### **DRAFT EIA/ EMP REPORT**

#### FOR OBTAINING ENVIRONMENTAL CEARANCE

(Category - B1, under item 1 (a), as per EIA Notification 14<sup>th</sup> September' 2006 and its subsequent amendments till date)

#### FOR

### "CHETAH LASHI LIMESTONE MINE"

Location: - At Chetah, Lashi, Lumshnong, District- East Jaintia Hills, (Meghalaya) Production Capacity: - 1,38,900TPA of ROM (Limestone: - 1,25,000 TPA; Waste: - 13,900 TPA)

Area: - 2.97 Ha; LOI issued dated 10.09.2020

Lease Validity: - 20 Years (From the date of Registration)

Details of ToR	:	Issued from SEIAA, Meghalaya	
<b>Baseline data Generation</b>	:	December' 2021 to February, 2021 (Winter	
		Season)	
Project Cost	:	Rs. 20.00 Lacs	

PROMOTER Shri Lamshwa Kyndoh Lumshnong, District – East Jaintia Hills, Meghalaya

#### ENVIRONMENTAL CONSULTANT

#### Gaurang Environmental Solutions Pvt. Ltd.

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### **1.0 INTRODUCTION**

The proposed project "Chetah Lashi Limestone Mine" is situated at Chetah, Lashi, Lumshnong, District- East Jaintia Hills, (Meghalaya). The total lease area of the project is 2.97 Ha. The mining activity will be carried out by open cast semi-mechanized method. The Letter of Intent has been sanctioned in favour of Shri Lamshwa Kyndoh from the Office of Govt. of Meghalaya, The Department of Forests and Environment, Office of the Divisional Forest Officer: Jaintia Hills Territorial Division, Jowai vide letter no. JH/L.K/ M.L/ 2019-20/ LS/ B/ 837 dated 10.09.2020, which was valid upto 10.03.2021. The application for renewal of letter of intent has been submitted vide letter dated 19.10.2021. The proposed mine is spread over an area of 2.97 ha. with mineable reserves of about 14,84,000 Tonnes to produce 1,38,900 TPA of Limestone (ROM – 1,25,000 TPA) and 13,900 TPA of waste.

### 1.1 LOCATION OF LEASE AREA

The proposed project "Chetah Lashi Limestone Mine" is situated at Chetah, Lashi, Lumshnong, District- East Jaintia Hills, (Meghalaya)

S. No.	Particulars	Details		
1.	Name of Project	Chetah Lashi Limestone Mine		
2.	Location	Chetah, Lashi, Lumshnong, District- East Jaintia Hil (Meghalaya)		
3.	Lease Area	2.97 Ha.		
4.	Land Type	Khatedari Land (Private)		
5.	Latitude & Longitude	25°09'47.9"N to 25°09'39.7" N and 92°22' 47.3" E to 92°22' 39.4"E		
6.	Seismic Zone	Zone – V		

# **1.2 DETAIL OF MINING LEASE**

# **1.3 PROJECT DESCRIPTION**

The Letter of Intent has been sanctioned in favour of Shri Lamshwa Kyndoh vide letter no. JH/L.K/ M.L/ 2019-20/ LS/ B/ 837 dated 10.09.2020, which was valid upto



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10.03.2021. The application for renewal of letter of intent has been submitted vide letter dated 19.10.2021. The proposed mine is spread over an area of 2.97 ha. with mineable reserves of about 14,84,000 Tonnes to produce 1,38,900 TPA of ROM (Limestone 1,25,000 TPA and Waste:- 13,900 TPA). The proposed mining operations will be carried out by open cast semi - mechanized method.

### 1.4 GEOLOGY

#### 1.4.1 LOCAL GEOLOGY

The limestone is exposed in the whole lease area. No other rocks exposed in the lease area. The lime stone has strike almost north- south and dip seems vertical in absence of workings. No fault, fold and geological disturbances are observed in the area. The succession of rocks in the lease area is as given below:-

Table 1.1: Local Geology

Geological Age	Group Name	Formation Name	Rock Type		
Recent Newer Alluvium Unclassif		Unclassified	Sand, Silt and Clay		
UNCONFIRMITY					
Eocene	Jaintia Group	Shella Formation	Lime Stone		

### 1.4.2 PHYSIOGRAPHY

The topography of the lease area is undulated. Highest elevation is 528 mRL and lowest is 470 mRL. The drainage of the lease area is NS.

### 1.4.3 GEOLOGICAL AND MINEABLE RESERVES

Geological Reserve	: 41,41,570MT
Mineable Reserve	: 14,84,000 MT
Production	: 1,38,900 TPA of ROM
Life of Mine	: 12Years

### 1.4.4 MINING

The mining will be done by open cast semi-mechanized method of mining. The salient features of mode of working as per approved Mining Plan with PMCP are:-

- > The mining will be carried out by open cast semi-mechanized method.
- The bench height will be kept 6m and width of the bench will not be less than the height of the bench.

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- Total six bench will be developed i.e. from Bench levels 517mRL (top bench), 511mRL, 505mRL, 499mRL and 493mRL (lowest bench).
- > Blasting will be done by short or long holes with the permission of DGMS.
- > The bench slope will be providing  $85^{\circ}$ .
- > The loading will be from pits or from stocks.

#### **1.4.5 PRODUCTION DETAILS**

The year wise development of mines for five year will progress as per the table below:-

Year	ROM (T)	Waste / sub-	Limestone
		grade (T)	Dimensional (T)
1 <sup>st</sup> Year	1,38,900	13,900	1,25,000
2 <sup>nd</sup> Year	1,38,900	13,900	1,25,000
3 <sup>rd</sup> Year	1,38,900	13,900	1,25,000
4 <sup>th</sup> Year	1,38,900	13,900	1,25,000
5 <sup>th</sup> Year	1,38,900	13,900	1,25,000
Total	6,94,500	69,500	6,25,000

**Table 1.2: Production Details** 

### 1.4.6 LAND USE PATTERN

Land use plan of the mine lease area to encompass pre-operational, operational and postoperational phases is given below:-

S. No.	Land Use Category	<b>Pre-Operational</b>	Operational	Post-
		(Ha.)	(Ha.)	<b>Operational (Ha.)</b>
1	Top Soil Dump	00	0.01	00
2	Overburden Dump	00	0.23	0.23 (Reclaimed by Plantation)
3	Excavation (Voids Only)	00	1.44	1.20
4	Road	00	00	00
5	Built Up Area	00	0.05	0.05 (Public Use)
6	Township Area	00	00	00
7	Afforestation	00	0.10	0.20
8	Reclamation (Backfilled)	00	00	0.94 (Reclaimed & rehabilitated
				by Plantation)
9	Mineral Storage	00	0.01	00

 Table 1.3: Land Use Pattern



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10	Sub – grade stack yard	00	00	00
11	Undisturbed Area	2.97	1.13	0.35 (Plantation)
Total		1.77	2.97	2.97

#### **1.5 DESCRIPTION OF THE ENVIRONMENT**

For monitoring the environmental parameters like meteorology, air, water, soil and noise quality, the monitoring stations have been established at six locations in the study area. The baseline data has been collected in the winter season (December' 2019 to February' 2021). The detail of the sampling locations is given in below:-

Table 1.4: Sampling Location

Sampling Location	Distance	Direction	Components
	(Km)		
Mine Site			Air, Water, Noise, Soil
Near Habitation (Star Cement BTS)	2.0	NNE	Air, Water, Noise, Soil
Tongseng	2.3	SSW	Air, Water, Noise, Soil
Umlong	4.5	WNW	Air, Water, Noise, Soil
Near Habitation (Dalmia Cement	3.4	NNW	Air, Water, Noise, Soil
Bharat Limited)			
Lumsnang	2.0	Ν	Air, Water, Noise, Soil

# 1.5.1 LAND ENVIRONMENT

#### 1.5.1.1 Land Use

The land use pattern of the study area based on the LISS – III data is as given below:-

S.	Classification	Area	Area	%
No.		(Ha.)	(Sq. Km)	
1.	Barren Rocky/Stony Areas	19216.49	192.1649	59.20
2.	Built-up Land (Urban & Rural)	1128.52	11.2852	3.48
3.	Dense Forest & Tree Cover	10724.32	107.2432	33.04
4.	River/Lake/ Reservoir	1389.93	13.8993	4.28
	Total	32459.26	324.5926	100

Table 1.5: LULC

#### 1.5.1.2 Soil Quality

Soil samples were collected at six representative sampling locations. The soil analysis results are given below:-



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рН	:	7.55 - 8.09
Total Organic Matter	:	1.27 – 1.65 (% by mass)
Nitrogen as N	:	23.8-35.4 (mg/100gm)
Phosphorus as P	:	0.67 - 0.82 (meq/100gm)
Potassium as K	:	0.67 – 0.89 (mg/kg)

#### 1.5.1.3 Water Environment

Eight ground water samples have been considered in the study area. The analysis results are presented below:-

#### Table 1.6: Water Quality Status



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S.	Parameter	Requirement	Permissible	Units	Mine	Near	Tongseng	Umlong	Near	Lumsnang
No.		(Desirable	Limits in the		Site	Habitation			Habitation	
		Limits).	Absence of			(Star Cement			(Dalmia	
			Alternate Source.			BTS)			Cement	
									Bharat	
									Limited)	
				Organoleptic &	Physical Pa	rameters				
1.	Colour	5	15	Hazen	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2.	Odour	Agreeable	Agreeable	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3.	Taste	Agreeable	-	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4.	Turbidity	1	5	NTU	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5.	pH value	6.5-8.5	-	-	7.18	7.34	7.47	7.30	7.12	7.21
6.	Total Dissolve Solid	500	2000	mg/l	176	155	162	218	186	198
	(TDS)									
7.	Aluminum (as Al)	0.03	0.2	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
8.	Total Ammonia	0.5	No Relaxation	mg/l	< 0.10	<0.10	< 0.10	< 0.10	<0.10	<0.10
9.	Anionic surface	0.2	1.0	mg/l	< 0.10	< 0.10	< 0.10	< 0.10	<0.10	<0.10
	Detergents(as MBAS)									
10.	Barium (as Ba)	0.7	No Relaxation	mg/l	< 0.10	<0.10	< 0.10	< 0.10	<0.10	<0.10
11.	Boron (as B)	0.5	1.0	mg/l	< 0.10	<0.10	< 0.10	< 0.10	<0.10	<0.10
12.	Calcium (as Ca)	75	200	mg/l	36.25	30.46	36.18	42.23	38.45	40.21
13.	Chloramines (as Cl <sub>2</sub> )	4.0	No Relaxation	mg/l	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
14.	Chloride (as Cl)	250	1000	mg/l	5.60	3.50	5.02	6.02	6.14	5.89
15.	Copper (as Cu)	0.05	1.5	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
16.	Fluoride (as F)	1.0	1.5	mg/l	0.35	0.28	0.42	0.47	0.23	0.29
17.	Free Residual Chlorine	0.2	1.0	mg/l	<0.1	<0.1	<0.1	< 0.1	<0.1	<0.1



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18.	Iron (as Fe)	1.0	No Relaxation	mg/l	0.056	0.045	0.068	0.0715	0.076	0.0412
19.	Magnesium (as Mg)	30	100	mg/l	7.89	7.06	9.27	5.60	7.80	6.34
20.	Manganese (as Mn)	0.1	0.3	mg/l	< 0.1	< 0.1	<0.1	<0.1	< 0.1	<0.1
21.	Mineral Oil	0.5	No Relaxation	mg/l	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
22.	Nitrate (as NO <sub>3</sub> )	45	No Relaxation	mg/l	0.47	0.27	0.42	0.56	0.35	0.36
23.	Selenium (as Se)	0.01	No Relaxation	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
24.	Silver (as Ag)	0.1	No Relaxation	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
25.	Sulphate (as SO <sub>4</sub> )	200	400	mg/l	12.02	8.34	17.54	20.68	20.16	16.50
26.	Sulphide(as H <sub>2</sub> S)	0.05	No Relaxation	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
27.	Alkalinity (as Ca CO3)	200	600	mg/l	121	118	118	154	134	116
28.	Total Hardness (as	200	600	mg/l	125	120	125	160	152	124
	CaCO <sub>3</sub> )									
29.	Zinc (as Zn)	5.0	15	mg/l	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1.	Cadmium (as Cd)	0.003	No Relaxation	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
2.	Cyanide (as CN)	0.05	No Relaxation	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
3.	Lead (as Pb)	0.01	No Relaxation	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4.	Mercury (as Hg)	0.001	No Relaxation	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
5.	Molybdenum (Mo)	0.07	No Relaxation	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
6.	Nickel (as Ni)	0.02	No Relaxation	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
7.	Polynuclear Aromatic	0.0001	No Relaxation	mg/l	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
8	Poly	0.0005	No Relaxation	mg/l	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
	chlorinatedbiphenyl									
9.	Arsenic (as As)	0.01	No Relaxation	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
10.	Total Chromium (as Cr)	0.05	No Relaxation	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

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#### **1.5.2 AIR ENVIRONMENT**

To assess the baseline status of the air quality in the study area systematic ambient air quality monitoring has been carried out for criteria pollutants ( $PM_{10}$ ,  $PM_{2.5}$ ,  $NO_X$ ,  $SO_2$  and CO) at six representative ambient air quality monitoring stations.

#### 1.5.2.1 Air Quality

Ambient air quality monitoring has been carried out with a frequency of two days a week at six locations covering one complete season i.e. December' 2019 to February' 2021. The summary of these results for all the locations is given below. These are compared with the standards prescribed by Central Pollution Control Board (CPCB) for rural and residential zone.

S. No.	Sampling		Parameters				
	Location		PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>x</sub>	СО
			$(\mu g/m^3)$	(µg/m <sup>3</sup> )	$(\mu g/m^3)$	(µg/m <sup>3</sup> )	mg/m <sup>3</sup> )
1.	Mine Site	Min	30.52	18.44	5.35	8.26	0.38
		Max	45.62	26.65	7.85	12.98	0.82
		Avg.	35.28	20.49	6.18	9.60	0.56
		98 <sup>th</sup> % ile	44.65	24.44	7.51	12.43	0.80
2.	Near	Min	34.25	23.48	7.15	9.35	0.28
	Habitation	Max	57.02	32.28	9.32	14.63	0.63
	Star Cement	Avg.	44.31	26.52	8.26	11.01	0.45
	BTS	98 <sup>th</sup> % ile	56.91	32.23	9.18	14.47	0.63
3.	Tongseng	Min	34.52	20.12	7.54	9.68	0.26
		Max	55.48	32.26	10.88	14.66	0.53
		Avg.	44.15	25.22	8.89	11.33	0.40
		98 <sup>th</sup> % ile	55.36	31.74	10.87	14.54	0.52
4.	Umlong	Min	38.5	11.5	3.93	5.25	0.47
		Max	46.7	20.92	6.18	8.29	0.59
		Avg.	42.52	15.88	5.25	6.80	0.53
		98 <sup>th</sup> % ile	46.26	20.54	6.11	8.26	0.59
5.	Near Habitation	Min	36.02	14.78	4.33	7.09	0.46

**Table 1.7: Ambient Air Quality Status** 



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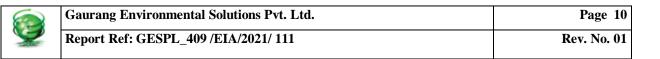
	Dalmia Cement	Max	55.3	24.2	8.44	12.64	0.79
	Bharat Limited	Avg.	47.25	20.29	7.22	9.58	0.62
		98 <sup>th</sup> % ile	53.83	24.05	8.43	12.64	0.78
6.	Lumsnang	Min	35.41	14.32	5.35	8.54	0.47
		Max	45.02	21.38	7.89	10.98	0.85
		Avg.	40.98	16.62	6.89	9.95	0.62
		98 <sup>th</sup> % ile	44.61	21.22	7.89	10.98	0.82
NAA	Q STANDARDS	I	100	60	80	80	02

#### **1.5.3 NOISE ENVIRONMENT**

The noise monitoring has been conducted for determination of noise levels at six locations in the study area. The noise levels at each location were recorded for 24 hrs. The results obtained were compared with the national standards and were found to be within the standards. The collected data are:-

Location	Date of Sampling	Day Time	Night Time
		(6.0 AM to10.0PM)	(10.0 PM to 6.0AM)
Mine Site	04.12.2020 to 06.12.2020	58.2	44.1
Near Habitation	20.12.2020 to 21.12.2021	52.4	40.1
Star Cement BTS			
Tongseng	04.12.2020 to 06.12.2020	48.5	35.6
Umlong	20.12.2020 to 21.12.2021	47.8	32.5
Near Habitation	04.12.2020 to 06.12.2020	55.8	40.2
Dalmia Cement			
Bharat Limited			
Lumsnang	20.12.2020 to 21.12.2021	46.7	34.0
	Standa	rds	
Category of Area/ Z	one	Day Time	Night Time
Industrial Area		75	70
Commercial Area		65	55
Residential Area		55	45
Silence Zone		50	40

**Table 1.8: Ambient Noise Level Status** 



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### **1.5.4 SOCIO-ECONOMIC ENVIRONMENT**

The study area includes the 21 Villages at at Chetah, Lashi, Lumshnong, District- East Jaintia Hills, (Meghalaya) within 10 Km of area from mine periphery.

S. No.	Particulars		Details
1.	No.	No. of Villages	
2.	Tota	l Population	12,205
	a.	Male	6,176
	b.	Female	6,029
3.	No.	of Households	2,083
4.	No.	of Literates	5,827
	a.	Male	2,714
	b.	Female	3,113
5.	Main Workers		3,313
	a.	Male	2,265
	b.	Female	1,048
6.	Ma	arginal Workers	1,041
	a.	Male	492
	b.	Female	549
7.	Non-workers		7,851
	a.	Male	3,419
	b.	Female	4,432

Table 1.9: Demography Profile of the Study Area

(Source: Census, 2011)

### **1.5.5 BIOLOGICAL ENVIRONMENT**

Core Zone	Buffer Zone
Flora	
Grass - 3 Species	Grass - 10 Species
Climber – 6 Specie	Climber – 19 Specie
Herb – 7 Species	Herb – 40 Species
Shrubs - 8 Species	Shrubs - 70 Species
Tree - 9 Species	Tree - 74Species
Fauna	
Amphibian - 6 Species	Amphibian – 17 Species



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Reptiles - 4 Species	Reptiles - 16 Species
Avifauna - 31 Species	Avifauna – 93 Species
Butterflies – 4 Species	Butterflies – 28 Species
Mammals – 2 Species	Mammals – 28 Species

### 1.6 RISK ASSESSMENT & MANAGEMENT

Risk analysis is the systematic study of uncertainties and risks encountered in various areas. Risk analysts seek to identify the risks involved in mining operations, to understand how and when they arise, and estimate the impact (financial or otherwise) of adverse outcomes. It also defines and analyzes the dangers to individuals, businesses and government agencies posed by potential natural and human-caused adverse events.

However, there are various factors, which can create unsafe working conditions/ hazards in mining of Limestone (major minerals). The following types of hazards are identified during the limestone mining operations:-

- 1. Accident during mineral loading, transportation and dumping
- 2. Accident due to vehicular movement
- 3. Inundation/ Flooding

Following procedure will be followed for effective management of any disaster in the mine.

Step 1: Identification of Disaster risk.

Step 2: Identification of persons at risk

Step 3: Removal of Hazard

Step 4: Evaluation of the risk

- Step 5: Control measures to be taken
- Step 6: Maintain Assessment records

Step 7: Review

# **1.7 ENVIRONMENTAL MANAGEMENT PLAN**

Impact	Mitigation Measures
	Land Environment
Land will be degraded due to	> The total excavated pit will be 2.97 ha., out of which 1.20 ha. will be
mining and dumping of waste	used as a water reservoir and remaining 1.77 ha. will be backfilled

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Water Environment           Discharge of effluents water from the mine.         There will be no discharge of effluent from the mine. Mine pit (1.20 ha.) will act as a water reservoir.           Intersection of ground water table         As per the approved Mining Plan along with PMCP, ultimate pit level (455 MSL) will be above the ground water table and hence it will not be intersected.           Vertex         Air Environment           > Dust will be generated mainly during excavation, loading & unloading activities.         > It will be ensured that all the vehicles plying in the working zone are properly tuned and maintained to keep emissions within the permissible limits.           > Gaseous pollutants will by generated mostly by the traffic.         > It order to predict changes in the air quality, AERMOD version 8.8.0 model was used. The maximum incremental ground level concentrations of particulate matter PM <sub>10</sub> & PM <sub>25</sub> , and gaseous pollutants NO <sub>x</sub> & CO from the different mining activities for the study period (winter) were observed to be 7.72µg/m³, 2.31 µg/m³, 0.94 µg/m³ and 0.76 mg/m³ respectively.           > Noise due to mining activities.         > The noise levels from all these sources are periodical and restricted to particular operation.           > Noise due to vehicular movement.         > The noise neasurement data indicated that present noise levels in the study area is within the permissible limits of National Ambient Noise Quality Standards.           > Thus, due to natural attenuation effects by proper green belt/ maintenance of machines etc., the impact of noise levels will be minimal.           > Secio-Econonic Environment <td< th=""><th></th><th>and reclaimed &amp; rehabilitated by plantation.</th></td<>		and reclaimed & rehabilitated by plantation.				
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Quality Standards. > Thus, due to natural attenuation effects by proper green belt/ maintenance of machines etc., the impact of noise levels will be minimal. Socio-Economic Environment	➢ Noise due to vehicular	$\succ$ The noise measurement data indicated that present noise levels in the				
Thus, due to natural attenuation effects by proper green belt/ maintenance of machines etc., the impact of noise levels will be minimal. Socio-Economic Environment	movement.	study area is within the permissible limits of National Ambient Noise				
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minimal. Socio-Economic Environment		$\succ$ Thus, due to natural attenuation effects by proper green belt/				
Socio-Economic Environment		maintenance of machines etc., the impact of noise levels will be				
		minimal.				
> Employment generation > The mining activity puts negligible change in the socio economic						
	Employment generation	> The mining activity puts negligible change in the socio economic				



Project:- Chetah Lashi Lime	
Applicant:- Shri Lamshwa K	<u> </u>
<ul> <li>Health impacts</li> <li>Education Facilities</li> <li>No displacement (0) is proposed due to proposed mine.</li> <li>Approx. 38 local workers will get employment oppowith periodical training to generate local skills.</li> <li>New patterns of indirect employment/ income will gene</li> <li>Regular health Check up camp.</li> <li>Assistance to schools and scholarship to children will b</li> </ul>	
	Biological Environment
<ul> <li>Impact on biodiversity</li> <li>Impact on threatened species</li> </ul>	<ul> <li>The mining activity will have insignificant effect on the existing flora and fauna. The purpose of the project itself is to save the flora around the project area.</li> <li>The existing vegetation within the mining area includes trees and shrubs vegetation. They will not be disturbed due to the mining activity. So, the impact on the vegetation is very less.</li> <li>The transportation of waste may create dust pollution which may create loss of biodiversity of the area.</li> <li>Dust in atmosphere, contributed by mining and associated activities when deposited on the leaves of the plants in the surrounding areas may retard their growth.</li> <li>The growth of vegetation in and around the complexes. Noise and vibrations due to blasting and operation of the machines drive away the wild animals and birds from the nearby nests.</li> <li>The cluster area and its buffer zone are devoid of any eco sensitive area. So the impact on the biodiversity and wild life is minimal.</li> <li>Green belt will be developed along the individual lease boundary which will act as a pollution barrier for the biological environment.</li> <li>The blasting, drilling and transportation will be carried out during the day time only minimizing the impact on the surrounding environment.</li> </ul>



Project:- Chetah Lashi Limestone Mine	
Applicant:- Shri Lamshwa Kyndoh	

# **1.8 ENVIRONMENTAL ACTION PROGRAMME**

The breakup of the proposed cost for Environment Management Programme is given as under:-

S. No.	Description	<b>Capital Cost</b>	Recurring Cost
		(Rs. In Lacs)	(Rs. In Lacs)
1.	Environmental Monitoring		0.75
	(Air, Water, Noise and Soil)		
2.	Occupational Health and Safety	1.25	1.0
	(Initial & Periodical Medical Check-ups)		
3.	Green Belt (phase wise greenbelt	1.75	1.00
	development during life of mine i.e. 16		
	Years)		
4.	Construction & Maintenance of Settling	1.0	0.50
	Tank, Garland Drains etc.		
5.	Provision of fencing around mine pit	1.0	
6.	Environmental Awareness Program		0.50
	Total	5.00	3.75

**Table 1.10: Provision for Environmental Protection Measures** 

# 1.9 CONCLUSION

EIA study was performed as per the approved ToR. Various environmental attributes were studied relating with aspects of mining activities. The related impacts were identified and evaluated. Considering all the possible ways to mitigate the environmental concerns Environmental Management Plan was prepared and accordingly fund was allocated. The EMP has been dynamic, flexible and subject to periodic review.

The project will increase the revenue of the State Govt. as well as it will help in the social upliftment of the local people. The greenbelt development programme will help in increasing the green cover in the nearby areas. Thus, the existing project is not likely to affect the environment or adjacent ecosystem adversely. The Senior Management will be responsible for the project review of EMP and its implementation to ensure that the EMP remains effective and appropriate. Thus, the proper steps will be taken to accomplish all the goals mentioned in the EMP and the project will bring the positive impact in the study area.

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