

## **Executive Summary for Conducting Public Hearing**

**FOR**

**“M/s. Annai Blue metals Rough Stone and Gravel  
Quarry over a total extent of 1.92.0 Ha”**

**At**

**S.F.No. 682 (Part) of Kuppam Village of Pugalur Taluk,  
Karur District and Tamil Nadu State**

### **Project Proponent:**

**M/s. Annai Blue metals  
S.F.No.451, Kaalipalayam  
Kuppam Village,  
Pugalur Taluk,  
Karur District – 639 111.**

**Project termed under schedule 1(a) Category B<sub>1</sub>**

### **Prepared By:**

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**NABET Accredited EIA Consultant**

**48, 2<sup>nd</sup> Main Road, Ram Nagar South Extension,**

**Pallikarani**

**Chennai -600100**

## EXECUTIVE SUMMARY

### 1. Project Background:

The Proposed project total extent area is 1.92.0 Ha, Patta land in Kuppam Village of Pugalur Taluk, Karur District. The category of project is B1, It is an existing Rough stone and Gravel quarry in Kuppam village. The area is situated on undulated terrain sloping towards Western 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 47m (2.0m Topsoil + 45.0m Rough Stone). The Total Geological reserve is about 784728 m<sup>3</sup> of Rough Stone and 20592 m<sup>3</sup> of Gravel. The Mineable Reserves is about 227340 m<sup>3</sup> of Rough Stone and 15256 m<sup>3</sup>. The year wise production/recoverable resources of rough stone for 5 years is 227340 m<sup>3</sup> and for gravel is 15256 m<sup>3</sup>.

Mining Plan was approved by The Deputy Director, Dept. of Geology & Mining, Karur vide Roc No: 134/Mines/2020 dated 17.02.2021. The project area does not fall in Hill Area Conservation Authority region. There is no interstate boundary, CRZ zone, Western Ghats, notified Bird sanctuaries, wildlife sanctuaries as per Wildlife protection Act 1972, within the radius of 15Km.

### 2. Nature & Size of the Project

The Rough Stone and Gravel Quarry over an extent of 1.92.0 Hectares land is located Kuppam Village of Pugalur Taluk, Karur District.

Mineral intends to quarry : Rough stone and Gravel  
District : Karur  
Taluk : Pugalur  
Village : Kuppam  
S. F. Nos. : 682 (Part)  
Extent : 1.92.0 Hectares

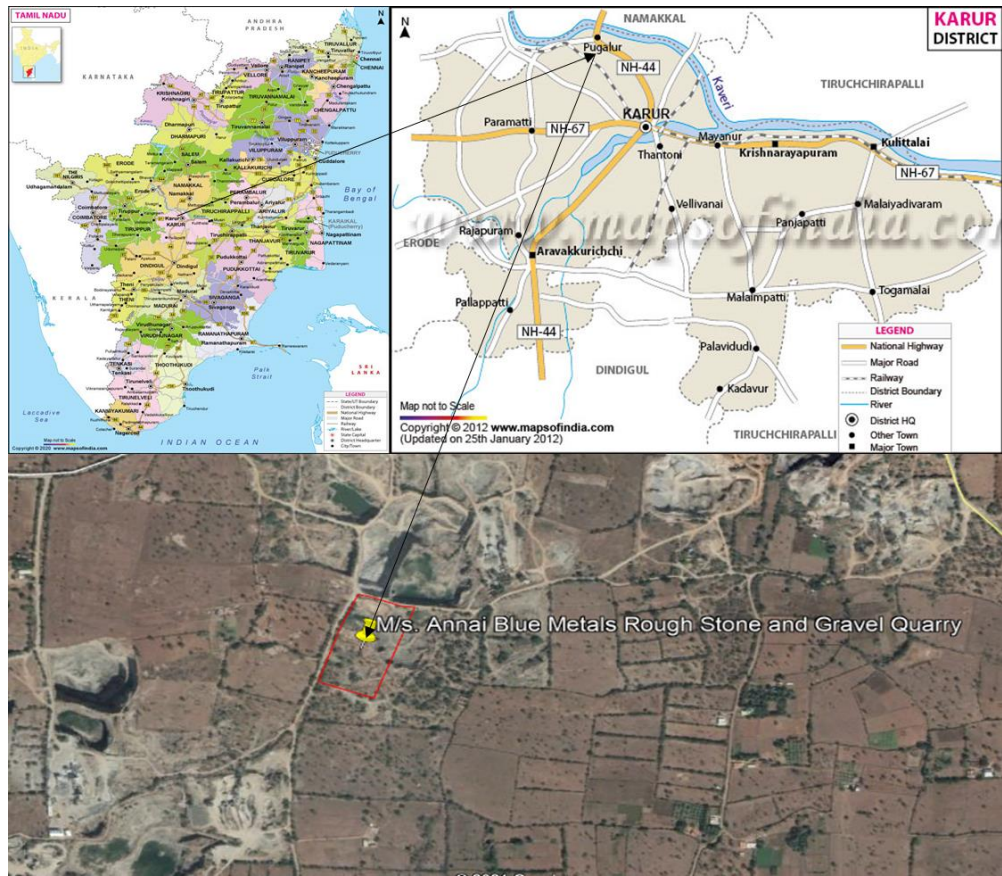
**Table 1: Brief Description of the Project**

S. No	Particulars	Details
1	Latitude	10° 59' 2.28" N to 10° 58' 57.34" N
2	Longitude	77° 56' 13.64" E to 77° 56' 8.30" E
3	Site Elevation above MSL	174 m from MSL
4	Topography	Undulated terrain
5	Land use of the site	Patta land
6	Extent of lease area	1.92.0 Ha
7	Nearest highway	NH 81 - 2.57 km towards Southern side
8	Nearest railway station	Pugalur Railway station - 9.54 Km - NE
9	Nearest airport	Salem Airport – 89.37 Km - N
10	Nearest town / city	Town - Pugalur - 9.54 Km -NE City - Karur - 16.14 Km – SE District – Karur - 16.14 Km – SE
11	Rivers / Canal	➤ Noyyal River – 6.90 km, NW ➤ Kaveri River – 8.90 km, N ➤ Kodaganar River – 10.20 km, SE
12	Lake	Noyyal Irrigation Canal – 5.88 km, NW
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
16	Reserved / Protected Forests	Nil

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 Karur.
- ❖ 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 reserves have been calculated based on the cross section method

**Table 2. Geological resources**

Section	Bench	L (m)	W (m)	D (m)	Volume In M <sup>3</sup>	Recoverable Reserve in m <sup>3</sup> @ 95%	Mine waste in m <sup>3</sup> @ 5%	Gravel in m <sup>3</sup>
XY-AB	I	75	4	2				600
	II	91	56	5	25480	24206	1274	
	III	91	56	5	25480	24206	1274	
	IV	91	56	5	25480	24206	1274	
	V	91	102	5	46410	44090	2320	
	VI	91	102	5	46410	44090	2320	
	VII	91	102	5	46410	44090	2320	
	VIII	91	102	5	46410	44090	2320	
	IX	91	102	5	46410	44090	2320	
	X	91	102	5	46410	44090	2320	
	<b>Total=</b>				<b>354900</b>	<b>337158</b>	<b>17742</b>	<b>600</b>
XY-CD	I	98	102	2				19992
	II	98	102	3	29988	28489	1499	
	III	98	102	5	49980	47481	2499	
	IV	98	102	5	49980	47481	2499	
	V	98	102	5	49980	47481	2499	
	VI	98	102	5	49980	47481	2499	
	VII	98	102	5	49980	47481	2499	
	VIII	98	102	5	49980	47481	2499	
	IX	98	102	5	49980	47481	2499	
	X	98	102	5	49980	47481	2499	
	<b>Total=</b>				<b>429828</b>	<b>408337</b>	<b>21491</b>	<b>19992</b>
<b>Grand Total=</b>					<b>784728</b>	<b>745495</b>	<b>39233</b>	<b>20592</b>

**Table 3. Year wise Production Plan**

YEAR	Section	Bench	L (m)	W (m)	D (m)	Volume In M <sup>3</sup>	Recoverable Reserve in m <sup>3</sup> @ 95%	Mine waste in m <sup>3</sup> @ 5%	Gravel in m <sup>3</sup>
I-YEAR	XY-AB	I	68	1	2				136
		II	82	46	5	18860	17917	943	
	XY-CD	I	90	84	2				15120
		II	88	80	3	21120	20064	1056	
	<b>Total=</b>						<b>39980</b>	<b>37981</b>	<b>1999</b>
II-YEAR	XY-AB	III	77	41	5	15785	14996	789	
	XY-CD	III	83	70	5	29050	27598	1453	
	<b>Total=</b>						<b>44835</b>	<b>42593</b>	<b>2242</b>
III-YEAR	XY-AB	IV	72	36	5	12960	12312	648	
	XY-CD	IV	78	60	5	23400	22230	1170	
		V	73	50	5	18250	17338	913	
	<b>Total=</b>						<b>54610</b>	<b>51880</b>	<b>2731</b>
IV-YEAR	XY-AB	V	67	64	5	21440	20368	1072	
		VI	62	54	5	16740	15903	837	
	XY-CD	VI	68	40	5	13600	12920	680	
	<b>Total=</b>						<b>51780</b>	<b>49191</b>	<b>2589</b>
V-YEAR	XY-AB	VII	57	44	5	12540	11913	627	
		VIII	52	34	5	8840	8398	442	
		IX	47	24	5	5640	5358	282	
		X	42	14	5	2940	2793	147	
	XY-CD	VII	63	30	5	9450	8978	473	
		VIII	58	20	5	5800	5510	290	
		IX	53	10	5	2650	2518	133	
		X	48	1	5	240	228	12	
<b>Total=</b>						<b>48100</b>	<b>45695</b>	<b>2405</b>	
<b>Grand Total=</b>						<b>239305</b>	<b>227340</b>	<b>11965</b>	<b>15256</b>

## 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 1.675 KLD. Domestic water will be sourced from nearby Kuppam Village and other water will be source from nearby road tankers supply.

**Table 4. Water Balance**

Purpose	Quantity	Source
Drinking Water	0.675 KLD	Packaged Drinking water vendors available in Kuppam which is about 0.51Km Northwest of the area
Green belt	0.5 KLD	Other domestic activities through road tankers supply
Dust suppression	0.5 KLD	From road tankers supply
<b>Total</b>	<b>1.675 KLD</b>	

## 8. Manpower

Total manpower required for the project is approximately 15 persons. Workers will be from nearby villages.

**Table 5. Man Power**

1.	Skilled	Operator	2 No.
		Mechanic	1 No.
		Blaster/Mat	1 No.



2.	Semi – skilled	Driver	2 Nos
3.	Unskilled	Musdoor / Labors	4 Nos
		Cleaners	2 Nos
		Office Boy	1 No
4.	Management & Supervisory staff		2 Nos
	<b>Total</b>		15 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	2.7 kg/day	Municipal bin including food waste
2	Inorganic	4.05 kg/day	TNPCB authorized recyclers

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

**Table 7 500m Radius Cluster Mine**

### 1) Existing other quarries:

S. No.	Name of the Owner	Village & Taluk	S.F.Nos.	Extent in Hect.	Lease Period
1.	Thiru.S.K.Krishnamurthy	Thangayur Edapati	679, 680/1(part)	1.95.5	04.07.2018 to 03.07.2023
2.	Tmt.S.Tamilselvi	Enam Karur Karur	706 part	3.36.0	18.08.2017 to 17.08.2022
3.	Thiru.T.Manoharan	Kuppam Karur	665/1, 665/2	2.66.0	21.02.2018 to

					20.02.2023
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## 2) Proposed Quarries

S. No.	Name of the Owner	Village & Taluk	S.F.Nos.	Extent in Hect.	Lease Period
1.	M/s. Annai Blue Metals	Kuppam Pugalur	682(part)	1.92.0	5 years

## 3) Lease Expired

S. No.	Name of the Owner	Village & Taluk	S.F.Nos.	Extent in Hect.	Lease Period
1.	S.Tamilselvi	K.V.B Nagar, Karur	702	3.35.5	09.09.2010 to 08.09.2015

The Total extent of the Existing / Lease expired / Proposed quarries are 9.89.5 Ha

## 10. Land Requirement

The total extent area of the project is 1.92.0 Ha, Patta land in Kuppam Village of Pugalur Taluk, Karur District.

**Table 8 Land Use Breakup**

Sl. No.	Description	Present Area (Ha.)	Area in use during the quarrying period (Ha.)
01.	Area under Quarrying	0.36.5	1.09.0
02.	Infrastructure	0.01.0	0.02.0
03.	Roads	0.01.0	0.03.0
04.	Green Belt	Nil	0.78.0
05.	Unutilized Area	1.53.5	Nil
	<b>TOTAL</b>	<b>1.92.0Ha</b>	<b>1.92.0Ha</b>

## 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**

<b>S.No</b>	<b>Village</b>	<b>Distance in Kms</b>	<b>Direction</b>	<b>Population</b>
1	Andisangilipalayam	1.6Kms	North	250
2	Punnam	5.0Kms	East	300
3	K. Paramathi	4.0kms	South	600
4	Munnur	5.0Kms	West	200

## 12. Power Requirement

The Rough Stone and gravel 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 excavator for mining and loading for Gravel 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 : 17 °C
- ii) Average Maximum Temperature. : 39 °C
- iii) Average Annual Rainfall of the area : 600 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 5 km. radius, air quality survey has been conducted at 5 locations. Major air pollutants like Particulate Matter (PM10), Sulphur Dioxide (SO<sub>2</sub>), Nitrogen Dioxide (NO<sub>2</sub>) were monitored and the results are summarized below.

The baseline levels of PM10 (67-48 µg/m<sup>3</sup>), PM2.5 (30-24 µg/m<sup>3</sup>), SO<sub>2</sub> (20-12 µg/m<sup>3</sup>), NO<sub>2</sub> (30-21 µg/m<sup>3</sup>), all the parameters are well within the standards prescribed by National Ambient Air Quality during the study period from March to May 2022.

### **13.3 Noise Environment**

The maximum Day noise and Night noise were found to be 56 dB(A) and 53 dB(A) respectively in Project site. The minimum Day Noise and Night noise were 40 dB(A) and 40 dB(A) respectively which was observed in Government Primary School, Nedungur and Sri Krishna Mahal, Punnam.

### **13.4 Water Environment**

- The average pH ranges from 7.38 – 7.75.
- TDS value varied from 1295 mg/l to 1770 mg/l
- Hardness varied from 460 to 1357 mg/l
- Chloride varied from 298 to 484 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 6.45 to 8.37 with organic matter 0.26 to 0.42 %. 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 are 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 component 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 100 trees per annum 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,	80%	500

Thandri, Poovarasu, Quaker buttons, Thethankottai maram, Manjadi, Usil, Aathi, Panai, Uzha, Illuppai, Eachai, Vanni Maram		
<b>Total</b>		<b>500</b>

## **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 92,80,000** 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**

<b>S. No.</b>	<b>Description</b>	<b>Cost</b>
1	Fixed Asset Cost	Rs. 18,60,000
2	Operational Cost	Rs. 30,00,000
3	EMP Cost	Rs. 44,20,000
	<b>Total</b>	<b>Rs. 92,80,000</b>

### 20. Corporate Environmental Responsibility

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

**Table 12 CER Cost**

<b>S.No.</b>	<b>CER Activity</b>	<b>CER value (Rs)</b>
1.	Government School, Salipalayam Provision of <ul style="list-style-type: none"> <li>➤ Solar powered smart class,</li> <li>➤ Infrastructure,</li> <li>➤ Environmental books for library (in Tamil language),</li> <li>➤ Greenbelt facilities and</li> <li>➤ Basic amenities such as safe drinking water, Hygienic Toilets facilities, furniture.</li> </ul>	5,00,000
<b>Total</b>		<b>5,00,000</b>

## **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.