

**April
2025**

**Executive Summary for Conducting Public Hearing
FOR**

**“Tvl.G.P.K. Granite Industry Multi Colour Granite
Quarry over a total extent of 10.00.0 Ha”**

At

**S.F.No. 884/1B, 1326, 1333/1A, 1B, 2, 1334/1(P), 2(P), 3
and 1334/4 of Thiruthangal Village in Sivakasi Taluk,
Virudhunagar District, Tamilnadu State**

Project Proponent:

**Tvl.G.P.K Granite Industry,
No.11, State Bank of India Officer's Colony,
Ujjaini Street, Ayanavaram,
Chennai, TamilNadu – 600 023**

Project termed under schedule 1(a) Category B₁

Prepared By:

Ecotech Labs Pvt. Ltd.



NABET Accredited EIA Consultant

**48, 2nd Main Road, Ram Nagar South Extension,
Pallikaranai, Chennai -600100**

EXECUTIVE SUMMARY

1. Project Background:

The proposed project total extent area of 10.00.0 Ha, patta land (consent registered) S.F. Nos: 884/1B, 1326, 1333/1A, 1B, 2, 1334/1(P), 2(P), 3 and 1334/4 of Thiruthangal Village in Sivakasi Taluk, Virudhunagar District. The category of the project is B1, It is a Fresh Multi Colour Granite quarry. The lease area exhibits flat terrain. The gradient is gentle towards the Eastern side.

The production of Multi Colour Granite dimension stone in this quarry involves the following method which is typical for granite stone quarrying in contrast to other major mineral mining. Splitting of rock body of considerable volume from the parent rock formation by carefully avoiding visibly seen defects such as patches veins, etc., is done by adopting the method of “diamond wire cutting” along the horizontal as well as two vertical sides on the front face of the formation.

The lessee has obtained the Precise Area Communication letter from Industries (MMB.2) Department, Secretariat, Chennai - 600 009 vide Government Letter No.5667/MMB.2/2012 19 dated 31.01.2022 for a period of Twenty Years. Mining plan was approved by The Commissioner, Dept. of Geology & Mining, Guindy, Chennai-600 032 vide letter Rc.No.12167/MM2/2010, dated 22.11.2022

The quarry operation is proposed up to depth for 32m below ground level. The Total Geological reserve is about 14,46,558m³ of Multi colour granite and 2,20,318m³ of Topsoil. The Mineable Reserves of Multi colour granite is 9,79,800m³ and Topsoil 1,24,604m³. The year wise production of multi colour granite for five years is about 2,36,196m³ and Recoverable reserves (25%) 59,049m³ and Topsoil 41,076m³. The project does not require a huge amount of water for quarry operation and total domestic water requirement is 4.0 KLD. 2.0 KLD will be used for domestic and flushing, 1.0 KLD will be used for dust suppression and 1.0 KLD will be used for green belt development. The source of water is road tank water suppliers. Drinking water source is from Thiruthangal village, which is about 1.00 km, Northeast from the proposed project site. The total project cost is about **Rs. 6,90,69,000/-** (Six Crores Ninety Lakhs and Sixty Nien Thousand Rupees only).

2. Nature & Size of the Project

The fresh Multi colour Granite quarry located over an extent of 10.00.0 Hectares land in Thiruthangal Village of Sivakasi Taluk, Virudhunagar District. The lease granted area for mining lease is a flat terrain and dry lands in nature.

Mineral intends to quarry	: Multi Colour Granite
District	: Virudhunagar
Taluk	: Sivakasi
Village	: Thiruthangal
S. F. Nos.	: 884/1B, 1326, 1333/1A, 1B, 2, 1334/1(P), 2(P), 3 & 1334/4
Extent	: 10.00.0 Hectares

Table 1: Brief Description of the Project

S. No.	Particulars	Details
1	Latitude	09°28'22.6960" N to 09°28'32.6455" N
2	Longitude	77°47'32.7729" E to 77°47'49.5472" E
3	Site Elevation above MSL	The altitude of the area is 109m from MSL.
4	Topography	Flat terrain
5	Land use of the site	Patta land (Consent registered)
6	Extent of lease area	10.00.0 Ha
7	Nearest highway	SH 42 – Srivilliputhur - Sivakasi - Virudhunagar - Aruppukottai - Narikudi - Parthibanur Road – 0.92Km - E MDR 938 – Thiruthangal - Sengamalanachiyarpuram Road – 0.80 Km - N
8	Nearest railway station	Sivakasi Railway Station – 1.35 Km – SW
9	Nearest airport	Madurai International Airport – 51.45 Km – NE
10	Nearest town / city	Town – Sivakasi – 1.80 Km – S City - Virudhunagar – 21.00 Km - NE District - Virudhunagar – 21.00 Km - NE
11	Rivers / Canal / Dam	Nil within 10Km radius
12	Lake	• Sengulam – 1.24 Km – NE

		• Urinjakulam – 2.75 Km – NE • Puthukanmai – 3.71 Km – E • Periyakulam – 1.68 Km – N • Vadiyur Lake – 9.01 Km – E • Idayankulam Lake – 9.81 Km – SW • Chinnakulam Kanmai – 1.65 Km – S • Pavalakurichi Kanmai – 6.52 Km – NE
13	Hills / valleys	Nil in 15 km radius
14	Archaeologically places	Nil in 15 km radius
15	National parks / Wildlife Sanctuaries	Nil in 15 km radius Srivilliputhur Grizzled Squirrel Wildlife Sanctuary – 16.12 Km - NW
16	Reserved / Protected Forests	Nil in 15 km radius
17	Seismicity	Proposed Lease area come under Seismic zone-II
18	Defense Installations	Nil in 15 Km radius

3. Need for the Project

Multi Colour Granite is specifically used for the construction, Infrastructure and many other exterior projects.

This project will give employment opportunities to the nearby villagers directly and indirectly. The products of Multi Colour Granite is well known in the international supermarket which will fetch a good foreign exchange to the nation.

The Multi Colour Granite quarry provides perennial employment to the villages and improves their standard of living. The product manufacturing industry from Multi colour granite improves the technical skill of the local people. This provides economic development and earns foreign exchange for our country.

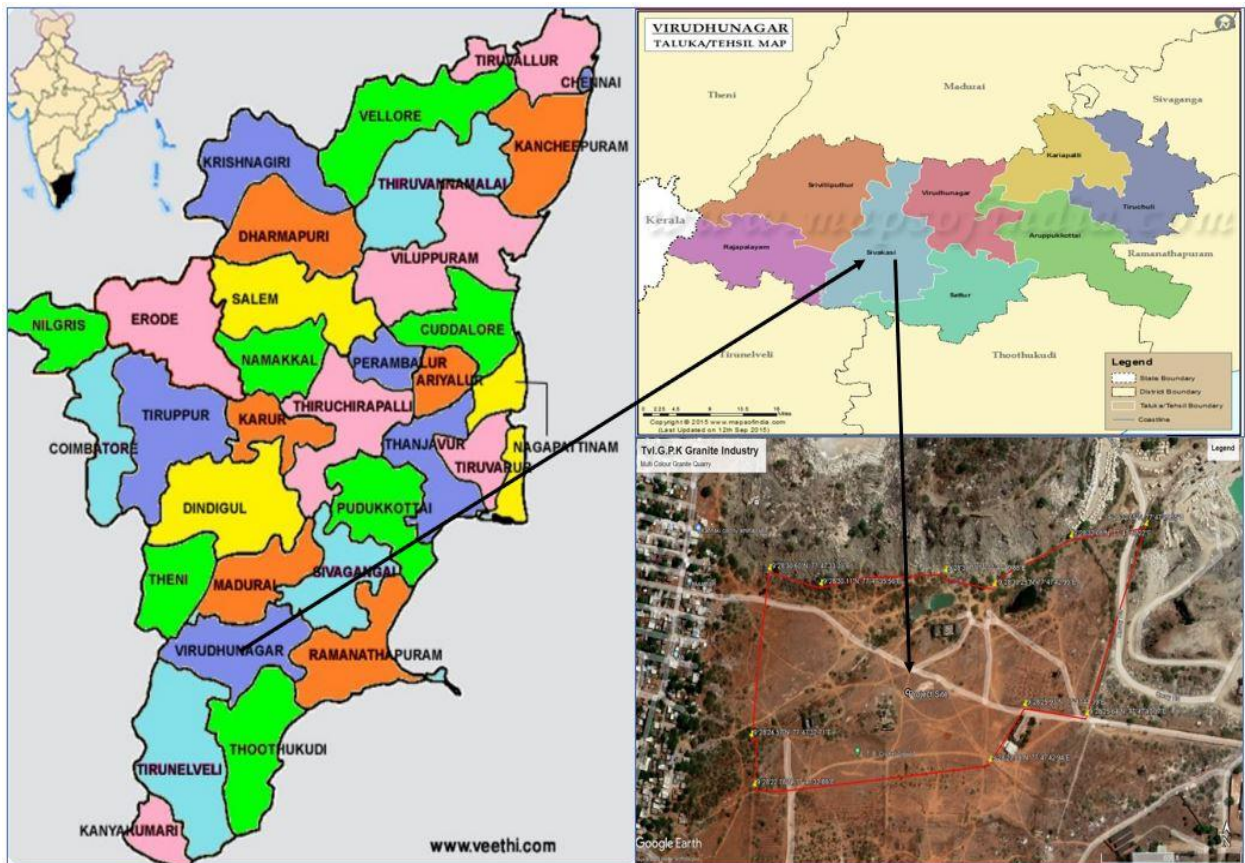


Figure 1: Location Map of the Project Site

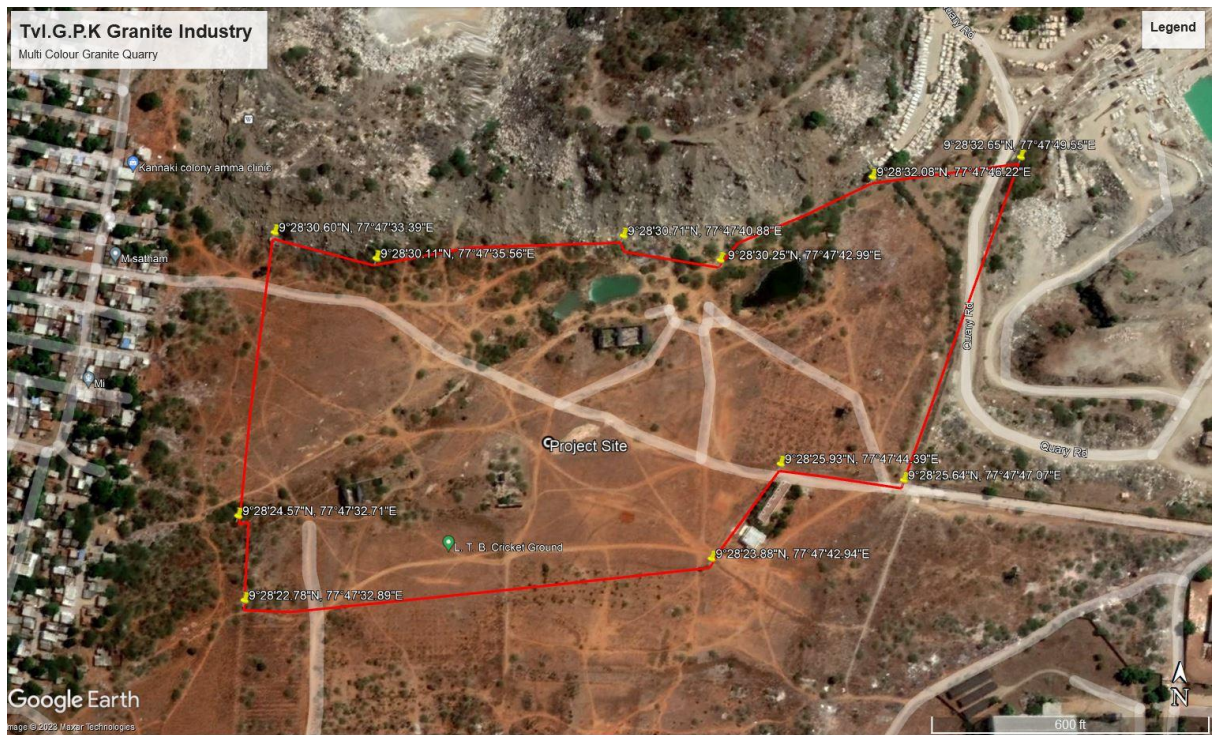


Figure 2: Google Image of the Project Site

4. Granite

Generally, Spected to be younger in age, pockets of homogeneous bodies occur within granitoid gneiss as well as within charnockite with undefined dimensions. Though the development of gneissosity is moderate yet the homogeneity in colour texture and composition makes the material ideally suited for dimension stone quarrying. Gneissic granite bodies trending NE-SW in areas Kuganparai and Sevalpatti are pale pink/yellow in colour, evenly medium grained, consisting mainly of feldspars (pale pink/ yellow in colour) quartz (pale grey or glassy), biotite and garnet. In quite contrast to the bodies the minor NE-SW bands occurring in Oddampatti are predominantly of grey gneissic granites. The grey gneissic granite of Minakshipuram has an entirely different orientation of NW-SE and has been emplaced within charnockite. The Feldspars herein are grey in colour, the other constituents being similar to the pink variety.

Multi Colour Granite

Polished multicolour granite are widely used for decorative purposes in building, monuments, Institutional, commercial and residential buildings in the form of slabs, tiles, cut to size, market etc., Granite finds its application in such industries by virtue of its high compressive and tensile strength, hardness 6.5-7.5 in Moh's scale, density and attain high polishing which create an excellent aesthetic value. Because of its high polishing nature and strengthen its commercial demand is increasing steadily in the world market, particularly in Italy, Spain Switzerland etc. The multi colour granite found in the applicants area has a yellowish to pinkish background with wave pattern. Its demand is high both in the domestic and international market even for the rough blocks.

5. Geological Resources

The Geological resources computed based on the geological cross sections upto the economically workable depth of 32m below from the existing ground profile of the area at the rate of 25% recovery yields 3,61,639m³ and 14,46,558m³ of ROM. The total geological resources are computed as 32m depth economically viable in the present market scenario

Table 2. Geological resources

Band No.	Dimensions in meters (Maximum)		
	Length	Width	Depth
Band - I	526	192 (Granite+SB)	32
Band - II	467	65 (Granite+SB)	32

GEOLOGICAL RESERVES									
Section	Bench	L (m)	W (m)	D (m)	ROM (m³)	Recovery @25% m³	Granite waste @ 75% m³	Side Burden m³	Topsoil in m³
XY-AB	I	172	192	2	-	-	-	-	66048
	II	172	50	6	51600	12900	38700	-	-
		172	142	6	-	-	-	146544	-
	III	172	50	6	51600	12900	38700	-	-
		172	142	6	-	-	-	146544	-
	IV	172	50	6	51600	12900	38700	-	-
		172	142	6	-	-	-	146544	-
	V	172	50	6	51600	12900	38700	-	-
		172	142	6	-	-	-	146544	-
	VI	172	50	6	51600	12900	38700	-	-
		172	142	6	-	-	-	146544	-
TOTAL					258000	64500	193500	732720	66048
X1Y1-AB	I	107	65	2	-	-	-	-	13910
	II	107	50	6	32100	8025	24075	-	-
		107	15	6	-	-	-	9630	-
	III	107	50	6	32100	8025	24075	-	-
		107	15	6	-	-	-	9630	-
	IV	107	50	6	32100	8025	24075	-	-
		107	15	6	-	-	-	9630	-
	V	107	50	6	32100	8025	24075	-	-
		107	15	6	-	-	-	9630	-
	VI	107	45	6	28890	7222	21688	-	-
		107	20	6	-	-	-	12840	-
TOTAL					157290	39322	117968	51360	13910
XY-CD	I	100	146	2	-	-	-	-	29200
	II	100	50	6	30000	7500	22500	-	-
		100	96	6	-	-	-	57600	-
	III	100	50	6	30000	7500	22500	-	-

		100	96	6	-	-	-	57600	-
	IV	100	50	6	30000	7500	22500	-	-
		100	96	6	-	-	-	57600	-
	V	100	50	6	30000	7500	22500	-	-
		100	96	6	-	-	-	57600	-
	VI	100	50	6	30000	7500	22500	-	-
		100	96	6	-	-	-	57600	-
Total					150000	37500	112500	288000	29200
X1Y1- CD	I	100	100	2	-	-	-	-	20000
	II	100	50	6	30000	7500	22500	-	-
		100	50	6	-	-	-	30000	-
	III	100	50	6	30000	7500	22500	-	-
		100	50	6	-	-	-	30000	-
	IV	100	50	6	30000	7500	22500	-	-
		100	50	6	-	-	-	30000	-
	V	100	50	6	30000	7500	22500	-	-
		100	50	6	-	-	-	30000	-
	VI	100	50	6	30000	7500	22500	-	-
100		50	6	-	-	-	30000	-	
Total					150000	37500	112500	150000	20000
XY-EF	I	100	88	2	-	-	-	-	17600
	II	100	50	6	30000	7500	22500	-	-
		100	38	6	-	-	-	22800	-
	III	100	50	6	30000	7500	22500	-	-
		100	38	6	-	-	-	22800	-
	IV	100	50	6	30000	7500	22500	-	-
		100	38	6	-	-	-	22800	-
	V	100	50	6	30000	7500	22500	-	-
		100	38	6	-	-	-	22800	-
	VI	100	50	6	30000	7500	22500	-	-
100		38	6	-	-	-	22800	-	
Total					150000	37500	112500	114000	17600

X1Y1-EF	I	100	94	2	-	-	-	-	18800
	II	100	50	6	30000	7500	22500	-	-
		100	44	6	-	-	-	26400	-
	III	100	50	6	30000	7500	22500	-	-
		100	44	6	-	-	-	26400	-
	IV	100	50	6	30000	7500	22500	-	-
		100	44	6	-	-	-	26400	-
	V	100	50	6	30000	7500	22500	-	-
		100	44	6	-	-	-	26400	-
	VI	100	50	6	30000	7500	22500	-	-
100		44	6	-	-	-	26400	-	
Total					150000	37500	112500	132000	18800
XY-GH	I	154	50	2	-	-	-	-	15400
	II	154	33	6	30492	7623	22689	-	-
		154	17	6	-	-	-	15708	-
	III	154	37	6	34188	8547	25641	-	-
		154	13	6	-	-	-	12012	-
	IV	154	41	6	37884	9471	28413	-	-
		154	9	6	-	-	-	8316	-
	V	154	46	6	42504	10626	37878	-	-
		154	4	6	-	-	-	3696	-
	VI	154	4	6	46200	11550	34650	-	-
Total					191268	47817	143451	39732	15400
X1Y1-GH	I	160	123	2	-	-	-	-	39360
	II	160	50	6	48000	12000	36000	-	-
		160	73	6	-	-	-	70080	-
	III	160	50	6	48000	12000	36000	-	-
		160	73	6	-	-	-	70080	-
	IV	160	50	6	48000	12000	36000	-	-
		160	73	6	-	-	-	70080	-
	V	160	50	6	48000	12000	36000	-	-
		160	73	6	-	-	-	70080	-

	VI	160	50	6	48000	12000	36000	-	-
		160	73	6	-	-	-	70080	-
Total					240000	60000	180000	350400	39360
Grand Total					1446558	361639	1084919	1858212	220318

Table 3. Mineable Resources

Band No.	Dimensions in meter (Maximum)		
	Length	Width	Depth
Band - I	495	80 (Granite+SB)	32
Band - II	373	92 (Granite+SB)	32

MINEABLE RESERVES									
Section	Bench	L (m)	W (m)	D (m)	ROM m³	Recovery @25% m³	Granite waste @75%	Side Burden m³	Top Soil in m³
XY-AB	I	162	80	2	-	-	-	-	25920
	II	158	50	6	47400	11850	35550	-	-
		158	26	6	-	-	-	24648	-
	III	151	50	6	45300	11325	33975	-	-
		151	21	6	-	-	-	19026	-
	IV	144	50	6	43200	10800	32400	-	-
		144	15	6	-	-	-	12960	-
	V	137	50	6	41100	10275	30825	-	-
		137	9	6	-	-	-	7398	-
	VI	130	50	6	39000	9750	29250	-	-
130		2	6	-	-	-	1560	-	
Total					216000	54000	162000	65592	25920
X1Y1- AB	I	88	57	2	-	-	-	-	10032
	II	79	50	6	23700	5925	17775	-	-
		79	3	6	-	-	-	1422	-
	III	64	40	6	15360	3840	11520	-	-
		64	7	6	-	-	-	2688	-
	IV	49	29	6	8526	2131	6395	-	-

		49	11	6	-	-	-	2688	-
	V	34	18	6	3672	918	2754	-	-
		34	15	6	-	-	-	3060	-
	VI	19	8	6	912	228	684	-	-
		19	20	6	-	-	-	2280	-
Total					52170	13042	39128	12684	10032
XY-CD	I	100	80	6	-	-	-	-	16000
	II	100	50	6	30000	7500	22500	-	-
		100	26	6	-	-	-	15600	-
	III	100	50	6	30000	7500	22500	-	-
		100	21	6	-	-	-	12600	-
	IV	100	50	6	30000	7500	22500	-	-
		100	15	6	-	-	-	9000	-
	V	100	50	6	30000	7500	22500	-	-
		100	9	6	-	-	-	5400	-
	VI	100	50	6	30000	7500	22500	-	-
100		2	6	-	-	-	1200	-	
Total					150000	37500	112500	43800	16000
X1Y1- CD	I	100	92	2	-	-	-	-	18400
	II	100	50	6	30000	7500	22500	-	-
		100	39	6	-	-	-	23400	-
	III	100	50	6	30000	7500	22500	-	-
		100	32	6	-	-	-	19200	-
	IV	100	50	6	30000	7500	22500	-	-
		100	25	6	-	-	-	15000	-
	V	100	50	6	30000	7500	22500	-	-
		100	18	6	-	-	-	10800	-
	VI	100	43	6	25800	6450	19350	-	-
100		20	6	-	-	-	12000	-	
Total					145800	36450	109350	80400	18400
XY-EF	I	100	75	2	-	-	-	-	15000
	II	100	50	6	30000	7500	22500	-	-

		100	22	6	-	-	-	13200	-
	III	100	50	6	30000	7500	22500	-	-
		100	16	6	-	-	-	9600	-
	IV	100	50	6	30000	7500	22500	-	-
		100	10	6	-	-	-	6000	-
	V	100	49	6	29400	7350	22050	-	-
		100	5	6	-	-	-	3000	-
	VI	100	48	6	28800	7200	21600	-	-
Total					148200	37050	111150	31800	15000
X1Y1- EF	I	100	86	2	-	-	-	-	17200
	II	100	50	6	30000	7500	22500	-	-
		100	33	6	-	-	-	19800	-
	III	100	50	6	30000	7500	22500	-	-
		100	27	6	-	-	-	16200	-
	IV	100	50	6	30000	7500	22500	-	-
		100	20	6	-	-	-	12000	-
	V	100	48	6	28800	7200	21600	-	-
		100	15	6	-	-	-	9000	-
	VI	100	37	6	22200	5550	16650	-	-
100		20	6	-	-	-	12000	-	
Total					141000	35250	105750	69000	17200
XY-GH	I	133	42	2	-	-	-	-	11172
	II	123	22	6	16236	4059	12177	-	-
		123	117	6	-	-	-	12546	-
	III	98	20	6	11760	2940	8820	-	-
		98	13	6	-	-	-	7644	-
	IV	92	18	6	9936	2484	7452	-	-
		92	9	6	-	-	-	4968	-
	V	86	16	6	8256	2064	6192	-	-
		86	5	6	-	-	-	2580	-
	VI	80	14	6	6720	1680	5040	-	-
Total					52908	13227	39681	27738	11172

X1Y1- GH	I	85	64	2	-	-	-	-	10880
	II	81	50	6	24300	6075	18225	-	-
		81	11	6	-	-	-	5346	-
	III	73	48	6	21024	5256	15768	-	-
		73	7	6	-	-	-	3066	-
	IV	65	37	6	14430	3608	10822	-	-
		65	11	6	-	-	-	4290	-
	V	56	27	6	9072	2268	6804	-	-
		56	15	6	--	-	-	5040	-
	VI	48	17	6	4896	1224	3672	-	-
		48	20	6	-	-	-	5670	-
Total					73722	18431	55291	23502	10880
Grand Total					979800	244950	734850	354516	124604

Table 4. Year wise Production Plan

YEARWISE DEVELOPMENT AND PRODUCTION										
Year	Section	Bench	L (m)	W (m)	D (m)	ROM (m³)	Recovery @ 25% (m³)	Granite waste @75% (m³)	Side Burden (m³)	Topsoil (m³)
I	XY-CD	I	79	70	2	-	-	-	-	11060
		II	75	50	6	22500	5625	16875	-	-
			75	17	6	-	-	-	7650	-
	X1Y1- CD	I	79	56	2	-	-	-	-	8848
		II	75	50	6	22500	5625	16875	-	-
			75	3	6	-	-	-	1350	-
	Total					45000	11250	33750	9000	19908
II	XY-EF	I	84	70	2	-	-	-	-	11760
		II	81	50	6	24300	6075	18225	-	-
			81	17	6	-	-	-	8262	-
	X1Y1- EF	I	84	56	2	-	-	-	-	9408
		II	81	50	6	24300	6075	18225	-	-
			81	3	6	-	-	-	1458	-

	Total					48600	12150	36450	9720	21168
III	XY-CD	III	68	48	6	19584	4896	14688	-	-
			68	13	6	-	-	-	5304	-
	X1Y1- CD	III	68	40	6	16320	4080	12240	-	-
			68	7	6	-	-	-	2856	-
	XY-EF	III	40	48	6	11520	2880	8640	-	-
			40	13	6	-	-	-	3120	-
	Total					47424	11856	35568	11280	-
IV	XY-EF	III	35	48	6	10080	2520	7560	-	-
			35	13	6	-	-	-	2730	-
		IV	46	46	6	12696	3174	9522	-	-
			46	9	6	-	-	-	2484	-
	X1Y1- EF	III	75	40	6	18000	4500	13500	-	-
			75	7	6	-	-	-	3150	-
		IV	46	30	6	8280	2070	6210	-	-
			46	11	6	-	-	-	3036	-
	Total					49056	12264	36792	11400	-
V	XY-CD	IV	46	47	6	12972	3243	9729	-	-
			46	9	6	-	-	-	2484	-
		V	30	45	6	8100	2025	6075	-	-
			30	5	6	-	-	-	900	-
		VI	10	10	6	600	150	450	-	-
	X1Y1- CD	IV	46	29	6	8004	2001	6003	-	-
			46	11	6	-	-	-	3036	-
		V	30	19	6	3420	855	2565	-	-
			30	15	6	-	-	-	2700	-
		VI	10	9	6	540	135	405	-	-
			10	20	6	-	-	-	1200	-
	XY-EF	V	30	44	6	7920	1980	5940	-	-
			30	4	6	-	-	-	720	-
		VI	10	10	6	600	150	450	-	-
		V	30	19	6	3420	855	2565	-	-

	X1Y1- EF		30	16	6	-	-	-	2880	-
		VI	10	9	6	540	135	405	-	-
			10	20	6	-	-	-	1200	-
	Total					46116	11529	34587	15120	-
Grand Total						236196	59049	177147	56520	41076

6. Mining

Opencast Mining

In accordance with Regulation 106 (2) (b) of the Metalliferous Mines Regulations 1961, in all open cast working where the ore body forms a hard rock, the working faces and sides should be adequately benched and sloped; a bench height not exceeding 5m and a bench width not less than the bench height has to be maintained. The slope angle of such benches and sides should not exceed 60° from horizontal.

The Multi Colour Granite is specifically used for the buildings, paving, monuments, aesthetics and many other exterior projects. The quarry operation involves manual jack hammer drilling, mild explosive blasting, Diamond wire shaw cutting and dressing the splitted blocks. The removed blocks are dressed manually using feather, wedges and chiselling by the skilled labours. If huge volume of Multi colour Granite stone accumulates the same will be loaded with the help of hired excavators.

Process Description

- The reserves and resource are arrived based upon the Geological investigation
- Removal of Topsoil by Excavators and directly Loaded into Tippers.
- Removal of granite by manual jack hammer drilling, mild explosive blasting, Diamond wire shaw cutting and dressing the splitted blocks.
- Shallow Drilling With Jackhammer of 30-32 mm Dia.
- Minimum Blasting With Class 3 Explosives.
- Loading of Granites By Excavators Into Tippers.

7. Water Requirement

Total water requirement for the mining project is 4.0 KLD. Domestic water will be sourced from nearby Thiruthangal Village and other water will be sourced from nearby road tankers supply.

Table 5. Water Balance

Purpose	Quantity	Source
Drinking Water	2.0 KLD	Packaged Drinking water vendors available in Thiruthangal Village which is about $\approx$ 1.00 km on NE side of the area.
Green belt	1.0 KLD	Other domestic activities through road tankers supply
Dust suppression	1.0 KLD	From road tankers supply
Total	4.0 KLD	

8. Manpower

Total manpower required for the project is approximately 47 persons. The workers will be from nearby villages.

Table 6. Man Power

1.	Mines Manager (with valid statutory qualification)	1 No.
2.	Mines foreman (with valid statutory qualification)	1 No.
3.	Machinery operators (Certified)	5 Nos.
4.	Skilled labour	8 Nos.
5.	Semi – skilled	24 Nos.
6.	Unskilled	8 Nos.
	Total	47 Nos

No child less than 18 years will be entertained during quarrying operations.

9. Solid Waste Management

Table 7 Solid Waste Management

S.No	Type	Quantity	Disposal Method
1.	Organic	8.46 kg/day	Municipal bin including food waste
2.	Inorganic	12.69 kg/day	TNPCB authorized recycler

As per CPCB guidelines: MSW per capita/day = 0.45 kg/day

Table 8. 500m Radius Cluster Mine

S. No.	Quarry Details	Village & Taluk	S.F. No and Extent (in Ha)	G.O.No. and Lease Period
I	Existing Quarries:			
1.	Stanco Traders, 32 patti Street, Sivakasi	Thiruthangal, Sivakasi	1332/1, 1332/2A, etc., (4.41.0)	G.O.3(D). No.57 Industries (MMB2) Department dated: 24.11.2023. 03.12.2023-02.12.2023
2.	Stanco Traders, 32 patti Street, Sivakasi	Thiruthangal, Sivakasi	1302/2, 1323/1A (1.21.50)	G.O.3(D). No.94 Industries (MMB2) Department dated: 01.09.2004 22.09.2004 – 21.09.2024
3.	Stanco Traders, 32 patti Street, Sivakasi	Thiruthangal, Sivakasi	1320/1A, 1320/1B1, 1320/1B2, etc., (1.93.0)	G.O.3(D). No.41 Industries (MMB2) Department dated: 27.02.2006 13.03.2006 – 12.03.2026
4.	Stanco Traders, 32 patti Street, Sivakasi	Thiruthangal, Sivakasi	1325/5A1, 1325/5A2, etc., (3.29.0)	G.O.3(D). No.41 Industries (MMB2) Department dated: 09.06.2008 08.07.2008 – 07.07.2028
5.	Standard Granites, Poothiammal Building 5-2-15C-Sattur Road, Sivakasi	Thiruthangal, Sivakasi	1325/2B1B, 1325/2B2, 1325/2B3, etc., (1.47.0)	G.O.3(D). No.45 Industries (MMB2) Department dated: 27.02.2006 13.03.2006 – 12.03.2026
6.	Standard Granites, Poothiammal Building 5-2-15C-Sattur Road, Sivakasi	Thiruthangal, Sivakasi	1325/2A, 1325/2B1A, (0.85.50)	G.O.3(D). No.56 Industries (MMB2) Department dated: 24.11.2003 24.01.2004 – 23.01.2024
II	Abandoned Quarry: NIL			
III	Proposed quarry:			

1.	Tvl.GPK Granite Industry, Ayanavaram, Chennai – 600 023	Thiruthangal, Sivakasi	884/1B, 1326 (10.00.0)	Mining plan approved vide CGM, letter No. 12167/MM2/2010, dated: 22.11.2022
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Total cluster area based on the 500m radius letter is about 23.12.0 Ha

10. Land Requirement

The total extent area of the project is 10.00.0 Ha, Patta Land in Thiruthangal Village of Sivakasi Taluk, Virudhunagar District.

Table 9 Land Use Breakup

S.No.	Description	Present Area (Ha.)	Area to be required during the present Mining Plan period (Ha)	Area at the end of life of quarry (Ha)
1	Area under Quarry	Nil	2.07.7	6.31.1
2	Waste Dumps	Nil	0.72.6	Backfilled
3	Infrastructure	Nil	0.03.5	0.05.0
5	Roads	Nil	0.03.0	0.10.0
6	Green Belt	Nil	0.46.2	1.75.8
7	Stocking blocks	10.00.0	6.67.0	1.78.1
Grand Total		10.00.0	10.00.0	10.00.0

11. Human Settlement

There are no habitations within 300m radius. There are villages located in this area within 15 km radius of the quarry.

Table 10 Habitation

Direction	Village	Distance in Kms	Population
South	Sivakasi	1.80	139000
Northeast	Thiruthangal	1.00	9600
Northwest	Sengamala Nachiar Puram	1.00	1400
Southwest	Anaiyur village	4.06	1364

12. Power Requirement

The proposed Multi Colour Granite quarrying does not require any power supply for the quarrying operation.

16 Litre diesel per hour for excavator for mining and loading for Multi Colour Granite needed and 10 Litre diesel per hour for excavator for mining and loading for Topsoil.

13. Scope of the Baseline Study

This chapter contains information on existing environmental scenario on the following parameters.

1. Micro – Meteorology
2. Water Environment
3. Air Environment
4. Noise Environment
5. Soil / Land Environment
6. Biological Environment
7. Socio-economic Environment

13.1 Micro – Meteorology

Meteorology plays a vital role in affecting the dispersion of pollutants, once discharged into the atmosphere. Since meteorological factors show wide fluctuations with time, meaningful interpretation can be drawn only from long-term reliable data.

- i) Average Minimum Temperature : 30° C
- ii) Average Maximum Temperature : 38°C
- iii) Average Annual Rainfall of the area : 829 mm

13.2 Air Environment

Ambient air monitoring was carried out on a monthly basis in the surrounding areas of the Mine Lease area to assess the ambient air quality at the source. To know the ambient air quality at a larger distance i.e. in the study area of 5 km. radius, an air quality survey has been conducted at 5 locations. Major air pollutants like Particulate Matter (PM10), Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂) were monitored, and the results are summarized below.

The baseline levels of PM₁₀ (41- 65 µg/m³), PM_{2.5} (16- 33 µg/m³), SO₂ (5-22 µg/m³), NO₂ (10-35 µg/m³), all the parameters are well within the standards prescribed by National Ambient Air Quality during the study period from December 2024 to February 2025.

13.3 Noise Environment

The maximum Day noise and Night noise were found to be 66 dB(A) and 56 dB(A) respectively in Govt Primary School Kallipatti. The minimum Day Noise and Night noise were 42 dB(A) and 35 dB(A) respectively which was observed in Sop Marriage Hall. The observed values are all well within the Standards prescribed by CPCB.

13.4 Water Environment

- The average pH ranges from 7.32 – 8.07.
- TDS value varied from 556 mg/l to 1613 mg/l
- Hardness varied from 322 to 964 mg/l
- Chloride varied from 104 to 394 mg/l

13.5 Land Environment

The analysis results shows that the majority of soil in the project and surrounding area is slightly alkaline in nature and pH value ranges from 7.13 to 8.02 with organic matter 0.11 to 2.3 %. The concentration of Nitrogen, Phosphorus & Potassium has been found to be in good amount in the soil samples.

13.6 Biological Environment

The proposed Mining lease area is mostly dry barren ground with small shrubs and bushes. No specific endangered flora & fauna exist within the mining lease area.

14. Rehabilitation/ Resettlement

The overall land of the mine is Patta land. There is no displacement of the population within the project area and adjacent nearby area. Social development of nearby villages will be considered in this project.

The mine area does not cover any habitation. Hence the mining activity does not involve any displacement of human settlement.

15. Greenbelt Development

1. The development of greenbelt in the peripheral buffer zone of the mine area.
2. Green belt has been recommended as one of the major components of Environmental Management Plan, which will improve ecology, environment and quality of the surrounding area.
3. Local trees like Neem, Vilvam, Panai, etc., will be planted along the lease boundary and avenues as well as over non-active dumps at a rate of 1000 trees per annum with interval 5m.
4. The rate of survival expected to be 70% in this area.

Table.11 Plantation/ Afforestation Program

Name of species proposed	Survival	No of species
Neem, Vilvam, Vaagai, Eachai, Naval, Mantharai, Magizha Maram, Vila Maram, Poo Marudhu, Panai, Marudha maram, Thandri, Sengondrai, Poovarasu, Thethankottai Maram, Pungam	70%	5000
Total		5000

16. Anticipated Environmental Impacts

16.1 Air Environment and Mitigation Measures

1. Water sprinkling will be done on the roads & unpaved roads.
2. Proper mitigation measures like water sprinkling will be adopted to control dust emissions.
3. Plantation will be carried out on approach roads, solid waste site & nearby mine premises.
4. To control the emissions regular preventive maintenance of equipments will be carried out.

16.2 Noise Environment and Mitigation Measures

1. Periodical monitoring of ambient noise will be done as per CPCB guidelines.
2. No other equipment except the transportation vehicles and excavator for loading will be allowed.
3. Noise generated by these equipments shall be intermittent and does not cause much adverse impact.

17. Responsibilities for Environmental Management Cell (EMC)

The responsibilities of the EMC include the following:

- i. Environmental Monitoring of the surrounding area
- ii. Developing the green belt/Plantation
- iii. Ensuring minimal use of water
- iv. Proper implementation of pollution control measures

18. Environmental Monitoring Program

A monitoring schedule with respect to Ambient Air Quality, Water & Wastewater Quality, Noise Quality as per Tamil Nadu State Pollution Control Board (TNPCB), shall be maintained.

19. Project Cost

The total project cost is **Rs 6,90,69,000/-** for deployment of machinery and creation of infrastructural facilities like approach road, mines office / Workers Shed, First Aid Room etc., including electrifications and water supply

Table .12 Project Cost details

S. No.	Description	Cost (Rs.)
1	Fixed Asset Cost	3,62,19,000/-
2	Operational Cost	3,28,50,000 /-
	Total	6,90,69,000/

Environmental Management Cost: Rs.2,34,69,678/-

20. Corporate Environmental Responsibility

The Corporate Environment Responsibility (CER) fund will be provided to the below activity.

Table 13 CER Cost

S.No.	CER Activity	CER Value (Rs)
1.	Panchayat Union Middle School, Sengamalanachiyarpuram, Providing facilities are: ✓ Additional buildings, Toilet facility, Books for library & Table & Panchayat Union Primary School, MGR Nagar, Kannagi colony, Thiruthangal Providing facilities are: ✓ Table, Chair, Sports equipments, Computer. And basic amenities such as, ✓ Planting trees in and around the periphery of the school campus ✓ Environmental Science books in Tamil Language for Library ✓ Hygienic Toilet Facility & RO water facility.	5,00,000
Total		5,00,000

21. Benefits of the Project

- There is a positive impact on socio-economics of people living in the villages. Mining operations in the subject area has a positive impact by providing direct and indirect jobs opportunities
- The project is environmentally compatible, financially viable and would be in the interest of the construction industry thereby indirectly benefiting the masses.
- Quarrying in this area is not going to have any negative impact on the social or cultural life of the villagers in the near vicinity.