

KA PASOH

BAN IOH JINGBIT IA KA ENVIRONMENTAL CLEARANCE

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

IA

“UMDUBA STONE QUARRY”

Jaka: Shnong-Umduba, P.O Jorbil, P.S. Khanapara, Raid Marwet, District- Ri Bhoi,

State: Meghalaya

Jingpynmih ba lah ban pynmih: - 92,224 MTPA of ROM

Jingheh ka Jaka: - 2.22 Ha; LOI la ioh ha ka tarik 06.12.2018

Por ba Lease: - 25 Years

Jingtipbniah ia ka TOR : Issued from SEIAA, Meghalaya

Baseline data ba la pynmih : Nohprah, 2022 haduh Rymphang 2023 (Por Tlang)

Jinglut ka Project : Rs. 18.50 Lacs

PROMOTER	ENVIRONMENTAL CONSULTANT
Shri Ken Momin Umduba Killing, Raid Marwet, District- Ri Bhoi, Meghalaya	Gaurang Environmental Solutions Pvt. Ltd. #102, SNG, Shree Ratna Apartment, Peetal Factory, Jhotwara Road, Bani Park, Jaipur-302016 E-mail: gaurangenviro@gmail.com NABET Accreditation: NABET/EIA/2023/ RA0192 (Rev.02)

Project:- Umduba Stone Quarry	
Applicant:- Shri Ken Momin	Chapter – XI –Summary and Conclusion

KA PASOH

.1 JINGBATAI IA KA PROJECT.

Ka project ba la mang ka “Umduba Stone Quarry” ka don ha Umduba, P.O. Jorbil, P.S Khanapara, Raid Marwet, Ri Bhoi District (Meghalaya). Ka jingheh ka jaka ka long 2.22 Ha. Ka rukom tih ia u maw kan long da kaba shu khleng ia ka khyndew da ki kor bad da ka shu ksam shapoh bad pynpait ia u maw.

Ka Letter of Intent ba la ai ia u Ken Momin ka shithi no. KH/8/ML/Stone/69/5114 tarik 06.11.2018 na ka ophis Forest and Environment, Office of the Divisional Forest Officer, East Khasi Hills & Ri Bhoi (T) Division, Shillong. Ka jaka ba la mang na ka bynta ka mining ka don ka jingheh kumba 2.22 ha. ka mineable reserves ne ka jingdon u maw ka long 13,82,702 Tonnes ha katto ka jaka ban pynmih 92,224 MTPA of ROM.

.1.1 KA JINGLONG KA JAKA.

Ka projek ba la mang “Umduba Stone Quarry” ka don ha Umduba, P.O. Jorbil, P.S Khanapara, Raid Marwet, Ri Bhoi District (Meghalaya).

1.0 KI MAT JONG KANE KA PROJEK.

S. No.	Particulars	Details
1.	Kyrteng jong ka Project	Umduba Stone Quarry
2.	Jaka	Umduba, P.O. Jorbil, P.S Khanapara, Raid Marwet, Ri Bhoi District (Meghalaya)
3.	Jing heh jong ka jaka na ka bynta kata ka project.	2.22 Ha.
4.	Jait Jaka	Khatedari Land (Private)
5.	Latitude & Longitude	26°03’42.35”N to 26°03’50.01”N and 91°49’36.10”E to 91°49’44.03” E
6.	Ka jingpeit na ka liang ka jing Khynniuh u Jumai	Zone – V

.2 PROJECT DESCRIPTION

Ka Letter of Intent ba la ai ia u Ken Momin lyngba ka shithi no. KH/8/ML/Stone/69/5114 ha ka tarik 06.11.2018 na ka Department of Forest and Environment, Office of the Divisional Forest Officer, East Khasi Hills & Ri Bhoi (T)

Division, Shillong. Ka jaka ba lang mang ka don ka jingheh haduh 2.22 ha. ka ba don ia ka mineable reserves kaba haduh 13,82,702 Tonnes ban pynmih 92,224 MTPA. Ka rukom tih ia u mawshun kan long da kaba shu khlong ia ka khyndew da ki kor bad da ka shu ksam shapoh bad pynpait ia u maw.

.2.1 GEOLOGY

.2.1.1 Local Geology

Ka jing long jingdon u maw ka la kdew harum:-

Table 1.1: Local Geology

Age	Group	Rock Type
Recent		Weathered gneiss and reddish soil
Archaean and late-Proterozoic	Assam-Meghalaya Gneissic Complex	Biotite-gneiss, migmatite, with basic enclaves

.2.1.2 Physiography

Ka topography jong ka jaka ba la kdew ka long khohruh khohram ba ym long madam don ba long lum don ba long madan, Haka jingjrong ba jrongtam ka long 400 MSL bad haka jingjylliew ba shapoh 210 MSL. Ka nala ba don ha ka jaka ba ka kdew ka long shathie lam shatei.

.2.2 JINGTIP JONG KA JINGMIH.

A) Total Mineral Reserves	Total Reserve (Tonnes)
Mineable Proved Reserves	11,28,753
Mineable Probable Reserves	2,53,949
Total Mineable Reserves	13,82,702
B) Total Remaining Resources	
Feasibility Mineral Resources	--
Pre-Feasible Mineral Resources	3,25,799
Inferred Mineral Resources	--



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.2.3 MINING

Ka rukom tih ia u maw kan long da kaba shu khleng ia ka khyndew da ki kor ki bor bad sa kaba shu ksam shapoh bad pynpait ia u maw. Ka jingpynreikam kan long kat kum ka Mining Plan ba la ioh jingbit bad PMCP ka dei:-

- Yn pyndonkam da u Jack hammer ban ksam ia ki thliw ha ka jing jylliew ba 30 to 34 mm ka jingheh bad ka jingksam ia u maw.
- Ka jingpynpeit ia u maw kan long ha ka jingheh bad ka jingdon kam hi ha manla ka por.
- Ka jing pynbthei ia ki thliw kan long da ka ba tap ia ka thliw da ka khyndew khang ban lait na ka jingsynriet ki maw.
- Ki miej ban tih kin long beit 6m x 6m bad ban leh ha ka jaka ba la mang khnang ban bud ia ka hukum jongka Metalliferous Mines Regulation, 1961.
- Ka slope jong ka miej kan long 45° khnang ban long stabilize ka jinglong ki miej.

.2.4 KA JINGTIP JONGKA JINGMIH.

Ka jingpymih ia u mashun hapoh san snem kan long katkum ba la kdew harum:-

Table 1.2: Production Details

Year	ROM (Tonnes)	BOULDER STONE (Tonnes)	SOIL (Tonnes)
1 st Year	94,183	92,098	2,085
2 nd Year	93,965	92,198	1,767
3 rd Year	93,049	92,224	8,25
4 th Year	92,215	92,215	-
5 th Year	91,980	91,980	-
Total	4,65,392	4,60,715	4,677

.2.5 LAND USE PATTERN

Ka jingpyndonkam ia ka jaka ba la kdew na ka bynta ban tih ia u marpoh khendew ka kynthup ia ka jing khleng iaka khyndew ba tap najrong, nangta pynpait ia u maw ba la paw hajrong hadien ba la dep pynkhuid ia ka khyndew bad kan long kum ba la kdew harum:-

Table 1.3: Land Use Pattern

S. No.	Land Use Category	Pre-Operational (Ha.)	Operational (Ha.)	Post-Operational (Ha.)
1	Dump	00	0.10	00
2	Pit & Quarry Area	00	0.88	00
	Excavation (Voids Only)	00	00	00
	Reclamation (Backfilled)	00	00	1.49



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3	Road	00	0.02	00
4	Infrastructure	00	00	00
5	Afforestation	00	0.24	0.73
6	Mineral Storage	00	00	00
7	Sub – grade stack yard	00	00	00
8	Undisturbed Area	2.22	0.98	00
Total		2.22	2.22	2.22

.3 KA JINGLONG 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 hynriew jaka ha ka jaka ban pule/peit thuh. Ia ka baseline data la shimm ha ka por tlang (Lber' 2022 haduh Jymmang, 2022). Ia ka jingbatai bniah ha kine ki jaka la ai harum:-

Table 1.4: Sampling Location

Sampling Location	Distance (Km)	Direction	Components
Mine Site	--	--	Air, Water, Noise, Soil
Tamulikuchi	4.8	ENE	Air, Water, Noise, Soil
Bymihat	1.2	ESE	Air, Water, Noise, Soil
Morang Dala	4.5	SE	Air, Water, Noise, Soil
Imsohma	2.7	SSW	Air, Water, Noise, Soil
Malkhull	2.6	WNW	Air, Water, Noise, Soil
Khanapara	1.5	NNW	Air, Water, Noise, Soil
Khaddum	0.95	North	Air, Water, Noise, Soil

.3.1 KA JINGLONG JINGMAN KA JAKA:

.3.1.1 Ka Jinglong ka Khyndew:

Ki symboh khyndew la shim na ki phra jaka bad ha ka jingpait bha ia ka jingshong ka khyndew ka long harum:-

pH	:	7.12 to 7.65
Soil Conductivity	:	364 to 427 μ mhos/cm
Total Nitrogen (N)	:	161 kg/ha. to 360 kg/ha.
Phosphorus as P	:	56 kg/ha to 59 kg/ha.
Potassium as K	:	236.00-248.50 (mg/kg)



.3.2 JINGLONG JINGMAN KA UM:-

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

Table 1.6: Water Quality Status



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S.N o.	Parameter	Units	Requirem ent (Desirable Limits).	Permissible Limits in the Absence of Alternate Source.	Mine Site	Tamuli kuchi	Byrni hat	Morangdala	Imsohma	Maikhuli	Khana para	Khad dum
Organoleptic & Physical Parameters												
1.	Colour	Hazen Unit	5	15	<1.0	<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	Agreeable
3.	Taste	-	Agreeable	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4.	Turbidity	NTU	1	5	<1.0	<1.0	<1	<1	<1.0	<1.0	<1	<1
5.	pH value	-	6.5-8.5	-	7.54	7.16	7.35	6.98	7.48	7.18	6.93	7.22
6	Total Dissolve Solid (TDS)	mg/l	500	2000	389.2	321.0	402.0	241.9	325.0	380.0	260.0	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	<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	<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	<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	<0.10
11	Boron (as B)	mg/l	0.5	2.4	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
12	Calcium(as Ca)	mg/l	75	200	56.95	56.95	54.32	61.47	65.27	56.82	52.39	58.20



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13	Chloramines (as Cl ₂)	mg/l	4.0	No Relaxation	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
14	Chloride (as Cl)	mg/l	250	1000	15.73	14.62	14.69	13.95	16.26	14.39	13.82	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	<0.05
16	Fluoride(as F)	mg/l	1.0	1.5	0.38	0.31	0.28	0.32	0.29	0.30	0.28	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	<0.1
18	Iron (as Fe)	mg/l	1.0	No Relaxation	0.129	0.124	0.132	0.129	0.128	0.121	0.120	0.129
19	Magnesium (as mg)	mg/l	30	100	3.84	3.79	4.10	4.18	3.92	4.06	3.65	4.08
20	Manganese (as Mn)	mg/l	0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<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	<0.50
22	Nitrate (as NO ₃)	mg/l	45	No Relaxation	0.32	0.31	0.30	0.32	0.33	0.31	0.30	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	<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	<0.05
25	Sulphate (as SO ₄)	mg/l	200	400	26.75	24.65	26.82	26.83	25.81	23.92	22.87	28.14
26	Sulphide(as H ₂ S)	mg/l	0.05	No Relaxation	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
27	Alkalinity(as Ca	mg/l	200	600	201.0	194.0	187.0	187.0	189.0	176.0	179.0	196.0

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	CO ₃)											
28	Total Hardness (as CaCO ₃)	mg/l	200	600	174.0	167.0	164.0	165.0	173.0	161.0	160.0	172.0
29	Zinc (as Zn)	mg/l	5	15	0.162	0.159	0.151	0.148	0.162	0.154	0.152	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	<0.01	<0.01	<0.01
31	Cyanide (as CN)	mg/l	0.05	No Relaxation	<0.01	<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	<0.001	<0.001	<0.001
33	Lead (as Pb)	mg/l	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
34	Mercury (as Hg)	mg/l	0.001	No Relaxation	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
35	Molybdenum (Mo)	mg/l	0.07	No Relaxation	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
36	Nickel (as Ni)	mg/l	0.02	No Relaxation	<0.01	<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	<0.0001	<0.0001	<0.0001
38	Poly chlorinated biphenyl	mg/l	0.0005	No Relaxation	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Microbiological Parameter												
39	Escherichia coli	Absent/100ml			Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
40	Coliform Bacteria	Absent/100ml			Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent



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3.3 JINGLONG JINGMAN 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 (PM₁₀, PM_{2.5}, NO_x, SO₂ and CO) ha ki phra jaka ba don ki ambient air quality monitoring stations.

3.3.1 Jingpeit Bniah ia ka Jinglong ka Lyer:

Ka Ambient air quality monitoring la pyniaid shakhmat ha ka por ar sien shi taiew ha ki phra jaka ha kawei ka aiom kata naduh Nohprah' 2022 haduh Rymphang' 2023. 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 (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	CO (mg/m ³)
1.	Mine Site	Min	40.29	13.68	3.93	5.25	0.47
		Max	57.14	20.92	6.18	8.29	0.59
		Avg.	44.27	16.33	5.34	6.80	0.53
		98th% ile	55.35	20.57	6.11	8.26	0.59
2.	Tamulikuchi	Min	40.26	15.43	5.37	6.55	0.32
		Max	54.36	22.43	7.67	8.69	0.92
		Avg.	45.65	17.76	6.10	7.45	0.57
		98th% ile	53.38	22.06	7.64	8.64	0.90
3.	Byrnihat	Min	32.58	13.79	4.8	6.14	0.45
		Max	50.75	22.4	6.5	8.86	0.55
		Avg.	41.31	17.29	5.63	7.45	0.51
		98th% ile	50.18	22.37	6.41	8.69	0.55
4.	Morang Dala	Min	36.02	13.76	4.33	7.09	0.46
		Max	49.15	20.84	8.44	12.64	0.79
		Avg.	45.87	18.12	7.22	9.58	0.62
		98th% ile	48.92	20.40	8.43	12.64	0.78
5.	Imsohma	Min	32.69	22.61	4.24	8.43	0.47
		Max	48.69	27.54	8.14	10.46	0.82
		Avg.	45.76	24.44	6.00	9.43	0.58
		98th% ile	48.58	27.17	7.72	10.46	0.81
6.	Malkhull	Min	35.41	14.32	5.35	8.54	0.47
		Max	45.02	21.38	7.89	10.98	0.85

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		Avg.	40.98	16.62	6.89	9.95	0.62
		98th% ile	44.61	21.22	7.89	10.98	0.82
7.	Khanapara	Min	40.92	16.72	5.03	8.84	0.48
		Max	53.4	23.84	7.54	10.9	0.92
		Avg.	44.97	18.79	6.18	9.80	0.70
		98th% ile	51.48	23.38	7.51	10.89	0.89
8.	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
NAAQ STANDARDS			100	60	80	80	2

1.0.1 Jinglong Jingman Jongka Jingsawa.

- 2 Ka jingthew ia ka jingsawa la pyniaiad ban tip bha ia ka jinglong ka jingsawa ha ki phra jaka ban pule. Ka jingthew ia ka jingsawa ha man ki jaka la shim 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 (6.00 AM to 10.0PM)	Night Time (10.00 PM to 6.00 AM)
Mine Site	08.12.2022	56.6	35.5
Tamulikuchi	24.12.2022	51.4	38.1
Byrnihat	05.12.2022	52.6	40.5
Morang Dala	04.01.2023	50.0	35.6
Imsohma	18.01.2023	53.6	40.3
Maikhuli	23.01.2023	54.8	42.0
Khanapara	01.02.2023	52.5	38.5
Khaddum	06.02.2023	54.1	37.8
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



2.0.1 Ka jingioh jingkot jong ki briew:

Ka jaka pule ka kynthup ia 58 ki shnong ha Umduba, P.O. Jorbil, P.S. Khanapara, Raid Marwet, District- Ri- Bhoi, State- Meghalaya 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	58
2.	Total Population	31183
	a. Male	15909
	b. Female	15274
3.	No. of Households	6369
4.	No. of Literates	19611
	a. Male	10648
	b. Female	8963
5.	Main Workers	10241
	a. Male	7362
	b. Female	2879
6.	Marginal Workers	2622
	a. Male	1117
	b. Female	1505
7.	Non-workers	18320
	a. Male	7430
	b. Female	10890

(Source: Census, 2011)

.3.4 Jingmih ha ka Mariang:

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

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Butterflies – 28 Species

Mammals – 27 Species

.4 KA JINGPYNKHREH BAD BAN TEHLAKAM NA KA JINGJOT JONGKA MARIANG.

The summary of anticipated adverse environmental impacts due to the existing mine and mitigation measures are given below:-

Impact	Mitigation Measures
Jinglong bad ka jingpynkhreh na ka bynta Jaka	
Ka khyndew kan sa julor namar ba tih bad bret ia ki jaboh.	Ka jingkyllum ban tih ia ka thliw kan long 1.49 yn pyndap khyndew, ban kam biang bad pynbha daka thung jingthung ban pynkhie im ia ka mariang.
Jinglong bad ka jingpynkhreh na ka ban ym pynjaboh pynjaklia ia ka um Um	
Ban pyllait ia ki um jakhlia na ka Jaka Trei. Ka jingiakynduh ka um khyndew por pyntreikam ha ka jingtih.	Kan nym don jingpyllait um jakhlia na ka jaka tih. Kat kum ka Mining Plan ba la shim bad ka PMCP, ka jingheh jong ka pit (290 MSL) kan long hajrong ka um khyndew bad kan ym kynduh.
Jinglong bad ka jingpynkhreh na ka ban yn ym pynsniew Lyer	
Pumpum kan her por tih, por rah bad pynhiar. Ki lyer jaboh kin bha na ba iaiaid 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 iaiaid, yn pynbuh um ban pashaid ban pynduna ka jingmih kypum. ➤ 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 PM₁₀ & PM_{2.5}, NO_x & CO na ki bapher ki jaka ba tih ha ka por pule (tlang) la ioi ba ka long 4.03897 µg/m³, 3.00038 µg/m³, 0.04616 µg/m³ bad 0.000013 mg/m³. ➤ Ki jingmih kan iai don hapoh ka National Ambient Air Quality Standards na ki bynta ki kharkhana/ jaka sah briew.
Jinglong bad ka jingpynkhreh na ka bynta Jingsawa	



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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.
Ka Jingioh Jingkot ne Ka Jingiarap na ka bynta ki Briew	
➤ Jingiohkam ➤ Jingpeit bniah iaka 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 21 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	
➤ Jingtah 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 jingtah 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 jingtah ia ki jingthung jingtep kan long kaba duna. ➤ Ka jingkit ia ki jaboh kan ktah ia sawdong ha ka pum pum kan ktah ia ki jingmih jingim sawdong. ➤ Ki pum pum ha lyer, ba mih na jaka trei, ynda ki lah don ha ki sla ki jingthung ha sawdong ki jaka ka ktah ia ka jingheh jongki. ➤ Ki jingheh jong ki jingthung hajan bad shajan ki jaka sah. Ka jingsawa bad khiih 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 kloii ban shah ktah. Te ka jingtah 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 iaiaid 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.

.4.1 KI KYNDON HA JINGPEIT BNIAH NA KA BYNTA KA MARIANG

.4.2 KA LYER

Ka jingpeit ia ka lyer sawdong kan long ha ka kyndon jong ka SPCB and CPCB.

.4.3 KA UM

Ka jing peit ia ka rukom long ka um ka long ha man la ka por ha ki jaka bapher bapher, bad ka jingpynlum ia ka um kan long saw sien ha ka snem katta Pyrem, Lyiur, Synrai bad Tlang.

.4.4 KA JINGSAWA

Kam jingthew ia ka jingsawa yn shim ha jaka trei bad hajan ka machines ha ka por mynsngi bad ka por mynmiet.

11.4.4 KA JINGPEIT BNIAH IA KA JINGKOIT JINGKHAH.

Ka jingpeit ia ka jingkoit jingkhiah man ka por da ki health camp. Ki painkana ban shna hajan ki jaka ba biang and ki Jaka ban dih um ban shna na ki bynta kiba trei.

.5 KIWEI KIWEI DE KI JINGPEITBNIAH.

11.5.1 JINGPYNSNGEW PAIDBAH

Ia ka jingpynsngew paidbah kan long katkum ka EIA Notification 14th September, 2006 bad kat kum ka ain.



11.5.2 KA JINGTREIKAM BAD KA JINGTEHLAKAM IA KI 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 sgewthuh 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 maw (minor 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 jinggit ia ki jingma ba ktah na ka jingpynjot

Step 2: Ki jinggit 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 bian

.6 PROJECT BENEFITS

Ka jing donkam ia u mathup kala nang kiew ha ka jylla jongngi namar ka jingmih jong ki company bad ka jingtrei ban pynbha pynmiat ia ka shnong ha ki project ba ha rukom bad ban pyndap ia ki. Ka jing lah ban pynmih ia u maw ka long 92,224 TPA (max), ha ka jingkhmih lynti ban dap ha ka jing donkam.

Ka jingdon kane ka projek ka iarap ban pynioh kam ne pynkiew ia ka jingioh jingkot ki briew kiba trei hapoh kane ka project ne ia kiba shabar ruh. Ka jingkiew jongioh jingkot ka kane jaka ha ka liang ka jingpule puthi, jingkoit jingkhiah, ai jinghikai, Ki jingpynsgewthuh, ka iaaid ki kali, ki jaka shna kali, karkhana bad ki jingshna ban pynbiang ia ka iaaid ka ieng kiba ha rukom. Ka rukom im kan long kaba shngain bad kan long kaba bha, ka jing thung ia ki dieng kan long na ka office jong ka Social Forestry ha shnong, school bad ki jaka ba la pynbeit na ka shnong ne ka jylla na ka bynta ka jingbha ka mariang.

Project:- Umduba Stone Quarry

Applicant:- Shri Ken Momin

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.7 ENVIRONMENTAL MANAGEMENT PLAN

Environmental Management Plan (EMP) ka don ia ka jingthmu ban pynneh pynsah ia ki jingim ba im bad ruh ia ka mariang da ka bud ia ki kyndon ba la buh na ka bynta ban pyntrei kam ha ka jaka jong kane ka projek. Kan don ka jing peit bniah na ka bynta ka jinglong jingman ka mariang.

.7.1 LAND USE MANAGEMENT

Ki mat ban pynkhie im biang ia ka jaka kan long kumne harum:

- 1) Ha kaba kut ka jingdon u maw, ka jingheh jong ka jingtih ia ka jaka kan long 1.49 ha.
- 2) Lah mang ban ban thung dieng kan long 2.22 ia ka ban ha ki jaka pyndap kan long 1.49 ha. bad ki jaka bym trei kan long 0.73 ha.

.7.2 WATER POLLUTION MANAGEMENT

Ki Katto katne ki kyndon ban tehlakam ia ka jingpyn jakhlia ia ka um ki long kumne harum:-

- Hadien ba la dep peit bniah bha, kaei ba dei ban leh hap ban leh.
- Ka jingthew ia ka jingkieu jing hiar ka um bad ban pyndonkam ia ka um ka jing don ka thliw um ne ka jaka buh ia ka um dei ban don.
- Ka jingpeit bniah bad pule bniah ia ka jinglong jing man ka um ha manla ka por.
- Ki jaboh jong ka um kin leit beit sha septic tank bad filter sha thliw.

.7.3 AIR POLLUTION MANAGEMENT

Ka jingbud ia ki kyndon ban tehlakam ia ka jingsniew ka lyer ki long harum:-

- Ka jingsted jong ki kali hap ban peit bniah bad kin leit beit da kajuh.
- Ka jingpeit bniah ia ka jingpynmih tдем ki kali bad ki kot kali ba biang.
- Ka jing iaid ne jingmih ki kali na jaka trei kin long ba baing khnang ba kan yn ym pynthud ia ka leit ka wan ki nongshong shnong.
- Ki kali ba kit ia ki mar dei ban tap da ki trapal.
- Ban yn ym shah ban kit sha ba palat ban lait na ka jinghap sha surok.
- Ban pynbha ia ka surok.
- Ka jingtista ban pynkhuid ka iarap ia ka lyer ban lait na ki pum pum.
- Ka jing pynsynried um sha ka surok khnang ban lait na ka jingsniew jong u surok.



- Ka shna ia ka jingiada na rud surok ban iada ha ba don pum pum.
- Ia u speed breaker yn shna khnang ban tehlakam ia ka jing pynstet kali. Tangba, ka jingmaham ia ka jingpynstet ia ka kali kan sa don.
- Ka jingtista ba peit bniah bad pule bniah ia ka jinglong jingman ka lyer kan long ha man la ki por. Lada ka jinglong jingman ka lyer ka long palat ia kaba dei ban long, kaei kaba donkam ban leh naka bynta ka jingbha dei ban leh.

.7.4 NOISE POLLUTION MANAGEMENT

Ki kyndon ban tehlakam ne pynduna ia ka jing mih ka jingsawa ki long harum:-

- Ka jingmih ka jingsawa kan tang ha ki por mynsngi por trei khnang ban lait na ka jingthud ia kiba don shajan.
- Ka jingpeit bniah ia ka rukom long ki kali ki machine kan long ha man la ki por bad ban kylliang ia kiba dei ban kylliang.
- Ka jing pynbha ia ki kali ka long kaba donkam bad yn ym shah ban kit palat pud.
- La maham iaka jingpynsted kali ha kaba iadei bad u surok bad ki surok shnong.
- Ka jingpeit bniah ia ka rukom mih ka jingsawa kan long ha man la ka por khnang ban lait na ka jingpynthud ha ka jingiadei bad ka jingmih jongka jingsawa.
- Personal Protective Equipments i.e., earmuffs and earplugs ban pynbiang ia ki nongtrei khnang ban lait na ka jingsawa kaba khlain.
- Ka jingpeit na ka jingkoit jingkhiah kan long ha man la ka por na ka bynta ki nong trei ban lait na ka jingshah ktah ha ka jingsawa ba mih.
- Ka jingsawa ba mih por trei kan pyni ha ki kor ki bor khnang ban tehlakam ia ka jingkhlain bor ka jingsawa ba mih ha ka por trei.

.7.5 OCCUPATIONAL HEALTH AND SAFETY

- Ban lait jingma ia ka koit ka khiah ki nongtrei na ki pum pum, jingsawa, bad kiwei kiwei de ki lad jingiada dei ban don ha ka jaka trei.
- Ban tista ban peitbniah ia ki tiar ki machine ba pyntri katkum ka rukom ba ki lah shna ia ki.
- Ban ai ia ki personal protective equipment ia ki nongtrei ha jingtrei.



- Ban pait bniah ia ka koit ka khiah ki nongtrei ha manla ki por.
- Ka jingia pynsgewthuh ia ki nongtrei ka donkam.

.1.1 SOCIO-ECONOMIC MANAGEMENT

- Ki Sahep kiba dei peit ia ka mariang ki dei ban peit ia jinglong jingman khnang ba kan ym kthah ia ka mariang.
- Kumba 21 ngut ki trai shnong kin ioh trei be it directly bad kum 10-15 kin ioh indirectly.
- Ka jingioh trei bad ka jinghikai ki bapher bapher khnang ban iarap kam ia ki trai shnong.
- Ka jing ioh trei ki trai shnong ka long ka jingpynshisha. Ia kito kiba lah ioh jinghikai kin thep hadien ba lah pynheh ia ka rukom trei.
- Ka jingpeit bniah ia ka koit ka khiah kan long ha manla ki por.

.1.2 BIOLOGICAL MANAGEMENT

Ym don jingma ban ktah ne ki jingma ia ki jingim ban mih na ka jaka trei (mining activity). Tangba, ka jingpeit bha bad ka jingthung ia ki dieng kan don khnang ban tehlakam ia ki jingma ia ka mariang bad ki jingim ba don ha ka.

.2 KA JINGPYN KUT:

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.

