

**JINGTHOH LYNGKOT
SHAPHANG
KA JINGKTAH IA KA MARIANG
BAD
KA JINGPLAN NAKA BYNTA KA MARIANG**

Na ka bynta

**LUMSHNONG LIMESTONE MINES
LUMSHNONG, JAINTIA HILLS DISTRICT
MEGHALAYA
(Ha ka jaka wai parmaw kaba 70.00 HA.)**

La thoh na ka bynta

**M/S CEMENT MANUFACTURING COMPANY LIMITED
LUMSHNONG, JAINTIA HILLS DISTRICT
MEGHALAYA**

La pynkhreh da



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KATHUP

| Sl. No. | Lynnong | Page No |
|----------------|---|----------------|
| 1 | Shaphang ka Project | 1 |
| 2 | Jinglong jong ka mariang | 2 |
| 3 | Ka jingktah iaka mariang bad ki rukom jingiada. | 5 |
| 4 | Ka program ban peit bniah ia ka mariang. | 7 |
| 5 | Ki wei pat ki Jingwad jingtip shuh shuh | 7 |
| 6 | Ki jingmyntoi jong ka Project | 7 |
| 7 | Ka plan na ka bynta ka mariang | 8 |

| Dur. No. | Ki Map | Page |
|-----------------|-----------------------|-------------|
| 1 | Ka jaka | 1 |
| 2 | Ka jingaiwai | 1 |
| 3 | Ka jingring dur | 1 |
| 4 | Wind Rose diagram | 2 |
| 5 | Ka nuksa jong ka jaka | 2 |
| 6 | Post closure Plan | 7 |

JINGKYNTHOH LYNGKOT

1. SHAPHANG KA PROJECT

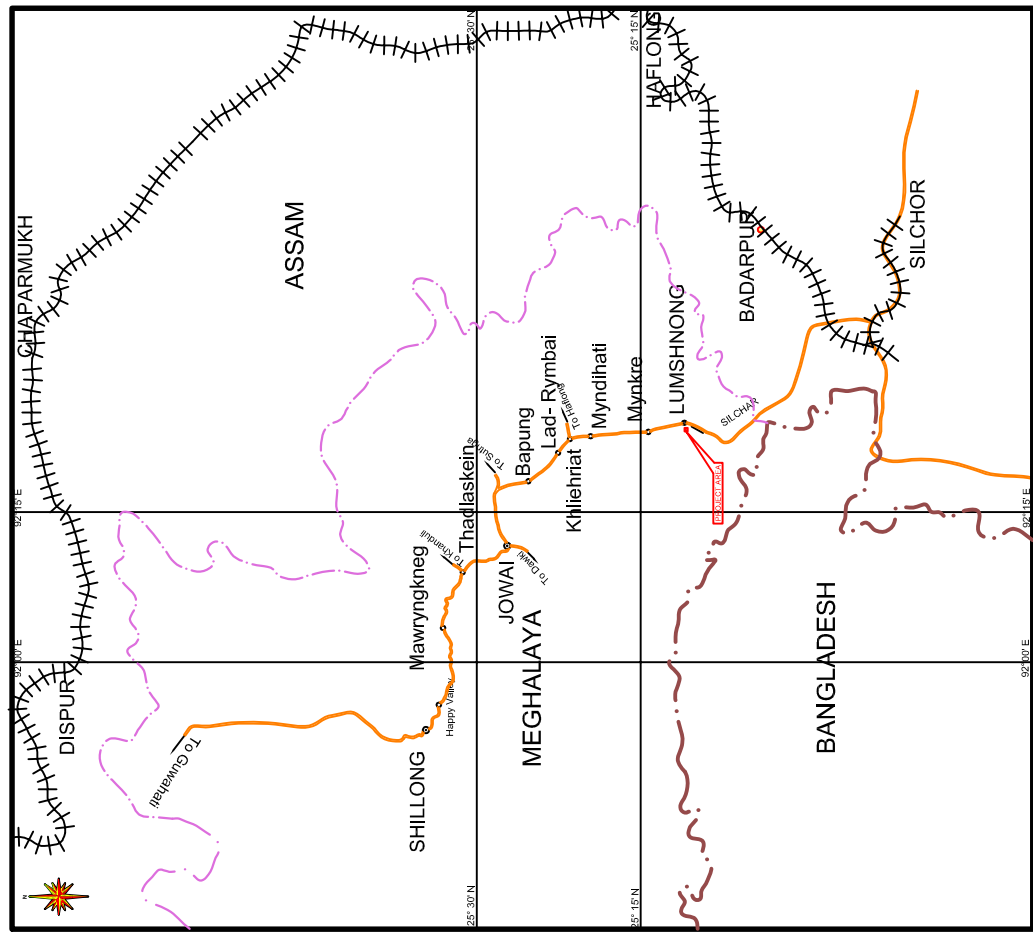
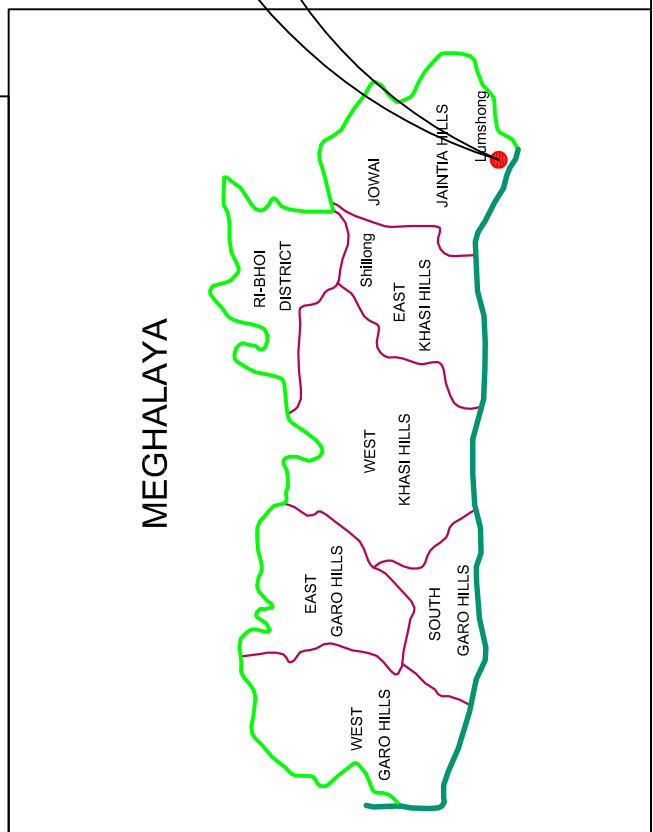
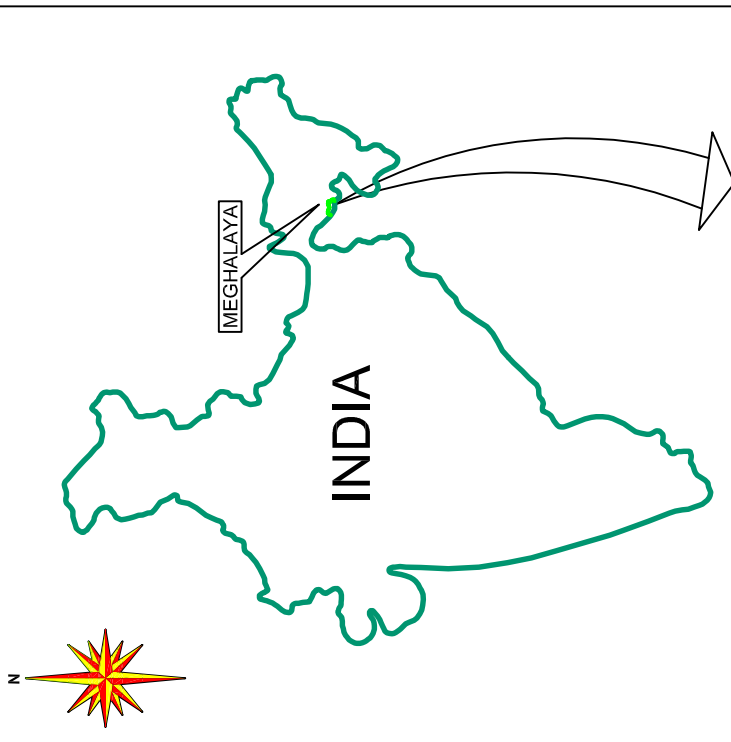
Ka jingshim wai par mawshun naka bynta ka project ha Lumshnong ka jaka kaba don 70ha ka jingheh la ai da ka sorkar Meghalaya lyngbaka shithi MG/54/2009/190 tarik 22.12.2009 ia ka M/s Cement Manufacturing Company Limited kaba long ka public limited company. Ka jaka project ka dei ha ka jaka shimet. Hangta ym don khlaw. The jingtih maw kan long katkum ki kyndon ba la mynjur haka plan. Ka jingtih maw naka bynta 2010-2011 haduh 2014-15 laphah sha ka IBM, jongka sorkar India. TOR la shah ruh daka MOEF, jongka sorkar India na ka bynta ban pynmih haduh 9,00,450 MT katkum ka jingwad bniah balah ban pynmih. Kane ka dei ka jingpan tihmaw ka ba thymmai. Ki maw na kane ka par yn pyndon kam beit tang ha karkhana jong ka kompani. Ka Cement Manufacturing Company Ltd (CMCL) kala ioh ISO9001:2000 la pynrung ia ka kum ka Public Limited Company haka 2nd Naiwieng 2001, ka Registered office bad jingtreikam ha Lumshnong, Jaintia Hills district, Meghalaya. CMCL la ai licence ban seng ia ka 900 TPD cement plant ha Lumshnong village, Jaintia Hills district Meghalaya daka sorkar ha u 2002. Ka jingheh jongka karkhana kaba 2400 tpd la pynheh ha ki ar bynta. Naka bynta ka jingpynheh ka ba ar naka 1800 shaka 2400 ha ka ba ia dei bad ka jingai jing bit na ka bynta ka mariang la shah da ka SEIAA ha ka shithi SEIAA/ Project-6/ 2008 / 23 tarik 16.03.2010.

Ka jingdon jongka jaka (Dur 1)

| | |
|---------------|---|
| State | Meghalaya |
| District | Jaintia hills |
| Village | Lumshnong |
| Lease Area | 70 ha |
| Toposheet No. | 83C/W |
| Latitude | 25 ⁰ 10'05" to 25 ⁰ 10'32"N |
| Longitude | 92 ⁰ 21'46.4" to 92 ⁰ 22'25.6"E |
| Altitude | 498 m AMSL to 630m AMSL |

Ymdon surok lymne lynti rel hapoh kane ka jaka shimwai. Kane ka jaka ka don kumba 1.5 km shaphang sepngi naka N.H-44 ka ba pynia soh ia ka Shillong sha Silchar. Ka station rel ka ba jan eh ka don ha Badarpur haka Guwahati-Lumding-Silchar meter gauge section jongka N.E.F. Railway kumba 80km na Lumshnong. **Dur. 1.** Ka dur jong ka jaka shimwai ka ka don ha ka **Dur 2.** Ka jaka ba shimwai bad ki thain jongka ki long kiba khohruh khohram bad longlum. Ka jingkiew jinghiar ka lain jong ki lum bad ki them kaba bun eh (Maximum) bad ba duna(Minimum) eh ka long 630m and 498m. Ka bynta shaphang shatei jong ka jaka ka long kham lum ban ia kaba shaphang shathie lane sepngi.

Ka nala lynti iaid um por slap ka don na shaphang shatei bad tuid shathie jong ka jaka. Kane ka nala ka iasoh bad ka wei pat ka nala ba tuid na mihngi-sepngi ka jingjngai kaba 700m shaphang shathie jong ka jaka.







LUMSHONG LIMESTONE DEPOSIT
 OVER AN AREA 70.00 HECTARES
 IN JAINTIA HILLS DISTRICT, MEGHALAYA.

M/S C.M.C LTD.

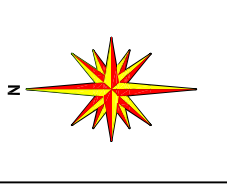
LOCATION PLAN

Prepared by:- GEOMIN CONSULTANTS(P) LTD.
 267, KHARAVELA NAGAR, BHUBANESWAR

I N D E X

-  PROJECT AREA
-  ROAD
-  RAILWAY
-  STATE BOUNDARY





GTS BENCH MARK
RL-550M
(BEARING - 195° 36')

LAND DETAILS

| SL. NO. | LAND HOLDER | AREA (Ha) | SYMBOL |
|---------|-----------------|-----------|--------|
| 1. | C.M.C.L | 4.241 | |
| 2. | EMLANG LAMARE | 32.821 | |
| 3. | COMPASS RYMBAL | 0.630 | |
| 4. | C.M.C.L | 2.308 | |
| 5. | SIMON SIANGSHAI | 30.000 | |
| | TOTAL | 70.000 | |

I N D E X



M.L. BOUNDARY

**LUMSHNONG LIMESTONE DEPOSIT
OVER AN AREA 70.00 HECTARES
IN JAINTIA HILLS DISTRICT, MEGHALAYA.**

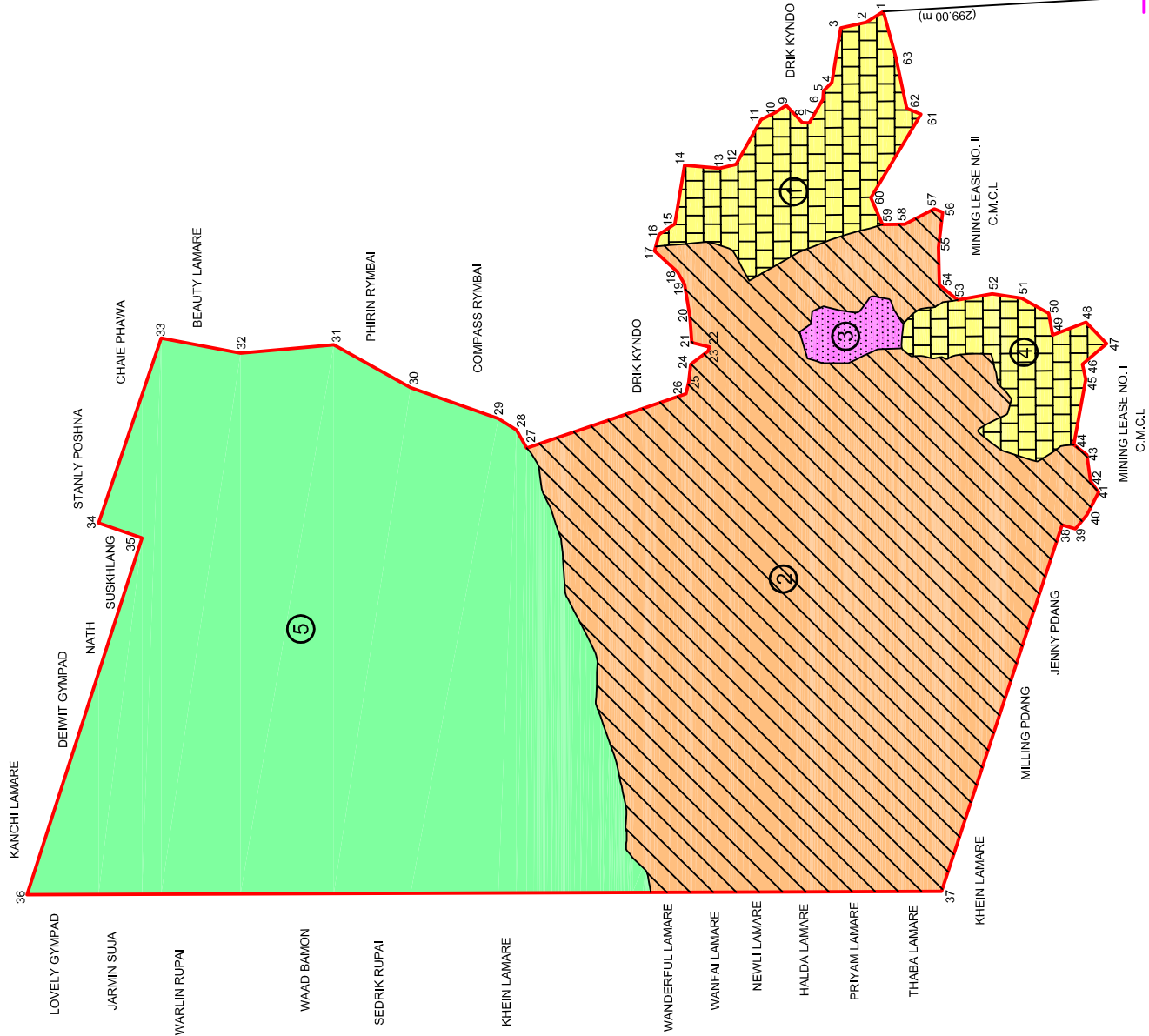
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LEASE PLAN

Prepared by:- **GEOMIN CONSULTANTS(P) LTD.**
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FIG. NO - 2.3



P1 BENCH MARK
RL-527.91M
(BEARING - 357° 30')

(1216.66 m)

(299.00 m)

LOVELY GYMPAD

JARMIN SUJA

WARLIN RUPAI

WAAD BAMON

SEDRIK RUPAI

KHEIN LAMARE

WANDERFUL LAMARE

WANFAL LAMARE

NEWLI LAMARE

HALDA LAMARE

PRIYAM LAMARE

THABA LAMARE

KHEIN LAMARE

JENNY PDANG

MILLING PDANG

WANDERFUL LAMARE

WANFAL LAMARE

NEWLI LAMARE

HALDA LAMARE

PRIYAM LAMARE

THABA LAMARE

KHEIN LAMARE

JENNY PDANG

MILLING PDANG

WANDERFUL LAMARE

WANFAL LAMARE

NEWLI LAMARE

HALDA LAMARE

PRIYAM LAMARE

THABA LAMARE

KAICHI LAMARE

DEIWIT GYMPAD

NATH

SUSKHLANG

STANLY POSHINA

CHAE PHAWA

BEAUTY LAMARE

PHIRIN RYMBAL

COMPASS RYMBAL

DRIK KYNDO

DRIK KYNDO

JENNY PDANG

MILLING PDANG

WANDERFUL LAMARE

WANFAL LAMARE

NEWLI LAMARE

HALDA LAMARE

PRIYAM LAMARE

THABA LAMARE

KHEIN LAMARE

JENNY PDANG

MILLING PDANG

WANDERFUL LAMARE

WANFAL LAMARE

NEWLI LAMARE

HALDA LAMARE

PRIYAM LAMARE

THABA LAMARE

KHEIN LAMARE

JENNY PDANG

LOVELY GYMPAD

JARMIN SUJA

WARLIN RUPAI

WAAD BAMON

SEDRIK RUPAI

KHEIN LAMARE

WANDERFUL LAMARE

WANFAL LAMARE

NEWLI LAMARE

HALDA LAMARE

PRIYAM LAMARE

THABA LAMARE

KHEIN LAMARE

JENNY PDANG

MILLING PDANG

WANDERFUL LAMARE

WANFAL LAMARE

NEWLI LAMARE

HALDA LAMARE

PRIYAM LAMARE

THABA LAMARE

KHEIN LAMARE

JENNY PDANG

MILLING PDANG

WANDERFUL LAMARE

WANFAL LAMARE

NEWLI LAMARE

HALDA LAMARE

PRIYAM LAMARE

THABA LAMARE

KAICHI LAMARE

DEIWIT GYMPAD

NATH

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WAAD BAMON

SEDRIK RUPAI

KHEIN LAMARE

WANDERFUL LAMARE

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NEWLI LAMARE

HALDA LAMARE

PRIYAM LAMARE

THABA LAMARE

KHEIN LAMARE

JENNY PDANG

MILLING PDANG

WANDERFUL LAMARE

WANFAL LAMARE

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HALDA LAMARE

PRIYAM LAMARE

THABA LAMARE

KHEIN LAMARE

JENNY PDANG

MILLING PDANG

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WAAD BAMON

SEDRIK RUPAI

KHEIN LAMARE

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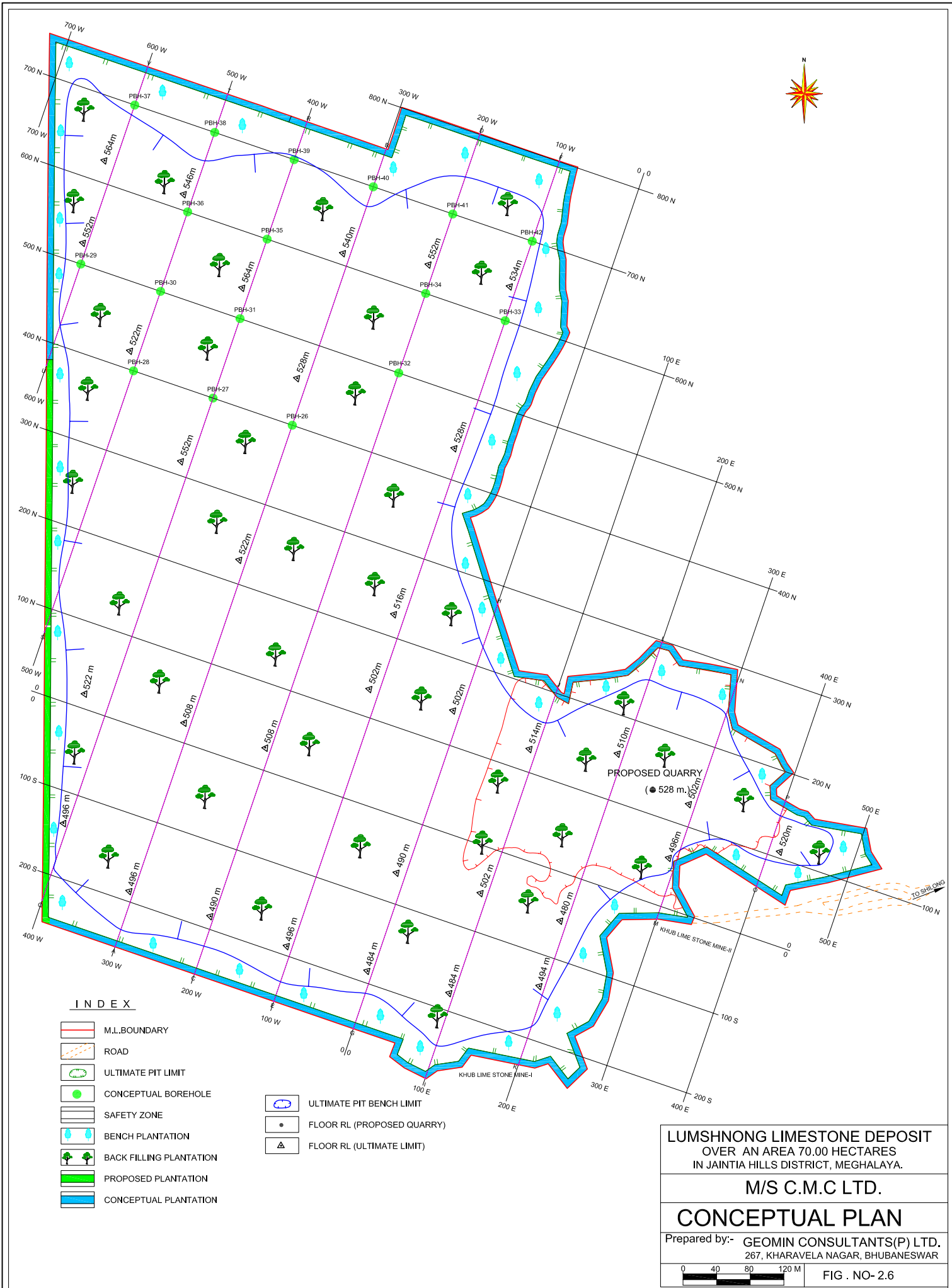
NEWLI LAMARE

HALDA LAMARE

PRIYAM LAMARE

THABA LAMARE

KHEIN LAMARE



INDEX

- M.L. BOUNDARY
- ROAD
- ULTIMATE PIT LIMIT
- CONCEPTUAL BOREHOLE
- SAFETY ZONE
- BENCH PLANTATION
- BACK FILLING PLANTATION
- PROPOSED PLANTATION
- CONCEPTUAL PLANTATION
- ULTIMATE PIT BENCH LIMIT
- FLOOR RL (PROPOSED QUARRY)
- FLOOR RL (ULTIMATE LIMIT)

LUMSHNONG LIMESTONE DEPOSIT
 OVER AN AREA 70.00 HECTARES
 IN JAINTIA HILLS DISTRICT, MEGHALAYA.

M/S C.M.C LTD.

CONCEPTUAL PLAN

Prepared by:- **GEOMIN CONSULTANTS(P) LTD.**
 267, KHARAVELA NAGAR, BHUBANESWAR

0 40 80 120 M **FIG . NO- 2.6**

Ka jingdon u marpoh khyndew ka long kumne harum.

| | U marpoh khyndew kumba don (Tonne) | | | U maw ba lah ban tih (Tonne) | | |
|------------|------------------------------------|-------------|------------|------------------------------|-------------|------------|
| | Tikna | Lah ban don | Baroh | Tikna | Lah ban don | Baroh |
| Lime Stone | 26,998,200 | 36,588,375 | 63,586,575 | 24,618,150 | 3,31,98,075 | 57,816,225 |

Katkum na ka jingsam thliw ha ki par maw, la wad jingkein ia u maw la u long u babha ne em.

Yn shu tih opencast da ka ba pyndonkam ia ki tiar ka juk mynta da ka ba pyntrei ha ki ar rukom ki jing trei(shift). Ki tiar ki tar/ ki kali, crawler drill, air compressor, hydraulic excavators, dumpers bad kiwei kiwei yn pyndon kam. U mawshun bad u shyiap mawshun OB yn pynpait da ka crawler drill bad blasting. Ia u maw bad u shyiap yn pyndon kam da ki dumper/ truk tipper bad excavator. Ka kynjang bad jingiar jong ki kyndon (bench) kan long 6m la 15m. ka sharing kan long 22° katba kyllum lang ka sharing kan long 45°. Ka jingtih mawshun kan long 9,00,450 TPA. Katkum kane ka jingpynmih, ka por kut jongkane ka parmaw kan long 66 snem kynthup 5 snem jong ka plan bad 61 snem jong ka por bym plan. The jinglut naka bynta ka ne ka project kan long Rs. 6.65 crore. U shyiap maw OB baroh un mih 3.645 Million Cum katkum kapor shimwai kynthup ruh 3,21,453 cum u OB 5 snem ha bas dang ka shimwai. 70% na ki mar bymlong ban pyndonkam yn pyndonkam ha kaba pyndap ia ki jaka ba thliw bad 30% pat ban pyndap Silica haka rawmix bad pynbha surok. Yn pyndonkam 2.25ha ka jaka shipor ban buh shyiapmaw OB naka bynta ban pyndonkam hadien ha ka ban pyndap jaka bad ia kata ka jaka yn sa pyndonkam ban tihmaw. Ka jingtheh pyndap kan long kumba 2.25 lakh cum. Ka kynjang bad pyniar jong ki kyndon parmaw kan long 2m la 5m bad ka kynjang ka ba jrong eh kan long 10m. Ia u shyiapmaw yn buh ha ka jaka bala buh ban buhmaw bad yn pyndonkam haka ban theh pyndap khyndew ia ki jaka bala tih maw. Yn pyntreikam 137 ngut ki briew ha ki ar tylli ki shift treikam. Ka jing jylliew baroh jong kane ka par ban pyntrei kam kan long 480m na sla duriaw kat ba ka level jong ka um poh khyndew kan long 420m na sla duriaw ha kapor duna slap bad 425m ha kapor slap. Na kata ka daw ia ka level ka umpoh khyndew yn ym pynthut na kane ka tih maw. Kumba 75 Cum ka um donkam manka sngi bad 65 Cum ka ba lang ha sla khyndew bad kaba duna 10Cum yn pynioh na karkhana CMCL.

2. JINGLONG JONG KA MARIANG

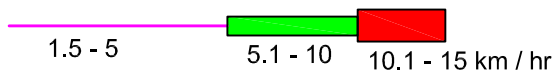
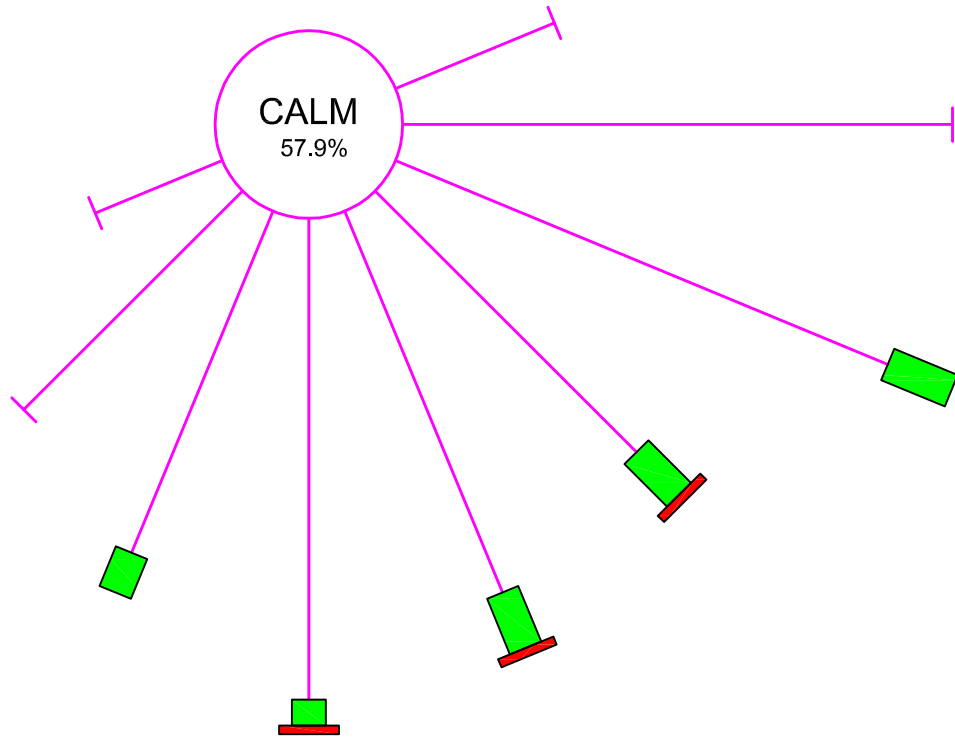
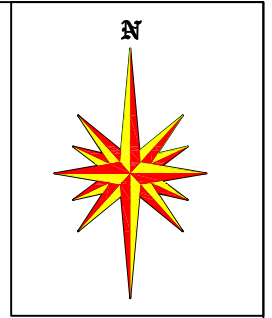
Ki mat ki ba iadei bad ka mariang ki ba donkam ban peit ia ka jinglong jingbiang ryntih la lum kynthup lang na ka bynta u bnai March 2011 haduh May 2011. Ka jing hapslap haka shisnem jong ka thain Shillong ka long 2415.3mm. ka jingshit jingkhriat ka long 14.6⁰C haduh 29.0⁰C katba ka jinglhoh ka mariang ka long 65.0% haduh 95.0% ha katei ka aiom. Ka phang ba ka lyer ka kham beh ka long na shaphang shathie. Ka dur wind rose la buh ha ka **Dur 4**. Ka dur ba don ka jaka la pyn i ha ka **Dur 5**.

Ka dor jong ka CPCB ha nongkyndong bad jaka shong shnong naka bynta ka PM 10, SO₂, NO_x bad CO (manka 24 kynta) ki long 100, 80, 80 bad 2000µg/cum. La dep ruh ban wad is ka jingkhuid jong ka lyer na ki hynriew tylli ki jaka man ka aiom. Katkum ka jing wad jingkein la ioh kumne harum. Ngi la dep test lut ia ki mat katkum ka CPCB hynrei kita

WIND ROSE DIAGRAM

STATION - LUMSHONG

SEASON -



LUMSHONG LIMESTONE DEPOSIT
OVER AN AREA 70.00 HECTARES
IN JAINTIA HILLS DISTRICT, MEGHALAYA.

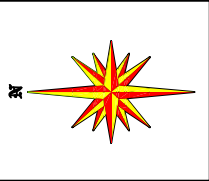
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WIND ROSE DIAGRAM





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SCALE - 1CM=1%






FIG . NO- 3.2



INDEX

-  LEASE AREA
-  RIVER
-  STREAM / NALA
-  ROAD

SAMPLE MONITORING STATIONS


-  AMBIENT AIR SAMPLING STATION
-  NOISE SAMPLING STATION
-  SOIL SAMPLING STATION
-  SURFACE WATER SAMPLING STATION
-  GROUND WATER SAMPLING STATION

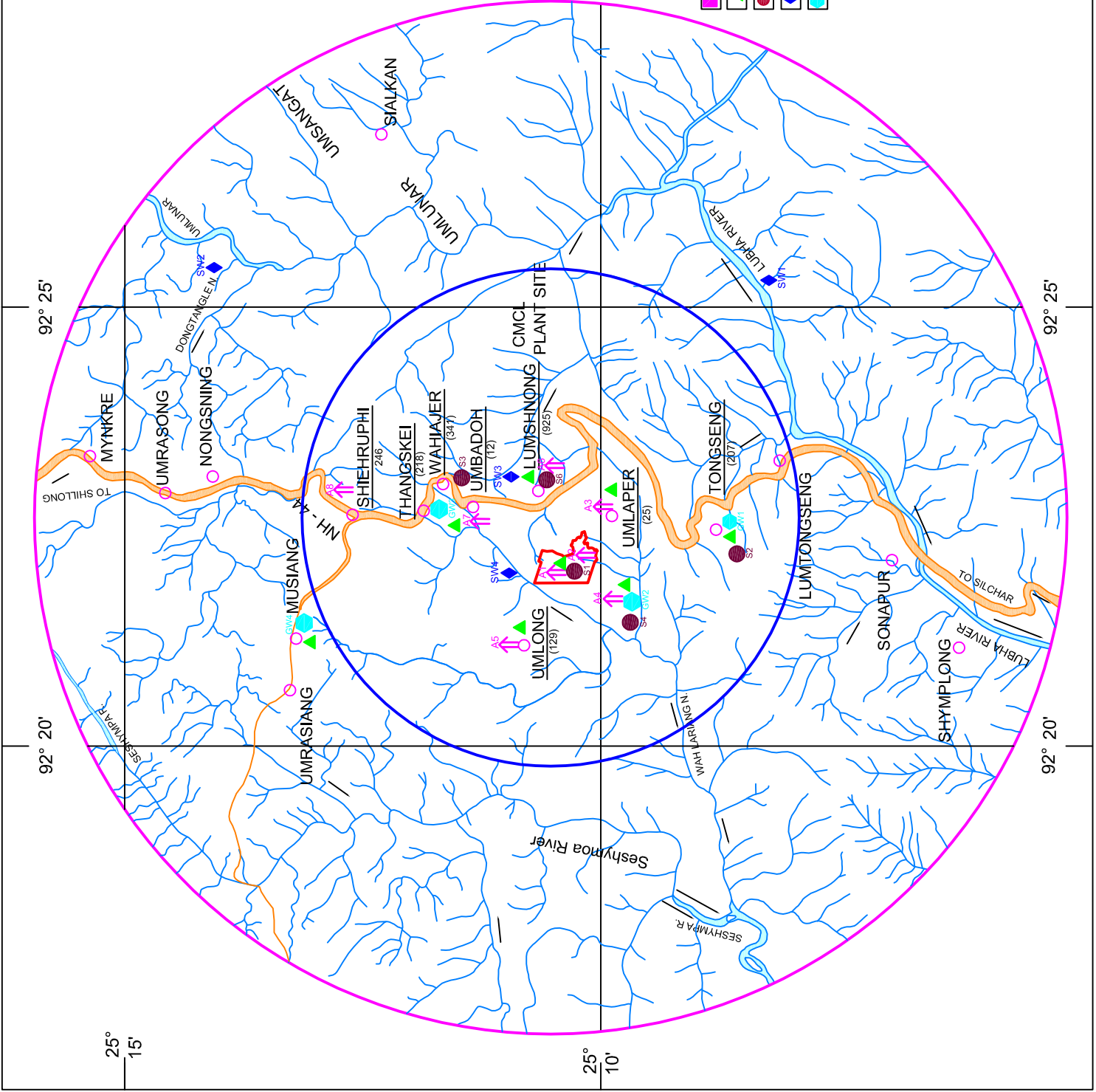
LUMSHNONG LIMESTONE DEPOSIT
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SAMPLE LOCATION PLAN

Prepared by:- **GEOMIN CONSULTANTS(P) LTD.**
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0 0.5 1 1.5 2 Km.  FIG. No. - 4.1



baroh la shem ba ki long kiba biang hapoh u pud haka jingbun ha kane ka jaka ba wad bniah, ia kine la thoh kumne harum

| Zone | Station Code | Station | Value of | PM10 | SO ₂ | NO _x |
|-------------|--------------|-----------------|---------------|--------|-----------------|-----------------|
| Core zone | A1 | Lease area | MAX | 53.3 | 14.7 | 16.4 |
| | | | MIN | 38.3 | 8.5 | 10.2 |
| | | | AVERAGE | 45.92 | 11.77 | 13.07 |
| | | | 95 PERCENTILE | 51.2 | 14.125 | 15.45 |
| Buffer zone | A2 | Lease area | MAX | 49.7 | 16.80 | 15.80 |
| | | | MIN | 38.3 | 9.70 | 10.50 |
| | | | AVERAGE | 44.67 | 13.22 | 13.29 |
| | | | 95 PERCENTILE | 49.275 | 16.175 | 15.20 |
| | A3 | Umlaper Village | MAX | 47.7 | 12.50 | 12.50 |
| | | | MIN | 40.4 | 7.00 | 8.50 |
| | | | AVERAGE | 44.25 | 9.35 | 10.59 |
| | | | 95 PERCENTILE | 47.175 | 11.75 | 12.375 |
| | A4 | Khub | MAX | 45.8 | 11.70 | 15.70 |
| | | | MIN | 40.2 | 7.50 | 10.30 |
| | | | AVERAGE | 42.64 | 9.67 | 12.45 |
| | | | 95 PERCENTILE | 45.35 | 11.275 | 14.175 |
| | A5 | Umlong | MAX | 48.6 | 14.70 | 15.50 |
| | | | MIN | 38.5 | 8.50 | 10.10 |
| | | | AVERAGE | 42.18 | 11.03 | 12.71 |
| | | | 95 PERCENTILE | 45.85 | 12.80 | 14.75 |
| | A6 | CMCL Plant Site | MAX | 48.9 | 15.70 | 18.70 |
| | | | MIN | 37.2 | 10.50 | 12.00 |
| | | | AVERAGE | 41.96 | 13.25 | 15.65 |
| | | | 95 PERCENTILE | 45.42 | 15.47 | 18.37 |
| | A7 | Umbadoh | MAX | 47 | 12.50 | 13.70 |
| | | | MIN | 41.5 | 8.00 | 10.00 |
| | | | AVERAGE | 44.46 | 10.03 | 11.46 |
| | | | 95 PERCENTILE | 46.37 | 11.65 | 13.10 |
| | A8 | Shieruphi | MAX | 48.8 | 13.50 | 15.00 |
| | | | MIN | 39.5 | 8.80 | 10.30 |
| | | | AVERAGE | 42.38 | 11.15 | 12.58 |
| | | | 95 PERCENTILE | 44.6 | 13.25 | 14.00 |

Ka jingsawa na ki kali baiaid ka long ka jing pynthut haki por ba wad jingtip. Ka jingjam ka jingsawa ka ka long 42.5 haduh 61.5 dBA ha ka por mynsngi bad haka por mynmiet pat ka long 37.3 haduh 42.6 dBA. Ka jingjam jong ka jingsawa ka long ha poh u pud ba shah ban sawa.

Man ka snem naka jing na ka jingslap ka jingdon jongdon jong ka um ha khyndew ka long 16.8Ham. Ka jing jylliew ka um ha ka por duna slap (summer) ka long 198 to 200m shapoh khyndew. Ka jinglong jong ka um hapoh bad ha sla khyndew ka long ka babiang ha poh u pud katkum naka Inland Surface Water, class-A, IS 3025 bad IS 10500 .

Jingshem na ka jingwad bniah ia ka jinglong ka um

| Parameter | Unit | Standard | Surface Water Samples | | | |
|---------------------------------|------|------------|-----------------------|-----------------|-----------------|-----------------|
| | | | SW ₁ | SW ₂ | SW ₃ | SW ₄ |
| pH | --- | 6.5 - 8.5 | 6.5 | 6.8 | 6.9 | 6.7 |
| Colour | --- | Colourless | Colourless | Colourless | Colourless | Colourless |
| Odour | ---- | Odourless | Odourless | Odourless | Odourless | Odourless |
| Total solid | mg/l | ---- | 265 | 212 | 225 | 235 |
| Total suspended solid | mg/l | ---- | 10 | 12 | 15 | 10 |
| TDS | mg/l | 1500 | 255 | 200 | 210 | 225 |
| Oil and Grease | µg/l | ---- | BDL | BDL | BDL | BDL |
| Total residual chlorine | mg/l | 0.2 | BDL | BDL | BDL | BDL |
| Total kjeldahl nitrogen as N | mg/l | ---- | 3.5 | 3.0 | 3.8 | 2.7 |
| Ammoniacal nitrogen as N | mg/l | 50 | 0.60 | 0.65 | 0.60 | 0.65 |
| Free ammonia as NH ₃ | mg/l | ---- | BDL | BDL | BDL | BDL |
| BOD | mg/l | 3 | 0.6 | 0.7 | 0.2 | 0.5 |
| Arsenic as As | mg/l | 0.2 | BDL | BDL | BDL | BDL |
| Mercury as Hg | mg/l | ---- | BDL | BDL | BDL | BDL |
| Lead as Pb | mg/l | 0.1 | BDL | BDL | BDL | BDL |
| Total chromium as Cr | mg/l | 2.0 | BDL | BDL | BDL | BDL |
| Hexavalent Chromium as Cr | mg/l | 0.05 | BDL | BDL | BDL | BDL |
| Copper as Cu | mg/l | 3.0 | BDL | BDL | BDL | BDL |
| Cadmium as Cd | mg/l | 0.01 | BDL | BDL | BDL | BDL |
| Zinc as Zn | mg/l | 15 | BDL | BDL | BDL | BDL |
| Selenium as Se | mg/l | 0.05 | BDL | BDL | BDL | BDL |
| Nickel as Ni | mg/l | ---- | BDL | BDL | BDL | BDL |
| Boron as B | mg/l | 2.0 | BDL | BDL | BDL | BDL |
| Cyanide as CN | mg/l | 0.05 | BDL | BDL | BDL | BDL |
| Chloride as Cl | mg/l | 600 | 25 | 20 | 20 | 15 |
| Nitrate as NO ₃ | mg/l | 50 | 0.7 | 0.6 | 0.7 | 0.8 |
| Flouride as F | mg/l | 1.5 | BDL | BDL | BDL | BDL |
| Dissolved PO ₄ | mg/l | 5.0 | 0.3 | 0.1 | 0.2 | 0.1 |
| Sulphate as SO ₄ | mg/l | 400 | 10 | 15 | 12 | 15 |
| Sulphide as S | mg/l | 2.0 | 0.5 | 0.5 | 0.8 | 0.9 |
| Iron as Fe | mg/l | 5.0 | 0.6 | 0.5 | 0.3 | 0.6 |
| Silica as SiO ₂ | mg/l | ---- | BDL | BDL | BDL | BDL |
| Phenolic compound | mg/l | 0.005 | BDL | BDL | BDL | BDL |
| Residual pesticide | mg/l | Absent | BDL | BDL | BDL | BDL |
| Sodium Percentage | mg/l | 60 | BDL | BDL | BDL | BDL |
| Calcium as Ca | mg/l | 75 | 25 | 30 | 30 | 20 |
| Magnesium as Mg | mg/l | 30 | 3 | 3 | 3.5 | 2 |
| Total hardness | mg/l | 300 | 74 | 86.5 | 88.4 | 57.7 |
| Coliform cells/100ml | | BDL | BDL | BDL | BDL | BDL |

Standard : IS 3025, Class - A, Inland Surface Water

Surface water sampling stations:-

SW₁: Lubha river SW₂-Dongtanglen river SW₃-Umlunar nala SW₄-Seshympa

Jingshem na ka jingwad bniah ia ka jinglong ka um shapoh sla khyndew

| Sl. No. | Parameters | Units | Standards | Ground Water Samples | | | |
|---------|------------------------------|-------|------------|----------------------|-----------------|-----------------|-----------------|
| | | | | GW ₁ | GW ₂ | GW ₃ | GW ₄ |
| 1 | Colour | Hazen | Colourless | Colourless | Colourless | Colourless | Colourless |
| 2 | Odour | ---- | Odourless | Odourless | Odourless | Odourless | Odourless |
| 3 | pH | ---- | 6.5-8.5 | 6.4 | 6.7 | 6.9 | 6.8 |
| 4 | Dissolved oxygen | mg/l | 3.0 (min) | 6.0 | 5.2 | 5.5 | 5.4 |
| 5 | T.D.S | mg/l | 500 | 135 | 125 | 85 | 125 |
| 6 | Suspended solid | mg/l | ---- | 8 | 10 | 4 | 9 |
| 7 | Chloride as Cl | mg/l | 250 | 8 | 12 | 10 | 10 |
| 8 | Sulphate as SO ₄ | mg/l | 200 | 12 | 7 | 8 | 4 |
| 9 | Cyanide as CN | mg/l | 0.05 | BDL | BDL | BDL | BDL |
| 10 | Fluoride as F | mg/l | 1.0 | 0.1 | 0.05 | 0.05 | BDL |
| 11 | Phosphate as PO ₄ | mg/l | ---- | 0.2 | 0.1 | 0.1 | 0.1 |
| 12 | Amonia as NH ₃ | mg/l | ---- | BDL | BDL | BDL | BDL |
| 13 | Boron as B | mg/l | 1.0 | BDL | BDL | BDL | BDL |
| 14 | Calcium as Ca | mg/l | 75 | 18 | 14 | 15 | 16 |
| 15 | Magnesium as Mg | mg/l | 30 | 6 | 3 | 7 | 5 |
| 16 | Arsenic as As | mg/l | 0.2 | BDL | BDL | BDL | BDL |
| 17 | Barium as Ba | mg/l | ---- | BDL | BDL | BDL | BDL |
| 18 | Cadmium as Cd | mg/l | ---- | BDL | BDL | BDL | BDL |
| 19 | Total Chromium | mg/l | ---- | BDL | BDL | BDL | BDL |
| 20 | Hexavalent Chromium | mg/l | ---- | BDL | BDL | BDL | BDL |
| 21 | Copper as Cu | mg/l | 0.05 | BDL | BDL | BDL | BDL |
| 22 | Iron as Fe | mg/l | 0.3 | 0.01 | 0.01 | 0.01 | 0.01 |
| 23 | Selenium as Se | mg/l | 0.01 | BDL | BDL | BDL | BDL |
| 24 | Silver as Ag | mg/l | ---- | BDL | BDL | BDL | BDL |
| 25 | Zinc as Zn | mg/l | 5.0 | BDL | BDL | BDL | BDL |
| 26 | Phenol | mg/l | 0.001 | BDL | BDL | BDL | BDL |
| 27 | Pesticides | mg/l | Absent | BDL | BDL | BDL | BDL |
| 28 | Radioactive substance | mg/l | ---- | BDL | BDL | BDL | BDL |

Standard : IS 10500
Ground water sampling stations:-
 GW1- Tongseng well ,GW2-Khub well,GW3- Thangskei, GW4- Musiang well

Ka thain jong ka jaka ki longlum bad ki khlaw jyrngam. Ki mrad ba don hangne ki long ki khniang bapar, ki sim, mrad ba im ha um bad khyndew, ki khniang bad kiwei pat kum ki dhkan, ki rising, khnai iing, shrieh. Ki mrad bajan duh jait kim don ka kane ka jaka.

3. KA JINGKTAH IA KA MARIANG BAD KI RUKOM IADA

Ka jingtihmaw bad ki wei pat kum kine ki jaitkam ka long ba ka lah ban wan rah ia ka jingmyntoi ha kawei ka liang bad ruh ka jingktah ia ka mariang ha ka wei pat ka liang. La tyrwa ban ialeh ban pynduna ia ka jingjur jong ka jingktah ia ka mariang. Da ka ba pyndonkam ia ka ‘Matrix Method’ ka ne ka jingktah ia ka mariang la wad jingkhein.

Ka jingmyntoi ia ka imlang sahlang ba la khmih lynti na kane ka jingtihmaw kaba iadei badka jingkoit jingkhiah, jingbun briew, jingioh kam, jingnang jingstad, jingtrei abd jing itynnad. Kane ka jaka tihmaw ka lah ban aikam direct iaki 137 ngut ki briew bad indirect kumba 200ngut ki briew. Ka communication, ka jingnang jingstad, jingsumar, bor ding ki lad ioh kam kin long kham bha.

Ki jingtih par bapher bapher ki pynmih ia ki pumpum bad jing pyntngit ia ka lyer. Da kaba peit ia ka rukom jingtihmaw bad ia ka jinglong ka mariang la khmih lynti ba ka jingtah na kane ka jingtihmaw kan long ha poh u pud ba la shah. Shuh shuh ka ba synreit um bad thung dieng kan pynduna ia ka jingjam jong ka jingsawa ka kane ka jaka.

Jingpyntngit/ jinglang khyndew jong ka um ka lah ban long na kadaw ba ka iakhleh lang ka um slap bad ki pumpum. Kumba la thmu ban buh ia ka tangki ban pynlang ia kane ka khyndew bad kynton bha ia ki nala sawdong ka par kan kham iarap ban pynduna ia ka jingjaboh.

Ka jingjaboh jong ka um ka lah ban pynmih jingpang ha ka ne ka thain. Ia ka um yn sa pynkhuid bha. Yn sa pynbiang ruh ia ka jingsumar ia ka jingkoit jingkhiah lada donkam. Ka jingjihmaw nagne kan ym ktah than ia ka um poh khyndew namar ba ka par ka don kham ha jrong na sla khyndew.

Namar kane ka project, ka jingjam ki jingsawa ha kane ka jaka ka dei naka jingsam maw, pynpait maw, jingiaid ki kali bad ki machine kin nang jur. Ka jingpynpait maw kaba da control bha, jinglah ban pynbha ia ki machine bad jingda naki jingsawa, ka jingjam ki jingsawa lah ban pynduna.

The bat hung dieng ha kine ki jaka kan iarap ban pynduna na kane ka jingtah. Ka rukom pyndonkam ia ka par kan long kumne harum. **(Dur. 3)**

Ka rukom ba pyndonkam ia ki jaka

| Classification of land | Village/District | Total area in Hects. |
|------------------------------------|-------------------------|--|
| Total Private Land (non-forest) | Lumshnong/Jaintia hills | 70.00 • Agricultural land – 46.809 • Waste land – 23.191 |

| Rukom ban pyndonkam (Area in Ha.) | | | | |
|--|---|-----------------------|------------------------------|--------------|
| Sl. No. | Features | Planned period | Beyond planned period | Total |
| 1 | Mining | 8.64 | 47.13 | 55.77 |
| 2 | Over Burden Dump | 2.25 | ---- | 2.25 |
| 3 | Infrastructure (workshop, admn. Building etc.) | 0.02 | --- | 0.02 |
| 4 | Roads | 0.2 | --- | 0.2 |
| 5 | Magazine | --- | --- | --- |
| 6 | Green Belt | 10.0 | 1.56 | 11.76 |
| | Total | 21.11 | 48.69 | 70.00 |

Post-operational Land use

| Area in Ha. | | | | | |
|-------------------------|--------------|------------|------------|-------------|--------------|
| Land use | Plantation | Water Body | Public Use | Undisturbed | Total |
| Mining | 58.02 | -- | -- | -- | 58.02 |
| Road and Infrastructure | 0.22 | -- | -- | -- | 0.22 |
| Green Belt | 11.76 | -- | -- | -- | 11.76 |
| Total | 70.00 | -- | -- | -- | 70.00 |

Environmental Impact and Management Stage-wise Cumulative Plantation

| Jingdonkam dieng ban thung | | | | | | | | | | |
|----------------------------|----------------|-------|---------------|-------|-----------|-------|---------------|-------|-----------|--------|
| Year | Un-worked Area | | Out Side Dump | | Dump Area | | Top Soil Dump | | Total | |
| | Area (Ha) | Trees | Area (Ha) | Trees | Area (Ha) | Trees | Area (Ha) | Trees | Area (Ha) | Trees |
| 1st | 2.0 | 3200 | -- | -- | -- | -- | -- | -- | 2.0 | 3200 |
| 2nd | 4.0 | 6400 | -- | -- | -- | -- | -- | -- | 4.0 | 6400 |
| 3rd | 6.0 | 9600 | -- | -- | -- | -- | -- | -- | 6.0 | 9600 |
| 4th | 8.0 | 12800 | -- | -- | -- | -- | -- | -- | 8.0 | 12800 |
| 5th | 10.0 | 16000 | -- | -- | -- | -- | -- | -- | 10.0 | 16000 |
| Ultimate | 11.76 | 18816 | 58.24 | 93184 | -- | -- | -- | -- | 70.00 | 112000 |

Ka jingpyndonkam ia ka jaka ha dien bala dep tihpar ka don ha ka **dur. 6.**

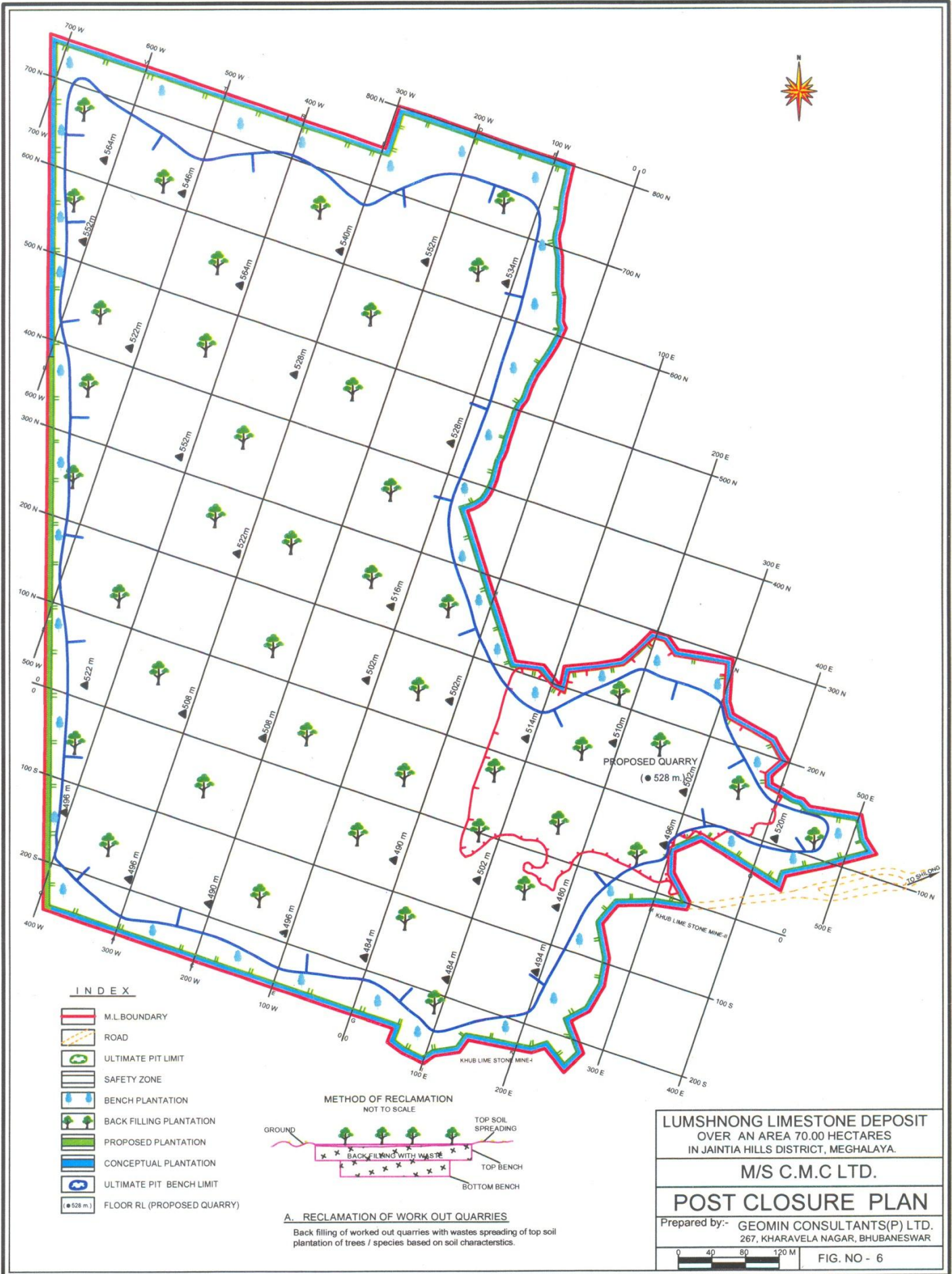
Ha ka rep kariang kan ym dadon ka lad ban pynbha. Da kaba pyndonkam ia ka jaka ban tihmaw kan don ruh ka jingiohkam iohjam bad jingmih.

4. KAPROGRAM BAN PEIT BNIAH IA KA MARIANG

ka kynhun ban peit bniah ia ka mariang yn sa buh ba kan peit ia ka jinglong ka lyer, ka um, ki jingsawa bad jinglong ka khyndew ha ki jaka ba marjan ba shoong basah ki briew. Saw tylli ki jaka baneh(permanent) ban peit ia ka jinglong ka lyer yn buh katkum ka ka jing bthah jong ka SPCB ban peit bniah ia ka AAQ man la ka quarter. Ka um poh khyndew bad na sla khyndew yn shim ban test man la ka quarter. Ka jingpeit bniah ia ka jingjam ki jingsawa ha kito ki jaka ba pynmih ia ki jingsawa bad ha jaka AAQ ruh yn sa leh man la ka quarter.

5. KI WEI PAT KI JINGWAD JINGTIP SHUH SHUH

Ki wei pat ki jingwad jingtip kum ka jingtuid jong ka khyndew bad ka jingsboh jong ka khyndew ha rud wah yn sa leh.



INDEX

-  M.L. BOUNDARY
-  ROAD
-  ULTIMATE PIT LIMIT
-  SAFETY ZONE
-  BENCH PLANTATION
-  BACK FILLING PLANTATION
-  PROPOSED PLANTATION
-  CONCEPTUAL PLANTATION
-  ULTIMATE PIT BENCH LIMIT
-  FLOOR RL (PROPOSED QUARRY)

METHOD OF RECLAMATION
NOT TO SCALE



A. RECLAMATION OF WORK OUT QUARRIES

Back filling of worked out quarries with wastes spreading of top soil plantation of trees / species based on soil characteristics.

LUMSHNONG LIMESTONE DEPOSIT
OVER AN AREA 70.00 HECTARES
IN JAINTIA HILLS DISTRICT, MEGHALAYA.

M/S C.M.C LTD.

POST CLOSURE PLAN

Prepared by:- **GEOMIN CONSULTANTS(P) LTD.**
267, KHARAVELA NAGAR, BHUBANESWAR

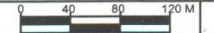


FIG. NO - 6

6. KI JINGMYNTOI JONG KA PROJECT

Ki mawshun ba latih nangne yn pyndonkam ha karkhana jong ka nongshimwai. Kane ka project bad ka karkhana cement ryngkat kin iarap pynkiew ia ka imlang sahlang, ka ioh kakot, jingnang jingstad bad ki rukom dustur jong ki nongshong shnong.

7. KA PLAN NAKA BYNTA KA MARIANG

Ka jintihmaw kan don ka jingktah ia ka jinglong ka ka jaka ka puta kum ka lyer, ka um, khyndew bad ka jingsawa. Kine harum ki long ki mat ban pyndonkam ban pynduna ia ki jingjakhlia/jaboh.

- Ki kyndon ban thung ia ki jingiada bad pynduna ia ki jingsawa da ki dieng ki ba bunsla, ki balah ban pynduna ia ka jingtuid khyndew bad pynsoh iaka khyndew.
- Kaba pyndonkam ia ka rukom pynpait maw ka ba control bha (da kaba pyndonkam da ki advance non-electric detonator)
- Ban thaw ia ka nala tuid um sawdong ka parmaw bad thaw bha ia ka nala pyntuid.
- Ia ka pung/tangki yn thaw ka jingheh ka ba biang.
- Pyntuid bad pyniaid ia ki overburdened dump sha ka pung/tangki shwa ban pyntuid shalum ne sha wah.
- Ka jing sumar bha ia ki tiar kitar bad ki machine.
- Ka jingda na ki jingsawa kum ki karma babiang ki jingkhang iit.
- Ka jingpynbiang ia ki tiar iada shimet ki katkum ka jingtngit/jaboh .
- Jingpynskhem ia ka jaka theh maw daka ba ai kyndon syndait, bad da kaba thung jingthung.
- Nala ba kynroh da ki maw ban pynduna bad khanglad ia ka jingtuid jong ka khyndew.
- Kaba buh ia ki speed breaker ha man la ki jaka.
- Ka jingpynbha pat iaka par da kaba pyndap khyndew biang ka wei ha dien ka wei pat.

---X---