

ENVIROMENTAL MANAGEMENT PLAN

For

**M/S MAA TARA INT UDYOG MINING PROJECT LOCATED AT MOUZA –
GADHA HASAN, P.O. + P.S. – PARU, DISTRICT – MUZAFFARPUR , BIHAR
OVER AN AREA OF 2.04 HA HAVING A PRODUCTION CAPACITY OF 6609
CUM/ANNUM**

PROJECT PROPONENT

Sri Sanjay Kumar Singh

S/o – Late Aditya Narayan Singh

At. –village/Mauza- Awas Nagar New police line,

P.O.- MIT, P.S. – Ahiyapur,

District- Muzaffarpur. State - Bihar 842003

**Project categorized under Schedule 1(a): Mining of minerals,
Category ‘B2’**

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1.0 INTRODUCTION

1.1 SUMMARY OF THE PROJECT

The proposed M/s Maa Tara Int Udhyog Mining project is located at Khata No.- 128, 129, 24, 90, 36, 17, 62, 127, 01 Khesra No. 28, 29, 30, 98, 197,214, 666, 771, 852, 853, 857, 893, 912, 945, 949, 982, 1004, 1033, 1053, 1054, 1113, 1115, 1244, 1253, 1254, near Mouza – Gadha Hasan P.O. + P.S.- Paru, District – Muzaffarpur, State – Bihar over an area of 2.04 ha. The mining lease has been granted to **Proponent- Sri Sanjay Kumar Singh. S/o – Late Aditya Narayan Singh**, residing at - village/Mauza- Awas Nagar New police line, P.O. - MIT, P.S. – Ahiyapur, District- Muzaffarpur. State - Bihar 842003.

TABLE 1.1 SALIENT FEATURE OF THE PROJECT

S. No.	Particular	Detail			
1.	Project Name	The proposed M/s Maa Tara Int Udhyog Mining project located at Mouza – Gadha Hasan P.O. + P.S.- Paru, District – Muzaffarpur, State – Bihar over an area of 2.04 ha. Having a production capacity of 6609 Cum/Annum by Sri Sanjay Kumar Singh. S/o – Late Aditya Narayan Singh			
2.	Location of mine	Mouza – Gadha Hasan P.O. + P.S.- Paru, District – Muzaffarpur, State- Bihar			
		Khata no.	Khesra no.	Area (Ha.)	
		128, 129, 24, 90, 36, 17, 62, 127, 01	28, 29, 30, 98, 197,214, 666, 771, 852, 853, 857, 893, 912, 945, 949, 982, 1004, 1033, 1053, 1054, 1113, 1115, 1244, 1253, 1254	2.04	
3.	Site co-ordinate	Khasra no.	Point	Latitude	Longitude
		771	1	26° 4'15.80"N	85° 3'47.44"E
			2	26° 4'15.77"N	85° 3'47.87"E
			3	26° 4'13.64"N	85° 3'47.92"E
			4	26° 4'13.60"N	85° 3'47.57"E
		28,29,30	5	26° 4'17.04"N	85° 3'54.06"E
			6	26° 4'17.62"N	85° 3'55.67"E
			7	26° 4'16.12"N	85° 3'55.50"E
			8	26° 4'16.13"N	85° 3'54.03"E
		98	9	26° 4'20.04"N	85° 4'3.03"E
			10	26° 4'20.02"N	85° 4'3.49"E

			11	26° 4'18.13"N	85° 4'3.30"E
			12	26° 4'18.15"N	85° 4'2.95"E
		912	13	26° 4'6.80"N	85° 3'54.70"E
			14	26° 4'6.85"N	85° 3'55.05"E
			15	26° 4'5.72"N	85° 3'55.20"E
			16	26° 4'5.60"N	85° 3'54.77"E
		666	17	26° 4'12.64"N	85° 3'59.53"E
			18	26° 4'12.58"N	85° 3'59.78"E
			19	26° 4'11.68"N	85° 3'59.63"E
			20	26° 4'11.70"N	85° 3'59.35"E
		197	21	26° 4'14.96"N	85° 4'9.08"E
			22	26° 4'14.94"N	85° 4'9.42"E
			23	26° 4'13.97"N	85° 4'9.34"E
			24	26° 4'14.03"N	85° 4'9.00"E
		214	25	26° 4'16.29"N	85° 4'10.98"E
			26	26° 4'16.27"N	85° 4'11.63"E
			27	26° 4'15.32"N	85° 4'11.43"E
			28	26° 4'15.39"N	85° 4'10.85"E
		852, 853, 857	29	26° 4'0.20"N	85° 3'51.07"E
			30	26° 4'1.81"N	85° 3'52.96"E
			31	26° 3'58.79"N	85° 3'52.99"E
			32	26° 3'58.93"N	85° 3'51.04"E
		893	33	26° 4'2.46"N	85° 3'55.61"E
			34	26° 4'2.52"N	85° 3'56.24"E
			35	26° 3'58.51"N	85° 3'56.04"E
			36	26° 3'58.56"N	85° 3'55.59"E
		945, 949	37	26° 4'6.32"N	85° 3'57.99"E
			38	26° 4'6.26"N	85° 3'58.57"E
			39	26° 3'58.30"N	85° 3'57.67"E
			40	26° 3'58.45"N	85° 3'57.18"E
		1004	41	26° 4'6.65"N	85° 4'4.78"E
			42	26° 4'6.66"N	85° 4'5.03"E
			43	26° 4'5.52"N	85° 4'4.96"E
			44	26° 4'5.58"N	85° 4'4.71"E
		1033	45	26° 4'6.54"N	85° 4'6.51"E
			46	26° 4'6.29"N	85° 4'7.34"E
			47	26° 4'4.83"N	85° 4'7.18"E
			48	26° 4'4.91"N	85° 4'6.32"E
		982	49	26° 4'2.66"N	85° 4'2.65"E
			50	26° 4'2.42"N	85° 4'5.07"E
			51	26° 4'2.03"N	85° 4'5.02"E
			52	26° 4'2.25"N	85° 4'2.60"E
		1053, 1054	53	26° 3'58.15"N	85° 4'7.72"E
			54	26° 3'57.81"N	85° 4'8.81"E
			55	26° 3'55.19"N	85° 4'7.99"E
			56	26° 3'55.63"N	85° 4'7.15"E
		1113	57	26° 3'57.17"N	85° 4'11.98"E
			58	26° 3'57.10"N	85° 4'12.45"E
			59	26° 3'52.96"N	85° 4'12.09"E

			60	26° 3'52.97"N	85° 4'11.89"E
			61	26° 3'58.37"N	85° 4'24.14"E
			62	26° 3'58.23"N	85° 4'25.35"E
			63	26° 3'57.67"N	85° 4'25.30"E
			64	26° 3'57.77"N	85° 4'24.11"E
		1244	65	26° 3'56.37"N	85° 4'23.69"E
			66	26° 3'56.24"N	85° 4'24.75"E
			67	26° 3'55.44"N	85° 4'24.70"E
			68	26° 3'55.55"N	85° 4'23.64"E
		1115	69	26° 3'50.74"N	85° 4'13.30"E
			70	26° 3'50.74"N	85° 4'13.72"E
			71	26° 3'49.00"N	85° 4'13.65"E
			72	26° 3'49.01"N	85° 4'13.21"E
4.	Land use pattern	Barren land			
5.	Minerals of mine	Brick earth			
6.	Total Geological reserves	36720 m ³			
7.	Total Mineable reserves	33045 m ³			
8.	Proposed production capacity	6609 cum/annum			
9.	Method of mining	Opencast manual method			
10.	Man power requirement	30 persons			
11.	No of working days	250 Days			
12.	Water Demand	7.0 KLD			
13.	Sources of water	Tankers			
14.	Nearest Village	Project site located in Gadha hasan village is about 0.32 km in East direction.			
15.	Nearest School	Chakbajo Middle School is Approx. 1.73 km towards ESE direction.			
16.	Nearest Hospital	Community Health Centre is Approx. 2.26 km towards North direction.			
17.	Nearest River/ Canal	Canal is Approx 1.60 km in N direction.			
18.	Highway	SH-74, approx 2.83 km towards NE direction. NH-722, approx 5.29km, in SE direction.			
19.	Nearest Railway Station	Paru Khas Railway Station at a distance of approx. 1.38 km towards NW direction from site			
20.	Nearest Airport	Jay Prakash Narayan International Airport, Patna at a distance of 52.07 km in South direction from site			
21.	Nearest Town	Bakhra, approx. 5.21 km towards SE direction.			
22.	Seismic Zone	Seismic Zone IV			
23.	Project cost	Rs. 16,32,000 INR			
24.	EMP Cost	Capital cost: Rs 0.85 Lakhs Recurring cost: Rs 0.40 Lakhs			

1.2 LOCATION OF THE MINE

The proposed M/s Maa Tara Int Udhyog Mining project is located at Khata No.- 128, 129, 24, 90, 36, 17, 62, 127, 01 Khesra No. 28, 29, 30, 98, 197,214, 666, 771, 852, 853, 857, 893, 912, 945, 949, 982, 1004, 1033, 1053, 1054, 1113, 1115, 1244, 1253, 1254, near Mouza – Gadha Hasan P.O. + P.S.- Paru, District – Muzaffarpur, State – Bihar over an area of 2.04 ha.



FIG 1.1: LOCATION PLAN

Site Co-ordinate

Khasra no.	Point	Latitude	Longitude
771	1	26° 4'15.80"N	85° 3'47.44"E
	2	26° 4'15.77"N	85° 3'47.87"E
	3	26° 4'13.64"N	85° 3'47.92"E
	4	26° 4'13.60"N	85° 3'47.57"E
28,29,30	5	26° 4'17.04"N	85° 3'54.06"E
	6	26° 4'17.62"N	85° 3'55.67"E
	7	26° 4'16.12"N	85° 3'55.50"E
	8	26° 4'16.13"N	85° 3'54.03"E
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	10	26° 4'20.02"N	85° 4'3.49"E
	11	26° 4'18.13"N	85° 4'3.30"E
	12	26° 4'18.15"N	85° 4'2.95"E
912	13	26° 4'6.80"N	85° 3'54.70"E
	14	26° 4'6.85"N	85° 3'55.05"E
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	20	26° 4'11.70"N	85° 3'59.35"E
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1033	45	26° 4'6.54"N	85° 4'6.51"E
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	48	26° 4'4.91"N	85° 4'6.32"E
982	49	26° 4'2.66"N	85° 4'2.65"E
	50	26° 4'2.42"N	85° 4'5.07"E
	51	26° 4'2.03"N	85° 4'5.02"E
	52	26° 4'2.25"N	85° 4'2.60"E
1053, 1054	53	26° 3'58.15"N	85° 4'7.72"E
	54	26° 3'57.81"N	85° 4'8.81"E
	55	26° 3'55.19"N	85° 4'7.99"E
	56	26° 3'55.63"N	85° 4'7.15"E
1113	57	26° 3'57.17"N	85° 4'11.98"E
	58	26° 3'57.10"N	85° 4'12.45"E
	59	26° 3'52.96"N	85° 4'12.09"E
	60	26° 3'52.97"N	85° 4'11.89"E
	61	26° 3'58.37"N	85° 4'24.14"E
	62	26° 3'58.23"N	85° 4'25.35"E
	63	26° 3'57.67"N	85° 4'25.30"E
	64	26° 3'57.77"N	85° 4'24.11"E
1244	65	26° 3'56.37"N	85° 4'23.69"E
	66	26° 3'56.24"N	85° 4'24.75"E
	67	26° 3'55.44"N	85° 4'24.70"E
	68	26° 3'55.55"N	85° 4'23.64"E

1115	69	26° 3'50.74"N	85° 4'13.30"E
	70	26° 3'50.74"N	85° 4'13.72"E
	71	26° 3'49.00"N	85° 4'13.65"E
	72	26° 3'49.01"N	85° 4'13.21"E

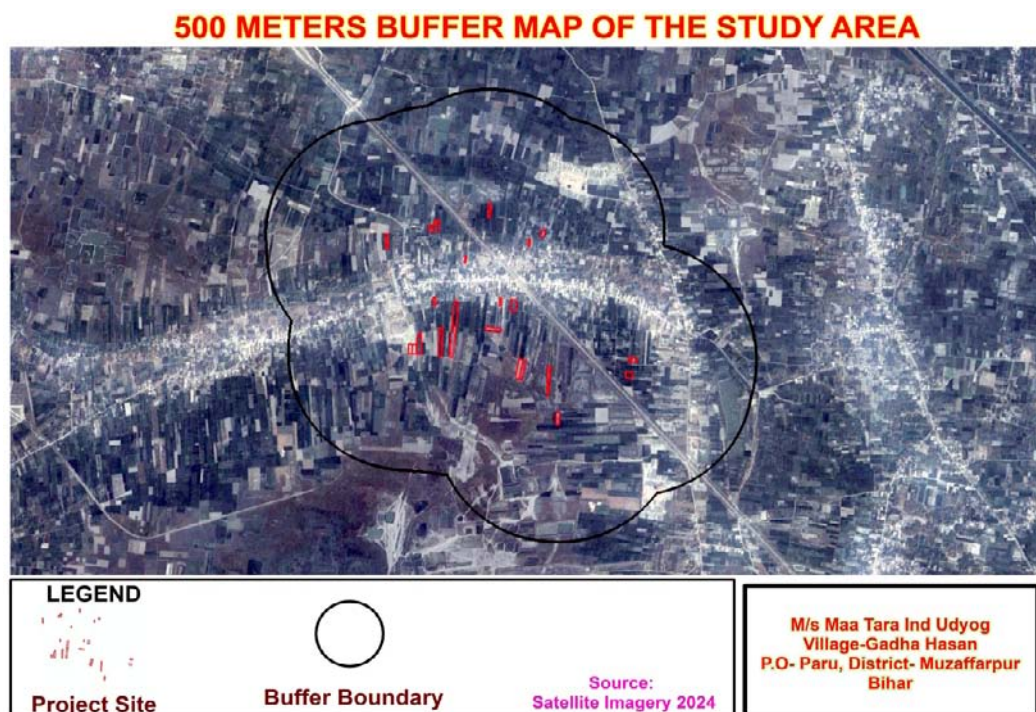


FIG 1.2: 500M BUFFER MAP

1.3 SIZE OR MAGNITUDE OF OPERATION

The maximum proposed production is 6609 cum/annum, covering a total mine lease area of 2.04 Ha. The extraction depth is planned to reach a maximum of 1.8 meters.

1.4 METHODOLOGY OF MINING /PROPOSED MINING METHOD

- Proposed mining will be opencast manual using hand tools like shovel, spade, sieve etc. Mining will be done only in the applied field (as per agreement) keeping the nearby plot(s) unaffected. Following geo-scientific methods are proposed to carry out the mining activity
- Mining will be restricted to the applied fields up to a maximum depth of 2.0 m from the surface as per provision of MCR-1960 and MMR 1961
- The mining shall be done during daytime only.
- Only 250 working days in a year have been assured for mining activity and as well as for calculation purpose.

- Before start mining the top fertile soil of each proposed mining field (up to 20 centimeter depth or 6 inch) shall be scraped & stacked on the berm or any earmarked place which will be spread over the mining pit, after completing mining activity, Thus the fertility of land will be restored.
- There will be No drilling and blasting.
- The operation will remain manual, using tools like shovel, spade, sieve etc.
- The water required for casting for bricks will be arranged near the chimney site and only brick earth will be carried to kiln through cart/tractor or by hand loads. The water will be required either the drinking proposes at the site or for casting of bricks at kiln.
- 25- 30 labour will be required for the proposed project.
- Soil mining shall strictly be undertaken as per Rules & regulation/ permission obtained from District Administration/Mining Department

PRODUCTION PLANNING

Mining excavation will be started after obtaining Mining approval from District Mining Office, Muzaffarpur, Bihar. Though application is being applied for 5 year for but it depends upon needs.

2.0 ENVIRONMENTAL MANAGEMENT PLAN

Environmental Management measures for general Impacts are given in Table 2.1. This section recommends the management measures needed to prevent, minimize and mitigate the general impacts arising in operation phase as shown in Table 2.1.

TABLE 2.1 EMP FOR THE GENERAL ANTICIPATED IMPACTS

1. Mining Activity					
Activity	Impact	Duration / Extent	Magnitude	Mitigation Measures	Responsibility
Excavation	Removal of fertile top soil	Temporary	Moderate	Top soil of 0.18 m will be scraped and stacked on the berm or any embarked place which will be spread over the mining pit. After completing mining activity thus fertility of land will be restored or used beside the road where plantation is to be done.	Project Proponent
	Pit formation due to excavation	Temporary	Moderate	• Mining operations will be carried out as per mining rules systematically and scientifically. • Mining operations will be carried out on a slope of 45°making terraces/benches. The height of the bench not more than 1 mt and berm of base width of the bench not more than 1 mt. • Stabilization of slope will be done by planting species having extensive root system, so as to bind the soil.	Project Proponent
	Siltation of fertile soil from adjoining farms into the pit formed	Temporary	Moderate	• Loss of fertile top soil from adjoining farms will be arrested by the bund wall. • Plantation of bio vegetative species along the bund wall to act as a fence. • Stabilization of slope by planting soil-binding species.	Project Proponent
	Change of land use from agricultural to mining	Temporary	Moderate	• Mining will be done as per the mining rules, sustainably and scientifically. • Mining will be done only after obtaining lease from land owner. • It is temporary (for a period of 5years) and reversible. • Agricultural practices will be resumed after mining.	Project Proponent

				• Mining will be done only up to a max depth of 1.8m.	
	Fugitive dust emissions and suspension of dust in air	Temporary	Moderate	• Dust suppression measures like spraying / sprinkling of water to keep the surface wet. • Plantation on bund walls will act as dust. • No drilling or blasting proposed. • No boiler/ D.G. Sets proposed. • Mining to be done at daytime only.	Project Proponent
	Noise generation due to mining	Temporary	Moderate	• No heavy machinery is proposed for the extraction of soil, operational is manual. • In case of noise generation, appropriate measure will be taken care.	Project Proponent
	Impact on Ground Water	Temporary	Moderate	• Mining will be restricted up to a max depth of 2.0 m. • Mining will have no impact on water table. • Drinking water (2.0 KLD) for hired labours (not more than 7.0) will be brought from tanker and nearby sources. • Pit formed will have a positively significant impact as it would facilitate faster percolation of water.	Project Proponent
	Impact on Surface Water	Nil	Nil	• No surface water body is present within 500 m radius of excavation plot.	Project Proponent
	Disturbance to microbial flora and fauna, avifaunal migration or migratory routes of domesticated cattle.	Temporary	Moderate	• Top soil will be excavated and stored under tarpaulin sheets, and will be used later for making bund walls. Hence the microbial flora and fauna will be restored while bunding. • There is no migratory route of avifauna or grazing route of domesticated animal is reported, hence there will be no impact anticipated.	Project Proponent

	Generation of employment	Temporary	Moderate	• Mining operation will be carried out during daytime. • The proposed project will generate employment opportunities to local people. • Will improve the livelihood condition of the nearby areas by providing employment opportunities.	Project Proponent
	Occupational health of labors	Temporary	Significant	• Labors will have access to basic first aid (first aid –box) facility on site. • Awareness on safety and ensure using of personal protective equipment's (PPE) by workers such as Nose mask, Ear plug, Helmet & Shoes etc. • Toilet and Rest Shelter will be provided.	Project Proponent
Transportation of quarried soil	Impact on adjoining farms	Temporary	low	• Vehicular exhaust will be minimized by using PUC certified vehicle sand planting dust barrier species along roads. • Tractor trolleys/ carts will use the existing route for to and fro movements and no additional haulage route shall be formed. • Hence, no impact on adjoining farms anticipated.	Project Proponent
	Impact on crop yield/ quality and productivity in adjoining farms	Temporary	low	• Only fugitive dust emissions may occur due to transportation activity which will be minimized by using: 1. Tarpaulin cover over tractor trolleys/ carts 2. Dust suppression measures like spraying/sprinkling of water to keep the surface wet 3. Provision of the dust barrier salon haulage route	Project Proponent

				4. Plantation of soil binding species such as bamboos, euphorbia, agave etc.	
	Impact on existing traffic	Temporary	low	There is no existing traffic on village, roads, so no impact predicted on existing traffic.	Project Proponent
	Impact on air environment	Temporary	Moderate	- Fugitive dust emissions and vehicular emissions from tractor trolleys may occur due to transportation activity which will be minimized by using: - Tarpaulin cover over tractor trolleys/ carts - PUC certified tractors will be employed - Dust suppression measures like spraying/sprinkling of water to keep the surface wet - Provision of the dust barriers along haulage route. - Plantation of soil binding species such as bamboos, euphorbia, agave etc.	Project Proponent
	Impact on noise environment	Temporary	Moderate	- Carts or tractor trolleys will be employed on village roads. - Fitness certified vehicles will be used. - Timely maintenance of vehicles and their silencers to minimize vibration and sound. - Care will be taken to produce minimum sound during loading. - Noise barriers in form of plantations will be done at haulage roads.	Project Proponent
	Impact on occupational health of labors	Temporary	Moderate	- Labors will have access to basic first aid (first aid –box) facility on site. - Anti-venom will be provided in case of snake bites.	Project Proponent

				• Awareness on safety and ensure using of personal protective equipment's (PPE) by workers nose masks to avoid respiratory disorders. • The workers will be trained on using personal equipment's as a precautionary measure & there by prevent ingany infectious diseases.	
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2.1 AIR ENVIRONMENT

Main pollutant from the subject Mine is Dust/Particulate Matter/Fugitive dust. The following are the identified sources of emission of dust during mining operations and transportation activities.

- Excavating
- Loading and Transportation
- Dumping

Control Measures

- Regular water sprinkling at dust emanating sources viz., transportation through haulage roads, etc. will be carried out. 3.0 KLD tank for sprinkling purpose.
- Regular grading of haul roads and service roads will be taken up to clear accumulation of loose material.
- Periodic maintenance of transport vehicles and equipment will be carried out to check emission levels.
- Greenbelt will be developed with avenue plantation all along the haulage roads and peripheral plantation all around the mine in order to control dust.
- Overloading of trucks will be avoided and carrying the mineral in covered trucks will be taken-up to minimize pollution levels.
- Trucks to be covered with tarpaulin/plastic Enforcing with speed limit, less than 25kmph.
- Dust Masks will be provided for the workers based on work area.

2.2 NOISE ENVIRONMENT

Source of Noise:

Noise produced from mining operations is not continuous. The levels of noise are different based on the activity workers are exposed to. The noise levels are expected to be below 75dB.

Identified sources of noise from the mine are listed below:

- Operations
- Machinery operation i.e. Excavator and Dumpers.

Control Measures

The noise generated by Mining activity through the machinery and transportation of ordinary soil will be controlled with proper mitigative measures and there will be minimum vehicular traffic.

- Mining operations will be carried out during day time only and avoid inconvenience to the nearby habitations.
- The machinery will be maintained properly to reduce the noise levels.
- The protective noise reducing gear like earmuffs, earplugs will be provided by the company.
- Proper maintenance of equipment.
- Machinery will be fitted with properly designed noise generating acoustic silencers.
- Proper maintenance and periodic lubrication of noise generating parts of the machines.
- Provision of thick plantation in and around the mine is planned in order to reduce the noise and prevent it from reaching to surrounding habitation areas.

2.3 WATER ENVIRONMENT

As far as impact on surface water is concerned, during mining, loading and transportation there are chances of contamination of surface water resources (pond, well etc) with dust or by other means. Scientific approach will be taken up for borrowing/excavation of mineral with systematic method and it will not alter the natural drainage pattern of the area.

Mitigation Measures

- Workers would not be allowed to through trashes in water bodies.
- Utmost care will be taken to minimize or control oil spills or leakage from vehicles used for soil transportation.
- The washing of tractor/trucks on the land will be avoided. Overloading of trucks and trolleys will be prevented.
- Water Quality Monitoring for the, ground water shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

2.4 GREEN BELT DEVELOPMENT

The development of a green belt will be of utmost importance, serving not only as anesthetic enhancement but also as pollution sink. The selected plant species should be dust-tolerant, native, and fast growing to ensure the creation of a permanent green belt. In addition to aesthetic and green belt plantations for controlling fugitive emissions and noise, the development will be carried out in coordination with the local community. As per MoEF & CC, the proponent will plant total 45 saplings on the boundary/ berm.

The species selection for the plantation is based in the features:

- Tolerate to SO₂
- Tolerate to dust
- Dust particle absorbance

2.5 LAND ENVIRONMENT

Clay mining involves the extraction of clay, a process that significantly impacts the agricultural potential of an area. The removal of naturally formed soil for clay production results in the permanent loss of fertile topsoil, which serves as a vital natural medium for plant growth. This practice can be considered a form of human-induced erosion, disrupting the geological balance established by nature.

Topsoil is typically rich in essential nutrients such as nitrogen (N), phosphorus (P), potassium (K), and various micronutrients. However, some local farmers believe that in certain areas, the topsoil is not suitable for cultivation, whereas the subsurface layers are more fertile and better for farming. In such cases, the removal of a surface layer or two could be beneficial for agricultural productivity.

To mitigate the impact of clay extraction, the project proponent will ensure that the excavated topsoil and pits are properly restored, making the land suitable for future agricultural use.

2.6 SOCIAL WELFARE MEASURES

- There will be no major impact on socio economic environment of the surrounding villages as the lease area is small and with the proposed development activities.
- For the functioning of the mine, local manpower will be utilized.
- Land allocated for road will be laid with avenue plantation along with lights, which will be useful for the local people.
- No impact due to influx of population/ labour because the mine is very small.

2.7 SAFETY AND ENVIRONMENT

The proponent will provide all necessary provisions stipulated under the Factories Act and Mines Act. In addition, a safety committee will be formed and manned by equal participants from Management and Workers.

The mining in this area does not involve any hazardous methods. The applicant is providing First Aid facilities at mine site.

- Mine benches will be maintained with safety slopes.
- Competent persons will be hired for mine operation to avoid manual failure.
- Safety sign boards will be placed at required areas within the mine area.
- The management firmly believes in the concept of safety and environmentally sustainable growth. The authorities and staff are very much concern in Environment issues.
- The management is going to develop scientifically designed green belt around the premises to mitigate air and noise pollution impacts on the surroundings.
- The management proposed to monitor ambient air as per BPCB guidelines.
- All the employees are provided with personal protective equipment such as helmets, hand gloves, safety shoes etc.
- The management will provide safety training to all employees periodically and regularly.

2.8 OCCUPATIONAL HEALTH MEASURES

Fugitive dust, noise and fines may affect the health of workers. Safety of employee during operation will be taken care as per mines regulations and Mine Rules and act 1961. To avoid any adverse effects on the health of workers due to dust & noise, the following measures will be implemented:

- Provision of rest shelters for mine workers with amenities like drinking water, fans, toilets etc.
- Provision of personal protection devices to the workers;
- Dust suppression of haul road.
- First-aid facilities within lease area.
- Height, slope and width of dump development as per the approved mining plan.
- Regular medical examination for the employees.

The following Personnel protective equipment (PPE) based on the nature of job of the worker

will be provided

- Respiratory Protection – Dust Masks
- Head Protection - Helmets
- Foot Protection – Safety Shoes
- Hearing Protection – Ear Muffs

3.0 ENVIRONMENTAL MONITORING PROGRAMME

The following environmental monitoring program will be implemented during operation of the Mine.

TABLE 3.1 ENVIRONMENTAL MONITORING PROGRAMME

	Location	Parameters	Frequency
AIR QUALITY	Core Zone – at one location of the activity area Buffer Zone – Nearby village.	PM ₁₀ and PM _{2.5}	Once in Six Monthly
WATER QUALITY	Ground water From Bore well near to Mine. Surface Water	As per IS 10500	Once in Six Monthly
NOISE QUALITY	Core Zone ➤ Excavation ➤ Transportation Buffer Zone Nearby Village In transportation route.	Spot Noise levels will be checked for conformance with OSHA work zone noise levels for exposure of eight hours Buffer zone values will be recorded for eight hour duration during the mining activity to compute equivalent values and the same will be checked with for conformation with residential day equivalent values specified by CPCB	Once in Six Monthly
SOIL QUALITY	Core Zone and Buffer Zone	BIS Method	Once in Six Monthly

External NABL accredited laboratory services will be hired for carrying out Environmental Monitoring measures.

In order to maintain the environmental quality within the standards, regular monitoring of various environmental components is necessary. The supervisor will take care of Environmental Management activities with objectives as:

- To implement control/mitigation measures.
- To monitor this implementation process.
- To determine and improve the efficiency of the implemented measures.
- To identify any other unforeseen effect on environment not covered hereby and regular monitoring of various environmental parameters shall be carried out through third party to ascertain the following points.
 - Status of air, noise, water, land pollution within the plant and in its vicinity.
 - Generate data for predictive or corrective purpose in respect of pollution.
 - To assess and monitor environmental impacts periodically.
 - The frequency of monitoring will be done as per norms.

3.1 BUDGET FOR ENVIRONMENTAL MANAGEMENT PLAN

Budget allocated for EMP is Rs 0.85 Lakhs and recurring cost is Rs 0.30 Lakhs. Detail breakup is given in below table.

TABLE 3.2 BUDGETS FOR ENVIRONMENTAL MANAGEMENT PLAN

S. No.	Description	Capital Cost Rs. in Lakh (Rs.)	Recurring Cost Rs. in Lakh (Rs.)
1	Dust suppression (Water tanker, sprinkler)	0.30	0.10
2.	Pollution Monitoring • Air • Water • Soil • Noise	0.00	0.05
3.	Plantation	0.30	0.20
4.	Construction and maintenance of haul road	0.25	0.05
Total		0.85	0.40