KA PASOH (KHASI)

BAN IOH JINGBIT IA KA ENVIRONMENTAL CLEARANCE

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

IA KA

"MARIH LIMESTONE MINE"

Jaka: - Ha Marih, Tlongumsong, District- East Khasi Hills, Meghlaya.

Jingpynmih kum ba lah: - 2,62,500 TPA u ROM (Mawshun: - 2,36,250 TPA; Jaboh: - 26,250 TPA)

Area: - 4.11 Ha; LOI ba ai ha ka tarik 09.03.2021

Por Lease: - 15 Snem (Na ka Tarik ba Register)

Jingtipbniah ia ka ToR	**:**	**La ai na ka SEIAA, Meghalaya**
Baseline data ba pynmih	**:**	**Nohprah' 2021 to Rymphang' 2021 (Por Tlang)**
Jingmang Pisa ia ka Project	**:**	**Rs. 23.0 Lacs**

PROMOTER

Shri Bontonlang Wanswett

Jatap, Mustoh, P.P. Shella

District – East Khasi Hills, Meghalaya

ENVIRONMENTAL CONSULTANT

Gaurang Environmental Solutions Pvt. Ltd.

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NABET Accreditation: NABET/EIA/2023/ RA0192 (Rev. 01)

Nailur' 2021

Ka Pasoh

1.0 KA JINGSDANG

Ka projek ba la mang "Marih Limestone Mine" ka don ha Marih, Tlongumsong, District- East Khasi Hills, Meghalaya. Ka jaka baroh ba la shim wai ia ka projek ka long 2 Ha. Ka rukom jingtih kan long najrong khyndew ryngkat bad ki kor ba la pyniaid lang da ki briew ban tih.

Ka Letter of Intent la sanctioned ha ka kyrteng i Shri. Bontonlang Wanswett na ka Office jong ka Govt. of Meghalaya, ka Department jong ka Forests bad Environment, Office jong ka Divisional Forest Officer: East Khasi Hills & RI – BHOI (T) Division, Shillong lyngba ka shithi no. KH/ 8/ ML/ Limestone/68/ 5738 tarik 09.03.2021 bad ka im haduh 22.08.2021. Ka application renewal jong ka Letter of Intent la submit da ka shithi ba don ka tarik 11/10/2021. Ka jaka ban leh mining ka don kat kum ka area ba 4.11 ha. bad ki mineable reserves kum ba 14,70,000 Tonnes ban pynmih 2,36,250 TPA u Mawshun (ROM – 2,62,500) TPA bad 26,250 TPA u jaboh.

1.1 JAKA BAN AI WAI

Ka projek ba la mang "Marih Limestone Mine" ka don ha Marih, Tlongumsong, District- East Khasi Hills, Meghalaya.

1.2 JINGTIPBNIAH IA KA JINGSHIMWAI MINING

S. No.	Particulars	Details
1.	Kyrteng jong ka Projek	Marih Limestone Mine
2.	Jaka	Marih, Tlongumsong, District- East Khasi Hills, Meghlaya.
3.	Jingheh jong ka jaka shim wai	4.11 Ha.
4.	Jait Jaka	Khatedari Land (Private)
5.	Latitude & Longitude	25°11'08.37"N to 25°11'34.53" N and 91°38' 50.17" E to 91°38' 53.27"E
6.	Jaka khynniuh Jumai	Zone – V

1.3 JINGBATAI IA KA PROJEK

Ka Letter of Intent la sanctioned ha ka kyrteng i Shri. Bontonlang Wanswett na ka Office jong ka Govt. of Meghalaya, ka Department jong ka Forests bad Environment, Office jong ka Divisional Forest Officer: East Khasi Hills & RI – BHOI (T) Division, Shillong lyngba

ka shithi no. KH/ 8/ ML/ Limestone/68/ 5738 tarik 09.03.2021 bad ka im haduh 22.08.2021. Ka application renewal jong ka Letter of Intent la submit da ka shithi ba don ka tarik 11/10/2021. Ka jaka ban leh mining ka don kat kum ka area ba 4.11 ha. bad ki mineable reserves kum ba 14,70,000 Tonnes ban pynmih 2,36,250 TPA u Mawshun (ROM – 2,62,500) TPA bad 26,250 TPA u jaboh. Ka rukom jingtih kan long najrong khyndew ryngkat bad ki kor ba la pyniaid lang da ki briew ban tih.

1.4 GEOLOGY

1.4.1 LOCAL GEOLOGY

U mawshun u paw ha baroh ka jaka shim wai. Ym don shuh kiwei kiwei ki maw ba paw ha ka jaka shim wai. U mawshun u la dain ha jan ka Shatei – Shathie bad ngam pynieng ha bam don ka jingtreikam. Ym don jingduna, jingkhylliap bad jingthut geological ba la iohi ha kane ka jaka ba shim wai. Ka jingwan jong ki maw ha ka jaka shim wai la ai harum:-

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	Lime Stone

1.4.2 PHYSIOGRAPHY

The topography of the lease area is undulated. Ka topography jong ka jaka shim wai ka long shajrong shapoh. Bajrong tam ka long 235 mRL bad ba duna tam ka long 150 mRL. Ka nala ba don ha ka jaka shim wai ka long Shatei lam Shathie.

1.4.3 GEOLOGICAL AND MINEABLE RESERVES

Geological Reserve : 5260000 MT

Mineable Reserve : 14,70,000 MT

Jingmih : 2,62,500 TPA u ROM

Jingim jong ka Mine : 7.0 Snem

1.4.4 MINING

Ka rukom jingtih kan long najrong khyndew ryngkat bad ki kor ba la pyniaid lang da ki briew ban tih. Ka jingpyntreikam kat kum ba la ioh jingbit na ka Mining Plan bad PMCP ka dei:-

- Ka rukom jingtih kan long najrong khyndew ryngkat bad ki kor ba la pyniaid lang da ki briew ban tih

- Ka mied jingjrong yn buh 6m bad jingiar jong ka mied kam dei ban duna ia ka mied jingjrong
- Baroh Hynriew meid yn shna bha kata naduh Mied levels 101mRL (hajrong mied), 95mRL, 89mRL, 83mRL, 77mRL, 71mRL, 65mRL, 59mRL and 53mRL (duna mied).
- Jingpynbthei yn leh da ki thliew barit bad bajrong da ka jingioh jingbit na DGMS
- Ka slope mied kan ai 85°

1.4.5 KA JINGTIP JONG KA JINGMIH

Ka jingpynbha pynroi man u snem ia ki mines ha ka por san snem kan long kat kum ka table harum:-

Table 1.2: Production Details

Year	ROM (T)	Waste / sub-grade (T)	Limestone Dimensional (T)
1st Year	2,62,500	26,250	2,36,250
2nd Year	2,62,500	26,250	2,36,250
3rd Year	2,62,500	26,250	2,36,250
4th Year	2,62,500	26,250	2,36,250
5th Year	2,62,500	26,250	2,36,250
Total	**13,12,500**	**1,31,250**	**11,81,250**

1.4.6 KA JINGPYNWAN DUR IA KA JAKA

Ka plan ban pyndonkam ia ka jaka ha ka jaka ba shim wai kan kynthup ka sdang treikam, ka treikam bad shuwa ban treikam:-

Table 1.3: Land Use Pattern

S. No.	Land Use Category	Pre-Operational (Ha.)	Operational (Ha.)	Post-Operational (Ha.)
1	Top Soil Dump	00	0.02	00
2	Overburden Dump	00	0.30	0.30 (Reclaimed by Plantation)
3	Excavation (Voids Only)	00	3.10	1.00
4	Road	00	0.04	0.04 (Public Use)
5	Built Up Area	00	0.01	0.01 (Public Use)
6	Township Area	00	00	00
7	Afforestation	00	0.30	0.50
8	Reclamation (Backfilled)	00	00	2.10 (Rehabilitated by Plantation)
9	Mineral Storage	00	00	00
10	Sub – grade stack yard	00	00	00
11	Undisturbed Area	4.11	0.34	0.16 (Plantation)
Total		**4.11**	**4.11**	**4.11**

1.5 KA JINGBATAI SHAPHANG KA MARIANG

Ban peit bha ia ka mariang kum ka meterorology, ka lyer, ka um, ka khyndew bad ka jinglong jong ka jingsawa, ki jaka peit bniah la buh ha ki hynniew jaka ha ka jaka ban pule/peit thuh. Ia ka baseline data la shimm ha ka por tlang (Nohprah' 2019 haduh Rymphang' 2021). Ia ka jingbatai bniah ha kine ki jaka la ai harum:-

Table 1.4: Sampling Location

Sampling Location	Distance (Km)	Direction	Components
Mine Site (Bontonlang Wanswett)	--	--	Air, Water, Noise, Soil
Laittyra	3.9	NNE	Air, Water, Noise, Soil
Ichamati	7.5	ESE	Air, Water, Noise, Soil
Dhorom	7.0	SE	Air, Water, Noise, Soil
Kalatek	5.8	SSE	Air, Water, Noise, Soil
Betgora A and b	9.3	WSW	Air, Water, Noise, Soil
Nongtria	5.5	NW	Air, Water, Noise, Soil

1.5.1 KA JINGLONG JINGMAN JONG KA JAKA

1.5.1.1 Ka jingpyndonkam ia ka jaka

Ka jinglong jingman jong ka jaka ban pule la ai kum ka LISS – III data ba la pyni harum:-

Table 11.5: LULC

Classes	Area (Ha.)	Area (Sq. Km)	Area (%)
Irrigated Crop Land	4,788.75	47.8875	15.17
Barren Rocky/Stony Areas	10,280.23	102.8023	32.56
Built-up Land (Urban & Rural)	2,632.53	26.3253	8.34
Dense Forest & Tree Cover	13,145.31	131.4531	41.64
River/Lake/ Reservoir	721.56	7.2156	2.29
Total	**31,568.38**	**315.6838**	**100**

1.5.1.2 Ka Jinglong Khyndew

Ki symboh khyndew la shim na ki hynniew jaka. Ka jingiohi ba ka khyndew ka long kumno la pyni harum:-

Ph	:	7.76 – 8.04
Total Organic Matter	:	1.23 – 1.65 (% by mass)
Nitrogen as N	:	28.2– 32.8 (mg/100gm)
Phosphorus as P	:	0.44 – 0.78 (meq/100gm)
Potassium as K	:	0.68 – 0.89 (mg/kg)

1.5.1.3 Jinglong Jingman jong ka Um

Ki um na ki hynniew tylli ki jaka ban pule la shim. Ka jingiohi ia ka jingtohkit la pyni harum:-

Table 1.6: Water Quality Status

S. No.	Parameter	Requirement (Desirable Limits).	Permissible Limits in the Absence of Alternate Source.	Units	Mine Site	Laittyra	Ichamati	Dhorom	Kalatek	Betgona A And B	Nongtria
Organoleptic & Physical Parameters											
1.	Colour	5	15	Hazen	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2.	Odour	Agreeable	Agreeable	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3.	Taste	Agreeable	-	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4.	Turbidity	1	5	NTU	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5.	pH value	6.5-8.5	-	-	7.31	6.95	7.27	7.51	7.12	7.41	7.29
6.	Total Dissolve Solid (TDS)	500	2000	mg/l	148	136	129	194	171	183	162
7.	Aluminum (as Al)	0.03	0.2	mg/l	<0.01	<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	<0.10
9.	Anionic surface Detergents(as MBAS)	0.2	1.0	mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
10.	Barium (as Ba)	0.7	No Relaxation	mg/l	<0.10	<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	<0.10
12.	Calcium (as Ca)	75	200	mg/l	30.19	27.52	32.26	47.12	37.06	38.05	36.97
13.	Chloramines (as Cl_2)	4.0	No Relaxation	mg/l	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
14.	Chloride (as Cl)	250	1000	mg/l	5.26	3.86	4.64	6.12	6.09	4.79	6.07
15.	Copper (as Cu)	0.05	1.5	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
16.	Fluoride (as F)	1.0	1.5	mg/l	0.37	0.28	0.42	0.47	0.26	0.28	0.28
17.	Free Residual Chlorine	0.2	1.0	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
18.	Iron (as Fe)	1.0	No Relaxation	mg/l	0.057	0.046	0.068	0.070	0.072	0.037	0.070

19.	Magnesium (as Mg)	30	100	mg/l	7.85	7.14	10.32	5.28	7.70	1.58	7.72
20.	Manganese (as Mn)	0.1	0.3	mg/l	<0.1	<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	<0.50
22.	Nitrate (as NO_3)	45	No Relaxation	mg/l	0.48	0.34	0.42	0.57	0.36	0.34	0.37
23.	Selenium (as Se)	0.01	No Relaxation	mg/l	<0.01	<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	<0.05
25.	Sulphate (as SO_4)	200	400	mg/l	12.05	10.41	16.56	21.61	20.12	14.56	20.10
26.	Sulphide(as H_2S)	0.05	No Relaxation	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
27.	Alkalinity (as Ca CO3)	200	600	mg/l	102	91	112	124	112	101	102
28.	Total Hardness (as $CaCO_3$)	200	600	mg/l	112	105	125	138	128	118	121
29.	Zinc (as Zn)	5.0	15	mg/l	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Parameters Concerning Toxic Substances:											
1.	Cadmium (as Cd)	0.003	No Relaxation	mg/l	<0.001	<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	<0.01
3.	Lead (as Pb)	0.01	No Relaxation	mg/l	<0.01	<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	<0.001
5.	Molybdenum (Mo)	0.07	No Relaxation	mg/l	<0.05	<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	<0.01
7.	Polynuclear Aromatic	0.0001	No Relaxation	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
8	Poly chlorinatedbiphenyl	0.0005	No Relaxation	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
9.	Arsenic (as As)	0.01	No Relaxation	mg/l	<0.01	<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	<0.05

1.5.2 JINGLONG JINGMAN JONG KA LYER

Ban peit bha ia ka jinglong jong ka lyer ha ka jaka pule ka systematic ambient air quality monitoring la pyniaid ia ki jait jingjaboh (PM_{10}, $PM_{2.5}$, NO_X, SO_2 and CO) ha ki hynniew jaka ba don ki ambient air quality monitoring stations.

1.5.2.1 Jinglong ka Lyer

Ka Ambient air quality monitoring la pyniaid shakhmat ha ka por ar sien shi taiew ha ki hynniew jaka ha kawei ka aiom kata naduh Nohprah' 2019 haduh Rymphang' 2021. Ka jingiohi ia ka jinglong jong ha baroh ki jaka ki long kumne harum. Ia kine la pyniahap kat kum ka jingbuh da ka Central Pollution Control Board (CPCB) jong ka rural bad 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 ($\mu g/m^3$)	CO mg/m^3)
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
		98th% ile	44.65	24.44	7.51	12.43	0.80
2.	Laittyra	**Min**	34.25	23.48	7.15	9.35	0.28
		Max	57.02	32.28	9.32	14.63	0.63
		Avg.	44.31	26.52	8.26	11.01	0.45
		98th% ile	56.91	32.23	9.18	14.47	0.63
3.	Ichamati	**Min**	32.52	20.68	5.35	9.24	0.35
		Max	47.32	29.53	9.47	14.63	0.8
		Avg.	37.43	24.45	7.23	10.98	0.53
		98th% ile	46.44	29.25	9.45	14.14	0.77
4.	Dhorom	**Min**	32.14	20.11	5.69	8.55	0.26
		Max	48.65	28.88	8.49	13.62	0.53
		Avg.	39.21	23.07	6.80	9.74	0.40
		98th% ile	48.54	27.72	8.47	13.59	0.52
5.	Kalatek	**Min**	34.52	20.12	7.54	9.68	0.3
		Max	55.48	32.26	10.88	14.66	0.77
		Avg.	44.15	25.22	8.89	11.33	0.48

		98th% ile	55.36	31.74	10.87	14.54	0.74
6.	Betgona A and B	**Min**	42.61	27.44	7.26	10.52	0.29
		Max	55.47	36.22	11.24	16.25	0.71
		Avg.	48.92	29.89	9.11	13.12	0.48
		98th% ile	55.07	35.85	11.07	15.98	0.69
7.	Nongtria	**Min**	37.21	25.96	6.69	8.44	0.3
		Max	56.78	36.58	8.95	13.45	0.59
		Avg.	45.01	29.51	7.51	9.93	0.43
		98th% ile	56.57	35.85	8.90	13.35	0.58
NAAQ STANDARDS			**100**	**60**	**80**	**80**	**02**

1.5.3 JINGLONG JINGMAN JONG KA JINGSAWA

Ka jingthew ia ka jingsawa la pyniaiad ban tip bha ia ka jinglong ka jingsawa ha ki hynniew jaka ban pule. Ka jingthew ia ka jingsawa ha man ki jaka la sjim ha 24 kynta. Ka jingiohi ba la ioh la pyniahap bad ka national standards bad la shem ba long kat kum ka standard. Ki data ba la ioh la pyni harum:-

Table 1.8: Ambient Noise Level Status

Location	**Date of Sampling**	**Day Time (6.0 AM to10.0PM)**	**Night Time (10.0 PM to 6.0AM)**
Mine Site	04.12.2020 to 06.12.2020	57.2	44.1
Laittyra	20.12.2020 to 21.12.2020	48.3	37.5
Ichamati	04.12.2020 to 06.12.2020	42.6	37.2
Dhorom	20.12.2020 to 21.12.2020	51.8	38.6
Kalatek	04.12.2020 to 06.12.2020	49.3	34.7
Betgona A and B	20.12.2020 to 21.12.2020	52.2	39.4
Nongtria	04.12.2020 to 06.12.2020	47.2	33.9
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 JINGIOH JINGKOT JONG KI BRIEW

Ka jaka pule ka kynthup ia 101 ki shnong ha Marih, Tlongumsong, District- East Khasi Hills, Meghlaya hapoh 10 Km ka jaka sawdong na ka mine.

Table 1.9: Demography Profile of the Study Area

S. No.	Particulars		Details
1.	No. of Villages		101
2.	Total Population		82,592
	a.	Male	40,956
	b.	Female	41,636
3.	No. of Households		17,307
4.	No. of Literates		59,248
	a.	Male	29,687
	b.	Female	29,561
5.	Main Workers		25,865
	a.	Male	17,273
	b.	Female	8,592
6.	Marginal Workers		4,099
	a.	Male	2,120
	b.	Female	1,979
7.	Non-workers		52,628
	a.	Male	21,563
	b.	Female	31,065

(Source: Census, 2011)

1.5.5 BIOLOGICAL ENVIRONMENT

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

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 KA JINGTREIKAM BAD KA JINGPEIT JINGMA

Ka jingpeit ia ka jingma ka dei ka jingpule ba dap da ka jingbamtikna bad mad jingma ha ki katno katne ki jaka. Ban peitngor ia ka jingma ka dei ban ithuh ia ki jingma ba iadei bad ka jingpyntreikam mining, bad ban sngewthuh kumno bad hangno yn shem bad ianujor ia ka jingkynduh (ha ka pisa lane ha kiwei kiwei) ha ka jingmih. Ka pyni bad nujor ia ki jingma ia ki riew shimet, ki kam bad government agencies ba lah ban ioh na ka mariang lane da ki jingjia ki briew.

Tangba kin don hi kato katne ki daw kiba lah ban pynlong kaba ma ha ki por treikam/jingmaham ha ba tih ia u mawshun (major minerals). Ia ki jait jingma la pynithuh por tih mawshun bad la pyni harum:-

1. Ba mynsaw por pynkiew, pyniaid bad bret ia u maw.
2. Ba mynsaw da ka daw bai aid kali
3. Ba rung um

Ban pyniaid bha ia ki kam ki jam, ki jingkdew harum yn bud na ka bynta ban iada na ki mynsaw ha ka mine.

Step 1: Ki jingïit ia ki jingma ba ktah na ka jingpynjot

Step 2: Ki jingïit ia ki briew ba don ha ka jingma

Step 3: Ki jingwengnoh ia ki jingjulor

Step 4: Ka jingtipbniah na ka bynta ka jingma

Step 5: Ki lad ban iada ba iadei ban shim

Step 6: Ban buh jingkhein

Step 7: Ban peit biang

1.7 KA PLAN BAN PYNIAID IA KA MARIANG

Ka jingiathuh ia ki jingja ban ktah ia ka jinglong jingman na ka jingleh mining bad ki rukom ban duna ki jingjulor la ai harum:-

Ka Jingiakynduh	Ban Pynduna ia ka jingmynsaw
Mariang Khyndew	
Ka khyndew kan sa julor namar ba tih bad bret ia ki jaboh	➢ Ka jingkyllum ban tih ia ka thliew kan long 3.1 ha., haba 1.0 ha. yn pyndonkam kum ban buh um bad kaba tam 2.1 ha. yn pyndap khyndew, ban kam biang bad pynbha daka thung jingthung.
Jinglong ka Um	
Ban pyllait ia ki um na ka mine Ka jingiakynduh ka um khyndew por pyntreikam ha ka jingtih..	Kan nym don jingpyllait na ka mine. Mine pit (1.0 ha.) kan long kum ka jaka buh um Kat kum ka Mining Plan ba la shim bad ka PMCP, ka jingheh jong ka pit (53 MSL) kan long hajrong ka um khyndew bad kan ym kynduh
Jinglong ka Lyer	
➢ Pumpum kan her por tih, por rah bad pynhiar. ➢ Ki lyer jaboh kin bha na ba iaid kali.	➢ Ia ki kali bai aid ha ka jaka treikam yn shna bad peit bha ban buh ka jingmih lyer hapoh ki adong. ➢ Ha jaka pynhap bad pynkiew bad ki lynti iaid, yn pynbuh um ban pashaid ban pynduna ka jingmih kynpum. ➢ Ha ban pyrthuh ia ka jingkylla ha ka jinglong jong ka lyer, AERMOD version 8.8.0 model la pyndonkam. Ka baheh tam ba pynkiew ia ka jingkhleh khyndew PM_{10} & $PM_{2.5}$, bad lyer jaboh NO_X & CO na ki bapher ki jaka ba tih ha ka por pule (tlang) la iohi ba ka long 21.32 µg/m^3, 6.40 µg/m^3, 9.98 µg/m^3 bad 9.89 mg/m^3. ➢ Ki jingmih kan iai don hapoh ka National Ambient Air Quality Standards na ki bynta ki kharkhana/ jaka sah briew.
Jinglong ka Jingsawa	
➢ Jingsawa na ka daw ba leh mining ➢ Jingsawa na ka daw ba iaid kali	➢ Ka jingsawa na baroh ki jaka ka long man ka por bad hatang por treikam ➢ Ka jingthew ia ka jingsawa ba la shim data ha ka jaka ka long hapoh ka adong jong ka National Ambient Noise Quality Standards ➢ Ka jingdon jong ka jingsawa ka long duna ha kane ka jaka ba la kah ki lum ki wah/ba shna kali
Jingioh Jingkot jong ki Briew	

➢ Jingaikam ➢ Jingktah ha ka jingkot jingkhiah ➢ Jaka ai pule	➢ Ka jingtreikam mining kam ktah than ia ka jingioh jingkot ki briew ➢ Kam don jingkynriah (0) ha ka jaka ba la mang ban leh mine. ➢ Kumba 61 ngut ki nongshong shnong kin ioh lad treikam ryngkat bad ka jinghikai man ka por ban pyntbit ki sap bapher. ➢ Ki rukom bathymmai ban aikam/ioh pisa yn sa ioh pynmih. ➢ Ka jingpeit ia ka jingkoit jingkhiah man ka por da ki health camp. ➢ Ka jingiarap skul bad ioh scholarship ia ki khynnah yn ai.
Jingmih ha ka Mariang	
➢ Jingktah jong ka jingkylla ha jinglong jingman jong ka mariang ➢ Ki mrad bad ki jingthung ki ban shah ktah.	➢ Ka jingpyntreikam ia ka minning kan don ka jingktah bajur bha ia ki mrad bad jingthung jingtep. Ka jinglong jong ka projek ka long ban iarap ia ki jinghung jingthep ha ka jak aba la thmu. ➢ Ki jingthung jingtep ba don ha ka jaka mining ki long ki dieng bad sanium. Kin nym shah pynthud na ka daw ka jingpyntreikam mining. Te, ka jingktah ia ki jingthung jingtep kan long kaba duna. ➢ Ki jingheh jong ki jingthung hajan bad shajan ki jaka sah. Ka jingsawa bad khih na ka daw ba pynbthei bad jingtreikam ki machine kin beh ia ki mrad na khlaw bad ki sim na ki skum hajan. ➢ Ki jaka ba kyllum bad ki jaka ba pyniakhlad ki long jah na ki jaka mariang ba kloi ban shah ktah. Te ka jingktah ia ka jinglong jingman jong ka mariang bad ki mrad ka long ba duna. ➢ Ia ka Green belt yn pynroi bad u pud u sam u riew shimet ba ai wai ban long kum ka kynroh na ki jaboh ia ka jinglong jingman ka mariang. ➢ Ka la don ruh ka jingiashimti ia ka jingthung jingtep ha ka lynti iaid kali jong u nongshimwai bad ka surok ba ia snoh lang. ➢ Ka jingpynbthei, pynsawthliew bad jingrah yn pyntreikam tang ha ka por mynsngi ban pynduna ia ka jingktah ia ka jingiaid ki mrad na khlaw. ➢ Baroh ki jingdonkam ban peit ia ka jing jaboh yn shim da u nongshimwai ban pynduna ia ka jingktah ia ka mariang ba ker sawdong.

1.8 KA PROGRAMME NA KA BYNTA BAN PYNNEH IA KA MARIANG

Ka jingiakhlad ia ka jingmang jong ka pisa na ka bynta ka Programme ban pyn neh ia ka Mariang ka long kumne harum:-

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)	--	0.75
2.	Occupational Health and Safety (Initial & Periodical Medical Check-ups)	1.5	1.25
3.	Green Belt (phase wise greenbelt development during life of mine i.e. 7 Years)	1.75	0.50
4.	Construction & Maintenance of Settling Tank, Garland Drains etc.	1.75	0.5
5.	Provision of fencing around mine pit	1.0	--
6.	Environmental Awareness Program	--	0.50
Total		**6.0**	**3.25**

1.9 JINGPYNKUT

Ia ka jingpule EIA la leh kat kum ka jingmynjur ka ToR. Ka jinglong jingman bapher jong ka mariang la peit thuh kaba iadei bad ka jingtreikam mining. Ka jingiadei bad ki jingktah la ithuh bad peitshai. Da la peit bha ki lad ki lynti ban ianujor ia ka jinglong jong ka mariang ia ka Environmental Management Plan la pynkhreh bad la buh ka pisa ba donkam. Ka EMP ka la long ba iar, ba jem bad pher man la ka por ba rai biang.

Ka projek kan pynkiew ia ka jingioh nong ia ka State Govt. bad kumjuh kan rah ia ka ioh ka kot jong ki briew shnong. Ka programme pynbha ia ka greenbelt kan iarap ban kham jyrngam shuh shuh ia ki jaka ba marjan. Kumta, ka projek ba la don kan ym ktah ia ka mariang lane ia ka jinglong jingman ki jingthung jingtep ba marjan. Ka Senior Management kan shym khia ia ka jingrai ia ka projek jong ka EMP bad ki jingpyntreikam ban pyntikna ba ka EMP ka long ba treikam bha bad biang. Kumta, ki lad ki lynti badei yn shim ban jop ia baroh ki thong ba la buh ha ka EMP bad ka projek kan sa wanrah ka jingktah babha ha ka jaka pule.

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