

EXECUTIVE SUMMARY OF ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENT MANAGEMENT PLAN

FOR OBTAINING

Environmental Clearance under EIA Notification – 2006

Schedule Sl. No. 1 (a) (i): Mining Project

“B1” CATEGORY – MINOR MINERAL – CLUSTER – NON-FOREST LAND

CLUSTER EXTENT = 10.01.50 hectares

At

Kuppam Village, Pugalur Taluk,

Karur District, Tamil Nadu

ToR Identification No. TO25B0108TN5981163N on 04/09/2025, File No.12458

NAME AND ADDRESS OF THE PROPOSED PROJECT PROPONENT

Name and Address	Extent & S.F.No.	Mineral Production
Tmt.S.Lakshmi W/o.Rajeshkumar, Door No.267/12, Sindu Nagar, Kongu Mess Opposite, Andankovil East, Manmangalam Taluk, Karur District - 639 002.	2.05.50Ha & 675/1 and 675/2	Rough Stone-238260m ³ Gravel-70890m ³

ENVIRONMENTAL CONSULTANT

GEO TECHNICAL MINING SOLUTIONS



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NABET ACC. NO: NABET/EIA/23-26/RA 0319

Valid till: 31.12.2026

ENVIRONMENTAL LAB

EXCELLENCE LABORATORY

No.23/93, 5th Street Ram Nagar, S.S.Colony,
Madurai, Tamil Nadu

NABL Certificate Number: TC-13674,

Valid Until: 12.05.2026

Baseline study period-October through December 2023



GEO TECHNICAL MINING SOLUTIONS

EXECUTIVE SUMMARY

1. INTRODUCTION

As the proposed rough stone and gravel mining project (B1) falls within the quarry cluster of 500 m radius with the total extent of 10.01.50ha, it requires submission of EIA report for grant of Environmental Clearance (EC) after conducting public hearing. The proposed project falling in S.F. Nos. 675/1 & 675/2 over the extent of 2.05.50ha is situated in the cluster falling in Kuppam Village, Pugalur Taluk, Karur District, Tamil Nadu. The projects involved in the calculation of cluster extent are of one proposed quarry and three existing quarries.

2. PROJECT DESCRIPTION

The proposed project area is located between Latitudes 10°58'56.9967"N to 10°59'3.7896"N Longitudes from 77°56'17.2793"E to 77°56'21.3158"E in Kuppam Village, Pugalur Taluk, Karur District, Tamil Nadu. According to the approved mining plan, about 238260m³ & 655215Ts of rough stone and 70890m³ & 141780Ts of gravel will be mined up to the depth of 50 m BGL in the five years. The quarrying operation is proposed to be carried out by open cast semi-mechanized mining method involving drilling and formation of benches of the prescribed dimensions.

3. DESCRIPTION OF THE ENVIRONMENT

Baseline data were collected to evaluate the existing environmental condition in the core and buffer areas during **October through December 2023** as per CPCB guidelines. The data were collected by both the FAEs and NABL accredited and MoEF notified **Excellence Laboratory** for the environmental attributes including soil, water, noise, air and by FAEs for ecology and biodiversity, traffic, and socio-economy.

3.1 Land Environment

Land Use and Land Cover (LULC) map, as shown in Figure 3.3 was prepared using Sentinel II image for the study area of 5 km radius to provide a baseline status of the study area covering 5 km radius around the proposed mine site. Totally, 7 LULCs were mapped using ArcGIS software version-10.2. The areal extent of each LULC is provided in Table 3.2. Of the total cluster area, mining area covers only 486.87 ha accounting for 5.96 %, of which lease area of 2.05.50 ha contributes only about 0.020%. Hence very least percentage of mining activities shall not have any significant impact on the land environment.

Comparative study of Land Use Land Cover (LULC) Changes within 5 km Radius (2020 vs 2025) was done and significant changes in land use and land cover were observed (Table 3.2a). Crop land has decreased from 5560.53 ha (68.09%) to 4643.42ha (56.86%), indicating the decrease in agricultural activities, this change is due to the land are not suitable

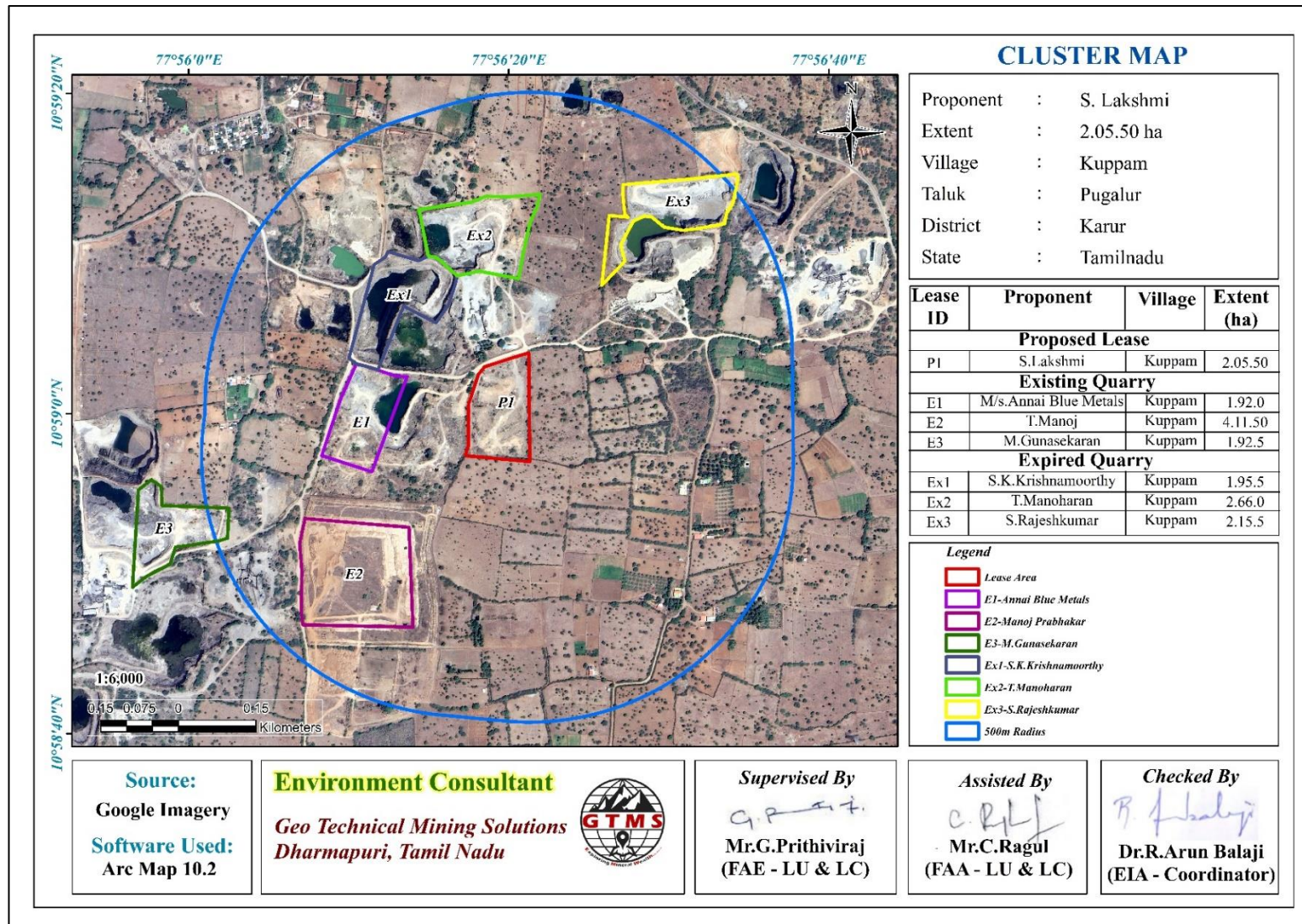


Figure 1. Google Earth Image Showing in cluster map

or agriculture and source of irrigation is uncertain. But that cultivation land is included in the bare ground and fallow land whose extent have been increased. Mining activity has been increased to a little extent from 448.87 ha (5.50%) to 486.7 ha (5.96%), suggesting increased demand of building materials for various infrastructure developments. The increase in common vegetation has noticed of 2.02 ha (0.02%) in last five years due to the afforestation activities carried out by the past quarry proponents. Built-up areas also rose from 1118.50 ha (13.70%) to 1201.19 ha (14.71%), pointing out the urban development due to increase in economic activity. In fact, the agricultural land has been reduced but that too included in fallow land which can be reversible during availability of irrigation factors.

3.2 Soil Environment

The soil is nutrient-rich, well-balanced, and structurally suitable for agriculture. No corrective measures are immediately necessary, but continued monitoring and sustainable land management practices are recommended to maintain soil health.

3.3 Water Environment

Ground water

The analysis of surface water in the study area shows that the water quality is excellent and meets the standards for drinking (after simple disinfection), irrigation, domestic use, and supporting aquatic life.

Key findings include:

pH (6.9 0– 7.6)

- pH is 6.5–8.5 for drinking water.
- All values within this range.
- Interpretation: Neutral pH, no corrosion or scaling tendency.

Fluoride (0.31 – 0.92 mg/l)

- Fluoride is beneficial in small quantities but harmful in excess (>1.5 mg/l causes fluorosis).
- All values are below the 1.0 mg/l limit.
- Interpretation: No risk of dental or skeletal fluorosis.

Total Dissolved Solids (TDS) (459 – 890 mg/l)

- TDS represents total minerals and salts in water.
- Acceptable limit is 500 mg/l; permissible up to 2000 mg/l.
- BW01, BW03, and BW05 exceed the acceptable but are within permissible.
- Interpretation: Slightly mineral-rich water; taste may be affected but safe to use.

Electrical Conductivity (EC) (756 – 1452 $\mu\text{S}/\text{cm}$)

- Indicates overall ionic concentration in water.
- Higher EC = higher salinity.
- $\text{EC} > 1000 \mu\text{S}/\text{cm}$ (in BW01 and BW05) suggests moderately saline water.
- Interpretation: Suitable for irrigation, but may need softening for drinking.

Conclusion:

The groundwater quality assessment reveals that the water is generally safe and suitable for drinking, domestic, and irrigation purposes. All tested heavy metals such as barium, boron, copper, lead, mercury, arsenic, chromium, and zinc were found to be below detection limits, indicating no industrial or geogenic contamination. Key health-related parameters including fluoride, nitrate, iron, and pH levels are well within the acceptable standards, posing no health risk. Some physico-chemical parameters like calcium, magnesium, total hardness, total dissolved solids (TDS), electrical conductivity (EC), and chloride showed slightly elevated levels in a few samples, but they remain within permissible limits prescribed by BIS standards.

3.4 Air Environment

As per the monitoring data, PM_{2.5} ranges from 14.4 $\mu\text{g}/\text{m}^3$ to 16.7 $\mu\text{g}/\text{m}^3$; PM₁₀ from 35.8 $\mu\text{g}/\text{m}^3$ to 41.5 $\mu\text{g}/\text{m}^3$; SO₂ from 5.3 $\mu\text{g}/\text{m}^3$ to 7.1 $\mu\text{g}/\text{m}^3$; NO_x from 11.7 $\mu\text{g}/\text{m}^3$ to 15.7 $\mu\text{g}/\text{m}^3$. The concentration levels of the pollutants fall within the acceptable limits of NAAQS prescribed by CPCB.

Air quality Index

The AQI shows that the air quality of the study area falls within good category 39 causing minimal impact to human health.

3.5 Noise Environment

Noise level in core zone was 47.2 dB (A) Leq during day time and 35.4 dB(A) Leq during night time. Noise levels recorded in buffer zone during day time varied from 38.6 to 52.4 dB (A) Leq and during night time from 30.6 to 42.2 dB (A) Leq. Thus, the noise level for industrial and residential area meets the requirements of CPCB.

3.6 Biological Environment

The study found that there is no endemic, endangered migratory fauna found in the area. This area is not also a migratory path of any faunal species. Hence, this small mining operation over short period of time will not have any significant impact on the surrounding flora and fauna.

Flora in core zone

There is no agricultural land nearby lease area. It contains a total of 31 species belonging to 21 families have been recorded from the buffer zone. 6 Trees, 5 Shrubs and Herbs and Climbers, Creeper, Grass & Cactus 20 were identified

Flora in 10 km radius buffer zone

Similar type of environment occurs in both core and buffer zone but more floral diversity noticed in buffer zone compared with core zone area. Buffer area contains a total species belonging to 38 families have been recorded. The floral (75) varieties among them 35 Trees (46%), 15 Shrubs (15%) Herbs and Climbers, Creeper, Grass & Cactus, 25 (33%) were identified.

Fauna in Core Zone

The 25 varieties of species observed in the core zone. Among them numbers of Insects 8 (32%), Reptiles 3 (12%), Mammals 5 (20%) and Avian 9 (36%). A total of 25 species belonging to 22 families have been recorded from the core mining lease area. Number of species decreases towards the mining area this might be due the lack of vegetation. None of these species are threatened or endemic. There is no Schedule I species and eight species are under schedule IV according to Indian wild life Act 1972. A total eight species of birds were sighted in the mining lease area. There are no critically endangered, endangered, vulnerable and endemic species were observed.

Fauna in Buffer Zone

A total of 47 species belonging to 34 families were recorded in the buffer zone. Based on habitat classification the majority of species were Birds 18 (40%), followed by Insects 15 (31%), Reptiles 7 (15%), 4 Mammals (8%) and amphibians 3 (6%). There are 4 schedule II species and 24 schedule IV species according to Indian wild life Act 1972.

3.7 Socio Economic Environment

The proposed project will provide direct and indirect employment and improve the infrastructural facilities in that area, thus leading to the improvement of people's standard of living.

4 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.1 Land Environment

Anticipated Impact

-  Change in land use and land cover and topography of the mine lease area
-  Problems to human habitations due to dust and noise caused by movement of heavy vehicles

- ✚ Soil erosion and sediment deposition in the nearby water bodies during the rainy season
- ✚ Siltation of water course due to wash off from the exposed working area
- ✚ Deterioration of soil quality in the surrounding area due to runoff from the project area
- ✚ Decrease in the agricultural productivity of the surrounding land due to soil quality degradation.

Mitigation Measures

- ✚ Construction of garland drains, settling pits, and check dams to prevent runoff and siltation.
- ✚ Runoff water will be discharged into the settling tanks to reduce suspended sediment loads before runoff is discharged from the quarry site.
- ✚ The vegetation will be retained at the site wherever possible.
- ✚ Weekly monitoring and daily maintenance of erosion control systems so that they perform as specified specially during rainy season.

4.2 Soil Environment

Anticipated Impact

- ✚ Removal of protective vegetation cover
- ✚ Exposure of subsurface materials which are unsuitable for vegetation establishment

Mitigation Measures

- ✚ Run-off diversion – Garland drains will be constructed 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.

4.3 Water Environment

Anticipated Impact

- ✚ Surface and ground water resources may be contaminated due to pit water discharge, domestic sewage, discharge of oil and grease bearing waste water from washing of vehicles and machineries, and washouts from surface exposure or working areas
- ✚ As the proposed project acquires 3.5 KLD of water from water vendors, it will not extract water by developing abstraction structures in the lease area. Therefore, the project will not have impact on depletion of aquifer beneath the lease area.

Mitigation Measures

- ✚ Rain water from mine pit will be treated in settling tanks before being used for dust suppression and tree plantation purposes
- ✚ Domestic sewage from site office will be discharged in septic tank and then directed to soak pits
- ✚ Water from the tipper wash-down facility and machinery maintenance yard will be passed through interceptor traps/oil separators prior to its reuse
- ✚ The garland drainage will be connected to settling tank and sediments will be trapped in the settling tanks and only clear water will be discharged to the natural drainage
- ✚ Periodic (every 6 month once) analysis of ground water quality of quarry pit water and ground water of nearby villages will be conducted
- ✚ Artificial recharge structures will be established in suitable locations as part of the rainwater harvesting management program.

4.4 AIR ENVIRONMENT

Anticipated Impact from proposed project

- ✚ During mining at various stages of activities such as excavation, drilling 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.

Mitigation Measures

- ✚ 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
- ✚ Controlled blasting will be carried out using suitable explosive charge and short delay detonators, adequate stemming of holes at collar zone
- ✚ Blasting will be restricted to a particular time of the day i.e., at the time of lunch hours
- ✚ 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
- ✚ 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 tarpaulin
- ✚ The speed of tippers plying on the haul road will be limited to < 20 km/hr to avoid generation of dust
- ✚ The un-metalled haul roads will be compacted weekly before being put into use
- ✚ It will be ensured that all transportation vehicles carry a valid PUC certificate
- ✚ Haul roads and service roads will be graded to clear accumulation of loose materials
- ✚ Planting of trees all along main mine haul roads and around the project site will be practiced to prevent the generation of dust
- ✚ Dust mask will be provided to the workers and their use will be strictly monitored

4.5 Noise Environment

Anticipated Impact

- ✚ Mining operations generate significant noise impacting both worker health and nearby communities.
- ✚ These impacts can range from annoyance and sleep disturbance to structural damage and hearing loss. Effective management of noise is crucial to mitigate these adverse effects.

Sources of Noise in Mining:

- ✚ **Drilling and Blasting:** Prolonged exposure to high-intensity noise from drilling and blasting can lead to hearing loss and other auditory problems
- ✚ **Heavy Machinery:** Excavators, haul trucks, and other equipment used in mining operations generate substantial noise.

- ✚ **Loading and Transportation:** The movement and handling of materials within the mine site contribute to noise pollution.

Mitigation Measures

- ✚ The blasting operations in the cluster quarries will use shallow holes and delay detonators to reduce the ground vibrations
- ✚ Proper quantity of explosives, suitable stemming materials and appropriate delay system will be used during 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
- ✚ 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
- ✚ Vibration monitoring will be carried out every 6 months to check the efficacy of blasting practices.

4.5.1 Ground Vibrations

Noise and Vibration:

- ✚ Mining operations generate significant noise and vibration impacting both worker health and nearby communities.
- ✚ These impacts can range from annoyance and sleep disturbance to structural damage and hearing loss. Effective management of noise and vibration is crucial to mitigate these adverse effects.

Sources of Noise and Vibration in Mining:

- ✚ *Drilling and Blasting:* A primary source of both noise and ground vibrations, with the intensity dependent on the amount of explosives, atmospheric conditions and proximity to the blast.
- ✚ *Heavy Machinery:* Excavators, haul trucks, and other equipment used in mining operations generate substantial noise.
- ✚ *Loading and Transportation:* The movement and handling of materials within the mine site contribute to noise pollution.

Common Mitigation Measures

- ✚ The blasting operations in the cluster quarries are carried out without deep hole drilling and blasting using delay detonators which reduce the ground vibrations
- ✚ Proper quantity of explosives, 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 in such a way that the predicted peak particle velocity shall not exceed 0.251mm/s.
- ✚ Vibration monitoring will be carried out every 6 months to check the efficacy of blasting practices.

4.6 Biological Environment

Anticipated Impact

- ✚ There shall be negligible air emissions or effluents from the project site. During loading 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 crop lands, grass patches and small shrubs. Hence, there will be no effect on flora of the region. There are no trees in mine lease area.
- ✚ Carbon released from quarrying machineries and tippers during quarrying would be 186kg per day, 50167kg per year and 296162kg over ten years.

Mitigation Measures

- ✚ During conceptual stage, the top bench will be re-vegetated by planting local /native species and lower benches will be converted into rainwater harvesting structure following completion of mining activities, which will replace habitat resources for fauna species in this locality over a longer time.

Existing roads will be used; new

- ✚ To mitigate carbon emission due to mining activities, we recommend planting trees around the quarry to offset the carbon emission during quarrying. A tree can sequester 123177kg of carbon per year. Therefore, we recommend planting large number of trees around the quarry and near school campuses, government wasteland, roadsides etc.
- ✚ As per the greenbelt development plan as recommended by SEAC (Table 4.10), about 1020 trees will be planted within three months from the beginning of mining. These trees, when grown up would sequester carbon of about 670537kg of the total carbon

4.7 Socio Economic Environment

Anticipated Impact

- ✚ 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

Mitigation Measures

- ✚ 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

4.8 Occupational Health

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

5 Environment Monitoring Program

Table 2 Environment Monitoring Program

S. No.	Environment Attributes	Location	Monitoring		Parameters
			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	Hourly / Daily	Continuous online monitoring	Wind speed, Wind direction, Temperature,

		Monitoring & IMD Secondary Data			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 m 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 ADDITIONAL STUDIES

6.1 Risk Assessment

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. The whole 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 for proposed project.

6.2 Disaster Management Plan

The objective of the disaster management plan is to make use of the combined resources of the mine and the outside services to:

- ✚ Rescue and treat 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.

6.3 Cumulative Impact Study

- ✚ The results on the cumulative impact of the three proposed projects on air environment of the cluster do not exceed the permissible limits set by CPCB for air pollutants.
- ✚ The cumulative results of noise for the habitation in consideration do not exceed the limit set by CPCB for residential areas for day time
- ✚ PPV resulting from three proposed project is well below the permissible limit of Peak Particle Velocity of 5 mm/s.
- ✚ The cluster projects will allocate Rs. 20,00,000/- towards CER as recommended by SEAC
- ✚ The cluster projects will directly provide jobs to 89 local people, in addition to indirect jobs
- ✚ The cluster projects will plant 4414 about trees in and around the lease area.
- ✚ The cluster projects will add 630PCU per day to the nearby roads.

7. Project Benefits

Various benefits are envisaged due to the three proposed mine and benefits anticipated from the proposed project to the locality, neighbourhood, region and nation as a whole are:

- ✚ Direct employment to 30 local people
- ✚ Creation of community assets (infrastructure) like school buildings, village roads/ linked roads, dispensary & health Centre, community Centre, market place etc.,
- ✚ Strengthening of existing community facilities through the Community Development Program
- ✚ Skill development & capacity building like vocational training.
- ✚ Rs. 5,00,000 will be allocated for CER

8 ENVIRONMENT MANAGEMENT PLAN

In order to implement the environmental protection measures, an amount of **Rs.76952795** as capital cost and recurring cost as **Rs. 1849948** as recurring cost/annum is proposed considering present market price considering present market scenario for the proposed project. After the adjustment of 5% inflation per year, the overall EMP cost for 10 years will be **Rs. 100221239**.