EXECUTIVE SUMMARY

FOR OBTAINING ENVIRONMENTAL CLEARANCE

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

FOR

"GVIL SHALE MINE"

Location: - Brichyrnot, Elaka- Narpuh, District- East Jaintia Hills,

State: Meghalaya

Production Capacity: - 1,00,678 TPA of ROM

{Mineral Shale: 76,584 TPA, OB: 20061.6 TPA & Waste/Subgrade Mineral: 4032 TPA}

Area: - 4.77 Ha; LOI issued dated 30.01.2020

Lease Validity: - 25 Years

Details of ToR	**:**	**Issued from SEIAA, Meghalaya vide letter no. ML/SEIAA/MIN/EJH/P-316/2022/697 dated Shillong, the 17th March, 2023**
Baseline data Generation	**:**	**December, 2022 to February, 2023 (Winter Season)**
Project Cost	**:**	**Rs. 21.50 Lacs**

PROMOTER

M/s Green Valliey Industries Limited

Village- Nongsning,

District- East Jaintia Hills, Meghalaya

ENVIRONMENTAL CONSULTANT

Gaurang Environmental Solutions Pvt. Ltd.

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NABET Accreditation: NABET/EIA/2023/ RA0192

March, 2023

EXECUTIVE SUMMARY

1.0 INTRODUCTION

The proposed project "GVIL Shale Mine" is situated at Village- Brichyrnot, Elaka-Narpuh, District- East Jaintia Hills (Meghalaya). The total lease area of the project is 4.77 Ha. The mining activity will be carried out by open cast semi-mechanized method.

The Letter of Intent has been sanctioned in favour of M/s Green Valliey Industries Limited from the Office of the Divisional Mining Officer, West Jaintia Hills, Jowai vide letter no. DMO-J/ML-MM/1/2019-20/04 Dated 30.01.2020, which was valid upto 29.07.2020. Request for extension of LOI period has been submitted to the Divisional Mining Officer, West Jaintia Hills, Jowai (Meghalaya) dated 04.11.2020. The proposed mine is spread over an area of 4.77 ha. with mineable reserves of about 10,93,658 Tonnes to produce 1,00,678 TPA of ROM {Mineral Shale: 76,584 TPA, OB: 20061.6 TPA & Waste/Subgrade Mineral: 4032 TPA}.

1.1 LOCATION OF LEASE AREA

The proposed project "GVIL Shale Mine" is situated at Village- Brichyrnot, Elaka-Narpuh, District- East Jaintia Hills (Meghalaya).

1.2 DETAIL OF MINING LEASE

S. No.	Particulars	Details
1.	Name of Project	GVIL Shale Mine
2.	Location	Village- Brichyrnot, Elaka- Narpuh, District- East Jaintia Hills (Meghalaya)
3.	Lease Area	4.77 Ha.
4.	Land Type	Khatedari Land (Private)
5.	Latitude & Longitude	25°09'28.3"N to 25°09'39.9"N and 92°24'28.1"E to 92°24'38.4"E
6.	Seismic Zone	Zone – V

1.3 PROJECT DESCRIPTION

The Letter of Intent has been sanctioned in favour of M/s Green Valliey Industries Limited from the Office of the Divisional Mining Officer, West Jaintia Hills, Jowai vide

letter no. DMO-J/ML-MM/1/2019-20/04 Dated 30.01.2020, which was valid upto 29.07.2020. Request for extension of LOI period has been submitted to the Divisional Mining Officer, West Jaintia Hills, Jowai (Meghalaya) dated 04.11.2020. The proposed mine is spread over an area of 4.77 ha. with mineable reserves of about 10,93,658 Tonnes to produce 1,00,678 TPA of ROM {Mineral Shale: 76,584 TPA, OB: 20061.6 TPA & Waste/Subgrade Mineral: 4032 TPA}.

The proposed mining operations will be carried out by open cast semi - mechanized method.

1.4 GEOLOGY

1.4.1 LOCAL GEOLOGY

The Shale is exposed at few places within lease area. The Shale has strike is unknown as area is not exposed/outcropped 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	Unclassified	Sand, Silt and Clay
----------UNCONFIRMITY----------			
Eocene	Jaintia Group	Shella Formation	Calcareous Shale

1.4.2 PHYSIOGRAPHY

The topography of the lease area is hilly terrain. Highest elevation is 444 mRL and lowest is 348 mRL. The drainage of the lease area is North East.

1.4.3 GEOLOGICAL AND MINEABLE RESERVES

Geological Reserve : 1,17,79,675 MT

Mineable Reserve : 10,93,658 Tonnes

Production : 1,00,678 TPA(ROM) {Mineral Shale: 76,584 TPA, OB: 20061.6 TPA & Waste/Subgrade Mineral: 4032 TPA}.

Life of Mine : 15 Years

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 & width will be kept 6m.
- Total ten benches will be developed i.e. from Bench 436 mRL (Top Bench), 430 mRL, 424 mRL, 418 mRL, 412 mRL, 406 mRL, 400 mRL, 394 mRL, 388 mRL, 382 mRL (lowest bench).
- The bench slope will be providing 85°.
- 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:-

Table 1.2: Production Details

Year	ROM** (T)	Mineral Shale (T) *{A}*	OB** (m^3) {a}	Waste/ sub-grade (T) *{B}*	**Remarks	
					OB (T) {C} *a* x *bulk density i.e. 2.4 tons/cu. meter*	Total ROM (*A+B+C*)
1st	55,824	53,031	26,326	2,793	63182.4	1,19,006
2nd	62,016	58,912	22,022	3,104	52852.8	1,14,869
3rd	68,208	64,795	1,383	3,413	3319.2	71,527
4th	74,424	70,701	27,039	3,723	64893.6	1,39,318
5th	80,616	76,584	8,359	4,032	20061.6	1,00,678
Total	**3,41,088**	**3,24,023**	**85,129**	**17,065**	**204309.6**	**5,45,398**

1.4.6 LAND USE PATTERN

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

Table 1.3: Land Use Pattern

S. No.	Land Use Category	Pre-Operational (Ha.)	Operational (Ha.)	Post-Operational (Ha.)
1	Top Soil Dump	00	0.01	00

2	Overburden Dump	00	0.01	00
3	Pit & Quarry Area	00	2.52	3.84
	Excavation (Voids Only)	00	00	0.84
	Reclamation (Backfilled)	00	00	3.00
4	Road	00	0.02	0.02
5	Infrastructure	00	0.01	0.01
6	Afforestation	00	0.30	0.90
7	Mineral Storage	00	00	00
8	Waste/Sub – grade stack yard	00	0.01	00
9	Undisturbed Area	4.77	1.89	00
Total		**4.77**	**4.77**	**4.77**

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 eight locations in the study area. The baseline data has been collected in the winter season (Dec 2022 to Feb 2023). The detail of the sampling locations is given in below:-

Table 1.4: Sampling Location

Sampling Location	Distance (Km)	Direction	Components
Mine Site	--	--	Air, Water, Noise, Soil
Sielkan	6.0 km	NE	Air, Water, Noise, Soil
Khaddum	3.8 km	ESE	Air, Water, Noise, Soil
Sunapyrdi	6.3 km	SW	Air, Water, Noise, Soil
Tongseng	3.9 km	WSW	Air, Water, Noise, Soil
Lumsnang	4.0 km	WNW	Air, Water, Noise, Soil
Near Star Cement Industry	2.4 km	WNW	Air, Water, Noise, Soil

1.5.1 LAND ENVIRONMENT

1.5.1.1 Soil Quality

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

pH	:	7.26 to 7.57

Total Organic Matter	:	0.49 – 1.78 (% by mass)
Total Nitrogen	:	218 to 316 (Kg/ Hectare)
Phosphorus as P	:	56 to 62 (Kg/ Hectare)
Potassium as K	:	177-216 (Kg/ Hectare)

1.5.1.2 Water Environment

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

Table 1.6: Water Quality Status

S.No.	Parameter	Unit	Acceptable Limit	Permissible Limit	Mine Site	Sielkan	Sunapyrdi	Tong seng	Lums nang	Near Star Cement Boundary	Khaddum
Organoleptic & Physical Parameters											
1.	Colour	Hazen Unit	5	15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2.	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3.	Taste	-	Agreeable	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4.	Turbidity	NTU	1	5	<1.0	<1.0	<1	<1	<1.0	<1.0	<1
5.	pH value	-	6.5-8.5	-	7.21	7.43	7.08	7.12	7.37	7.76	7.22
6	Total Dissolve Solid (TDS)	mg/l	500	2000	380.0	356.0	420.0	308.0	429.0	378.0	319.0
General Properties											
7	Aluminum (as Al)	mg/l	0.03	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
8	Total Ammonia	mg/l	0.5	No Relaxation	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
9	Anionic surface Detergents(as MBAS)	mg/l	0.2	1.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
10	Barium (as Ba)	mg/l	0.7	No Relaxation	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
11	Boron (as B)	mg/l	0.5	1.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
12	Calcium(as Ca)	mg/l	75	200	58.12	57.50	60.12	62.08	62.20	64.98	58.20
13	Chloramines (as Cl2)	mg/l	4.0	No Relaxation	<1.0	<1.0	<1.0	<1.0	<1.00	<1.00	<1.0
14	Chloride (as Cl)	mg/l	250	1000	19.40	16.23	12.06	15.50	12.69	18.81	16.84
15	Copper (as Cu)	mg/l	0.05	1.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

16	Fluoride(as F)	mg/l	1.0	1.5	0.36	0.32	0.24	0.36	0.47	0.27	0.33
17	Free Residual Chlorine	mg/l	0.2	1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
18	Iron (as Fe)	mg/l	0.3	No Relaxation	0.132	0.141	0.136	0.125	0.170	0.141	0.129
19	Magnesium (as mg)	mg/l	30	100	5.40	8.21	10.04	7.23	10.37	12.35	4.08
20	Manganese (as Mn)	mg/l	0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.01	<0.01	<0.1
21	Mineral Oil	mg/l	0.5	No Relaxation	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
22	Nitrate (as NO_3)	mg/l	45	No Relaxation	0.27	0.32	0.25	0.28	0.45	1.23	0.32
23	Selenium (as Se)	mg/l	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
24	Silver (as Ag)	mg/l	0.1	No Relaxation	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
25	Sulphate (as SO_4)	mg/l	200	400	25.40	28.21	26.16	25.40	25.37	32.67	28.14
26	Sulphide(as H_2S)	mg/l	0.05	No Relaxation	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
27	Alkalinity(as Ca CO_3)	mg/l	200	600	198.0	192.0	186.0	193.0	172.0	180.0	196.0
28	Total Hardness (as $CaCO_3$)	mg/l	200	600	165.0	154.0	168.0	172.0	155.0	176.0	182.0
29	Zinc (as Zn)	mg/l	5	15	0.155	0.142	0.136	0.140	0.164	0.149	0.161
Parameters Concerning Toxic Substances											
30	Cadmium (as Cd)	mg/l	0.003	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01	<0.001	<0.001
31	Cyanide (as CN)	mg/l	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

32	Phenol	mg/l	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01	<0.01
33	Lead (as Pb)	mg/l	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01	<0.001	<0.001
34	Mercury (as Hg)	mg/l	0.001	No Relaxation	<0.001	<0.001	<0.001	<0.001	<0.001	<0.05	<0.05
35	Molybdenum (Mo)	mg/l	0.07	No Relaxation	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
36	Nickel (as Ni)	mg/l	0.02	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
37	Poly nuclear Aromatic	mg/l	0.0001	No Relaxation	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.05	<0.05
38	Poly chlorinated biphenyl	mg/l	0.0005	No Relaxation	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Microbiological Parameters											
39	*Escherichia coli*	/100ml	Absent		Absent	Absent	Absent	Absent	Absent	Absent	Absent
40	*Coliform Bacteria*	/100ml	Absent		Absent	Absent	Absent	Absent	Absent	Absent	Absent

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 seven 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 seven locations covering one complete season i.e. Dec, 2022 to Feb, 2023. 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.

Table 1.7: Ambient Air Quality Status

S. No.	Sampling Location		Parameters				
			PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x (As No_2) ($\mu g/m^3$)	CO (mg/m^3)
1.	Mine Site	Min	59.47	24.98	11.87	13.24	0.38
		Max	69.56	32.12	15.89	19.6	0.96
		Avg.	61.76	26.06	13.44	15.68	0.57
		98th% ile	69.10	30.59	15.53	19.22	0.85
2.	Sielkan	Min	50.20	18.07	8.98	9.88	0.36
		Max	59.57	21.45	11.69	18.62	0.77
		Avg.	54.61	19.66	9.80	13.37	0.55
		98th% ile	59.10	21.28	11.30	17.10	0.77
3.	Khaddum	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
		98th% ile	46.26	20.54	6.11	8.26	0.59
4.	Sunapyrdi	Min	51.20	18.43	10.36	12.32	0.37
		Max	57.12	20.56	14.45	20.55	0.68
		Avg.	53.38	19.22	12.04	15.31	0.54
		98th% ile	55.86	20.10	14.44	19.93	0.66
5.	Tongseng	Min	53.4	19.21	9.74	10.96	0.35
		Max	65.8	24.77	10.65	15.4	0.54
		Avg.	57.17	21.14	10.14	11.82	0.45
		98th% ile	65.38	24.61	10.65	14.81	0.54
6.	Lumsnang	Min	59.28	31.56	9.23	15.62	0.39

		Max	74.65	45.12	18.56	20.31	0.58
		Avg.	66.36	38.65	13.87	18.74	0.47
		98th% ile	73.18	44.52	17.74	20.17	0.58
7.	Near Star Cement Industry	Min	55.41	22.65	9.58	12.45	0.35
		Max	70.61	27.58	11.3	16.39	1.75
		Avg.	62.14	24.00	10.26	14.01	1.14
		98th% ile	70.09	27.24	11.27	16.15	1.75
NAAQS, For 24 hourly monitoring (except CO for Eight hour)			**100**	**60**	**80**	**80**	**2**

1.5.3 NOISE ENVIRONMENT

The noise monitoring has been conducted for determination of noise levels at seven 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:-

Table 1.8: Ambient Noise Level Status

Location	Date of Sampling	Day Time (6.00 AM to 10.0PM)	Night Time (10.00 PM to 6.00 AM)
Mine Site	08.12.2022	58.9	44.2
Sielkan	24.12.2022	51.8	39.5
Sunapyrdi	05.12.2022	50.0	41.0
Tongseng	04.01.2023	53.2	42.2
Lumsnang	18.01.2023	54.1	40.6
Near Star Cement Boundary	23.01.2023	56.8	43.2
Khaddum	01.02.2023	52.5	38.5
Standards			
Category of Area/ Zone		Day Time	Night Time
Industrial Area		75	70
Commercial Area		65	55
Residential Area		55	45
Silence Zone		50	40

1.5.4 SOCIO-ECONOMIC ENVIRONMENT

The study area includes the 16 Villages Brichyrnot, Elaka Narpuh District- East Jaintia Hills (Meghalaya) within 10 km of area from mine periphery.

Table 1.9: Demography Profile of the Study Area

S. No.	Particulars		Details
1.	No. of Villages		16
2.	Total Population		10,683
	a.	Male	5,371
	b.	Female	5,312
3.	No. of Households		1,816
4.	No. of Literates		5126
	a.	Male	2360
	b.	Female	2766
5.	Main Workers		2927
	a.	Male	2010
	b.	Female	917
6.	Marginal Workers		867
	a.	Male	412
	b.	Female	455
7.	Non-workers		6889
	a.	Male	2949
	b.	Female	3940

(Source: Census, 2011)

1.5.5 BIOLOGICAL ENVIRONMENT

Buffer Zone
Flora
Climber – 19 Specie
Herb – 40 Species
Shrubs - 70 Species
Tree – 74 Species
Fauna
Amphibian – 17 Species
Fish - 16 Species
Avifauna – 92 Species
Butterflies – 28 Species

Mammals – 27 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 Shale (minor minerals). The following types of hazards are identified during the shale 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 mining and dumping of waste	➢ The total excavated area 3.84 ha., out of which 0.84 ha. will be used as a water reservoir and remaining 3.00 ha. area will be backfilled and reclaimed and rehabilitated by plantation. The extent of impact will however; be confined within lease area only.
Water Environment	

Discharge of effluents water from the mine. Intersection of ground water table during mining operations.	There will be no discharge of effluent from the mine. Mine pit (0.84 ha.) will act as a water reservoir. As per the approved Mining Plan along with PMCP, ultimate pit level (334 mRL) will be above the ground water table and hence it will not be intersected.
Air Environment	
➢ Dust will be generated mainly during excavation, loading & unloading activities. ➢ Gaseous pollutants will by generated mostly by the traffic.	➢ 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. ➢ At loading & unloading points and transportation routes, arrangement for water sprinkling will be made to minimize dust generation. ➢ In order to predict changes in the air quality, AERMOD version 8.8.0 model was used. The maximum ground level concentrations of particulate matter PM_{10} & $PM_{2.5,}$ NOx, CO from the different mining activities for the study period (Winter Season) were observed to be 4.03897 µg/m^3 & 3.00038 µg/$m^{3,}$ 0.04616 µg/$m^{3,}$ 0.000013 mg/m^3 respectively. ➢ The resultant will remain within the National Ambient Air Quality Standards for industrial/ residential areas.
Noise Environment	
➢ Noise due to mining activities. ➢ Noise due to vehicular movement.	➢ The noise levels from all these sources are periodical and restricted to particular operation. ➢ The noise measurement 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.
Socio-Economic Environment	
➢ Employment generation ➢ Health impacts ➢ Education Facilities	➢ The mining activity puts negligible change in the socio economic profile. ➢ No displacement (0) is proposed due to proposed mine. ➢ Approx. 16 local workers will get employment opportunities along

	with periodical training to generate local skills. ➢ New patterns of indirect employment/ income will generate. ➢ Regular health Check up camp. ➢ Assistance to schools and scholarship to children will be provided.
Biological Environment	
➢ Impact on biodiversity ➢ Impact on threatened species	➢ 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. ➢ 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. ➢ The transportation of waste may create dust pollution which may create loss of biodiversity of the area. ➢ 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. ➢ The growth of vegetation in and around the complexes. Noise and vibrations due to operation of the machines drive away the wild animals and birds from the nearby nests. ➢ 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. ➢ Green belt will be developed along the individual lease boundary which will act as a pollution barrier for the biological environment. ➢ There is the proposal for plantation along the haul road of individual lease and also along the connecting road. ➢ Transportation will be carried out during the day time only minimizing the impact on the wild fauna movement. ➢ All the necessary pollution control measures will be undertaken by the lessee to minimize the impact on the surrounding environment.

1.8 ENVIRONMENTAL ACTION PROGRAMME

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

Table 1.10: Provision for Environmental Protection Measures

S. No.	Description	Capital Cost (Rs. In Lacs)	Recurring Cost (Rs. In Lacs)
1.	Environmental Monitoring (Air, Water, Noise and Soil)	--	2.00
2.	Occupational Health and Safety (Initial & Periodical Medical Check-ups)	1.00	0.50
3.	Green Belt (phase wise greenbelt development during plantation plan period)	3.75	1.0
4.	Construction & Maintenance of Settling Tank, Garland Drains etc.	1.00	0.40
5.	Provision of fencing around mine pit	1.00	0.20
6.	Environmental Awareness Program	--	0.50
7.	Rain Water Harvesting	1.00	0.25
8.	CER	0.43	--
Total		**8.18**	**4.85**

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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