fundrance to the Village people/Existing Village road.
- Free Silica test should be conducted and reported to TNPC8, Department of Geology and Mining and Regional Director, MoLE, GOL
- All sampling at intersection point should be conducted and reported to TMPCB, Department of Geology and Mining and Regional/Director, MoEF., GOL.
- 47, Bunds to be provided at the boundary of the project site.
- 43. Sround water quality monitoring should be conducted once in 3 Months
- 46. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.
- 45. At least 10 Neem trees should be planted around the boundary of the quarry site.
- 46. Floor of excavated pit to be levelled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
- 47. The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity
- 48. The Project Proponent shall provide solar lighting system to the nearby villages
- 49. The Project Proponent shall comply with the mining and other relevant rules and regulations where ever applicable.
- 50. Rainwater shall be pumped out Via Settling Tank only
- Farthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
- 52. As per MoEF&CC, Gol, Office Memorandum dated 30.03.2015, prior clearance from Forestry & Wild Life angle including clearance from obtaining committee of the National Board for Wild life as applicable shall be obtained before starting the quarring operation, if the project site is located within 10KM from National Park and Sanctuaries.
- 53. The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be monitored by the District Authorities.
- 54. Safety equipments to be provided to all the employees.
- 55: Safety distance of 50m has to be provided in case of railway, reservoir, canal/odal

CHAIRMAN SEIAA-TN

## icheral Conditions:

- EC is given only on the factual records, documents and the commitment furnished in non-judicial stamp paper by the proponent.
- The Proponent shall obtain the Consent for Establishment from the TNPC Board before commencing the activity.
- No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
- No change in the calendar plan including excavation, quantum of mineral (minor mineral)
- 5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
  - Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
  - A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
  - infineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
  - Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
  - Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
  - 11. All Personnel shall be provided with protective respiratory devices including safety shoes, Masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
  - 12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
  - Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
  - 14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
  - 15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennal.

CHAIRMAN SEIAA-TN

- 16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
- 17 This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the \* Environmental Clearance
- 18. The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.
- 19. The SEIAA, Tamil Nadu may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this SEIAA,TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.
- 20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
- 21. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
- 22. Any other conditions stipulated by other Statutory/Government authorities shall be complied
- 23. Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

CHAIRMAN SEIAA-TN

#### Copy to:

- 1. The Secretary, Ministry of Mines, Government of India, ShastriBhawan, New Delhi.
- 2. The Principal Secretary, Environment and Forests Department, Government of Tamil Nadu, Tamil
- 3. The Additional Chief Secretary, Industries Department, Government of Tamil Nadu, Tamil Nadu.
- 4. The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1st & 2"4 Floor, Cathedral Garden Road, Nungambakkam, Chennal – 34.
- 5. The Chairman, Central Pollution Control Board, PariveshBhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
- 6. The Chairman, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-32
- 7. The District Collector, Tiruppur District
- The Commissioner of Geology and Mines, Guindy, Chennai-32
- El Division, Ministry of Environment & Forests, ParyavaranBhawan, New Delhi. 10.Spare.







#### Government of India Ministry of Environment, Forest and Climate Change (Issued by the State Environment Impact Assessment Authority(SEIAA), Tamil Nadu)

To,

The Owner **DEVARAJ M** 

Morattupalayam Village -638752

Subject: Grant of Environmental Clearance (EC) to the proposed Project Activity

under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/TN/MIN/38568/2019 dated 23 Mar 2022. The particulars of the environmental clearance granted to the project are as below.

1. EC Identification No. EC22B001TN188374

2. File No. 6945 3. **Project Type** New 4.

Category 5. Project/Activity including 1(a) Mining of minerals

Schedule No.

M.Devaraj, Rough stone quarry from over an Extent of 1.29.0ha Name of Project 6.

7. Name of Company/Organization **DEVARAJ M** Tamil Nadu 8. **Location of Project** 

**TOR Date** 9. 23 Jun 2020

The project details along with terms and conditions are appended herewith from page no 2 onwards.

(e-signed) Tmt.P.RAJESWARI,IFS Date: 18/05/2022 **Member Secretary** SEIAA - (Tamil Nadu)

Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH.Please quote identification number in all future correspondence.

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

#### STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY – TAMIL NADU

3rd Floor, Panagal Maaligai, No.1 Jeenis Road, Saidapet, Chennai-15. Phone No.044-24359973 Fax No. 044-24359975

#### ENVIRONMENTAL CLEARANCE

#### Lr.No.SEIAA-TN/F.No.6945/1(a)/EC.No:5033/2021 dated:20.04.2022

#### Sir/Madam

Sub: SEIAA, TN - Proposed Rough Stone Quarry over an extent of 1.29.0Ha located at S.F. No, 389/1A Morattupalyam Village, Uthukuli Taluk, Tiruppur District by Thiru.M.Devaraj under project category - "B1" and Schedule S.No. 1(a) -Issue of Environmental Clearance - Regarding.

Ref: 1. Lr No.SEIAA-TN/F.No. 6945/SEAC/ToR-725/2020 Dated: 23.06.2020

- 2. Public Hearing conducted on 23.08.2021
- 3. Online Proposal No. SIA/TN/MIN/38568/2019 dated 24.09.2021
- 4. Application seeking Environmental Clearance dated: 28.09.2021
- 5. Minutes of the 256th Meeting of SEAC held on 24.03.2022
- 6. Minutes of 500th Meeting of SEIAA held on 18.04.2022

#### Details of Minor Mineral Activity:-

This has reference to your application cited, the proposal for obtaining Environmental Clearance for mining/quarrying of minor minerals based on the particulars furnished in your application as shown below.

| Sl. No. | Details of the proposal | Data furnished                  |
|---------|-------------------------|---------------------------------|
| 1.      | Name of the Owner/Firm  | Thiru.M.Devaraj                 |
|         |                         | S/o. Muthusamy                  |
|         |                         | No. 5/320, E.B.R.Lakshmi Garden |

MEMBER SECRETARY SEIAA-TN

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|                |                                                               | Thimmanaickenpalayam, Morattupalayan<br>Village                  |
|----------------|---------------------------------------------------------------|------------------------------------------------------------------|
|                |                                                               | Uthukuli Taluk<br>Tiruppur District                              |
| 2.             | Type of quarrying (Savudu/Rough<br>Stone/Sand/Granite)        | Rough Stone                                                      |
| 3.             | S.F No. Of the quarry site with area break-up                 | 389/1A                                                           |
| 4.             | Village in which situated                                     | Morattupalyam                                                    |
| 5.             | Taluk in which situated                                       | Uthukuli                                                         |
| 6.             | District in which situated                                    | Tiruppur                                                         |
| 7.             | Extent of quarry (in ha.)                                     | 1.29.0ha Patta Land                                              |
| 8.             | Period of quarrying proposed                                  | 5 years                                                          |
| 9.             | Type of mining                                                | Open cast Mechanized mining                                      |
| 10.            | Production (Quantity in m <sup>3</sup> )                      | 1,11,875 m3 of Rough stone                                       |
| 11.            | Depth of quarrying                                            | 36m below ground level                                           |
| 12.            | Depth of water table                                          | 58m-62m                                                          |
| 13.            | Latitude & Longitude of all corners of the quarry site        | 11°08'05.49"N to 11°08'12.66"N<br>77°25'14.04"E to 77°25'20.06"E |
| 14.            | Topo Sheet No.                                                | 57 E/08                                                          |
| 15.            | Man Power requirement per day:                                | 21 Nos                                                           |
| 16.            | Precise area communication issued                             | Na.Ka.No. 629/Kanimam/2018,                                      |
| NO SECURITY OF | by the District Collector with date                           | dated 21.08.2018                                                 |
| 17.            | Mining Plan approved by Deputy<br>Director, Tirupur with date | Rc.No.629/Mines/2018,<br>dated: 12.09.2018                       |
| 18.            | 500m cluster letter issued by                                 | Rc.No.629/Mines/2018,                                            |
|                | Assistant Director, Department of Geology & Mining,           | dated: 02.07.2019                                                |
| 19.            | Water requirement:                                            | 4.0 KLD                                                          |
|                | Drinking & domestic purposes (in                              | 1.2 KLD                                                          |
|                | KLD)                                                          | 1.6 KLD                                                          |
|                | Dust suppression, Green Belt (in                              | 1.2 KLD                                                          |

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|     | KLD)                                                  |                                                               |
|-----|-------------------------------------------------------|---------------------------------------------------------------|
| 20. | Power requirement Domestic Purpose Industrial Purpose | TNEB                                                          |
| 21. | Whether any habitation within 300m distance           | VAO letter dated: 18.04.2018                                  |
| 22. | Project Cost                                          | Rs. 44,14,480                                                 |
| 23. | EMP cost                                              | Capital Cost –Rs.15.60 Lakh<br>Recurring Cost- Rs. 13.44 Lakh |
| 24. | CER cost                                              | Rs. 5.0 Lakh as per SEAC minutes                              |

#### Validity:

This Environmental Clearance is granted for the production in 1,11,875 m3 of Rough stone for the period of 5 Years from the date of execution of the mining lease.

#### **Affidavit**

The Proponent has furnished affidavit in Hundred Rupees stamp paper attested by the Notary stating that

I Thiru. M.Devaraj S/o. Muthusamy No. 5/320, E.B.R.Lakshmi Garden Thimmanaickenpalayam, Morattupalayam Village Uthukuli Taluk Tiruppur District. Do hereby solemnly declare and sincerely affirm that,

I have applied for getting environment clearance to SEIAA, Tamil Nadu for quarry lease for Rough Stone Quarry over an extent of 1.29.0Ha located at S.F. No, 389/1A Morattupalyam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State,

- I swear to state and confirm that within 10km area of the quarry site, we have applied for environmental clearance, none of the following is situated
  - 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.
  - c. Eco-Sensitive areas as notified
  - d. Interstate boundary within 10km radius from the boundary of the proposed site
- I will complete the following Corporate Environment Responsibility (CER) activities before commencement of the quarrying activities.

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## Government Higher Secondary School, Morattupalayam, Tiruppur

| CER Activity                                                                | Project cost<br>(Rs) lakh        | CER cost 2.0%<br>of Project cost<br>(Rs) lakh |
|-----------------------------------------------------------------------------|----------------------------------|-----------------------------------------------|
| Installation of RO Drinking Water Unit                                      |                                  | 50,000/-                                      |
| Construction of Hand Wash Facilities                                        |                                  | 1,00,000/-                                    |
| Terracotta Painting of Entire School with Environmental<br>Awareness Slogan |                                  |                                               |
| Avenue Plantation along the School Boundary @ 200<br>Trees                  | Rs. 44,14,480                    | 1,00,000/-                                    |
| Installation of Solar Lights along the School Compound walls                | Lights along the School Compound |                                               |
| Total cost Allocation                                                       | Rs. 44,14,480                    | Rs. 5.0                                       |

# 3. Details of quarry within 500m radius from the applied area:

| S.<br>No | Name of the Owner  | Village & S.F. No                     | Extent (Ha) | Distance from this proposed quarry |
|----------|--------------------|---------------------------------------|-------------|------------------------------------|
| Exist    | ing Quarry:        | 7 A WW 784                            |             |                                    |
| 1        | P.Raju             | Morattupalayam (V) 387/1B1            | 1.62.0      |                                    |
| 2        | T.Udhayakumar      | Morattupalayam (V)389/2C              | 0.89.0      | 30                                 |
| 3        | M.P.Marimuthu      | Morattupalayam (V)389/1B1, 1B2        | 1.75.0      | 0                                  |
| 4        | T.Sumathi          | Morattupalayam (V)<br>383/2A, 2B      | 0.89        | -                                  |
| 5        | P. Thangamuthusamy | Morattupalayam (V)<br>382/2B, 383/2A1 | 3.24.0      | *                                  |
| 6        | N.Karupasamy       | Morattupalayam (V) 383/1(P), 2A2A(P)  | 0.74.5      |                                    |
| 7        | N. Ayyadurai       | Morattupalayam (V) 392                | 3.52.0      |                                    |
| Aban     | doned Quarry:      |                                       |             |                                    |
|          |                    | Nil                                   |             |                                    |
| Propo    | osed Quarry:       |                                       |             |                                    |
| 1        | M. Devaraj         | Morattupalayam (V) 389/1A             | 1.29.02     |                                    |
| Expir    | ed Quarries:       |                                       |             |                                    |
|          |                    | Nil                                   | ****        |                                    |

4. There will not be any hindrance or disturbance to the people living on enroute / nearby my quarry site while transporting the minded out material and due to mining (quarrying activities.

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- 5. No habitations are located within 500m radius from the periphery of my applied quarry.
- We swear that afforestation will be carried with native species along the periphery of the project boundary during the course of quarrying operation and will be maintained properly.
- 7. The required insurance will be taken in the name of laborers working in the quarry site.
- The Approach road is belongs to local panchayath only and no other private patta roads encountered.
- I will not engage any child labor in the quarry and I aware that engaging child labor is punishable under the law.
- 10. All types of safety/protective equipment will be provided to all the laborers in the proposed quarry.
- 11. No permanent structures, temples etc., are located within 500m radius from the periphery of our quarry.

We ensure to do all the Social and Environmental Commitment as mentioned in the mining plan to the best of our knowledge.

#### Details of Quarries located within 500M radius from the proposed quarry:

The Project Proponent has submitted a copy of the letter obtained from the Assistant Director Department of Geology & Mining, Tiruppur District in his letter Rc.No.629/Mines/2018, dated: 02.07.2019 has stated that the details of other quarries within a radius 500m from the boundary of the proposed quarry site as follows:

| S.<br>No | Name of the Lessee | Quarry/ lease applied area<br>located<br>S.F. No | Extent (Ha) | Status   |
|----------|--------------------|--------------------------------------------------|-------------|----------|
| 1        | M. Devaraj         | 389/1A                                           | 1.29.02     | Proposed |
| 2        | P.Raju             | 387/1B1                                          | 1.62.0      | Existing |
| 3        | T.Udhayakumar      | 389/2C                                           | 0.89.0      | Existing |
| 4        | M.P.Marimuthu      | 389/1B1, 1B2                                     | 1.75.0      | Existing |
| 5        | T.Sumathi          | 383/2A, 2B                                       | 0.89        | Existing |
| 6        | P. Thangamuthusamy | 382/2B, 383/2A1                                  | 3.24.0      | Existing |
| 7        | N.Karupasamy       | 383/1(P), 2A2A(P)                                | 0.74.5      | Existing |
| 8        | N. Ayyadurai       | 392                                              | 3.52.0      | Existing |

#### Appraisal by SEAC:-

The proposal was placed in 256<sup>th</sup> SEAC meeting held on 24.03.2022. The details of the project furnished by the proponent are given in the website (parivesh.nic.in).

The SEAC noted the following:

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- The Project Proponent, Thiru.M.Devaraj has applied for Environmental Clearance for the proposed Rough stone quarry lease over an extent of 1.29.0 Ha at S.F.No. 389/1A of Morattupalayam village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.
- The project/activity is covered under Category "B1" of Item 1(a) "Mining Projects" of the Schedule to the EIA Notification, 2006.
- The production for the five years states that total quantity should not exceed 1,11,875 m<sup>3</sup> of rough stone with an ultimate depth of mining is 36m below ground level.
- ToR issued vide Lr.No.SEIAA-TN/F.No.6945/SEAC/ToR-725/2020 Dated: 23.06.2020.
- 5. Public hearing was conducted on 23.08.2021,

After examining the documents & project proposals furnished by the project proponent and based on the presentations & detailed deliberations, SEAC decided to recommend the proposal for the grant of Environmental Clearance for the total Production for the period of five years states that total quantity should not exceed Rough Stone of 1,11,875 m³ with an ultimate depth of 36 m BGL, subject to the conditions mentioned in the Annexure of this minutes and standard conditions stipulated by MOEF &CC, in addition to the following specific conditions,

 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 adhere the EMP as committed.

| SI.No. | Description                                               | Item                                                                                 | Capital<br>cost (Rs. In<br>Lakhs) | Recurring<br>cost per<br>annum<br>(Rs. in<br>Lakhs) |
|--------|-----------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------|
| 1      | Occupational health & safety                              | Dust Mask, Safety Shoes, Helmets Ear<br>Plugs, Gloves, Goggle, Safety Belt           | 0.00                              | 0.63                                                |
| 2      | Environmental<br>Monitoring                               | Air, Water, Noise & Vibration, Soil<br>Parameters                                    | 0.00                              | 0.76                                                |
| 3      | Water & Soil<br>erosion                                   | Garland drains &Settling tanks, check<br>dam/gully plugs, etc                        | 2.00                              | 0.30                                                |
| 4      | Drinking Water F                                          | acilities and Sanitation Facilities                                                  | 1.00                              | 0.25                                                |
| 5      | Fixed Water Spr                                           | inkling Arrangements + Two times a day<br>by water tankers @ 100 Rs. per tanker with | 8.00                              | 0.50                                                |
| 6      | Haul Road Maint                                           | enance                                                                               | 0.00                              | 0.50                                                |
| 7      | Green belt Develor<br>for plantation and<br>Manpower, etc | opment & Plantation @ 500 Trees proposed maintenance includes Fertilizer, Manure,    | 2.50                              | 1.00                                                |
| 8      | Environmental Av                                          | wareness Programme                                                                   | 0.00                              | 0.25                                                |
| 9      | Boundary Fencing                                          | g (Barbe wire fencing / chain link fencing)                                          | 340                               | 0.25                                                |

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| 10 | Adopting new blasting technology like NONEL Blasting and Controlled Blasting Method will reduce the impacts due to blasting @ Rs 3000/- per blasting session | 0.00  | 9.00  |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|
|    | Total                                                                                                                                                        | 15.60 | 13.44 |

#### YEAR WISE BREAK-UP

| 1 <sup>st</sup> Year | Rs. 26,74,000/- |
|----------------------|-----------------|
| 2 <sup>nd</sup> Year | Rs. 14,11,200/- |
| 3 <sup>rd</sup> Year | Rs. 14,81,760/- |
| 4 <sup>th</sup> Year | Rs. 15,55,848/- |
| 5 <sup>th</sup> Year | Rs. 16,33,640/- |
|                      |                 |

Note: Cost inclusive of 5% cost inflation anticipated every year.

2. As accepted by the Project Proponent the revised CER cost is Rs. 5 lakhs and the amount shall be spent for the benefit of Government Higher Secondary School, Morattupalayam, Tiruppur before obtaining CTO from TNPCB.

| Sl.No. | Description                                                                 | CER Cost INR   |
|--------|-----------------------------------------------------------------------------|----------------|
| 1      | Installation of RO Drinking Water Unit                                      | 50,000/-       |
| 2      | Construction of Hand Wash Facilities                                        | 1,00,000/-     |
| 3      | Terracotta Painting of Entire School with Environmental Awareness<br>Slogan | 2,00,000/-     |
| 4      | Avenue Plantation along the School Boundary @ 200 Trees                     | 1,00,000/-     |
| 5      | Installation of Solar Lights along the School Compound walls                | 50,000/-       |
|        | TOTAL                                                                       | Rs. 5,00,000/- |

All the commitments made by the proponent during the Public Hearing, as per the minutes of Public Hearing should be implemented in total.

#### ANNEXURE

1. The proponent shall mandatorily appoint the required number of statutory officials and the competent persons in relevant to the proposed quarry size as per the provisions of Mines Act 1952 and Metalliferrous Mines Regulations, 1961.

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- The proponent shall erect fencing all around the boundary of the proposed area with gates for entry/exit before the commencement of the operation and shall furnish the photographs/map showing the same before obtaining the CTO from TNPCB.
- Perennial maintenance of haulage road/village / Panchayat Road shall be done by the project proponent as required in connection with the concerned Govt. Authority.
- 4. The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form of Short Term Permit (STP), Query license or any other name.
- 5. The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.
- 6. The proponent shall ensure that the slope of dumps is suitably vegetated in scientific manner with the native species to maintain the slope stability, prevent erosion and surface run off. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps.
- 7. Perennial sprinkling arrangement shall be in place on the haulage road for fugitive dust suppression. Fugitive emission measurements should be carried out during the mining operation at regular intervals and submit the consolidated report to TNPCB once in six months.
- 8. The Project Proponent shall carry out slope stability study by a reputed academic/research institution such as NIRM, IIT, Anna University for evaluating the safe slope angle if the proposed dump height is more than 30 meters. The slope stability report shall be submitted to concerned Regional office of MoEF&CC, Govt. of India, Chennai as well as SEIAA, Tamilnadu.

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- 9. The Proponent shall ensure that the Noise level is monitored during mining operation at the project site for all the machineries deployed and adequate noise level reduction measures undertaken accordingly. The report on the periodic monitoring shall be submitted to TNPCB once in 6 months.
- 10. Proper barriers to reduce noise level and dust pollution should be established by providing greenbelt along the boundary of the quarrying site and suitable working methodology to be adopted by considering the wind direction.
- 11. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
- 12. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted in proper escapements 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.
- 13. Noise and Vibration Related: (i) The Proponent shall carry out only the Controlled Blasting operation using NONEL shock tube initiation system during daytime. Usage of other initiation systems such as detonating cord/fuse, safety fuse, ordinary detonators, cord relays, should be avoided in the blasting operation. The mitigation measures for control of ground vibrations and to arrest fly rocks should be implemented meticulously under the supervision of statutory competent persons possessing the I / II Class Mines Manager / Foreman / Blaster certificate issued by the DGMS under MMR 1961, appointed in the quarry. No secondary blasting of boulders shall be carried out in any occasions and only the Rock Breakers (or) other suitable non-explosive techniques shall be adopted if such secondary breakage is required. The Project Proponent shall provide required number of the security sentries for guarding the danger zone of 500 m radius from the site of blasting to ensure that no human/animal is present within this danger zone and also no person is allowed to enter into (or) stay in the danger zone during the blasting. (ii) Appropriate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with

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- ear plugs/muffs, (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone.
- 14. Ground water quality monitoring should be conducted once in every six months and the report should be submitted to TNPCB.
- 15. The operation of the quarry should not affect the agricultural activities & water bodies near the project site and a 50 m safety distance from water body should be maintained without carrying any activity. The proponent shall take appropriate measures for "Silt Management" and prepare a SOP for periodical de-siltation indicating the possible silt content and size in case of any agricultural land exists around the quarry.
- 16. The proponent shall provide sedimentation tank / settling tank with adequate capacity for runoff management.
- 17. The proponent shall ensure that the transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village Road and shall take adequate safety precautionary measures while the vehicles are passing through the schools / hospital. The Project Proponent shall ensure that the road may not be damaged due to transportation of the quarried rough stones; and transport of rough stones will be as per IRC Guidelines with respect to complying with traffic congestion and density.
- 18. To ensure safety measures along the boundary of the quarry site, security guards are to be posted during the entire period of the mining operation.
- 19. After mining operations are completed, the mine closure activities as indicated in the mine closure plan shall be strictly carried out by the Proponent fulfilling the necessary actions as assured in the Environmental Management Plan.
- 20. The Project proponent shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition that is fit for the growth of fodder, flora, fauna etc.
- 21. The Project Proponent shall comply with the provisions of the Mines Act, 1952, MMR 1961 and Mines Rules 1955 for ensuring safety, health and welfare of the people working in the mines and the surrounding habitants.
- 22. The project proponent shall ensure that the provisions of the MMRD, 1956, the MCDR 2017 and Tamilnadu Minor Mineral Concession Rules 1959 are compiled by carrying out the quarrying operations in a skillful, scientific and systematic manner keeping in view proper safety of the labour, structure and the public and public works located in that vicinity of the quarrying area and in a manner to preserve the environment and ecology of the area.

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- 23. The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be informed to the District AD/DD (Geology and Mining) District Environmental Engineer (TNPCB)and the Director of Mines Safety (DMS), Chennai Region by the proponent without fail.
- 24. The Project Proponent shall abide by the annual production scheduled specified in the approved mining plan and if any deviation is observed, it will render the Project Proponent liable for legal action in accordance with Environment and Mining Laws.
- 25. Prior clearance from Forestry & Wild Life including clearance from committee of the National Board for Wildlife as applicable shall be obtained before starting the quarrying operation, if the project site attracts the NBWL clearance, as per the existing law from time to time.
- 26. All the conditions imposed by the Assistant/Deputy Director, Geology & Mining, concerned District in the mining plan approval letter and the Precise area communication letter issued by concerned District Collector should be strictly followed.
- 27. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
- 28. The recommendation for the issue of environmental clearance is subject to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.ANo.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).

#### Appendix

#### List of Native Trees for Planting

- Aegle marmelos Vilvam
- 2. Adenaanthera pavonina Manjadi
- 3. Albizia lebbeck Vaagai
- 4. Albizia amara Usil
- 5. Bauhinia purpurea Mantharai
- 6. Bauhinia racemosa Aathi
- 7. Bauhinia tomentosa Iruvathi
- 8. Buchanania aillaris Kattuma

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- 9. Borassus flabellifer Panai
- 10. Butea monosperma Murukka maram
- 11. Bobax ceiba Ilavu, Sevvilavu
- 12. Calophyllum inophyllum Punnai
- 13. Cassia fistula Sarakondrai
- 14. Cassia roxburghii- Sengondrai
- 15. Chloroxylon sweitenia Purasa maram
- 16. Cochlospermum religiosum Kongu, Manjal Ilavu
- 17. Cordia dichotoma Mookuchali maram
- 18. Creteva adansonii Mavalingum
- 19. Dillenia indica Uva, Uzha
- 20. Dillenia pentagyna Siru Uva, Sitruzha
- 21. Diospyros ebenum Karungali
- 22. Diospyros chloroxylon Vaganai
- 23. Ficus amplissima Kal Itchi
- 24. Hibiscus tiliaceous Aatru poovarasu
- 25. Hardwickia binata Aacha
- 26. Holoptelia integrifolia Aavili
- 27. Lannea coromandelica Odhiam
- 28. Lagerstroemia speciosa Poo Marudhu
- 29. Lepisanthus tetraphylla Neikottai maram
- 30. Limonia acidissima Vila maram
- 31. Litsea glutinosa -Pisin pattai
- 32. Madhuca longifolia Illuppai
- 33. Manilkara hexandra Ulakkai Paalai
- 34. Mimusops elengi Magizha maram
- 35. Mitragyna parvifolia Kadambu
- 36. Morinda pubescens Nuna
- 37. Morinda citrifolia Vellai Nuna
- 38. Phoenix sylvestre Eachai
- 39. Pongamia pinnata Pungam
- 40. Premna mollissima Munnai
- 41. Premna serratifolia Narumunnai

- 42. Premna tomentosa Purangai Naari, Pudanga Naari
- 43. Prosopis cinerea Vanni maram
- 44. Pterocarpus marsupium Vengai
- 45. Pterospermum canescens Vennangu, Tada
- 46. Pterospermum xylocarpum Polavu
- 47. Puthranjiva roxburghii Puthranjivi
- 48. Salvadora persica Ugaa Maram
- 49. Sapindus emarginatus Manipungan, Soapu kai
- 50. Saraca asoca Asoca
- 51. Streblus asper Piraya maram
- 52. Strychnos nuxvomica Yetti
- 53. Strychnos potatorum Therthang Kottai
- 54. Syzygium cumini Naval
- 55. Terminalia bellerica Thandri
- 56. Terminalia arjuna Ven marudhu
- 57. Toona ciliate Sandhana vembu
- 58. Thespesia populnea Puvarasu
- 59. Walsura trifoliata valsura
- 60. Wrightia tinctoria Vep

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

The proposal was placed in the 500<sup>th</sup> Authority meeting held on 18.04.2022. After detailed discussion, the Authority accepts the recommendation of SEAC and decided to grant Environmental Clearance subject to the conditions as recommended by SEAC meeting in addition to the following condition.

- No trees in the area should be removed and all the trees numbered and protected. In case trees
  fall within the proposed come quarry site the trees may be transplanted in the Greenbelt zone.
- The proponent shall ensure that the activities should in no way result in disturbance to forest and trees in vicinity.
- The proponent shall ensure that the operations shall not result in loss of soil biological properties and nutrients.
- 4. The activity should not result in Co<sub>2</sub> release and temperature rise and add to micro climate alternations.

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- 5. The mining closure plan should be strictly adhered with appropriate soil rehabilitation measures to ensure ecological stability of the area.
- 6. Reclamation/Restoration of the mine site should ensure that the Geotechnical, physical, chemical properties are sustainable that the soil structure composition is buildup, during the process of restoration.
- 7. The proponent shall ensure that the activity does not disturb the movement of grazing animals and free ranging wildlife.
- 8. The proponent shall ensure that the activity does not disturb the biodiversity, the flora & fauna in the ecosystem.
- 9. The proponent shall ensure that the activity does not disturb the water bodies and natural flow of surface and ground water, nor cause any pollution, to water sources in the area.
- 10. The proponent shall ensure that the activities undertaken should not result in carbon emission, and temperature rise, in the area.
- 11. The proponent shall ensure that the mine closure plan are followed as per mining plan and the mine restoration should be done with native species, and site restored to near original status.
- 12. The proponent shall ensure that Monitoring be carried out with reference to the quantum of particulate matter during excavation; blasting; material transport and also from cutting waste dumps and haul roads.
- 13. The proponent shall ensure that the area is ecologically restored to conserve the ecosystems and ensure flow of goods and services.
- 14. The proponent shall ensure that the activities shall not disturb the agro biodiversity and agro farms.
- 15. The proponent shall ensure that the activity shall not result in invasion by invasive alien species.
- 16. Actions to be taken to promote agro forestry, mixed plants to support biodiversity conservation in the mine restoration effort.
- 17. The proponent shall ensure that activity shall not deplete the indigenous soil seed bank and disturb the mycorrizal fungi, soil organism, soil community nor result in eutrophication of soils and water.
- 18. The activities should not disturb the soil properties and seed and plant growth. Soil amendments as required to be carried out, to improve soil heath

19. Bio remediation using an microorganisms should be carried out to restore the soil environment to enable carbon sequestration.

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- 20. The proponent shall ensure that all mitigation measures listed in the EIA/EMP are taken to protect the biodiversity and natural resources in the area.
- 21. The proponent shall ensure that the activities should not impact the water bodies/wells in the neighbouring open wells and bore wells.
- 22. The proponent shall ensure that the activities should not in any way affect the water quantity and quality in the open wells and bore wells in the vicinity, nor impact the water table and levels.
- 23. The proponent shall ensure that in the green belt development more indigenous trees species (Appendix as per the SEAC Minutes) to be planted.
- 24. The proponent shall ensure that the activities should not disturb the resident and migratory birds.
- 25. The proponent shall ensure the area should be restored and rehabilitated with native trees as recommended SEAC Minutes (in Appendix).
- 26. The proponent shall ensure that the mine restoration should be done using mycorrizal VAM, vermicasting, Biofertilizers to ensure soil health and, biodiversity conservation.
- 27. The proponent shall ensure that the topsoil should be protected and used in planting activities in the area.
- 28. The proponent shall ensure that the activities should not disturb the river flow, nor affect the Odai, Water bodies, Dams in the vicinity.
- 29. The proponent shall ensure that the activities should not disturb the vegetation and wildlife in the adjoin reserve forests and areas around.
- 30. The proponent should ensure that there is no disturbance to the agriculture plantations, social forestry plantations, waste lands, forests, sanctuary or national parks. There should be no impact on the land, water, soil and biological environment and other natural resources due to the mining activities.
- 31. The project proponent shall ensure that no change in land use policy.
- 32. The project proponent shall ensure that the Environmental policy, EMP should be adhered.
- 33. The project proponent shall ensure that the Disaster risk management and R& R plan should be implemented.

## Part-A: Conditions to be Complied before commencing mining operations:-

1. The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the pernacular language

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#### informing the public that

- I. The project has been accorded Environmental Clearance.
- II. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.
- III. Environmental Clearance may also be seen on the website of the SEIAA.
- IV. The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.
- Mining activity should be reviewed by the District Collector after three years and decide for further extension.
- NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
- The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
- 5. A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.
- Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
- 7. The proponent shall ensure that First Aid Box is available at site.
- 8. The excavation activity shall not alter the natural drainage pattern of the area.
- 9. The excavated pit shall be restored by the project proponent for useful purposes.
- 10. The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
- 11. The quarrying operation shall be restricted between 7AM and 5 PM.
- 12. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
- 13. A minimum distance of 50mts. from any civil structure shall be kept from the periphery of any excavation area.

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- 14. The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
- 15. Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
- 16. Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
- 17. Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
- 18. A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.
- 19. The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF& CC, GoI on 16.11.2009.
- 20. The following measures are to be implemented to reduce Air Pollution during transportation of mineral
  - Roads shall be graded to mitigate the dust emission.
  - Water shall be sprinkled at regular interval on the main road and other service roads ii. to suppress dust
- 21. The following measures are to be implemented to reduce Noise Pollution
  - Proper and regular maintenance of vehicles and other equipment î.
  - ii. Limiting time exposure of workers to excessive noise.
  - The workers employed shall be provided with protection equipment and earmuffs etc. iii.
  - Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 iv. kmph to prevent undue noise from empty trucks.
    - All noise generating machinery the compressor, generator to be enclosed in acoustic V. enclosure so as to reduce noise in working area.
- 22. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoEF& CC, GoI to control noise to the prescribed levels.

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- 23. Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
- 24. Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
- 25. Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
- 26. The following measures are to be adopted to control erosion of dumps:-
  - Retention/ toe walls shall be provided at the foot of the dumps.
  - Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.
- 27. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous& other wastes (Management, and Trans Boundary Movement) Rules, 2016 and its amendments thereof to the recyclers authorized by TNPCB.
- 28. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
- 30. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
- 31. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out. District Collector/mining officer shall ensure this.

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- 32. No tree-felling shall be done in the leased area, except only with the permission from competent Authority.
- 33. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic Institution.
- 34. It shall be ensured that the total extent of nearby quarries(existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 5 hectares within the mining lease period of this application.
- 35. It shall be ensured that there is no habitation is located within 300 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 300m radius from the periphery of the quarry site.
- 36. Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
- 37. Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
- 38. Bunds to be provided at the boundary of the project site.
- 39. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.
- 40. Floor of excavated pit to be levelled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
- 41. The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity
- 42. The Project Proponent shall provide solar lighting system to the nearby villages.
- 43. Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
- 44. Safety equipments to be provided to all the employees.
- 45. Safety distance of 50m has to be provided in case of railway, reservoir, canal/odai
- 46. The Assistant/Deputy Director, Department of Geology & mining shall ensure that the proponent has engaged the blaster with valid Blasting license/certificate obtained from the competent authority before execution of mining lease.

47. The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.

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- 48. The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
- 49. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
- 50. The proponent has to display the name board at the quarry site showing the details of Proponent, lease period, extent, etc., with respect to the existing activity before execution of mining.
- 51. Heavy earth machinery equipments if utilized, after getting approval from the competent authority.
- 52. The Proponent shall ensure that the project activity including blasting, mining transportation etc should in no way have adverse impact to the other forests, such as reserve forests and social forests, tree plantation and bio diversity, surrounding water bodies etc.
- 53. The proponent shall provide Green Belt development at the rate of not less than 400 trees/Hectare. The tree saplings shall be not less than 3m height.
- 54. The fugitive emissions should be monitored during the mining activity and should be reported to TNPCB once in a month and the operation of the quarry should no way impact the agriculture activity & water bodies near the project site.
- 55. All the commitment made by the project proponent in the proposal shall be strictly followed.
- 56. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
- 57. The Project proponent has to strictly comply the outcome/direction of the Hon'ble NGT, Principle Bench, New Delhi in the O.A No.186 of 2016 (M.A.No.350/2016), O.A. No.200/2016, O.A.No.580/2016 (M.A.No.1182/2016), O.A.No.102/2017, 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), 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).
- 58. All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
- 59. The company shall stress upon the preventive aspects of occupational health.

- 60. A separate environment and safety management cell with qualified staff shall be set up before commissioning of construction activities and shall be retained throughout the lifetime of the industry, for implementation of the stipulated environmental safeguards.
- 61. A scientific site/ ecological rehabilitation and restoration plan on long term basis should be drawn to carryout restoration with native species and Bio diversity.
- 62. The Green/Blue plan should guide the restoration of the site. The rehabilitation/restoration plan should be submitted to SEIAA-TN within one month. If applicable.
- 63. The existing water bodies should not be disturbed to ensure sustainable environment for aquatic life forms.
- 64. The proponent should completely implement all environmental pollution control measures as detailed in the EIA report and in the additional report.
- 65. Avenue plantation wherever needed has to be carried out along the route for dust suppression.
- 66. The green belt developed for the prevention of dust pollution should not form a part of the larger green belt development envisaged in the EIA report.
- 67. Regular monitoring and check up for pulmonary and carcinogenic diseases to be carried out regularly, not only for the workers involved in the mines but also to the people in the villages adjoining the mines. Interaction with the Primary Health Centre & district medical officer should be on regular basis to monitor the incidence of the diseases if any and to provide suitable medical facility for the patients.
- 68. Monitoring of well water levels and water quality of the wells in the locations furnished in the EIA report shall be done during pre-monsoon and post monsoon period and results submitted to the Regional Office of MoEF, Chennai and SEIAA.
- 69. Monitoring of water quality and air quality in and around the project site in the selected monitoring points as mentioned in the EIA report shall be continued regularly involving Academic Institutions.
- Hydro geological study including infiltration test shall be conducted by any reputed agency to estimate leachate quantity.
- Regular medical check-up for mine workers and nearby residents around the project site involving community medical centre/NIMH shall be conducted.
- 72. As per norms, the health study should be conducted through competent/approved health organization and report submitted for one year.

73. The effective safe guard measures shall be provided to control particulate dust level in critical areas, transfer points and haul road within the mine area.

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- 74. NOC from the State GWA for drawing ground water shall be obtained, if ground water table is intersected.
- 75. Green belt shall be provided as per norms of MoEF & CC, GOI, in consultation with local DFO.
- 76. All the recommendations made in the EIA report of the project shall be effectively implemented.
- 77. A booklet containing the Dos and Don'ts shall be prepared in vernacular languages for the use of the mine engineers/ managers and the workers to ensure that all necessary environmental, safety and health measures are undertaken.
- 78. All the environmental protection measures and safeguards as recommended in the EIA report shall be complied with.
- 79. Hydro geological study of the area shall be reviewed annually and report submitted to the Authority. No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the operation of the Mining activity.
- 80. A separate Environmental Management Cell equipped with full fledged laboratory facilities to carry out the various Environmental Management and Monitoring functions shall be set up under the control of a Senior Executive.
- 81. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF at Chennai, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; RSPM, SO2, NOx or critical sector parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain. rects if She v

### Part B: General Conditions:

- 1. EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.
- 2. The Proponent shall obtain the Consent from the TNPC Board before commencing the activity.
- 3. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.

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- No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
- 5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
- A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
- Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
- 10. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
- 11. All Personnel shall be provided with protective respiratory devices including safety shoes, masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- 12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
- Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
- 14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
- 15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be

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- reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.
- 16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
- 17. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance
- 18. The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.
- 19. The SEIAA, Tamil Nadu may cancel the Environmental Clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this Environmental Clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining tphe Environmental Clearance.
- 20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
- 21. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Biodiversity Conservation Act, 2016, the Biological Diversity Act, 2002 and Biological diversity Rules, 2004 and Rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
- 22. Any other conditions stipulated by other Statutory/Government authorities shall be complied.
- 23. Any appeal against this Environmental Clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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24. The Environmental Clearance is issued based on the documents furnished by the project proponent. In case any documents found to be incorrect/not in order at a later date the Environmental Clearance issued to the project will be deemed to be revoked/cancelled.

MEMBER SECRETARY SEIAA-TM

#### Copy to:

- 1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
- 2. The Principal Secretary to Government, Environment and Forests Department, Tamil Nadu.
- The Principal Secretary to Government, Industries Department, Tamil Nadu.
- The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1<sup>st</sup> & 2<sup>nd</sup> Floor, Cathedral Garden Road, Nungambakkam, Chennai - 34.
- The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
- 6. The Chairman, TNPC Board, 76, Mount Salai, Guindy, Chennai 32.
- 7. The District Collector, Tirppur District.
- 8. The Commissioner of Geology and Mines, Guindy, Chennai 32.

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- 9. El Division, Ministry of Environment & Forests, Paryavaran Bhawan, New Delhi.
- 10. Spare.

Signature Not Verified Digitally signed by





NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)

#### TEST REPORT

| Site Location             | on                       | Morattupalayam Rough Stone a<br>S.F.Nos. 209/IA (P), 209/IB (P) o<br>MorattupalayamVillage, Uthuki | & 209/2 (P),389/1C2,  |  |  |
|---------------------------|--------------------------|----------------------------------------------------------------------------------------------------|-----------------------|--|--|
| Discipline                | Chemical                 | General Sampling Procedure                                                                         | IS 5182 Part 5&Part14 |  |  |
| Group                     | Atmospheric<br>Pollution | Sample Reference Id                                                                                | KGS/0522/A-134        |  |  |
| Sample Matrix             | AAQ                      | Sample Collected By                                                                                | Chemist               |  |  |
| Sample Description        | Ambient Air Quality      | Sample Collected On                                                                                | March 2022 - May 2022 |  |  |
| Sample Mark               | AAQ                      | Sampling Time                                                                                      | 24 Hours              |  |  |
| Sample Received Condition | Good/PVC Container       | Sample Code / Location                                                                             | AAQ2- Project Area    |  |  |

| Monitoring     | Parti                                    | culates                                 |                                        | Gase                                   | ous Polli                            | itants                              |                         | 3                   | Other Poll               | itants (Part   | iculate Pha                                          | se)             |
|----------------|------------------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------|--------------------------------------|-------------------------------------|-------------------------|---------------------|--------------------------|----------------|------------------------------------------------------|-----------------|
| Date           | PM <sub>2.5</sub> ,<br>μg/m <sup>2</sup> | PM <sub>10</sub> ,<br>μg/m <sup>3</sup> | SO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NH <sub>3</sub><br>μg/m <sup>3</sup> | O <sub>3</sub><br>µg/m <sup>3</sup> | CO<br>mg/m <sup>3</sup> | Pb,<br>μg/m³        | As,<br>ng/m <sup>3</sup> | Ni,<br>ng/m³   | C <sub>6</sub> H <sub>6</sub> ,<br>μg/m <sup>3</sup> | BaP,<br>ng/m³   |
| NAAQ<br>Norms* | 60<br>(24<br>hrs.)                       | 100<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)                     | 400<br>(24<br>hrs.)                  | 100<br>(8<br>hrs.)                  | 2.0<br>(8hrs.)          | 1.0<br>(24<br>hrs.) | 6.0<br>(annual)          | 20<br>(annual) | 5.0<br>(annual)                                      | 1.0<br>(annual) |
| 09.03.2022     | 19.4                                     | 44.0                                    | 7.5                                    | 25.0                                   | <5.0                                 | <5.0                                | <1.0                    | <0.01               | <5.0                     | ≤3.0           | <1.0                                                 | <3.0            |
| 10.03.2022     | 19.5                                     | 43.9                                    | 7.2                                    | 25.5                                   | <5.0                                 | <5.0                                | <1.0                    | <0.01               | <5.0                     | <3.0           | <1.0                                                 | <3.0            |
| 16.03.2022     | 19.7                                     | 42.3                                    | 7.4                                    | 24.9                                   | <5.0                                 | <5.0                                | <1.0                    | <0.01               | <5.0                     | <3.0           | <1.0                                                 | <3.0            |
| 17.03.2022     | 19.0                                     | 42.8                                    | 7.2                                    | 25.6                                   | <5.0                                 | <5.0                                | <1.0                    | <0.01               | <5.0                     | <3.0           | <1.0                                                 | <3.0            |
| 23.03.2022     | 20.2                                     | 42.5                                    | 8.1                                    | 25.3                                   | <5.0                                 | <5.0                                | <1.0                    | < 0.01              | <5.0                     | <3,0           | <1.0                                                 | <3.0            |
| 24.03.2022     | 19,9                                     | 42.1                                    | 8.4                                    | 25.8                                   | <5.0                                 | <5.0                                | <1.0                    | < 0.01              | <5.0                     | <3.0           | <1.0                                                 | <3.0            |
| 30.03.2022     | 20,5                                     | 42.6                                    | 8.3                                    | 25.2                                   | <5.0                                 | <5.0                                | <1.0                    | <0.01               | <5.0                     | <3.0           | <1.0                                                 | <3.0            |
| 31.03.2022     | 20.6                                     | 43.6                                    | 8.2                                    | 26.5                                   | <5.0                                 | <5.0                                | <1.0                    | < 0.01              | <5.0                     | <3.0           | <1.0                                                 | <3.0            |
| 06:04.2022     | 20.2                                     | 43.0                                    | 8.0                                    | 24.5                                   | <5.0                                 | <5.0                                | <1.0                    | < 0.01              | <5.0                     | <3.0           | <1.0                                                 | <3.0            |
| 07.04.2022     | 20.3                                     | 43.4                                    | 7,7                                    | 24.3                                   | <5.0                                 | <5.0                                | <1.0                    | <0.01               | <5.0                     | <3.0           | <1.0                                                 | <3.0            |
| 13,04,2022     | 20.1                                     | 43.2                                    | 7.8                                    | 24.0                                   | <5.0                                 | <5.0                                | <1.0                    | < 0.01              | <5.0                     | <3.0           | <1.0                                                 | <3.0            |
| 14.04.2022     | 20.8                                     | 12.9                                    | 7.9                                    | 26.1                                   | <5.0                                 | <5.0                                | <1,0                    | <0.01               | <5.0                     | <3.0           | <1.0                                                 | <3.0            |
| 20,04.2022     | 1                                        | 43.2                                    | 8.1                                    | 25.2                                   | <5.0                                 | <5.0                                | <1.0                    | < 0.01              | <5.0                     | <3.0           | <1.0                                                 | <3.0            |
| 21.04.2022     | 21.1                                     | 43.4                                    | 8.4                                    | 25.5                                   | <5.0                                 | <5.0                                | ≤1.0                    | < 0.01              | <5.0                     | <3.0           | <1.0                                                 | <3.0            |

......Continue Report......

CHENNAL

Authorized Signatory





NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)

#### TEST REPORT

| Site Locati               | O.D.                     | Morattupalayam Rough Stone a<br>S.F.Nos. 209/1A (P), 209/1B (P)<br>MorattupalayamVillage, Uthuki | & 209/2 (P),389/1C2,  |
|---------------------------|--------------------------|--------------------------------------------------------------------------------------------------|-----------------------|
| Discipline                | Chemical                 | General Sampling Procedure                                                                       | IS 5182 Part 5&Part14 |
| Group                     | Atmospheric<br>Pollution | Sample Reference Id                                                                              | KGS/0522/A-134        |
| Sample Matrix             | AAQ                      | Sample Collected By                                                                              | Chemist               |
| Sample Description        | Ambient Air Quality      | Sample Collected On                                                                              | March 2022 - May 2022 |
| Sample Mark               | AAQ                      | Sampling Time                                                                                    | 24 Hours              |
| Sample Received Condition | Good/PVC Container       | Sample Code / Location                                                                           | AAQ2- Project Area    |

| Monitoring     | Partie                        | ulates                                  |                                        | Gase                        | ous Pollt           | itants                  |                |                     | Other Polli              | itants (Part   | iculate Pha     | se)             |
|----------------|-------------------------------|-----------------------------------------|----------------------------------------|-----------------------------|---------------------|-------------------------|----------------|---------------------|--------------------------|----------------|-----------------|-----------------|
| Date           | $\frac{PM_{2.5c}}{\mu g/m^3}$ | PM <sub>10</sub> ,<br>μg/m <sup>3</sup> | SO <sub>2</sub> ,<br>μg/m <sup>3</sup> | $\frac{NO_{2s}}{\mu g/m^3}$ | NH3<br>µg/m³        | $\frac{O_3}{\mu g/m^3}$ | CO<br>mg/m³    | Pb,<br>μg/m³        | As,<br>ng/m <sup>3</sup> | Ni.<br>ng/m³   | C6H6,<br>µg/m³  | BaP,<br>ng/m³   |
| NAAQ<br>Norms* | 60<br>(24<br>hrs.)            | 100<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)          | 400<br>(24<br>hrs.) | 100<br>(8<br>hrs.)      | 2.0<br>(8hrs.) | 1.0<br>(24<br>hrs.) | 6.0<br>(annual)          | 20<br>(annual) | 5.0<br>(annual) | 1.0<br>(annual) |
| 27.04.2022     | 19.5                          | 43.7                                    | 8.2                                    | 25.3                        | <5.0                | <5.0                    | <1.0           | <0.01               | <5.0                     | <3.0           | <1.0            | <3.0            |
| 28.04.2022     | 19.7                          | 43.2                                    | 8.5                                    | 25:4                        | <5.0                | <5.0                    | <1.0           | < 0.01              | <5.0                     | <3.0           | <1.0            | <3.0            |
| 04.05.2022     | 193                           | 43.9                                    | 8.7                                    | 24.7                        | <5.0                | <5.0                    | <1.0           | <0.01               | <5.0                     | <3.0           | <1.0            | <3.0            |
| 05.05.2022     | 19.3                          | 42.0                                    | 8.4                                    | 24.0                        | <5.0                | <5.0                    | <1.0           | <0.01               | <5.0                     | <3.0           | <1.0            | <3.0            |
| 11.05.2022     | 19,9                          | 41.8                                    | 8.4                                    | 25.3                        | <5.0                | <5.0                    | <1.0           | < 0.01              | <5.0                     | <3.0           | <1.0            | <3.0            |
| 12.05.2022     | 19,8                          | 41.0                                    | 8.6                                    | 25.6                        | <5.0                | <5.0                    | <1.0           | < 0.01              | <5.0                     | <3.0           | <1.0            | <3.0            |
| 16.05.2022     | 20.1                          | 42.4                                    | 8.7                                    | 25.9                        | <5.0                | <5.0                    | <1.0           | < 0.01              | <5.0                     | <3.0           | <1.0            | <3.0            |
| 17.05.2022     | 20.4                          | 42.7                                    | 8.3                                    | 25.3                        | <5.0                | <5.0                    | <1.0           | < 0.01              | <5.0                     | <3.0           | <1.0            | <3.0            |
| 23.05.2022     | 20.7                          | 42.0                                    | 7.8                                    | 25.5                        | <5.0                | <5.0                    | <1.0           | < 0.01              | <5.0                     | <3.0           | <1.0            | <3.0            |
| 24.05.2022     | 20.9                          | 42,2                                    | 7.2                                    | 25:0                        | <5.0                | <5.0                    | <1.0           | < 0.01              | <5.0                     | <3.0           | <1.0            | <3.0            |
| 28.05.2022     | 19.2                          | 42,6                                    | 7.9                                    | 25.8                        | <5.0                | <5.0                    | <1.0           | < 0.01              | <5.0                     | <3.0           | <1.0            | <3.0            |
| 30,05,2022     | 19.8                          | 42.7                                    | 7.3                                    | 25.5                        | ≤5.0                | <5.0                    | <1.0           | <0.01               | <5.0                     | <3.0           | <1.0            | <3.0            |

\* NAAQS-National Ambient Air Quality Standards Issued by CPCB (Central Pollution Control Board) in 2009

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#### TEST REPORT

| Test Report No: KGS/0522/TR | /A-133                   |                                                                                                 |                       |
|-----------------------------|--------------------------|-------------------------------------------------------------------------------------------------|-----------------------|
| Site Locati                 | on                       | Morattupalayam Rough Stone a<br>S.F.Nos. 209/1A (P), 209/1B (P)<br>MorattupalayamVillage, Uthuk | & 209/2 (P),389/1C2,  |
| Discipline Chemical         |                          | General Sampling Procedure                                                                      | IS 5182 Part 5&Part14 |
| Group                       | Atmospheric<br>Pollution | Sample Reference Id                                                                             | KGS/0522/A-133        |
| Sample Matrix               | AAQ                      | Sample Collected By                                                                             | Chemist               |
| Sample Description          | Ambient Air Quality      | Sample Collected On                                                                             | March 2022 - May 2022 |
| Sample Mark                 | AAQ                      | Sampling Time                                                                                   | 24 Hours              |
| Sample Received Condition   | Good/PVC Container       | Sample Code / Location                                                                          | AAQ1- Core Zone       |

| Monitoring     | Parti                                   | culates                                |                                        | Gase                                   | ous Poll            | itants                              |                         |                     | Other Poll      | itants (Part   | iculate Pha                       | se)                       |
|----------------|-----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|---------------------|-------------------------------------|-------------------------|---------------------|-----------------|----------------|-----------------------------------|---------------------------|
| Date           | PM <sub>2.8.</sub><br>µg/m <sup>3</sup> | PM <sub>104</sub><br>μg/m <sup>3</sup> | SO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NH3<br>µg/m³        | Ο <sub>3</sub><br>μg/m <sup>3</sup> | CO<br>mg/m <sup>3</sup> | Pb,<br>μg/m³        | As,<br>ng/m³    | Ni,<br>ng/m³   | C6Hn,<br>μg/m³                    | BaP,<br>ng/m <sup>3</sup> |
| NAAQ<br>Norms* | 60<br>(24<br>hrs.)                      | 100<br>(24<br>hrs.)                    | 80<br>(24<br>brs.)                     | 80<br>(24<br>hrs.)                     | 400<br>(24<br>hrs.) | 100<br>(8<br>hrs.)                  | 2.0 (8hrs.)             | 1.0<br>(24<br>hrs.) | 6,0<br>(annual) | 20<br>(annual) | 5.0<br>(annual)                   | 1.0<br>(annual)           |
| 09,03,2022     | 22.4                                    | 45.2                                   | 8.5                                    | 25.6                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0            | <3.0           | <1.0                              | <3.0                      |
| 10.03.2022     | 22.6                                    | 46.1                                   | 8.2                                    | 24.2                                   | <5.0                | <5.0                                | <1.0                    | <0.01               | <5.0            | <3.0           | <1.0                              | <3.0                      |
| 16.03.2022     | 23.0                                    | 45.5                                   | 8.6                                    | 24.9                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0            | <3.0           | <l0< td=""><td>&lt;5.0</td></l0<> | <5.0                      |
| 17.03.2022     | 22.8                                    | 45.0                                   | 8.8                                    | 25.1                                   | <5,0                | <5.0                                | <1.0                    | <0.01               | <5.0            | <3.0           | <1.0                              | <3.0                      |
| 23.03.2022     | 23.2                                    | 45.9                                   | 8.2                                    | 24.3                                   | <5.0                | <5.0                                | <1.0                    | <0.01               | <5.0            | <3.0           | <1.0                              | <3.0                      |
| 24,03,2022     | 23.6                                    | 45.8                                   | 8.5                                    | 25.4                                   | <5.0                | <5.0                                | <1.0                    | <0.01               | <5.0            | <3.0           | <1.0                              | <3.0                      |
| 30.03.2022     | 22.5                                    | 46.2                                   | 7.2                                    | 24.9                                   | <5.0                | < 5.0                               | <1.0                    | < 0.01              | <5.0            | <3.0           | <1.0                              | <3.0                      |
| 31,03,2022     | 22.7                                    | 46.5                                   | 7.6                                    | 25.2                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0            | <3.0           | <1.0                              | <3.0                      |
| 06.04.2022     | 24.5                                    | 46.0                                   | 7.6                                    | 24.3                                   | <5.0                | <5.0                                | <1.0                    | <0.01               | <5.0            | <3.0           | <1.0                              | <3.0                      |
| 07.04.2022     | 23.2                                    | 45.8                                   | 7.2                                    | 24.8                                   | <5.0                | <5.0                                | <1.0                    | <0.01               | <5.0            | <3.0           | <1.0                              | <3.0                      |
| 13.04.2022     | 23.6                                    | 45.2                                   | 7,4                                    | 25.0                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0            | <3.0           | <1.0                              | <3.0                      |
| 14.04.2022     | 23.7                                    | 45.5                                   | 7.5                                    | 25.3                                   | < 5.0               | <5,0                                | <1.0                    | < 0.01              | <5.0            | <3.0           | <1.0                              | <3.0                      |
| 20.04.2022     | 23.8                                    | 45.1                                   | 7.4                                    | 25.6                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0            | <3.0           | <1.0                              | <3.0                      |
| 21.04.2022     | 22.9                                    | 45.6                                   | 8.3                                    | 24.5                                   | <5.0                | <5.0                                | <1.0                    | <0.01               | <5.0            | <3.0           | <1.0                              | <3.0                      |

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#### TEST REPORT

| Site Location                         | on                       | Morattupalayam Rough Stone a<br>S.F.Nos. 209/1A (P), 209/1B (P)<br>MorattupalayamVillage, Uthuk | & 209/2 (P),389/1C2,  |  |  |
|---------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------|-----------------------|--|--|
| Discipline                            | Chemical                 | General Sampling Procedure                                                                      | IS 5182 Part 5&Part14 |  |  |
| Group                                 | Atmospheric<br>Pollution | Sample Reference Id                                                                             | KGS/0522/A-133        |  |  |
| Sample Matrix                         | AAQ                      | Sample Collected By                                                                             | Chemist               |  |  |
| Sample Description                    | Ambient Air Quality      | Sample Collected On                                                                             | March 2022 - May 2022 |  |  |
| Sample Mark                           | AAQ                      | Sampling Time                                                                                   | 24 Hours              |  |  |
| Sample Received Condition Good/PVC Co |                          | Sample Code / Location                                                                          | AAQ1- Core Zone       |  |  |

| Monitoring               | Partis                                   | culates                                 |                                        | Gase                                            | ous Pollu           | tants                               |                |                     | Other Pollu              | itants (Part             | iculate Pha                                          | se)             |
|--------------------------|------------------------------------------|-----------------------------------------|----------------------------------------|-------------------------------------------------|---------------------|-------------------------------------|----------------|---------------------|--------------------------|--------------------------|------------------------------------------------------|-----------------|
| Date                     | PM <sub>2.5</sub> ,<br>μg/m <sup>3</sup> | PM <sub>10</sub> ,<br>μg/m <sup>3</sup> | SO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NO <sub>2</sub> ,<br>μ <u>α</u> /m <sup>3</sup> | NH3<br>µg/m³        | Ο <sub>λ</sub><br>μg/m <sup>3</sup> | CO<br>mg/m³    | Pb,<br>μg/m³        | As,<br>ng/m <sup>3</sup> | Ni,<br>ng/m <sup>3</sup> | C <sub>6</sub> H <sub>6</sub> ,<br>μg/m <sup>3</sup> | BaP,<br>ng/m³   |
| NAAQ<br>Norms*           | 60<br>(24<br>hrs.)                       | 100<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)                              | 400<br>(24<br>hrs.) | 100<br>(8<br>hrs.)                  | 2.0<br>(8hrs.) | 1.0<br>(24<br>hrs.) | 6.0<br>(annual)          | 20<br>(annual)           | 5.0<br>(annual)                                      | 1.0<br>(annual) |
| 27.04.2022               | 22.5                                     | 45.5                                    | 8.5                                    | 24:5                                            | <5.0                | <5.0                                | <1.0           | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 28.04.2022               | 22.3                                     | 46.7                                    | 7.5                                    | 24.2                                            | <5.0                | <5.0                                | <1.0           | <0.01               | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 04.05.2022               | 22.6                                     | 46.0                                    | 7.7                                    | 24.8                                            | <5.0                | <5.0                                | <1.0           | ≺0.01               | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 05.05.2022               | 23.1                                     | 46.1                                    | 7.2                                    | 25.0                                            | <5.0                | <5.0                                | <1.0           | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 11.05.2022               | 23.0                                     | 46.8                                    | 7.4                                    | 25.3                                            | <5.0                | <5.0                                | <1.0           | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 12.05.2022               | 23.5                                     | 46.7                                    | 7.5                                    | 25.9                                            | <5.0                | <5.0                                | <1.0           | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 16.05.2022               | 22.6                                     | 46.3                                    | 8.1                                    | 24.7                                            | <5.0                | <5,0                                | <1.0           | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 17.05.2022               | 22.3                                     | 46.2                                    | 8.3                                    | 24.5                                            | <5.0                | <5.0                                | <1.0           | <0.01               | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 23.05.2022               | 21.5                                     | 46.4                                    | 8.4                                    | 24,3                                            | <5.0                | <5.0                                | <1.0           | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
|                          |                                          | 44.2                                    | 8.4                                    | 24.4                                            | <5.0                | <5.0                                | <1.0           | < 0.01              | <5.0                     | -<3.0                    | <1.0                                                 | <3.0            |
| 24.05.2022               | 21.5                                     | -                                       | 8.4                                    | 25.2                                            | <5.0                | <5.0                                | <1.0           | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 28.05.2022<br>30.05.2022 | 21.6                                     | 44.8                                    | 8.9                                    | 25.7                                            | <5.0                | <5.0                                | <1.0           | <0.01               | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |

\* NAAQS National Ambient Air Quality Standards Issued by CPCB (Central Pollution Control Board) in 2009

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#### TEST REPORT

| Test Report No: KGS/0522/TR | (/A-135                  |                                                                                                 |                       |  |  |
|-----------------------------|--------------------------|-------------------------------------------------------------------------------------------------|-----------------------|--|--|
| Site Locati                 | on                       | Morattupalayam Rough Stone a<br>S.F.Nos. 209/1A (P), 209/1B (P)<br>MorattupalayamVillage, Uthuk | & 209/2 (P),389/1C2,  |  |  |
| Discipline Chemical         |                          | General Sampling Procedure                                                                      | IS 5182 Part 5&Part14 |  |  |
| Group                       | Atmospheric<br>Pollution | Sample Reference Id                                                                             | KGS/0522/A-135        |  |  |
| Sample Matrix               | AAQ                      | Sample Collected By                                                                             | Chemist               |  |  |
| Sample Description          | Ambient Air Quality      | Sample Collected On                                                                             | March 2022 - May 2022 |  |  |
| Sample Mark                 | AAQ                      | Sampling Time                                                                                   | 24 Hours              |  |  |
| Sample Received Condition   | Good/PVC Container       | Sample Code / Location                                                                          | AAQ3 - Morattupalayam |  |  |

| Monitoring     | Parti                                    | culates                                 |                                       | Gase                                   | ous Polle           | itants                              |                | 11                       | Other Polli              | itants (Part             | iculate Pha                                          | se)            |
|----------------|------------------------------------------|-----------------------------------------|---------------------------------------|----------------------------------------|---------------------|-------------------------------------|----------------|--------------------------|--------------------------|--------------------------|------------------------------------------------------|----------------|
| Date           | PM <sub>2.5</sub> ,<br>μg/m <sup>3</sup> | PM <sub>10</sub> ,<br>μg/m <sup>3</sup> | SO <sub>2</sub><br>.µg/m <sup>3</sup> | NO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NH3<br>µg/m³        | O <sub>3</sub><br>µg/m <sup>3</sup> | CO<br>mg/m³    | Pb,<br>μg/m <sup>5</sup> | As,<br>ng/m <sup>3</sup> | Ni,<br>ng/m <sup>3</sup> | C <sub>6</sub> H <sub>6</sub> ,<br>µg/m <sup>3</sup> | BaP,<br>ng/m³  |
| NAAQ<br>Norms* | 60<br>(24<br>hrs.)                       | 100<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)                    | 80<br>(24<br>hrs.)                     | 400<br>(24<br>hrs.) | 100<br>(8<br>hrs.)                  | 2.0<br>(8hrs.) | 1,0<br>(24<br>hrs.)      | 6.0<br>(annual)          | 20<br>(annual)           | 5.0<br>(annual)                                      | 1.0<br>(annual |
| 09:03:2022     | 21.5                                     | 41.4                                    | 7.0                                   | 26.5                                   | <5.0                | <5.0                                | <1.0           | < 0.01                   | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 10.03.2022     | 21.4                                     | 41.5                                    | 6.8                                   | 26.0                                   | <5.0                | <5.0                                | <1,0           | < 0.01                   | <5,0                     | <3.0                     | <1.0                                                 | <3.0           |
| 16.03.2022     | 21.7                                     | 42.2                                    | 7.8                                   | 26.1                                   | <5.0                | <5.0                                | <1.0           | < 0.01                   | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 17.03.2022     | 21.2                                     | 42.7                                    | 7.2                                   | 25.9                                   | <5.0                | <5.0                                | <1.0           | < 0.01                   | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 23.03.2022     | 20.8                                     | 42.3                                    | 7.4                                   | 25.3                                   | <5,0                | <5.0                                | <1.0           | < 0.01                   | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 24.03.2022     | 20.5                                     | 42.8                                    | 7.2                                   | 25.5                                   | < 5.0               | <5.0                                | <1.0           | < 0.01                   | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 30,03,2022     | 20.9                                     | 42.3                                    | 6.9                                   | 26.0                                   | <5.0                | <5.0                                | <1.0           | <0.01                    | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 31.03.2022     | 20.3                                     | 43.0                                    | 6.4                                   | 25.4                                   | <5.0                | <5.0                                | <1.0           | <0.01                    | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 06.04.2022     | 20.5                                     | 43.7                                    | 6.7                                   | 25.5                                   | <5.0                | <5.0                                | <1.0           | <0.01                    | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 07.04.2022     | 21.4                                     | 43.6                                    | 6.3                                   | 25,3                                   | <5.0                | <5.0                                | <1.0           | <0.01                    | <5,0                     | <3.0                     | <1.0                                                 | ~3.0           |
| 13.04.2022     | 21.6                                     | 45.4                                    | 6.7                                   | 25.8                                   | <5.0                | <5.0                                | <1.0           | <0.01                    | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 14.04.2022     | 21.7                                     | 43.5                                    | 7.0                                   | 25.8                                   | <5.0                | <5.0                                | <1.0           | <0.01                    | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 20.04.2022     | 20.2                                     | 44.0                                    | 7,4                                   | 26.1                                   | <5.0                | <5.0                                | <1.0           | < 0.01                   | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 21.04.2022     | 20.3                                     | 43.2                                    | 7.1                                   | 25.2                                   | <5.0                | <5.0                                | <1.0           | < 0.01                   | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |

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#### TEST REPORT

| Site Locati               | on                       | Morattupalayam Rough Stone (<br>S.F.Nos. 209/1A (P), 209/1B (P)<br>MorattupalayamVillage, Uthuk | & 209/2 (P),389/1C2,  |  |  |
|---------------------------|--------------------------|-------------------------------------------------------------------------------------------------|-----------------------|--|--|
| Discipline Chemical       |                          | General Sampling Procedure                                                                      | IS 5182 Part 5&Part14 |  |  |
| Group                     | Atmospheric<br>Pollution | Sample Reference Id                                                                             | KGS/0522/A-135        |  |  |
| Sample Matrix             | AAQ                      | Sample Collected By                                                                             | Chemist               |  |  |
| Sample Description        | Ambient Air Quality      | Sample Collected On                                                                             | March 2022 - May 2022 |  |  |
| Sample Mark               | AAQ                      | Sampling Time                                                                                   | 24 Hours              |  |  |
| Sample Received Condition | Good/PVC Container       | Sample Code / Location                                                                          | AAQ3 - Morattupalayam |  |  |

| Monitoring     | Parti                                   | culates                                 |                                       | Gase                                   | ous Polli                            | itants                              |                |                                      | Other Polls              | itants (Part             | iculate Pha                                         | se)                       |
|----------------|-----------------------------------------|-----------------------------------------|---------------------------------------|----------------------------------------|--------------------------------------|-------------------------------------|----------------|--------------------------------------|--------------------------|--------------------------|-----------------------------------------------------|---------------------------|
| Date           | PM <sub>2.5.</sub><br>µg/m <sup>3</sup> | PM <sub>10</sub> ,<br>μg/m <sup>3</sup> | SO <sub>2</sub><br>,µg/m <sup>3</sup> | NO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NH <sub>3</sub><br>μg/m <sup>3</sup> | Ο <sub>λ</sub><br>μg/m <sup>3</sup> | CO<br>mg/m³    | Pb <sub>+</sub><br>μg/m <sup>3</sup> | As,<br>ng/m <sup>3</sup> | Ni,<br>ng/m <sup>3</sup> | C <sub>6</sub> H <sub>6s</sub><br>µg/m <sup>3</sup> | BaP,<br>ng/m <sup>3</sup> |
| NAAQ<br>Norms* | 60<br>(24<br>hrs.)                      | 100<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)                    | 80<br>(24<br>hrs.)                     | 400<br>(24<br>hrs.)                  | 100<br>(8<br>hrs.)                  | 2.0<br>(8hrs.) | (24<br>hrs.)                         | 6.0<br>(annual)          | 20<br>(annual)           | 5.0<br>(annual)                                     | 1.0<br>(annual)           |
| 27.04.2022     | 20.5                                    | 42.1                                    | 7.5                                   | 25.6                                   | <5.0                                 | <5.0                                | -1.0           | <0.01                                | <5.0                     | <3.0                     | <1.0                                                | <3.0                      |
| 28.04,2022     | 20,1                                    | 43.6                                    | 7.7                                   | 25.2                                   | <5.0                                 | <5.0                                | <1.0           | <0.01                                | <5.0                     | <3.0                     | <1.0                                                | <3.0                      |
| 04.05.2022     | 21.4                                    | 42.7                                    | 7.3                                   | 26.1                                   | <5.0                                 | <5.0                                | <1.0.          | <0.01                                | <5.0                     | <3.0                     | <1.0                                                | <3.0                      |
| 05.05.2022     | 21.7                                    | 43.1                                    | 7.0                                   | 26.3                                   | <5.0                                 | <5.0                                | <1.0           | < 0.01                               | <5.0                     | <3.0                     | <1.0                                                | <3.0                      |
| 11.05.2022     | 21.5                                    | 43.5                                    | 7.6                                   | 26.5                                   | <5,0                                 | <5.0                                | <1.0           | <0.01                                | <5.0                     | <3.0                     | <1,0                                                | <3.0                      |
| 12.05.2022     | 20.5                                    | 42.9                                    | 7.8                                   | 26.7                                   | <5.0                                 | <5,0                                | <1.0           | < 0.01                               | <5.0                     | <3.0                     | <1.0                                                | <3.0                      |
| 16.05.2022     | 20.7                                    | 43.5                                    | 6.6                                   | 26,1                                   | <5.0                                 | <5.0                                | <1.0           | < 0.01                               | <5.0                     | <3.0                     | <1.0                                                | <3.0                      |
| 17.05.2022     | 21.7                                    | 44.8                                    | 6.7                                   | 25.9                                   | <5.0                                 | <5.0                                | <1.0           | <0.01                                | <5.0                     | <3.0                     | <1.0                                                | <3.0                      |
| 23.05.2022     | 21.5                                    | 43.6                                    | 6.9                                   | 25.5                                   | <5.0                                 | <5.0                                | <1.0           | <0.01                                | <5.0                     | <3.0                     | <1.0                                                | <3.0                      |
| 24,05,2022     | 20.3                                    | 43.1                                    | 6.4                                   | 26.1                                   | <5.0                                 | <5.0                                | <1.0           | <0.01                                | <5.0                     | <3.0                     | <1.0                                                | <3.0                      |
| 28.05.2022     | 20.6                                    | 42.9                                    | 6.4                                   | 26.7                                   | < 5.0                                | <5,0                                | <1.0           | < 0.01                               | <5.0                     | <3.0                     | <1.0                                                | <3.0                      |
| 30.05.2022     | 20.8                                    | 42.5                                    | 7.0                                   | 26.2                                   | <5.0                                 | <5.0                                | <1.0           | < 0.01                               | < 5.0                    | <3.0                     | <1.0                                                | <3.0                      |

\* NAAQS-National Ambient Air Quality Standards Issued by CPCB (Central Pollution Control Board) in 2009

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#### TEST REPORT

| Site Locati               | on                       | Morattupalayam Rough Stone<br>S.F.Nos. 209/IA (P), 209/IB (P)<br>MorattupalayamVillage, Uthu | & 209/2 (P),389/1C2,  |  |  |  |
|---------------------------|--------------------------|----------------------------------------------------------------------------------------------|-----------------------|--|--|--|
| Discipline                | Chemical                 | General Sampling Procedure                                                                   | IS 5182 Part 5&Part14 |  |  |  |
| Group                     | Atmospheric<br>Pollution | Sample Reference Id                                                                          | KGS/0522/A-136        |  |  |  |
| Sample Matrix             | AAQ                      | Sample Collected By                                                                          | Chemist               |  |  |  |
| Sample Description        | Ambient Air Quality      | Sample Collected On                                                                          | March 2022 - May 2022 |  |  |  |
| Sample Mark               | AAQ                      | Sampling Time                                                                                | 24 Hours              |  |  |  |
| Sample Received Condition | Good/PVC Container       | er Sample Code / Location AAQ4 - Mudhalips                                                   |                       |  |  |  |

| Monitoring     | Parti                      | culates                                |                                        | Gase                                   | ous Polli           | itants                              |                         |                     | Other Polls     | itants (Part   | iculate Pha                                          | se)            |
|----------------|----------------------------|----------------------------------------|----------------------------------------|----------------------------------------|---------------------|-------------------------------------|-------------------------|---------------------|-----------------|----------------|------------------------------------------------------|----------------|
| Date           | PMES,<br>µg/m <sup>3</sup> | РМ <sub>105</sub><br>µg/m <sup>3</sup> | SO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NH3<br>μg/m³        | O <sub>3</sub><br>µg/m <sup>3</sup> | CO<br>mg/m <sup>3</sup> | Pb.<br>μg/m³        | As.<br>ng/m³    | Ni.<br>ng/m³   | C <sub>6</sub> H <sub>6</sub> ,<br>μg/m <sup>3</sup> | BaP,<br>ng/m³  |
| NAAQ<br>Norms* | 60<br>(24<br>hrs.)         | 100<br>(24<br>hrs.)                    | 80<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)                     | 400<br>(24<br>hrs.) | 100<br>(8<br>hrs.)                  | 2,0<br>(8hrs.)          | 1.0<br>(24<br>hrs.) | 6.0<br>(annual) | 20<br>(annual) | 5.0<br>(annual)                                      | L0<br>(annual) |
| 09.03,2022     | 20.5                       | 41.7                                   | 6.6                                    | 25.7                                   | <5.0                | <5.0                                | <1.0                    | <0.01               | <5.0            | <3.0           | <1.0                                                 | <3,0           |
| 10.03.2022     | 20.6                       | 41.2                                   | 6.8                                    | 27.1                                   | <5.0                | <5.0                                | <1.0                    | <0.01               | <5.0            | <3.0           | <1.0                                                 | <3.0           |
| 16.03.2022     | 20.4                       | 41.5                                   | 6.3                                    | 26.9                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3.0           |
| 17.03.2022     | 20.9                       | 41.0                                   | 6.8                                    | 26.6                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0            | <3,0           | <1.0                                                 | <3.0           |
| 23.03.2022     | 21.3                       | 41.5                                   | 6.5                                    | 26.0                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3.0           |
| 24.03.2022     | 21.5                       | 41.5                                   | 6.5                                    | 25.7                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3.0           |
| 30.03.2022     | 21.7                       | 42.3                                   | 7.1                                    | 25.8                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3.0           |
| 31.03.2022     | 20.8                       | 42.7                                   | 7.6                                    | 25.2                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3.0           |
| 06.04,2022     | 20.6                       | 42.5                                   | 7.0                                    | 25.4                                   | <5.0                | <5,0                                | <1.0                    | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3.0           |
| 07.04.2022     | 21.3                       | 42.7                                   | 6,9                                    | 25.6                                   | <5.0                | <5.0                                | <1.0                    | <(),()1             | <5.0            | <3.0           | <1.0                                                 | <3.0           |
| 13.04.2022     | 21.5                       | 42.8                                   | 7.5                                    | 27.0                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3.0           |
| 14.04.2022     | 21.6                       | 42.0                                   | 7.6                                    | 27.5                                   | <5:0                | <5.0                                | <1.0                    | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3,0           |
| 20.04,2022     | 21,2                       | 41.6                                   | 6,2                                    | 27.1                                   | <5.0                | <5.0                                | <1.0                    | <0.01               | <5.0            | <3.0           | <1.0                                                 | <3.0           |
| 21.04.2022     | 20.3                       | 42.2                                   | 6.5                                    | 26.7                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3.0           |

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#### TEST REPORT

| Test Report No: KGS/0522/TR | A-136                    |                                                                                          |                       |
|-----------------------------|--------------------------|------------------------------------------------------------------------------------------|-----------------------|
| Site Locati                 | on                       | Morattupalayam Rough Stone S.F.Nos. 209/1A (P), 209/1B (P) MorattupalayamVillage , Uthul | & 209/2 (P),389/1C2,  |
| Discipline                  | Chemical                 | General Sampling Procedure                                                               | 1S 5182 Part 5&Part14 |
| Group                       | Atmospheric<br>Pollution | Sample Reference Id                                                                      | KGS/0522/A-136        |
| Sample Matrix               | AAQ                      | Sample Collected By                                                                      | Chemist               |
| Sample Description          | Ambient Air Quality      | Sample Collected On                                                                      | March 2022 - May 2022 |
| Sample Mark AAQ             |                          | Sampling Time                                                                            | 24 Hours              |
| Sample Received Condition   | Good/PVC Container       | Sample Code / Location                                                                   | AAQ4 - Mudhalipalayam |

| Monitoring                 | Parti                                    | culates                                 |                                        | Gase                                   | ous Polli           | tants                               |                |              | Other Polli     | rtants (Part   | iculate Pha                                          | se)            |
|----------------------------|------------------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------|---------------------|-------------------------------------|----------------|--------------|-----------------|----------------|------------------------------------------------------|----------------|
| Date                       | PM <sub>2.5</sub> ,<br>μg/m <sup>3</sup> | PM <sub>10</sub> ,<br>μg/m <sup>3</sup> | SO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NH3<br>μg/m³        | O <sub>3</sub><br>µg/m <sup>3</sup> | CO<br>mg/m³    | Pb,<br>µg/m³ | As,<br>ng/m³    | Ni,<br>ng/m³   | С <sub>б</sub> Н <sub>б</sub> ,<br>µg/m <sup>3</sup> | BaP,<br>ng/m³  |
| NAAQ<br>Norms <sup>3</sup> | 60<br>(24<br>hrs.)                       | 100<br>(24<br>brs.)                     | 80<br>(24<br>brs.)                     | 80<br>(24<br>hrs.)                     | 400<br>(24<br>hrs.) | 100<br>(8<br>hrs.)                  | 2,0<br>(8hrs.) | (24<br>hrs.) | 6.0<br>(annual) | 20<br>(annual) | 5.0<br>(annual)                                      | 1.0<br>(annual |
| 27.04.2022                 | 21.0                                     | 42.7                                    | 6.8                                    | 26.8                                   | <5.0                | <5.0                                | <1.0           | < 0.01       | <5.0            | <3.0           | <1.0                                                 | <3.0           |
| 28.04.2022                 | 20.6                                     | 43.2                                    | 6.9                                    | 25.1                                   | <5.0                | <5.0                                | <1.0           | < 0.01       | <5.0            | <3,0           | <1,0                                                 | <3.0           |
| 04.05.2022                 | 21.3                                     | • 41.5                                  | 6.2                                    | 23.9                                   | <5.0                | <5.0                                | <1.0           | < 0.01       | <5.0            | <3.0           | <1,0                                                 | <3.0           |
| 05.05.2022                 | 20.9                                     | 42,0                                    | 6.4                                    | 23.5                                   | <5.0                | <5.0                                | <1.0           | < 0.01       | <5.0            | <3.0           | 0,1>                                                 | <3.0           |
| 11.05.2022                 | 21.8                                     | 42.6                                    | 6.1                                    | 23.0                                   | <5.0                | <5.0                                | <1.0           | < 0.01       | <5.0            | <3.0           | <1.0                                                 | <3.0           |
| 12.05.2022                 | 22.4                                     | 42.6                                    | 5.8                                    | 24.5                                   | <5,0                | < 5.0                               | <1.0           | < 0.01       | <5.0            | <3.0           | <1.0                                                 | <3.0           |
| 16.05.2022                 | 22.5                                     | 42.1                                    | 5.6                                    | 25.1                                   | <5.0                | <5.0                                | <1.0           | <0.01        | <5.0            | <3.0           | <1.0                                                 | <3.0           |
| 17.05,2022                 | 20.1                                     | 43.2                                    | 5.5                                    | 24,3                                   | <5.0                | <5.0                                | <1.0           | < 0.01       | <5.0            | <3.0           | <1.0                                                 | <3.0           |
| 23.05.2022                 | 19.8                                     | 43.7                                    | 5.3                                    | 24.8                                   | <5.0                | <5.0                                | <1.0           | <0.01        | <5.0            | <3.0           | <1.0                                                 | <3.0           |
| 24.05,2022                 | 20,5                                     | 43.5                                    | 5.7                                    | 24.5                                   | < 5.0               | <5.0                                | <1.0           | < 0.01       | <5.0            | <3.0           | <1.0                                                 | <3.0           |
| 28.05.2022                 | 20.4                                     | 43.0                                    | 5.6                                    | 26.2                                   | <5.0                | <5.0                                | <1.0           | < 0,01       | <5.0            | <3.0           | <1.0                                                 | <3.0           |
| 30.05.2022                 | 20.3                                     | 43.5                                    | 5.2                                    | 26.7                                   | <5.0                | <5.0                                | <1.0           | < 0.01       | <5.0            | <3.0           | <1.0                                                 | <3.0           |

\* NAAQS National Ambient Air Quality Standards Issued by CPCB (Central Pollution Control Board) in 2009

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#### TEST REPORT

| Site Locati               | on                       | Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2, MorattupalayamVillage, Uthukuli Taluk, Tiruppur Distric |                       |  |  |  |  |  |
|---------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--|--|--|--|--|
| Discipline                | Chemical                 | General Sampling Procedure                                                                                                                                | IS 5182 Part 5&Part14 |  |  |  |  |  |
| Group                     | Atmospheric<br>Pollution | Sample Reference Id                                                                                                                                       | KGS/0522/A-137        |  |  |  |  |  |
| Sample Matrix             | AAQ                      | Sample Collected By                                                                                                                                       | Chemist               |  |  |  |  |  |
| Sample Description        | Ambient Air Quality      | Sample Collected On                                                                                                                                       | March 2022 - May 2022 |  |  |  |  |  |
| Sample Mark AAQ           |                          | Sampling Time                                                                                                                                             | 24 Hours              |  |  |  |  |  |
| Sample Received Condition | Good/PVC Container       | Sample Code / Location                                                                                                                                    | AAQ5 - Karattupalayam |  |  |  |  |  |

| Monitoring     | Parti                         | culates                                 |                                        | Gase                                   | ous Pollt                            | itants                              |                | 1 3                 | Other Polls              | itants (Par              | ticulate Pha                                         | se)                       |
|----------------|-------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------|--------------------------------------|-------------------------------------|----------------|---------------------|--------------------------|--------------------------|------------------------------------------------------|---------------------------|
| Date           | $\frac{PM_{2,5,}}{\mu g/m^3}$ | PM <sub>10</sub> ,<br>μg/m <sup>3</sup> | SO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NH <sub>3</sub><br>µg/m <sup>3</sup> | Ο <sub>J</sub><br>μg/m <sup>3</sup> | CO<br>mg/m³    | Pb,<br>µg/m³        | As,<br>ng/m <sup>3</sup> | Ni,<br>ng/m <sup>3</sup> | C <sub>6</sub> H <sub>6</sub> ,<br>μg/m <sup>3</sup> | BaP,<br>ng/m <sup>3</sup> |
| NAAQ<br>Norms* | 60<br>(24<br>hrs.)            | 100<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)                     | 400<br>(24<br>hrs.)                  | 100<br>(8<br>hrs.)                  | 2.0<br>(8hrs.) | 1.0<br>(24<br>hrs.) | 6.0<br>(annual)          | 20<br>(annual)           | 5.0<br>(annual)                                      | 1.0<br>(annual)           |
| 09.03.2022     | 20.4                          | 47.5                                    | 8.5                                    | 23.3                                   | <5,0                                 | <5,0                                | <1.0           | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0                      |
| 10.03.2022     | 20.2                          | 47.2                                    | 8.9                                    | 23.7                                   | <5.0                                 | <5.0                                | <1.0           | < 0.01              | <5.0                     | <3.0                     | ≤1.0                                                 | <3.0                      |
| 16.03.2022     | 20.3                          | 47.6                                    | 8.2                                    | 23.5                                   | <5.0                                 | <5.0                                | <1.0           | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0                      |
| 17.03.2022     | 20.5                          | 47,3                                    | 8,3                                    | 23.4                                   | <5.0                                 | <5.0                                | <1.0           | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0                      |
| 23.03.2022     | 21.1                          | 47.2                                    | 8.2                                    | 23.1                                   | <5.0                                 | <5.0                                | <1.0           | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0                      |
| 24.03.2022     | 20.9                          | 47.4                                    | 7.8                                    | 23.0                                   | <5.0                                 | < 5.0                               | <1.0           | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0                      |
| 30.03.2022     | 21.0                          | 48.3                                    | 7.9                                    | 22.8                                   | <5.0                                 | <5.0                                | <1.0           | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0                      |
| 31.03.2022     | 20.9                          | 48.5                                    | 7.3                                    | 23.1                                   | <5.0                                 | < 5.0                               | <1.0           | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0                      |
| 06.04.2022     | 20,6                          | 48.6                                    | 7.1                                    | 22.4                                   | <5.0                                 | <5.0                                | <1.0           | <0.01               | <5.0                     | <3.0                     | <1.0                                                 | <3.0                      |
| 07.04.2022     | 21.5                          | 48.2                                    | 7.6                                    | 22.6                                   | <5.0                                 | <5.0                                | <1.0           | <0.01               | <5.0                     | <3.0                     | <1.0                                                 | <3.0                      |
| 13.04.2022     | 21.7                          | 48.3                                    | 7.4                                    | 23.8                                   | <5.0                                 | <5.0                                | <1.0           | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0                      |
| 14.04,2022     | 21.8                          | 48.7                                    | 7.7                                    | 23.0                                   | <5.0                                 | <5.0                                | <1.0           | <0.01               | <5.0                     | <3.0                     | <1.0                                                 | <3.0                      |
| 20.04.2022     | 21.3                          | 49.0                                    | 7.2                                    | 23.7                                   | <5.0                                 | <5.0                                | <1.0           | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0                      |
| 21.04.2022     | 21.0                          | 47.5                                    | 7.4                                    | 23.5                                   | <5.0                                 | <5.0                                | <1.0           | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0                      |

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#### TEST REPORT

| Site Location                          | on                       | Morattupalayam Rough Stone a<br>S.F.Nos. 209/1A (P), 209/1B (P)<br>MorattupalayamVillage, Uthuk | & 209/2 (P),389/1C2,  |
|----------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------|-----------------------|
| iscipline Chemical                     |                          | General Sampling Procedure                                                                      | 1S 5182 Part 5&Part14 |
| Group                                  | Atmospheric<br>Pollution | Sample Reference Id                                                                             | KGS/0522/A-137        |
| Sample Matrix                          | AAQ                      | Sample Collected By                                                                             | Chemist               |
| Sample Description                     | Ambient Air Quality      | Sample Collected On                                                                             | March 2022 - May 2022 |
| Sample Mark                            | AAQ                      | Sampling Time                                                                                   | 24 Hours              |
| Sample Received Condition Good/PVC Con |                          | Sample Code / Location                                                                          | AAQ5 - Karattupalayam |

| Monitoring     | Partie                                   | culates                                 |                                        | Gase                                   | ous Polle           | itants                              |                                                                                                     | (                   | Other Pollu     | itants (Part   | iculate Pha                                          | se)                       |
|----------------|------------------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------|---------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------|---------------------|-----------------|----------------|------------------------------------------------------|---------------------------|
| Date           | PM <sub>2.5</sub> ,<br>μg/m <sup>3</sup> | PM <sub>10</sub> ,<br>μg/m <sup>3</sup> | SO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NH3<br>µg/m³        | O <sub>3</sub><br>µg/m <sup>3</sup> | CO<br>mg/m³                                                                                         | Pb,<br>μg/m³        | As,<br>ng/m³    | Ni,<br>ng/m³   | C <sub>6</sub> H <sub>6</sub> ,<br>μg/m <sup>3</sup> | BaP,<br>ng/m <sup>3</sup> |
| NAAQ<br>Norms* | 60<br>(24<br>hrs.)                       | 100<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)                     | 400<br>(24<br>hrs.) | 100<br>(8<br>hrs.)                  | 2.0<br>(8hrs.)                                                                                      | 1.0<br>(24<br>hrs.) | 6.0<br>(annual) | 20<br>(annual) | 5.0<br>(annual)                                      | 1.0<br>(annual)           |
| 27.04.2022     | 20.5                                     | 47.6                                    | 7.5                                    | 23.8                                   | <5.0                | <5,0                                | <1.0                                                                                                | <0.01               | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 28.04.2022     | 21.7                                     | 47.6                                    | 7.0                                    | 23.2                                   | <5,0                | <5.0                                | <1.0                                                                                                | <0.01               | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 04.05.2022     | 20.6                                     | 47,2                                    | 7.8                                    | 22.4                                   | <5.0                | <5.0                                | <1.0                                                                                                | <0.01               | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 05.05.2022     | 21.4                                     | 48.4                                    | 8,4                                    | 22.3                                   | <5.0                | <5:0                                | <1.0                                                                                                | <0.01               | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 11.05.2022     | 20.6                                     | 48.6                                    | 8.1                                    | 23.0                                   | <5.0                | <5.0                                | <1.0                                                                                                | <0.01               | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 12.05.2022     | 21.5                                     | 47.0                                    | 8.3                                    | 22.7                                   | <5.0                | <5.0                                | <1.0                                                                                                | <0.01               | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 16.05.2022     | 20.5                                     | 47.6                                    | 8.7                                    | 22,8                                   | <5.0                | <5.0                                | <1.0                                                                                                | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 17,05,2022     | 21.4                                     | 48.3                                    | 6.9                                    | 22.7                                   | <5.0                | <5.0                                | <1.0                                                                                                | < 0.01              | <5.0            | <3,0           | <1.0                                                 | <3.0                      |
| 23.05.2022     | SSTORM                                   | 47.2                                    | 6.7                                    | 23.3                                   | <5.0                | <5.0                                | <1.0                                                                                                | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 24.05.2022     | 200                                      | 48.2                                    | 6.4                                    | 23.5                                   | <5.0                | <5.0                                | <l0< td=""><td>&lt; 0.01</td><td>&lt;5.0</td><td>&lt;3.0</td><td>&lt;1.0</td><td>&lt;3.0</td></l0<> | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 28.05.2022     | 58/0 05                                  | 48.5                                    | 6.5                                    | 22,4                                   | <5.0                | <5.0                                | <1.0                                                                                                | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 30.05.2022     | 5310 00                                  | 48.3                                    | 6.1                                    | 23.0                                   | <5.0                | <5.0                                | <1.0                                                                                                | <0.01               | <5.0            | <3.0           | <1.0                                                 | <3.0                      |

\* NAAQS-National Ambient Air Quality Standards Issued by CPCB (Central Pollution Control Board) in 2009

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#### TEST REPORT

| Site Locati                                | on                       | Morattupalayam Rough Stone a<br>S.F.Nos. 209/1A (P), 209/1B (P)<br>MorattupalayamVillage, Uthuk | & 209/2 (P),389/1C2,  |
|--------------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------|-----------------------|
| Discipline Chemical                        |                          | General Sampling Procedure                                                                      | IS 5182 Part 5&Part14 |
| Group                                      | Atmospheric<br>Pollution | Sample Reference Id                                                                             | KGS/0522/A-138        |
| Sample Matrix                              | AAQ                      | Sample Collected By                                                                             | Chemist               |
| Sample Description                         | Ambient Air Quality      | Sample Collected On                                                                             | March 2022 - May 2022 |
| Sample Mark                                | AAQ                      | Sampling Time                                                                                   | 24 Hours              |
| Sample Received Condition Good/PVC Contain |                          | Sample Code / Location                                                                          | AAQ6 - Parapalayam    |

| Monitoring     | Partie                      | culates                                 |                                        | Gase                                   | ous Pollu           | tants                               |                         |                     | Other Polls              | itants (Part             | iculate Pha                                          | se)            |
|----------------|-----------------------------|-----------------------------------------|----------------------------------------|----------------------------------------|---------------------|-------------------------------------|-------------------------|---------------------|--------------------------|--------------------------|------------------------------------------------------|----------------|
| Date           | PM2.8,<br>µg/m <sup>3</sup> | PM <sub>10</sub> ,<br>μg/m <sup>3</sup> | SO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NH)<br>jig/m²       | O <sub>3</sub><br>µg/m <sup>3</sup> | CO<br>mg/m <sup>3</sup> | Pb.<br>µg/m³        | As,<br>ng/m <sup>3</sup> | Ni,<br>ng/m <sup>3</sup> | C <sub>6</sub> H <sub>6</sub> ,<br>μg/m <sup>3</sup> | BaP,<br>ng/m³  |
| NAAQ<br>Norms* | 60<br>(24<br>brs.)          | 100<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)                     | 400<br>(24<br>hrs.) | 100<br>(8<br>hrs.)                  | 2,0<br>(8hrs.)          | 1.0<br>(24<br>hrs.) | 6.0<br>(annual)          | 20<br>(annual)           | 5.0<br>(annual)                                      | 1.0<br>(annual |
| 09.03.2022     | 18.8                        | 40.1                                    | 6.6                                    | 25.4                                   | <5.0                | <5.0                                | <1.0                    | <0.01               | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 10.03.2022     | 19.6                        | 39.8                                    | 6.4                                    | 25.3                                   | <5.0                | <5.0                                | <1.0                    | <0.01               | <5.0                     | <3.0                     | <1.0                                                 | <3,0           |
| 16.03.2022     | 10.2                        | 39.5                                    | 6.3                                    | 25.5                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0                     | <3.0                     | ≤1.0                                                 | <3.0           |
| 17.03.2022     | 19.5                        | 39.5                                    | 6.4                                    | 25.4                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 23.03.2022     | 19.4                        | 38.7                                    | 6.5                                    | 25:3                                   | < 5.0               | <5.0                                | <1.0                    | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 24.03.2022     | 19.3                        | 38.6                                    | 6.2                                    | 25.7                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 30.03.2022     | 19.0                        | 38.0                                    | 6.7                                    | 25.2                                   | <5.0                | <5.0                                | <1.0                    | <0.01               | <5,0                     | <3.0                     | <1.0                                                 | <3.0           |
| 31.03.2022     | 18.6                        | 39.3                                    | 5.9                                    | 26.4                                   | <5.0                | <5.0                                | <1.0                    | <0.01               | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 06.04.2022     | 18.9                        | 40.6                                    | 5.8                                    | 26.8                                   | <5.0                | <5.0                                | <1.0                    | <0.01               | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 07,04.2022     | 18.5                        | 39.8                                    | 6.1                                    | 26.7                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 13.04.2022     | 20.7                        | 40.3                                    | 5.9                                    | 26.4                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 14.04.2022     | 20.6                        | 40.4                                    | 5.6                                    | 26.7                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |
| 20.04.2022     | 19.3                        | 40.6                                    | 5.5                                    | 26.5                                   | <5.0                | <5.0                                | <1.0                    | <0.01               | <5,0                     | <3.0                     | <1.0                                                 | <3.0           |
| 21.04.2022     | 19.9                        | 40.2                                    | 6.3                                    | 26.0                                   | <5.0                | <5.0                                | <1.0                    | < 0.01              | <5.0                     | <3.0                     | <1.0                                                 | <3.0           |

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#### TEST REPORT

| Site Locati               | on                       | Morattupalayam Rough Stone a<br>S.F.Nos, 209/1A (P), 209/1B (P)<br>MorattupalayamVillage, Uthuk | & 209/2 (P),389/1C2,  |
|---------------------------|--------------------------|-------------------------------------------------------------------------------------------------|-----------------------|
| Discipline                | Chemical                 | General Sampling Procedure                                                                      | IS 5182 Part 5&Part14 |
| Group                     | Atmospheric<br>Pollution | Sample Reference Id                                                                             | KGS/0522/A-138        |
| Sample Matrix             | AAQ                      | Sample Collected By                                                                             | Chemist               |
| Sample Description        | Ambient Air Quality      | Sample Collected On                                                                             | March 2022 - May 2022 |
| Sample Mark AAQ           |                          | Sampling Time                                                                                   | 24 Hours              |
| Sample Received Condition | Good/PVC Container       | Sample Code / Location                                                                          | AAQ6 - Parapalayam    |

| Monitoring     | Parti                                    | culates                                 |                                        | Gase                                   | ous Polli           | itants                              |                |                     | Other Polls     | itants (Pari   | iculate Pha                                          | se)                       |
|----------------|------------------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------|---------------------|-------------------------------------|----------------|---------------------|-----------------|----------------|------------------------------------------------------|---------------------------|
| Date           | PM <sub>2.5</sub> ,<br>μg/m <sup>3</sup> | PM <sub>10</sub> ,<br>μg/m <sup>3</sup> | SO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NH3<br>μg/m³        | O <sub>3</sub><br>μg/m <sup>3</sup> | CO<br>mg/m³    | Pb,<br>μg/m³        | As,<br>ng/m³    | Ni,<br>ng/m³   | С <sub>6</sub> Н <sub>6</sub> ,<br>µg/m <sup>3</sup> | BaP,<br>ng/m <sup>3</sup> |
| NAAQ<br>Norms* | 60<br>(24<br>hrs.)                       | 100<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)                     | 400<br>(24<br>hrs.) | 100<br>(8<br>hrs.)                  | 2.0<br>(8hrs.) | 1.0<br>(24<br>hrs.) | 6.0<br>(annual) | 20<br>(annual) | 5,0<br>(annual)                                      | 1.0<br>(annual)           |
| 27.04.2022     | 19.7                                     | 39.9                                    | 6.6                                    | 25.6                                   | <5.0                | <5.0                                | <1.0           | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 28.04,2022     | 19.8                                     | 39.7                                    | 6.4                                    | 24,3                                   | <5.0                | <5.0                                | <1.0           | <0.01               | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 04.05,2022     | 20.1                                     | 40.1                                    | 6.6                                    | 24.9                                   | <5.0                | <5.0                                | <1.0           | <0.01               | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 05.05.2022     | 20.4                                     | 40.2                                    | 6.7                                    | 24.4                                   | <5.0                | < 5.0                               | <1.0           | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 11.05,2022     | 20.5                                     | 40.6                                    | 6.3                                    | 24.7                                   | <5.0                | <5.0                                | <1.0           | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 12.05.2022     | 19.6                                     | 40.7                                    | 5.9                                    | 25.4                                   | <5.0                | <5.0                                | <1.0           | <0.01               | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 16.05.2022     | 19,2                                     | 40.4                                    | 5.4                                    | 25.7                                   | <5.0                | <5,0                                | <1.0           | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 17.05,2022     | 18.3                                     | 41.2                                    | 5.8                                    | 25.5                                   | <5.0                | <5.0                                | <1.0           | < 0.01              | <5,0            | <3.0           | <1.0                                                 | <3.0                      |
| 23.05.2022     | 18.0                                     | 41.7                                    | 6.0                                    | 25,4                                   | <5.0                | <5.0                                | <1.0           | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 24.05,2022     | 18.7                                     | 41.5                                    | 5,4                                    | 25.2                                   | <5.0                | <5.0                                | <1.0           | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3.0                      |
| 28.05.2022     | 18.4                                     | 41.8                                    | 5.7                                    | 25.8                                   | <5.0                | <5.0                                | <1.0           | < 0.01              | <5.0            | <3.0           | <1.0                                                 | <3,0                      |
| 30.05.2022     | 18.7                                     | 41.4                                    | 5.3                                    | 25.3                                   | <5,0                | <5.0                                | <1.0           | <0.01               | < 5.0           | <3.0           | ≤1.0                                                 | <3.0                      |

\* NAAQS National Ambient Air Quality Standards Issued by CPCB (Central Pollution Control Board) in 2009

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#### TEST REPORT

| Test Report No: KGS/0522/TI | V/V-129                  |                                                                                                                                                           |                       |  |  |
|-----------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--|--|
| Site Location               |                          | Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2, MorattupalayamVillage, Uthukuli Taluk, Tiruppur Distric |                       |  |  |
| Discipline                  | Chemical                 | General Sampling Procedure                                                                                                                                | IS 5182 Part 5&Part14 |  |  |
| Group                       | Atmospheric<br>Pollution | Sample Reference Id                                                                                                                                       | KGS/0522/A-139        |  |  |
| Sample Matrix               | AAQ                      | Sample Collected By                                                                                                                                       | Chemist               |  |  |
| Sample Description          | Ambient Air Quality      | Sample Collected On                                                                                                                                       | March 2022 - May 2022 |  |  |
| Sample Mark                 | AAQ                      | Sampling Time                                                                                                                                             | 24 Hours              |  |  |
| Sample Received Condition   | Good/PVC Container       | Sample Code / Location                                                                                                                                    | AAQ7 - Pappanpalayam  |  |  |

| Monitoring     | Parti                                  | culates                                 |                                        | Gase                                   | ous Polli                            | itants             |                |              | Other Poll               | utants (Par              | ticulate Pha                                         | ise)            |
|----------------|----------------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------|--------------------------------------|--------------------|----------------|--------------|--------------------------|--------------------------|------------------------------------------------------|-----------------|
| Date           | PM <sub>2.5</sub><br>μg/m <sup>3</sup> | PM <sub>10</sub> ,<br>μg/m <sup>3</sup> | SO <sub>2</sub> ,<br>µg/m <sup>5</sup> | NO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NH <sub>3</sub><br>µg/m <sup>3</sup> | Oз<br>µg/m³        | CO<br>mg/m³    | РЬ,<br>μg/m³ | As,<br>ng/m <sup>3</sup> | Ni,<br>ng/m <sup>3</sup> | C <sub>6</sub> H <sub>6</sub> ,<br>μg/m <sup>3</sup> | BaP,<br>ng/m³   |
| NAAQ<br>Norms* | 60<br>(24<br>hrs.)                     | 100<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)                     | 80<br>(24<br>hrs.)                     | 400<br>(24<br>hrs.)                  | 100<br>(8<br>hrs.) | 2.0<br>(8hrs.) | (24<br>hrs.) | 6.0<br>(annual)          | 20<br>(annual)           | 5.0<br>(annual)                                      | f.0<br>(anoual) |
| 09.03.2022     | 23.2                                   | 48.4                                    | 7.0                                    | 24.5                                   | <5.0                                 | <5.0               | <1.0           | <0.01        | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 10.03.2022     | 24.4                                   | 47.6                                    | 7.6                                    | 24,9                                   | <5.0                                 | <5.0               | <1.0           | < 0.01       | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 16.03.2022     | 25.6                                   | 45.2                                    | 7.7                                    | 25.5                                   | <5.0                                 | <5.0               | <1.0           | < 0.01       | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 17.03.2022     | 23.8                                   | 45.4                                    | 6.9                                    | 25.6                                   | <5.0                                 | <5.0               | <1.0           | < 0.01       | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 23.03.2022     | 23.4                                   | 42.8                                    | 7,2                                    | 23.4                                   | <5,0                                 | < 5.0              | <1.0           | < 0.01       | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 24.03.2022     | 24.6                                   | 44.3                                    | 7.5                                    | 24.4                                   | <5.0                                 | < 5.0              | <1.0           | < 0.01       | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 30.03.2022     | 25.7                                   | 45.6                                    | 8.2                                    | 24.3                                   | <5.0                                 | <5.0               | <1.0           | < 0.01       | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 31.03.2022     | 24.2                                   | 45.1                                    | 8.7                                    | 24.8                                   | <5.0                                 | <5.0               | <1.0           | < 0.01       | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 06.04.2022     | 24.4                                   | 45.2                                    | 8.1                                    | 23.3                                   | <5.0                                 | <5.0               | <1.0           | <0.01        | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 07.04.2022     | 24.9                                   | 44.6                                    | 7.7                                    | 24.2                                   | <5,0                                 | <5.0               | <1.0           | <0.01        | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 13,04,2022     | 25.2                                   | 43.8                                    | 7.9                                    | 23.7                                   | <5.0                                 | <5.0               | <1.0           | <0.01        | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 14.04.2022     | 24.8                                   | 45.4                                    | 8.1                                    | 22.5                                   | <5.0                                 | <5.0               | <1.0           | <0.01        | <5.0                     | <3.0                     | <1,0                                                 | <3.0            |
| 20.04,2022     | 23.5                                   | 46.0                                    | 7.9                                    | 24,8                                   | <5.0                                 | <5.0               | <1.0           | < 0.01       | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |
| 21.04.2022     | 25.2                                   | 46.2                                    | 7.2                                    | 23.7                                   | <5.0                                 | <5.0               | <1.0           | <0.01        | <5.0                     | <3.0                     | <1.0                                                 | <3.0            |

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#### TEST REPORT

| Site Locat                | ion                      | Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/IA (P), 209/IB (P) & 209/2 (P),389/IC2, MorattupalayamVillage, Uthukuli Taluk, Tiruppur Distri |                       |  |  |
|---------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--|--|
| Discipline                | Chemical                 | General Sampling Procedure                                                                                                                               | IS 5182 Part 5&Part14 |  |  |
| Group                     | Atmospheric<br>Pollution | Sample Reference Id                                                                                                                                      | KGS/0522/A-139        |  |  |
| Sample Matrix             | AAQ                      | Sample Collected By                                                                                                                                      | Chemist               |  |  |
| Sample Description        | Ambient Air Quality      | Sample Collected On                                                                                                                                      | March 2022 - May 2022 |  |  |
| Sample Mark               | AAQ                      | Sampling Time                                                                                                                                            | 24 Hours              |  |  |
| Sample Received Condition | Good/PVC Container       | Sample Code / Location                                                                                                                                   | AAQ7 - Pappanpalayam  |  |  |

| Monitoring     | Parti                        | culates                           |                                       | Gase                                   | ous Polli                            | itants:                             |                         | Other Pollutants (Particulate Phase) |                          |                |                                                      |                |
|----------------|------------------------------|-----------------------------------|---------------------------------------|----------------------------------------|--------------------------------------|-------------------------------------|-------------------------|--------------------------------------|--------------------------|----------------|------------------------------------------------------|----------------|
| Date           | $\frac{PM_{3,5}}{\mu g/m^3}$ | $\frac{PM_{10_{\pi}}}{\mu g/m^3}$ | SO <sub>2,</sub><br>µg/m <sup>3</sup> | NO <sub>2</sub> ,<br>μg/m <sup>3</sup> | NH <sub>3</sub><br>μg/m <sup>3</sup> | O <sub>3</sub><br>µg/m <sup>3</sup> | CO<br>mg/m <sup>3</sup> | Pb.<br>µg/m³                         | As,<br>ng/m <sup>3</sup> | Ni,<br>ng/m³   | C <sub>6</sub> H <sub>6</sub> ,<br>μg/m <sup>3</sup> | BaP,<br>ng/m³  |
| NAAQ<br>Norms* | 60<br>(24<br>hrs.)           | 100<br>(24<br>hrs.)               | 80<br>(24<br>brs.)                    | 80<br>(24<br>firs.)                    | 400<br>(24<br>hrs.)                  | 100<br>(8<br>hrs.)                  | 2.0<br>(8hrs.)          | 1.0<br>(24<br>hrs.)                  | 6.0<br>(annual)          | 20<br>(annual) | 5,0<br>(annual)                                      | 1.0<br>(annual |
| 27.04.2022     | 23.7                         | 45.9                              | 6.8                                   | 24,4                                   | <5.0                                 | <5.0                                | <1.0                    | <0.01                                | <5.0                     | <3.0           | <1.0                                                 | <3.0           |
| 28.04.2022     | 24.3                         | 46.1                              | 6.5                                   | 25.2                                   | <5.0                                 | <5.0                                | <1.0                    | <0.01                                | <5.0                     | <3.0           | <1.0                                                 | <3.0           |
| 04.05.2022     | 23.1                         | 43.9                              | 6.8                                   | 25.4                                   | <5.0                                 | <5.0                                | <1.0                    | < 0.01                               | <5.0                     | <3.0           | <1.0                                                 | <3.0           |
| 05.05.2022     | 23.5                         | 43.4                              | 6.5                                   | 25.5                                   | <5.0                                 | <5.0                                | <1.0                    | < 0.01                               | <5.0                     | <3.0           | <1.0                                                 | <3.0           |
| 11.05.2022     | 21.1                         | 43.5                              | 6.7                                   | 25.6                                   | <5:0                                 | <5,0                                | <1.0                    | < 0.01                               | <5.0                     | <3.0           | <1.0                                                 | <3.0           |
| 12,05,2022     | 22.0                         | 43.8                              | 7.5                                   | 24.9                                   | <5.0                                 | <5.0                                | <1.0                    | < 0.01                               | <5.0                     | <3.0           | <1.0                                                 | <3.0           |
| 16.05.2022     | 23.5                         | 43.0                              | 6.9                                   | 25.1                                   | <5.0                                 | <5.0                                | <1.0                    | < 0.01                               | <5.0                     | <3.0           | <1.0                                                 | <3.0           |
| 17.05.2022     | 25:6                         | 44.6                              | 7.2                                   | 24.8                                   | <5.0                                 | <5.0                                | <1.0                    | < 0.01                               | <5.0                     | <3.0           | <1.0                                                 | <3.0           |
| 23.05.2022     | 25.7                         | 45.9                              | 7.0                                   | 25.2                                   | <5.0                                 | <5.0                                | <1.0                    | <0.01                                | <5.0                     | <3.0           | <1.0                                                 | <3.0           |
| 24.05.2022     | 23.1                         | 46.7                              | 7.6                                   | 25,0                                   | <5.0                                 | <5.0                                | <1.0                    | < 0.01                               | <5.0                     | <3.0           | <1.0                                                 | <3.0           |
| 28.05,2022     | 22.8                         | 45.6                              | 7.8                                   | 25.9                                   | <5,0                                 | <5.0                                | <1.0                    | < 0.01                               | <5.0                     | <3.0           | <1.0                                                 | <3.0           |
| 30.05.2022     | 23,0                         | 45.4                              | 7.7                                   | 26.1                                   | <5.0                                 | <5.0                                | <1.0                    | < 0.01                               | <5.0                     | <3.0           | <1.0                                                 | <3.0           |

NAAQS - National Ambient Air Quality Standards Issued by CPCB (Central Pollution Control Board) in 2009

.....End of Report......

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#### TEST REPORT

| Test Report No: KGS/          | 0322/TR/N-99             |                                                                                                                                                                   | Report Date: 12,03,2022 |  |
|-------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--|
| Site Lo                       |                          | Morattupalayam Rough Stone and Gravel Quarry<br>S.F. Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur District |                         |  |
| Discipline                    | Chemical                 | Sample Reference ID                                                                                                                                               | KGS/0322/N-99           |  |
| Group                         | Atmospheric<br>Pollution | Noise Level Monitored By                                                                                                                                          | Chemist                 |  |
| Sample Matrix                 | Noise                    | Noise Level Monitored On                                                                                                                                          | 08.03.2022              |  |
| Sample Description            | Ambient Noise            | Noise Level Received On                                                                                                                                           | 09,03.2022              |  |
| General Sampling<br>Procedure | IS 9989 Methods          | Noise Level Calculated On                                                                                                                                         | 12.03.2022              |  |

| Location |            |                  | N7 -Pappapalayam |              |
|----------|------------|------------------|------------------|--------------|
| S. No    | Time (Hrs) | Min<br>dB(A)     | Max<br>dB(A)     | Leq<br>dB(A) |
| 01_      | 0600       | 35.75            | 35.75            | 35.75        |
| 02.      | 0700       | 38.12            | 38.12            | 38.12        |
| 03.      | 0800       | 38.93            | 38.93            | 38.93        |
| 04.      | 0900       | 36.94            | 36,94            | 36.94        |
| 05.      | 1000       | 37.86            | 37.86            | 37.86        |
| 06.      | 1100       | 38.89            | 38.89            | 38.89        |
| 07.      | 1200       | 40.55            | 40.55            | 40.55        |
| 08.      | 1300       | 36.25            | 36.25            | 36.25        |
| 09.      | 1400       | 39.36            | 39.36            | 39.36        |
| 10.      | 1500       | 38,48            | 38.48            | 38.48        |
| 11.      | 1600       | 41.07            | 41,07            | 41.07        |
| 12.5     | 1700       | 38.06            | 38.06            | 38.06        |
| 13.      | 1800       | 40.73            | 40.73            | 40.73        |
| 14.      | 1900       | 38.62            | 38,62            | 38.62        |
| 15.      | 2000       | 40.35            | 40.35            | 40.35        |
| 16.      | 2100       | 43.99            | 43.99            | 43.99        |
| 17.      | 2200       | 38.92            | 38.92            | 38.92        |
| 18.      | 2300       | 39.35            | 39.35            | 39.35        |
| 19.      | 0000       | 37.04            | 37.04            | 37.04        |
| 20.      | 0100       | 37.93            | 37.93            | 37,93        |
| 21.      | 0200       | 38.56            | 38.56            | 38.56        |
| 22,      | 0300       | 36.07            | 36.07            | 36.07        |
| 23.      | 0400       | 38.23            | 38,23            | 38.23        |
| 24.      | 0500       | 36.25            | 36.25            | 36.25        |
|          | 11         | Day Mean dB(A)   |                  | 39.5         |
|          |            | Night Mean dB(A) | (Jaior)          | 37,2         |

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#### TEST REPORT

| Test Report No: KGS           | /0322/TR/N-97            | Report Date: 12.03.2022                                                                                                                                          |               |  |  |  |
|-------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--|--|--|
| Site Lo                       | ocation:                 | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur District |               |  |  |  |
| Discipline                    | Chemical                 | Sample Reference ID                                                                                                                                              | KGS/0322/N-97 |  |  |  |
| Group                         | Atmospheric<br>Pollution | Noise Level Monitored By                                                                                                                                         | Chemist       |  |  |  |
| Sample Matrix                 | Noise                    | Noise Level Monitored On                                                                                                                                         | 08.03.2022    |  |  |  |
| Sample Description            | Ambient Noise            | Noise Level Received On                                                                                                                                          | 09.03.2022    |  |  |  |
| General Sampling<br>Procedure | IS 9989 Methods          | Noise Level Calculated On                                                                                                                                        | 12.03.2022    |  |  |  |

| Locatio | n             | NI           | - Core Zo    | one          | N2           | - Core Zo    | ne           | N3 -         | Morattupa    | layam        |
|---------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| S.No    | Time<br>(Hrs) | Min<br>dB(A) | Max<br>dB(A) | Leq<br>dB(A) | Min<br>dB(A) | Max<br>dB(A) | Leq<br>dB(A) | Min<br>dB(A) | Max<br>dB(A) | Leq<br>dB(A) |
| 01.     | 0600          | 38.7         | 44.2         | 42.27        | 33.3         | 40.1         | 37.91        | 35.3         | 39.5         | 37.89        |
| 02.     | 0700          | 36,3         | 42.5         | 40.42        | 36.1         | 46.6         | 43.96        | 34.9         | 40.2         | 38.31        |
| 03.     | 0800          | 40.8         | 45.8         | 43.98        | 37.5         | 46.2         | 43,74        | 35.6         | 41.3         | 39.32        |
| 04.     | 0900          | 41.7         | 48.2         | 46.07        | 37           | 47.8         | 45.14        | 35.2         | 41.1         | 39.08        |
| 05.     | 1000          | 42.5         | 47.3         | 45.53        | 38           | 45.2         | 42.95        | 34.7         | 42.2         | 39.90        |
| 06.     | 1100          | 44           | 45,2         | 44.64        | 38.4         | 47.1         | 44.64        | 36           | 45.5         | 42,95        |
| 07.     | 1200          | 40.9         | 45.5         | 43.78        | 34.9         | 43.4         | 40.96        | 34.1         | 47.9         | 45.07        |
| 08.     | 1300          | 43.3         | 45.9         | 44.79        | 37.1         | 48.2         | 45.51        | 32.9         | 48.1         | 45.22        |
| 09.     | 1400          | 41.7         | 42.8         | 42.28        | 36.2         | 43.7         | 41.40        | 38.2         | 48.9         | 46.24        |
| 10.     | 1500          | 39.8         | 40.1         | 39.95        | 35.8         | 46.1         | 43.48        | 34.6         | 47.5         | 44.71        |
| 31      | 1600          | 35.1         | 38.7         | 37.26        | 31.6         | 38.4         | 36.21        | 32.5         | 40.8         | 38.39        |
| 12.     | 1700          | 35.4         | 39.7         | 38.06        | 32,3         | 40.7         | 38.28        | 34.1         | 43.1         | 40.60        |
| 13.     | 1800          | 34.6         | 45           | 42.37        | 34.2         | 42.9         | 40.44        | 33.6         | 41.6         | 39.23        |
| 14.     | 1900          | 38.2         | 45.6         | 43.32        | 31.2         | 39,7         | 37,26        | 32.8         | 39.9         | 37.66        |
| 15.     | 2000          | 35.3         | 43.9         | 41.45        | 36.7         | 45.8         | 43.29        | 34           | 42.6         | 40.15        |

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#### TEST REPORT

| Test Report No: KGS           | /0322/TR/N-97            |                                                                                                                                                                  | Report Date: 12.03,2022 |  |  |
|-------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--|--|
|                               | ecation:                 | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur District |                         |  |  |
| Discipline                    | Chemical                 | Sample Reference ID                                                                                                                                              | KGS/0322/N-97           |  |  |
| Group                         | Atmospheric<br>Pollution | Noise Level Monitored By                                                                                                                                         | Chemist                 |  |  |
| Sample Matrix                 | Noise                    | Noise Level Monitored On                                                                                                                                         | 08.03.2022              |  |  |
| Sample Description            | Ambient Noise            | Noise Level Received On                                                                                                                                          | 09.03.2022              |  |  |
| General Sampling<br>Procedure | 1S 9989 Methods          | Noise Level Calculated On                                                                                                                                        | 12.03.2022              |  |  |

| Locatio          | n             | NI           | - Core Zo    | ne           | N2           | ne           | N3 - Morattupalayam |              |              |              |
|------------------|---------------|--------------|--------------|--------------|--------------|--------------|---------------------|--------------|--------------|--------------|
| S.No             | Time<br>(Hrs) | Min<br>dB(A) | Max<br>dB(A) | Leq<br>dB(A) | Min<br>dB(A) | Max<br>dB(A) | Leq<br>dB(A)        | Mîn<br>dB(A) | Max<br>dB(A) | Leq<br>dB(A) |
| 16.              | 2100          | 39.5         | 45.2         | 43.22        | 32.5         | 40.8         | 38.39               | 36.9         | 44,8         | 42.44        |
| 17.              | 2200          | 35.3         | 38.2         | 36.99        | 35.3         | 43.1         | 40.76               | 32.7         | 40.7         | 38.33        |
| 18.              | 2300          | 32.6         | 37.5         | 35.71        | 34           | 42.5         | 40.06               | 34           | 43.6         | 41.04        |
| 19.              | 0000          | 33.4         | 38.6         | 36.74        | 32.9         | 40.7         | 38.36               | 32.6         | 40,5         | 38.14        |
| 20.              | 0100          | 31.3         | 34.3         | 33.05        | 32.4         | 42.8         | 40.17               | 31.1         | 35.5         | 33,83        |
| 21.              | 0200          | 32.7         | 37           | 35,36        | 33.6         | 41.1         | 38.80               | 32.8         | 36.5         | 35.03        |
| 22.              | 0300          | 32.2         | 36.5         | 34.86        | 34.5         | 38.2         | 36.73               | 34.1         | 37           | 35.79        |
| 23.              | 0400          | 32.4         | 35.5         | 34.22        | 34           | 40.7         | 38.53               | 35,2         | 37.1         | 36.25        |
| 24.              | 0500          | 33.4         | 34.5         | 33.98        | 35.4         | 39.5         | 37.92               | 33.9         | 38.5         | 36.78        |
| Day Mean dB(A)   |               | 38.5         | Day Me       | an dB(A)     | 42.1         | Day Me       | an dB(A)            | 40.9         |              |              |
| Night Mean dB(A) |               | 36.2         | Night M      | ean dB(A)    | 35.1         | 540,17       | t Mean<br>B(A)      | 36.9         |              |              |

.....End of Report.....



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| Test Report No: KGS           | 5/0322/TR/N=98        |                                                                                                                                                                  | oort Date: 12.03.2022 |  |  |
|-------------------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--|--|
| Site Location:                |                       | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur District |                       |  |  |
| Discipline                    | Chemical              | Sample Reference ID                                                                                                                                              | KGS/0322/N-98         |  |  |
| Group                         | Atmospheric Pollution | Noise Level Monitored By                                                                                                                                         | Chemist               |  |  |
| Sample Matrix                 | Noise                 | Noise Level Monitored On                                                                                                                                         | 08.03.2022            |  |  |
| Sample<br>Description         | Ambient Noise         | Noise Level Received On                                                                                                                                          | 09.03.2022            |  |  |
| General Sampling<br>Procedure | IS 9989 Methods       | Noise Level Calculated On                                                                                                                                        | 12.03.2022            |  |  |

| Locatio | in                                      | N4-N         | ludhalipa    | layam        | N5 - K                                  | arattupal    | ayam         | N6           | - Parapalay  |              |
|---------|-----------------------------------------|--------------|--------------|--------------|-----------------------------------------|--------------|--------------|--------------|--------------|--------------|
| S.No    | Time<br>(Hrs)                           | Min<br>dB(A) | Max<br>dB(A) | Leq<br>dB(A) | Min<br>dB(A)                            | Max<br>dB(A) | Leq<br>dB(A) | Min<br>dB(A) | Max<br>dB(A) | Leq<br>dB(A) |
| 01.     | 0600                                    | 33.8         | 42.6         | 39.6         | 31.3                                    | 38.8         | 36.50        | 34.5         | 43.2         | 40.7         |
| 02.     | 0700                                    | 35.6         | 43.3         | 40.1         | 33.7                                    | 41.5         | 39.16        | 33.7         | 40.4         | 38.2         |
| 03.     | 0800                                    | 35.7         | 44.5         | 41.0         | 34.4                                    | 42.8         | 40.38        | 32.8         | 41.8         | 39.3         |
| 04.     | 0900                                    | 31.6         | 46.9         | 42.0         | 35.5                                    | 44.4         | 41.92        | 33.9         | 38.1         | 36.5         |
| 05.     | 1000                                    | 36.4         | 48.3         | 44.0         | 36.1                                    | 45           | 42.52        | 34.7         | 40.6         | 38.6         |
| 06.     | 1100                                    | 32.8         | 45.7         | 45.6         | 38.2                                    | 43.5         | 41.61        | 34.1         | 40.2         | 38.1         |
| 07.     | 1200                                    | 34.6         | 43.2         | 42.9         | 38.2                                    | 41.6         | 40.22        | 32.8         | 38.5         | 36.5         |
| 08.     | 1300                                    | 32.9         | 41.4         | 40.8         | 36.6                                    | 42.5         | 40.48        | 34.7         | 43.2         | 40.8         |
| 09.     | 1400                                    | 37.4         | 49.3         | 39.0         | 32.6                                    | 45.4         | 42.61        | 32.6         | 40.6         | 38.2         |
| 10.     | 1500                                    | 32.6         | 40.7         | 46.6         | 31,3                                    | 40.4         | 37.89        | 31.3         | 38.9         | 36.6         |
| TL      | 1600                                    | 32.7         | 40.3         | 38.3         | 32.5                                    | 41.6         | 39.09        | 32.6         | 41.2         | 38.8         |
| 12.     | 1700                                    | 31.6         | 38.5         | 38.0         | 36.5                                    | 43.9         | 41.62        | 33.5         | 42.7         | 40.2         |
| 13.     | 1800                                    | 31.8         | 38.3         | 36.3         | 34.5                                    | 42.9         | 40.48        | 34.4         | 43.2         | 40.7         |
| 14.     | 1900                                    | 32.4         | 40.4         | 36.2         | 33.8                                    | 41.6         | 39.26        | 32.9         | 40.6         | 38.3         |
| 15.     | 2000                                    | 33.6         | 41.3         | 38.0         | 31.2                                    | 39.4         | 37.00        | 33.6         | 41.4         | 39.1         |
| 16.     | 2100                                    | 32.9         | 40.2         | 39.0         | 32.8                                    | 40.7         | 38.34        | 31.5         | 38.6         | 36.4         |
| 17.     | 2200                                    | 31.7         | 39.7         | 37.9         | 33.7                                    | 41.4         | 39.07        | 32.5         | 40.1         | 37.8         |
| 18.     | 2300                                    | 32.6         | 40.4         | 37.3         | 31.6                                    | 38.2         | 36.05        | 31.7         | 38.2         | 36.1         |
| 19      | 0000                                    | 33.9         | 37.1         | 38.1         | 33.4                                    | 40.1         | 37.93        | 32.3         | 39.3         | 37.1         |
| 20.     | 0100                                    | 35.2         | 38.7         | 35.8         | 33.5                                    | 36.5         | 35.25        | 33.9         | 38.4         | 36.7         |
| 21.     | 0200                                    | 34.6         | 35.9         | 37.3         | 35.7                                    | 39.3         | 37.86        | 31.5         | 35.5         | 33.9         |
| 22      | 0300                                    | 33.7         | 36.5         | 35.3         | 36.1                                    | 39           | 37.79        | 32.4         | 36.3         | 34.8         |
| 23.     | 0400                                    | 32.6         | 35.5         | 35.3         | 35.2                                    | 38.2         | 36.95        | 34.1         | 35.8         | 35.0         |
| 24.     | 0500                                    | 32.1         | 42.2         | 34.3         | 34.6                                    | 36.8         | 35.84        | 32.6         | 33.6         | 33.1         |
| 2014    |                                         | an dB(A)     | 1130.000     | 40.3         | 100000000000000000000000000000000000000 | an dB(A)     | 1000         | Day Me       | ean dB(A)    | 38.5         |
|         | *************************************** | ean dB(A)    |              | 36.2         | Night                                   | Mean<br>B(A) | 37.10        | Sa 2 0       | lean dB(A)   | 35.2         |

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#### TEST REPORT

| Site Location: Sample Code: |            | Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2, MorattupalayamVillage, Uthukuli Taluk, Tiruppur District. S1 |            |  |
|-----------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--|
|                             |            |                                                                                                                                                                |            |  |
| Sample Mark                 | Core Zone  | Sample Drawn by                                                                                                                                                | Chemist    |  |
| Sample Quantity             | 2.0 Kg     | Sample Collected on                                                                                                                                            | 09.03.2022 |  |
| Sample Received on          | 10.03.2022 | Test Commenced on                                                                                                                                              | 10.03.2022 |  |
| Test Completed on           | 15.03.2022 | Test Reported on                                                                                                                                               | 15.03.2022 |  |

| S. No | Parameters                   | Units             | Test Methods                         | Result    |
|-------|------------------------------|-------------------|--------------------------------------|-----------|
| 01.   | pH @ 25°C                    |                   | IS 2720 Part 26 - 1987 (Reaff:2016)  | 7.89      |
| 02.   | Conductivity @ 25°C          | μmhos/cm          | IS 14767 - 2000 (Reaff: 2016)        | 275       |
| 03:   | Texture                      | 86                |                                      | Clay Loam |
| 04.   | Sand                         | %                 |                                      | 34.6      |
| 05.   | Silt                         | 9/0               | Gravimetric Method                   | 36,1      |
| 06.   | Clay                         | 9/6               |                                      | 29.3      |
| 07.   | Water Holding Capacity       | %                 | By Gravimetric Method                | 44.9      |
| 08    | Bulk Density                 | g/cm <sup>3</sup> | By Cylindrical Method                | 1.11      |
| 09_   | Porosity                     | 9/0               | By Gravimetric Method                | 28,1      |
| 10.   | Exchangeable Calcium as Ca   | mg/kg             | Food and Agriculture organization of | 161       |
| 11.   | Exchangeable Magnesium as Mg | mg/kg             | the united Nation Rome 2007 : 2018   | 22.0      |
| 12.   | Exchangeable Manganese as Mn | mg/kg             |                                      | 34        |
| 13.   | Exchangeable Zinc as Zn      | mg/kg             | USEPA 3050 B - 1996 &                | 0.50      |
| 1.4   | Available Boron as B         | mg/kg             | USEPA 6010 C - 2000                  | 0.48      |
|       |                              |                   |                                      |           |

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#### TEST REPORT

| Site Location: Sample Code:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            | Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/IA (P), 209/IB (P) & 209/2 (P),389/IC2, MorattupalayamVillage, Uthukuli Taluk, Tiruppur District. S1 |            |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                                                                                                                                                                |            |  |
| Sample Mark                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Core Zone  | Sample Drawn by                                                                                                                                                | Chemist    |  |
| A CONTRACT OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF | 2,0 Kg     | Sample Collected on                                                                                                                                            | 09.03.2022 |  |
| Sample Quantity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 10.03.2022 | Test Commenced on                                                                                                                                              | 10.03.2022 |  |
| Sample Received on<br>Test Completed on                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 15.03.2022 | Test Reported on                                                                                                                                               | 15.03.2022 |  |

| S. No | Parameters                          | Units               | Test Methods                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Result        |
|-------|-------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
|       | Soluble Chloride as Cl              | mg/kg               | APHA 23 <sup>10</sup> Edn 2019 4500 Cl B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 156.0         |
| 15.   | Soluble Sulphate as SO <sub>1</sub> | %                   | IS 2720 Part 27: 1977 (Reaff:2015)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 120           |
| 17.   | Available Potassium as K            | mg/kg               | USEPA 3050 B - 1996 &                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |               |
| 18.   | Available Phosphorus as P           | mg/kg               | IS 10158: 1982 (Reaff: 2019)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0.74          |
| 19.   | Available Nitrogen as N             | mg/kg               | IS 14684: 1999 (Reaff:2019)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 142           |
| 20.   | Cadmium as Cd                       | mg/kg               | 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | BDL(DL:0.003) |
| 21.   | Chromium as Cr                      | mg/kg               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | BDL (DL:0.05) |
| 22.   | Copper as Cu                        | mg/kg               | USEPA 3050 B - 1996 &<br>USEPA 6010 C - 2000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | BDL (DL:0.05) |
| 23.   | Lead as Pb                          | mg/kg               | USEL A WITCH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0.39          |
|       | Total Iron as Fe                    | mg/kg               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1.98          |
| 24.   | 1012-101 Innovation - 11            | 9/6                 | CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR O | 2.09          |
| 25,   | Organic Matter                      | 9/0                 | IS: 2720 Part 22: 1972 (Reaff: 2015)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.21          |
| 26.   | Organic Carbon                      |                     | Decorate Services Consider                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1769417611    |
| 27.   | Cation Exchange Capacity            | meq/100g<br>of soil | USEPA 9080 - 1986                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 39.6          |

.....End of Report.....

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Note: 1. Test Results shown in this report relate only to the items tested. 2. This test report shall not be reproduced anywhere except in full and same format without the approval of the laboratory. 3. Unless informed by the customer the test items will not be retained for more than 10 days from the date of issue of test report.

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NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)

#### TEST REPORT

| Site Location: Sample Code: |            | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur District<br>S2 |            |  |
|-----------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--|
|                             |            |                                                                                                                                                                        |            |  |
| Sample Mark                 | Core Zone  | Sample Drawn by                                                                                                                                                        | Chemist    |  |
| Sample Quantity             | 2.0 Kg     | Sample Collected on                                                                                                                                                    | 09.03.2022 |  |
| Sample Received on          | 10.03.2022 | Test Commenced on                                                                                                                                                      | 10.03.2022 |  |
| Test Completed on           | 15,03,2022 | Test Reported on                                                                                                                                                       | 15.03.2022 |  |

| S. No | Parameters                   | Units             | Test Methods                            | Result    |
|-------|------------------------------|-------------------|-----------------------------------------|-----------|
| 01.   | pH @ 25°C                    | -20               | 1S 2720 Part 26 - 1987 (Reaff:2016)     | 8.20      |
| 02.   | Conductivity @ 25°C          | μmhos/cm          | IS 14767 - 2000 (Reaff : 2016)          | 316       |
| 03.   | Texture                      | 9/6               |                                         | Clay Loam |
| 04.   | Sand                         | 96                | * * * * * * * * * * * * * * * * * * * * | 35.1      |
| 05.   | Silt                         | %                 | Gravimetric Method                      | 31.8      |
| 06.   | Clay                         | 90                |                                         | 33.1      |
| 07.   | Water Holding Capacity       | %                 | By Gravimetric Method                   | 46.6      |
| 08.   | Bulk Density                 | g/cm <sup>3</sup> | By Cylindrical Method                   | 1.20      |
| 09.   | Porosity                     | %                 | By Gravimetric Method                   | 27.9      |
| 10.   | Exchangeable Calcium as Ca   | mg/kg             | Food and Agriculture organization of    | 179       |
| 1.1.  | Exchangeable Magnesium as Mg | mg/kg             | the united Nation Rome 2007: 2018       | 29.5      |
| 12.   | Exchangeable Manganese as Mn | mg/kg             |                                         | 26.5      |
| 13.   | Exchangeable Zinc as Zn      | mg/kg             | USEPA 3050 B - 1996 &                   | 0.29      |
| 14    | Available Boron as B         | mg/kg             | USEPA 6010 C - 2000                     | 0.45      |

......Continue Report......



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#### TEST REPORT

| Test Report No.: KGS/03 | 22/TR\S- 101 |                                                                                                                                                                   |                |  |
|-------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--|
| Site Loca               | ation:       | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur District. |                |  |
| Sample Code:            |              | S2                                                                                                                                                                |                |  |
| Sample Description      | SOIL         | Sample Reference                                                                                                                                                  | KGS/0322/S-101 |  |
| Sample Mark             | Core Zone    | Sample Drawn by                                                                                                                                                   | Chemist        |  |
| Sample Quantity         | 2.0 Kg       | Sample Collected on                                                                                                                                               | 09.03.2022     |  |
| Sample Received on      | 10.03.2022   | Test Commenced on                                                                                                                                                 | 10.03.2022     |  |
| Test Completed on       | 15.03.2022   | Test Reported on                                                                                                                                                  | 15.03.2022     |  |

| S. No | Parameters                          | Units               | Test Methods                                 | Result         |
|-------|-------------------------------------|---------------------|----------------------------------------------|----------------|
| 15.   | Soluble Chloride as Cl              | mg/kg               | APHA 23rd Edn 2019 4500 CLB                  | 134            |
| 16.   | Soluble Sulphate as SO <sub>4</sub> | %                   | IS 2720 Part 27: 1977 (Reaff: 2015)          | 119            |
| 17.   | Available Potassium as K            | mg/kg               | USEPA 3050 B - 1996 &<br>USEPA 6010 C - 2000 | 39.7           |
| 18.   | Available Phosphorus as P           | mg/kg               | IS 10158: 1982 (Reaff: 2019)                 | 1.12           |
| 192   | Available Nitrogen as N             | mg/kg               | IS 14684: 1999 (Reaff:2019)                  | 156            |
| 20.   | Cadmium as Cd                       | mg/kg               | -47 X 1 - 1 - 1                              | BDL (DL:0.003) |
| 21.   | Chromium as Cr                      | mg/kg               | Commission Commission                        | BDL (DL:0.05)  |
| 22    | Copper as Cu                        | mg/kg               | USEPA 3050 B – 1996 &<br>USEPA 6010 C - 2000 | BDL (DL:0.05)  |
| 23.   | Lead as Pb                          | mg/kg               | OBLI A 0010 C - 2000                         | 0,45           |
| 24.   | Total Iron as Fe                    | mg/kg               |                                              | 2.57           |
| 25.   | Organic Matter                      | %                   | 10 3830 D 38 1083 /D 27 301 (                | 1.95           |
| 26.   | Organic Carbon                      | %                   | IS: 2720 Part 22: 1972 (Reaff: 2015)         | 1.13           |
| 27,   | Cation Exchange Capacity            | meg/100g<br>of soil | USEPA 9080 - 1986                            | 35.8           |

.....End of Report.....



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NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)

#### TEST REPORT

| Test Report No.: KGS/0      | 322/TR\S-102   |                                                                                                                                                                         |            |  |
|-----------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--|
| Site Location: Sample Code: |                | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur District.<br>S3 |            |  |
|                             |                |                                                                                                                                                                         |            |  |
| Sample Mark                 | Morattupalayam | Sample Drawn by                                                                                                                                                         | Chemist    |  |
| Sample Quantity             | 2.0 Kg         | Sample Collected on                                                                                                                                                     | 09.03.2022 |  |
| Sample Received on          | 10.03.2022     | Test Commenced on                                                                                                                                                       | 10.03.2022 |  |
| Test Completed on           | 15,03,2022     | Test Reported on                                                                                                                                                        | 15.03.2022 |  |

| S. No | Parameters                   | Units             | Test Methods                         | Result    |
|-------|------------------------------|-------------------|--------------------------------------|-----------|
| 01.   | pH @ 25°C                    | •                 | IS 2720 Part 26 - 1987 (Reaff:2016)  | 8.34      |
| 02.   | Conductivity @ 25°C          | μmhos/cm          | IS 14767 - 2000 (Reaff: 2016)        | 292       |
| 03.   | Texture                      | %                 | 40                                   | Clay Loam |
| 04.   | Sand                         | %                 |                                      | 32.3      |
| 05.   | Silt                         | %                 | Gravimetrie Method                   | 38.6      |
| 06.   | Clay                         | %                 |                                      | 29.1      |
| 07.   | Water Holding Capacity       | %                 | By Gravimetric Method                | 47.2      |
| .08.  | Bulk Density                 | g/cm <sup>3</sup> | By Cylindrical Method                | 1.24      |
| 09.   | Porosity                     | %                 | By Gravimetric Method                | 31,4      |
| 10.   | Exchangeable Caleium as Ca   | mg/kg             | Food and Agriculture organization of | 138.6     |
| 1(f)  | Exchangeable Magnesium as Mg | mg/kg             | the united Nation Rome 2007: 2018    | 24.2      |
| 12.   | Exchangeable Manganese as Mn | mg/kg             |                                      | 25.2      |
| 13.   | Exchangeable Zinc as Zn      | mg/kg             | USEPA 3050 B - 1996 &                | 0.46      |
| 14    | Available Boron as B         | mg/kg             | USEPA 6010 C - 2000                  | 0,72      |

.....Continue Report

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NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)

#### TEST REPORT

| Test Report No.: KGS/0      | 322/TR\S- 102  |                                                                                                                                                                        |            |  |
|-----------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--|
| Site Location: Sample Code: |                | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur District<br>S3 |            |  |
|                             |                |                                                                                                                                                                        |            |  |
| Sample Mark                 | Morattupalayam | Sample Drawn by                                                                                                                                                        | Chemist    |  |
| Sample Quantity             | 2.0 Kg         | Sample Collected on                                                                                                                                                    | 09.03.2022 |  |
| Sample Received on          | 10,03,2022     | Test Commenced on                                                                                                                                                      | 10.03.2022 |  |
| Test Completed on           | 15.03.2022     | Test Reported on                                                                                                                                                       | 15.03.2022 |  |

| S. No | Parameters                          | Units               | Test Methods                                 | Result         |
|-------|-------------------------------------|---------------------|----------------------------------------------|----------------|
| 15.   | Soluble Chloride as Cl              | mg/kg               | APHA 23 <sup>rd</sup> Edn 2019 4500 Cl B     | 129            |
| 16.   | Soluble Sulphate as SO <sub>4</sub> | 96                  | IS 2720 Part 27: 1977 (Reaff:2015)           | 138            |
| 17.   | Available Potassium as K            | mg/kg               | USEPA 3050 B - 1996 &<br>USEPA 6010 C - 2000 | 38.6           |
| 18.   | Available Phosphorus as P           | mg/kg               | IS 10158 : 1982 (Reaff: 2019)                | 0.93           |
| 19.   | Available Nitrogen as N             | mg/kg               | IS 14684 : 1999 (Reaff:2019)                 | 120            |
| 20.   | Cadmium as Cd                       | mg/kg               |                                              | BDL (DL:0.003) |
| 21,   | Chromium as Cr                      | mg/kg               |                                              | BDL (DL:0.05)  |
| 22,   | Copper as Cu                        | mg/kg               | USEPA 3050 B - 1996 &<br>USEPA 6010 C - 2000 | BDL (DL:0.05)  |
| 23.   | Lead as Pb                          | mg/kg               | U.S.L.F.A 6010 C - 2000                      | 0.73           |
| 24.   | Total Iron as Fe                    | mg/kg               |                                              | 2.01           |
| 25.   | Organic Matter                      | %                   |                                              | 1.34           |
| 26.   | Organic Carbon                      | %                   | IS: 2720 Part 22: 1972 (Reaff: 2015)         | 0.78           |
| 27.   | Cation Exchange Capacity            | meq/100g<br>of soil | USEPA 9080 - 1986                            | 37.5           |

.....End of Report.....

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#### TEST REPORT

| Test Report No.: KGS/0 | 322/TR\S- 103  |                                                                                                                                                               |                |  |
|------------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--|
| Site Location:         |                | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur Distr |                |  |
| Sample Code :          |                | S4                                                                                                                                                            |                |  |
| Sample Description     | SOIL           | Sample Reference                                                                                                                                              | KGS/0322/S-103 |  |
| Sample Mark            | Mudhalipalayam | Sample Drawn by                                                                                                                                               | Chemist        |  |
| Sample Quantity        | 2.0 Kg         | Sample Collected on                                                                                                                                           | 09.03.2022     |  |
| Sample Received on     | 10.03.2022     | Test Commenced on                                                                                                                                             | 10.03,2022     |  |
| Test Completed on      | 15,03,2022     | Test Reported on                                                                                                                                              | 15,03,2022     |  |

| S. No | Parameters                   | Units             | Test Methods                         | Result    |
|-------|------------------------------|-------------------|--------------------------------------|-----------|
| 01.   | pH @ 25°C                    |                   | IS 2720 Part 26 - 1987 (Reaff:2016)  | 7,99      |
| 02.   | Conductivity @ 25°C          | μmhos/cm          | IS 14767 - 2000 (Reaff': 2016)       | 418       |
| 03.   | Texture                      | 86                |                                      | Clay Loam |
| 04.   | Sand                         | 9%                |                                      | 37.9      |
| 05.   | Silt                         | %                 | Gravimetric Method                   | 34.6      |
| 06.   | Clay                         | 96                | /                                    | 27.5      |
| 07.   | Water Holding Capacity       | %                 | By Gravimetric Method                | 50.8      |
| 08.   | Bulk Density                 | g/cm <sup>3</sup> | By Cylindrical Method                | 0.98      |
| 09.   | Porosity                     | 9%                | By Gravimetric Method                | 32.6      |
| 10.   | Exchangeable Calcium as Ca   | mg/kg             | Food and Agriculture organization of | 124.7     |
| II.   | Exchangeable Magnesium as Mg | mg/kg             | the united Nation Rome 2007: 2018    | 30.6      |
| 12.   | Exchangeable Manganese as Mn | mg/kg             |                                      | 38.6      |
| 13.   | Exchangeable Zinc as Zn      | mg/kg             | USEPA 3050 B - 1996 &                | 0.9       |
| 14    | Available Boron as B         | mg/kg             | USEPA 6010 C - 2000                  | 0.93      |

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#### TEST REPORT

| Test Report No.: KGS/0      | 322/1103-103   | 142                                                                                                                                                             |                |
|-----------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Site Location: Sample Code: |                | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos, 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur Distric |                |
|                             |                | S4                                                                                                                                                              |                |
| Sample Description          | SOIL           | Sample Reference                                                                                                                                                | KGS/0322/S-103 |
| Sample Mark                 | Mudhalipalayam | Sample Drawn by                                                                                                                                                 | Chemist        |
| Sample Quantity             | 2.0 Kg         | Sample Collected on                                                                                                                                             | 09.03.2022     |
| Sample Received on          | 10.03.2022     | Test Commenced on                                                                                                                                               | 10.03.2022     |
| Test Completed on           | 15.03.2022     | Test Reported on                                                                                                                                                | 15.03.2022     |

| S. No | Parameters                          | Units               | Test Methods                                 | Result        |
|-------|-------------------------------------|---------------------|----------------------------------------------|---------------|
| 15.   | Soluble Chloride as Cl              | mg/kg               | APHA 23 <sup>rd</sup> Edn 2019 4500 CLB      | 166           |
| 16.   | Soluble Sulphate as SO <sub>4</sub> | 19/6                | 18 2720 Part 27 : 1977 (Reaff:2015)          | 101           |
| 17.   | Available Potassium as K            | mg/kg               | USEPA 3050 B - 1996 &<br>USEPA 6010 C - 2000 | 39.5          |
| 18.   | Available Phosphorus as P           | mg/kg               | IS 10158 : 1982 (Reaff: 2019)                | 0.46          |
| 19.   | Available Nitrogen as N             | mg/kg               | IS 14684 : 1999 (Reaff:2019)                 | 174           |
| 20.   | Cadmium as Cd                       | mg/kg               | F(                                           | BDL (DL:0.003 |
| 21.   | Chromium as Cr                      | mg/kg               |                                              | BDL (DL:0.05) |
| 22.   | Copper as Cu                        | mg/kg               | USEPA 3050 B - 1996 &<br>USEPA 6010 C - 2000 | BDL (DL:0.05) |
| 23.   | Lead as Pb                          | mg/kg               | USEFA 0010 C - 2000                          | 1.12          |
| 24.   | Total Iron as Fe                    | mg/kg               |                                              | 1.97          |
| 25.   | Organic Matter                      | 2%                  | V201 6566-12 161                             | 1.64          |
| 26.   | Organic Carbon                      | 9%                  | 18: 2720 Part 22: 1972 (Reaff: 2015)         | 0.95          |
| 27,   | Cation Exchange Capacity            | meq/100g<br>of soil | USEPA 9080 - 1986                            | 41.0          |

.....End of Report.....

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#### TEST REPORT

| Test Report No.: KGS/0. | 322/TR\S-104 |                                                                                                                                                                |                |  |
|-------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--|
| Site Location:          |              | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur Distri |                |  |
| Sample Code:            |              | S5                                                                                                                                                             |                |  |
| Sample Description      | SOIL         | Sample Reference                                                                                                                                               | KGS/0322/S-104 |  |
| Sample Mark             | Parapalayam  | Sample Drawn by                                                                                                                                                | Chemist        |  |
| Sample Quantity         | 2.0 Kg       | Sample Collected on                                                                                                                                            | 09.03.2022     |  |
| Sample Received on      | 10.03.2022   | Test Commenced on                                                                                                                                              | 10.03.2022     |  |
| Test Completed on       | 15.03.2022   | Test Reported on                                                                                                                                               | 15.03.2022     |  |

| S. No | Parameters                   | Units    | Test Methods                         | Result    |
|-------|------------------------------|----------|--------------------------------------|-----------|
| 0.1   | pH @ 25°C                    |          | IS 2720 Part 26 - 1987 (Reaff; 2016) | 8.41      |
| 02,   | Conductivity @ 25°C          | µmhos/cm | IS 14767 - 2000 (Reaff: 2016)        | 414       |
| 03.   | Texture                      | ₩0       |                                      | Clay Loam |
| 04.   | Sand                         | 9/0      |                                      | 36.4      |
| 05.   | Silt                         | %        | Gravimetric Method                   | 35.2      |
| 06.   | Clay                         | 96       |                                      | 28.4      |
| 07.   | Water Holding Capacity       | %        | By Gravimetric Method                | 43.4      |
| 08.   | Bulk Density                 | g/cm³    | By Cylindrical Method                | 0.94      |
| 09.   | Porosity                     | 9%       | By Gravimetric Method                | 40.4      |
| 10.   | Exchangeable Calcium as Ca   | mg/kg    | Food and Agriculture organization of | 152       |
| 11.   | Exchangeable Magnesium as Mg | mg/kg    | the united Nation Rome 2007 : 2018   | 39.8      |
| 12.   | Exchangeable Manganese as Mn | mg/kg    |                                      | 31.8      |
| 13.   | Exchangeable Zine as Zn      | mg/kg    | USEPA 3050 B - 1996 &                | 1.01      |
| 14    | Available Boron as B         | mg/kg    | USEPA 6010 C - 2000                  | 0.75      |

......Continue Report..



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#### TEST REPORT

| Test Report No.: KGS/03     | 22/TR\S-104 |                                                                                                                                                                  |                |
|-----------------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Site Location: Sample Code: |             | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>Morattupalayam Village, Uthukuli Taluk, Tiruppur Distric |                |
|                             |             | S5                                                                                                                                                               |                |
| Sample Description          | SOIL        | Sample Reference                                                                                                                                                 | KGS/0322/S-104 |
| Sample Mark                 | Parapalayam | Sample Drawn by                                                                                                                                                  | Chemist        |
| Sample Quantity             | 2.0 Kg      | Sample Collected on                                                                                                                                              | 09.03.2022     |
| Sample Received on          | 10.03.2022  | Test Commenced on                                                                                                                                                | 10.03.2022     |
| Test Completed on           | 15.03,2022  | Test Reported on                                                                                                                                                 | 15.03.2022     |

| S. No | Parameters                          | Units               | Test Methods                                 | Result         |
|-------|-------------------------------------|---------------------|----------------------------------------------|----------------|
| 15.   | Soluble Chloride as Cl              | mg/kg               | APHA 23 <sup>rd</sup> Edn 2019 4500 Cl B     | 125            |
| 16.   | Soluble Sulphate as SO <sub>4</sub> | %                   | IS 2720 Part 27 : 1977 (Reaff:2015)          | 126            |
| 17,   | Available Potassium as K            | mg/kg               | USEPA 3050 B - 1996 &<br>USEPA 6010 C - 2000 | 30.7           |
| 18.   | Available Phosphorus as P           | mg/kg               | IS 10158: 1982 (Reaff: 2019)                 | 1.18           |
| 19.   | Available Nitrogen as N             | mg/kg               | IS 14684 : 1999 (Reaff:2019)                 | 123            |
| 20.   | Cadmium as Cd                       | mg/kg               |                                              | BDL (DL:0,003) |
| 21.   | Chromium as Cr                      | mg/kg               |                                              | BDL (DL:0.05)  |
| 22.   | Copper as Cu                        | mg/kg               | USEPA 3050 B - 1996 &<br>USEPA 6010 C - 2000 | BDL (DL:0.05)  |
| 23.   | Lead as Pb                          | mg/kg               | OSLEA OUTO C - 2000                          | 0.85           |
| 24.   | Total Iron as Fe                    | mg/kg               |                                              | 1.19           |
| 25.   | Organic Matter                      | %                   | 10 2720 h 22 1072 /h 07 201 6                | 1.99           |
| 26.   | Organic Carbon                      | %                   | IS: 2720 Part 22: 1972 (Reaff: 2015)         | 1.16           |
| 27.   | Cation Exchange Capacity            | meq/100g<br>of soil | USEPA 9080 - 1986                            | 38.2           |

.....End of Report.....



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#### TEST REPORT

| Test Report No.: KGS/03     | 322/TR\S-105 |                                                                                                                                                                 |                |
|-----------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Site Location: Sample Code: |              | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur Distric |                |
|                             |              | S6                                                                                                                                                              |                |
| Sample Description          | SOIL         | Sample Reference                                                                                                                                                | KGS/0322/S-105 |
| Sample Mark                 | Pappapalayam | Sample Drawn by                                                                                                                                                 | Chemist        |
| Sample Quantity             | 2.0 Kg       | Sample Collected on                                                                                                                                             | 09.03.2022     |
| Sample Received on          | 10.03.2022   | Test Commenced on                                                                                                                                               | 10.03.2022     |
| Test Completed on           | 15.03.2022   | Test Reported on                                                                                                                                                | 15.03.2022     |

| S. No | Parameters                   | Units             | Test Methods                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Result    |
|-------|------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 01.   | pH @ 25°C                    | š                 | IS 2720 Part 26 - 1987 (Reaff:2016)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 8.85      |
| 02.   | Conductivity @ 25°C          | μmhos/cm          | IS 14767 - 2000 (Reaff; 2016)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 459       |
| 03.   | Texture                      | 96                | 140                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Clay Loam |
| 04.   | Sand                         | %                 | OR THE STORY WANTED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 32.2      |
| 05.   | Silt                         | 96                | Gravimetric Method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 35.9      |
| 06.   | Clay                         | 9/6               | said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said in the said i | 31.8      |
| 07.   | Water Holding Capacity       | 9/6               | By Gravimetric Method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 43.6      |
| 08.   | Bulk Density                 | g/cm <sup>3</sup> | By Cylindrical Method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.70      |
| 09.   | Porosity                     | %                 | By Gravimetric Method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 41        |
| 10:   | Exchangeable Calcium as Ca   | mg/kg             | Food and Agriculture organization of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 132       |
| 11    | Exchangeable Magnesium as Mg | mg/kg             | the united Nation Rome 2007 : 2018                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 25.0      |
| 12.   | Exchangeable Manganese as Mn | mg/kg             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 21.2      |
| 13.   | Exchangeable Zinc as Zn      | mg/kg             | USEPA 3050 B - 1996 &                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.48      |
| 14    | Available Boron as B         | mg/kg             | USEPA 6010 C - 2000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.50      |

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#### TEST REPORT

| Test Report No.: KGS/0.     | 322/TR\S-105 |                                                                                                                                                                 |                |
|-----------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Site Location: Sample Code: |              | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur Distric |                |
|                             |              | S6                                                                                                                                                              |                |
| Sample Description          | SOIL         | Sample Reference                                                                                                                                                | KGS/0322/S-105 |
| Sample Mark                 | Pappapalayam | Sample Drawn by                                                                                                                                                 | Chemist        |
| Sample Quantity             | 2.0 Kg       | Sample Collected on                                                                                                                                             | 09.03.2022     |
| Sample Received on          | 10.03.2022   | Test Commenced on                                                                                                                                               | 10.03.2022     |
| Test Completed on           | 15.03.2022   | Test Reported on                                                                                                                                                | 15.03.2022     |

| S. No | Parameters                          | Units               | Test Methods                                 | Result        |
|-------|-------------------------------------|---------------------|----------------------------------------------|---------------|
| 15.   | Soluble Chloride as Cl              | mg/kg               | APHA 23 <sup>nl</sup> Edn 2019 4500 CLB      | 161           |
| 16.   | Soluble Sulphate as SO <sub>4</sub> | %                   | IS 2720 Part 27: 1977 (Reaff:2015)           | 84.5          |
| 17.   | Available Potassium as K            | mg/kg               | USEPA 3050 B - 1996 &<br>USEPA 6010 C - 2000 | 208           |
| 18.   | Available Phosphorus as P           | mg/kg               | IS 10158: 1982 (Reaff: 2019)                 | 0.81          |
| 19.   | Available Nitrogen as N             | mg/kg               | IS 14684 : 1999 (Reaff:2019)                 | 182           |
| 20.   | Cadmium as Cd                       | mg/kg               |                                              | BDL(DL:0.003) |
| 21.   | Chromium as Cr                      | mg/kg               | USEPA 3050 B - 1996 &<br>USEPA 6010 C - 2000 | BDL (DL:0.05) |
| 22.   | Copper as Cu                        | mg/kg               |                                              | BDL (DL:0.05) |
| 23.   | Lead as Pb                          | mg/kg               | GALT A 6010 C - 2000                         | 0.25          |
| 24.   | Total Iron as Fe                    | mg/kg               |                                              | 2.56          |
| 25.   | Organic Matter                      | <b>4</b> /6         | 16. 2220 D. 22. 1022 D. 25. 26.              | 2.62          |
| 26.   | Organic Carbon                      | 96                  | IS : 2720 Part 22: 1972 (Reaff; 2015)        | 1.52          |
| 27.   | Cation Exchange Capacity            | meg/100g<br>of soil | USEPA 9080 - 1986                            | 40.6          |

......End of Report......



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#### TEST REPORT

| Site Location:     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur Dis |                |  |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--|
| Sample Description | SW1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Sample Reference                                                                                                                                            |                |  |
| Sample Mark        | Koolipalayameri                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sample Drawn by                                                                                                                                             | KGS/0322/W-106 |  |
| Sample Quantity    | 2.0ltr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                             | Chemist        |  |
| Sample Received on | 208.000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Sample Collected on                                                                                                                                         | 09.03.2022     |  |
| Test Completed on  | 10.03,2022                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Test Commenced on                                                                                                                                           |                |  |
|                    | 15.03.2022                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Test Reported on                                                                                                                                            | 10.03.2022     |  |
| - Completed on     | The same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the sa | LPSI MURAMERON on                                                                                                                                           | 15.03.2022     |  |

| S. No. | Parameters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Units      | Test Methods                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| 1      | Color                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Hazen      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Result            |
| 2      | Odour                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | TIOS STATE | IS 3025 Part 4:1983                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5                 |
| 3      | pHa 25°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | IS 3025 Part 5:1983                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Agreeable         |
| 4      | Electrical Conductivity /w 25°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | CONTRACT   | IS 3025 Part 11:1983                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 7.55              |
| 5      | Turbidity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | µs/em      | 1S 3025 Part 14:1984                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1052              |
| 6      | Total Dissolved Solids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | NTU        | 1S 3025 Part 10:1984                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 7.8               |
| 7      | The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s | mg/l       | IS 3025 Part 16:1984                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 621               |
| 8      | Total Hardness às CaCO <sub>3</sub><br>Calcium as Ca                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | mg/I       | IS 3025 Part 21: 1984                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 196.7             |
| 9      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | mg/l       | IS 3025 Part 40 :1991                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 40.1              |
| 10     | Magnesium as Mg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | mg/l       | IS 3025 Part 46 :1994                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 23.5              |
| TUUS   | Total Alkalinity as CaCO:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | mg/l       | IS 3025 Part 23 :1986                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |
|        | Chloride as Cl                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | mg/I       | IS 3025 Part 32:1988                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 210               |
|        | Sulphate as SO4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | mg/l       | IS 3025 Part 24:1986                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 112,4             |
|        | Iron as Fe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | mg/l       | IS 3025 Part 53 :2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 56                |
|        | Free Residual Chlorine                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | mg/l       | The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s | 0.19              |
| 1.5    | Fluoride as F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | mg/l       | IS 3025 Part 26: 1986                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | BDL(DL: 2.0)      |
| 16     | Nitrates as NO:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | mg/l       | IS 3025 Part 60: 2008                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.13              |
|        | Copper as Cu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            | IS 3025 Part 34: 1988                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 18                |
|        | Manganese as Mn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | mg/l       | IS 3025 Part 42:1992                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | BDL (DL:0.2)      |
|        | Mercury as Hg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | mg/l       | IS 3025 Part 59:2006                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | BDL (DL:0.05)     |
|        | admium as Cd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | mg/l       | IS 3025 Part 48:1999                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (BDL (DL: 0.0005) |
|        | selenium as Se                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | mg/I       | IS 3025 Part 41:2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | BDL (DL:0.01)     |
| ///    | communities Se                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | mg/l       | IS 3025 Part 56:2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | BDL (DL: 0.05)    |

......Continue Report.

Authorized Signatory





NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)

#### TEST REPORT

| Site Location:                          |                             | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur I |                |
|-----------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Sample Description                      | Description SW1 Sample Refe |                                                                                                                                                           |                |
| Sample Mark                             | Koolipalayameri             |                                                                                                                                                           | KGS/0322/W-106 |
| Sample Quantity                         | - I Samita Catal            | Sample Drawn by                                                                                                                                           | Chemist        |
|                                         | 2.0ltr                      | Sample Collected on                                                                                                                                       | 09.03.2022     |
| Sample Received on<br>Test Completed on | 10.03.2022                  | Test Commenced on                                                                                                                                         |                |
|                                         | 15.03.2022                  | Test Reported on                                                                                                                                          | 10.03.2022     |
|                                         |                             | A CSUNCHOFIER OF                                                                                                                                          | 15.03.2022     |

| -      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                       | 13.03.2022    |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------|
| S. No. | Parameters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Units                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Test Methods          | 1             |
| 22     | Aluminium as Al                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | mg/l                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                       | Result        |
| 23     | Lead as Pb                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | mg/l                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IS 3025 Part 55:2003  | BDL (DL: 0.03 |
| 24     | Zinc as Zn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | IS 3025 Part 47:1994  | BDL (DL:0.01  |
| 25     | Total Chromium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | mg/l                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IS 3025 Part 49:2003  | BDL (DL:0.02  |
| 26     | Boron as B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | mg/l                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IS 3025 Part 52;2003  | BDL (DL: 0.05 |
| 27     | Mineral Oil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | mg/l                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IS 3025 Part 57:2005  | BDL (DL:0.1)  |
| 28     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | mg/l                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IS 3025 Part 39-2011  | BDL (DL:1.0)  |
| 29     | Phenolic Compunds as C <sub>6</sub> H <sub>5</sub> OH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | mg/l                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IS 3025 Part 43-1992  | Absent        |
| 30     | Anionic Detergents as MBAS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | mg/I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IS 13428 - 2005       | BDL (DL:0.1)  |
|        | Cynaide as CN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | mg/I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IS 3025 Part 27-1986  |               |
| 3)     | Biological Oxygen Demand                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | mg/l                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1S 3025 Part 44:1993  | Absent        |
| 32     | Chemical Oxygen Demand                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | mg/l                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                       | 6,4           |
| 33     | Dissolved Oxygen                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | mg/l                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IS 3025 Part 58:2006  | 24            |
| 34     | Total Coliform                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Per 100ml                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | IS 3025 Part 38:1989  | 5.7           |
| 35     | E-Coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | A STATE OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PAR | IS 1622 : 1981        | present       |
| 36     | Barium as Ba                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Per 100ml                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | IS 15185              | present       |
|        | Ammonia (as Total Ammonia-N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | mg/l                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IS 13428 - 2005       | BDL (DL:0.5)  |
|        | Sulphide as H <sub>2</sub> S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | mg/l                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IS 3025 Part 34-1988  | 2.5           |
| 2011   | Molybdenum as Mo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | mg/l                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IS 3025 Part 29-1986  | BDL (DL:0.05) |
|        | The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s | mg/I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | KGS/SOP/W-004:2018    | BDL (DL:0.5)  |
|        | otal Arsenic as As                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | mg/l                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IS 3025 Part 37:1997  | BDL (DL:0.01) |
| 11 104 | otal Suspended Solids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | mg/l                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IS 3025 Part 17 -1984 | 20.7          |

.....End of Report.....



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NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)

#### TEST REPORT

| Site Location:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur Distr |                |
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| Sample Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | SW2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Sample Reference                                                                                                                                              |                |
| Sample Mark                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Noyyal River                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Sample Drawn by                                                                                                                                               | KGS/0322/W-107 |
| Sample Quantity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2.0ltr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Sample Collected on                                                                                                                                           | Chemist        |
| Sample Received on                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 10.03.2022                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                               | 09.03.2022     |
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| rear completed on                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 15.03.2022                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Test Reported on                                                                                                                                              | 15.03.2022     |

| S.No. | Parameters                     | Units | Test Methods          | Result           |
|-------|--------------------------------|-------|-----------------------|------------------|
|       | Color                          | Hazen | IS 3025 Part. 4:1983  | S S              |
| 2     | Odour                          |       | IS 3025 Part 5:1983   | 100              |
| 3     | pH@ 25°C                       |       | IS 3025 Part 11:1983  | Agreeable        |
| #     | Electrical Conductivity @ 25°C | μs/cm | IS 3025 Part 14:1984  | 7.31             |
| 5     | Turbidity                      | NTU   | IS 3025 Part 10:1984  | 976              |
| 6     | Total Dissolved Solids         | mg/l  | IS 3025 Part 16:1984  | 8.2              |
| 7     | Total Hardness as CaCO:        | mg/l  | IS 3025 Part 21: 1984 | 598              |
| 8     | Calcium as Ca                  | mg/l  | IS 3025 Part 40 :1991 | 170              |
| 9     | Magnesium as Mg                | mg/l  | IS 3025 Part 46 :1994 | 35.6             |
| 10    | Total Alkalinity as CaCO:      | mg/l  | IS 3025 Part 23 :1986 | 19.8             |
| 11    | Chloride as CI                 | mg/l  | IS 3025 Part 32 :1988 | 168              |
| 12    | Sulphate as SO <sub>4</sub>    | mg/l  | IS 3025 Part 24:1986  | 99.0             |
| 13    | Iron as Fe                     | mg/l  | IS 3025 Part 53 :2003 | 49.8             |
| 14    | Free Residual Chlorine         | mg/l  | IS 3025 Part 26: 1986 | 0.20             |
| 15    | Fluoride as F                  | mg/l  | IS 3025 Part 60: 2008 | BDL(DL: 2.0)     |
| 16:   | Nitrates as NO <sub>3</sub>    | mg/l  |                       | 0.20             |
| 1.7   | Copper as Cu                   | mg/t  | IS 3025 Part 34: 1988 | 9.6              |
| 18    | Manganese as Mn                |       | IS 3025 Part 42:1992  | BDL (DL:0.2)     |
|       | Mercury as Hg                  | mg/l  | IS 3025 Part 59:2006  | BDL (DL:0.05)    |
|       | Cadmium as Cd                  | mg/l  | IS 3025 Part 48:1999  | (BDL (DL: 0.0005 |
|       | Selenium as Se                 | mg/I  | IS 3025 Part 41:2003  | BDL (DL:0.01)    |
|       | are the first of the second    | mg/l  | IS 3025 Part 56:2003  | BDL (DL: 0.05)   |

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#### TEST REPORT

| Site Location:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur Dist |                |
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| Sample Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | SW2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Sample Reference                                                                                                                                             |                |
| Sample Mark                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Noyyal River                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                              | KGS/0322/W-107 |
| Sample Quantity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 110 (100)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Sample Drawn by                                                                                                                                              | Chemist        |
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| Sample Received on                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 10.03,2022                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Test Commenced on                                                                                                                                            |                |
| Test Completed on                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 15.03.2022                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Test Reported on                                                                                                                                             | 10.03.2022     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s | 1 CSUREDOFTED OD                                                                                                                                             | 15.03.2022     |

| S.No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Parameters                   | Units         | Test Methods         | T 8 .         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|---------------|----------------------|---------------|
| 22                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Aluminium as Al              | mg/l          | IS 3025 Part 55:2003 | Result        |
| 23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Lead as Pb                   | mg/I          |                      | BDL (DL: 0.03 |
| 24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Zinc as Zn                   | mg/l          | IS 3025 Part 47:1994 | BDL (DL:0.01  |
| 25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Total Chromium               |               | IS 3025 Part 49:2003 | BDL (DL:0.02  |
| 26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Boron as B                   | mg/l          | IS 3025 Part 52:2003 | BDL (DL: 0.05 |
| 27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Mineral Oil                  | mg/l          | IS 3025 Part 57:2005 | BDL (DL:0.1)  |
| 28                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Phenolic Compunds as C.H.OH  | mg/l          | IS 3025 Part 39-2011 | BDL (DL:1.0)  |
| 29                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Anionic Detergents as MBAS   | mg/l          | IS 3025 Part 43-1992 | Absent        |
| 30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Cynaide as CN                | mg/l          | IS 13428 - 2005      | BDL (DL:0.1)  |
| 31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Biological Oxygen Demand.    | mg/l          | IS 3025 Part 27-1986 | Absent        |
| 32                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Chemical Oxygen Demand       | mg/)          | IS 3025 Part 44:1993 | 5.6           |
| 33                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Dissolved Oxygen             | mg/l          | IS 3025 Part 58:2006 | 18            |
| 34                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                              | mg/l          | IS 3025 Part 38:1989 | 4.4           |
| 35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Total Coliform               | Per 100ml     | IS 1622; 1981        |               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | E-Coli                       | Per 100ml     | IS 15185             | present       |
| Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of the Contract of th | Barium as Ba                 | mg/l          | IS 13428 - 2005      | present       |
| 17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Ammonia (as Total Ammonia-N) | mg/I          |                      | BDL (DL:0.5)  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sulphide as H <sub>2</sub> S | mg/l          | IS 3025 Part 34-1988 | BDL(DL:1)     |
| 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Molybdenum as Mo             | mg/l          | IS 3025 Part 29-1986 | BDL (DL:0.05) |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Fotal Arsenie as As          |               | KGS/SOP/W-004: 2018  | BDL (DL:0.5)  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Total Suspended Solids       | mg/l          | IS 3025 Part 37:1997 | BDL (DL:0.01) |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                              | End of Report | IS 3025 Part 17-1984 | 17.4          |

.....End of Report.....



Authorized Signatory





NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)

#### TEST REPORT

| Site Location:                          |                   | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur Dis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sample Description                      | WW-1              | Sample Reference                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Sample Mark                             | Near Project Area | Sample Drawn by                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | KGS/0322/W-108                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Sample Quantity                         | 2.0ltr            | DOM: TO STATE OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF T | Chemist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                         | 10.03.2022        | Sample Collected on                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 09.03,2022                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Sample Received on                      |                   | The first Thomas and the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of  | A STATE OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PAR |
| Sample Received on<br>Test Completed on | 15.03.2022        | Test Commenced on<br>Test Reported on                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 10.03.2022                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| S.No.  | Parameters                                              | Units      | Test Methods          | Denote               |
|--------|---------------------------------------------------------|------------|-----------------------|----------------------|
| I.     | Color                                                   | Hazen      | IS 3025 Part 4:1983   | Result               |
| . 2    | Odour                                                   | -          | IS 3025 Part 5:1983   | < 5                  |
| 3      | pH@ 25°C                                                | -          | IS 3025 Part 11:1983  | Agreeable            |
| 4      | Electrical Conductivity @ 25°C                          | μs/cm      |                       | 6.72                 |
| 3      | Turbidity                                               | NTU        | IS 3025 Part 14 :1984 | 910                  |
| 6      | Total Dissolved Solids                                  | PILI CO    | IS 3025 Part 10 :1984 | <1                   |
| 7      | Total Hardness as CaCOs                                 | mg/I       | 1S 3025 Part 16:1984  | 578                  |
| 8      | Calcium as Ca                                           | mg/l       | IS 3025 Part 21: 1984 | 159                  |
| 9      | Magnesium as Mg                                         | mg/l       | IS 3025 Part 40 :1991 | 31,8                 |
| 10     |                                                         | mg/l       | IS 3025 Part 46:1994  | 19.4                 |
| H      | Total Alkalinity as CaCO <sub>1</sub><br>Chloride as Cl | mg/l       | 1S 3025 Part 23 :1986 | 145                  |
| 12     |                                                         | mg/l       | IS 3025 Part 32 :1988 | 98.8                 |
| 13     | Sulphate as SO <sub>4</sub>                             | mg/l       | 1S 3025 Part 24:1986  | 43.4                 |
| 100    | Iron as Fe                                              | mg/l       | IS 3025 Part 53 :2003 | 0.10                 |
|        | Free Residual Chlorine                                  | rng/I      | IS 3025 Part 26: 1986 | 639771633            |
| UICE I | Fluoride as F                                           | mg/l       | IS 3025 Part 60: 2008 | BDL(DL: 2.0)<br>0.15 |
|        | Nitrates as NO <sub>3</sub>                             | mg/l       | IS 3025 Part 34: 1988 | 200                  |
|        | Copper as Cu                                            | mg/I       | IS 3025 Part 42:1992  | 9.6                  |
| 18     | Manganese as Mn                                         | mg/l       |                       | BDL (DL:0.2)         |
| 19     | Mercury as Hg                                           | mg/l       | IS 3025 Part 59:2006  | BDL (DL:0.05)        |
|        | 10                                                      | Continue D | 1S 3025 Part 48:1999  | (BDL (DL: 0.0005     |

......Continue Report.....

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NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)

#### TEST REPORT

| Site Location:     |                   | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur Dis |                |
|--------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Sample Description | WW-1              | Sample Reference                                                                                                                                            | KGS/0322/W-108 |
| Sample Mark        | Near Project Area | Sample Drawn by                                                                                                                                             | Chemist        |
| Sample Quantity    | 2.0ltr            | Sample Collected on                                                                                                                                         | 09.03.2022     |
| Sample Received on | 10.03.2022        | Test Commenced on                                                                                                                                           | 10.03.2022     |
| Test Completed on  | 15.03.2022        | Test Reported on                                                                                                                                            | UM/U3-2022     |

| S.No. | Parameters                                            | Units     | Test Methods          | Result                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------|-------------------------------------------------------|-----------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 20    | Cadmium as Cd                                         | mg/l      | IS 3025 Part 41:2003  | BDL (DL:0.01)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2)    | Selenium as Se                                        | mg/l      | 1S 3025 Part 56:2003  | BDL (DL: 0.05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 22    | Aluminium as Al                                       | mg/I      | -IS 3025 Part 55:2003 | THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED |
| 23    | Lead as Pb                                            | mg/l      | IS 3025 Part 47:1994  | BDL (DL: 0.03)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 24    | Zinc as Zn                                            | mg/l      | IS 3025 Part 49:2003  | BDL (DL:0.01)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 25    | Total Chromium                                        | mg/l      | IS 3025 Part 52:2003  | BDL (DL:0.02)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 26    | Boron as B                                            | mg/l      |                       | BDL (DL: 0.05)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 27    | Mineral Oil                                           | mg/l      | IS 3025 Part 57:2005  | BDL (DL:0.1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 28    | Phenolic Compunds as C <sub>6</sub> H <sub>5</sub> OH | mg/l      | IS 3025 Part 39-2011  | BDL (DL:1.0)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 29    | Anionic Detergents as MBAS                            | mg/l      | IS 3025 Part 43-1992  | Absent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 30    | Cynaide as CN                                         |           | IS 13428 – 2005       | BDL (DL:0.1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 31    | Total Coliform                                        | mg/l      | IS 3025 Part 27-1986  | Absent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 32    | E-Coli                                                | Per 100ml | IS 1622 : 1981        | < 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 33    | C 20 C 20 C 20 C 20 C 20 C 20 C 20 C 20               | Per 100ml | IS 15185              | < 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|       | Barium as Ba                                          | mg/l      | IS 13428 - 2005       | BDL (DL:0.5)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 34    | Ammonia (as Total Ammonia-N)                          | mg/l      | IS 3025 Part 34-1988  | BDL (DL:0.1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 35    | Sulphide as H <sub>2</sub> S                          | mg/l      | IS 3025 Part 29-1986  | BDL (DL:0.05)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 36    | Molybdenum as Mo                                      | mg/l      | KGS/SOP/W-004: 2018   | BDL (DL:0.5)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 37    | Total Arsenic as As                                   | mg/l      | IS 3025 Part 37:1997  | BDL (DL:0.01)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 38    | Total Suspended Solids                                | mg/l      | IS 3025 Part 17 -1984 | BDL(DL:0.01)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

.....End of Report.....

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#### TEST REPORT

| Test Report No.: KGS/C |                | Morattupalayam Rough Stone<br>S.F.Nos. 209/1A (P), 209/1B (P<br>MorattupalayamVillage, Uthu | ) & 209/2 (P),389/1C2, |
|------------------------|----------------|---------------------------------------------------------------------------------------------|------------------------|
| Sample Description     | WW-2           | Sample Reference                                                                            | KGS/0322/W-109         |
| Sample Mark            | Karattupalayam | Sample Drawn by                                                                             | Chemist                |
| Sample Quantity        | 2.0ltr         | Sample Collected on                                                                         | 09.03.2022             |
| Sample Received on     | 10.03.2022     | Test Commenced on                                                                           | 10.03.2022             |
| Test Completed on      | 15,03,2022     | Test Reported on                                                                            | 15.03.2022             |

| S.No. | Parameters                            | Units | Test Methods          | Result           |
|-------|---------------------------------------|-------|-----------------------|------------------|
| *     | Color                                 | Hazen | IS 3025 Part 4:1983   | < 5              |
| 2     | Odour                                 | *     | IS 3025 Part 5:1983   | Agreeable        |
| 3     | pH@ 25°C                              |       | IS 3025 Part 11:1983  | 6.99             |
| 4     | Electrical Conductivity @ 25°C        | µs/em | IS 3025 Part 14:1984  | 948              |
| 5     | Turbidity                             | NTU   | IS 3025 Part 10:1984  | < ]              |
| 6     | Total Dissolved Solids                | mg/l  | IS 3025 Part 16:1984  | 550              |
| 7     | Total Hardness as CaCO:               | mg/l  | IS 3025 Part 21: 1984 | 194              |
| 8     | Calcium as Ca                         | mg/I  | IS 3025 Part 40:1991  | 42,0             |
| 9     | Magnesium as Mg                       | mg/l  | IS 3025 Part 46:1994  | 21.6             |
| 10    | Total Alkalinity as CaCO <sub>3</sub> | mg/l  | IS 3025 Part 23 :1986 | 205              |
| 11    | Chloride as Cl*                       | mg/l  | IS 3025 Part 32 :1988 | 86,4             |
| 12    | Sulphate as SO <sub>4</sub> :         | mg/l  | IS 3025 Part 24:1986  | 39.6             |
| 13    | Iron as Fe                            | mg/I  | IS 3025 Part 53 :2003 | BDL (DL:0.1)     |
| 14    | Free Residual Chlorine                | mg/l  | IS 3025 Part 26: 1986 | BDL(DL: 2.0)     |
| 15    | Fluoride as F                         | mg/l  | IS 3025 Part 60: 2008 | 0.12             |
| 16    | Nitrates as NOs                       | mg/l  | IS 3025 Part 34: 1988 | 7.2              |
| 17    | Copper as Cu                          | mg/l  | IS 3025 Part 42:1992  | BDL (DL:0.2)     |
| 18    | Manganese as Mn                       | mg/l  | 1S 3025 Part 59:2006  | BDL (DL:0.05)    |
| 19    | Mercury as Hg                         | mg/l  | 1S 3025 Part 48:1999  | (BDL (DL: 0.0005 |

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#### TEST REPORT

| Test Report No.: KGS/0 | 322/TR/W-109   |                                                                                                                                                                 |                |  |
|------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--|
| Site Location:         |                | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/IA (P), 209/IB (P) & 209/2 (P),389/IC2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur Distric |                |  |
| Sample Description     | WW-2           | Sample Reference                                                                                                                                                | KGS/0322/W-109 |  |
| Sample Mark            | Karattupalayam | Sample Drawn by                                                                                                                                                 | Chemist        |  |
| Sample Quantity        | 2.0ltr         | Sample Collected on                                                                                                                                             | 09.03.2022     |  |
| Sample Received on     | 10.03.2022     | Test Commenced on                                                                                                                                               | 10.03.2022     |  |
| Test Completed on      | 15.03.2022     | Test Reported on                                                                                                                                                | 15.03.2022     |  |

| S.No. | Parameters                                            | Units     | Test Methods         | Result         |
|-------|-------------------------------------------------------|-----------|----------------------|----------------|
| 20    | Cadmium as Cd                                         | mg/l      | 1S 3025 Part 41:2003 | BDL (DL:0.01)  |
| 21    | Selenium as Se                                        | mg/l      | IS 3025 Part 56:2003 | BDL (DL: 0.05) |
| 22    | Aluminium as Al                                       | mg/l      | IS 3025 Part 55:2003 | BDL (DL: 0.03) |
| 23    | Lead as Pb                                            | mg/l      | IS 3025 Part 47:1994 | BDL (DL:0.01)  |
| 24    | Zine as Zn                                            | mg/l      | IS 3025 Part 49:2003 | BDL (DL:0.02)  |
| 25    | Total Chromium                                        | mg/l      | 1S 3025 Part 52:2003 | BDL (DL: 0.05) |
| 26    | Boron as B                                            | mg/l      | IS 3025 Part 57:2005 | BDL (DL:0.1)   |
| 27    | Mineral Oil                                           | mg/I      | IS 3025 Part 39-2011 | BDL (DL:1.0)   |
| 28    | Phenolic Compunds as C <sub>6</sub> H <sub>3</sub> OH | mg/l      | IS 3025 Part 43-1992 | Absent         |
| 29    | Anionic Detergents as MBAS                            | mg/L      | IS 13428 - 2005      | BDL (DL:0.1)   |
| 30    | Cynaide as CN                                         | mg/l      | IS 3025 Part 27-1986 | Absent         |
| 31    | Total Coliform                                        | Per 100ml | IS 1622 ; 1981       | <2             |
| 32    | E-Coli                                                | Per 100ml | IS 15185             | < 2            |
| 33    | Barium as Ba                                          | mg/l      | IS 13428 - 2005      | BDL (DL:0.5)   |
| 34    | Ammonia (as Total Ammonia-N)                          | mg/l      | IS 3025 Part 34-1988 | BDL (DL:0.1)   |
| 35    | Sulphide as H <sub>2</sub> S                          | mg/l      | IS 3025 Part 29-1986 | BDL (DL:0.05)  |
| 36    | Molybdenum as Mo                                      | mg/l      | KGS/SOP/W-004: 2018  | BDL (DL:0.5)   |
| 37    | Total Arsenie as As                                   | mg/l      | IS 3025 Part 37:1997 | BDL (DL:0.01)  |
| 38    | Total Suspended Solids                                | mg/l      | IS 3025 Part 17-1984 | BDL(DL:2)      |

.....End of Report.....

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NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)

#### TEST REPORT

| Site Location:     |                   | Morattupalayam Rough Stone and Gravel Quarry<br>S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2,<br>MorattupalayamVillage, Uthukuli Taluk, Tiruppur Distric |                |  |
|--------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--|
| Sample Description | BW-1              | Sample Reference                                                                                                                                                | KGS/0322/W-110 |  |
| Sample Mark        | Near Project Area | Sample Drawn by                                                                                                                                                 | Chemist        |  |
| Sample Quantity    | 2.01tr            | Sample Collected on                                                                                                                                             | 09.03.2022     |  |
| Sample Received on | 10.03.2022        | Test Commenced on                                                                                                                                               | 10.03.2022     |  |
| Test Completed on  | 15.03.2022        | Test Reported on                                                                                                                                                | 15.03.2022     |  |

| S.No. | Parameters                     | Units | Test Methods          | Result            |
|-------|--------------------------------|-------|-----------------------|-------------------|
| 1     | Color                          | Hazen | IS 3025 Part 4:1983   | <5                |
| 2     | Odour                          | -:    | IS 3025 Part 5:1983   | Agreeable         |
| 3     | pH@ 25°C                       |       | IS 3025 Part 11:1983  | 7.47              |
| 4     | Electrical Conductivity @ 25°C | µs/cm | IS 3025 Part 14:1984  | 745               |
| 5     | Turbidity                      | NTU   | IS 3025 Part 10:1984  | <1                |
| 6     | Total Dissolved Solids         | mg /1 | 1S 3025 Part 16:1984  | 449               |
| 17    | Total Hardness as CaCO         | mg/l  | IS 3025 Part 21: 1984 | 180               |
| 8     | Calcium as Ca                  | mg/l  | 1S 3025 Part 40 :1991 | 32.0              |
| 9     | Magnesium as Mg                | mg/l  | 1S 3025 Part 46 :1994 | 24.2              |
| 10    | Total Alkalinity as CaCO:      | mg/l  | IS 3025 Part 23:1986  | 176               |
| 11    | Chloride as Cl                 | mg/l  | IS 3025 Part 32:1988  | 70.3              |
| 12    | Sulphate as SO <sub>4</sub>    | mg/l  | IS 3025 Part 24:1986  | 29.4              |
| 13    | Iron as Fe                     | mg/l  | 1S 3025 Part 53 :2003 | BDL (DL:0.1)      |
| 14    | Free Residual Chlorine         | mg/l  | IS 3025 Part 26: 1986 | BDL(DL: 2.0)      |
| 15    | Fluoride as F                  | mg/l  | IS 3025 Part 60: 2008 | 0.20              |
| 16    | Nitrates as NO:                | mg/l  | 1S 3025 Part 34: 1988 | 6.5               |
| 17    | Copper as Cu                   | mg/l  | 1S 3025 Part 42:1992  | BDL (DL:0.2)      |
| 18    | Manganese as Mn                | mg/l  | 1S 3025 Part 59:2006  | BDL (DL:0.05)     |
| 19    | Mercury as Hg                  | mg/l  | IS 3025 Part 48:1999  | (BDL (DL: 0.0005) |

......Continue Report......

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NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)

#### TEST REPORT

| Site Location:     |                   | Morattupalayam Rough Stone<br>S.F.Nos. 209/1A (P), 209/1B (P<br>MorattupalayamVillage, Uthu | ) & 209/2 (P),389/1C2, |
|--------------------|-------------------|---------------------------------------------------------------------------------------------|------------------------|
| Sample Description | BW-1              | Sample Reference                                                                            | KGS/0322/W-110         |
| Sample Mark        | Near Project Area | Sample Drawn by                                                                             | Chemist                |
| Sample Quantity    | 2.0ltr            | Sample Collected on                                                                         | 09.03.2022             |
| Sample Received on | 10.03.2022        | Test Commenced on                                                                           | 10.03,2022             |
| Test Completed on  | 15.03.2022        | Test Reported on                                                                            | 15.03.2022             |

| S.No. | Parameters                                            | Units     | Test Methods         | Result         |
|-------|-------------------------------------------------------|-----------|----------------------|----------------|
| 20    | Cadmium as Cd                                         | mg/l      | 1S 3025 Part 41:2003 | BDL (DL:0.01)  |
| 21    | Selenium as Se                                        | mg/l      | 1S 3025 Part 56:2003 | BDL (DL: 0.05) |
| 22    | Aluminium as Al                                       | mg/l      | IS 3025 Part 55:2003 | BDL (DL: 0.03) |
| 23    | Lead as Pb                                            | mg/l      | IS 3025 Part 47:1994 | BDL (DL:0.01)  |
| 24    | Zinc as Zn                                            | mg/I      | IS 3025 Part 49:2003 | BDL (DL:0.02)  |
| 25    | Total Chromium                                        | mg/l      | 1S 3025 Part 52:2003 | BDL (DL: 0.05) |
| 26    | Boron as B                                            | mg/I      | IS 3025 Part 57:2005 | BDL (DL:0.1)   |
| 27    | Mineral Oil                                           | mg/l      | 1S 3025 Part 39-2011 | BDL (DL:1.0)   |
| 28    | Phenolic Compunds as C <sub>6</sub> H <sub>5</sub> OH | mg/l      | 1S 3025 Part 43-1992 | Absent         |
| 29    | Anionic Detergents as MBAS                            | mg/l      | 1S 13428 - 2005      | BDL (DL:0.1)   |
| 30    | Cynaide as CN                                         | mg/l      | IS 3025 Part 27-1986 | Absent         |
| -31   | Total Coliform                                        | Per 100ml | IS 1622 : 1981       | < 2            |
| 32    | E-Cofi                                                | Per 100ml | IS 15185             | < 2            |
| 33    | Barium as Ba                                          | mg/l      | IS 13428 - 2005      | BDL (DL:0.5)   |
| 34    | Ammonia (as Total Ammonia-N)                          | mg/I      | IS 3025 Part 34-1988 | BDL (DL:0.1)   |
| 35    | Sulphide as H <sub>2</sub> S                          | mg/l      | IS 3025 Part 29-1986 | BDL (DL:0.05)  |
| 36    | Molybdenum as Mo                                      | mg/l      | KGS/SOP/W-004: 2018  | BDL (DL:0,5)   |
| 37    | Total Arsenic as As                                   | mg/l      | IS 3025 Part 37:1997 | BDL (DL:0.01)  |
| 38    | Total Suspended Solids                                | mg/l      | IS 3025 Part 17-1984 | BDL(DL:2)      |

.....End of Report.....



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NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)

#### TEST REPORT

|                    | cation:        | Morattupalayam Rough Ston<br>S.F.Nos. 209/IA (P), 209/IB (I<br>MorattupalayamVillage, Uthi | DV P. TOWN AND AND AND |
|--------------------|----------------|--------------------------------------------------------------------------------------------|------------------------|
| Sample Description | BW-2           | Sample Reference                                                                           |                        |
| Sample Mark        | Mudhalipalayam |                                                                                            | KGS/0322/W-111         |
| Sample Quantity    |                | Sample Drawn by                                                                            | Chemist                |
| Sample Received on | 2.0ltr         | Sample Collected on                                                                        | 09.03.2022             |
| Test Completed on  | 10.03.2022     | Test Commenced on                                                                          |                        |
|                    | 15.03.2022     | Test Reported on                                                                           | 10.03.2022             |
|                    |                | - cor reported on                                                                          | 15.03.2022             |

| S.No.  | - arameters                                          | Units        | Test Methods          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------|------------------------------------------------------|--------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | Color                                                | Hazen        |                       | Result                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2      | Odour                                                | From Car     | 1S 3025 Part 4:1983   | < 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3      | pH@ 25°C                                             |              | IS 3025 Part 5:1983   | Agreeable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 4      | Electrical Conductivity @ 25°C                       | -            | IS 3025 Part 11:1983  | 7.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 5      | Turbidity 25°C                                       | µs/cm        | IS 3025 Part 14:1984  | 810                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 6      | Total Dissolved Solids                               | NTU          | IS 3025 Part 10:1984  | <1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 7      |                                                      | mg /l        | IS 3025 Part 16:1984  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 8      | Total Hardness as CaCO <sub>5</sub><br>Calcium as Ca | mg/l         | IS 3025 Part 21: 1984 | 430                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 9      |                                                      | mg/l         | 1S 3025 Part 40 :1991 | 130                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 10     | Magnesium as Mg                                      | mg/l         | IS 3025 Part 46:1994  | 25.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| UCC    | Total Alkalinity as CaCO <sub>3</sub>                | mg/I         | IS 3025 Part 23 :1986 | 16.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 11     | Chloride as Cl                                       | mg/l         |                       | 152                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 12     | Sulphate as SO <sub>4</sub>                          | mg/l         | IS 3025 Part 32:1988  | 85,6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 13     | fron as Fe                                           |              | 1S 3025 Part 24:1986  | 31.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 14     | Free Residual Chlorine                               | mg/l         | 15 3025 Part 53 :2003 | BDL (DL:0.1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|        | Fluoride as F                                        | mg/I         | IS 3025 Part 26: 1986 | BDL(DL: 2.0)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 710    | Nitrates as NO <sub>3</sub>                          | mg/l         | IS 3025 Part 60: 2008 | 0.17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|        | Copper as Cu                                         | mg/l         | IS 3025 Part 34: 1988 | 8.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 177.75 | Manganese as Mn                                      | mg/l         | IS 3025 Part 42:1992  | BDL (DL:0,2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|        | Mercury as Hg                                        | mg/l         | IS 3025 Part 59:2006  | THE PROPERTY OF THE PARTY OF TH |
| - 10t  | ricicity as rig                                      | mg/l         | IS 3025 Part 48:1999  | BDL (DI.:0.05)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|        | 10000-91                                             | Continua Day | 4234 BEFFE            | (BDL (DL: 0.0005                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)

#### TEST REPORT

| Site Lo            | cation:        | Morattupalayam Rough Stone<br>S.F.Nos. 209/1A (P), 209/1B (I<br>MorattupalayamVillage, Uthu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2) & 200/2 (D) 380/1/22 |
|--------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Sample Description | BW-2           | Sample Reference                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                         |
| Sample Mark        | Mudhalipalayam | Sample Drawn by                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | KGS/0322/W-111          |
| Sample Quantity    | 2,0ltr         | The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon | Chemist                 |
| Sample Received on | 10.03.2022     | Sample Collected on                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 09.03.2022              |
|                    | 15.03.2022     | Test Commenced on<br>Test Reported on                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 10.03.2022              |
| Test Completed on  |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                         |

| S.No. | Parameters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Units     | Test Methods          |                |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------|----------------|
| 20    | Cadmium as Cd-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | mg/l      |                       | Result         |
| 21    | Selenium as Se                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | mg/l      | IS 3025 Part 41:2003  | BDL (DL:0.01)  |
| 22    | Aluminium as Al                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           | IS 3025 Part 56:2003  | BDL (DL: 0.05) |
| 23    | Lead as Pb                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | mg/I      | IS 3025 Part 55:2003  | BDL (DL: 0.03) |
| 24    | Zinc as Zn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | mg/l      | 1S 3025 Part 47:1994  | BDL (DL:0.01)  |
| 25    | Total Chromium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | mg/l      | IS 3025 Part 49:2003  | BDL (DL:0.02)  |
| 26    | Boron as B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | mg/l      | IS 3025 Part 52:2003  | BDL (DL: 0.05) |
| 27    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | mg/l      | IS 3025 Part 57:2005  | BDL (DL:0.1)   |
| 28    | Mineral Oil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | mg/l      | IS 3025 Part 39-2011  | BDL (DL:1.0)   |
|       | Phenolic Compunds as C <sub>6</sub> H <sub>5</sub> OH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | mg/l      | 1S 3025 Part 43-1992  | Absent         |
| 29    | Anionic Detergents as MBAS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | mg/l      | IS 13428 - 2005       |                |
| 30    | Cynaide as CN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | mg/f      | 1S 3025 Part 27-1986  | BDL (DL:0.1)   |
| 31    | Total Coliform                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Per 100ml | IS 1622 : 1981        | Absent         |
| 32    | E-Coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Per 100ml | IS 15185              | < 2            |
| 33    | Barium as Ba                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | mg/l      | IS 13428 – 2005       | < 2            |
| 3.4   | Ammonia (as Total Ammonia-N)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | mg/l      |                       | BDL (DL:0.5)   |
|       | Sulphide as H <sub>2</sub> S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           | IS 3025 Part 34-1988  | BDL (DL:0.1)   |
| 100   | Molybdenum as Mo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | mg/l      | IS 3025 Part 29-1986  | BDL (DL:0.05)  |
|       | Total Arsenic as As                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | mg/l      | KGS/SOP/W-004: 2018   | BDL (DL:0.5)   |
|       | Total Suspended Solids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | mg/l      | IS 3025 Part 37:1997  | BDL (DL:0.01)  |
| 33//  | CONTRACTOR OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE | mg/l      | IS 3025 Part 17 -1984 | BDL(DL:2)      |

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# National Accreditation Board for Education and Training



### **Certificate of Accreditation**

#### **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) |      |
|------|---------------------------------------------------------------------------------------------------------------------------------------------|----|-----------------|------|
|      |                                                                                                                                             |    | MoEFCC          | Cat. |
| 1    | Mining of minerals opencast only                                                                                                            | 1  | 1 (a) (i)       | Α    |
| 2    | Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes | 31 | 7 (c)           | В    |
| 3    | Building and construction projects                                                                                                          | 38 | 8(a)            | В    |

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.

Saint.

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.

