

JULY

2023

**Executive Summary for Conducting Public Hearing
FOR**

**“Thiru. N. Obula Reddy Rough Stone and Earth
Quarry over a total extent of 1.46.0 Ha”**

At

**S.F.No. 265/1 (Part 4) of Madhakondapalli Village,
Denkanikottai Taluk, Krishnagiri District, Tamilnadu
State**

Project Proponent:

**Thiru. N. Obula Reddy,
No. 85, 4th Cross, 20th Main,
B.D.M Layout,
Bangalore**

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 is 1.46.0 Ha, Government Poramboke land S.F. No 265/1 (Part-4) in Madhakondapalli Village of Denkanikottai Taluk, Krishnagiri District. The category of project is B1, It is a Rough stone quarry in Madhakondapalli village. The area is situated on Hilly terrain with gentle elevation of 10 m above surface ground level and sloping towards South Eastern side covered with Rough Stone which does not sustain any type of vegetation.

The quarry operation is proposed to carry out with conventional open cast mechanized mining with 5.0-meter vertical bench with a bench width of 5.0 meter. The Quarry operation involves shallow jack hammer drilling, slurry blasting, loading and transportation.

The quarry operation is proposed up to depth for 26 m (10 m AGL + 16 m BGL) for the period of 5 years. The Total Geological resource is about 4,52,210 m³ of Rough Stone. The Mineable Resource of Rough stone is 2,56,257 m³. The year wise production/recoverable resources of rough stone for 5 years are 2,29,417 m³.

Mining Plan was approved by The Deputy Director, Department of Geology & Mining, Collectorate, Krishnagiri vide Roc.No.1261/2018/Mines dated :23.01.2019. The project area does not fall in Hill Area Conservation Authority region. There is no interstate boundary, CRZ zone, Western Ghats, notified Bird sanctuaries, as per Wildlife protection Act 1972, within the radius of 15Km. Cauvery North Wildlife Sanctuary is located at a distance of 11 kms, NW from the project site.

2. Nature & Size of the Project

The Rough Stone Quarry over an extent of 1.46.0 Hectares land is located in Madhakondapalli Village of Denkanikottai Taluk, Krishnagiri District.

Mineral intends to quarry	: Rough stone
District	: Krishnagiri
Taluk	: Denkanikottai
Village	: Madhakondapalli
S. F. Nos.	: 265/1 (Part 4)
Extent	: 1.46.0 Hectares

Table 1: Brief Description of the Project

S. No	Particulars	Details
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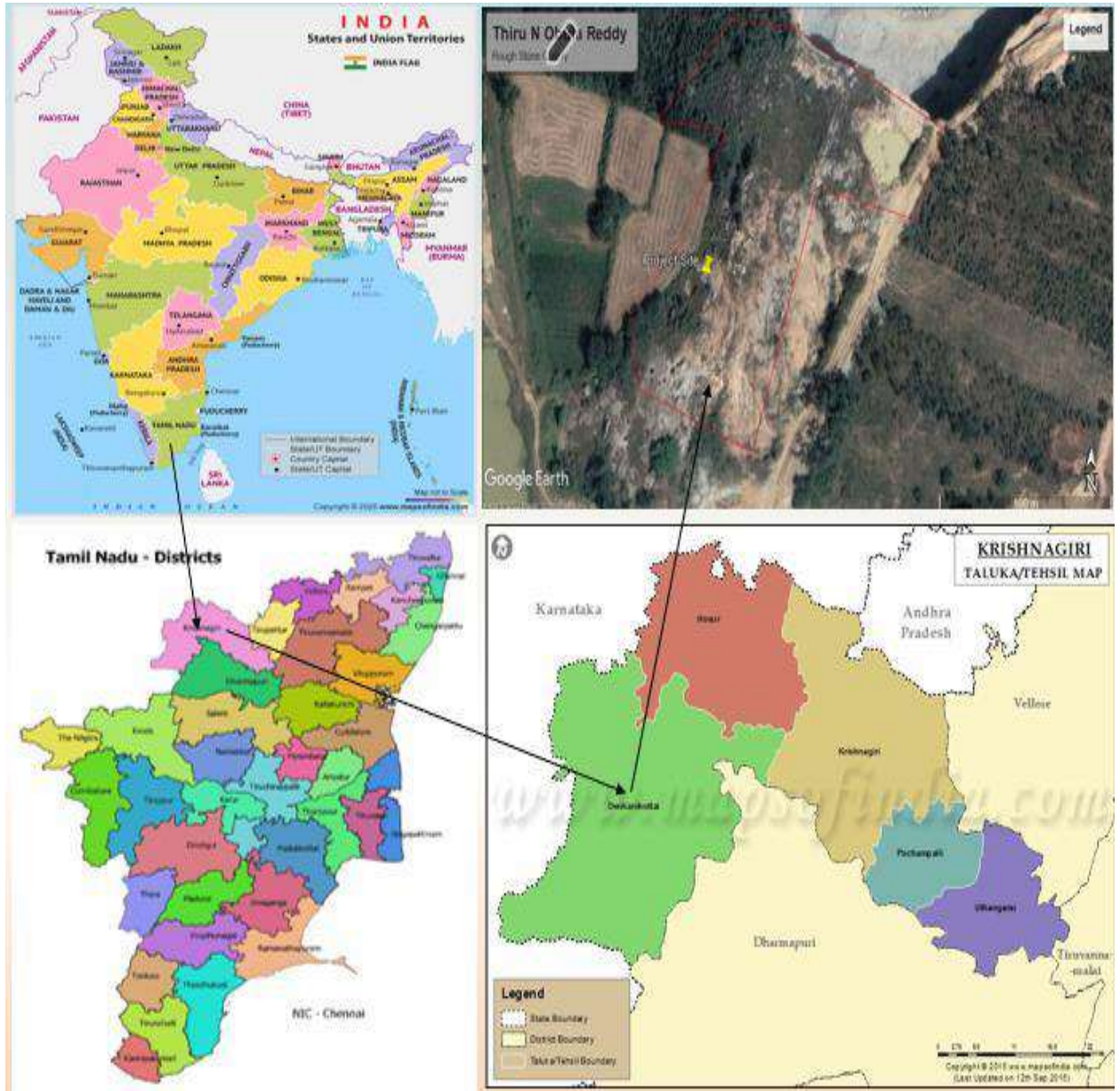
1	Latitude	12° 38' 03.35" N to 12° 38' 10.50" N
2	Longitude	77° 45' 06.25" E to 77° 45' 13.78" E
3	Site Elevation above MSL	920 m from MSL
4	Topography	Hilly terrain with gentle elevation
5	Land use of the site	Government Poramboke land
6	Extent of lease area	1.46.0 Ha
7	Nearest highway	NH 948 A: Hosur – Thally Road – 1.91 kms, W SH 17 A: Hosur – Denkanikottai Road – 3.33 kms, E
8	Nearest railway station	Hosur Railway Station – 11.76 km, NE
9	Nearest airport	Kempegowda International Airport, Bengaluru – 61.48 km, N
10	Nearest town / city	Town - Belagondapalli - 3.84 Km -N City - Hosur - 13.83 Km -NE District – Krishnagiri - 50 Km - SE
11	Rivers / Canal	<ul style="list-style-type: none"> • Ponnaiyar River – 14.77 kms, NE
12	Lake	<ul style="list-style-type: none"> • Mathukur Kere – 90 m, SW • Bynakanahalli Kere – 0.93 kms, SE • Vasa Kere – 3.11 kms, NE • Kasi Eswara Samy Temple Lake – 3.84 kms, N • Kurubatti Kere – 3.55 kms, S • Nagandahalli Lake – 4.34 kms, NE • Devaganapalli Lake – 4.66 kms, NE • Achetta palli Lake – 9.33 kms, NE • Jona Banda Lake – 10.52 kms, NE • Doddaubbanur Lake – 8.38 kms, SW • Thally Lake – 11.23 kms, SW • Rangopanditha Agraharam Lake – 10.78 kms, NE • Gokul Nagar Lake – 11.67 kms, NE • Lake – 11.32 kms, NE • NB Agraharam Lake – 11.97 kms, NE • Karapalli Lake – 12.84 kms, NE • Rama Naicken Lake – 12.84 kms, NE

		<ul style="list-style-type: none"> • Chandramkudi Eri – 13.11 kms, NE • Dodda Kere Lake – 11.34 kms, NW • Sarandapalli Vannama Lake – 11.18 kms, SW
13	Hills / valleys	Nil in 15 km radius
14	Archaeologically places	Nil in 15 km radius
15	National parks / Wildlife Sanctuaries	<ul style="list-style-type: none"> ➤ Cauvery North Wildlife Sanctuary – 11 kms, NW ➤ Cauvery South Wildlife Sanctuary – 22.43 kms, SW
16	Reserved / Protected Forests	<ul style="list-style-type: none"> • Thalli R.F – 10.93 Kms, W • Sanamavu Forest – 13.16 Kms, E • Alahalli Forest – 14.51 kms, SE • Denkanikottai R.F – 14.58 kms, SE
17	Seismicity	Proposed Lease area come under Seismic zone-II (low risk area)
18	Defense Installations	Nil in 15 Km radius

3. Need for the Project

- ❖ The mining activities as proposed are the backbone of all construction and infrastructure projects as the raw material for construction is available only from such mining. The Rough stone extracted will be transported to be Stone crusher of district Krishnagiri.
- ❖ The raw Rough stone as well as the crushed material of stone is in high demand in real estate, construction projects as well as in building construction projects.
- ❖ Rough stone is quarried for producing crusher aggregates to the nearby building contractors, road contractors and nearby villagers.
- ❖ After quarrying the entire reserves mined out, the area will be used as water reservoir to have an artificial recharge to the nearby wells.
- ❖ No damage to the land is caused, no reclamation or back filling is required.

Figure 1: Location Map of the Project Site



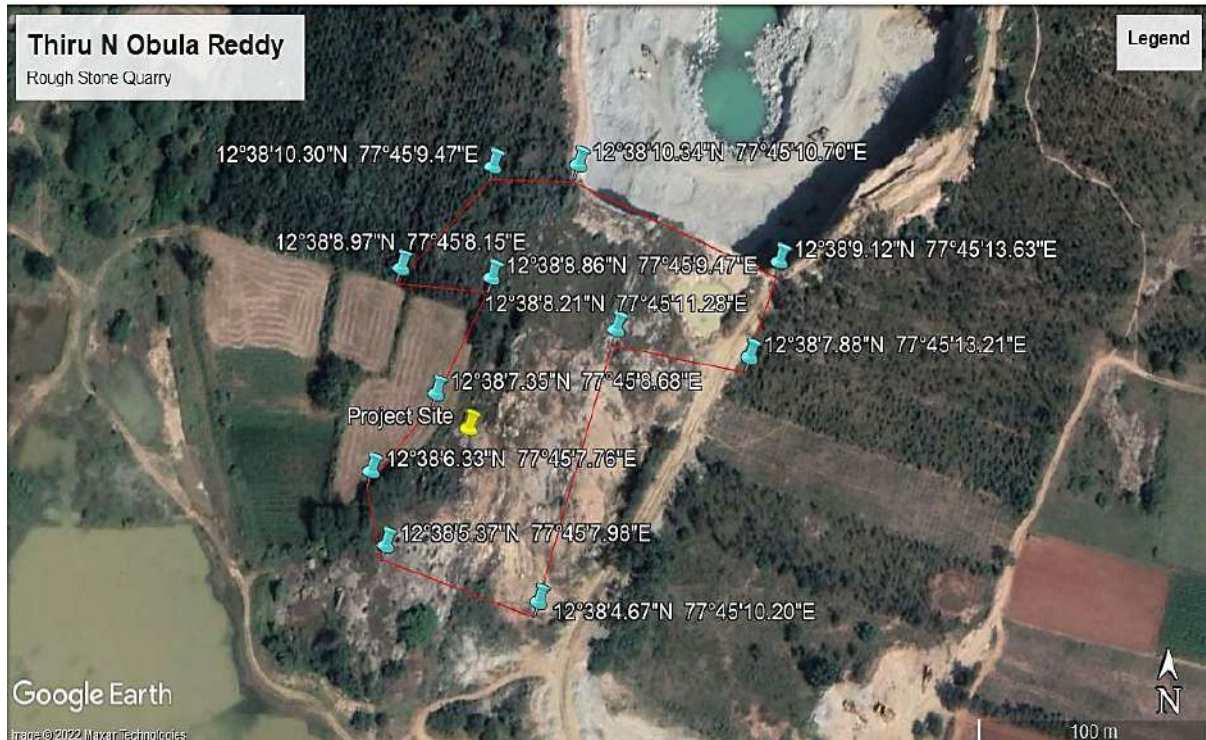


Figure 2: Google Image of the Project Site

4. Charnockite

Charnockite and granitic gneisses are extensively quarried as rough stone which is used as aggregates for construction of building, laying of roads and for preparation of value added products like hollow blocks, pillar stones, M-sand etc. Charnockite occurs as massive bodies, greyish colour, medium to coarse grained, composed quartz, feldspar and orthopyroxene. At places, metamorphic gneissic banding (alternate dark and black colour) in charnockite is noticed. Top portion, it gives gneissic appearance but 1-5m depth below it is typical charnockite of grey colour.

5. Geological Resources

The Geological reserve of Rough Stone and Topsoil is calculated upto a depth of 31 m (1.0 m Topsoil + 30m Rough Stone) – 10 m AGL and 21 m BGL. Total Geological reserve of Rough Stone is estimated as 452210 Cu.m.

Table 2. Geological resources

Section	Bench	L (m)	W (m)	D (m)	Volume In M ³	Geological Rough stone Resources in m ³ @ 100%	Top Soil in m ³
XY-AB	I	80	135	1			10800
	II	80	83	5	33200	33200	
	III	80	132	5	52800	52800	
	IV	80	135	5	54000	54000	
	V	80	135	5	54000	54000	
	VI	80	135	5	54000	54000	
	VII	80	135	5	54000	54000	
TOTAL					302000	302000	10800
XY-CD	I	96	67	1			6432
	II	19	36	5	3420	3420	
	III	66	55	5	18150	18150	
	IV	96	67	5	32160	32160	
	V	96	67	5	32160	32160	
	VI	96	67	5	32160	32160	
	VII	96	67	5	32160	32160	
TOTAL					150210	150210	6432
GRAND TOTAL					452210	452210	17232

Mineable Resources:

Topsoil: The Thickness of Topsoil in this area is 1.0m and the total volume of Topsoil will be 14400 m³.

Rough stone: The mineable and recoverable resources are 256857 m³ & 229417 m³ respectively upto the permissible depth. Total Depth 31 m (1m Topsoil + 30 m Rough stone) – 10 m AGL and 21 m BGL.

Section	Bench	L (m)	W (m)	D (m)	Volume In M ³	Mineable Resources in m ³ @ 100%	Topsoil in m ³
XY-AB	I	80	120	1			9600
	II	80	64	5	25600	25600	
	III	80	118	5	47200	47200	
	IV	70	113	5	39550	39550	
	V	65	103	5	33475	33475	
	VI	60	93	5	27900	27900	
	VII	55	83	5	22825	22825	
TOTAL					196550	196550	9600
XY-CD	I	96	50	1			4800
	II	19	31	3	1767	1767	
	III	62	43	5	13330	13330	
	IV	86	43	5	18490	18490	
	V	81	33	5	13365	13365	
	VI	76	23	5	8740	8740	
	VII	71	13	5	4615	4615	
TOTAL					60307	60307	4800
GRAND TOTAL					256857	256857	14400

Year wise resources calculation:

Rough stone production details as follows:

The proposed rate of production of Rough stone for five years is about 229417 m³. Total depth 26.0 m (10 m AGL + 16 m BGL).

Year	Bench	L (m)	W (m)	D(m)	Volume in (Cu.m.)	Reserve in Cbm (100%)	Topsoil
I-YEAR	I	80	120	1			9600
	II	80	64	5	25600	25600	
	I	96	50	1			4800
	II	19	31	3	1767	1767	
II-YEAR	III	80	118	5	47200	47200	
	III	62	43	5	13330	13330	
III-YEAR	IV	70	113	5	39550	39550	
	IV	86	43	5	18490	18490	
IV-YEAR	V	65	103	5	33475	33475	
	V	81	33	5	13365	13365	
V-YEAR	VI	60	93	5	27900	27900	
	VI	76	23	5	8740	8740	
Total					229417	229417	14400

Table 3. Year wise Production Plan

6.Mining

Opencast mining

The quarry operation is proposed to carry out with conventional open cast mechanized mining with 5.0-meter vertical bench with a bench width of 5.0 meter. The Quarry operation involves shallow jack hammer drilling, blasting, loading and transportation.

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 Rough Stone by Excavators by Drilling and Blasting.

- Shallow Drilling With Jackhammer of 32mm Dia.
- Minimum Blasting With Class 2 Explosives.
- Loading of Rough Stone By Excavators Into Tippers.

7. Water Requirement

Total water requirement for the mining project is 2.0 KLD. Domestic water will be sourced from nearby Kottur Village and other water will be source from nearby road tankers supply.

Table 4. Water Balance

Purpose	Quantity	Source
Drinking Water	1.0KLD	Packaged Drinking water vendors available in Mathakur village which is about 0.52 km S from the project site.
Green belt	0.5KLD	Other domestic activities through road tankers supply
Dust suppression	0.5KLD	From road tankers supply
Total	2.0 KLD	

8. Manpower

Total manpower required for the project is approximately 18 persons.

Workers will be from nearby villages.

Table 5. Man Power

1.	Skilled	Operator	2
		Mechanic	1
		Blaster/Mate	1
2.	Semi skilled	Driver	2
3.	Unskilled	Musdoor/Labours	5
		Office boy	1
		Cleaners	3
4.	Management & Supervisory staff		3
Total			18 Nos

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

9. Solid Waste Management

Table. 6 Solid Waste Management

S. No	Type	Quantity	Disposal Method
1	Organic	3.24 kg/day	Municipal bin including food waste
2	Inorganic	4.86 kg/day	TNPCB authorized recyclers

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

Table. 7 500m Radius Cluster Mine

S. No	Name of the lessee	Village & Taluk	Mineral	S.F No	Extent (Ha)	G.O. No. & Date	Lease period
I. Existing Quarries							
1	Thiru.H.R.Prasanth, S/o. Ravi, H.V, Handehahalli, Anekal Taluk, Bangalore	Denkanikottai Taluk – Mathagondapalli Village	Rough Stone	265/ 1 (Part-1)	2.50.0	Roc.222/ 2018/Min es dated 11.02.201 9	11.02.2018 to 11.02.2024
2	Tmt.P.Sutha, R. Venugopal, No. 27, Mallswaram Green Park, Naganahalli Post, Hasaba Hobli, Marsur Post, Anekal Taluk, Bangalore District	Denkanikottai Taluk – Mathagondapalli Village	Rough Stone	265/ 1 (Part-2)	2.50.0	Roc.223/ 2018/Min es dated 09.11.201 8	09.11.2018 to 08.11.2028
3	Thiru C Srinivasamoorthy, S/o. Chandrappa, D.No. 2/31, Belagondapalli Post, Denkanikottai Taluk, Krishnagiri District	Denkanikottai Taluk – Mathagondapalli Village	Rough Stone	265/ 1 (Part-3)	1.60.0	Roc.224/ 2018/Min es dated 09.11. 2018	09.11.2018 to 08.11.2028
II. Abandoned / Old Quarries							
S. No.	Name of the lessee	Village & Taluk	S.F No	Extent (Ha)	G.O. No. & Date	Lease period	
----Nil---							
III. Proposed Quarries							
1	Thiru.N.Obula Reddy, No. 85, 4 th Cross, 20 th Main, BTM Layout, Bangalore	Denkanikottai Taluk – Mathagondapalli Village	Rough Stone	265/ 1 (Part-4)	1.46.0	Roc.1261/ 2018/Mi nes dated 14.11.201 8	Precise area given Instant Proposal
Total					8.06.0 Ha		

The Total extent (Cluster) of the Existing / Lease expired / Proposed quarries are **8.06.0 Ha**

10. Land Requirement

The total extent area of the project is 1.46.0 Ha, Government Poramboke land in Mathagondapalli Village of Denkanikottai Taluk, Krishnagiri District.

Table 8 Land Use Breakup

Sl. No.	Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)
1.	Area under quarrying	Nil	1.05.0
2.	Infrastructure	Nil	0.01.0
3.	Roads	Nil	0.01.0
4.	Green Belt	Nil	0.39.0
5.	Unutilized	1.46.0	Nil
	Total	1.46.0 Ha	1.46.0 Ha

11. Human Settlement

There are no habitations within 500m radius. There are villages located in this area within 5km radius of the quarry.

Table 9 Habitation

Direction	Village	Distance in Kms	Population
E	Pyarakapalli	1.05	352
S	Mathakur	0.52	1065
W	Upparapalli	1.73	1195
NW	Malugundapalli	2.00	3898
NE	Gopanapalli	3.66	1388

12. Power Requirement

The Rough Stone Quarry project does not require huge water and electricity for the project.

16 Litre diesel per hour for excavator for mining and loading for Rough stone needed.

10 Litre diesel per hour for excavating for mining and loading for Topsoil needed.

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 : 24 to 28 °C
- ii) Average Maximum Temperature : 31 to 36 °C
- iii) Average Annual Rainfall of the area : 821 mm

13.2 Air Environment

Ambient air monitoring was carried out on 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 10 km. radius, 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 (67-41 µg/m³), PM_{2.5} (34-16 µg/m³), SO₂(21-5 µg/m³), NO_x (40-10µg/m³), all the parameters are well within the standards prescribed by National Ambient Air Quality during the study period from March to May 2023.

13.3 Noise Environment

Ambient noise levels were measured at 5 locations around the proposed project site. The maximum Day noise and Night noise were found to be 63 dB(A) and 50 dB(A) respectively in Uliveeranapalli Bus Stop. The minimum Day Noise and Night noise were 42 dB(A) and 36 dB(A) respectively which was observed in Project site.

13.4 Water Environment

- The average pH ranges from 6.33 – 7.6.
- TDS value varied from 587 mg/l to 1099 mg/l
- Hardness varied from 340 to 661 mg/l
- Chloride varied from 80.2 to 276 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 6.20 to 7.61 with organic matter 0.71 to 1.27 %. 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 government poramboke 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, Pungam, Naval etc. will be planted along the lease boundary and avenues as well as over non-active dumps at a rate of 800 trees with interval 5m.
4. The rate of survival expected to be 80% in this area

Table.10 Plantation/ Afforestation Program

Name of species proposed	Survival	No of species
Neem, Pungam, Poovarasu, Naval, Mantharai, Arasa Maram, Magizham, Vilvam, vaagai, Marudha maram, Thandri, Poovarasu, Thethankottai maram, Manjadi, Usil, Aathi, Panai, Uzha, Illuppai, Eachai, Vanni Maram	80%	800

Total	800
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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 equipment 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 this equipment 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 2,51,39,201/-** for deployment of machinery and creation of infrastructural facilities like approach road, mine office / Workers Shed, First Aid Room etc., including electrifications and water supply

Table .11 Project Cost details

S. No.	Description	Cost
1	Fixed Asset Cost	43,30,000/-
2	Operational Cost	30,00,000/-
3	EMP Cost (for lease period of 10 years)	1,78,09,201/-
	Total	2,51,39,201/-

Total project cost: 2,51,39,201/- (Two crore fifty-one lakhs Thirty Nine thousand and Two Hundred and One Rupees only)

20. Corporate Environmental Responsibility

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

Table 12 CER Cost

S.No.	CER Activity	CER value (Rs)
1.	1. Government Higher Secondary School, Madhakondapalli, Krishnagiri District – 4 km, SW Provision of ➤ R.O Water Facility, ➤ Smart Classroom – 2 No's. ➤ Sports Kit and Playground ➤ Environmental Science books for library (in Tamil language), ➤ Greenbelt facilities and ➤ Basic amenities such as safe drinking water, Hygienic Toilets facilities – 10 Units and maintenance upto lease period, furniture tables and desk, etc.,	5,00,000

Total	5,00,000
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21. Benefits of the Project

- There is positive impact on socioeconomics of people living in the villages. Mining operations in the subject area has positive impact by providing direct and indirect jobs opportunities
- The project is environmentally compatible, financially viable and would be in the interest of 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.