Category - A Fully Mech.

MINING PLAN
&
PROGRESSIVE MINE CLOSURE PLAN

Submitted under rule 24 (A) OF MCR 1960 & 23 (8)(c)OF MCDR 1988 for renewal

OF

NEW UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE – NEW UMRANGSHU
DISTRICT - DIMA HASAO (NORTH CACHER HILL) ASSAM
(LEASE AREA 417.50 HECT - UNCLASSIFED MIXED FOREST)

Lease period 27.09.1992 to 26.09.2012
Renewal 27.09.2012-26.09.2032
Plan Period : from year 2012-13 to Year 2016-17

LESSEE
M/s CALCOM CEMENT INDIA LIMITED
"MIRI" SILKHIPURI SOUTH BANK
SILPUKHURI, GUWAHATI - 781003 ASSAM
Ph.0361-2668504/ 2660347
Fax-0361-2662131

APPROVED

PREPARED BY
M/S UDAIPUR MIN - TECH PVT. LTD.
MINING & GEOLOGICAL ENGINEERS
UDAIPUR - 313002 (RAJ.)
RQP NO. - RQP/UDP/354/2009/B, valid up to 20.8.2019

REGD POST

GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES
MCCM CENTRAL ZONE

514(E)/2011-MCCM(CZ)MP-28

6th Floor, "D" Block, Indira Bhawan, Civil Lines,
Nagpur – 440102
Email : com.cz@ibm.gov.in
Telephone & Fax : (0712) 2565603

Dated 16 /04/2012

To,

M/s Calcom Cement India Ltd.,
'Miri', Silkhipuri South Bank,
Silpukhuri, Guwahati,
Assam- 781003

Subject:- Approval of Mining Plan alongwith Progressive Mine Closure Plan in respect of New Umrangshu Limestone mining lease of M/s Calcom Cement India Ltd., over an area of 417.5 ha in Dima Hasao (North Cachar Hill) district of Assam State submitted for renewal of mining lease under Rule 24A of MCR, 1960.

Ref:- 1) Your RQP's letter No UMT/2011-12/41 dated 10/08/2011.
2) This office letter of even number dated 09.12.2011.
3) Your RQP's letter No. UMT/2011-12/78 dated 09.01.2012 & 15.02.2012

Sir,

In exercise of the powers conferred by Clause (b) of Sub-Section (2) of Section 5 of Mines & Minerals (Development & Regulation) Act, 1957 read with Government of India Order No. S.O.445 (E) dated 28.4.1987, I hereby **approve** the above said mining plan. This approval is subject to the following conditions: -

i) This Mining Plan is approved without prejudice to any other laws applicable to the mine/area from time to time whether made by the Central Government, State Government or any other authority.

ii) It is clarified that this approval of Mining Plan does not, in any way, imply the approval of the Government in terms of any other provisions of the Mines & Minerals (Development & Regulation) Act, 1957 or the Mineral Concession Rules, 1960 and any other laws including the Forest (Conservation) Act, 1980, Environment (Protection) Act, 1986 and the rules made there under.

iii) It is clarified that this approval of the Mining Plan is subject to the provisions of Forest (Conservation) Act 1980, Forest Conservation Rules 1981 and other relevant statutes, orders and guidelines as may be applicable to the lease area from time to time.

iv) It is further clarified that the approval of Mining Plan is subject to the provisions of the Mines Act 1952 and Rules & Regulations made there under including submission of notice of opening, appointment of manager and other statutory officials.

v) The execution of Mining Plan shall be subjected to vacations of prohibitory orders / notices, if any.

vi) The Mining Plan is approved without prejudice to any other order or direction from the court of competent jurisdiction.

vii) The approval of mining operations and associated activities is restricted to the mining lease area only. The mining lease area is as shown on the statutory plans under Rule 28 of Mineral Conservation and Development Rules 1988, by the lessee/RQP/applicant and Indian Bureau of Mines has not undertaken verification of the mining lease boundary on the ground.

x) If anything is found to be concealed as required by the Mines Act in the content of the mining plan and the proposals for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.

ix) At any stage, if it is observed that the information furnished in the document are incorrect or misrepresent facts, the approval of the document shall be revoked with immediate effect.

x) The approval of mining Plan is subject to the compliance of CCOM's Circular No. 2/2010 regarding Geo-referenced cadastral map within 6 months from the date of approval failing which the approval of the document shall be deemed to have been withdrawn with immediate effect.

xi) Yearly report as required under rule 23E (2) of MCDR, 1988 setting forth the extent of protection and rehabilitation works carried out as envisaged in the approved progressive mine closure plan and if there is any deviations, reasons thereof shall be submitted before 1st July of every year.

xii) Your attention is invited to the Supreme Court interim order in W.P.(C) No.202 dated 12-12-96 for compliance. The approval of Mining Plan is, therefore, issued without prejudice to and is subject to the said directions of the Supreme Court.

xiii) A copy of Environment Impact Assessment-Environment Management Plan (EIA-EMP) as approved by MOEF (Ministry of Environment & Forest) shall be submitted to IBM immediately after approval by MOEF.

xiv) The Environmental Monitoring Cell established by the company shall continue monitoring ambient air quality, dust-fall rate, water quality, soil sample analysis and noise level measurements at various stations established for the purpose both in the core zone and buffer zone as per requirement of Environment Guidelines and keeping in view IBM's circular No. 3/92 & 2/93 season wise every year by engaging the services of an Environmental Laboratory approved by MOEF/CPCB. The data so generated shall be maintained in a bound paged register kept for the purpose and the same shall be made available to the inspecting officer, on demand.

xv) This approval is given for the received proposals as applicable from this date.

xvi) The financial assurance submitted by you for Rs. 40,69,023/- is valid upto plan period and next financial assurance shall be submitted on or before 31.03.2017.

xvii) The Scheme of mining will be due for submission on 01.12.2016.

Yours faithfully,

(Ranjan Sahai)
Controller of Mines (CZ)

Encl. : Two copies of
approved mining plan

Copy for information to :-

1) The Director of Mines Safety, DGMS Office, H No. 16, By Lane-10, Ganesh Mandir Path, P.O.- Noonmati, New Guwahati-781 020 alongwith one copy of approved mining Plan.
2) The Director, Directorate of Geology & Mining, Govt. of Assam, Post-Kahilipari, Guwahati-781 019, Assam.
3.) M/s Udaipur Min-Tech Pvt. Ltd. & RQP, "Apeksha Complex", 206, I. floor, orposite Indian Oil Depot, sector no.11, Hiran Magri, Udaipur (Rajasthan) – 313002.

(Ranjan Sahai)
Controller of Mines (CZ)

MINING PLAN
&
PROGRESSIVE MINE CLOSURE PLAN

[illegible]

OF

NEW UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE NEW UMRANGSHU
DISTRICT DIMA HASAO (NORTH CACHER HILLS) ASSAM
(LEASE AREA 417.50 HECT – UNCLASSIFIED MIXED FOREST)
lease period 27.09.1992 to 26.09.2012
Renewal 27.09.2012-26.09.2032
Plan Period : from year 2012-13 to Year 2016-17

पत्र संख्या 314 (3)/2011 [illegible]
एमएस/पीएमसीपी 28 दिनांक 10-4-12
द्वारा अनुमोदित किया गया
Approved vide letter No. [illegible]
MCCM(CZ)/MP/MS/PMCP [illegible] dated [illegible]

LESSEE
M/s CALCOM CEMENT INDIA LIMITED
MRF SILKHIPURI SOUTH BANK
SILPUKHURI, GUWAHATI 781003 ASSAM
Ph.(0361) [illegible]
Fax(0361) [illegible]

अनुमोदित
APPROVED
10/4/12
खान नियंत्रक (मध्यांचल)
Controller of Mines (Central Zone)
भारतीय खान ब्यूरो
Indian Bureau of Mines

PREPARED BY
M/S UDAIPUR MIN TECH PVT. LTD
MINING & GEOLOGICAL ENGINEERS
UDAIPUR [illegible]
[illegible]

AUTHORISATION LETTER BY THE LESSEE

I, Ritesh Bawri (Nominated Owner) hereby authorize M/s Udaipur Min-Tech Pvt. Ltd. RQP No UDP/354/2009/B to prepare the Mining plan including PMCP under rule 24(1) of MCR 1960 & 23 B(2) of MCDR, 1988 in respect of New Umrangshu deposit over an area of 417.5 hect. for mineral Limestone in village Umrongshu, Tehsil & District – Dima Hasao (N.C. Hills) Assam belong to M/s Calcom Cement India Ltd. "Mini", Silkhipur South Bank, Silpukhuri, Guwahati – 781003, Assam. I request to the Controller of Mines, Indian Bureau of Mines, Nagpur to make further correspondence regarding modification /withdrawal /re-submission and to collect the approved copies of the aforesaid Mining Plan with PMCP with the said recognized person on his following address:

M/s UDAIPUR MIN-TECH PVT LTD.
(UDP/354/2009/B, Valid up to 20.09.2010)
Address:- 206 Apeksha Complex,
Sector no 11, Hiran Magri
Udaipur, 313002(Raj.)
Phone No. 0294-2489672 (Off.)
E mail :- ashist@udrmintech.com

Place -Kolkata

Date – 28.11.2011

Calcom Cement India Ltd. -

Ritesh Bawri
Nominated Owner

APPROVED

CALCOM CEMENT

CERTIFICATE

It is certified that the provisions of the Mines Act, Rules and Regulations made thereunder have been observed in the Mining Plan with Progressive Mine Closure Plan of New Umrangshu deposit over an area of 417.5 hect. for mineral limestone in village Umrangshu, Tehsil & District – Dima Hasao (NC hills) Assam belong to M/s Calcom Cement India Ltd. "Miri", Silkhipuri South Bank, Silpukhuri, Guwahati – 781003, Assam and wherever specific permissions are required, the lessee will approach the Director General of Mines Safety. Further, standard as prescribed by DGMS in respect of Miner's health will be strictly implemented.

Place – Kolkata

Date – 28.1.2011

Calcom Cement India Ltd.

Ritesh Bawri
Nominated Owner

APPROVED

Calcom Cement India Limited
[illegible]
Regd. Office : [illegible] Guwahati [illegible] India

CALCOM CEMENT

DECLARATION

The Mining Plan including Progressive Mine Closure Plan for New Umranghohu deposit over an area of 417.6 hect. for mineral Limestone in village Umrangshu, Tehsil & District – Dima Hasao (N.C. Hills) Assam belong to M/s Calcom Cement India Ltd. "Miri", Silkhipuri South Bank, Silpukhuri, Guwahati – 781003, Assam has been prepared in full consultation with me and I understand its contents and agree to implement the same in accordance with law and in case of default the approval would be withdrawn.

Place –Kolkata

Date – 28.1.2021

Calcom Cement India Ltd

Ritesh Bawri
Nominated Owner

Calcom Cement India Limited
7th Floor 3/1, Ecospace, Plot no. 2F/3,
New Town, Rajarhat, Kolkata 700 156, India
Tel: +91 33 4013 4130 Fax: +91 33 2324 0881 www.calcomcement.com
Regd. Office : Miri, Silpukhuri South Bank, Guwahati 781003, India

DECLARATION

I, Ritesh Bawri, herby committed that during the pendency of the approval of the Mining Plan including Progressive Mine Closure Plan for New Umrangshu deposit over an area of 417.5 hect. for mineral Limestone in village Umrangshu, Tehsil & District – Dima Hasao (NC hills) Assam belong to M/s Calcom Cements India Ltd. Miri Silkhipuri, Guwahati, Assam, If any change will occur in Name and address/ Bord of directors/Partnership, IBM should be Informed promptly.

Place – Kolkata

Date – 28th Nov 2011

For Calcom Cements India Ltd.

Ritesh Bawri
Nominated Owner

CALCOM CEMENT

UNDERTAKING

I, Ritesh Bawri, on behalf of Lessee of New Umrangshu deposit over an area of 417.5 hect. for mineral Limestone in village Umrangshu, Tehsil & District Dima Hasao (NC hills) Assam belong to M/s Calcom Cements India Ltd. Miri-Silkhipuri, Guwahati, Assam hereby undertake that after the ML is executed, the mineral reserve of homogeneous types for which the mining plan is being submitted for approval, would be converted into proved reserve as per UNFC system at an appropriate cut-off grade with the new threshold values within 2 year of execution of ML, equivalent to minimum five years planned production, failing which no mining operation will be carried out/commence further.

Place – Kolkata

Date 23[rd] Nov,2011

For Calcom Cements India Ltd

Ritesh Bawri
Nominated Owner

APPROVED

CALCOM CEMENT

UNDERTAKING

I Ritesh Bawri on behalf of Lessee of New Umranghshu deposit over an area of 417.5 hect. for mineral Limestone in village Umrangshu, Tehsil & District – Dima Hasao (NC Hills) Assam belong to M/s Calcom Cements India Ltd. Miri-Silkhipuri, Guwahati, Assam undertake information and requisite plates as required under CCOM's circular no 2/10 regarding provision of fixing of boundary , Geo-referenced Cadastral Map / mining lease map etc. shall be submitted within 180 days from the date of approval of this document comprising Mining Plan with Progressive Mine Closure Plan for the aforesaid mine.

Place : Kolkata

For M/s Calcom Cement India Ltd.

Date: 28.11.2011

Ritesh Bawri

Nominated owner

APPROVED

UDAIPUR MIN-TECH PVT. LTD.
MINING & GEOLOGICAL ENGINEERS
AN ISO 9001 : 2008

AUTHORISATION

I, Authorised Signatory of the M/s Udaipur Min-Tech Pvt. Ltd. hereby authorizes following key persons to prepare and sign the Mining Plan with Progressive Mine Closure Plan of New Umrangshu Limestone depcsit over an area of 417.5 Hectares for Mineral Limestone in Village New Umrangshu, District Dima Hasao(N.C Hills), Assam belonging to M/s Calcom Cement India Ltd., Mir. Silkhi Puri South Bank Silkhipuri Guwahati Assam.

1. Mr. Shailendra Singh Dist. Mining Geologist & RQP(IBM)
2. Mr. Manoj Nandwana, Mining Geologist & RQP(IBM)

For M/s Udaipur Min-Tech Pvt. Ltd.
(No. RQP/UDP/354/2009/B, valid up to 20.8.2019)

Place : Udaipur
Date : 28th Dec 2011

28/12/11
(Shailendra Singh Bist)
Authorized Signatory

APPROVED

206 APEKSHA COMPLEX' Sector 11, Hiran Magri, Udaipur - 313 002 (Raj.) INDIA
Ph. : +91 294 2489672 Cell : +91 94141 87672 E-mail : ssbist@udrmintech.com

UDAIPUR MIN-TECH PVT. LTD.
MINING & GEOLOGICAL ENGINEERS
AN ISO 9001 : 2008

CERTIFICATE

We, Udaipur Min Tech Pvt. Ltd., RQP/UDP/354/2009/B hereby certify that

1. "The provisions of the Mineral Conservation and Development Rules 1988 have been observed in the preperation of this Mining Plan including PMCP for New Umrangshu Limestone deposit over an area of 417.5 Hectares for Mineral Limestone in Village New Umrangshu, District Dima Hasao(N.C Hills), Assam belonging to M/s Calcom Cement India Ltd., Miri Silkhi Puri South Bank Silkhipuri Guwahati Assam, and wherever specific permission is required, the lessee will approach the concerned authorities of Indian Bureau of Mines for granting the permission."
2. It is also certify that the provisions of the Mines Act, Rules and Regulations made thereunder have been observed in the preparation of the aforesaid Mining Plan with PMCP and wherever specific permission is required, the lessee will approach the Director General of Mines Safety.
3. It further certified that the aforesaid Mining Plan including PMCP is prepared as per the copies of the records and Documents provided by the Lessee and Information given as per discussion held with Lessee.
4. It is also certified that the information furnished in the aforesaid Mining Plan including PMCP are true and correct to the best of our knowledge and belief, and in case of default the approval would be withdrawn.

For Udaipur Min-Tech Pvt. Ltd
(No. RQP/UDP/354/2009/B, valid up to 20.8.2019)

Place : Udaipur
Date: 28th Dec 2011

Manoj Nandwana
Key Person

Shailendra Singh Bist
Key Person

APPROVED

206 "APEKSHA COMPLEX" Sector 11, Hiran Magri, Udaipur - 313 002 (Raj.) INDIA
Ph.: 91 294 2489772 Cell : +91 94141 67872 Email: ...

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INTRODUCTION

The New Umrangshu mining lease over 417.6 hect area for mining of Limestone deposit situated near village Umrangshu, Dist – Dima Hasao(NC Hills), Assam was granted to M/s Assam Industrial Development Corporation Ltd(AIDC Ltd) Guwahati on 27.11. 1992 for a period of 30 years. (Annexure no.1 & 2).

The mining lease was transferred in favor of M/s Calcom Cement India Limited vide Govt. of Assam letter no. PEM. 58/2005/204 dated 06.12.2008. The agreement of transfer of mining lease was executed on 07.01.2009.(Annexure No.3).

M/s Calcom Cement India Limited going to set up Cement manufacturing capacity of 5/6 million TPA in the state of Assam according to Memorandum of Understanding (MOU) with Assam Industrial Development Corporation (AIDC) on 8th Sept 2004.

M/s Calcom Cement India Ltd was incorporated on September 20, 2004 as a Public Limited Company under Company Act 1956 and received certificate for commencement of business on November 1, 2004. (Annexure.4).

M/s Calcom Cement India Ltd. is planning to set up a composite cement project located at Umrangshu in Dist. Dima Hasao and Pipulpukhuri in Dist. Nagaon, Assam. The project will be executed in four lines A, B, C & D. The line 'A' of the Project is Split Located Cement Plant with 0.75 MTPA of Clinkerisation Unit at Umarangshu. For which M/s Calcom Cement India Ltd. has obtained Environment clearance from MoEF and the plant is under construction. (Annexure.5)

The Lanka Plant of M/s Calcom Cement India Ltd. at a distance of 70 km from Umrangshu in village Pipol Pukhuri Dist. Nagaon with a capacity of 1.75 MTPA OPC Cement production and 4.15 MTPA PPC Production is partially completed. M/s Calcom Cement India Ltd has also obtained Environmental clearance from MOEF (Annexure no. 6).

The cement plant has been partially commissioned and aggregate project cost of cement plant is Rs. 581.00 Cr. Lessee has obtained NOC from the Pollution Control

APPROVED

(Controller of Mines (Central Zone)

Board , Assam vide their Letter no. WB/Z-II/P-1969/07-08/59 on dated 17th Dec 2007.(refer Annexure no.07).

All other phase i.e. B, C and D will be installed in Lanka only. Capacity of phase B, C & D is given below:

- Line – B : 1.2 MTPA of clinkerisation unit plus 1.7 MTPA of grinding unit
- Line – C : 1.2 MTPA of clinkerisation unit plus 1.5 MTPA of grinding unit
- Line – D : 1.2 MTPA of clinkerisation unit plus 1.5 MTPA of grinding unit

Limestone required for all the four lines will be supplied from former AIDC Mines (Now transferred to M/s. Calcium Cement India Ltd. In January 2009 and renamed as New Umrangshu Limestone Mine of M/s CCIL). It will be necessary to install crushers in Mines area during execution of lines B, C & D because only crushed limestone will be transported from New Umrangshu Mine to the Lanka site.

A grinding unit already exist with capacity of 1.75 MTPA OPC at village Pipoli Pukhuri in Dist Nagaon, which is 70 km far from cement plant at Umrangshu. About 0.75 MTPA clinker supply from Umrangshu plant and rest of quantity propose from other cement plants.

For this phase wise establishment, Limestone requirement will be 7.0 million tones and which will be supplied from this mine only. Therefore, mining plan is being submitted for a production of 7.0 million tones limestone per annum for this mine.

NO. OF PL GRANTED AND NO. OF ML GRANTED/ APPLIED PL BY THE LESSEE:- (Refer Annexure 7A)

S.No	Lease reference no	Area	Postal Address	Type of mineral
1	Nil	Nil	Nil	Nil

1.0 GENERAL

1.1 NAME AND ADDRESS OF THE APPLICANT:

Registered office:-

M/S Calcom Cement India Limited
"Mira" Silpukhuri South Bank,
Silpukhuri, Guwahati-781003 Assam
Phone 0361 2668504 / 2660347, Fax 0361 2662131
E mail :- george.thacker@calcom.co.in, amb.chowdhury@calcom.co.in

Head office :-

M/S Calcom Cement India Ltd.
7th Floor, 3A Eco Space
Plot No 2 F/11,
New town , Rajarhat, Kolkata – 700156, West Bengal
Ph. 033 – 40134200, Fax 033 – 23245503 / 40134212
E mail :- binod.bawri@calcom.co.in

1.2 STATUS OF THE APPLICANT :-

It is a Public Limited company. The list of board of director has been furnished in the Annexure 8. Mr. Ritesh Bawari, Managing Director of the company & Nominated owner of the company. Photo ID and address of the Ritesh Bawari is given as Annexure. Annexure no.9).

It is hereby declared by the lessee that during the pending of approval of the mining plan if any change will occur in Name and address of the lessee, IBM would be informed in advance.

1.3 MINERAL WHICH ARE OCCURRING IN THE AREA AND WHICH THE APPLICANT INTENDS TO MINE

Limestone

Board Assam vide their Letter no. WB/Z-II/T-1969/07-08/59 on dated 17th Dec 2007 (refer Annexure no.07).

All other phase i.e. B, C and D will be installed in Lanka only. Capacity of phase B C & D is given below:

- Line – B : 1.2 MTPA of clinkerisation unit plus 1.7 MTPA of grinding unit
- Line – C : 1.2 MTPA of clinkerisation unit plus 1.3 MTPA of grinding unit
- Line – D : 1.2 MTPA of clinkerisation unit plus 1.5 MTPA of grinding unit

Limestone required for all the four lines will be supplied from former AIDC Mines (Now transferred to M/s. Calcium Cement India Ltd. In January 2009 and renamed as New Umrangshu Limestone Mine of M/s CCIL). It will be necessary to install crushers in Mines area during execution of lines B, C & D because only crushed limestone will be transported from New Umrangshu Mine to the Lanka site.

A grinding unit already exist with capacity of 1.75 MTPA OPC at village Pipol Pukhuri in Dist Nagaon, which is 70 km far from cement plant at Umrangshu. About 0.75 MTPA clinker supply from Umrangshu plant and rest of quantity propose from other cement plants.

For this phase wise establishment, Limestone requirement will be 7.0 million tones and which will be supplied from this mine only. Therefore mining plan is being submitted for a production of 7.0 million tones limestone per annum for this mine.

NO. OF PL GRANTED AND NO. OF ML GRANTED/ APPLIED PL BY THE LESSEE:- (Refer Annexure 7A)

S.No	Lease reference no	Area	Postal Address	Type of mineral
1	Nil	Nil	Nil	Nil

======******======

APPROVED

KEY PERSON

1.0 GENERAL

1.1 NAME AND ADDRESS OF THE APPLICANT:

Registered office:-

M/S Calcom Cement India Limited
'Miri' Silpukhuri South Bank,
Silpukhuri, Guwahati-781003 Assam
Phone. 0361-2668504 / 2660347, Fax 0361 2662131
E mail : - george.chacko@calcom.co.in, asph.chowdary@calcom.co.in

Head office :-

M/S Calcom Cement India Ltd.
7th Floor, 3A Eco Space
Plot No 2 F /11,
New town, Rajarhat, Kolkata – 700156, West Bengal
Ph. 033 – 40134200, Fax 033 – 23245503 / 40134212
E mail : binod.bawri@calcom.co.in

1.2 STATUS OF THE APPLICANT :-

It is a Public Limited company. The list of board of director has been furnished in the Annexure 8. Mr. Ritesh Bawari, Managing Director of the company & Nominated owner of the company. Photo ID and address of the Ritesh Bawari is given as Annexure. (Annexure no.9).

It is hereby declared by the lessee that during the pending of approval of the mining plan if any change will occur in Name and address of the lessee, IBM would be informed in advance.

1.3 MINERAL WHICH ARE OCCURRING IN THE AREA AND WHICH THE APPLICANT INTENDS TO MINE

Limestone

APPROVED

For UDAIPUR MIN-TECH PVT. LTD.

KEY PERSON

1.4 PERIOD FOR WHICH THE MINING LEASE IS GRANTED/ RENEWED / PROPOSED TO APPLIED

The lease was granted for period 20 year from dated 27.11.1992 to 26.11.2012 (Annexure no.1 & 2).

The renewal of lease is due in year 2012, therefore lessee made an application for mining lease renewal for next 20 year on date 19.05.2011. (Refer Annexure no. 11)

1.5 NAME OF RQP PREPARING THE MINING PLAN

M/s UDAIPUR MIN-TECH PVT. LTD.
RQP/UDP/354/2009/B. Valid up to 20-08-2019.

Following are the key person:-

1. Shailendra Singh Bist, Mining geologist and RQP(IBM).
2. Dr. Harpal Singh Yadav, Mining geologist and RQP(IBM).
3. Mr. Manoj Nandwana, Mining geologist and RQP(IBM).

(Annexure No.12)

Off. Address :
206, Apeksha Complex,
Sector no.11, Hiran Magri,
Udaipur - 313002.(Rajasthan)
Phone no.0294- 2489672.
Cell no. +9194141-67672 ,
e mail – ssbist@udrmintech.com

1.6 NAME OF PROSPECTING AGENCY

Directorate of Geology and Mining, Govt of Assam, Guwahati carried out detailed prospecting and drilled of 22 Nos of boreholes in New Umarangshu area.**(Annexure 15).**

1.7 DATE OF RENEWAL/ GRANT/ CONSENT TO OPERATE:

The company made application for mining lease renewal on dated 19.05.2011 for next 20 years. **(Annexure no. 11)**

=====*****=====

2.0 LOCATIONS AND ACCESSIBILITY

2.1 DETAIL OF THE AREA

District & State : Dima Hasao (North Cachar Hills), Assam
Taluka / Tehsil : Umrangshu
Village : New Umrangsau
Khasra No./ Plot no./ block range : Unclassified mixed Forest
Lease area : 417.50 hect.

Whether the area is recorded to be in forest land: Yes (Unclassified mixed Forest).

Ownership / Occupancy: The NC hills Autonomous Council has the surface rights over the lease area ownership of lease area does not belong to any private land owner. Copy of the NCC from NC hills Autonomous Council for 5 Million tones of Cement production is attached.(Annexure No. 13)

Existence of Public road / Railway line, if any nearby : The mining lease area of New Umrangshu is between 5th & 7th post from Umrangshu town on the SE side of the Umrangshu – Lanka Road. The area is at a road distance of 109 Km (via Lumding) from Haflong, HQ of Dima Hasao (Old North Cachar Hills) Dist. Assam. The Nearest rail station is at Lanka on the NE frontier railway. Nearest Airport is at Guwahati. The most widely used approach to the area is by road. The road distance of the lease area from few prominent location are as follows :

1. From Guahati via Shillong - 245 Km.
2. From Shillong – 140 Km.
3. From Guahati (vai Lanka) - 254 Km.
4. From Lanka – 64 Km.

Topo Sheet Number : The area lies on survey of India Topcsheet No. 83 C/14 . co-ordinate of boundary pillar are given below (Key Plan, Plate no. 2)

pillar	Northern	Eastern
N	25°31'18"	92°47'25.20"
M	25°32'25.20"	92°47'25.20"
E	25°31'18.20"	92°48'17.28"
Y	25°31'22.32"	92°48'17.28"
X	25°31'24.48"	92°48'32.40"
B	25°32'25.20"	92°48'30.24"

2.2 GENERAL LOCATION AND VICINITY MAP :

Location Map and Key plan is attached as Plate no.1 and 2

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3.0 GEOLOGY AND EXPLORATION

3.1 PHYSIOGRAPHY AND TOPOGRAPHY:

The limestone belt of the Kopili river valley constitutes the SE flank of the Shillong Plateau and comprises of small flat topped hillock with elevation varying from 840m to 580m above MSL. The highest altitude 837.29 km in the region has been observed at Khandong, about 12km west of new Umrangshu. The mining lease area is part of NNW-SSE trending ridge in hilly terrain of the region.

The Amrang nalla flows through the Central Part of the New Umrangshu Block in a SE direction dividing the area into two separate zones. In the Northern part of the lease area a tributary of the Amrang nalla, flowing North to South, join Amrang nalla creating a separate zone in the NW part of the mining lease area. In eastern side of the Amrang nalla the land rises from about 260 m to a height of 430 m while in the western side of the nalla the ground level rises from 270 m to 420 m. Thus the Amrang nalla with its tributary broadly divided the limestone bearing area of the New Umrangshu lease into Eastern, Western and Northern sectors. The Amrang nalla with its tributaries constituted the geomorphological disposition of the local terrain. The general physiographic features of the region has been furnished in the Key Plan. The physiographic characteristic of the New Umrangshu mining lease area has been furnished in the surface plan of the lease area. (Plate no. 3A & 3B.)

3.1.1 DRAINAGE

The drainage of the area is collected through many small nallas discharging in the Amrang Nalla and Langyen Nalla. Both these Nallas join in the SE side of the area/near the Langyen Basti and flows in a SE direction with the name of Langyen Nalla, which ultimately flows in the Kopili River. The local nallas generally carry meager drainage during dry season while in rainy season their water level may rise considerably from the bottom for short period of heavy rains. The Amrang nalla being typical hilly terrain drainage cuts through the high ground creating gorges.

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The local drainage pattern featuring of the New Umrangshu mining lease area showing in the Surface Plan(Plate No.3A&3B).

The master drainage of the region is thus controlled by the Kopili river. Near Garampani the Kopili river system had been harnessed to create a multipurpose Hydel Power Project, which generates 150 MW Power. Kopili reservoir is the source of water for Agricultural and Industrial area.

3.1.2 GENERAL GEOLOGY

The limestone belt of the Kopili Valley, of which New Umrangshu Limestone Mine is a part, belongs to the Jaintia formation of Eocene system of Assam. The generalized stratigraphic sequences of the Jaintia group are provided in the following table No. 3.1.

Table – 3.1

Age	Formation	Predominant Litho Types
Eocene	Kopili Stage	Intercalation of splintery shale and medium grained brownish sandstone.
	Sylhet Limestone Stage	Fossiliferous limestone, thick well bedded, with occasional shale Partings.
	Basal Stage	Massive sandstone with impersistent thin coal seams.

The Pre Cambrians are exposed along the Khandong ridge and at the site of Kopili Hydel Projects, west of the limestone deposit. Basal Standstone are well exposed near the Kopili and Kharkare confluence and on the beds of nalla cutting across the limestone belt in the SE side of the New Umrangshu block. The Basal sandstone was encountered in all the boreholes drilled in the mining lease area at its closing depth. Sylhet limestone occupies large tract along the Kopili valley from Elli falls to Panimur. The Eocene limestone belt of Kopili valley has a strike length of about 40 km and width of 2 km to 4 km along the SE side of the Garampani-Umrangshu-Lanka road. Surface exposure of limestone beds has been observed at Jamhung near Umrangshu village and at 4th km, 11th km and 13th km on the Garampani

Lanka road. The limestone deposits of the area, as identified by Directorate of Geology and Mining (DGM) Assam, have been marked into different blocks as mentioned below.

1. Garampani Block
2. Umrangshu Block
3. Highgrade Block
4. Timhand Block
5. New Umrangshu Block

The Geological report, prepared by the Directorate of Geology and Mining (DGM) Assam on the basis of exploration carried out by them in New Umrangshu area has been the basis for geological data of area.

3.1.3 LOCAL GEOLOGY

The New Umrangshu limestone Mine is located in the Eastern side of the Umrangshu-Lanka road at a distance of about 5 km from the New Umrangshu basti, which is about 12 km from the Umrangshu Township.

The present mining lease area is located in the Northern sloping flank of the deposit. A mantle of soil and decomposed weathered rock, varying in thickness from 0.5 m to 4.0 m, covers most of the area of the block. Limestone beds are exposed along the Amrang nalla.

DGM, Assam has carried out contour survey and Geological mapping of the New Umrangshu block. The litho logical sequence and their range of thickness, as proved by Geological mapping and projecting drilling data have been furnished in the following table no. 3.2.

TABLE 3.2

S. No.	Litho Type	Thickness Range (m)
V	Kopili Shale Sandstone alternation	0-54.0 (variable)
IV	Top limestone horizon (inferior)	16.0-32.9 (variable)
III	Shale	5.1-10.0 (mostly 6m)
II	Bottom limestone horizon (Cement grd.)	49.0-52.0 (mostly 50m)
I	Basal Sandstone	Not proved

viii)

ix)

x)

xii)

xiii)

xiv)

xv)

xvi

xvi

Fo

3.1.3(a) DESCRIPTION OF THE LITHO TYPES OF THE NEW UMRANGSHU MINING LEASE AREA:

I) Basal Sandstone:

Constitute the basement of the limestone-bearing horizon and does not show any exposure in the mining lease area. In the mining lease area most of the boreholes were drilled through the Basal Sandstone (marker horizon) to prove the floor of the bottom limestone (target Horizon) bed.

II) Bottom limestone horizon: -

Conformably overlying the Basal sandstone the cement grade limestone bed occurs with a gradational contact zone. This limestone horizon is exposed on either bank of the Amrang nalla, broadly upto altitude 330 MSL to 255 MSL. The limestone horizon has been encountered in all the boreholes drilled in the area proving an average thickness of 50m of cement grade limestone constituting the target horizon for exploitation in the mining lease area.

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III) Shale band: -

The lower limestone horizon is separated from the upper limestone horizon by a thin (3 m to 10 m) shale band persistently present throughout the area, on either sides of the Amrang nalla. The pattern of exposure of the shale band on both sides of the Amrang nalla is characteristic of low dipping bed, which generally follows the contour. In the northern part of Amrang nalla, the shale bed created sharp "V" pattern exposures.

IV) Top limestone horizon -

Directly overlying the shale band, this limestone is exposed between 340 MSL to 375 MSL in the western side and between 315 MSL to 350 MSL in the eastern side. The upper limestone is overlain by Kopili shale and sandstone alternations.

The upper limestone varies in thickness from 16m to 30 m and has been proved in most of the boreholes drilled in the area. The limestone is interbanded with shale bands, detericrating its quality. The reddish limestone band is fine grained, hard

and composed of rich Fe_2O_3 content. The shaly limestone band is generally intercalated with shale bands, while the shale band contains thin limestone layers. This band is high in AL_2O_3 and SiO_2. On the basis of physical and chemical composition this horizon may roughly be separated into two bands as follows:

(i) The upper band is highly ferruginous, red colored limestone of 8 m to 10 m thicknesses. It is hard and compact with silicification along the fracture plane. Due to abrasive characteristics this limestone bed often forms cliffs.

(ii) The lower band is grey to dirty grey colored limestone of 5 m to 20 m thicknesses. This band is comparatively less hard and compact with presence of shale lamina. The quality of top limestone bed is poor and offers no industrial utilization potential at present. Based on borehole logs & in actual about 23 % of limestone excavated in used in cement plant after blending with bottom bed limestone.

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Borehole No	Top Bed Limestone		Total Depth (in m)	Grade Of Limestone	Weighted average CaO %
	from	to			
24/3	4m	36m	26	Low grade limestone	<34%
24/2	17.5m	49m	31.5	Low-grade	<36%
20/2	10.5m	16.5m	6	Low	<36%
	16.5m	22m	5.5	Low grade limestone	<40
	22.4m	34m	11.6	Low	<38%
	34m	40m	6	Marginal grade	42%
26/1	38m	39m	1	Marginal grade	>42%
26/3	8m	24.5m	16.5	Marginal grade	>45%
30/2	15.5m	48m	29.5	Low grade limestone	<36-38%
30/2A	5m	20m	15	Marginal grade limestone	<42%
34/2	8m	35.5m	27.5	Low grade	<36%
20/1	5m	8m	3	Low	39%
24/3a	6m	8m	2	Marginal grade	42%
20/2A	22m	28m	6	Marginal grade	42%
	10m	22m	12	Low	38%
	33m	34m	11	Low	38%
	34m	40m	6	Marginal grade	42%
20/3	6m	22m	16	Marginal grade	42%
Total			238.1		

From the analysis of above boreholes that total high grade limestone band exist is about 68.5m out of 238m of total length of top band limestone encountered in bore hole. It is about 28% of total. Therefore for consideration of reserve calculation and mine development about 28% of top band limestone has been considered.

Kopili Shale and Sandstone alternation: Kopili shale and sandstone alternation is the upper most unit of the area occupying the higher ridges, mostly above 375 m in the western and 350 m in the eastern side of the Amrang nalla. The litho types are composed of inter banding of yellowish brown sandstone and grey to brown splintery shale. This formation has been encountered in 10 boreholes drilled in the area.

3.1.3 (b) STRUCTURE

The New Umrangshu limestone Mine is characterized by strike of formation of NNE-SSW in conformity with the regional trend. The dip is between 2° to 4° towards SE. Because of low dip of strata the out-crops of litho units are in conformity with the surface contour pattern.

The deposit is generally free from any major structural disturbance (fault, fold). However, in the SSW part of the area numbers of local faults and slips have been indicated by small nalla courses.

3.1.4 DESCRIPTION OF LIMESTONE DEPOSIT

As mentioned earlier, there are two distinct horizons of limestone, separated by the (6 m) persistent shale band present in the New Umrangshu area. The top limestone band is inferior in quality while the bottom limestone band (about 50 m thick) is of superior quality, which confirms quality requirements of cement industry.

3.1.4(a) Top Band Limestone

This limestone is brown to dirty brown in color with higher Fe_2O_3 (limonitic) and less CaO content, rendering the limestone unsuitable for cement manufacture.

Towards bottom portion of this top limestone band, at some places, a thin impersistent band of slightly better quality limestone is available, which may be sometime useful for blending with better quality limestone. During mining operation, an effort should be there to identify and extract this limestone, if techno economically viable.

The range and weighted average composition of this limestone in the mining lease area are furnished in the following table No. 3.3.

Table – 3.3

Constituent	% Range	Weighted average%
CaO	24.53-50.43	39.00
MgO	0.50-2.35	1.64
Fe_2O_3	2.93-21.74	10.77
AL_2O_3	1.53-11.00	5.34
SiO_2	1.95-11.67	7.34
L.O.I	26.84-40.32	33.52

(For Details Analysis of Bore hole and surface sample, refer Annexure no.15)

3.1.4(b) Bottom Band Limestone

This limestone is suitable for cement industry and constitutes the target horizon of mining in the lease area. This limestone is characterized by massive, well bedded bluish grey to light grey appearance. The quality of the limestone improves gradually from top towards bottom except on erratically silicified zone over the contact with the "Basal Sandstone". The range and weighted average composition of this band of limestone are given below table No. 3.4.

Table – 3.4

Constituent	% Range	Weighted average%
CaO	30.16-53.64	47.08
MgO	0.02-6.02	1.31
Fe_2O_3	0.53-10.44	2.90
AL_2O_3	0.03-9.91	3.0
SiO_2	0.92-17.0	5.38
L.O.I	29.32-42.51	38.70

Minor Constituents of the bottom limestone bed have been furnished in the following table No.3.5.

Table – 3.5

Constituent	% Range
T_iO_2	Trace-1.15
P_2O_5	0.016-0.27
Mn_2O_3	0.015-0.75
SO_3	0.14-2.80
Cl	0.01-0.05
Na_2O	0.15-0.29
K_2O	0.03-0.15

3.1.4 (C) Intermediate Shale Band

The core samples of 8 boreholes (in which the shale band was encountered have been analyzed. The summary of the analysis of the shale band has been shown in the following table No. 3.6.

Table – 3.6

Constituent	% Range
CaO	2.74
MgO	3.02
Fe_2O_3	9.34
AL_2O_3	21.50
SiO_2	49.92
L.O.I.	13.48

3.2 TOPOGRAPHICAL PLAN GEOLOGICAL PLAN & SECTION AND DETAIL OF EXPLORATION ALREADY CARRIED OUT:

3.2.1 GEOLOGICAL PLAN :

However based on survey carried out on dated 25.03.2011 prevail the litho logical exposure on surface and in wells occurring in the lease area provided sufficient geological information about mineral occurrence. Geological mapping was undertaken on a scale of 1:2000 with contour interval of 5m and depicted in surface geological plan (Plate no-4). Contacts between different litho-unit were established based on the surface exposure and subsurface data obtained from drilling.

3.2.2 DETAILS OF EXPLORATION ALREADY CARREID OUT:

DGM, Assam carried out prospecting in a potential limestone block in New Umrangshu area. The detailed exploration in New Umrangshu block by DGM Assam commenced in 1987-88, under a three year sponsored scheme of North Eastern Council (NEC), Govt of India. The DGM completed exploration and submitted a report of investigation for cement grade Limestone deposit in New Umrangshu Block. The report incorporated (1) detailed topographical survey and geological mapping covering an area of 4.175 Sq.Km and drilling data of 22 nos boreholes with total drilled of 2017 mt. The details of exploration done by GSI & DGM, Assam in past summarized as below:

S. No	Exploration agency	Nature of Exploration	Area covered under exploration	Exploratory drilling No. of bore holes/ Meter age drilled	Year of exploration
1	GSI	Prospecting	-	-	1955-62
2	DGM, Assam	Detailed Exploration	4175 sq km	22 nos/ 2017 mt (annexure no.12A&B)	1987 -88

Consent letter from DGM, Assam for utilizing the data has been annexed as annexure no.15A

3.2.2.1 Sampling & Analysis

Total 387 Nos of samples were drawn from drill core samples of the upper and the lower limestone. The sample lengths were determined on the basis of visual characteristics of the core samples. Generally for lower Limestone 2m sample length and for the upper Limestone 6m sample length were maintained.

All the sample were analyzed by M/s Survey and Surveillance (India) Pvt. Ltd. Calcutta. The analytical data of top Limestone in bore holes has been given in Annexure no.15A. Five surface sample has been collected and analyzed.(Refer annexure 15B to 15F)

3.3 GEOLOGICAL SECTION:-

Geological cross sections have been drawn along sectional line shown on the geological plan. These sections are prepared on the scale of 1:2000.

3.4 FUTURE EXPLORATION :-

The future exploration is proposed to bring out the reserve under categories 122 and 333 into 111. Therefore 30 No. of bore hole (Core able) have been proposed to carry out during the first two year ensuing plan period as per circular No.7/2011 and undertaking as per circular has been annexed (annexure 16). Location of proposed bore hole has been marked on Geological plan (Plate no.4A)

PROPOSED	Year	Location		Meterage	Direction
		E	N		
1	2012-2013	479600	2823200	50m	vertical
2		480040	2823200	50m	vertical
3		480870	2823320	50m	vertical
4		480200	2823400	50m	vertical
5		479600	2823600	50m	vertical
6		479920	2823606	50m	vertical
7		480600	2823600	50m	vertical
8		481000	2823600	50m	vertical
9		481250	2823600	50m	vertical
10		479722	2823800	50m	vertical
11		479600	2824000	50m	vertical
12		480600	2824000	50m	vertical
13		481000	2824000	50m	vertical
14		481268	2824000	50m	vertical
15		479800	2824200	50m	vertical
16	2013-2014	480200	2824200	50m	vertical
17		480762	2824200	50m	vertical
18		479600	2824400	50m	vertical
19		480034	2824400	50m	vertical
20		480400	2824400	50m	vertical
21		481000	2824400	50m	vertical
22		481270	2824400	50m	vertical
23		480600	2824600	50m	vertical
24		481000	2824690	50m	vertical
25		481242	2824800	50m	vertical
26		480342	2824800	50m	vertical
27		480600	2825000	50m	vertical
28		481000	2825000	50m	vertical
29		480760	2825200	50m	vertical
30		481200	2826200	50m	vertical

3.5 METHOD OF RESERVES ESTIMATION

For estimation of potentiality of the mining lease area, the disposition of all the litho units, with particular emphasis on the bottom horizon limestone, were critically studied utilizing field exposures and sub surface data of various litho units obtained from boreholes drilled in the M.L. area.

The reserves have separately been estimated into two UNFC category 122 and 332 (as marked on the Geological Plan) on the basis of exploration carried out and exposure of limestone. The borehole data provides the subsurface configuration of the limestone bed. Top band limestone volume is also calculated wherein this type of limestone is low in CaO, High in Fe_2O_3 and Alumina. This will not be suitable for cement manufacturing but will be stacked separately and blended in future with the Bottom band Limestone depending on the quality of the raw mix.

For estimation of reserve cross section method has been adopted because this method takes into consideration the mine ability of the deposit from segment to segment and from bench to bench. 8 transverse geological sections have been drawn at 300 to 320 meter interval as marked on Geological map.

The sectional quality of the cement grade limestone has been computed along these sections for both Top bed and Bottom bed limestone. Reserves have also been estimated along these section lines by the cross section method

From the geological cross sections are drawn at 300 to 320 meter interval the sectional areas on individual sections for the upper bed limestone and Lower bed limestone were separately calculated. The sectional areas are multiplied by the length of influence of the individual section lines determined by adding half the distance to the next adjacent section

lines on either side. The length of influence has been averaged o
each of the sectional areas and the corresponding length of influe
gave the volumes of the different bed of limestone. The volume of
limestone of both the bed multiplied by the tonnage factor 2.6 that gi
its reserves.

The subsurface details of the boreholes along with surface configuration
observed in the geological map have been utilized to draw sectional thickn
of limestone reserves. Depth for each section has been calculated us
average method. A 15 m barrier zone has been left out on either side of
Amrang nalla and its tributary for reserve estimation. Also 7.5 wide zo
from lease boundary were excluded as per statutory requirement. All li
units overlying the cement grade limestone (Bottom limestone) constitute
over burden. Thus the full combined thickness of soil, shale, top limesto
and Kopili sandstone/ shale has been considered as overburden.
computation of reserve and assigning the UNFC grade following facts h
been considered.

- For assigning the UNFC code explored area by way of Bereholes
been considered for classification of reserves under G2 category.
- Area between 200 to 400 m from the bore hole has been conside
under G2 category of reserves
- Reserves from G3 category are classified as 333 category determi
up to lease boundary since it is simple bedded deposit, as feasibil
assessment of the reserve not done.

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3.5.1 Estimate of Reserves of under UNFC -332

Estimated Net Reserves under 332 category for Upper bed Limestone a
lower bed limestone has been calculated separately. Depth of each secti
varies from 25m to 50m. Detail calculation has been presented in t
following table.

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TABLE – 3.7 (A): RESERVE OF UPPER BED LIMESTONE

ON SECTION LINE	WIDTH in Mt.	AVG. DEPTH in Mt.	CROSS SECTIONAL AREA Sqm.	LENGTH OF INFLUENCE in Mt.	VOLUME Cum.	TONNAGE VOL x 2.6
A-A'	1187.52	25.91	30769.64	150	4615296	11999770
B-B	1156.06	29.64	34087.77	320	10909689	28361031
C-C	738.25	31.08	22944.81	320	7342339	19089081
D-D	1513.38	26.72	40437.51	160	6470002	16822005
				TOTAL	29337327	76272890

TABLE 3.7(B): RESERVE OF BOTTOM BED LIMESTONE

ON SECTION LINE	WIDTH in Mt.	AVG. DEPTH in Mt.	CROSS SECTIONAL AREA Sqm.	LENGTH OF INFLUENCE in Mt.	VOLUME Cum.	TONNAGE VOL x 2.6
A-A'	1954.30	43.61	85222.66	150	12783399	33236837
B-B'	1949.30	41.58	81064.36	320	25940557	67445564
C-C'	1948.22	39.21	76397.50	320	18210431	47347046
D-D'	1659.62	48.37	80275.81	160	12844131	33394740
				TOTAL	69778699	181424178

3.5.2 ESTIMATE OF RESERVES OF UNDER UNFC - 333

Estimated Net Reserves under 333 category for the remaining area for Upper bed Limestone and lower bed limestone has been calculated separately. Depth of each section varies from 25m to 52m. Details calculation has been presented in the following table:

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TABLE 3.7(C): RESERVE OF UPPER BED LIMESTONE

ON SECTION LINE	WIDTH in Mt.	AVG. DEPTH in Mt.	CROSS SECTIONAL AREA Sqm.	LENGTH OF INFLUENCE in Mt.	VOLUME Cum	TONNAGE VOL x 2.6
A-A'	274	25.94	7107.56	150	1066134.00	2771948.40
B-B'	276	28.48	7860.48	320	2515353.60	6539919.36
C-C'	251	18.28	4574.68	320	1463897.60	3806133.76
D-D'	290	33.41	9688.90	160	1550224.00	4030582.40
E-E'	1839.20	26.52	51427.584	850	43718446.40	113654960.60
				TOTAL	50309055.60	130803544.60

TABLE 3.7(D): RESERVE OF BOTTOM BED LIMESTONE

ON SECTION LINE	WIDTH in Mt.	AVG. DEPTH in Mt.	CROSS SECTIONAL AREA Sqm.	LENGTH OF INFLUENCE in Mt.	VOLUME Cum.	TONNAGE VOL x 2.6
A-A'	274	46.52	12746.48	150	1911972.00	4971127.20
B-B'	276	42.58	11752.08	320	3760665.60	9777730.56
C-C'	281	19.37	5442.97	320	1741750.40	4528551.04

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D - D'	290	48.34	14018.60	160	2242976.00	5831737.6
E - E'	1939.20	52.16	101148.67	850	85976371.20	223538566.1
				TOTAL	95633735.20	248647711.1
			GRAND TOTAL		145942790.8	379451254.9

3.5.3 TOTAL ESTIMATED NET PROVED WORKABLE RESERVES OF TH NEW UMRANGSHU M.L. AREA

Table – 3.7(E)

UNFC CODE	Reserve Quantity (in tones)			GRADE
	TOP BAND	BOTTOM BAND	TOTAL	
G2 (332)	76272890	181424178	257697068.00	cement
G3 (333)	130803544	248647711	379451255.00	cement

3.5.2 RESERVE CALCUATION FROM SLICE PLAN METHOD:-

Estimation of reserve by Top Slicingmethod has also been carried out and it may be seen that estimated total reserve are in good agreement with the reserve calculation from cross sectional method. In this method the procedure followed is as under the area of the bench multiplied by bench height (10m) and bulk density of Limestone 2.6 gives the reserves. The bench wise reserve estimated by top slicing have been furnished in the table 3.7(A1) and 3.7 (C1). Slice of the each bench is shown in plan is given as Plate No. 4E and 4F.

BOTTOM BED LIMESTONE

BENCH RL	SURFACE AREA (Sqm)	THICKNESS OF SLICE (m)	VOLUME (Cum)	MT
395	25843	10.0	258440	671944
385	47376	10.0	473760	1231776
375	53287	10.0	532870	1385462
365	54428	10.0	544280	1415128
355	55346	10.0	553460	1438996
345	73688	10.0	736880	1915888
335	123587	10.0	1235870	3213262
325	412687	10.0	4126875	10729875
315	1496578	10.0	14965780	38911028
305	1289564	10.0	12895640	33528664
295	1061727	10.0	10617276	27604917
285	793638	10.0	7936382	20634594
275	577717	10.0	5777173	15020649
265	362824	10.0	3628243	9433433
255	275854	10.0	2758542	7172210
245	141112	10.0	1411122	3668918
235	69247	10.0	692472	1800428
225	53648	10.0	536482	1394853
		TOTAL	69681547	181172025

TOP BED LIMESTONE

BENCH RL	SURFACE AREA (Sqm)	THICKNESS OF SLICE (m)	VOLUME (Cum)	MT
395	87522.0	6.0	525132	1365343
385	124682.0	10.0	1246820	3241732
375	163905.0	10.0	1639050	4261530
365	241768.30	10.0	2417680	6285968
355	367856	10.0	3678556	9565225
345	616798	10.0	6167984	16036760
335	714857	10.0	7148574	18586294
325	427576	10.0	4275760	11116976
315	223887	10.0	2238870	5821062
305				
295				
285				
275				
265				
255				
245				
235				
225				
		TOTAL	29335728	76272890

BENCH RL	TOP BED LIMESTONE SURFACE AREA (Sqm)	THICKNESS OF SLICE (m)	VOLUME (Cum)	MT	BOTTOM BED LIMESTONE SURFACE AREA (Sqm)	THICKNESS OF SLICE (m)	VOLUME (Cum)	MT
375	223904.0	10	2239040	5821504	172567	10	1725674	4486753
365	391768.00	10	3917680	10185968	347895	10	3478952	9045276
355	619485.58	10	6194856	16106625	522593	10	5225932	13587424
345	988792.25	10	9887922	25708598	798798	10	7987984	20768759
335	864816.46	10	8648165	22485228	1025879	10	10258792	26672861
325	731456.00	10	7314560	19017856	1329485	10	13294854	34566621
315	572487.18	10	5724872	14884666	1526578	10	15265780	39691028
305	394689.25	10	3946892	10261920	1719564	10	17195640	44708664
295	248765.23	10	2487652	6467895	1461727	10	14617275	38004916
285					1183638	10	11836382	30774594
275					987717	10	9877172	25680648
265					847985	10	8479852	22047617
255					771456	10	7714562	20057863
245					748477	10	7484772	19460407
235					712320	10	7123202	18520326
225					410880	10	4108804	10682892
		TOTAL	50361639	130940263		TOTAL	145675629	378756649

3.6 MINEABLE RESERVES

The physiographic disposition of the New Umrangshu M.L. area is not very favorable for surface open pit mining. The Amrang nalla flowing through the most potential part of the deposit will block substantial part of the reserves in the exposure zone of the limestone bed.

A substantial part of the estimated results will have to be left unworked as 60 m wide barrier for the Amrangnalla and its tributary, 7.5m statutory barrier zone, ultimate pit slope, and infrastructure development. (crusher and mines office).

On these feature are marked on geological plan (Plate 4A&4B)

In view of the above the net proved reserves of 202 million tones in the mining lease area might yield about 162 million tones of mineable reserves. The distribution of mineable reserves in the mining lease area covering the western, eastern and northern sectors have been furnished as below:-

TABLE 3.9 BLOKED RESERVES (IN MILLION TONNES)

STATUTORY BARRIER (UNFC)	NALLA (222)	ULTIMATE PIT SLOPE (222)	7.5 m ML BARRIER (222)	CRUSHER SITE (222)	TOTAL	SUB GRADE (TOP BAND)** (222)
RESERVE BLOCKED	2.5*	29.85	4.55	3.23	40.22	54.91

* Fraction has been rounded up. ** Non Blendable.

TABLE 3.10 MINEABLE RESERVES (IN MILLION TONNES)

LIMESTONE BAND	RESERVE QUANTITY TOP 28% Recovered	BOTTOM	TOTAL (332)	RESERVE BLOCKED 222	MINEABELE RESERVE (122)
RESERVE QUANTITY	21.35	181.42	202.78	40.22	162.54

- Reserves blocked in statutory barriers along lease boundary and in final benches in G2 category have been classified under 222 categories as these cannot be mined at present. The Sub grade(Non mineable) also classified under 222.

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(RQP/UDP/354/2009-B)

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- Remaining Reserves (after losing Blocked reserve) from G2 categ are considered for prefeasibility study and classified as 122 category per feasibility assessment of the reserve that proved the econo viability.

- Remaining Reserves from UNFC 122 category (Area where only Bore hole were drilled at spacing more than 400m ' are classified 333 category as feasibility assessment of the reserve not done but can be considered as extension of G2 category.

MINERAL RESOURCE AS PER UNFC CODE

(IN MILLION TONNES)

RESERVES	Category-111	Category-122	RESERVES
		162.54	162.54
RESOURCES	--	PRE-FEASIBILITY RESOURCES(222)*	REMAINING RESOURCES
		95.13	95.13
	INFERRED RESOURCES(333)		
	379.45		379.45
	TOTAL RESOURCES		637.12

3.5.4 GRADING OF RESERVES AS PER UNITED NATION FRAME WOR CLASSIFICATION (UNFC)

Table - 3.8(A): GEOLOGICAL AXIS(G-2)

Description	(Detail exploration)
1.Geological survey	Geological plan & Geological section on 1:2000 sc showing topography surface geological featur extent of mineral deposit etc.
2.Geological chemical Survey	Core Sample collected and analyzed.(report enclos as Annexure No.15). Surface sample report annexed as Annexure 15 B to 15F.
3.Geological Physical Survey	Not required.
4.Technological	i) Pitting : No ii) Trenching: No. iii) Drilling : Total bore holes 22 range in dep varies from 46 to 137 m and total drilling 2017

	spacing of bore hole is varies from 300 to 400 m. out of this 22 bore hole 13 no of bore hole have been exist in this block. iv) Exploratory Mining: No

Table - 3.8(B): FEASIBILITY AXIS (F-2)

Description	(Feasibility study)
1. Geology:	The detail geological mapping /study of lease area has been done. No surface water as well as ground water studies require for lease area.
2. Mining :	Mining plan proposed for five years.
3. Environment :	Detail study of EIA/EMP including Socio-Economic aspects is being done and will be submitted to MOEF, New Delhi for Environment clearance.
4. Processing :	The cement grade limestone is directly useable for manufacture of ordinary Port land Cement with beneficiation. However Bulk sampling with analysis will be done.
5. Infrastructure and services, construction activities:	The infrastructure facilities established will be established at the mine such as office, first aid room, V.T. Center, Canteen cum rest shelter, workshop, store, roads etc. and utilized.
5. Costing:	The limestone mine is captive mine for cement plant of lakh tones. Total capital cost of cement plant is Rs 2865 crores.
7. Marketing :	No marketing of the limestone produced as the entire ROM of mining lease area is being consumed at captive Plants.
8. Economic viability:	The cost of mining and transportation will be about Rs. 120/- per tone for Cement plant from mine lease area. That can be absorbed by the plant for manufacturing of cement as a finished product. Hence the project will be viable.
9. Other factors:	The lessee follow all statutory obligations as per mining law during mining. The side of excavation shall be adequately benched, shaped and secured so as to prevent danger from fall of sides as per regulation 106 of the Metalliferous Mines Regulations 1961 and other provisions of Mines Act. 1952, Mines Rules 1955 & M.C.D.R. 1988 shall also be complied.

Table - 3.8(C): ECONOMIC AXIS (E-2)

1. Detailed exploration.	General exploration completed.
2. Mining report / Mining plan / working mines.	Mining report prepared.
3. Specific end-use grades of reserves (above economic cut-off grade).	The management specified the cement grade limestone requirement as under : CaO ≥ 46% SiO_2 < 12% Fe_2O_3 ≥ 3.00%
4. Specific knowledge of forest/non-forest and other land use data.	Entire land is unclassified mixed forest and lessee having surface right for mining.

JUSTIFICATION FOR THE RESERVE UNDER UNFC 333

Table - 3.9(A): GEOLOGICAL AXIS (G-3)

1.Geological survey	Geological plan & Geological section on 1:2000 sc showing topography, surface geological featu extent of mineral deposit etc.
2.Geo-Chemical Survey	Sample collected and analyzed.(Report enclosed Annexure No.15)
3.Geo Physical Survey	Not required.
4.Technological	i) Pitting : No ii) Trenching: No. iii) Drilling: Total 7 bore holes range in depth va from 46 to 137 m and total drilling 250 m. spacin bore hole is varies from 400 to 800 m. iv) Exploratory Mining: No

Table - 3.9(B): FEASIBILITY AXIS (F-3)

1. Geology:	The detail geological mapping /study of lease ar has been done. No surface water as well as groun water studies require for lease area.
2. Environment :	Detail study of EIA/EMP including Socio-Econom aspects is being done and will be submitted t MOEF, New Delhi for Environment clearance.
3. Infrastructure and services, construction activities:	The infrastructure facilities established will b established at the mine such ANFO mixing shed store, roads etc. and utilized.
4. Other factors:	The lessee follow all statutory obligations as p mining law during mining. The side excavation shall be adequately benched, shape

	and secured so as to prevent danger from fall of sides as per regulation 106 of the Metalliferous Mines Regulations 1961 and other provisions of Mines Act. 1952, Mines Rules 1955 & M.C.D.R. 1988 shall also be complied.

Table - 3.8(C): ECONOMIC AXIS (E-3)

1. Exploration.	Borehole drilled at the interval more than 400 m.
2.Mining report / Mining plan / working mines.	Mining report prepared. Mining plan approved. it is entirely virgin land.
3. Specific end-use grades of reserves (above economic cut-off grade).	The management specified the cement grade limestone requirement as under : CaO ≥ 46% SiO_2 < 12% Fe_2O_3 ≥ 3.00%
4. Specific knowledge of forest/non-forest and other land use data.	Entire land is unclassified mixed forest and lessee having surface right for mining.

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4.0 MINING

4.1 EXISTING / PROPOSED METHOD FOR DEVELOPING / WORKING THE DEPOSIT WITH ALL DESIGN PARAMETERS

Entire area is virgin. No any mining activity has been carried out in the area except exploratory mining by way of Drilling only. Opencast method of mining is proposed taking into consicering the following factors that :

The limestone horizon (cement grade) is of massive and uniform nature with average thickness of 50 m. The top and bottom of the limestone bed is generally uniform and regular except in exposure region. The deposit is best suited for mechanized open pit mining using heavy earth moving equipment's.

The top limestone is a persistent horizon separated from the "Bottom Limestone" by an uniformly developed shale band. The poor carbonate content of the top limestone horizon mkes it partially suitable for cement industry. Therefore, the combined thickness of Kopili sandstone,part of top limestone and shale beds will be removed as overburden. The topsoil will be removed separately wherever available, for use in land reclamation.

As mentioned earlier, the mining lease area is separated into 3 distinct sectors by the Amrang nalla. The western sector is proposed to be worked for initial years. The part of the eastern sector will be opened up after development of proper infrastructure and a bridge on the Amrang nalla. Finally both the sectors will be worked in tandem, to maintain more or less uniform limestone to overburden ratio during subsequent years.

The approach road to the mining area of both the sectors has been constructed from the existing main road, which constitutes the southern boundary of the mining lease area. The road will be about 9m finished width and designed to take about 50 tones load. The gradient will be maintained at about 1 in 16.

The western sector of the New Umrangshu mining lease area appears favorable from mining point of view. The northern and eastern limit of this sec marked by the 15 m barrier zone of the Amrang nalla, the western limit by gri 20 and southern limit by the 7.5 m barrier left from lease boundary. In this s the ground gradually rises from 275 mRL near nalla to a height of about 420 in the western part, near borehole 20/2. A wide limestone exposure zone is avail in the eastern side of the sector from 270 mRL near the nalla to about 327 mRL

DESIGN PARAMETER :

BENCH HEIGHT & WIDTH: - The limestone bed to be mined is 50 m thick fairly uniform in quality. The production requirement is also high. Theref mechanized open pit mining with bench height of 10 m and bench width of al 20 m will be suitable for easy movement of equipment's. Benches will be develo along surface contour mostly in NS orientation, progressing towards west.

The working benches will be developed mostly along surface counters. Initially mRL bench will be opened up, maintaining a workable proportion betw production of limestone and O.B. The lower benches in exposure zone will be wor when stripping ratio goes high in the western benches. However, a safety zone be maintained along the Amrang nalla keeping part of the limestone exposure unworked.

BENCH DEVELOPMENT :

Excavation of benches in soil will be done using hydraulic excavator. The hill will not permit excavation and movement of HEMMs along slope hence proposed to advance benches in strike direction having 20m width. The excav will excavate top soil with its penetrating force, load into dumpers standing be which will transport to top soil dump exclusively and it will be preserved for fu uses.

Out of the two limestone horizons available in the lease area, only the bottom horizon is of desired quality and proposed to be mined. The top limestone horizon is inferior in quality and partially will be used in cement plant.

Bench development in overburden will be same as development done in Bottom limestone. Excavation will require drilling and blasting. After blasts, hydraulic excavator move in and start digging and loading into dumpers. The dumper transport the O/B material to O/B dump site already earmarked for the purpose. ROM transported to the crusher site will be carried out by excavator dumper combination.

SLOPE OF THE BENCHES: Depend on the hardness and compactness of the strata in the bench presence of structural disturbances and slope of bench will be kept at 60°-70°. Ultimate pit slope will be at 45°.

The side of excavation shall be adequately benches shaped and secured as to prevent danger from fall of sides as per regulation 106 of the Metalliferous Mines Regulations 1961, Mines Act. 1952, Mines Rules 1955 & M.C.D.R. 1988. Lessee will be obtained permission from DGMS for use of HEMM deep hole drilling.

4.2) QUANTUM OF DEVELOPMENT AND TONNAGE & GRADE OF PRODUCTION:

Keeping in view the production capacity of the Cement plant, future expansion plans & the availability of limestone from this mine, the yearly production targets of limestone has been fixed from 1.0 million tones during the first year and 7.0 million tone from second year onwards. Part of the ROM will include 28% recovered limestone from the upper band of limestone this recovery of 28% has been fixed on the basis of bore hole data that show some band of high CaO content in the upper band of Limestone. Taking into consideration 10% mining losses in mining of limestone total ROM will be as follows:-

TABLE 4.1

YEAR	OVERBURDENWASTE Cum					LIMESTONE PRODUCTION (Tones)	STRIPPI[NG] RATIO (Tons : Cu[m])
	KOPILI	SHALE	SUB* GRADE	TOP SOIL	TOTAL		
FIRST	1131775	107280.00	344965.00	217120.00	1861584.0	1250361.00	11.4
SECOND	1077840	371616.00	1930833.00	60730.00	3441099.0	7772542.00	10.4
THIRD	813048	360738.00	1933704.00	18880.00	3317280.0	7777797.00	10.[illegible]
FOURTH	693660	396098.00	1935864.00	35438.00	3061050.0	7778365.00	10.3
FIFTH	511508	364672.00	1931832.00	26119.00	2834493.0	7636428.80	10.[illegible]
	4327116	1850892.00	8877142.00	359797.00	14000046	32215613.46	1:0.4[illegible]

* Non Blendable.

4.3 YEAR WISE DEVELOPMENT

4.3.1 FIRST YEAR (YEAR 2012-13):- The advances proposed during the year 2012-13 are shown in Plate 5A. The details are as under:

TABLE 4.2(B) MINING WASTE GENERATION DURING THE YEAR

BENCH RL	LENGTH (m)	WIDTH (m)	DEPTH (m)	VOLUME (Cum)	REMARKS
405.00	255.00	62.00	7.50	118575.00	Kopili alteration
395.00	206.00	172.00	10.00	364320.00	Kopili alteration
385.00	232.00	142.00	10.00	329440.00	Kopili alteration
375.00	232.00	142.00	10.00	329440.00	Kopili alteration
335.00	255.00	82.00	8.00	167280.00	Shale
			TOTAL	1299055.00	

TABLE 4.2(B) : DEVELOPEMENT IN LIMESTONE

BENCH RL	LENGTH (m)	WIDTH (m)	DEPTH (m)	VOLUME (Cum)	MT.	REMARKS
365.00	389.00	39.00	10.00	151710.00	394446.00	UPPER BED LIMESTONE
355.00	426.00	42.00	10.00	178920.00	465192.00	
345.00	291.00	51.00	10.00	148410.00	385866.00	
			TOTAL	479040.00	1245504.00	
		Recovered 28% (A)		134131.00	348741.00	
325.00	199.00	74.00	10.00	147260.00	382876.00	LOWER BED LIMESTONE
315.00	172.00	116.00	10.00	199520.00	518752.00	
			TOTAL(B)	330000.00	901628.00	
		GRAND TOTAL (A+B)		464131.00	1250369.00	

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4.3.2 SECOND YEAR (YEAR 2013-14):- The advances proposed during the year 2013-14 are shown in Plate 5B. The details are as under:

TABLE 4.3(A) : MINING WASTE GENERATION DURING THE YEAR

BENCH RL	LENGTH (m)	WIDTH (m)	DEPTH (m)	VOLUME (Cum)	REMARKS
405.00	154.00	48.00	10.00	73920.00	Kopili alteration
395.00	264.00	88.00	10.00	232320.00	Kopili alteration
385.00	315.00	102.00	10.00	321300.00	Kopili alteration
375.00	285.00	158.00	10.00	450300.00	Kopili alteration
		Sub Total		1077840.00	
335.00	294.00	158.00	8.00	371616.00	Shale
		GRAND TOTAL		1449456.00	

TABLE 4.3(B) : DEVELOPEMENT IN LIMESTONE

BENCH RL	LENGTH (m)	WIDTH (m)	DEPTH (m)	VOLUME (Cum)	MT.	REMARKS
365.00	481.00	192.00	10.00	923520.00	2401152.00	UPPER BED LIMESTONE
355.00	472.00	183.00	10.00	863760.00	2245776.00	
345.00	462.00	176.00	11.00	894432.00	2325523.00	
			TOTAL	2681712.00	6972451.00	
		Recovered (28%)(A)		750879.00	1952286.00	
325.00	348.00	246.00	10.00	856080.00	2225808.00	LOWER BED LIMESTONE
315.00	318.00	217.00	10.00	690060.00	1794156.00	
305.00	389.00	178.00	10.00	692420.00	1800292.00	
			TOTAL(B)	2238560.00	5820256.00	
	GRAND TOTAL(A+B)			2989439.00	7772542.00	

4.3.3 THIRD YEAR (YEAR 2014-15):- The advances proposed during the year 2014-15 are shown in Plate 5C. The details are as under:

TABLE 4.4(A) : MINING WASTE GENERATION DURING THE YEAR

BENCH RL	LENGTH (Peripheral)	WIDTH (m)	DEPTH (m)	VOLUME (Cum)	REMARKS
405.00	138.00	44.00	10.00	60720.00	Kopili alteration
395.00	264.00	76.00	10.00	200640.00	Kopili alteration
385.00	338.00	62.00	10.00	209560.00	Kopili alteration
375.00	416.00	82.00	10.00	341120.00	Kopili alteration
		SUB TOTAL		812040.00	Kopili alteration
335.00	531.00	132.00	8.00	560736.00	SHALE
		GRAND TOTAL		1372776.00	

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TABLE 4.4(B) : DEVELOPEMENT IN LIMESTONE

BENCH RL	LENGTH (PERI.)	WIDTH m	DEPTH m	VOLUME (Cum)	MT.	REMARKS
365.00	538.00	164.00	10.00	882320.00	2294032.00	UPPER BE LIMESTON
355.00	526.00	179.00	10.00	941540.00	2448004.00	
345.00	513.00	168.00	10.00	861340.00	2240784.00	
		TOTAL		2685700.00	6982820.00	
		Recovered (28%) 'A)		751996.00	1955190.00	
325.00	506.00	103.00	10.00	521180.00	1355068.00	
315.00	531.00	103.00	10.00	546930.00	1422018.00	
305.00	536.00	103.00	10.00	552080.00	1435408.00	LOWER BE LIMESTON
295.00	274.00	226.00	10.00	619240.00	1610024.00	
		TOTAL	(B)	2239430.00	5822518.00	
		GRAND TOTAL (A-B)		2991426.00	7777708.00	

4.3.4 FOURTH YEAR (YEAR 2015-16):- The advances proposed during the y 2015-16 are shown in Plate 5D. The details are as under:-

TABLE 4.5(A) : MINING WASTE GENERATION DURING THE YEAR

BENCH RL	LENGTH (PERI.)	WIDTH m	DEPTH m	VOLUME (Cum)	REMARKS
405.00	112.00	92.00	10.00	103040.00	Kopili altration
395.00	158.00	116.00	10.00	183280.00	Kopili altration
385.00	298.00	67.00	10.00	199660.00	Kopili altration
375.00	352.00	59.00	10.00	207680.00	Kopili altration
			Sub Total	693660.00	Kopili altration
355.00	456.00	106.00	8.00	386688.00	SHALE
		GRAND TOTAL		1080348.00	

TABLE 4.5(B) : DEVELOPEMENT IN LIMESTONE

BENCH RL	LENGTH (PERI.)	WIDTH m	DEPTH m	VOLUME (Cum)	MT.	REMARKS
365.00	448.00	178.00	10.00	797440.00	2078544.00	
355.00	522.00	191.00	10.00	997020.00	2592252.00	UPPER BED LIMESTONE
345.00	552.00	162.00	10.00	894240.00	2325024.00	
		TOTAL		2688700.00	6990620.00	
		RECOVERY 28%(A)		752836.00	1957374.00	
325.00	510.00	124.00	10.00	632400.00	1644240.00	
315.00	438.00	137.00	10.00	600060.00	1560156.00	LOWER BED LIMESTONE
305.00	482.00	91.00	10.00	438620.00	1140412.00	
295.00	312.00	182.00	10.00	567840.00	1476384.00	
		TOTAL		2238920.00	5821192.00	
		GRAND TOTAL (A+B)		2991756.00	7778566.00	

4.3.5 FIFTH YEAR (YEAR 2016-17):- The advances proposed during the year 2016-17 are shown in Plate 5E. The details are as under

TABLE 4.6 (A) : MINING WASTE GENERATION DURING THE YEAR

BENCH RL	LENGTH m	WIDTH m	DEPTH m	VOLUME Cum.	REMARKS
385.00	330.00	112.00	10.00	347200.00	Kopili altration
375.00	270.00	98.00	10.00	264600.00	Kopili altration
			Sub Total	611800.00	Kopili altration
355.00	303.00	148.00	8.00	364672.00	Shale
		GRAND TOTAL		976472.00	

TABLE 4.6 (B) : DEVELOPEMENT IN LIMESTONE

BENCH RL	LENGTH m	WIDTH m	DEPTH m	VOLUME Cum.	MT.	REMARKS
375.00	416.00	146.00	10.00	607360.00	1579136.00	UPPER BED LIMESTONE
365.00	402.00	187.00	10.00	751740.00	1954524.00	
355.00	376.00	202.00	10.00	759520.00	1974752.00	
345.00	294.00	192.00	10.00	564480.00	1467648.00	
			TOTAL	2683100.00	6976060.00	
	RECOVERY 28 %		(A)	751268.00	1953396.80	
335.00	548.00	62.00	10.00	339760.00	883376.00	
325.00	502.00	68.00	10.00	341360.00	887536.00	
315.00	482.00	76.00	10.00	366320.00	952432.00	LOWER BED LIMESTONE
305.00	366.00	88.00	10.00	339680.00	883168.00	
295.00	326.00	245.00	10.00	798700.00	2076620.00	
		TOTAL	(B)	2185820.00	5683132.00	
	GRAND TOTAL		(A+B)	2937088.00	7636429.00	

अनुमोदित
APPROVED

खान नियंत्रक (मध्यांचल)
Controller of Mines (Central Zone)
भारतीय खान ब्यूरो
Indian Bureau of Mines

4.4 MINE LAY OUT PLAN : At the end of the fifth year total 97.57 hect area will be degraded , Pit position, dump site infrastructure and green belt at the end of Each year has been shown in year wise plan and section (Plate No.5A to 5E). Total area covered at the end of plan period :

In Hect.

Year	Area at beginning of the Year	Additional area during year	Total area at the end of year
1st Year (2012-13)	0.0	24.684	24.684
2nd Year (2013-14)	24.684	16.37	41.060
3rd Year (2014-15)	41.060	9.89	50.959
4th year (2015-16)	50.959	11.15	62.152
5th Year (2016-17)	62.152	26.47	88.631

The ROM production will be transported to crusher site. The haul road coming [illegible] development benches will lead to waste dumps. Waste dump area is marked ta[illegible] into consideration the quantity of OB to be handled and pre decided dump h[illegible] and also natural slope of waste.

4.5 PROPOSED RATE OF PRODUCTION AND EXPECTED LIFE OF T[illegible] MINE

Total mineable reserve of Limestone in UNFC 122 is 162.54 million tonne cov[illegible] total area of 193.72 hec. On the basis of proposed production rate of 7.0 mil[illegible] tone from 2nd year onward that require 7.77 million tone ROM taking [illegible] consideration of 10% mining losses. Therefore, expected mining life of the min[illegible] calculated as below :

1. Mineable reserves(UNFC-122)	162.54Million tonnes.
2. Mineral to be mined in first five years	32.22 million tonnes.
3. Remaining reserves at the end of five year	130.32 million tonne.
4. Proposed rate of production per year	7.77million tonne.
5. Life of the mine at the end of 5th year	16 Yrs.
6. Expected life of mine as per present scenario	21 Yrs.

4.6 CONCEPTUAL MINE PLAN

The New Umrangshu mining lease will be worked at the rate of 7.0 Million Ton[illegible] year of limestone for about 21 years. A total of 162.54 Million Tones of mine[illegible] reserve are to be worked and about 14.64 Million m^3 of overburden to be rem[illegible] An area of about 211.87 Hector is likely to be degraded. The mine degraded a[illegible] will be rehabilitated by filling and dressing the mined area with overburden a[illegible] topsoil respectively. The reclaimed area will be covered with plantation so a[illegible] merge aesthetically with the surrounding area.

The western sector will be developed to start with, opening bench 320 mRL a[illegible] N-S orientation. Subsequent benches will be pushed westward. Ultimately the [illegible] bottom will be reached at about 280 m. The unworked limestone exposure lef[illegible]

barrier zone of the Amrang Nalla will make the eastern limit of the pit. All along, slope of the pit will be maintained towards southeast, so that the mine drainage is discharged in the Amrang Nalla after di-silting in guided channels and pits created for the purpose.

The 310 m bench (mRL 310) will be opened at South Central part of the east sector and progress along contour. The subsequent benches will be pushed east ward. In the northern part the overburdens increase disproportionately due to rise of contour. Therefore, benches will be restricted upto 380 m mRL. In the Southern part, the benches will take a swing in conformity with surface contour pattern. The pit bottom will be at around 250 mRL.

The bench slope will all along be maintained in a southerly direction so as to ultimately discharge the surface run off in the Amrang nalla, after desilting, through guided channel and pits. The limestone exposure will be worked at a later stage so as to leave an appropriate and safe barrier with the Amrang nalla. These barrier zones will define the western limit of the eastern pit. The overall mining limit for the conceptual mining plan has been fixed based on the above and the following mine design considerations :

4.6.1 MINERAL EXPLORATION: The lease area has been not been explored on the pattern of 400x400 grid. So reserve calculation for mineable category (122) has been considered for 193.72 hect area only.

This area has been explored with bore hole spacing varies from 300 to 320 meter. Rest of the area of eastern sector is considered in 322 category. Therefore, reserve for conceptual exploration for the reserve to bring under category 122 bore hole has been proposed. Location of the proposed bore hole has been marked on the area.(refer Plate no.4A)

4.6.2 MINING: The proposed mining will be done in limestone band of the 198 hect. area. It is also proposed to continue working in these body in fut also, until the reserves is exhausted. The operation in northern sector will comparatively difficult being on steep hilly terrain/slopes. Hence this sector will taken up last to make up for the loss of production from the Western/Eastern sec In next five year total 88.631 hect. will be cover under mining and 211.87 h area, at the end of mine life / lease period.

During the plan period about 25.0 ha area along the boundary of the lease wil coverer under plantation and total 324.05 hect. area will be covered u plantation up to the end of mining life (197.05 hect on mined out benches, hect area on dump and 35.0 hect. area around office and crusher area).

Bottom most three benches in southern part of the lease area will be covered hect area up to 222.0 mRL can be used for rain water storage.

4.5.3 ULTIMATE PIT LIMIT : In order to ensure maximum recover reserves, the pit would be started from one end, excavating entire lime where such limits are within the lease boundary as shown in plate no. 5A In case the cement grade limestone extends beyond the lease boundary th would be restricted up to the lease boundary after leaving a statutory bar of 7.5m. No other feature are present within the lease area that are lik affect the design of the ultimate pit limit (refer plate no. 4 &5). At the end o life ultimate pit limit will be 1960m in length, 946 m (max.) width up to dep 190.0 m (220.0 mRL).

4.6.4 DISPOSAL OF WASTE : Total dump area at the end of fifth year 29.77hect which include 12.95 hect. O/B waste & 16.82 hect. low grade Lim and about 2.62 hect. area will be required for soil stack in next five ye waste as O/B generated during mining will be dumped within the lease area eastern part marked on Plate no.6. The topsoil removed by scrapping to exp

rock surface will be simultaneously utilized for creating green belt to land rehabilitation. The proposed overburden dump areas in eastern side have been shown in the Plate 6A (Environment Management Plan).

The area marked for long term waste disposal has been examined by geological mapping, structural interpretation. This area is mineralized so Dump storage is temporary and will be stable by way of plantation. After reaching up to the ultimate depth, the waste will be used in backfilling starting from the we side of the lease area. Proposal of backfilling was given after the ence exploration. The area considered for dumping is adequate enough to accommodate the total quantity of waste up to the height of 63m in 5 steps of 12 m each. Lessee will explore the possibility of getting waste dump area out side lease area.

4.6.5 RECLAMATION

At the end of plan period total 29.77 hect area covered under the waste and at the end of lease period / mine life about 72.0 hect area cover under dump and will be converted in to green belt.

During the plan period, barbed wire fencing will be done around the green belt. Stone wall & garland drain will be made at bottom of dump, Garland drain along working pit to prevent rain water in to during rainy season, which is well described in the item 4.0 of Mine Closure Plan.

Wherever required nalla direction channel will be made. Earthen bund around the Aanyang nalla will be made to prevent the entry of the water into natural water course. The same pit is going to serve as a water reservoir (in part) and green belt (in part). Wire fencing will prevent any inadvertent entry in the mining area and also to the water void. The accumulated rain water can be effectively used for irrigation purpose, to recharge the ground water table and to replenish the natural water reservoirs / water course.

The waste materials will also be utilized for filling the worked out pits harmonizing the landscape for biological rehabilitation when pit reached up 220mRL.

The proposed location of bridges on the Amrang nalla to connect western sector with eastern sector as also the eastern sector with the northern sector, will be main communication roads. Overburden dumps, area of infrastructure development etc. are shown in the conceptual plan.

4.6.7 REHABILITATION

It has already been mentioned that the area of mining lease is free from habitation.

4.6.8 AFFORESTATION PROGRAM

Plantation will be carried out all along the sides of haul roads and along periphery of the boundary. The lease area is unclassified mixed forest land. The region is of heavy rainfall. Total 55.00 hect. virgin area will be planted up to end of mine life.

Time scheduling for abundonment up to end of life/lease period(In Hect.)

S. No.	Year	Disturbed	Afforested		Reclaimed/Rehabilitated		
			Virgin Area	Dump Area	Afforested on mined out benches / backfilled		Water reservoir voids
1	Present	0.926	Nil	--	Nil	Nil	Nil
2.	5th Year	121.321	25.00	--	Nil	Nil	Nil
3.	10th Year	147.40	50.00	--	49.26	Nil	Nil
4.	15th Year	184.152	55.00	10.00	98.59	Nil	Nil
5.	20th Year	220.10	55.00	30.00	147.78	Nil	Nil
6.	Mine Life / lease period	297.94	55.00	72.00	197.05	Nil	14.82

4.6.9 POST MINING LAND USE PATTERN

At the end of mining total green belt of about 324.05 hect. will be developed all along the boundary of the lease area as well as all along the sides of the haul road, mined out benches & backfilled area. Voids (14.82 hect.) created up to end of mining operations will be used as rain water storage. Aesthetic beauty of the area will be increase and entire area will look like a picnic spot. The area can be further converted to an ecological park to boost up the natural flora, fauna and bio-diversity of the region. (Refer plate no. 7A&7B)

Post mining land use of core zone with Env. Management

S. No	Description	Area in Hect.	% of Total	Reclaimed/Rehabilitated	
				Plantation	Water void
1.	Afforestation	55.00	13.17		
2.	Under structure/Built-up, Road	10.40	2.49		
3	Road	3.67	0.88		
4	Dump	72.00	17.25	72.00	
5	Reclaimed/Rehabilitated	197.05	47.20	197.05	
6	Mine out area (water void)	14.82	3.55		14.82
7	Undisturbed land	64.56	15.63		
	Total	417.50	100.00	269.05	14.82

4.7 EXTENT OF MECHANIZATION:-

Like any other industry the proper selection of heavy earth moving machinery in an opencast mine plays an important role in its overall success. Type of equipment, suitable for a specified job & its capacity, depend entirely on the size of the project, material to be handled, site conditions, availability of equipment, comparative price etc. The details of heavy earth moving machinery will be require for this area is as follows :

The Conventional method(drilling & blasting) & Shovel with dumper combination will be deployed and average 12.8 million tones per annum ROM for obtained about 7.70 million tones per annum useable limestone production from conventional method of open cast mining.

4.7.1 **Drill Machines** :- In order to calculates the number of drill machines required it is essential to know the drilling capacity / rate of drilling of the machine and the total drilling required taking into consideration burden, spacing, sub-grade drilling etc. in limestone. No Drilling & blasting will be required for O/B removal. It is proposed to deploy compressed air operated down the hole DTH hammer drills capable of drilling 150-165 mm dia. holes.

Drilling capacity of drill machine : DTH hammer drill working at 7 kg/cm² psi is able to drill about 12 meters / hour. For the purpose of calculations same drilling rate has been assumed. Therefore, taking into consideration 7.0 hours is the effective working hours in a shift, 2 shift working per day, 270 working days in year & 70% utilization & 85% as availability, the annual drilling capacity of one drill machine works out as follows :

2 x 12 x 7 x 270 x 0.70 x 0.85 = 26989 or say 27000 meters / drill / year.

4.7.2. **Drilling Pattern** : The proposed drilling & blasting will be done in a staggered line manner with 150-165 mm dia drill holes, 5.0 m burden & 7.0 m spacing. However, for the purpose of calculating the total drilling requirement the above drilling pattern is being assumed.

Specific drilling for wagon drills working in limestone works out to 5.0 x 7.0 x 2.6 =91 tones / meters of drilling. Therefore, the total drilling required for mining 128.00 lakh tones / annum works out to be 140659 mtrs or say 140000 mtrs.

Taking into consideration 10% as the sub grade drilling required towards collapse of holes, misfires, abandoning of holes etc. the total drilling required will be about 154000 meters.

4.7.3 **No. of Drills machine required** : Taking into consideration the drilling capacity of one drill machine and the total drilling required, the number of drill machines required works out to

154000 / 27000 = 5.70 drill machines (Say 6)

Spare drill (allowance to movement of mine in between different benches) total 7

4.7.4 **Rock Breaker's** : It has been observed that even in a good blast about 05% material generated as boulders. These boulders will be brokenly by Rock Breaker instated of secondary blasting. Therefore, taking into consideration 640000 tones as material to be broken every year by rock breaker. Based on the performance of rock breaker at mine, able to break 60 Mt /hr material. Therefore, taking into consideration 7.0 hours is the effective working hours in a shift, 2 shift working per days, 270 working days in year and 70% utilization & 85% availability of machinery, the annual breaking capacity of one rock breaker works out as follows :

2 x 60 x 7 x 270 x .70 x .85 = 134,946 or 135000 Mt / year

No. of Rock Breaker's required : Taking into consideration the breaking capacity of one machine and the total breaking required, the number of rock breaker's required works out to

6,40,000 / 135000 = 4.74 (Say 5)

4.7.5 **Loading of O/B & Limestone from Face** : As indicated earlier, it is proposed to use hydraulic excavator (3.5 cum. bucket capacity) for loading of O/B and excavated Limestone from the mine face. The production from the mine can be maintained during the next five years by working 3 shift per day.

4.7.6 **Loading Capacity of An Excavator/ Loader** : The loading capacity of an Excavator / Loader are given by the following equation :

L = B x c x n x t x E / K

Where

L = Loading capacity per shift in Cum.
B = Bucket capacity in cum. (3.5 Cum.)
r = Co-efficient of filling (assumed 0.8)
n = Avg. number of loading cycles/hr. (taken as 80 on basis of cycle time of 45 seconds)
t = No. of effective working hours in a shift (taken as 7.0)
E = Efficiency of utilization (assumed as 0.70)
K = Swell factor (taken as 1.33 i.e 33%)

For Excavator:

L = 3.50 x 0.8 x 80 x 7 x 0.70 / 1.33 = 825m3 in situ

Taking an average bulk density of 2.6 for blasted limestone, handling capacity of an Excavator & Loader with 3.5 Cum. bucket capa works out to 2146 t / shift or 6435 t/day (considered 3 shift/day).

For O/B, the handling capacity of an Excavator & Loader with 3.5 C bucket capacity works out to 1857 Cum. per shift or 5571 Cum/day (considere shift/day).

4.7.7 Number of Excavators Required:

The O/B & Waste (max.) to be handled per day works out to about 12 cum/day in second year. Therefore number of excavators required for handling comes to 12744 / 5571 = 1.93 or say 2 . As the loading operation will operated in all the three shifts hence 2 excavators are essentially required to han the O/B material from first year to end of plan period.

The limestone production to be handled per day works out to als 28518 t. Therefore number of excavators required for limestone production handl comes to 28518 / 6435 = 4.43 (Say 5). As the loading operation will be operated i the three shifts hence 5 excavators are essentially required to handle the material

Hence 7 excavators cum londer are essentially required to handle the O/B & material up to end of mining plan period.

4.7.8 Transport of O/B & Limestone in the Mine : As mentioned earlier the O'B & Limestone from the face will be loaded by the hydraulic excavator in to 20 t dumpers and transported to the dump site & crusher.

Dumper requirement : Average load per cycle of the excavator with 3.5 cum. bucket capacity assuming 30 % as swell factor, 80% as the fill factor and 1.60 & 2.60 as the bulk density for O/B & limestone works out to be :

For O/B = 3.5 x 0.8 x 1.60 / 1.6 = 2.8 t
For Limestone = 3.5 x 0.8 x 2.60 / 1.6 = 4.55 t

Taking average carrying of a dumpers as 16 t, total number of cycle required to fill a truck works out to

For O/B a) 16 / 2.8 = 5.71 (say 6)
For Limestone b) 16 / 4.55 = 3.5 (say 4)

Taking an average cycle time of an excavator as 45 seconds, assuming 70% as coefficient of utilization, the time required for an excavator to fill a 20 t dumpers works out to

For O/B a) 6 x 0.75 / 0.7 = 6.42 min. (say 6)
For Limestone b) 4 x 0.75 / 0.7 = 4.28 min. (say 4)

Cycle Time of Dumpers for Limestone & O/B

Spotting Time	=	0.5 mins.
Loading Time	=	6 & 4 mins.
Travel time loaded @ 20 km. / Hr. With avg. distance of 1.2 km.	=	5 mins.
Unloading Time	=	0.5 mins.
Travel time Unloaded @ 20 km/Hr. Avg. distance of 1.2 km.	=	5 mins.
TOTAL	=	17 & 15 mins.

With a cycle time of 17 mins (avg.), A dumpers will be able to make about 25 trips to the crusher/dump site i.e about 400 t (avg.) per day

with one shift working. Therefore, the number of dumpers required(3 working) for transport of limestone from the face to the crusher works out 28518 / 3 x 400 = 23.76 or say 24 and O/B from the face to the dumpsite second year works out to 12744x1.6/3 x 400 = 16.99 or say 17.

Therefore in all 41 dumpers in operation will be required per for the mines from first year onwards. Taking 85% as the availability total number of dumpers required for the mine works to be 47.

4.7.9 Proposed and Schedule of Year wise Machinery Requirement :

The proposed machinery require for smooth mining operation as given follow

Name of Machine	No.	Make/Model	H.P.	Capacity
A) Own Machines				
Excavator	07	TATA EX 400	611	3.5 Cum
Dumpers	47	TATA	80	20 Tons
Crawler mounted DTH drill	07	IBH 10	247	165 mm
BEML Dozer	01	BD 155	410	
Rock Breaker	06	L&T CK90	110	60 t/Hr
Explosive Van	01	TELCO	80	2500 Kg.
Water Tanker	01	TATA	110	12,000 ltr.
Maintenance Van	01	TATA	110	--

The schedule of year wise requirement for major earth moving equipment for Next five years onwards are given below

Equipment's	First	Second	Third	Fourth	Fifth
Drill machine	2	7	7	7	7
Rock Breaker's	1	6	6	6	6
Excavators cum Loader	1+1	7+1	7+1	7+1	7+1
Bull Dozer	01	01	01	01	01
Dumpers	4+1	41+6	41+6	41+6	41+6
Truck mounted Tanker	01	01	01	01	01
Jeep	02	02	02	02	02
Explosive van	01	01	01	01	01
Maintenance Van	01	01	01	01	01
Diesel Tanker	01	01	01	01	01
Ambulance	01	01	01	01	01

****

5.0 BLASTING

5.1 **Broad blasting parameters** : The mining method chosen involves the conventional drilling and blasting followed by loading. Considering the nature of the limestone deposit, the blast hole parameters proposed are as follows :

Bench height	=	10.0 m
Depth of hole	=	11.0 m (10% sub-grade drilling)
Dia. of hole	=	150-165 mm
Burden	=	5.0 m
Spacing	=	7.0 m
Inclination of hole	=	5° to 10° from vertical

5.2 **Blasting Pattern**

For every hole, one delay detonator would be used. Blasting would be done by using short delay action detonators to reduce ground vibration. Holes would be connected in a row "in series" and the rows "in parallel", i.e. "series –parallel" connection would be made at the time of blasting. Double row blasting would be preferred (as shown in Fig.5.1) to single row so as to cut down on the number of blasts required for maintaining production.

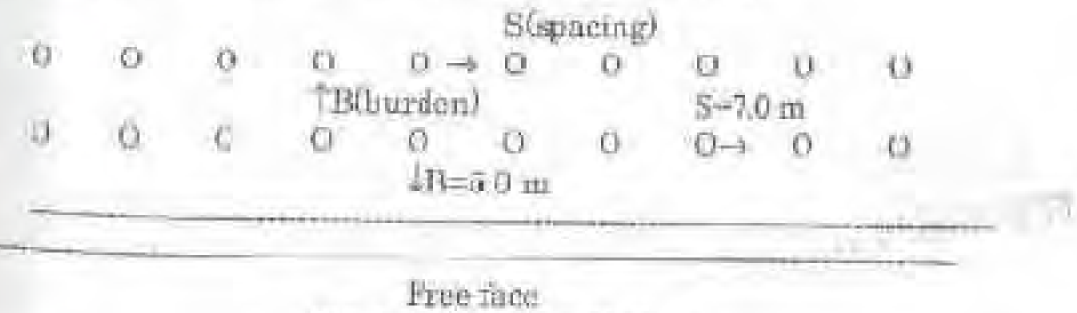

Fig. 5.1 : Blasting Pattern

5.3 **Type of explosives to be used** : The following type of explosive will be require for blasting :

a) Class-2 & 3, b) Class-6, Div-2 & c) Class-6, Div-3

It has been estimated that consumption of ANFO & other explosives shall be in the ratio of 80 : 20.

In order to calculate the explosive consumption per day, po factor of 7.0 tones / kg. for limestone. Therefore, the monthly requireme explosive will be

1066666 / 7.0 = 152380 Kg / month.

The monthly consumption of ANFO & other high explosive shal 121904 kg. & 30476 kg. respectively.

5.4 Storage of explosives :

The company will establish one permanent explosive magazine (0 Kg.) and one Explosive van (2500 Kg.). Details are as given :

Description	License No.	License Capacity	Validit
Explosive van	Yet to applied	Class-2 & 3-2500 Kg Class-5, Div-2-10000 mtrs. Class-5, Div-3-10000 Nos.	—
Permanent Magazine	Yet to applied	Class-2 & 3-10000 Kg Class-5, Div-2-10000 mtrs. Class-5, Div-3-44000 No	"

5.5 Precautions to be observed during drilling & blasting :

5.5.1 Ground Vibrations & Noise : All blasting operations woul performed by Competent person taking adequate precautions to the operation totally safe. Even though there is no habitation i vicinity within the dangers zone, the blasting pattern would be des to keep the ground vibrations & noise to a minimum. The freque blasting too would be optimized by adopting multi-row blasting delay detonators.

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5.5.2 Air Blast & Fly Rock : Fly rock control would be given high priority and the blasting pattern, stemming column, charge per hole, etc., as discussed earlier, are likely to control fly rock. In addition, the detonating cord trunk line would be covered with drill chips and cutting to keep the air blast to a minimum. However, depending on the actual experience once the excavation commences blasting parameters might be changed suitably to adhere to strict safety measures.

5.5.3 Other Safety Measures : Adequate sirens and other sound signals would be given to posting of guards at strategic positions.

All the terms and conditions laid down in the explosive license would be complied with. House keeping with regard to explosives would be given adequate attention. No dangerous / inflammable articles, viz., cigarettes, biddies, matches, lighters, would be taken or allowed to be taken by the personal employed for blasting activities. The area surrounding the mixing shed would be kept free from accumulation of inflammable material, including bushes & undergrowth, etc., to reduce the hazards from bush fire.

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6.0 DRAINAGE

The mining lease area is a part of a hilly terrain characterized by isolated hillock in an overall south easterly sloping hill range. The topographically variation is between 270m to 435m above MSL in the ML area. The seepage of the Amrangnalla through the middle of the ML area. The passage of the Amrangnala through the middle of the ML area guiding the drainage pattern. The drainage of the area is part of the Kopila river valley master drainage system.

The area constitute part of the Heavy rainfall zone of NE hilly terrain of the Assam. The average annual reainfall is about 1670mm. the Langyen nalla the Amrangnalla and other local seasonal nallas. The Longyan Nalla discharge in the Kopila river drainage system.

6.1 LIKELY DEPTH OF WATER TABLE ON OBSERVATION FROM NEARBY VILLAGES

The ground water is encountered at the depth of 60 m to 100 m below the ground level in the plain area and there is no indication of ground water up to the depth of 55 m during the course of drilling. Hence, there is no adverse impact of mining on the ground water quality. Besides this the sources of ground water i.e. wells etc. are very less in number and mainly the surface water is utilized for drinking and other purposes. There are few wells at a distance of more than 2 Km. from site.

Working is not expected to reach the water table as working are situated on hillock much above the general ground level. The production planning for initial 5 years will be aimed at opening the virgin area in the western sector and stabilizing production. The Amrang nalla flowing through the lease area is the main drainage of the area. Hence the working benches will be kept away from the Amrang nalla keeping a 60 m wide barrier zone at either bank.

viii)

ix)

x)

xi)

xii)

xiii)

xiv)

xv

6.2 QUANTITY AND QUALITY OF WATER QUALITY TO BE ENCOUNTER... THE PUMPING ARRANGEMENT AND PLACE WHERE THE MINE WA... IS FINALLY PROPOSED TO BE DISCHARGED

No groundwater is expected to be encountered. The area constitutes part of heavy rainfall zone. During the post monsoon season high capacity low head d... pumps are proposed to be installed to pump out the water and discharge it to large capacity settling tank of the order of 5000-7000 cum. Another tank adjoin... is of small capacity will be made to review water spilled over from the larger ... after getting de-silted. Silt / Sediment will be removed before onset of monsoon ... will be dumped in the waste dump yard.

=====*****=====

7.0 STACKING OF MINERAL REJECT AND DISPOSAL OF WASTE

7.1 THE NATURE AND QUANTITY OF TOP SOIL, OVERBURDEN / WASTE AND MINERAL REJECT LIKELY TO BE GENERATED DURING THE NEXT FIVE YRARS: (REFER PLATE NO.5A to 5E and 6A)

NATURE:- The workable Limestone(lower band) is covered by Shale, Limestone (Top band), Kopili & Soil as O/B. Detail of which are as follows:-

A. Soil:- The limestone deposit is normally capped by a thin mantle of soil which is sticky and red in color. Thickness varies 1m to 2m. Typical chemical composition of clay/soil is as follows:

SiO2 (%)	Al_2O_3 (%)	Fe_2O_3 (%)	CaO (%)	MgO (%)	TiO_2 (%)	LOI (%)
41.00	19.08	1.40	2.17	2.17	1.20	13.96

B. Kopili :- It is a shale and sandstone alternation lies over top band Limestone. It is of whitish to brownish in color and medium to fine grain well sorted and generally soft in hardness and sometimes friable in nature,. The average chemical analysis of Kopili is as follows:-

SiO2 (%)	Al_2O_3 (%)	Fe_2O_3 (%)	CaO (%)	MgO (%)	LOI (%)
56.37	8.19	0.69	0.41	0.14	0.76

C. Limestone: - This Limestone in upper band is brown to dirty brown in color with ... Fe_2O_3 (limonite) and less CaO content. However 28% of the total limestone ... upper bed can be used in blending. Remaining quantity is considered as sub ... Grade. However 28% of the total limestone can be used in blending. Remaining will ... separately stacked. The range and weighted average composition of this ...estone in the mining lease area are furnished in the following table:

Constituent	% Range	Weighted average%
CaO	26.58-50.43	38.00
MgO	0.50-2.85	1.64
Fe2O3	2.93-21.74	10.77
Al2O3	1.53-11.00	6.34
SiO2	1.96-11.67	7.34
L.O.I.	26.54-40.32	31.52

D. Shale. The workable limestone bed (lower bund) is covered by Shale as waste.

QUANTITY REMOVED DURING THE PLAN PERIOD:-Shale and Kopili will constituted O/B waste that has to be removed as the benches advances towa upper horizon.

Top soil will be generated that will be separately stacked and used for plantati Yearly volume of the O/B waste generated given in table below:-

TABLE 7.1: YEARLY GENERATION OF OVERBURDEN (in Cum.)

YEAR	TOP SOIL	O/B WASTE		SUBGRADE (72% of the top bani limestone)
		KOPILI	SHALE	
Ist	217620.00	1131775	167280.00	344909.00
IInd	60750.00	1077840	371616.00	1930833.00
IIIrd	10800.00	812040	560736.00	1933704.00
IVth	35438.00	693660	386688.00	1985864.00
Vth	26139.00	611800	364672.00	1931832.00
TOTAL	350797.00	4327115	1850992.00	8077142.00

7.2 LAND CHOSEN FOR DISPOSAL FOR DISPOSAL OF WASTE WI PROPOSED JUSTIFICATION

The area marked for long term waste disposal has been examined geological mapping, structural interpretation. The contours in the identified was disposal area varied from 280 m to 340 m. The O/B waste will fill this slope ground and will not produce any disharmonious feature with the local physiograph This area selected for dumping is mineralized so dump storage is temporary a will be stable by way of plantation. After reaching up to the ultimate depth, t waste will be used in backfilling starting from the western side of the lease ar Proposal of backfilling was given after the conceptual exploration. The ar considered for dumping is adequate enough to accommodate the total quantity waste up to the height of 60m in 5 terraces i.e each of 12 m height. Lessee w explore the area within first 2 years and shift waste dump out side the lease area.

7.3 THE MANNER OF DISPOSAL AND CONFIGURATION, SEQUENCE OF BUILD UP OF DUMP ALONGWITH THE PROPOSAL FOR THE STAKING OF SUBGRADE ORE TO BE INDICATED YEARWISE.

The volume of O/B waste produced during plan period will be disposed off at determined waste dump area in the SE part of the lease area as shown in the plate 5A to 5E and Plate 8).

TABLE 7.3 : AREA REQUIRED FOR DUMPING OF SHALE AND KOPILI (in Cum.)

YEAR	KOPILI	SHALE	TOTAL	Swell factor 1.25	Area covered at the end of year (in Sqm)	Dump Height in mtr
Ist	1131775.00	167280.00	1299055.00	1623819	64953.00	25
IInd	1077840.00	371616.00	1449456.00	1811820	98161.00	35
IIIrd	812040.00	560736.00	1372776.00	1715970	115678.00	45
IVth	693660.00	386688.00	1080348.00	1350435	119117.00	50
Vth	611800.00	364672.00	976472.00	1220590	129534.00	60
TOTAL	4327115.00	1850992.00	6178407.00	7722634	129534.00	60

Dump site as "A" marked on plate 5A to 5E

TABLE 7.4 AREA REQUIRED FOR DUMPING OF SOIL

YEAR	SOIL (in Cum.)	Swell factor 1.25	Area covered at the end of year (in Sqm)	Dump Height in mtr
Ist	217620.00	272025.00	22668.00	12
IInd	60750.00	75937.00	23196.00	12
IIIrd	10800.00	13500.00	24097.00	15
IVth	35438.00	44296.00	27050.00	15
Vth	26189.00	32736.00	29233.00	15
TOTAL	350797.00	438495.00	29233.00	15

TABLE 7.5: AREA REQUIRED FOR DUMPING OF TOP BED LIMESTONE (SUBGRADE)

YEAR	LIMESTONE (Top bed) (in Cum.)	Swell factor 1.25	Area covered at the end of year (in Sqm)	Dump Height in mtr
Ist	344909.00	431136.00	28742.00	15
IInd	1930833.00	2413541.00	94823.00	30
IIIrd	1933704.00	2417130.00	116929.00	45
IVth	1985864.00	2419830.00	153633.00	50
Vth	1931832.00	2414790.00	168274.00	60
TOTAL	8077142.00	10096427.00	168274.00	60

Dump site as "B" marked on plate 5A to 5E

KEY PERSON

Manner of disposal of dump and subgrade:-

The method of dumping will be conventional using shovel-dumper combination with the help of dozer for leveling and making berm as safety measure. The slope of dump will be towards the Amrang nalla.

Measures of protection of dump and subgrade

The protective wall will be created around the dump and subgrade. Appropriate drainage of the rainwater will be made of creating channel. The height of the waste dump of waste and subgrade stack will be maintained within 60 m and slope will be about 37°. Proper drainage will be maintained on the surface of the dump to prevent any water percolation/seepage.

Towards the closing stage of mine, the narrow pits in the mine will be back filled and utilized for overburden dumping if required. Care will be taken to shape the overburden dump to merge with the local surroundings. The topsoil generated during initial years will be directly used to create green zone over the barrier left on the Amrang nalla. In later years the generated topsoil will be utilized for rehabilitation of overburden and other waste area for biological reclamation.

Subgrade mineral will be stacked until the new technology will find out to utilize the subgrade mineral.

=======

8.0 USE OF MINERAL

8.1 END USE OF THE MINERAL

The entire production of limestone mine will be used for cement manufacturer at Calcom plants. Primary crushing of R.O.M. to 250 mm size will be carried out in the 350 TPH Compound Impact Crusher. The crushed limestone from the mine under will be directly transported to the cement plant by hired transport.

8.2 PHYSICAL AND CHEMICAL SPECIFICATION:

GRADE SPECIFICATION

The proposed Clinkerization plant of M/s Calcom Cement India Ltd Ltd at Umranghsu in Dima Hasao (NC hills) Dist. of Assam and the Cement Plants at Lanka in the Nagaon Dist. of Assam will be fed by the New Umranghsu limestone mine. The management specified the Cement grade limestone requirement as under

High grade	= (+) 47 % CaO
Medium grade	= (-)42 to (-) 47% CaO
Low grade	=(-) 42.% CaO

Thus, there is flexibility afforded in the system to take care of grade fluctuations.

The target chemical specification for the completed limestone stack should be as given in Table :

Broad chemical specifications of cement grade ROM limestone to be supplied to the plant will be as below:

SNo.	Oxide Components (%)	Acceptable range (%)	Limiting Values (%)
1.	CaO	+42 to-52	+35 (min)
2.	MgO	Max 1.5	Max 5.0
3.	Al_2O_3	2.5	AM 1.20 to 2.50
4.	Fe_2O_3	2.6	SM 2.20 to 2.80
5.	SiO_2	< 5	SF 0.85 to 1.10
6.	Mn_2O_3	< 0.5	< 3
7.	R2C (K_2O+Na_2O)	< 0.6	< 1
8.	Total SO_3	< 0.6	< 1

FOR GOMEKA MIN TECH PVT. LTD.

KEY PERSON

9.	P_2O_5	< 0.6	< 1
10	Cl	< 0.05	< 0.1

Note :- For cement industry, main parameter for quality control is the Saturation Factor (LSF). LSF takes into account the quality of limestone in terms CaO, SiO_2, Al_2O_3 and Fe_2O_3 and their proportions in terms applicable to the process of cement manufacture. LSF for plant feed has been vary from 1.15 to for making cement of various grade.

Silica Modulus(or Ratio) = $SiO_2 / Al_2O_3 + Fe_2O_3$

Alumina Modulus(or Ratio) = Al_2O_3 / Fe_2O_3

Lime Saturation Factor(LSF) = $CaO / (2.8SiO_2 + 1.18Al_2O_3 + 0.65Fe_2O_3)$

The Physical specification is that the raw limestone size should no exceed 250 mm.

8.2 BLENDING

The quality of limestone available at Top band is of inferior grade. Howe recovery of 28% (marginal grade) can be achieved from this band for blending the Bottom band Limestone of higher grade.

9.0 OTHERS

9.1 SITE SERVICES

The site services at the mines will be as follows:

1) **Statutory Obligation:**

a) **First Aid / Room Station:**

A First Aid Room will be constructed at Mine with the equipment as specified in the Second Schedule of Mines rules. A qualified and experienced person will be in-charge of the First Aid room for attending to persons during any accident. In addition, First Aid boxes containing the equipment as specified in the third Schedule of the Mines rules will be provided at Mines Garage.

b) **Canteen / Rest shelter**

Although it is not a statutory obligation in view of the small strength of manpower at the mine, a good canteen will be provided in the mines office premises for the employees to take food and rest. The canteen will be well equipped with furniture and utensils. Tea/Snacks will be served to the employees at subsidized rates. In addition to this washing places will also be provided in the canteen. Suitable steps will be taken to maintain the canteen in a clean and hygienic condition.

c) **Drinking Water**

In order to cater to the needs of the drinking water sufficient water will be made available to the mines workmen. A number of outlets for water will be provided at the crusher, garage, mines office and canteen

and steps will be taken to ensure that water is always available dur the working hours.

One mobile water tanker will be provided for water spraying supply of the water in case of any off site work.

d) **Urinals & Latrine**

Sufficient number of urinals and latrines will be provided at m premises.

e) **Adequate lighting arrangement**

Adequate lighting arrangements (including portable lighting tow will be made at quarry face, haulage roads and office as per statutory requirement.

ii) **Maintenance Workshop**

All the heavy earth mov g equipment will be maintained in good work order at the workshop of the Mines. The workshop wil be well equipped w necessary tools and equipment etc. For maintenance work at site a w equipped maintenance van with greasing as well as diesel and oil fill facilities will be provided. Workshop will include the following facilities

Compressor – 1 no.
Drill Machine — 1 no.
Grinder — 2 no.
Welding Machine — 1 no.
Cutting Set — 1 no.

iii) **Other Facilities**

The necessary office building, time office, vocational training center, diesel stora tank will be provided in the lease area of Limestone mine. Electricity will supplied to the mines round the clock from the factory sub-station.

Welfare Amenities and Recreational services

Employees working at Mine will be housed at a colony. Following welfare amenities and recreational services will be provided at the colony.

a) **Hospital**

A well equipped hospital will be provided which will have full time male and lady medical officers assisted necessary staff, for the company's employees as well as for the inhabitants of the nearby villages. In addition, in case of emergency best possible medical aid will be provided. Ambulance will also be provided for shifting of patient in case of emergency.

b) **Housing**

The employees will also be provided with well designed houses having electricity and water connections. The colony will be well laid out with tree lined lanes parks etc.

c) **School**

A secondary school will be provided in the colony with the assistance of Management.

d) **Communication**

Free transport will be provided from colony to Mines. The colony and quarry will be well connected with P & T phones as well as internal telephone network. Walkie-Talkie / Mobile phone will be utilized for mining area.

e) **Bank Branches**

There is a proposal to open a Nationalized Banks branch in the factory colony.

f) **Post Office**

There is a proposal to have a post office branch in the colony itself.

KEY PERSON

g) **Co-operative Society**

The employees Co-operative Society will be given all assistance by Management. It will provided household commodities, stores controlled items at low prices.

h) **Recreation**

Recreation facilities for the employees and their family members be provided at a club hall well equipped with indoor and out games, library, television and facilities for screening films.

9.2 EMPLOYMENT POTENTIAL:

The managerial, operational and functional manpower will have to be employed the mine will be a Greenfield project. The various departments in general, will as follows :-

(i) Mine development and production,

(ii) Maintenance, repair and welfare

(iii) General administration.

APPROVED

9.2.1 Proposed management and supervisory personnel

S.No	Description	No.	S. No	Description	No.
1.	Manager Mining	01	2.	Geologist	01
3.	Asstt.Mines Manager	04	4.	Surveyor	01
5.	Mines Foreman	08	6.	Mechanical Engineer	03
7.	Jr. Engineer(Mech.)	03	8.	Horticulture	01
9.	Welfare Officer	01	10.	Sample boy	1
11	Clerk/ Typist	01	12	Peons	5
13	Time keeper	1	14	Total	33

9.2.2 Proposed Labor — Skilled, Semi-Skilled, Un-Skilled

S No.	Description	Category		Total No.	Remarks
		Skilled	Un Skilled		
1.	HEM Operator	9	9	9	
2.	Drill Operator	10	5	15	
3.	Blaster	4	8	12	
4.	Dumper Driver	150	-	150	
5.	Mechanic	8	8	16	
6.	Welder	1	-	1	
7.	Auto Electrician	2	-	2	
8.	Crusher operator	3	-	3	
	GRAND TOTAL	187	30	217	

****

APPROVED

10.0 MINERAL PROCESSING

10.1 CRUSHING

As mentioned earlier it is proposed to load limestone by hydraulic excavator into the dumpers and transported to the crusher. The detail are as under :-

(a) The Single Rotor Impact Crusher : The ROM limestone will be fed to the crusher of 1020 tph capacity. The ROM limestone dimension not exceeding 1200 mm x 1060 mm x 1000 mm can be fed to crusher and out put sized of the crusher will be -75 mm. Crushing plants will be vented via separate dust collectors through a common stack to atmosphere. Dust collected in the Dust collectors will be fed back to the process. Crushed limestone will be loaded to the Dumpers and will be transported to Lanka to feed Pre-blending system for Line B, C, & D of the composite cement project. Power requirement for the crushing plant will be met from the 132 KV Plant Substations for Line A of Calcom Cement and it will be taken at 6.6 KV. Maximum Power demand for the crushing Plant is 4MVA.

10.2 BLENDING AND QUALITY CONTROL:

As already stated, the cement grade composition of the limestone mined from the area will be such that it will be directly useable in crushed form for the Cement manufacturing process. However, top band limestone will be used in blending.

For quality control regular sampling of the blasted limestone and the cutting from the blast holes will be carried out.

****

viii)

ix)

x)

xi)

xii

d

11.0 ENVIRONMENTAL MANGEMENT PLAN

11.1 BASE LINE INFROMATION

The limestone belt of the Kopili valley area constitutes the south eastern flank of the Shillong plateau and comprises of small flat topped hillocks with elevation varying from 580 m to about 840 m above mean sea level (MSL). The highest altitude (837.25 m) in the region has been observed at Khandong, about 12 Km west of New Umrangshu. The proposed lease area is part of N, NW – S, SE trending ridge in the hilly terrain of the region.

In the New Umrangshu area the highest altitude of about 437 MSL is located in the extreme Northeastern part while the lowest altitude of about 250 m is present in the valley of Amrang nalla flowing down in the Southeastern part.

The Amrang nalla flows through the central part of the New Umrangshu block in a Southeastern direction dividing the area into two separate zones. In the northern part of the lease area a tributary of the Amrang nalla, flowing north to south, join Amrang nalla creating a separate zone in the Northwestern part of the M.L. Area. In eastern side of the Amrang nalla the land rises from about 260 m to a height of 330 m while in the western side of the nalla the ground level rises from 270 m to 320 m. Thus the Amrang nalla with its tributary broadly divided the limestone bearing area of the New Umrangshu lease into eastern, western and northern sectors. The Amrang nalla with its tributaries constituted the geomorphological disposition of the local terrain.

The drainage of the area is collected through many nallahs discharging in the Amrang nalla and Langyen nalla. Both side these nalas join in the south eastern side of the area, near the Langyen basti and flows in a south eastern direction with the name of langyen nalla, which ultimated flows in the Kopili river. The local nalas generally carry meager drainage during dry season. While in rainy season their

water level may rise considerable from the bottom for short period of heavy
The Amrang nalla being typical hilly terrain drainage cuts through the high
creating gorges.

The master drainage of the region is thus controlled by the Kopili River
Garampani the Kopili river system had been harnessed to create a multip
hydel power project, which generated 150 MW power. Kopili reservoir is the
of water for agriculture and industrial area.

The total mining lease area is 417.5 hectares and the land comes under uncla
mixed forestland. The land use pattern of lease area is given below :

- The area is sloping Rugged Hilly Terrain covered with degraded forest.
- Within lease area one Amarang Nallah flows in south Eastern direction di the area into 2 separate zones.
- From Nallah & Tributary of Amrang Nallah flows north to south joining Am Nallah creating a separate zone in northwest part of mining lease.
- There is no agriculture land in the area and hence no human habitation also

CROPPING PATTERN

Due to the limited aerial coverage of the Rabi crops the only area that cou identified on the imagery of March 2009 is that occurring near Diyangmukh. I pulses, rape, mustard, castor etc. are the main Rabi crops grown in the distric total area estimated under this category is 1750 hectares.

SHIFTING CULTIVATION (Jhoom Cultivation)

This is a system of cultivation practiced in the hilly districts of Assam wh large areas under forest or vegetation are cleared for the purpose of cultiv This is one of the major categories of land use in the district with area covers about 29519 hectares. Only those areas where intensive jhoom is carried ou

een identified and mapped. Other areas where some kind of regeneration in the form of shrubs, bushes etc.has taken place have been placed under the category of Scrubland.

Besides the above-mentioned crops Bamboo, pineapple, ginger, jackfruit, etc. are also grown in the area. Tea is the major cash crop of the area and it is grown in N.C.Hills but on a small scale.

The soils of the district vary from non laterites red soil to laterite red soil ranging from sandy loam to clayey loam in texture. The non laterites red soils occupy a relatively less area along a strip in southern part of the district. The soil in the study area are red in color may be due to the presence of Iron oxide. Soil texture is sandy loam to clay loam.

1.1 EXISTING LAND USE PATTERN

Present Land Use Pattern of the Study Area

Entire area of 417.5 hect is virgin land. Present land use pattern of the lease area is follows:-

PARTICULAR	AREA (In Hect)
MINING ACTIVITY	
PITS	
DUMP KOPILI ALTRATION/ SHALE)	0.000
DUMP (LOW GRADE /CARBONASEOUS)	0.000
ROAD	0.000
PLANTATION	0.926
INFRASTRUCTURE(OFFICE/CRUSHER/MS/MAGAZINE)	0.000
TOP SOIL STORAGE(TEMPORARY)	0.000
SL LAND(PRIVTE)	0.000
REMAINING VIRGIN GOVT. LAND	0.000
TOTAL AREA	416.574
	417.50 HECT.

11.1.2 WATER REGIME

The area comprises part of the regional drainage system of the Kopili river vall[ey] its northern higher reaches. As the mining lease is in southerly slopping [...] terrain, there is hardly any perennial water source in the area. However, [...] seasonal watercourses cutting across the hilly terrain carry the heavy surface w[ater] flow during the rainy season creating deep gullies and gorges in their course. In [the] central part of the lease area, the Amrang nalla cuts across in a Southeas[t] direction often with steep banks on both sides forming escarpments.

The Amrang nalla joins Langven nalla, a tributary of the Kopili River, in [the] Southeastern side. Thus the micro drainage of the area is controlled by the Lang[ven] nalla while macro drainage is a part of the Kopili River master basin.

Though the area is in a high rainfall region, most of the precipitation cons[...] 'run off' with very meager scope of infiltration. Therefore ground water is [...] available in the hilly terrain.

11.1.3 FLORA AND FAUNA

The New Umrangshu Limestone area is located in a landform, which is surrou[nded] by Hills. This area is relatively calm and there is no source of high noise level [...] no wild animal found in core zone. Common flora that found in the buffer zone [...] as follows.

TABLE – 11.2 : FAUNA OF THE STUDY REGION

Zoological Name	Common Name
Pycnonotus cafer	Red vented bulbul
Corvus splendens	House crow
Corvus macrorhynchos	Jungle Crow
Cuculus micropterus	Indian cuckoo
Streptopelia decaocto	Indian ring dove
Streptopelia senegalensis	Senegal dove
Columba livia	Common pigeon
Grus antigone	Sarus crane
Passer domesticus	House sparrow
Acridotheres tristis	Comman Myna
Psittacula krameri	Rose ringed parakeet
Francolinus pondicerianus	Grey partridge
Venellus indicus	Redwattled Lapwig
Asio flammeus	Owl
Psittacula krameri	Parrot
Pavo cristatus	Peacock
Centropus sinensis	Crow Pheasant
Gyps bengalensis	Vulture
Herpestes edwardii	Mongoose
Rattus rattus	Rat
Muntiacus muntjak	Barking Deer
Sus scrofa	Pig

The structure of this ecosystem comprises very common plant species of tropical area. Following plant species are present in the area.

TABLE – 11.3: FLORA OF THE STUDY REGION

S. No.	Local Name	Botanical Name
1.	Gamari	Gamolina arborea
2.	Bogipoma	Chrassia tabularia
3.	Bhelu	Tettramalia nuciflora
4.	Hilika	Terminalia chebula
5.	Badam	Mansonia dipikae
6.	Khokon	Duabanga sonneratiandes
7.	Sundi	Michelia chapaca
8.	Sam	Atrocarpus Chaplasa
9.	Amra	Ammora wallichil
10.	Koroi	Albiziza procera
11.	Aldu	Adina cordifoilia
12.	Sida	Lagaertroamia parviflora
13.	Bonsum	Phoeba gualperendia
14.	Bohera	Terminalia telerica
15.	Ghogra	Schima wallichil
16.	Dhuna	Canarium spp.
17	Parauli	Sterosperrmum Chalonides
18	Uriam	Bischofia javanica
19	Teak	Tectona grandis
20.	Ashoka	Polyalthia longifolia
21.	Mango	Mangifera indica
22.	Neem	Azadirachta indica
23.	Amaltas	Cassia fistula

24.	Silver oak	Gravelia robusta
25.	Banana	Musa gudica
26.	Guava	Psidium guava
27.	Lemon	Citrus lemon
28.	Tuja	Thuja spp.
29.	Peepal	Ficus religiosa

12.1.4 QYALITY OF AIR, AMBINT NOISE LEVEL AND WATER:-

AIR ENVIRONMENT

Ambient air qualities of the immediate surroundings of the mining project are well w thin the permissible limit.

NOISE ENVIRONMENT

There are several sources in the 5 Km. radius buffer zone, which contributes t local noise level of the area. Traffic, cement factory as well as activities in n and near by villages add to the ambient noise level of the area.

CLIMATE

The climate of the district of Dima Hasao(N.C. Hills) is fairly diverse climate an average annual precipitation of around 1500 mm to 2000 mm with averag 1673 mm and 40 to 90% relative humidity. The coldest month is January and hottest month is May. The rainfall is mostly distributed between the months of and September.

The micro meteorological conditions at the mine site determine the trans diffusion pattern of air pollutants released into atmosphere. The principle varia include horizontal connective transport (average wind speed and direction) ver convective transport (atmospheric stability) and topography of the area.

The nearest IMD station to the study area is located at Silchar. Based on Meteorological data such as wind speed, wind direction, temperature, and rel humidity from IMD station summarized as below-

TABLE 11.4 : MICRO-METEOROLOGY

SUMMER SEASON							
Temperature °C		Relative humidity %		Wind Speed(km/hr) & Direction			
				8.30 Hrs.		17.30 Hrs.	
Max.	Min.	8.30 Hrs.	17.30 Hrs.	Direction	Speed	Direction	Speed
32.2	18.5	70	34	NE	04	SW	04

Rainfall

The annual rainfall of the area is around 1500 mm to 2000 mm with the average rainfall as about 1673 mm per year. About 90 percent of the annual rainfall is received during the period June to September, July and August being the rainiest months. The variation in annual rainfall from year to year is very large. During the North-East monsoon season, the relative humidity is generally over 90 percent.

11.1.5 HUMAN SETTLEMENT

There is no habitat within core zone. In buffer zone of the study area main workers are 40.43% and marginal workers are 5.72% resulting into 54.85% non-workers indicating at chronic unemployment problem. Total literates are 45.98%.

The occupational pattern of the people in Umrangshu town is approximately as under Mining - 10% Trade - 12% Agriculture - 1% Industry - 77%.

Demography

Total population in the study as per 2001 census records is 20713. It is evident that the concentration of SC is found to be 1.8% and concentration of ST is 6.6%.

The overall literacy rate in the village of buffer zone area is approximately 24% while that in Umrangshu town is about 50%. The total population of the study area has been furnished in the following as under.

Total Population of the Study Area Name of the village	Total Population	Direction from the Mine lease area
New Umrangshu village	400	West
Chingalma	220	North

Sex - Ratio

The population of females in the population of the district as a whole has a base on the lower side as compared to males. A sex ratio is 1:1.

11.1.5 PUBLIC BUILDING PLACE OF WORSHIP AND MONUMENTS

There is no public building or place of worship or monument nearby, could be affected by mining activities. Also the lease area does not fall natural park or any wild life sanctuary.

11.1.6 NOTIFICATION OF AREA UNDER WATER ACT 1974

The water (Control of Pollution) Act, 1974 is not applicable.

11.2 ENVIRONMENTAL IMPACT ASSESSMENT

11.2.1 LAND ENVIRONMENT

At the end of five year, damage to the landscape in the form of about 88.331 hect. will be degraded up to 296mRL of pits will be formed due to mining. The area influence of mining at the end of five year, is given below:

TABLE 11.5. : LAND USE PATTERN TILL END OF LEASE PERIOD/MINELEASE

PARTICULARS	PRESENT POSITION OF THE AREA IN HECT.	POSITION AT THE END OF 5th YEAR IN HECT.	AT END OF LEASE PERIOD
1. PITS	0.000	83.631	211
2. DUMP(ALTRATION SHALE)	0.000	12.95	15
3. DUMP (LOW GRADE LS.)	0.000	16.82	51
4. ROAD	0.926	3.52	60
5. PLANTATION	0.000	25.00	65
6. SOIL STACKED	2.92	2.92	
7. INFRASTRUCTURE	0.000	10.400	10
8. REMAINING VIRGIN LAND	416.574	257.255	50
TOTAL AREA	417.50	417.50	417

Proposed working areas are situated in unclassified forest land, negative impact on land use pattern will be in the form of pit, dump & infrastructure etc. Positive impact will be in form of plantation over 25.0 hect.

II) Flora & Fauna : Mining activity will involve removal of flora in the lease area. The proposed mining area is almost of unclassified mixed forest land. Dust produced due to mining activity will suppress the physiology of the fauna.

11.2.2 WATER ENVIRONMENT

I) Surface Water : The area comprises part of the regional drainage system of the Kopili river valley in its northern higher reaches. As the mining lease is in the southerly slopping hilly terrain, there is hardly any perennial water source in the area. However, many seasonal watercourses cutting across the hilly terrain carry the heavy surface water flow during creating deep gullies and gorges in their course.

The Amring nalla joins Langyen nalla, a tributary of the Kopili River, in the southeastern side. Thus the micro drainage of the area is controlled by the Langyen nalla while macro drainage is a part of the Kopili River master basin.

There are no surface reservoirs in core zone and just adjacent area except some surface flow of water in the nalla. If the silt flow to nalla is not prevented within lease area, then pollution in river ahead is likely.

II) Ground Water : Though the area is in a high rainfall region most of the precipitation constitute "run off" with very meager scope of infiltration. Therefore ground water is not available in the hilly terrain of lease area.

The ground water is encountered at the depth of 60 m to 100 m below the ground level in the plain area and there is no indication of ground water up to the depth of 50 m during the course of drilling. Hence, there is no adverse impact of mining on

the ground water quality. Besides this the sources of ground water i.e. wells are very less in number and mainly the surface water is utilized for drinking and purposes. There are few walls at a distance of more than 2 Km. from site.

There are only two prominent nallas in the area. The Amrang nalla (passing through the mining lease) and the Langyen nalla within the buffer zone. Suffi... virgin barrier zones with the mine working will be left as protection for the Am... nalla within mining lease. So these nallas will not be contaminated from su... rain wash from the working mine.

The over burden dumps will be properly located and protected by boundary ... with garland drain surrounding it so that rain wash material will be arrested. ... desilted water will flows into nallas. There will not be any accumulation of su... water within the lease area.

11.2.3 AIR ENVIRONMENT

Air Pollution due to Mining operation will be as follows:-

(i) Gaseous Pollution

The gaseous pollutants (SO_2, NO_x and CO) are quite low as the area is hilly ter... covered with degraded forest. Although these pollutants will be generated du... blasting and operation of diesel equipments i.e. HEMM like, excavator, dump... dozer, compressor and other transport vehicles.

(ii) Suspended Particulate Matter

The generation of dust is anticipated from various mining activities i.e. drill... blasting, loading, haulage and other transport activities related to mining.

11.2.4 NOISE ENVIORNMENT

Several mining and mineral processing activities generate obnoxious levels of no... and vibration. In opencast mines, heavy earth moving machineries like excavat...

...drills, dumpers etc. will be prominent sources of noise pollution in neighboring communities.

GROUND VIBRATION:- Ground vibration and air blast takes place due to blasting. This may be harmful to nearby buildings or structures, if they are not kept within safe limits. Blasting also generate air vibration wave (air blast). Vibration may cause structural damages, which depends upon the periodical acceleration due to vibration. Air blast can damage structurally unsound building and cause window glass failure. Blasting may generate fly rock, which may cause damage to both life and wealth. But appropriate steps towards this eliminate probability of any such ... Noise and vibration are primarily occupational health problem for people working within active mining zone. However, public at large are not exposed to noise level due to mining activity.

12.5 SOCIO ECONOMIC ENVIRONMENT

The mining activity in the region has positive impact on the social economic condition of the area by providing employment to the local in habitants; wages paid increase the per capita income. The density of population in the nearby area will be increased due to improved economic conditions such as frequent transportation and medical facilities.

...3 ENVIRONMENT MANAGEMENT PLAN

...3.1 STORAGE AND PRESERVATION OF TOP SOIL

Most of the part of mining lease area is rocky in nature. Topsoil that will be removed in advance before start the mine operation will be temporary stacked in an area of 2.02 Hect. and used for plantation work in the mined out area and on dump. Green belt development around the area minimizes the impact of mining on soil characteristics like its texture, chemistry & even soil erosion in the area.

11.3.2 PROPOSAL FOR RECLAMATION OF LAND AFFECTED BY M ACTIVITIES DURING AND AT THE END OF MINING.

The proposal given to extract all mineable reserves of cement grade li up to ultimate depth. In first five years, mining excavation will remain on elevated portion and at the end of five year period, about 88.631 hect. be cover under mining.

At the end of mine plan period total 88.631 hect. area will be degrad 295 mRL and 25.00 hect. area will be convert in green belt. At the end of plan period, the mined out area will be not backfilled because still mineral available for future mining. It wil be review at the time of mining submission.

At the end of mining when mineral will be fully exhausted, mined out a be rehabilitated in way of plantations on mined out benches and dep will be use as rain water storage to recharge ground water for surround and also for watering of plants. (Refer Plate no.7A&B)

11.3.3 PROGRAMME OF AFFORESTATION

The lessee propose a total No. 5000 trees/year to be planted alon boundary (7.5 m statutory barrier), haul road, near office and crusher as a the year-wise plan (refer plate no. 6A to 6E). The total proposed area forestation is 25.00 hect. and survival rate is 80%. A number of spec be planted suiting to this area of climate conditions as mentioned in t wil be planted. At the end of mining plan period total 25.00 hect. area converted in to green belt. The planted area will be protect by trenchi properly and watering and manuring as per schedule.

TABLE - 11.6 : AFFORESATION

YEAR	NO FRESH TREE PLANTED	RATE OF SURVIVAL	AREA	TREES PLANTED IN REPLACEMENT	TOTAL TREES PLANTED
1st	5000	80%	5.0	-	-
2nd	5000	80%	5.0	1000	6000
3rd	5000	80%	5.0	1000	6000
4th	5000	80%	5.0	1000	6000
5th	5000	80%	5.0	1000	6000

Species to be planted

Forest department officially will be consulted for suitable plant species for the area. However proposed species are Asoka Mango, Arnaltas, Peepal, Tonk, Neem etc.

11.3.4 MEASURE FOR DUST SUPPRESSION

These impacts may reduce yield of crops in the area if proper precautions are not taken. However, there is no likelihood of any adverse impact of the present mining activity on agricultural practice or crop yield at district or tehsil level or even beyond the boundary of mining lease area. Floral environment could be affected by mining activities due to

- Air Pollution i.e. both dust & gaseous pollution
- Water pollution
- Land Pollution

In the present study area, there is absolutely no likelihood of any pollution to flora beyond the boundary of mining lease area in the 5 km. radius buffer zone. This is because sources of pollution i.e. dust, gaseous emission, solid & liquid effluents is minimized at the generation point itself and adequate measures are taken to prevent their impact on environment. So, there is no pollution due to distant carriers like air and water.

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KEY PERSON

ii) Strict control measures to prevent air & water pollution would lead to ab... no adverse impact on the floral environment of the adjacent area.

iii) The greenery to be developed under green belt development programme... improve the floral environment of the adjoining area.

iv) Public Building, Place of Worship and Monument :- No public building... of worship or monument will be affected as there are no such ... present nearby.

Suitable measures will be taken to control dust problem, as following:

Sprinkler arrangement will be used regularly sprinkle water on the haul ... as well as loading points. The drilling machines equipped with dust co... arrangement and wet drilling arrangement will be used to prevent the gen... and spread of dust. To minimize dust pollution green belt plantation will b... all along the haul road from mines to plant whereas possible. Waste dumping ... will be vegetating by suitable trees to prevent air pollution during stormy win...

STABILISATION AND VEGETATION OF DUMPS

At the end of mining plan period total 29.770 hect area covered from the wa... the eastern side of the Lease area. Waste dumping sites will be vegetati... suitable trees to prevent air pollution during stormy winds to also to pr... erosion.

The contours in the identified waste disposal area varied from 280 m to 340 m... overburden dump will fill this sloping ground and will not produce ... disharmonious feature with the local physiography. The slope of the dump w... towards the Amrang nalla. The protective wall will be created around the d... Appropriate drainage of the rainwater will be made of creating channel. The h... of the waste dump will be maintained within 60 m and slope will be about 15°.

The method of dumping will be conventional using shovel-dumper combination with the help of dozer for leveling and making berm as safety measure. Proper drainage will be maintained on the surface of the dump to prevent any water accumulation/seepage.

Towards the closing stage of mine, the narrow pits in the mine will be back filled and utilised for overburden dumping if required. Care will be taken to shape the overburden dump to merge with the local surroundings.

11.3.5 MEASURES OF MINIMIZING ADVERSE EFFECTS ON WATER REGIME

The ground water table in this region is much below from the surface ground and water table will not be touched anytime during mining. However, during monsoon proper care will be taken to avoid any type of contamination of surface run-off water by limestone.

11.3.6 MEASURES TO CONTROL EROSION / SEDIMENTATION OF WATER COURSES

Mine water pumped during rainy season will carry some silt with it. This will be discharged into near by sump to assist in settling down of silt, and ... clean water will be emitted in the near by ground.

The drains have been made along the base of all the benches and a gentle slope has been given inwards so that the rain water flows along the base of the benches in a natural way & joins the nearest natural valley section for drainage. Since it is a hilly deposit and in the nearby area no water spring exists; therefore effect as water table fluctuations due to mining is absent. In the other parts of mine area the rainwater will automatically get drained following the natural ground relief. To avoid the entering the silt in the nearby nalla statutory barrier of 60 m will be left and along this barrier protective bund will be created to prevent the entering the rainwater from the waste dump.

11.3.7 TREATMENT AND DISPOSAL OF WATER FROM MINE

There is no proposal of beneficiation plant for processing of limestone, effluent will be generated. The discharged mine water will not carry any or poisonous matter dissolved in the water, so no treatment of wa required & proposed.

11.3.8 MEASURES TO MINIMIZE VIBRATIONS DUE TO BLAS AND CHECK NOISE POLLUTION

Blasting of limited holes will keep vibrations under control.

i) The haul roads will be kept wide to support two-way traffic. Generation of due to HEMM is confined close to the machineries. The noise is reduced by maintenance.

(ii) Controlled blasting is practiced which produces very less noise.

(iii) In order to reduce effect of noise earmuffs are provided to operators.

(iv) Suitable green belt in the area will also check propagation of noise.

(v) The practice of wet drilling is carried out with the help of sharp drill bits.

Blasting will be avoided in the morning and evening hours. Avoiding blast on days, at night time and at times of high wind velocity.

11.3.5 MEASURES FOR PROTECTING HISTORICAL MONUMENTS FOR REHABILITATION OF HUMAN SETTLEMENT LIKELY TO DISTURBED DUE TO MINING ACTIVITY

As mentioned in previous para, there is no historical monuments within lease and also in surrounding area (500 m zone), So no step is require protect the historical monuments. There is no village and human settle within the lease area. Therefore, no rehabilitation scheme or provisio compensation land will be required.

11.3.6 SOCIO ECONOMIC BENEFITS ARISING OUT OF MINING

Limestone mining in this lease area will give following social benefits:

a) Limestone production and employment opportunities.

b) Reduction in the migration of jobless laborers from native places to other distant places.

c) Interaction of local people with outsiders, and improvement in communication which will enhance their present status of knowledge and confidence.

11.4 MONITORING SCHEDULE OF ENVIRONMENTAL PARAMETERS IS GIVEN BELOW:

Particular	Schedule	Remarks
Ambient air quality	Quarterly	SPM, RPM, SO_2 & Nox
Ambient noise levels	Quarterly (day/night)	In decibels
Noise levels for mining machinery	Quarterly (day/night)	In decibels
Water quality (Surface & ground water)	Once in a season	Analysis as per IS-10500
Vibration study	During mining plan period The vibration level study is not required that will be done by IBM,Nagpur or done by private agency. The vibration generated from the machinery have not been studied till date in order to quantify the vibration levels.	Peak particle velocity

egular monitoring will be carried out for various pollution level with respect to r, Water, Noise etc. To ensure that the confirm to the standard led down by the OEF, and as per as per CCOM's circular 3/92 and submit yearly to IBM office OEF and State Pollution Control Board. Vibration study, if require will be done ring plan period and report of the same will be submitted to IBM Office.

=====

viii)

ix)

x)

xi)

xii)

xi)

x

10.0 ANY OTHER RELRVANT INFORMATION

A copy of Rapid EIA & EMP will be submit after getting EC from MOEF, New Delhi.

For Udaipur Min-Tech Pvt. Ltd
(RQP/UDP/354/2009/B)

Date: 28/12/2011
Place: Udaipur

Manoj Nandwana
Key Person

Shailendra Singh Bist
Key person

****

For UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/354/2009-B)

PROGRESSIVE MINE CLOSURE PLAN

1.0 INTRODUCTION

(A) NAME & ADDRESS OF LESSE :

Registered office :-

M/S Calcom Cement India Limited
"Mini" Silpukhuri South Bank,
Silpukhuri, Guwahati-781003 Assam
Phone. 0361-2668504 / 2660347, Fax 0361 2662131
E mail :- george.chacko@calcom.co.in, saph.chowdary@calcom.co.in

Head office:-

M/S Calcom Cement India Ltd.
7th Floor, 3A Eco Space,
Plot No 2 F/11, New town, Rajarhat, Kolkata – 700156, West Bengal
Ph. 033 – 40134200, Fax 033 – 23245503 / 40134212
E mail :- liasd.hawz@calcom.co.in

Nominated owner Shri Ritesh Dawari

(B) LOCATION OF THE LEASE AREA :

Location	:	Umrangshu
District	:	Dima Hasao (North Cachar Hills)
State	:	Assam

(Refer Location Plan, Plate no.1 and Key Plan Plate No. 2)

(C) EXTENT OF THE LEASE AREA :

Lease area – 41°.50 Hect. (unclassified mixed forest)

D) TYPE OF THE LEASE ARRA :- The whole area falls under unclassified mixed forest.

E) PRESENT LAND USE PATTERN :

Present Land use pattern as given below

TABLE 1.1 : PRESENT LAND USE PATTERN IN HECT.

PARTICULAR'S	PRESENT POS OF THE AREA IN
A) MINING ACTIVITY	
1. PITS	0.000
2. DUMP(KOPILI ALTRATION/ SHALE)	0.000
3. DUMP (LOW GRADE /CARBONASEOUS)	0.000
4. ROAD	0.926
5. PLANTATION	0.000
6. INFRASTRUCTURE/OFFICE/CRUSHER/MS/MAGZINE	0.000
6. TOP SOIL STORAGE(TEMPORARY)	0.000
B) REMAINING VIRGIN LAND	416.574
TOTAL AREA	417.50 HECT

(F) METHOD OF MINING :

Mining will be done by mechanized opencast method with using Heavy E moving machinery. Detail of mining method described in chapter no. 4 (Repe is avoided here).

(G) MINERAL PROCESSING OPERATION

It is mentioned in earlier that no processing will be done as blasted mat can be directly used as raw Material for Clinker. 28% of the top hand limeston be used in blending.

1.1 REASONS FOR CLOSURE :

These is no proposal to close the mine. Mining yet to convent in the area progressive mine closure plan has been prepared in compliance of 23(B) MCDR 1988.

1.2 STATUTORY OBLIGATIONS :

The lessee is bound to submit the Progressive closure plan well in either with Mining plan or Scheme of Mining. Lessee is bound to follow

terms and conditions as stipulated in the lease deed. In addition to it the rules pertaining to the Protection of Environment i.e Environment Act, Environment Rules and other associated rules with protection of environment has to be followed. During the course of mining the rules stipulated in Mines Act, Mines rules and MMR1961 MCDR 1988, has to be followed. All other rules applicable to the mine from time has to be followed during the course of mining.

1.3 CLOSURE PLAN PREPARATIONS

NAME, ADDRESS AND REGISTRATION NUMBER OF THE RECOGNISED PERSONS WHO PREPARAED THE PROGRESSIVE CLOSURE PLAN

M/S UDAIPUR MIN - TECH PVT. LTD.,
RQP NO. RQP/UDP/354/2009/B, VALID UP TO 20th AUG. 2019.

Following are Key Persons :

1. Mr. Shailendra Singh Bist, Mining Geologist & RQP(IBM)
2. Dr. Harpal Singh Yadav, Mining Geologist & RQP(IBM)
3. Mr.Manoj Nandwana , Mining Geologist & RQP(IBM)

Address : 206 "APEKSHA COMPLEX"
SECTOR NO - 11, HIRAN MAGRI,
UDAIPUR – 313001(RAJ.),
PHONE– 91-294-2489672(OFF.) GSM : +919414167972
E-mail : udmt@udrmintech.com

Dalmia Cement India Limited, Miri Silpukhuri South Bank Company will be himself implement the closure plan, no outside agency will be involve. Silpukhuri, Guwahati, Assam, Miri implement the PMCL.

2.0 MINE DESCRIPTION

2.1 **GEOLOGY**:- The limestone belt of the Kopili Valley, of which New Jamunanagar (Umrangshu) Limestone Mine is a part, belongs to the Jaintia

formation of Eocene system of Assam. The generalized stratig sequences of the Jaintia group are provided in the following table :

Age	Formation	Predominant Litho Types
Eocene	Kopili Stage	Intercalation of sphintery shale and medium grained brownish sandstone.
Sylhet Limestone Stage		Fossiliferous limestone, thick well bedded, with occasional shale Partings.
Basal Stage		Massive sandstone with impersistent thin coal seams.

2.2 **LOCAL GEOLOGY** : The New Umrangshu limestone Mine is located Eastern side of the Umrangshu-Lanka road at a distance of about 5 km fr New Umrangshu basti, which is about 12 km from the Umrangshu Township

The present mining lease area is located in the northern sloping flank deposit. A mantle of soil and decomposed weathered rock, varying in thickne 0.5 m to 4.0 m, covers most of the area of the block. Limestone beds are e along the Amrang nalla.

DGM, Assam, carried out topographically & Geologicaly monotring of the Umrangshu block. The litho logical sequence and their range of thickness, as by Geological mapping and projecting drilling data have been furnished i following table.

S. No.	Litho Type	Thickness Range (m)
V	Kopili Shale Sandstone alternation	0-5/ 0 (variable.
IV	Top limestone horizon (inferior)	16.0-32.9 (variable)
III	Shale	5.1-10.0 (mostly 6m)
II	Bottom limestone horizon (Cement grd.)	49.0-52.5 (mostly 50m)
I	Basal Sandstone	Not proved

2.3 **RESERVES:** Mineable reserve has been summarized as below:

MINEABLE RESERVE (IN MILLION TONNES)

LIMESTONE BAND	RESERVE QUANTITY TOP Removed (122)	BOTTOM (122)	TOTAL (122)	RESERVE BLOCKED	MINEABELE RESERVE (122)
RESERVE QUANTITY	21.35	281.42	202.78	40.22	162.54

2.4 MINING METHOD

Mining will be done by mechanized opencast method of mining using Heavy Earth moving machinery. Bench Height will be maintained at 10m. width of the benches will be three times of the machinery used for haulage. Individual bench inclination will be 70°. Blasting will be carried out using ANFO and Booster in ratio of 80:20 with delayed detonator. Blasted material will be transported by dumper to the crusher plant located in the Lease area.

2.5 MINERAL BENEFICIATION:

No mineral beneficiation will be required in the mine.

3.0 REVIEW OF IMPLEMENTATION OF FIVE YEARS PROGRESSIVE CLOSURE PLAN

This is the first "Progressive Mine Closure Plan" It will be reviewed at the time of next Scheme of Mining submission. However, special emphasis of the proposals for the protection of environment is given in EMP Chapter of Mining Plan.

4.0 CLOSURE PLAN

4.1 MINED – OUT LAND : At the end of mining plan period about 88.631 hect area will be mined out and at the end of the life about 211.87 hect area will be mined out. Details of land use of present , at the end of plan period and at the end of life/lease period given in tabular form as below :

PARTICULARS	PRESENT POSITION OF THE AREA IN HECT.	POSITION AT THE END OF 5th YEAR IN HECT.	AT EN LE PE
1. PITS	0.000	58.631	211.
2. DUMP(ALTERATION/ SHALE)	0.000	12.95	19.
3. DUMP (LOW GRADE LST)	0.000	16.82	03.0
4. ROAD	0.926	3.52	03.
5. PLANTATION	0.000	25.00	05.
6. SOIL STACKED	2.92	2.92	--
7. INFRASTRUCTURE	0.000	10.400	10.
8. REMAINING VIRGIN LAND	416.574	257.259	543
TOTAL AREA	417.50	417.50	417.

At the end of life of mine about 224.50 hect. area will be under plantati includes 197.05 hect on mined out benches, 55.0 hect area under afforesta barren land and 72.0 hect area on dump (refer plate 5A to 5E and Plate no.8)

TIME SCHEDULE FOR RECALMATION AND REHABILITATION PROGRAMME

(In Hect.)

S. No.	Year	Disturbed	Afforested		Reclaimed/Rehabilitated		
			Virgin Area	Dump Area	Afforested on mined out benches / backfilled		Wa reser voi
1	Present	0.926	Nil	--	Nil	Nil	N
2.	5th Year	121.321	25.00	--	Nil	Nil	Ni
3.	10th Year	147.40	50.00	--	49.26	Nil	Ni
4.	15th Year	184.152	55.00	10.00	98.52	Nil	Ni
5.	20th Year	220.10	55.00	30.00	147.78	Nil	N
6.	Mine Life / lease period	297.94	55.00	72.00	197.05	Nil	14

4.2 WATER QUALITY MANAGEMENT

The area comprises part of the regional drainage system of the Kopili river its northern higher reaches. As the mining lease is in southerly sloppi terrain, there is hardly any perennial water source in the area. However seasonal watercourses cutting across the hilly terrain carry the heavy surfac flow during the rainy season creating deep gullies and gorges in their course

ntral part of the lease area, the Amrang nalla cuts across in a Southeasterly rection often with steep banks on both sides forming escarpments.

e Amrang nalla joins Langyen nalla, a tributary of the Kopili River, in the utheastern side. Thus the micro drainage of the area is controlled by the Langyen lla while macro drainage is a part of the Kopili River master basin.

e possible contamination of water by run off from the mining benches or from erburden during the rainy season will be mitigated by guiding the run off through nnel with check dams in old benches, particularly in limestone shale/ interface. nstruction of garland drain around freshly created waste dump would prevent of run-off water with loose material. To prevent formulation of gullies due to vy rain in the benches slope a flow gradient of about 1 in 200 shall be kept at y bench towards inside of the bench. Beside that earthen band along nalla will made of total Length of 4528m during the plan period as tabulated below:

Table 1.4 : EARTHEN BUND ALONG NALLA

YEAR	YEAR 2011-12	YEAR 2012-13	YEAR 2013-14	YEAR 2014-15	YEAR 2015-16
LENGTH	928m	900m	900m	900m	900m

AIR QUALITY MANAGEMENT

lity of air will be monitored & report submitted regularly to authorities. Wagon machine will with dust collector arrangement and while using jackhammer wet ling arrangement will be used to prevent the generation of dust. Blasting ation will be done at mid day of every day.

WASTE MANAGEMENT

area marked for long term waste disposal has been examined by gical mapping, structural interpretation. This area is mineralized so Dump ge is temporary and will be stable by way of plantation. After reaching up to ltimate depth, the waste will be used in backfilling starting from the western

side of the lease area. Proposal of backfilling was given after the concep... exploration. The area considered for dumping is adequate enough to accommo... the total quantity of waste up to the height of 60m in 5 steps of 12 m each. Le... will explore the possibility of getting waste dump area out side lease area.

4.5 TOP SOIL MANAGEMENT

As the lease area is part of hill slope in a high rainfall area, small quantity of so... available. Soil removed during the mining will be directly used in plantation... only temporary storage of the for soil cover 3.5 hect. area as marked on the Plate... to 5E and Plate 8.

4.6 TAILING DAM MANAGEMENT

There is no tailing generation in the process of mining.

4.7 INFRASTRUCTURE

At present no Infrastructure area present in the lease area. Propo... Infrastructure includes mines office, maintenance workshop, etc. will be m... Mine life is of 21 year so there is no proposal for closure of mine in the next... years, hence no decommissioning of infrastructure is proposed.

4.8 DISPOSAL OF MINING MACHINERY

There is no proposal for closure of mine in the next five years, hence... decommissioning of mining machinery is proposed.

4.9 SAFETY AND SECURITY

- When the mine is abandoned or part of the area is getting exhausted , the following safety & security measures shall be implemented :
- The area / part of the area shall be fenced out.
- A parapet wall as per the rule shall close all access road to the pit / face.

- Warning shall be display on "Notice Board".
- Security persons shall be posted at every danger point.
- Mine benches shall be cleaned & properly sloped for its stability.
- Garland drain shall be made all around the mine to prevention of land slides.
-

4.10 DISASTER MANAGEMENT AND RISK ASSESSMENT

Risk Assessment

The limestone deposit by virtue of being the member of Himalayan rocks is highly unstable structurally and geological evidences in the area support to this fact.

Due to the structural weaknesses and high rainfall characteristics the area is prone to loosening of rocks, swift currents carrying heavy sediment load, uprooting of trees involving the following risks-

(a) Land slides
(b) Flash floods
(c) Damage of life and property
(d) Disruption of road & telecommunication facilities.
(e) Lightening
(f) Fire hazard in HEMM
(g) Fall of person or machinery from high benches

Disaster Management:

The complete mining operation will be carried under the Management and control of experienced and qualified Mines Manager having Certificate of Competency to manage the mines, granted by DGMS. Standing orders and circulars issued by DGMS shall be followed by the mine management in case of disaster, if any.

To avoid any fire hazard all heavy earth moving equipment shall be provided with fire fighting equipment. All fuel storage stations shall be provided with

adequate fire fighting arrangements. Persons shall be given proper tr
fire fighting and mock rehearsals conducted.

However to meet any emergency a Disaster Management Plan shall be
widely circulated and training through rehearsals and mock drills shall b

The objective of the Disaster Management Plan is to make use of the r
resources of the mines and outside services to achieve the following:

- Effect the rescue and medical treatment of casualties.
- Safeguard other people.
- Minimize damage to property and the environment.
- Initially contain and ultimately bring the incidence under control.
- Identify any dead.
- Provide authoritative information to the News media.
- Secure the safe rehabilitation of affected area

A senior most Executive will be heading the emergency organization. H
work as site controller. Mine Manager will work as incident contr
organize the team for controlling the incident with the person under his co

To deal the above emergency, the following steps will be taken as per eme
plan.

1. ESTABLISHMENT OF CONTROL ROOMS:

Forward (site) Control Room:

The site control room will be Shift in-charge's Room, which will hav
facilities of telephone, and wireless communication systems. One man s
made the incharge of the site (forward) control room and who will giv
updated information to all the appropriate authority and to the base
room.

Base Control Room:

The Base Control Room will be in the security officer's room at the main gate
whom any information is to be given to the local authority local hospital, and
local police station or to District Magistrate.

PROVISION OF INFRASTRUCTURE FACILITIES:

The Base Control Room will inform about the emergency to the Stores in-charge
Stores incharge will immediately on receipt of such information will keep the
store open. A list of item (normally used for the Rescue Operation) will be
maintained and stocked separately. The Stores in-charge will ensure that all
items are always readily available. In addition to this the other
infrastructure like Crane, Chain Pulley block, Pumps, Ropes etc. will also be
ranged as per requirements. In case any of the items which are not available,
store in charge will make necessary arrangement for its local purchase or
secure from nearby mines.

DUTIES & RESPONSIBILITIES OF EMERGENCY PERSONNEL:

VING OF WARNING:

Duty of Work Person:

work person / machine operator who notices any abnormal situation in the
like outbreak of fire in machinery or elsewhere, sudden inrush of water,
or bench movement etc., shall take immediate steps to give warning by
est possible means to the nearest available mine official.

Duty of Mine Official:

mine official receiving the warning shall send warning by fastest possible
s to (a) Senior official (b) Manager (c) Mechanical Engineer (d) other part of
(e) Time keeper & person in charge of sounding siren.

KEY PERSON

(iii)Duty of Timekeeper:

On receiving Information about the emergency, the Timekeeper and the in charge of sounding siren shall sound the siren with a special co Timekeeper shall take steps to warn the emergency dealing squad li fighting crew and also rescue team.

(iv)Duty of emergency crew & rescue personnel :

On hearing the warning signal they should immediately collect at the control room

(v)Duty of Manager:

On receipt of information about emergency the manager shall send infor to (a) Rescue station if located nearby (b) DGMS (c) Senior offic Management (d) District Magistrate (e) Police Station and also estab control rooms with one Asstt Manager In charge of the site control room proper briefing (f) Management of nearby mines in case any assistance requ

WITHDRAWAL OF PERSONS & MACHINERY:

Duty of Mine officials:

On receipt of warning of emergency, the mine officials shall forthwith wit all persons from their working places and the Mechanical Engineers wit crew/operators shall make arrangement to withdraw all machinery to s place. Withdrawal shall be in an orderly manner.

RESTRICTION OF EMPLOYMENT:

No person other than those duly authorized by Manager and Management enter in the mine for the purpose of dealing with emergency. Timekeeper record in his register the entry to and exit from the mine of any autho person.

DEALING WITH EMERGENCY:

All work of dealing with emergency shall be conducted strictly as per Instruction of the in the control room.

(i) Duty of Surveyor :

He shall keep ready all plans required at the site contro. room. He shall prepare a team for undertaking any survey and in case of impending slope failure, monitor the ground movement. He shall keep a list of mines to be approached for voluntary rescue team or other resources.

(ii) Duty of Welfare officer/ Personnel officer:

He shall report to the site control room. He shal. arrange for accommodation for rescue teams, organize canteen facilities, blood donation, identification of dead bodies etc.

(iii) Duty of Medical officer :

He shall report to the site control room, room, requisition series of doctors from the adjoining mines' areas, be ready with medical staff to attend to the injured, there central or district hospitals to receive serious cases, requisition ambulance from adjoining mine/hospitals, arrange for blood collection (list of blood donors shall be mentioned in each

(iv) Duty of Security personnel:

They shall report to the base control room, cordon off the entrance to the mine, maintain law and order and assist police and arrange for guarding the dead bodies till these are sent For post-mortem examination.

(v) Duty of stores In charge:

He shall check the materials on the emergency list, send the list to the c... rooms, wait for instruction for procurement of more materials promptly issue material on receipt of requisition slip by site control room.

(vi) Duty of Maintenance Engineers :

They shall report to the site control room, carryout duties assigned to arrange mechanical crew for all the two shifts.

(vii) Duty of Transport officer :

He shall report to the both control rooms, keep all light and heavy vehicles if necessary requisition more vehicles from adjoining mines, and ar... transport of men and materials from other mines/places.

(viii) Duty of Union leader :

He shall maintain peace, assist management in rescue and recovery wo... organizing volunteers, help controlling the affected families.

(ix) Duty of Canteen Manager:

He shall report to both control rooms, arrange supply of tea, snacks, mea... for all involved personnel in emergency dealing work.

4. ENFORCEMENT OF THE ORDER:

A copy of the order shall be posted at the Mine office, Timekeeper telephone, wireless operator's room and in the room of all senior officers.

Mock rehearsal shall be held at least once in a quarter.

5. RESUMPTION OF WORK

Normal work in the mine shall not be resumed except with the prior perm... of the Mines Manager in writing.

6.11 CARE AND MAINTENANCE DURING TEMPORARY DISCONTINUANCE

In case of any temporary discontinuance due to court order or due to statutory requirement or any other unforeseen circumstance following measures for care and maintenance and monitoring of status shall be taken.

- Notice of temporary discontinuance of work in mine shall be given to the Controller General, Controller of Mine and the Regional Controller, IBM and DGMS Officials under Rule 24 of MCDR 1988 and Reg. 6 of MMR 1961 respectively.
- All the mining machinery shall be shifted to a safe place.
- Entrance to the mines or part of the mines to be discontinued shall be fenced off as per DGMS Circular and security Guards shall be posted for the safety and, to restrict any unauthorized entry to the area.
- Competent persons shall inspect the area regularly.
- Air, water and other environmental monitoring shall be carried out.
- Care and upkeep of plantation done shall be carried out on regular basis.
- Measures of care, maintenance and monitoring of status of unplanned discontinued mining operations expected to re-open in near future.
- All rules and regulations shall be followed in case of any temporary discontinuance of mine.

No temporary discontinuance is anticipated during the closure plan ending 2012-2016

6 ECONOMIC REPERCUSSIONS OF CLOSURE OF MINE AND MANPOWER RETRENCHMENTS

6.1 No of local residents employed in the mine, Status of continuation of family occupation and scope of joining the occupation back.

...he event of closure of mines, company will make the efforts to provide them ...uable employment at the other mine / works.

...PVT. LTD.

KEY PERSON

1.5.2 Compensation given or to be given connected with sustenance of him/ their family members.

The employees shall be given as per the current laws applicable to the mine.

1.5.3 Satellite occupations connected to the mining industry- number of p engaged therein- continuation of such business after mine closes.

Indirect employment in ancillary business in the event of mine closure is lik continue.

1.5.4 Continued engagement of employees in the rehabilitated status of m lease area and any other remnant activities.

Once the lease is determined all the remnant activities will come to an end and handed over to State Govt. Company will make the efforts to provide them su employment at the other mine / works.

1.5.5 Envisaged repercussions on the expectations of the society around th closure of mine.

The closure of mine will have grave repercussions on the expectations of unemployed persons and society at large since the obvious advantages received cease and the closure will directly affect their livelihood. The capacity of retrenched employees to provide education to their children, access to mod gadgets like TV, Refrigerator, telephone, cars etc. will tremendously be effec Assistance provided to Gram Panchayats will also cease. Maintenance of roads also suffer. The local habitat in general will feel insecure as their education, he standards and life expectancy will be badly affected.

6.0 TIME SCHEDULING FOR ABANDONMENT

Mine use is estimated at 21year, The exact scheduling for abandonment cannot forecasted at this stage. However, time schedule of abandonment of mined areas in way of reclamation and rehabilitation up to end of life as given belo

Time scheduling for abandonment up to end of life (in Hs.)

ACTIVITY	End of Plan period	End of Lease period/min life
1. Dump reclamation & Plantation	--	72.6
2. Plantation along boundary, along road & mined out benches.	--	197.0
3.Afforestation	25.0	55.0

7.0 ABANDONMENT COST

Company is not planning to decommission the plant even after the exhaustion of mineral in both mine hence the provision of abandonment cost at the present state is not kept. This will be reviewed in the subsequent plan/scheme and the projections will be made thereafter. The cost of the work to be carried out during the ensuing five years is given below :

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THE MEGHTON MINTECH PVT. LTD.

KEY PERSON

INFORMATION ON PROPOSAL FOR PROTECTIVE MEASURE TO BE UNDERTAKEN FOR ENVIRONMENTAL PEOTECTI ON FOR THE PLAN PERIOD 2012-13 TO 2016-2017

FIRST YEAR (Year 2012-13)

ITEM	Detail	AREA			QUANTITY(In No.)			EXPENDITURE(in Rs.)		
		Proposed	Existed	Total	Proposed	Existed	Total	Proposal	Existed	Total
Reclamation & Rehabilitation of mined out area	Back filling	-	-	-	-	-	-	-	-	-
	Afforestation	-	-							
	Others (Afforestation on the exhausted) Garland drain									
	Pisciculture	-	-	-	-	-	-	-	-	-
	Converting in water reservoir	-	-	-	-	-	-	-	-	-
	Picnic spot	-	-	-	-	-	-	-	-	-
Stabilization and rehabilitation of dump with lease area	Terracing	-	-	-	-	-	-	-	-	-
	Pitching	-	-						-	
	Construction of parapet wall retaining wall at toe of dump	-	-	-	-	-	-	-	-	-
	Construction of check dam slope (in Length)	928m	-	928m	1	-	1	64960/-	-	64960/-
	Construction of settling pond garland drain	-	-	-	-	-	-	-	-	-
	Detail of settling pond	-	-	-	-	-	-	-	-	-
	Afforestation on dump									
	Others									
Rehabilitation of barren area	Afforestation in hect.	5.00	-	-	-	-	5000	250000/-	-	250000/-
	Others (Wire fencing Length in mtr.)	800m	-	800m	1	-	1	56000/-	-	56000/-
Environmental management plan	Ambient air quality	-	-	-	-	-	-	-	-	-
	Water quality	-	-	-	-	-	-	5,00,000	-	5,00,000
	Noise level survey				-	-	-	-	-	-
							Total	8,70,966		8,70,956

* Monitoring equipment:

Rehabilitation	Back filling	-	-	-	-	-	-	-	-	-
	Afforestation	-	Nil							
	Others (Afforestation on the exhausted)									
	Pisciculture	-	-	-	-	-	-	-	-	-
	Converting in water reservoir	-	-	-	-	-	-	-	-	-
	Picnic spot	-	-	-	-	-	-	-	-	-
Stabilization and rehabilitation of dump with lease area	Terracing	-	-	-	-	-	-	-	-	-
	Pitching	-	-	-	-	-	-	-	-	-
	Construction of parapet wall retaining wall at toe of dump	-	-	-	-	-	-	-	-	-
	Construction of check dam slope(in mtr.)	900m	-	900m	1	-	1	63000/-	-	63000/-
	Construction of settling pond garland drain	-	-	-	-	-	-	-	-	-
	Detail of settling pond	-	-	-	-	-	-	-	-	-
	Afforestation on dump	-	-	-	-	-	-	-	-	-
	Others									
Rehabilitation of barren area	Afforestation in hect.	5.00	-	-	-	-	5000	250000/-	-	250000/-
	Others(Wire fencing length in mtr.	700m	-	700m	1	-	1	49000/-	-	49000/-
Environmental management plan	Ambient air quality	-	-	-	-	-	-	-	-	-
	Water quality	-	-	-	-	-	-	-	-	-
	Noise level survey	-	-	-	-	-	-	2,00,000	-	2,00,000
								-	-	-
							Total	552000		552000

THIRD YEAR (Year 2014-15)

ITEM	Detail	AREA			QUANTITY(In Nos.)			EXPENDITURE(In Rs.)		
		Proposed	Existed	Total	Proposed	Existed	Total	Proposed	Existed	total
Reclamation & Rehabilitation	Back filling	0.88	-	-	-	-	-	-	-	-
	Afforestation	-	-							
	Others Garland drain in mtr.	135	-	-	1	1	-	16200/-	-	16200/-
	Pisciculture	-	-	-	-	-	-	-	-	-
	Converting in water reservoir	-	-	-	-	-	-	-	-	-
	Picnic spot	-	-	-	-	-	-	-	-	-
Stabilization and rehabilitation of dump with lease area	Terracing	-	-	-	-	-	-	-	-	-
	Pitching		-							
	Construction of parapet wall retaining wall at toe of dump	-	-	-	-	-	-	-	-	-
	Construction of check dam , slope(in mtr.)	900m	-	900m	1	-	1	63000/-	-	63000/-
	Construction of settling pond garland drain	-	-	-	-	-	-	-	-	-
	Detail of settling pond	-	-	-	-	-	-	-	-	-
	Afforestation on dump									
	Others									
Rehabilitation of barren area	Afforestation in hect.	5.00	-	-	-	-	5000	250000/-	-	250000/-
	Others(Wire fencing length in mtr.)	700m	-	700m	1		1	49000/-	-	49000/-
Environmental Management Plan	Ambient air quality	-							-	-
	Water quality	-		-	-	-	-	2,00,000	-	2,00,000
	Noise level survey		-	-	-	-	-		-	
							Total	5782200		5782200

Reclamation & Rehabilitation	Back filling	Proposed	Existed	Total	Proposed	Existed	Total	proposed	Existed	total
	Afforestation		1	-			-		-	
	Others (Afforestation on the exhausted) Garland drain									
	Pisciculture	-	-	-	-	-	-	-	-	-
	Converting in water reservoir	-	-	-	-	-	-	-	-	-
	Picnic spot									
Stabilization and rehabilitation of dump with lease area	Terracing	-	-	-	-	-	-	-	-	-
	Pitching	-	-							
	Construction of parapet wall retaining wall at toe of dump	-	-	-	-	-		-	-	-
	Construction of check dam in mtr.	600m	-	900m	1	-	-	63000/-	-	63000/-
	Construction of settling pond garland drain	-	-	-	-		-	-	-	-
	Detail of settling pond	-	-	-	-		-	-	-	-
	Afforestation on dump						-	-	-	-
	Others									
Rehabilitation of barren area	Afforestation in hect.	5.00	-	-	-	-	5000	250000/-	-	250000/-
	Others (Wire fencing in mtr.)	700m	-	700m	1		1	49000/-	-	49000/-
Environmental management plan	Ambient air quality	-	-	-	-	-	-	-		-
	Water quality	-		-	-	-	-	2,00,000		2,00,000
	Noise level survey	-	-	-	-	-	-	-	-	-
							Total	552000		552000

	Others (Afforestation on the exhausted) Garland drain	-	-	-	-	-	-	-	-	-
	Pisciculture	-	-	-	-	-	-	-	-	-
	Converting in water reservoir	-	-	-	-	-	-	-	-	-
	Picnic spot	-	-	-	-	-	-	-	-	-
Stabilization and rehabilitation of dump with lease area	Terracing	-	-	-	-	-	-	-	-	-
	Pitching	-	-							
	Construction of parapet wall retaining wall at toe of dump	-	-	-	-		-	-	-	-
	Construction of check dam in mtr	900m	-	900m	1	-	1	63000/-	-	63000/-
	Construction of settling pond garland drain	-	-	-	-	-	-	-	-	-
	Detail of settling pond	-	-	-	-	-	-	-	-	-
	Afforestation on dump									
	Others									
Rehabilitation of barren area	Afforestation in hect	5.00	-	-	-	-	5000	250000/-	-	250000/-
	Others (Wire fencing in mtr)	700m	-	700m	1		4	49000/-	-	49000/-
Environmental management plan	Ambient air quality	-	-	-	-	-	-	-	-	-
	Water quality	-		-	-	-	-	2,00,000		2,00,000
	Noise level survey	-	-	-	-	-	-	-	-	-
							Total	552000		552000

This will be reviewed from time to time in subsequent progressive plans and the projections will be modified accordingly.

8.0 FINANCIAL ASSURANCE

Total 162.241 hect. area put in use in next five year for mining. Details of area put in use as given below (As per circular No.4/2006 issued by CCOM, Nagpur following table has been considered for calculation for financial assurance) :

Sl.	Item	Area put on use at start of plan (Ha) (A)	Additional requirement during plan period (Ha) (B)	Total (Ha) C = (A+B)	Area considered as fully reclaimed & rehabilitation (Ha) (D)	Net area considered for calculation (Ha) E = (C-D)
	Area to be excavated	0	88.631	88.631	0.0	88.631
	Storage for topsoil	0	2.92	2.92	0.0	2.92
	Used for waste disposal	0	29.77	29.770	0.0	29.770
	Mineral storage	0	0	0	0.0	0
	Infrastructure (Workshop, Adm. Building,)	0	10.40	10.400	0.0	10.400
	Road	0.926	2.594	3.520	0.0	3.520
	Rainwater storage	0	0	0	0.0	0
	Railways	0	0	0	0.0	0
	Green belt	0	25.0	25.0	0.0	25.0
	Tailing dam plan	0	0	0	0.0	0
	Effluent treatment plant	0	0	0	0.0	0
	Screening	0	0	0	0.0	0
	Mineral Township area	0	0	0	0.0	0
	TOTAL	0.926	159.315	160.241	0.0	160.241

Total 160.241 hect. area will be put in use in next five years. The financial assurance of Rs 4069025 /- (Forty lakh sixty nine thousand twenty five only) in form of Bank Guarantee as per rule 23 (F) (2) of Mineral Conservation and Development (amendment) Rules, 2013 has been submitted.

9.0 CERTIFICATE

Enclosed with end of report.

अनुमोदित
APPROVED

खान नियंत्रक (मध्यांचल)
Controller of Mines (Central Zone)
भारतीय खान ब्यूरो
Indian Bureau of Mines

For ... PVT. LTD.
KEY PERSON

viii)

ix)

x)

xi)

10.0 ANY OTHER RELEVANT INFORMATION

A copy of Rapid EIA & EMP will be submit after getting EC from MOEF, Delhi.

For Udaipur Min-Tech Pvt. Ltd
(RQP/UDP/354/2009/B)

Date : 23/12/2011
Place: Udaipur

Manoj Nandwana
Key Person

Shailendra Singh Ba
Key person

****

ROVED

For: UDAIPUR MIN-TECH
(RQP/UDP/354/200

CALCOM CEMENT

CERTIFICATE

The Progressive Mine Closure Plan for New Umrangshu deposit over an area of 411.5 hect. for mineral Limestone in village Umrangshu, Tehsil & District – Dima Hasao (N.C. Hills) Assam belong to M/s Calcom Cement India Ltd., "Miri", Silkhipuri South Bank, Silpukhuri, Guwahati – 781003, Assam, complies all Statutory Rules, Regulations, Orders made by the Central or State Government, Statutory Organization, Court etc. have been taken into consideration and wherever any specific permission is required, Lessee will approach the concerned authorities.

Place -Kolkata

Date – 28.11.2011

M/s Calcom Cement India Ltd.

Ritesh Bawri
Nominated Owner

APPROVED

Calcom Cement India Limited
...Floor, 3A, Ecospace, Plot no. 2F/11
New Town Rajarhat, Kolkata 700 156, India
Ph: +91 33 4001 ... Fax: +91 33 2324 ... www.calcom...
Regd. Office: "Miri", Silpukhuri South Bank, Guwahati-781003, India

CALCOM CEMENT

DECLARATION

The Progressive Mine Closure Plan for New Umrangshu deposit over an area of 417.5 hect. for mineral Limestone in village Umrangshu, Tehsil & District – Dima Hasao (N.C. Hills) Assam belong to M/s Calcom Cement India Ltd. "Mint", Silkhipuri South Bank, Silpukhuri, Guwahati – 781003, Assam has been prepared in full consultation with me and I understand its contents and agree to implement the same in accordance with law and in case of default the approval would be withdrawn.

Place – Kolkata

Date – 28.11.2011

M/s Calcom Cement India Ltd.

Ritesh Bawri
Nominated Owner

Calcom Cement India Limited
7th Floor, 3A, Elgin Road, Plot no. 2
New Town Rajarhat, Kolkata 700 156, India
Tel: +91 33 4013 4200 Fax: +91 33 2324 1833 www.calcom.co.in
Reg. Office : Mint, Silkhipuri South Bank, Guwahati 781003, India

Sr.No	LIST OF ANNEXURES	Annexure No.
1	Copy Lease Grant Order	1
2	Copy of Lease deed	2
3	Copy of Transfer order with transfer agreement	3
4	Certificate of incorporation of the company & commencement of business	4
5	Copy of EC From MOEF, New Delhi for 0.75 mtpa clinker plant and composite plant of Lanka.	5
6	Copy of EC New Delhi for Cement plant of 12.50 Lac TPA & 50 TPA PPC capacity	6
7	Copy of NOC from Pollution Control Board, Assam	7
8	Affidavit for PL/ML	7A
9	Copy of list of directors of the company	8
10	Copy of resolution in favor of Mr. RiteshBawari	9
11	Photo ID & address proof of nominated owner	9A
12	Copy of address Proof of the company	10
13	Copy of renewal application with receipt	11
14	Copy of RQP certificate	12
15	Copy of NOC from NC hills, Autonomous council	13
16	Copy of coordinate detail as per CCOM circular 2/2010	14
17	Copy of Consent letter from DGM with exploration map dully authenticated by DGM, Govt. of Assam.	15
18	Copy of bore hole detail with chemical analysis of Limestone Lumps	15A
19	Analysis report of surface sample	15B to 15F
20	Copy of feasibility report	16
21	Copy of photographs	17
22	Copy of Minute of Public hearing	18
23	Copy of Rank guarantee	19
23	Copy of Letter from Forest Deptt. for permission of field survey	20

Annexure I

GOVERNMENT OF ASSAM
POWER(ELECT.),MINES & MINERALS DEPTT.

No.PEM.72/85/pt/58 Dated Dispur,the 4th July/92.

From : Shri A.K.Thakur,IAS,
Secretary to the Govt.of Assam,
Power(Elect.)Mines & Minerals Deptt.

To : The Managing Director,
Assam Industrial Development Corporation Ltd.,
A.K.Barua Road,Guwahati-24.

Sub : Grant of Mining lease for limestone over an area of 4.175 Sq.Kms.in Village New Umrangshu,N.C.Hills District in favour of M/s Assam Industrial Devt. Corporation Ltd.

Ref : Your mining lease application dated 29.3.90.

Sir,

I am directed to say that in accordance with provisions of Mines & Minerals(R & D) Act,1957(67 of 1957)and the Mineral concession Rules 1960,I am there under the Governor of Assam is pleased to grant a mining lease for limestone over an area of 4.175 sq.kms in village New Umrangshu,N.C.Hills District in favour of M/s Assam Industrial Development Corporation Ltd, A.K.Barua Road,Guwahati-24 for a period of 20(twenty) years.The land so allotted will be physically shown to you in the field by the DCM,Haflong.

(a) You are accordingly directed to deposit a sum of Rs. 5,000/-(Rupees five thousand)only as security for due observance of the terms and conditions of the lease to be executed as required under Rule 32 of the Mineral concession Rules 1960(as amended).

(b) Within six months of issue of this order the lease deed is to be executed in accordance with Rule 31 of the M.C.Rules, 1960 as amended from time to time and in the form of mining lease (Form'K')appended to these rules after necessary changes and modifications are made by the Govt.

(c) The lease is granted for mining & extraction of limestone in the aforesaid lease hold area for the purpose of utilisation of limestone thus extracted for manufacture of cement.

(d) The mining shall be done by you personally or by your agent who may however,be engaged only with prior approval of the Govt.

(e) You are to communicate to Govt.your acceptance of the lease thus granted within 30(thirty)days of this order to facilitate execution of the lease document.

Yours faithfully,

Sd/-
Secretary to the Govt.of Assam,
Power(Elect.)Mines etc.Deptt.

Contd..P/2

For MANIPUR MINI-TECH PVT. LTD.
DIRECTOR/KEY PERSON

Memo.No.PLM.77/CE/pt/HS-A Dated Dispur, the 4th July/92

Copy to :-

1) The Under Secretary, Govt. India, Ministry of Mines New Delhi for information with reference to his letter No.4(2)/92-M.V. dated 23.6.92.

2) The Director of Geology & Mining, Assam, Gauhati-18. He is requested to execute the lease deed within the stipulated period.

3) The D.C., N.C.Hills District, Haflong.

4) P.S., N.C.Hills district Council, Haflong.

By order etc.

Secretary to the Govt. of Assam, Power(Elect.) Mines etc. Department.

S.Seal.

For UDAIPUR MN-TECH PVT. LTD.

KEY PERSON

Annexure - 2

MINING LEASE DEED

[illegible] LIME STONE [illegible]

[illegible] = 4.00 Sq.Km.

[illegible]

For UDAIPUR MINI-TECH PVT. LTD.

[illegible]

KEY PERSON

MINING LEASE DEED [illegible]

(See rule 31 of M.C. Rules, 1960)

THIS INDENTURE made this [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] of [illegible] [illegible] [illegible] the State Government [illegible] expression shall where the context so admits be deemed to include the successors and assigns of the one part; AND

(Name of person with address and occupation) (hereinafter referred to as "the lessee" which expression shall where the context so admits be deemed to include his heirs, executors, administrators, representatives and permitted assigns)

(Name of person with address and occupation) and

(Name of person with address and occupation) and

(Name of person with address and occupation) (hereinafter referred to as 'the lessee' which expression shall where the context so admits be deemed to include their respective heirs, executors, administrators, representatives and their permitted assigns)

When the lessee is an individual

Where the lessees are more than one individual

APPROVED

FOR [illegible] PVT. LTD.
(RQP/[illegible]/2003-B)

KEY PERSON

When the lessee is a registered firm

When the lessee is a registered company

assigns) M/s Assam Industrial Development Corporation Limited

For MDA PHARMA-TECH PVT. LTD.

WHEREAS the lessee/lessees has/have applied to the State Government in accordance with the Mineral Concession Rules, [illegible] for a mining lease for [illegible] in respect of [illegible] Limestone [illegible] and has deposited with the State Government the sum of Rs 2000/- (Rupees Two Thousand [illegible]) only as security and the sum of Rs 1000/- (Rupees One Thousand [illegible]) only for meeting the preliminary expenses for a mining lease ; and whereas the Central Government has approved the grant of the lease ;

WITNESSETH that in consideration of the [illegible] of the lessee/lessees [illegible] his/their [illegible] [illegible] [illegible] [illegible] [illegible] covenants and agreements by these presents and in the schedule hereunder written reserved and contained and on the part of the lessee/lessees to be paid observed and performed, the State Government hereby grants and demises unto lessee/lessees,

All those the mines beds/veins, seams of Limestone (hereinafter and in the schedule referred to as the said minerals) situated lying and being in or under the lands which are referred to in part I of the said schedule and whereas the lessee/lessees has/have submitted in writing [illegible]

For UDAIPUR MIN-TECH PVT. LTD.
[illegible]
AUTH. PERSON

[illegible] these presents [illegible] the liberties, powers and privileges to be exercised or enjoyed in connection therewith which are mentioned in Part II of the said Schedule subject to the restrictions and conditions as to the exercise and enjoyment of such liberties, powers and privileges which are mentioned in Part III of the said Schedule EXCEPT AND RESERVING out of these demise unto the State Government the liberties, powers and privileges mentioned in Part IV of the said schedule TO HOLD the premises hereby Twenty Seventh day of November [illegible] for the term of 20 (Twenty) years thence next ensuing YIELDING AND PAYING therefore unto the State Government the several rents and royalties mentioned in Part V of the said schedule at the respective times therein specified subject to the provisions contained in Part VI of the said schedule and the lessee/lessees hereby covenants/covenant with the State Govt. as in Part VII of the said schedule is expressed and the State Govt. hereby covenants with lessee/lessees as in Part VIII of the said schedule is expressed and it is hereby mutually agreed between the parties hereto, as in Part IX of the said schedule is expressed.

Verified to be True Copy [illegible]

IN WITNESS WHEREOF these presents have been executed in manner hereunder appearing the day and year first above written.

The Schedule above referred to .

For UDAIPUR MINTECH PVT. LTD.
[illegible]

KEY PERSON

THE AREA OF THIS LEASE

All that tract of lands situated at [illegible] [illegible]

(Description of area of lands) in the Registration District [illegible] Sub-District [illegible] and Taluk [illegible] bearing Cadastral Survey Nos [illegible] containing area of 4175 Sq.Mt. or thereabouts delineated on the plan hereto annexed and thereon coloured [illegible] and bounded as follows :-

On the North by MB

On the East by MB

On the South by MB

and

On the West by MB

As shown in the map

[illegible]

hereinafter referred to as 'the said lands'

For UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/254/2009-B)

APPROVED

APPROVED

FOR DYNAMIC AUTOTECH PVT. LTD.

KEY PERSON

[illegible] with the [illegible] [illegible] [illegible] without [illegible] written permission [illegible] [illegible].

Stacking heaping depositing [illegible]

7. Liberty and power to enter [illegible] sufficient part of the surface of the said lands for the purpose of stacking, heaping, storing or depositing therein the produce of the mines or works carried on and any tools, equipments, earth and materials and substances dug or raised under the liberties and powers mentioned in this part.

Beneficiation and carrying away of production

8. Liberty and power to enter upon and use a sufficient part of the said lands to beneficiate any ore produced from the said lands and to carry away such beneficiated ores.

[illegible]

9. Liberty and power [illegible] [illegible] [illegible] [illegible] the said lands to [illegible] and utilise any trees or timber [illegible] on the said lands. Provided that the State Government may ask the lessee/lessees to pay for any trees or timber felled and utilised, by him/them at the rates specified by the Deputy Commissioner/Collector/District [illegible] Forest Officer of the State Government.

Certified to be True Copy [illegible]

[illegible]

[illegible] MINTECH PVT. LTD. [illegible]

3. The lessee/lessees shall not without the express sanction of the Deputy Commissioner/Collector/District Council cut down or injure any timber or trees on the said lands but may without such sanction clear away any brushwood or undergrowth which interferes with any operations authorised by these presents. The Deputy Commissioner/Collector/District Council or the State Government may require the lessee/lessees to pay for any trees or timber felled and utilised by him/them at the rates specified by the Deputy Commissioner/Collector/District Council of the District.

4. Notwithstanding anything in this schedule contained the lessee/lessees shall not enter upon any reserved forest included in the said lands without previous sanction in writing of the District Forest Officer nor fell, cut and use any timber or trees without obtaining the sanction in writing of that officer nor otherwise than in accordance with such conditions as the State Government may prescribe.

5. The lessee/lessees shall not work or carry on or allow to be worked or carried on any mining operations at or to any point within a distance of 50 metres from any railway line, except with the previous written permission of the Railway Administration concerned or under or beneath any ropeway or any ropeway trestle or station, except under and in accordance with the written permission of the authority owning the ropeway, or from any reservoir, canal or other public works such as public roads and buildings or inhabited site, except with the previous written permission of the Deputy Commissioner/

Certified to be True Copy

PALLUGAIPUR NON-TECH PVT. LTD.
PROPRIETOR/DIRECTOR

APPROVED

APPROVED

PROVIDED THAT in the exercise of such liberty and powers no substantial hinderance or interference shall be caused to or with the liberties, powers and privileges of the lessee/lessees under these presents and that fair compensation (as may be mutually agreed upon or in the event of disagreement as may be decided by the State Government) shall be made to the lessee/lessees for all loss or damage sustained by the lessee/lessees by reason or in consequence of the exercise of such liberty and power.

To make Railways and roads

2. Liberty and power for the State Government or any lessee or person authorised by it in that behalf to enter into and upon the said lands and to make upon over or through the same any railways, tramways, roadways or pipelines for any purpose other than those mentioned in Part II of these presents and to get from the said lands stones, gravel, earth and other materials for making, maintaining and repairing such railways, tramways and roads or any existing railways and roads and to go and repass at all times with or without horses, cattle or other animals, carts, wagons, carriages, locomotives or other vehicles over or along any such Railways, roads, lines and other ways for all purposes and as occasions may require provided that in the exercise of such liberty and power by such other lessee or persons, no substantial hinderance or interference shall be caused to or with the liberties, powers and previlleges of the lessee/lessees under these presents and that fair compensation as may be be mutually agreed upon or in the event of disagreement as may be decided by the State Govt. shall be made to the lessee/lessees for all loss or damage

PROVIDED that in the exercise of such liberty and powers no substantial hindrance or interference shall be caused to or with the liberties, powers and privileges of the lessee/lessees under these presents and that fair compensation (as may be mutually agreed upon or in the event of disagreement as may be decided by the State Government) shall be made to the lessee/lessees for all loss or damage sustained by the lessee/lessees by reason or in consequence of the exercise of such liberty and power.

To make Railways and Roads

2. Liberty and power for the State Government or any lessee or person authorised by it in that behalf to enter into and upon the said lands and to make upon over or through the same any railways, tramways, roadways, or pipelines for any purpose other than those mentioned in Part II of the presents and to get from the said lands stones, gravel, earth and other materials for making, maintaining and repairing such railways, tramways and roads or any existing railways and roads and to go and repass at all times with or without horses, cattle or other animal-carts, wagons, carriages, locomotives or other vehicles over or along any such Railways, roads, lines and other ways for all purposes and as occasions may require provided that in the exercise of such liberty and power by such other lessee or persons no substantial hindrance or interference shall be caused to or with the liberties, powers and priviledges of the lessee/lessees under these presents and that fair compensation as may be be mutually agreed upon or in the event of disagreement as may be decided by the State Govt. shall be made to the lessee/lessees for all loss or damage.

ATTESTED

[illegible] PVT. LTD.

Royalty payment of royalty

3. Subject to the provision of clause 1 of this part the lessee/lessees shall during the subsistence of this lease pay royalty to the State Government on monthly basis, by such date which is 10th day of the month following, in respect of the mineral/minerals removed by him/them from the leased area at the rate for the time being specified in the second Schedule to the Mines and Minerals (Regulation and Development) Act, 1957.

Payment of surface rent and water rate

4. The lessee/lessees shall pay rent and water rate to the State Government in respect of all parts of the surface of the said lands which shall from time to time be occupied or used by the lessee/lessees under the authority of these presents at the rate as fixed by the State Govt.

____

respectively per annum per hectare of the area so occupied or used and so in proportion for any area less than one hectare during the period from the commencement of such occupation or use until the area shall cease to be so occupied or used and shall as far as possible restore the surface land so used to its original condition. Surface rent and water rate shall be paid to the State Government as herein before specified in clause 3: PROVIDED THAT no such rent/water rate shall be payable in respect of occupation and use of the area comprised in any roads or ways to which the public have full right of access.

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For [illegible] PVT. LTD.
[illegible]

AUTHORISED PERSON

Payment of royalty on minerals [illegible]

3. Subject to the provisions of clause 1 of this part, the lessee/lessees shall during the subsistence of this lease pay royalty to the State Government in such manner as it may direct [illegible] of the [illegible] in respect of any mineral [illegible] removed or consumed from the leased area at the rate for the time being specified in the Second Schedule to the Mines and Minerals (Regulation and Development) Act, 1957.

Payment of surface rent and water rate

4. The lessee/lessees shall pay rent and water rate to the State Government in respect of all parts of the surface of the said lands which shall from time to time be occupied or used by the lessee/lessees under the authority of these presents at the rate as fixed by the State Govt.

____

[illegible] per annum per hectare of the area so occupied or used and so in proportion for any area less than an hectare during the period from the commencement of such occupation or use until the area shall cease to be so occupied or used and shall as far as possible restore the surface land to its original condition. Surface rent and water rate shall be paid to the State Government as herein before detailed in clause 2: PROVIDED THAT no such rent/water rate shall be payable in respect of occupation and use of the area comprised in any roads or ways in which the public have full right of access.

Certified to be True Copy
Dy. Director
Directorate of Geology & Mining
Haryana [illegible]

For [illegible] PVT. LTD.
[illegible]

PART VII
THE COVENANTS OF THE LESSEE/LESSEES

[illegible]

1. The lessee/lessees shall pay the rent, water rate and royalties reserved by this lease at such times and in the manner provided in PARTS V & VI of these presents and shall also pay and discharge all taxes, rates, assessments and impositions whatsoever being in the nature of public demands which shall from time to time be charged, assessed or imposed by the authority of the Central and State Governments upon or in respect of the premises and works of the lessee/lessees in common with other premises and works of a like nature except demands for land revenue.

To erect and keep boundary marks in good repair

2. The lessee/lessees shall at his/their own expense erect and at all times maintain and keep in repair boundary marks and pillars according to the demarcation to be shown in the plan annexed to this lease. Such marks and pillars shall be sufficiently clear of the shrubs and other obstructions as to allow easy identification.

3. The lessee/lessees shall commence operation within one year from the date of execution of the lease and shall thereafter at all times during the continuance of this lease search for, win, work and develop the said minerals without voluntary intermission in a skillful and workman like manner and as prescribed under clause 12 hereinafter without doing or permitting to be done any unnecessary or avoidable damage to the surface of the said lands or the crops, buildings, structures or other property thereon. For the purpose of

APPROVED

For UDAIPUR MIN-TECH PVT. LTD.

PART VII
THE COVENANTS OF THE LESSEE/LESSEES

1. The lessee/lessees shall pay the rent, water rate and royalties reserved by this lease at such times and in the manner provided in PARTS V & VI of these presents and shall also pay and discharge all taxes, rates, assessments and impositions whatsoever being in the nature of public demands which shall from time to time be charged, assessed or imposed by the authority of the Central and State Governments upon or in respect of the premises and works of the lessee/lessees in common with other premises and works of a like nature except demands for land revenue.

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[illegible] safety of any railway, reservoir, canal, road and any other public works or structures.

[illegible] 4. The lessee/lessees shall allow any officer authorised by the Central Government or the State Government in that behalf of enter upon the premises including any building, excavation or land comprised in the lease for the purpose of inspecting, examining, surveying, prospecting and making plans thereof sampling and collecting any data and the lessee/lessees shall with proper person employed by the lessee/lessees and acquainted with the mines and work effectually assist the officers, agents, servants and workmen in conducting every such [illegible] and shall afford them all facilities, information connected with the working of the mines which they may reasonably require and also shall and will conform to and observe all orders and regulations which the Central and State Governments [illegible] [illegible].

Report accident 5. The lessee/lessees shall without delay send to the Deputy Commissioner/Collector a report of any accident causing death or serious bodily injury or serious injury to property or seriously affecting life or property which may occur in the course of the operations under this lease.

To report discovery of other minerals 6. The lessee shall report to the State Government the discovery in the leased area of any mineral not specified in the lease within sixty days of such discovery alongwith full particulars of the nature and position of each such find. [illegible]

any mineral not specified in the lease is discovered in the leased area, the lessee/lessees shall not win and dispose of such mineral unless such mineral is included in the lease or a separate lease is obtained therefor.

Lessee to maintain correct accounts, employees etc.

14. The lessee/lessees shall at all times during the said term keep or cause to be kept at an office to be situated upon or near the said lands correct and intelligible books of accounts which shall contain accurate entries showing from time to time :-

a) Quantity and quality of the said mineral / minerals realised from the said lands.

b) Quantity of the various qualities of ore beneficiated or converted.

c) Quantities of the various qualities of the said mineral / minerals despatched to the plant for cement/lime manufacturing.

d) The quality, gradation and all other particulars of the said mineral / minerals and the quantities received at the factory end.

e) The number of persons employed in the mines or works or upon the said lands specifying nationality, qualifications and pay of the technical personnel.

f) Such other facts, particulars and circumstances as the Central or the State Governments may from time to time require and shall also furnish free of charge to such officers and at such times as the Central and State Government may appoint

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[illegible] and [illegible] as the [illegible] forms of accounts and such information and returns to all or any of the officers aforesaid as the State Government may prescribe, and shall at all reasonable times allow such officer of the Central Government or State Government as it may in that behalf appoint to enter into and have free access to the said premises for the purposes of examining and inspecting the said books of accounts, plans and records and to make copies thereof and make extracts therefrom.

11. The lessee/lessees shall at all times during the said term maintain at the mine office correct, intelligible, upto date and complete plans and sections of the mines in the said lands. They shall show all the operations and workings and all the trenches, pits and drillings made by him in the course of operations carried on by him under the lease, faults and other disturbances encountered and geological data and all such plans and sections shall be brought up by the first actual survey to be made for this purpose at the end of twelve months or any period specified from time to time and the lessee/lessees shall furnish free of charge to the Central and State Governments true and correct copies of such plans and sections whenever required. Accurate records of all trenches, pits and drillings shall show —

a) The subsoil and strata through which they pass.

b) Any water encountered.

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(f) any other matter of interest and all the [illegible] by the Central and State Government from time to time.

(ii) The [illegible] shall [illegible] of the Central or the State Government [illegible] May 1977 by the Central Government or [illegible] the name of his [illegible] shall also supply when asked for by the State Government/the [illegible] Controller/the Director General, Geological Survey of India/the Controller, Indian Bureau of Mines a composite plan of the area showing [illegible], [illegible] etc. of all the same as also the quantity of reserves [illegible]-wise.

[illegible]. The lessee shall pay a wage not less than the minimum wage prescribed by the Central or State Government from time to time.

[illegible]. The lessee shall comply with provisions of the Mines Act, 1952 and the rules made thereunder.

[illegible]. The lessee shall take measures for the protection of environment like planting of trees, reclamation of land, use of pollution control devices and such other measures as may be prescribed by the Central or State Government from time to time at his own expenses.

[illegible]. The lessee shall pay compensation to the occupier of the land on the date and in the manner laid down in these rules.

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[illegible] Commissioner

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For [illegible] PVT. LTD.

[illegible]

11-E. The lessee shall, in the matter of employment, give preference to the tribals and to the persons who become displaced because of the taking up of mining operations.

9. The lessee/lessees shall be bound by such rules as may be issued from time to time by the Government of India under Section 18 of the Mines and Minerals (Regulation and Development) Act, 1957 (Act 67 of 1957) and shall not carry on mining or other operations under the said lease in any way other than as prescribed under these rules.

To provide weighing machine

10. Unless specifically exempted by the State Government, the lessee/lessees shall provide and at all times keep at or near the pit head or each of the pit heads at which the said minerals shall be brought to bank a properly constructed and efficient weighing machine and shall weigh or cause to be weighed thereon all the said minerals from time to time brought to bank, despatched and [illegible] of each day enter the total weights so ascertained in such weighs of the said minerals, ores, products raised, despatched during the previous twentyfour hours in or entered in the aforesaid books of accounts. The lessee/lessees shall permit the State Government at all times during the said term to employ any person or persons to be present at the weighing of the said minerals as aforesaid and to keep accounts thereof and to check the accounts kept by the lessee/lessees. The lessee shall give ______ days previous notice in writing to the Director of Geology and Mining Assam of every such measuring or weighing in order that some officer on his behalf

For UD-[illegible] PVT. LTD.

[illegible] PERSON

the part of lessee/lessees in exercise of the liberties and powers granted by these presents and the lessee/lessees shall make good and keep indemnified the State Government from and against all suits, claims and demands which may be brought or made by any person or persons in respect of any such damage, injury or disturbance.

Not to obstruct working of other minerals

16. The lessee/lessees will exercise the liberties and powers hereby granted in such a manner as to offer no unnecessary or reasonably avoidable obstruction or interruption to the development and working within the said lands of any minerals not included in this lease and shall at all times afford to the Central and State Government and to the holders of prospecting licences or mining leases in respect of any such minerals or any minerals within any land adjoining the said lands as the case may be reasonable means of access and safe and convenient passage upon and across the said lands to such minerals for the purpose of getting, securing, raising and carrying away the said minerals provided that the lessee/lessees shall receive reasonable compensation for any damage or injury which he/they may sustain by reason or in consequence of the use of such passage by such lessees or holders of prospecting licences.

Transfer of lease

17. (1) The lessee/lessees shall not, without the previous consent in writing of the State Government [illegible]

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a) assign, sublet, mortgage or in any other manner, transfer the mining lease, or any right, title or interest therein, or

b) enter into or make any arrangement, contract or understanding whereby the lessee/lessees will or may be directly or indirectly financed to a substantial extent by, or under which the lessee's operations or undertakings will or may be substantially controlled by, any person or body of persons other than the lessee/lessees. Provided that the State Government shall not give its written consent unless:-

a) The lessee has furnished an affidavit alongwith his application for transfer of the mining lease specifying therein the amount that [illegible] has already paid or proposes to take as consideration from the transferee.

b) the transfer of the mining lease is to be made to a person or body directly undertaking mining operation. (No. 1(33)/67-M.II dt. 30/2/55)

7) Without prejudice to the above provisions, the lessee/lessees may, subject to the conditions specified in the proviso to rule 35 of said Rules, transfer this lease or any right, title or interest therein, to a person who has filed an affidavit stating that he has filed up to date income tax returns, paid income tax assessed on him and

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Director of Mines & Geology

FOR [illegible] PVT LTD

DIRECTOR

paid the income tax on the basis of self-assessment as provided in the Income-tax Act, 1961 (43 of 1961) [illegible] of [illegible] hundred rupees in the State [illegible].

Provided that the lessee/lessees shall make available to the transferee, the original or certified copies of all plans of abandoned workings in the area and in a belt 65 metres wide surrounding it.

Provided further that where the mortgagee is an institution or a Bank or a Corporation specified in Schedule V, it shall not be necessary for any such institution or Bank or Corporation to meet with the requirement relating to income tax.

(3) The State Government may, by order in writing, determine the lease at any time if the lessee/lessees has/have in the opinion of the State Government committed a breach of any of the above provisions or has/have transferred the lease or any right, title or interest therein, otherwise than in accordance with clause (2) :

Provided that no such order shall be made without giving the lessee/lessees a reasonable opportunity of stating his/their case.

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Joint Director [illegible]

[illegible] PVT. LTD.

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Not to be controlled by any Corporation etc.

16. The lessee shall not be controlled and the lessee/lessees shall not allow themselves to be controlled by any Trust, Syndicate, Corporation, Firm or person except with the written consent of the Central Government. The lessee/lessees shall not enter into or make any arrangement, compact or understanding whereby the lessee/lessees will or may be directly or indirectly financed by or under which the lessee/lessees operations or undertakings will or may be carried on directly or indirectly by or for the benefit of or subject to the control of any Trust, Syndicate, Corporation, Firm or person unless with the written sanction given prior to such arrangement compact or understanding being entered into or made, of the Central Government and any or every such arrangement compact or understanding as aforesaid entered into or made with such sanction as aforesaid shall only be entered into or made and shall always be subject to an express condition binding upon the other party or parties thereto that on the issuance of a notice in writing by which the President of India in the exercise of his discretion ... shall be terminable if so required in writing by the State Government and shall in the event of any such requisition being made be forthwith thereafter determined by the lessee/lessees accordingly.

Lessee shall deposit any additional amount necessary

17. Whenever the security deposit of Rs 2000/- / 4000/- or any part thereof or any further sum hereafter deposited with the State Government in replenishment thereof shall be forfeited or applied by the Central or State Government pursuant to the power hereinafter declared in that behalf, the lessee/lessees shall deposit with the State Government such

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minerals purchased by the State Government under the power conferred by this provision in the quantities, at the times, in the manner and at the place specified in the notice exercising the said right.

(iii) Should the right of pre-emption conferred by this present provision be exercised and a vessel chartered to carry the minerals or products thereof procured on behalf of the State Government or the Central Government be detained on demurrage at the port of loading, the lessee/lessees shall pay the amount due for demurrage according to the rates of the charter party of such vessel unless the State Government shall be satisfied that the delay is due to causes beyond the control of the lessee/lessees.

(iv) The price to be paid for all minerals or products of minerals taken in pre-emption by the State Government in exercise of the right hereby conferred shall be the fair market price prevailing at the time of pre-emption. PROVIDED THAT in order to assist in arriving at the said fair market price, the lessee/lessees shall if so required furnish to the State Government for the confidential information of the Government particulars of the quantities, descriptions and prices of the said minerals or products thereof sold to other customers and of charters entered into for freight for carriage of the same and shall produce to such officer or officers as may be directed by the State Government original or authenticated copies of contracts and charter parties entered into for the sale or freightage of such minerals or

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...contd.

19. In the event of the existence of a state of war or emergency (of which existence the President of India shall be the sole judge and a notification to this effect in the Gazette of India shall be conclusive proof) the State Government with the consent of the Central Government shall from time to time and at all times during the said term have the right (to be exercised by a notice in writing to the lessee/lessees) forthwith take possession and control of the works, plant, machinery and premises of the lessee/lessees on or in connection with the said lands or operations under this lease and during such possession or control the lessee/lessees shall conform to and obey all directions given by or on behalf of the Central Government or State Government regarding the use or employment of such works, plants, premises and minerals PROVIDED THAT fair compensation which shall be determined in default of agreement by the State Government shall be paid to the lessee/lessees for all loss or damage sustained by him/them by reason or in consequence of the exercise of the powers conferred by this clause and PROVIDED ALSO that the exercise of such powers shall not determine the said term hereby granted or affect the terms and provisions of these presents further than may be necessary to give effect to the provisions of this clause.

Employment of Foreign Nationals.

20. The lessee/lessees shall not employ in connection with the mining operations any person who is not an Indian national except with the previous approval of the Central Government.

Annexure No.- 3

Rs. 100
ONE
HUNDRED RUPEES

भारत INDIA
INDIA NON JUDICIAL

330789

असम ASSAM

AGREEMENT ON TRANSFER OF MINING LEASE

This indenture made this Seventh day of January 2009 between Assam Industrial Development Corporation Ltd, a Company registered under the Companies Act 1956 and having its registered office at R.G. Baruah Road, Guwahati 781024 (Hereinafter referred to as the "transferor" which expression shall where the context so admits be deemed to include its successors and permitted assigns) of the first part

And

Calcom Cement India Ltd, a Company registered under the Companies Act 1956 and having its registered office at "Mist" Silpukhuri South Bank, Silpukhuri, Guwahati 781003 (Hereinafter referred to as the "transferee" which expression shall where the context so admits be deemed to include its successors and permitted assigns) of the second part.

And

The Governor of Assam (Hereinafter referred to as the 'State Government' which expression shall where the context so admits be deemed to include the successors and assigns) of the third part.

APPROVED

Whereas by virtue of an indenture of lease dated the 27th November 1942 and registered as No. [illegible] on [illegible] in the office of the Sub-Registrar of [illegible] (hereinafter referred to as lease) the original whereof is attached hereto and marked 'A' hereto and made between the State Government therein called the lessor and the [illegible] (therein called the lessee) the transferor is entitled to search for, win and work mine and minerals in respect of Limestone in the lands described in Schedule thereto and also in Schedule annexed hereto for the term and subject to the payment of the rents and royalties and observance and performance of the lessee's covenant and conditions in the said deed of lease reserved and contained including a covenant not to assign the lease or any interest there under without the previous sanction of the State Government.

And whereas the transferor is now desirous of transferring and assigning the lease to the transferee and the State Government has, at the request of the transferor, granted (with the prior approval of the Central Government) permission to the transferor vide order No. FEM.58/2005/204 dated 6th December 2008 to such a transfer and assignment of the lease upon the condition of the transferee entering into an agreement containing the terms and conditions hereinafter set forth.

Now this Deed witnesseth as follows:

1. The transferee hereby covenants with the State Government that from and after the transfer and assignment of the lease to transferee shall be bound by, and be liable to perform, observe and conform and be subject to all the provisions of all the covenants stipulations and conditions contained in said hereinbefore recited lease in the same manner in all respects as if the lease had been granted to the transferee as the lessee therein under and he had originally executed it as such.

2. It is further hereby agreed and declared by the transferor of the one part and the transferee of the other part that

   (i) The transferor and the transferee declare that they have ensured that the mineral rights over the area for which the mining lease is being transferred vest in the State Government.

   (ii) The transferor hereby declares that he has not assigned, sublet, mortgaged or in any other manner transferred the mining lease now being transferred and that no other person or persons has any right, title or interest whatsoever in the present mining lease being transferred.

APPROVED

[illegible]

[illegible]

KEY PERSON

(iii) The transferor further declares that he has not entered into or made any Agreements, contracts or understanding whereby he had been or is being directly or indirectly financed to a substantial extent by or under which the transferor's operations or undertakings were or are being substantially controlled by any person or body of persons other than the transferor.

(iv) The transferee hereby declares that he/she has accepted all the conditions and liabilities which the transferor was having in respect of such mining lease.

(v) The transferee further declares that he is financially capable of and will directly undertake mining operations.

(vi) The transferee further declares that he has filed an affidavit stating that he has filed up-to-date income tax returns, paid the income tax assessed on him and paid the income tax on the basis of self assessment as provided in the Income Tax Act, 1961 (43 of 1961).

(vii) The transferor has supplied to the transferee the original or certified Copies of all plans of abandoned workings in the area and in a belt 65 metres wide surrounding it.

(viii) The transferee hereby further declares that as a consequence of this Transfer the total area while held by him under mineral concessions are not in contravention of Section 6 of the Mines and Minerals (Development and Regulation) Act, 1957 or rule 75 of the Mineral Concession rules, 1960.

(ix) The transferor has paid all the rent, royalties and other dues towards Government till the date, in respect of this lease.

In witness whereof the parties hereto have signed on the date and year first above written.

SCHEDULE

Location and area of the lease

All that tract of lands situated at New Umrongso (Description of the area) ___X___ in (Pargana) in ___X___ the Registration Dist ___X___ and Thana Umrongso bearing North Cachar Hills, Sub District ___X___ containing an area of 4.375 sq kms or Cadastral Survey Nos ___X___

[illegible] PVT. LTD.
DIRECTOR

its boundaries delineated on the plan hereto annexed and thereon coloured Red and bounded as follows:

ON THE NORTH BY – The line MB as shown in the Map
ON THE SOUTH BY – The line NEYX as shown in the Map
ON THE EAST BY – The line BXYC as shown in the Map
AND
ON THE WEST BY – The line MN as shown in the Map

Signed by
For and on behalf of the Government of Assam in the presence of:- (R. K. BEZBARUA)

1. U. Borah 27/11/09 (U. Borah)
Chief Geologist
Directorate of Geology and Mining,
Assam, Guwahati

2.

Signed by
For and on behalf of Assam Industrial Development Corporation Ltd (transferor) in the presence of:-

1. (Sunil Kakati)

2.

CALCOM CEMENT INDIA LIMITED

Authorised Signatory
(GEORGE CHACKO)

Signed by
For and on behalf of Calcom Cement India Ltd (transferee) in the presence of:

1. (Sayantan Dutta), Deputy Manager, Calcom Cement India Ltd

2.

KEY PERSON

GOVERNMENT OF ASSAM
[illegible] MINES & MINERALS DEPARTMENT
[illegible]

No. [illegible] 18/2305/ 274.   Dated Dispur, the [illegible]/08.

From : Shri [illegible], IAS.
Commissioner & Secretary to the Govt. of Assam,
Mines & Minerals Deptt.

To : The Managing Director,
Assam Industrial Development Corporation Ltd.,
R.G. Baruah Road,
Guwahati -24

Sub : Transfer of mining lease for limestone over an area of 4.175 Sq.kms at village New Umrangso in North Cachar Hills District of Assam from the Ownership of AIDC Ltd. to the Ownership of Calcom Cement India Ltd.

Ref : Your application for transfer of mining lease vide letter No.[illegible]/Cement/[illegible]/1549 dated 21.[illegible].05.

Sir,

In response to your application for transfer of the mining lease for limestone and in accordance with the provisions of rule 37 of the Mineral Concession Rules,1960 the Governor of Assam is pleased to convey the consent to the transfer of the mining lease for limestone granted over an area of 4.175 sq.kms at Village New Umrangso in North Cachar Hills District of Assam for a period of [illegible] years vide letter No.[illegible], dtd. [illegible] to the ownership of Calcom Cement India Limited for the unexpired period of the mining lease subject to compliance of the provisions of rule 37 of the M.C. Rules,1960. The transferee Calcom Cement India Ltd shall observe the provisions of the Mines Act,1952 and the Forest (Conservation) Act,1980, where applicable.

[illegible] transfer lease deed shall be executed between the transferor Assam Industrial Development Corporation Ltd., the transferee Calcom Cement India Ltd., and the Director of Geology & Mining, Assam on behalf of the Government of Assam within [illegible] months of the date of issue of this order in accordance with rule 37-A of the M.C. Rules,1960 in Form-O or a form as near thereto as possible, appended to these rules.

Contd..P/2

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[illegible]

the transfer of the mining lease shall be effective from the date of execution of the transfer lease deed. If the transferee fails to undertake mining operations in the said mining lease area of 4.171 sq.km. within a period of two years from the effective date of the transfer of the mining lease or having commenced mining operations, has discontinued the same for a period of two years, the mining lease shall be cancelled and reverted to the Government. In such an event, Calcom Cement India Ltd. shall be liable to pay penalty as fixed by the Government for non-utilisation of the mining lease.

The receipt of this letter may kindly be acknowledged.

Yours faithfully,

Sd/-
Commissioner & Secy. to the Govt. of Assam,
Mines & Minerals Deptt.

Memo No. PEM. 58/2005/204-A, Dated Dispur, the 6th December/2008.
Copy to :-

1. The Director of Geology & Mining, Assam, Kahilipara, Guwahati-19 with reference to his letter No.GM/ML.107-G/2070, dtd. 11-8-05. He is requested to take necessary action for execution of the transfer lease deed within the stipulated period.
2. Calcom Cement India Ltd. [illegible], Guwahati-7.
3. The Deputy Secretary, Govt. of Assam, Political (Cabinet Cell) Deptt. with reference to his letter No. PLA.[illegible]/pt/68, dtd. 28-11-08.
4. The Deputy Commissioner, N.C.Hills Dist. Haflong, for information.
5. The Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440001 (Maharashtra).

By order etc,

Deputy Secretary to the Govt. of Assam,
Mines & Minerals Department.

APPROVED

ASSAM INDUSTRIAL
DEVELOPMENT CORPORATION LTD.
(A Govt. of Assam Undertaking)

To
The Director of Geology & Mining, Assam
Kahilipara, Guwahati -19

Sub: Authorization for signing transfer mining lease deed
Ref: letter no: PLM/58/2005/204 dated Dispur, the 6th December/08

Sir,

Sri D.K Goswami, Manager (Technical) of Assam Industrial Development Corporation Ltd (AIDC) is authorized to sign the transfer mining lease deed on behalf of Assam Industrial Development Corporation Ltd. regarding transfer of the mining lease for limestone over an area of 4175 Sq KM at village New Umrangshu in North Cachar Hills District of Assam from the ownership of AIDC Ltd to the ownership of Calcon Cement India Ltd. The signature of Sri D.K Goswami, Manager (Technical) is attested below.

Yours faithfully
For Assam Industrial Development Corporation Ltd

(B.K.Sharma)
Managing Director

(D.K Goswami)
Manager (Technical)

Signature attested

(D.K. Goswami)
Managing Director

Challan No.

[illegible]	Name and address of the person on whose behalf money is paid	Full particulars of the remittance and authority (if any)	Amount Rs.	P.	Head of Account	Order of the bank
[illegible]	MANAGING DIRECTOR ASSAM INDUSTRIAL DEVELOPMENT CORPORATION LTD. R.G. BARUAH ROAD GUWAHATI-781024	PAYMENT OF ROYALTY DEAD RENT for 14th, 15th, 16th year and twentieth of M.L. Total	5,28,833	.00	'0853' NON FERROUS MINING & METALLURGICAL INDUSTRIES - 102 MINERAL CONCESSION FEE & RENT & ROYALTY	
		Total	5,28,833	.00		

Rupees: Five lakh twenty eight thousand eight hundred thirty three only.

22.10.2019

Date:

Treasurer

Annexure No.-4

सी आई आर
Form I.R.

निगमन का प्रमाण पत्र

CERTIFICATE OF INCORPORATION

CORPORATE IDENTITY NUMBER (CIN)

[illegible] 07539 [illegible] 2004-2005

No. 02 - 07539 of 2004-2005

मैं एतद्द्वारा प्रमाणित करता हूँ कि आज

[illegible] 1956 (1956 का 1) के अधीन [illegible] और [illegible] परिसीमित है।

I hereby certify that CALCOM CEMENT INDIA LIMITED

is this day incorporated under the Companies Act, 1956 (No. 1 of 1956) and that the Company is limited.

[illegible]

Given under my hand at Shillong this 28th (Twenty [illegible]) day of September Two thousand Four

(D. Bandopadhyay)
[illegible]
Registrar of Companies
Assam, Mizoram, Manipur, Tripura, Nagaland, Arunachal Pradesh & Meghalaya, Shillong

APPROVED

Certified to be true copy
For Calcom Cement India Limited
Company Secretary
02/06/2011

For UDAIPUR MIN-TECH PVT. LTD.
[illegible]
KEY PERSON

Corporate Identity Number
(CIN)
U26942AS2004PLC007538

No. 02-07538 of
2004-2005.

कारबार प्रारम्भ करने के लिए प्रमाण-पत्र
Certificate for Commencement of Business
कम्पनी अधिनियम, 1956 की धारा 149 (3) के अनुसरण में
Pursuant of section 149(3) of the Companies Act, 1956

मैं एतद्द्वारा प्रमाणित करता हूँ कि ....

जो कम्पनी अधिनियम, 1956 के अधीन तारीख ....को निगमित की गई थी और जिसने आज विहित प्ररूप में सम्यक रूप से सत्यापित घोषणा फाइल कर दी है कि उक्त अधिनियम की धारा 149 (1) (क) से (ग) तक/149 (2) (क) से (ग) तक की शर्तों का अनुपालन किया गया है, कारबार प्रारम्भ करने की हकदार है।

I hereby certify that the ...CALCOM CEMENT INDIA LIMITED...

which was incorporated under the Companies Act, 1956 on the ...20th (Twentieth) ...day of ...September, 2004 and which has this day filed duly verified declaration in the prescribed form that the conditions of section 149 (2) (a) to (c) of the said Act have been complied with is entitled to commence business.

मेरे हस्ताक्षर से यह तारीख...............को ....को दिया गया।

Given under my hand at ...Shillong...
this ...01st (First) day of ...November, ... Two Thousand Four.

(D. BANDOPADHYAY)
कम्पनियों का रजिस्ट्रार
Registrar of Companies
Assam, Meghalaya, etc.
Shillong.

Company Secretary
06/06/2011

Annexure No.- 5

F. No. J-11011/307/2006-IA II (I)
Government of India
Ministry of Environment and Forests
(IA Division)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi – 110 003

E-mail: pb.matogi@nic.in
Telefax : 011-24367668
Dated: 26th July, 2007

To

Shri Rajesh Rawat
Managing Director
M/s Calcom Cement India Ltd.
7-C, Park Street, 6th Floor
Kolkata – 700 016
West Bengal

Fax No. : 033 – 2229787

Sub: Cement (Clinker) Plant (0.75 MTPA) at Jamunabagan, Umrangshu, North Cachar Hills, Assam by M/s Calcom Cement India Ltd.

Ref: Your letter no. nil dated 30th August, 2006.

Sir,

This has reference to your letter no. nil dated 30th August, 2006 along with project documents including EIA/EMP, Questionnaire seeking environmental clearance and subsequent clarifications furnished vide communications dated 31st November, 2006 regarding the above mentioned cement project.

2.0 The Ministry of Environment and Forests has examined your application. It is noted that M/s Calcom Cement India Ltd. have proposed for setting up a cement (Clinker) plant at Jamunabagan, Umrangshu, North Cachar Hills, Assam to manufacture clinker by installing 2,500 TPD (0.75 MTA) plant. Limestone will be sourced from Jamunabagan limestone mines for which they have already applied to the Ministry for the environmental clearance on 4th September, 2006. Total 42 ha. land is required. No rehabilitation and resettlement is involved. Total cost of the project is Rs. 410.00 Crores.

3.0 Dust collectors and atomized water spray system will be provided to control fugitive emissions. ESP to clinker cooler, bag house to kiln, bag filters to blending storage silos, kiln feed mill cyclones to coal crusher, cutting chambers and dust collectors will be provided. Total water requirement will be 585 KLD. No wastewater will be generated from process of cement plant factory due to adoption of dry manufacturing process. No solid waste will be generated during cement manufacturing process. Dust collected from various control equipments will be recycled back to the process.

4.0 Public hearing meeting was held on 12th April, 2006. No Objection Certificate has been accorded by the Assam Pollution Control Board, Assam vide letter no. WB/TE-61/06-06/3/209 dated 27th April, 2006. Total cost of the project is Rs. 410.00 Crores.

KEY Personnel

Annexure No. 6

J-11011/312/2006-IA II (I)
Government of India
Ministry of Environment and Forests
(IA Division)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi – 110 003

E mail: ph.rastogi@nic.in
Telefax : 011-2436 7668
Dated 28th July, 2007

To,

Managing Director
M/s Calcom Cement India Ltd.
75-C, Park Street, 6th Floor
Kolkata – 700 016
West Bengal

Fax No. 033 –22297876

Sub: **Integrated Composite Cement Plant (17.50 Lakh TPA OPC & 41.50 Lakh TPA PPC) at Pipalpukhuri, Lanka, Nagaon, Assam by M/s Calcom Cement India Ltd. – Environmental clearance reg.**

Sir

This has reference to your letter no. nil dated 30th August, 2006 alongwith project documents including EIA/EMP, Questionnaire seeking environmental clearance and subsequent clarifications furnished vide communications dated 21st November, 2006 regarding the above mentioned cement project.

2.0 The Ministry of Environment and Forests has examined your application. It is noted that M/s Calcom Cement India Ltd. have propose to set up a green field cement plant at Pipalpukhuri, Lanka, Nagaon, Assam to manufacture 17.50 Lakh TPA OPC and 41.50 Lakh TPA PPC. The limestone will be sourced from AIDC & Salkili Mines and have applied for the environmental clearance to the Ministry on 30th August, 2006. The fly ash (2 MTPA) is proposed to be obtained from neighboring state and clinker (0.53 TPA) from other unit at Umrangshu. Besides this plant require 5,48,000 TPA and coal. Total land acquired is 114.00 ha. The total cost of the the project is estimated at Rs. 410.00 Crore.

3.0 Fugitive emissions will be controlled by installing dust collectors, atomized water spray system with the reclaimer, providing covered stockpile for clinker storage and gypsum, conveyer belts, storing fly ash in silos. Covered conveyer belts will be provided for handling of materials. ESP to clinker cooler, reverse air bag house to raw mill and kiln, bag filters to crusher vent stack, blending / storage silos, coal crusher, coal mill, cement mill and packing plant will also be provided to control air emissions. Total ground water requirement will be 2,100 KLD. No wastewater will be generated from process of cement manufacturing due to dry manufacturing process. No solid waste will be generated.

4.0 Public hearing meeting was held on 12th April, 2006. 'No Objection Certificate' has been accorded by the Assam Pollution Control Board, Assam vide letter no. WB/TE-183/05-06/7-A228 dated 4th May, 2006.

FOR CALCOM CEMENT INDIA LTD.

AUTHORISED SIGNATORY

3.0 The Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14th September, 2006 subject to strict compliance to the following specific and general conditions.

A. Specific Conditions:

i. The gaseous and particulate matter emissions from various units should conform to the standards prescribed by the State Pollution Control Board. At no time, the particulate emissions from the cement plant shall exceed 150 mg/Nm^3. Continuous on-line monitors for particulate emissions, SO_2 and NO_x in Raw kiln mill, clinker cooler, coal mill, cement mill etc. shall be provided. Interlocking facility shall be provided between pollution control equipments and the process operation so that in the event of the pollution control equipment not working, the respective unit (s) is shut down automatically.

ii. Ambient air quality shall be monitored at different locations in consultation with Assam Pollution Control Board (APCB) and must not exceed the standards stipulated under EPA or by the State Authorities and report submitted to the APCB quarterly and to the Ministry's Regional Office at Shillong half-yearly.

iii. Electrostatic precipitators (ESP) shall be provided to clinker cooler, reverse air bag house to raw mill and kiln, bag filters to crusher vent stack, crushed clinker silos, coal crusher, coal mill, cement mill and packing plant to control air emissions. The dust collected from the pollution control equipments shall be recycled back into the process.

iv. The company shall install adequate dust collection and extraction system for control fugitive dust emissions at various transfer points. Dust collectors shall be provided at material transfer points. All the roads shall be concreted. Atomized water spray system shall be installed to control fugitive emissions from the crusher. Covered sheds shall be provided for clinker storage and gypsum.

v. Total water requirement from Kapili river, ground water and existing hillah shall not exceed 685 KLD. No effluent shall be discharged from the process outside the premises and all the treated domestic wastewater shall be utilized for green belt development and other plant related activities. Domestic wastewater generated shall be disposed off into soak pit via septic tank.

vi. The company must harvest surface as well as rainwater in the reservoirs to meet the fresh water requirement for utility and other purposes and use the same water for the various activities of the project to conserve fresh water.

vii. Green belt shall be developed in 1.3 ha. (30 %) out of total 4.2 ha. land as per the CPCB guidelines in consultation with the local DFO.

viii. Solid waste generated in the form of dust collected from various control equipments shall be fully recycled and reutilized in the process itself. Treated STP sludge shall be used for green belt development. Oil and oil emissions will be sold to authorized dealers.

ix. The company shall undertake eco development measures including community welfare measures in the project area.

x. The company shall follow all the recommendations mentioned in the Charter on Corporate Responsibility for Environmental Protection (CREP).

xi. Prior environmental clearance for Jomunanagar limestone mines shall be obtained from the Ministry of Environment and Forests.

B. **General Conditions :**

i. The project authority must adhere to the stipulations made by Assam Pollution Control Board (APCB) and State Government.

ii. No further expansion or modification of the plant should be carried out without prior approval of this Ministry.

iii. At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of SPM, SO_2 and NO_x are anticipated in consultation with the APCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Shillong once in six months.

iv. Industrial wastewater should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 or as amended from time to time. The treated wastewater should be utilized for plantation purpose.

v. The overall noise levels in and around the plant area should be kept well within the standards [illegible] by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).

vi. [illegible] and adequate occupational health [illegible]. All the persons working in the sensitive areas shall wear protective covers. Occupational health surveillance programme shall be done on a regular basis and records maintained. The programme must include lung function and sputum analysis tests once in six months.

vii. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP.

viii. A separate environmental management cell with full fledged laboratory facilities to carry out the management and monitoring functions should be set up under the control of Senior Executive.

ix. As proposed in the EIA/EMP, Rs. 8.35 Crores and Rs. 1.80 Crores earmarked towards the capital cost and recurring cost / annum for environmental pollution control measures shall be judiciously utilized for the implementation of conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.

x. The Regional Office of this Ministry at Shillong / Central Pollution Control Board / Assam Pollution Control Board shall monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.

APPROVED

xi) The Project Authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.

xii) The Project Proponent should inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the Assam Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in. This should be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office.

6.0 The Ministry or any competent authority may stipulate any further condition(s) on receiving reports from the project authorities. The above conditions shall be monitored by the Regional Office of this Ministry located at Shillong.

7.0 The Ministry may revoke or suspend the clearance if implementation of any of the above conditions is not satisfactory.

8.0 Any change in the conditions or alteration in the above conditions shall have to be implemented by the project authorities in a time bound manner.

9.0 The above conditions shall be enforced, inter alia under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 the Air (Prevention and Control of Pollution) Act, 1981 the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

(Dr. S. Bhatnagar)
Additional Director

Copy to:

1. Chairman, Assam Pollution Control Board, Bamunimaidam, Assam, Guwahati.
2. Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 110032.
3. The Conservator of Forests (Central), Ministry of Environment & Forests, Regional Office (Northeastern Eastern Regional Office) Upstairs Road, Laitumkhrah, Shillong - 793003, Meghalaya.
4. Adviser (A), Ministry of Environment and Forests, Paryavaran Bhawan, CGO Complex, New Delhi.
5. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhawan, CGO Complex, New Delhi.
6. Guard File.
7. Monitoring File.
8. Record File.

(Dr. P. B. Rastogi)
Additional Director

Annexure No.- 7

POLLUTION CONTROL BOARD, ASSAM
BAMUNIMAIDAM, GUWAHATI – 21

No. WB/T-1989/07-08/5E   Dated Guwahati, the 17th Dec, 2007

"NO OBJECTION CERTIFICATE"

Provisional "NO OBJECTION CERTIFICATE" is hereby granted to M/s. Cement India Ltd., Beniachar Sarapali Road, Silpukhuri, Guwahati-781003 for setting up a cement grade lime stone mining unit with production capacity of 7,50,000 tonnes/annum in the first year to 30,00,000 tonnes/annum within 5 (five) years and crushed lime stone with capacity 30 lacs tonnes/annum from each plant by utilizing a mining lease area 417.5 hectares at Village: New Umrangshu, Tehsil/Umrangshu District-North Cachar Hills, Assam-788931 under the following terms & conditions –

1. No Air, Water, Soil pollution shall be created by the industry beyond the permissible limits prescribed by the Board. The Industry would incorporate adequate pollution control measures before they put plant into operation.
2. To maintain the environment and ecology in the area provisions for planting selected species of tree within the compound and approaches along with provision for park, garden and Fountain shall have to be made. Massive a forestation will have to be made by the industry in the factory and township if any.
3. As per provisions of water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981 any officer, employed by this Board in its behalf shall without any interruption, the right at any time to enter the industry for inspection, to take samples for analysis and any call for any information etc. violation of this rule will be withdrawal of this permission.
4. As per provisions of the act, regular monitoring are to be done by the industry from the location/points fixed by the Board and the report to be submitted to the board monthly.
5. Effluent carrying drains must be segregated from storm water drain and effluent must be disposed in effluent pond in case effluent will be allowed to discharge into nearby nalla/natural water course etc. after treatment and bringing it within permissible limits fixed by the Board.
6. Standard linings and flat embankment of effluent pond shall have to provide in the pond to prevent and control of overflow seepage and leakage of effluent to the nearby areas.
7. To regularize the suspended process, the legal provisions of "Consent to Operate" as per act and Cess Returns as per Cess Act, 1977 shall have to timely adhered to.
8. Gaseous pollution due to the burning of fuel to run engine boiler, etc. should controlled by adopting preventive measures adequately.
9. Solid waste that arises during the operation should be properly graded and disposed of scientifically without causing nuisances.
10. For Low lying areas, special care is to be taken by the industry to prevent any overflow seepage and leakage of effluent.
11. For warning (Alarm, Siren) is to be installed by the industry to guard against accidental pollution/ mishap together with fire fighting devices.
12. All pipe connection, Joints, fittings etc. in the factory and plant are to be frequently checked and shall be leak proof all the time.
13. Proper housekeeping and adequate maintenance has to be ensured/ enforced as per provisions of Acts.
14. All unburned Toxic Chemical/Fluid/Gases are to be neutralized and flared up as necessary.
15. Production process is to be monitored and in the event of danger immediate shut down is to be ensured by the industry.
16. Provisional "NO OBJECTION CERTIFICATE" has been issued basing on the particulars furnished by the applicant and subject to inspection to further/more conditions if warranted by the subsequent development.
17. The "NO OBJECTION CERTIFICATE" will be valid till the proposed date of commissioning of the plant.

[illegible]

For [illegible] PVT. LTD.
[illegible]

19. Healthy working environment for the worker must be maintained and there should not be health Hazard to the workers for in adequate arrangement for ventilation, dust removal etc. arrangements should be adequate and foll proof for the health of the workers. The health should be regularly monitored.

20. The Industry must submit compliance report of action taken on the conditions given by the Board before commissioning of the plant.

21. Adequate trees should be planted and maintained in the vacant space of the premises and all around the factory wall/boundary if any.

22. The Board will be at liberty to withdraw the "NO OBJECTION CERTIFICATE" at any time without notice, if necessary steps for prevention of pollution and prevention of environment is not taken by the industry as per mentioned conditions.

23. This issuance of the "NO OBJECTION CERTIFICATE" does not convey any property right in their land or personal property or any exclusive privileges nor does it authorise any injury to private property nor any invasion right any infringement of Central, State or Local Laws or Regulations.

24. The "NO OBJECTION CERTIFICATE" does not authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any natural watercourse except of the works specially instructed herein.

25. The industry shall not discharge any wastes water outside the campus.

26. The industry shall not use any fuel, which may create Air Pollution.

27. No noise pollution is to be created by the industry.

28. The applicant shall inform the Board regarding starting of production.

29. Adequate fire fighting equipments with fittings like fire hydrant etc. shall have to be provided in order to prevent hazardous fire.

30. Noise damping will have to arrange

31. Best available technique must be adopted by M/s. Calcom Cement India Ltd. for every mining operation.

32. Necessary measures must be taken to prevent fugitive emission.

33. Remove dust from the work place and also filter to prevent emission into the air.

34. Proper effluent treatment half few must be available to the unit with adequate monitoring and operating water balance.

35. Solid operation procedures shall be in place to ensure clean up of spills to control disposal of solid waste and also prevent contamination of storm water runoff.

36. Necessary measures must be taken for socio-economic development of the area.

37. M/s. Calcom Cement India Ltd. must comply with as the provision under Hazardous Waste (Management & Handling) Rule, 1989 as amended in 2003 and also the manufacture, storage and import of Hazardous Chemical Rule, 1989.

38. M/s. Calcom Cement India Ltd. must have to obtain authorization for disposal of Hazardous Waste to be generated by the unit.

39. M/s. Calcom Cement India Ltd. must comply with the provision of the batteries (Management & handling) Rule, 2001.

40. M/s. Calcom Cement India Ltd. must comply with all the action points under Charter on Corporate Responsibility for Environmental Protection (CREP).

41. M/s. Calcom Cement India Ltd. must submit details on compliance of the environmental monitoring plan to the Board.

42. Environmental status report must be submitted regularly to the Board.

43. Effort must be taken to green belt development around the vacant space and all along the internal roads of the area.

44. M/s. Calcom Cement India Ltd. must organize medical health checkup camp at an interval of every six month to the villagers residing within a radius of 5 (five) Kms with regular submission of report along with photograph to the Board.

45. The top limestone horizon which is inferior in quality must be removed as partof preparation and should be disposed off at predetermined waste dump area. The over burden dumping site must be properly located and should be surrounded by boundary walls with garland drain surrounding it so that the wash materials will be arrested.

46. Rain Water harvesting plan & Disaster Management Plan should be included in the mining area.

47. The Crushing Plant should be equipped with vented dry explosive dust collector system. Dust collected in the dust collectors must be recycled in the process.

(contd...)

47. Ambient Air Quality monitoring i.e. SPM, RSPM, SO_2, NO_x should regularly be done and regular submission of reports to the Pollution Control Board, Assam.

48. Necessary preventive measures must be taken to protect the area from dust pollution during drilling and blasting operation, loading and transportation operation etc.

49. The Unit must used High density primers in conjunction with ANFO explosive which has low velocity of detonation to reduce the ground vibration during mining activities.

50. For Noise abatement and control latest design HEMM should be used in mining. For drilling purposes wet drilling with the help of sharp drill bits to be used to reduce the noise generation during drilling.

51. The Unit must follow the guidelines as provided by the Director General of Mines Safety (DGMS), Dhanbad for ground vibration due to blasting.

52. Land Reclamation and Rehabilitation plan should be adopted as per EMP mentioned in EIA Report.

53. Blasting should be done in day time only and other protection measures should be done as per EMP Report.

54. No any circumstances noise level should not be violated in the area as per Noise Rule, 2000 framed under Environment Protection Act, 1986.

55. No any circumstances mining activities should not disturb wild lives.

56. Compact Fluorescent Lamp should be used in the mining and residential area.

57. The Board will have the liberty to withdraw the NOC if adequate pollution control and safety measures are not taken.

(J.L. DUTTA)
CHAIRMAN
CHAIRMAN
Pollution Control Board, Assam

Memo No. WB/Z-II/T-1056/07-08/55-A/652 Dated Guwahati, the [illegible] 2007

Copy to:

1) M/s. Calcom Cement India Ltd., Sonapur Sonapali Road, Silpukhuri, Guwahati-781003 for information & necessary action. The NOC is valid subject to fulfilment of above terms & conditions.
2) Deputy Commissioner, N.C. Hills District, Haflong, Assam for information.
3) The General Manager, DIC, N.C. Hills District, Haflong, Assam for information.
4) The Regional Officer, Regional Lab-cum-Office, Silchar, Pollution Control Board, Assam for information & necessary action. The NOC is valid subject to fulfilment of above terms and conditions.
5) Record file/ Computer Section.

(J.L. DUTTA)
CHAIRMAN

भारतीय गैर न्यायिक

बीस रुपये

रु.20

Rs.20

TWENTY RUPEES

INDIA

INDIA NON JUDICIAL

असम ASSAM

[illegible]

IN THE COURT OF THE MAGISTRATE, KAMRUP AT GUWAHATI

AFFIDAVIT

I George Chacko, aged 49 years, son of Shri Jacob Chacko of Cathedral, [illegible] Manik Road Guwahati 781[illegible] do hereby solemnly affirm and state as follows:

1. That I am the Senior General Manager of Calcom Cement India Ltd, a Public Limited Company incorporated under the Companies Act, 1956 having its Registered Office at "Mili", [illegible] South Bank, Silpukhuri, Guwahati 781003, Assam.
2. That a mining lease for an area of 412.5 hectares in Umrangshu, Dima Hasao District of Assam was transferred in the year 2006 from Assam Industrial Development Corporation Ltd (AIDC) to Calcom Cement India Ltd and that Calcom Cement India Ltd has not applied for any other mining lease in the state of Assam or in any other state in the union of India nor does it hold any other mining lease.
3. That the statement made in the affidavit is true to my knowledge and belief.

अनुमोदित
APPROVED

[illegible]

Geo Chacko

For [illegible] TECH PVT. LTD.

3. That this affidavit will be used to prove the statements made herein before the concerned authorities i.e. Directorate of Geology and Mining, Government of Assam for renewal of the mining lease held by the company at Umrangshu, Dima Hasao District of Assam.

Signed on the 14 Day of 2011 at Guwahati.

Deponent

Identified by

Advocate

Signed and affirmed before me by the deponent who is identified by Advocate on the 6 Day of 201 at Guwahati.

MAGISTRATE

Ahmed Nakibuzz Zaman
NOTARY, GOVT. OF ASSAM
Kamrup (Metro), Guwahati
Regd. No.- KAM-07

APPROVED

For DEAN DIN MINTECH PVT. LTD.

CALCOM CEMENT

Annexure No.- 8

CALCOM CEMENT INDIA LIMITED

LIST OF DIRECTORS AS ON 30TH JUNE, 2011

Name of the Director	Designation	DIN No.	Date of Appointment	PAN Number	Address
[illegible]	Executive Chairman	00604471	20.09.2004	AHDPB2109G	125, Sunny Park, Kolkata - 700 019
[illegible]	Managing Director	00604464	20.09.2004	ACLPB0471B	125, Sunny Park, Kolkata - 700 019
[illegible]	Director	00765749	22.09.2005	ALAPS5551K	"Supra Court", 35, Lansdowne Terrace, Kolkata - 700 026
[illegible]	Independent Director	00044295	21.12.2005	AAEPI3365K	3F, "Shyam Kunj", 12C, Lord Sinha Road Kolkata - 700 071
Mr Krishnan [illegible]	Independent Director	00767000	09.09.2006	AAAPS1150K	5, Nafar Kundu Road, Kolkata - 700 026
Mr Markus [illegible]	Nominee Director (DEG Germany)	02443348	02.12.2008		Grevenbroich Stadtteil, Langwaden, Im Rixenbend 15 41516, Germany
Mr Cornelis [illegible] de Kruijf	Nominee Director (FMO, Netherland)	02891085	18.12.2009		Van Speijkstraat 173-2 2518 GA The Hague The Netherlands
Mr Rajesh [illegible], IAS (S)	Nominee Director (AIDC)	01761277	07.04.2011	ABDPP0500P	AIDC Campus, R. C. Baruah Road, Guwahati 781003

Certified to be true copy

KEY PERSON

Annexure No.- 9

CALCOM CEMENT INDIA LTD

EXTRACT OF THE MINUTES OF THE PROCEEDINGS OF THE MEETING OF THE BOARD OF DIRECTORS OF CALCOM CEMENT INDIA LIMITED HELD ON SATURDAY, THE 5TH DAY OF MAY, 2007

"**RESOLVED THAT** Mr. Ritesh Bawri, Managing Director of the company be and is hereby authorized for making application to the respective Ministries and other concerned authorities for mining and other related activities in respect of New Umrangshu Limestone Lease at North Cachar Hills District, Assam and to sign and execute all related papers, documents, deeds including submission of Mining Plan, Closure Plan etc. as he may deem necessary for implementation of the above and also to do such acts, deeds and things as may be required in this behalf."

Certified to be true Copy

Ritesh Bawri
Managing Director
Calcom Cement India Limited

APPROVED

S. M. Dendolkar
RQP/NGP/...
DEL ...0247

Annexure No.- 3A

P. K. MITRA
CALCUTTA

P. K. MITRA, NOTARY

18 FEB 2009

APPROVED

Self attested

For UDAIPUR MIN TECH PVT. LTD

NOTARY
P. K. MITRA
CALCUTTA
REGD. NO. 17/2000
GOVT. OF WEST BENGAL

BINOD KUMAR BANSI

SAJO. BANSI

"ANURAAG" BUTCHERS ROAD,

P.O.SHILLONG,EAST KHASI HILLS,

MEGHALAYA-793001

A1549480 01/11/1993 GUWAHATI

GUW0013'503

P. K. MITRA, NOTARY
BANKSHALL COURT
Regd. No.17/2000, Calcutta

NOTARY, Regd. No 17/2000
C. C. & COURT
BANKSHALL STREET
CALCUTTA-700001

18 FEB 2009

Self attested

Annexure No.- 10

A Copy of Photo ID of Lessee

INCOME TAX PAN SERVICES UNIT

(formerly known as UTI [illegible] of India Investor Services Ltd.)
Plot No. 3, Sector 11, Post Bag No. 20, CBD Belapur,
Navi Mumbai - 400 614. E-mail: [illegible]@utiisl.co.in

The Income Tax Department takes pleasure in informing that the PAN allotted to you is :

AACCC5142J

and the PAN card is enclosed herewith. Further, for filing the return of income, please contact

ITO W-3(1), GUWAHATI

Quoting of PAN on return of income and challans for payment of taxes is mandatory to ensure accurate credit of taxes paid by you and faster processing of return of income. Moreover, quoting PAN on all other communications with the department will help to improve taxpayer services.

We also inform that it is mandatory to quote PAN in several transactions specified under the Income Tax Act, 1961. For further details of such transactions, reference is invited to [illegible] of the Income Tax Rules, 1962 read with section 139A of the Income Tax Act, 1961.

In [illegible] of more than one PAN being allotted, the fact should be brought to the notice of your Assessing Officer, as possessing or using more than one PAN is against law and may attract penalty of up to Rs. 10,000/-.

Any errors in the data printed on your PAN Card may be brought to the notice of IT PAN Services Unit at the address given above and on the reverse of the PAN Card.

Income Tax Department

[illegible]

M/s CALCOM CEMENT INDIA
CALCOM CEMENT INDIA LIMITED
[illegible] ROAD
[illegible]
GUWAHATI
ASSAM [illegible]
PHONE : [illegible]

(This [illegible] is a computer generated letter, no signature [illegible])

For UDAIPUR MIN-TECH PVT. LTD.
[illegible]

Permanent and Present Address of Lessee

. MINISTRY OF CORPORATE AFFAIRS

PAYMENT RECEIPT

(G.A.R.7)

Civil

SRN : [illegible] — Service Request Date : 21-04-2008

Received From:

Name : [illegible]

Address : [illegible]

Kolkata West Bengal

INDIA - 70000[illegible]

Name & Address of the company on whose behalf payment is received

Name : CALCOM CEMENT INDIA LIMITED

Address :

HOUSE OF SHRI UTPAL MUN[illegible]

[illegible] SOUTH BANK, SILPUKHURI

GUWAHATI Assam

INDIA - 781003

Full Particulars of Remittance

Service Description	Type Of Fee	Amount(Rs.)
Fee For Form18	Normal	500.00
	Additional	500.00
Total		1,000.00

Mode of Payment : Credit Card

Received Payment (in words) Rs. : One Thousand only

Certified to be true copy

For Calcom Cement India Limited

[signature]

Company Secretary

For [illegible] PVT. LTD.

[illegible]

Permanent and Present Address of Lessee

FORM 18

[Pursuant to section 146 of the Companies Act, 1956]

Notice of situation or change of situation of registered office

Note - All fields marked in * are to be mandatorily filled.

1. *This form is for ○ New company ◉ Existing company

2.(a) *Corporate identity number (CIN) of company or Form 1A reference number: U26942AS2004PLC007538

(b) Global location number (GLN) of company:

3.(a) Name of the company: CALCOM CEMENT INDIA LIMITED

(b) Address of the registered office of the company:
HOUSE OF SHRI UTPAL MILI
SILPUKHURI SOUTH BANK, SILPUKHURI
GUWAHATI
Assam
INDIA

4. Notice is hereby given that

(a) *The address of the registered office of the company with effect from

◉ 01/03/2008 (DD/MM/YYYY) is

○ The date of incorporation of the company is

*Address Line I	"MRF",
Line II	SILPUKHURI SOUTH BANK, SILPUKHURI
*City	GUWAHATI
*District	Kamrup
*State	Assam-AS
*ISO country code	IN
*Pin code	781003
*e-mail ID	[illegible]@vinaycements.com

(b) The full address of the police station under whose jurisdiction the registered office of the company is situated

*Name	CHANDMARI POLICE STATION
*Address Line I	CHANDMARI COLONY
Line II	
*City	GUWAHATI
*State	Assam-AS
*Pin code	781003

5. Service request number of relevant form:

(Perform the SRN of related Form 1A/5,21, if applicable)

[illegible] APPROVED

Certified to be True copy
For Calcom Cement India Limited
Company Secretary

[illegible]

Permanent and Present Address of Lessee

Attachments

1. Optional attachment(s) - if any [Attach]

List of attachments

[Remove attachment]

Verification

To the best of my knowledge and belief, the information given in this form and its attachments is correct and complete.

☒ I have been authorised by the Board of directors' resolution number [8] dated [05/05/2007] (DD/MM/YYYY) to sign and submit this form

☐ I am authorised to sign and submit this form.

To be digitally signed by

Managing director or director or manager or secretary of the company

*Designation [Director]

*Director identification number of the director or Managing Director; or Income-tax PAN of the manager or; Membership number, if applicable or Income-tax PAN of the secretary or secretary of a company ... income-tax PAN [illegible]

Certificate

It is hereby certified that I have verified the above particulars from the books and records of

CALCOM CEMENT INDIA LIMITED

and found them to be true and correct.

○ Chartered accountant (in whole-time practice) or ☐ Cost accountant (in whole-time practice) or

◉ Company secretary (in whole-time practice)

*Whether associate or fellow ◉ Associate ○ Fellow

*Membership number or certificate of practice number [11315]

[Modify] [Check Form] [Prescrutiny] [Submit]

For office use only:

This e-Form is hereby registered

Digital signature of the authorising officer [ ] [Submit to BO]

COMPLIANT APPROVED

Certified to be True copy
For Calcom Cement India Limited
Company Secretary

For ... TECH PVT. LTD.

Permanent and Present Address of Lessee

Please mark corrections, if any, alongside respective item and submit this document along with supporting documentary evidence for updation. In case we do not receive supporting documents, correction required will not be considered. The documents are to be sent at following address :
Registrar of Companies RoC-Shillong Morello Building, Ground Floor, Kachari Road Shillong Meghalaya-793001 INDIA
The envelope containing physical documents should be superscribed as "Application for Company Master Data Correction Request"

Company Master Details

Subject	Company Details/Particulars	Verification/Corrections if any
CIN	U26942AS2004PLC007533	
Company Name	CALCOM CEMENT INDIA LIMITED	
ROC Code	RoC-Shillong	
Registration Number	007533	
Company Category	Company limited by shares	
Company Subcategory	Indian Non-Government Company	
Class of Company	Public	
Authorised Capital(in Rs.)	3,000,000,000.00	
Paid up capital(in Rs.)	1,540,057,900.00	
Number of Members(Applicable only in case of company without Share Capital)	0	
Date of Incorporation	20/05/2004	
Address of registered office	MIRZA, SILPUKHURI SOUTH BANK, SILPUKHURI GUWAHATI Assam-781003 INDIA	Certified that to be true copy For Calcom Cement India Limited Company Secretary
Email Id	sekhar.bhattacharya@calcom.co.in	
Whether listed or not	Unlisted	
Date of Last AGM		
Date of Balance sheet		

APPROVED

FOR KOSHIKA MINTECH PVT. LTD.

Annexure No.-11

FORM – J

Received at Guwahati on 15/4/11

Initials of receiving Officer

GOVERNMENT OF ASSAM
APPLICATION FOR RENEWAL OF MINING LEASE

[See rule 24A]

To

The Principal Secretary,
Department of Mines and Minerals,
Govt of Assam,
Dispur, Guwahati.

Through,

The Directorate of Geology and Mining
Kahilipara Hills, Kahilipara
Guwahati
Assam

Sir,

We request for renewal of our mining lease under the Mineral Concession Rules, 1960. A sum of Rs.500 being the application fee payable under sub rule (1)(i) (a) of rule 22 of the said rules has been deposited.

2. The required particulars are given below:-
(i) Name of the applicant with complete address.

Calcom Cement India Ltd.
Jamuna Nagar, Umrangshu-788931, Dima Hasao District (North Cachar Hills), Assam

(ii) Is the applicant a private individual/ public Company /firm or association?

Public limited Company

(iii) In case applicant is:
(a) an individual, his nationality — **Not applicable**

(b) a company, an attested copy of the certificate of registration shall be enclosed. — **enclosed.**

(c) Omitted

(d) a firm or association, the nationality of all the partners of the firm.

Or members of the association. **Not applicable**

For UDAIPUR MINTECH PVT. LTD.
(RQP/UDP/251/2002/B)

PERSON

(g) Production or nature of business of applicant:
Manufacture of Cement & other Mineral Products.

(h) [omitted]

(i) [omitted]

(j) No. and date of the last clearance certificate of payment of mining rent:
Dead rent is being paid as per Mines & Minerals (D&R) Act, 1957

(k) An affidavit, that up to date income Tax returns as prescribed under the Income Tax Act, 1961 have been filed, and the tax due, including the tax on account of self- assessment has been paid. Enclosed

(and (l) Particulars of the mining lease of which renewal is sought:

District	State	Village	S.No./Mi.	Area
Dima Hasao (North Cachar Hills)	Assam	New Umrangsi	Unclassified forest	417.5 hect

(m) Details of previous renewal granted if any:
Not applicable

(n) Period for which renewal of mining lease is required:
20 years

(o) Whether renewal is applied for the whole or part of the leasehold:
Whole.

(p) (a) Does the applicant continue to have surface rights over the area of the land for which he requires renewal of the mining lease:
Yes.

(b) If not, has he obtained the consent of the owners and occupiers for undertaking mining operation. If so, the consent of the owner and occupier of the land obtained in writing be filed.
Not applicable.

(q) Particulars of the areas mineral-wise in each state duly supported by affidavit for which the applicant or any person held in interest with him:

(a) already holds under mining lease;
This is the only mining lease of limestone for Cakum Cement India Ltd., in Assam

(b) has already applied for but not granted; or
Not Applicable

(c) being applied for simultaneously.
Not Applicable

(r) A mining plan which shall include –

For UDAIPUR MIN-TECH PVT. LTD.
(AUTHORISED SIGNATORY)

KEY PERSON

(g) the plan of the area showing the nature, the extent of the mineral body, that is, state where the excavation is to be done in the first year and its extent, a detailed cross-section and the detailed plan of the period of excavation based on prospecting data obtained by the applicant, a tentative scheme of mining for the first five years of the lease

A mining plan with five years advanced mining Scheme has been prepared and will be submitted very shortly to Indian Bureau of Mines.

(h) the details regarding any lithology of the area, the extent of manual mining and through machine

A mining plan with five years advanced mining Scheme has been prepared and will be submitted very shortly to Indian Bureau of Mines.

(i) annual programme and plan for excavation for five years, and

A mining plan with five years advanced mining Scheme has been prepared and will be submitted very shortly to Indian Bureau of Mines.

(j) the plan of the area showing natural water course, limit of reserved and other forest area and density of trees, assessment of impact of mining activity of forest, land surface and environment including air and water pollution, and details of the scheme for afforestation, land reclamation, use of pollution control devices

A mining plan with five years advanced mining Scheme has been prepared and will be submitted very shortly to Indian Bureau of Mines.

(xii) (a) the mineral going to be used in his own industry? If so, give full details;

IN CALCOM CEMENT INDIA LIMITED at various places

Limestone will be used in own industry for manufacturing Cement & other Mineral Products.

(xiii) (a) area of mining lease/land for which only for the part of the lease held;

(b) the area applied for renewal

41.5 hectares

(b) description of the area applied for renewal

Details are given in mining plan, will be submitted to IBM very soon

(c) particulars of map of the lease hold with area applied for

Renewal clearly marked on it

Details are given in mining plan, will be submitted to IBM very soon

(d) particulars of existing or created dumps of ore, if any

Details are given in mining plan, will besubmitted to IBM very soon

(xiv) Means by which the mineral is to be raised, i.e., by hand, labour or Mechanical or electric power

Mechanical.

(xv) Manner in which the mineral raised is to be utilised;

(a) for manufacture in India.

Yes

For CHAMPION MIN-TECH PVT. LTD.
(BOARD RESOLUTION 154/2009-10)

KEY PERSON

(iii) To exports to foreign countries
Not Applicable

(v) In the former case the industries in connection with which it is required, should be specified. In the later case, the countries to which the mineral will be exported and whether the mineral is to be exported after processing or in raw form should be stated.

In the former case, manufacturing of Cement & other Mineral Products.

In the later case, Not applicable

(vi) Details of out going the last three years and phased Programme for production during the next three years along with a Layout plan for development, if any.

Next three years production plan has been prepared in the mining plan and will be submitted to IBM very soon.

(vi) In case of coal, details of existing railway transport facility, available and additional transport facility if any, required.

Not applicable.

(vii) Any other particulars which the applicant wishes to furnish.

The grinding unit of the Company has already been commissioned and the work on the clinker unit is underway and should be commissioned next year. It is important that we get the renewal of the mining lease very quickly to complete all works and permissions to fully operate the mine before the commissioning of the clinker making unit.

We do hereby declare that the particulars furnished above are correct and are ready to furnish any details including accurate plans as required by you before the grant of renewal of the lease.

Yours faithfully

(George Chacko, Sr. General Manager, Coleem Cement India Ltd.

Signature and designation of the applicant

Place: Guwahati

Date: 19.05.2011

For UDAIPUR MINI-TECH PVT. LTD.

KEY PERSON

(11)

FORM D

Receipt of Applications for Mining Lease Renewals
(See rules 10(1) and 24(1))

Government of Assam
Guwahati

Dated 19.05.2011

S.No.

Received the application with the following enclosures for a renewal of mining lease of M/S Calcom Cement India Ltd. On 19.05.2011 for about 417.5 hectare of land located in Umrangshu village, Dima Hasao District (N.C.Hills), Assam state for mining Lime stone mineral.

Enclosures:

1. Treasury challan for Rs.500.00
2. Affidavit for up-to date income tax return.
3. Affidavit for lime stone mining held in Assam State.
4. A company attested copy of the certificate of registration
5. Mining plan with five years advanced mining Scheme is being prepared and will be submitted very shortly
6. Map of the area of lease

Place: Guwahati

Date: 19/5/11

19/5/11

Signature and designation of
Receiving Officer

अनुमोदित
APPROVED

For UDAIPUR MIN TECH PVT. LTD.
(RQP/UDR/FSH/1020-B)

KEY PERSON

Annexure No- 12

भारतीय खान

खनन योजना तैयार करने हेतु
योग्य व्यक्ति के रूप में
मान्यता का प्रमाणपत्र

(खनिज रियायत नियमावली, 1960 के नियम 22(सी) के अंतर्गत)

M/s UDAIPUR MIN-TECH PVT. LTD.,

पंजीकरण संख्या-17-08522, पंजीकृत कार्यालय: 206 अरविंद कॉम्पलेक्स, सेक्टर नं.11, हिरण मगरी, जिला-उदयपुर (राज.), द्वारा आवश्यक योग्यताओं और अनुभव का संतोषप्रद प्रमाण प्रस्तुत करने के फलस्वरूप खनिज रियायत नियमावली, 1960 के नियम 22 (सी) के अंतर्गत इन्हें एतद्द्वारा खनन योजना तैयार करने हेतु योग्य व्यक्ति के रूप में मान्यता प्रदान की जाती है.

उनका पंजीयन क्रमांक **आर.क्यू.पी. / उदय / 354/2009/B** है.

यह मान्यता दिनांक **20-08-2019** को समाप्त होने वाली दस वर्षों की अवधि के लिये वैध है.

स्थान : उदयपुर
दिनांक : 21.08.2009

(एस.वी.सरदेशमुखे)
क्षेत्रीय खान नियंत्रक
क्षेत्रीय खान नियंत्रक
Regional Controller of Mines
भारतीय खान ब्यूरो
Indian Bureau of Mines
उदयपुर
UDAIPUR

उपरोक्त मान्यता साथ व्यक्ति:

1. श्री शैलेन्द्र सिंह बिष्ट पुत्र श्री [illegible] सिंह बिष्ट
2. [illegible] सिंह [illegible] पुत्र श्री [illegible]

(एस.वी.सरदेशमुखे)
क्षेत्रीय खान नियंत्रक
भारतीय खान ब्यूरो

APPROVED

दिनांक 1x.02.2013 से सम्बद्ध व्यक्ति [Key person] –

1. श्री शैलेन्द्र सिंह बिष्ट, पुत्र श्री [illegible] सिंह बिष्ट
2. डॉ. हनुमान सिंह यादव, पुत्र श्री [illegible]
3. श्री [illegible], पुत्र श्री [illegible]

(एस.के.सिंह) 19/2/13
क्षेत्रीय खान नियंत्रक,
भारतीय खान ब्यूरो
क्षेत्रीय खान नियंत्रक
Regional Controller of Mines
भारतीय खान ब्यूरो
Indian Bureau of Mines
उदयपुर
UDAIPUR

M/s UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/354/2009/B)

Annexure No.- 13

(13)

NO OBJECTION CERTIFICATE

The N.C. Hills Autonomous Council has been pleased to allow NO OBJECTION for setting up Cement Plant Project at Umrangso with a capacity of 5 million metric tons per annum to the M/S CalCom Cement India Ltd. Guwahati, Assam on condition that the firm is to execute agreement with the Council to the effect of its establishment.

Further, the Council has no objection for allotment of mining lease to the said the above mentioned project to the extent of 05 million metric tons per annum.

Principal Secretary (N)
N.C. Hills Autonomous Council
Haflong

For UDAIPUR MINTECH PVT. LTD.
(AUTH. SIGN.)

AUTH. PERSON

Sl. NO.	Location	GEOGRAPHICAL Coordinate		UTM Coordinate		Ele	Distance	Lat	Long
		Lat	Long	X	Y				
1	base camp / DGM-1	25°31'11.52"	92°46'15.84"	477301.566	2822600.89	547.556		25°31'16.34"	92°46'20.10"
2	DGPS-2	25°31'15.84"	92°46'33.12"	478103.643	2822984.54	566.391	821.730	25°31'20.26"	92°46'37.80"
3	DGPS-3	25°31'15.84"	92°47'29.52"	479576.653	2822972.44	388.274	1472.460	25°31'21.22"	92°47'36.12"
4	DGPS-4	25°31'15.84"	92°47'20.88"	479171.773	2822986.55	415.717	404.526	25°31'21.26"	92°47'26.31"
5	DGPS-5	25°31'20.16"	92°47'25.20"	479444.036	2823246.81	385.635	276.715	25°31'29.42"	92°47'30.06"
6	DGPS-6	25°31'35.28"	92°48'02.16"	479998.852	2823948.28	337.991	894.284	25°31'39.55"	92°48'03.35"
7	DGPS-7	25°32'07.92"	92°47'33.84"	479802.278	2824455.43	296.837	543.913	25°32'14.02"	92°47'38.32"
8	DGPS-8	25°32'18.72"	92°48'00.00"	479874.11	2825003.52	372.798	552.774	25°32'31.91"	92°47'58.75"
9	DGPS-9	25°32'12.24"	92°47'29.52"	479634.80	2824576.5	382.583	405.180	25°32'17.25"	92°47'34.17"
10	DGPS-10	25°31'15.84"	92°48'04.32"	480119.462	2822938.6	357.939	1824.197	25°31'19.84"	92°48'07.70"
11	DGPS-11	25°31'18.00"	92°48'25.92"	481061.287	2823052.07	252.095	902.988	25°31'23.57"	92°48'29.44"
12	DGPS-12	25°31'18.00"	92°48'34.56"	481647.56	2823092.1	219.713	466.776	25°31'23.69"	92°48'38.67"
13	DGPS-13	25°32'07.92"	92°47'25.20"	479395.846	2824381.92	354.973	2539.030	25°32'11.73"	92°47'28.70"
14	DGPS-14	25°30'32.40"	92°47'03.60"	478419.447	2821074.5	425.600	2537.894	25°30'36.41"	92°47'06.85"
15	Coner M	25°32'25.20"	92°47'25.20"	479382.47	2825280.27	417.458	3443.189	25°32'28.87"	92°47'29.20"
16	Coner N	25°31'18.00"	92°47'25.20"	479421.19	2823049.85	403.667	2230.656	25°31'22.42"	92°47'30.60"
17	Comar E	25°31'18.00"	92°48'17.28"	480744.46	2823090.85	273.743	1323.902	25°31'22.89"	92°48'21.26"
18	Comar Y	25°31'22.32"	92°48'17.28"	480736.42	2823363.06	265.144	282.329	25°31'27.31"	92°48'21.30"
19	Comar X	25°31'24.48"	92°48'32.40"	481373.93	2823372.78	252.368	657.584	25°31'28.42"	92°48'36.39"
20	Comer B	25°32'25.20"	92°48'30.24"	481345.94	2825311.15	390.422	1938.572	25°32'29.62"	92°48'34.24"

Annexure No.- 14

GALCON CEMENT COMPANY PVT. LTD
NEW UMRANSHO Co-Ordinates Details

S NO.	Location	DGPS			
		GEOGRAPHICAL-Coordinate			
		Lat	Long	Elv	Distance
	Base camp / DGM-1	25°31'11.52"	92°45'15.84"	647.556	
1	DGPS-2	25°31'15.84"	92°46'33.12"	508.391	821.730
2	DGPS-3	25°31'10.34"	92°47'29.52"	388.274	1472.460
3	DGPS-4	25°31'15.84"	92°47'20.88"	415.717	404.626
4	DGPS-5	25°31'20.16"	92°47'25.20"	365.633	376.715
5	DGPS-6	25°31'35.28"	92°48'02.16"	337.991	894.284
6	DGPS-7	25°32'07.92"	92°47'38.64"	298.837	543.913
7	DGPS-8	25°32'18.72"	92°48'00.00"	372.790	662.774
8	DGPS-9	25°32'12.24"	92°47'29.52"	382.583	405.180
9	DGPS-10	25°31'15.84"	92°48'04.32"	307.930	1604.197
10	DGPS-11	25°31'18.00"	92°48'25.92"	252.095	952.689
11	DGPS-12	25°31'18.00"	92°48'34.56"	213.713	486.776
12	DGPS-13	25°32'07.92"	92°47'25.20"	354.973	2509.030
13	DGPS-14	25°30'32.40"	92°47'00.60"	425.606	2597.894
14	Corner M	25°32'25.20"	92°47'25.20"	417.456	3443.189
15	Corner N	25°31'13.00"	92°47'25.20"	403.667	2230.656
16	Corner E	25°31'18.00"	92°48'17.28"	273.743	1323.902
17	Corner F	25°31'22.32"	92°48'17.28"	265.144	272.329
18	Corner G	25°31'24.48"	92°48'32.40"	252.355	637.584
19	Corner H	25°32'26.20"	92°48'30.24"	390.422	1938.572
20	Corner B				

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For JAIPUR MIN-TECH PVT. LTD.

KEY PERSON

CALCON CEMENT COMPANY PVT. LTD
NEW UMRANSHO Co-Ordinates Details

Sl NO.	Location	UTM			
		Coordinate		Ele	Distance
		X	Y		
1	Base camp / DGLI-1	477301.569	2822805.690	547.566	
2	DGPS-2	478103.643	2822984.541	606.351	821.730
3	DGPS-3	479576.053	2822972.439	588.271	1472.460
4	DGPS-4	479171.773	2822985.651	415.717	404.526
5	DGPS-5	479444.036	2823248.011	365.833	376.715
6	DGPS-6	479998.852	2823598.285	337.991	894.284
7	DGPS-7	479802.273	2824456.432	298.837	843.913
8	DGPS-8	479874.710	2825083.519	372.798	552.774
9	DGPS-9	479834.800	2825478.503	382.533	405.180
10	DGPS-10	480119.462	2822538.600	357.939	1804.197
11	DGPS-11	481001.267	2823082.067	252.085	952.689
12	DGPS-12	481547.960	2823092.103	219.713	486.776
13	DGPS-13	479085.846	2824331.923	354.973	2509.030
14	DGPS-14	478419.447	2821974.497	425.600	2597.894
15	Corner M	479382.479	2825280.270	417.458	3443.189
16	Corner N	479421.190	2823049.950	403.567	2230.656
17	Corner E	480744.460	2823090.850	273.743	1323.902
18	Corner Y	480736.420	2823363.060	266.144	272.329
19	Corner X	481373.930	2823572.790	252.368	637.584
20	Corner B	481346.940	2825311.150	390.422	1938.572

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For CONSOIL MINTECH PVT. LTD.

KEY PERSON

Annexure No.- 15

GOVERNMENT OF ASSAM
DIRECTORATE OF GEOLOGY AND MINING

/Dated Guwahati the 26 th October 2010

To

M/S Calcom Cement India Ltd.
Mri, Silpukhuri South Bank,
Guwahati-781003

Sir,

In response to your verbal enquiry regarding the mining lease (4.175 sq.kms) for limestone transported to M/S Calcom Cement India Ltd. at Umrangso in Dima Hasao (previously N.C Hills) District of Assam I am furnishing the following information:

1) The area investigated by the Directorate of Geology & Mining, Assam for limestone is within the mining lease area in question. The detailed investigation for limestone deposit in the area was done with the help of 22Nos. of boreholes drilled by the Directorate itself.

2) The limestone samples obtained from these boreholes were analyzed and found suitable for cement manufacture. The limestone deposit can be used for cement manufacture by Calcom Cement India Ltd.

APPROVED

Yours faithfully,

26.10.10

(L.C. Bezbarua)
Director of Geology & Mining, Assam
Director of Geology & Mining
Govt. of Assam
Guwahati-6

Thicknoss of various litho units of New Umrangshu M.L. area as encountered in Boreholes.

BH. No.	R. L. (M)	Thickness (m) various formation							Remarks
		Soil	Kopili Sandstone	Top Limestone	Shale	Bottom Limestone	Basal Sandstone	Closing depth	
2/1	373.52	5.00	-	4.00	4.00	52.00	11.50	76.50	
2/2	410.11	3.00	8.20	29.00	7.00	51.00	10.50	108.50	
2/3	332.91	6.00	-	-	-	39.00	8.50	53.50	Top eroded
2/4	408.90	5.00	-	26.00	7.50	51.50	4.00	94.00	
2/2	385.44	5.00	12.00	32.00	4.50	53.00	12.50	119.00	
2/3	392.09	3.50	-	32.50	8.50	47.50	3.00	95.00	
2/3A	330.63	6.00	-	-	-	51.00	15.00	72.00	
2/3B	391.60	3.50	-	29.00	6.50	51.00	8.00	100.00	
2/4	404.45	1.50	21.00	26.00	7.50	51.00	2.00	111.00	
3/1	316.13	3.50	-	-	6.50	51.00	9.50	70.50	
3/2	341.73	3.00	-	-	5.00	51.00	6.50	86.00	
3/3	361.33	2.00	6.00	16.50	3.00	50.50	12.50	90.50	
3/4	360.89	5.00	-	15.50	6.50	50.00	8.00	87.00	
3/2	336.58	2.00	16.00	30.50	8.50	52.00	28.50	137.50	
3/2A	308.55	3.00	-	-	-	41.00	15.50	62.50	Top eroded
3/3	365.15	3.00	-	28.50	8.00	52.50	3.00	95.00	
3/4	394.89	1.00	38.50	29.00	6.50	6.60	-	81.00	Prematurely closed
3/2	294.04	3.50	2.50	30.00	9.50	53.50	40.00	136.00	
3/3	326.24	4.40	-	28.10	7.10	61.90	45.00	136.50	
3/4	368.21	2.00	30.00	27.00	8.00	53.00	3.50	123.50	-
3/5	426.60	5.50	53.50	-	-	-	-	58.50	Prematurely closed
X	399.30	2.50	46.00	-	-	-	-	48.00	Prematurely closed

FOR UDAIPUR GEO-TECH PVT. LTD.

AUTHORISED PERSON

Analytical data of Top Band Limestone as encountered in boreholes.

Borehole Numbers	Average core recovery in %	Wt. Average					Silica Modulus (Ms)	Alumina modulus (M1)	Lime Saturation factor (L.S.F.)
		CaO	MgO	Fe_2O_3	Al_2O_3	SiO_2			
NJ 18/2	84.69	36.76	1.87	12.91	5.19	6.52	0.47	0.40	0.97
NJ 18/3	88.20	34.09	2.00	15.51	4.62	9.32	0.48	0.29	0.87
NJ 18/3A	-	-	-	-	-	-	-	-	-
NJ 18/3B	-	-	-	-	-	-	-	-	-
NJ 18/4	83.84	35.08	2.50	12.56	5.88	9.53	0.51	0.46	0.84
NJ 20/1	15.00	39.44	0.50	9.94	6.80	7.20	0.43	0.68	1.09
NJ 20/2	85.02	39.35	1.55	7.81	3.08	6.32	0.40	1.05	1.12
NJ 20/3	-	-	-	-	-	-	-	-	-
NJ 20/4	53.00	44.57	1.29	6.84	3.81	5.00	0.46	0.55	1.92
NJ 24/2	49.84	-	-	-	-	-	-	-	-
NJ 24/3	78.78	33.06	2.35	14.26	7.04	10.58	0.49	0.49	0.69
NJ 24/3A	-	-	-	-	-	-	-	-	-
NJ 24/3B	75.52	41.91	1.74	8.44	4.46	6.26	0.48	0.52	1.47
NJ 24/4	82.00	36.46	1.80	11.62	6.65	8.57	0.46	0.57	0.91
NJ 26/1	-	-	-	-	-	-	-	-	-
NJ 26/1	-	-	-	-	-	-	-	-	-
NJ 26/1	42.23	46.68	1.38	5.85	3.25	3.73	0.40	0.55	2.54
NJ 26/1	33.33	41.25	1.16	10.50	6.01	5.05	0.30	0.57	1.44
NJ 30/2	88.06	36.82	1.73	14.15	3.73	8.52	0.47	0.26	1.03
NJ 30/2A	-	-	-	-	-	-	-	-	-
NJ 30/3	60.58	-	-	-	-	-	-	-	-
NJ 30/4	77.33	41.96	1.53	6.25	5.20	6.45	0.47	0.63	1.38
NJ 34/2	80.34	37.50	1.92	14.25	3.75	8.17	0.45	0.26	1.07
NJ 34/3	69.94	-	-	-	-	-	-	-	-
NJ 34/4	86.25	39.37	1.77	9.52	5.66	7.77	0.49	0.57	1.11
NJ 34/5	-	-	-	-	-	-	-	-	-
NJ X	-	-	-	-	-	-	-	-	-

For [illegible] PVT. LTD.
[illegible]

Analytical data of Bottom Band Limestone as Encountered in boreholes.

Borehole number	Average core recovery in %	Wt. Average						Silica Modulus (Mg)	Alumina modulus (M1)	Lime Saturation factor (L.S.F.)
		CaO	MgO	Fe_2O_3	Al_2O_3	SiO_2	L.O.I.			
18/2	83.40	45.63	1.45	3.35	3.56	6.92	37.21	1.00	1.06	1.69
18/3	94.19	44.67	1.7	3.15	4.25	6.60	37.32	0.89	1.35	1.58
18/3A	90.87	48.24	1.09	2.17	2.04	4.01	40.09	0.95	0.94	3.14
18/3B	67.25	45.43	1.23	2.40	2.37	4.52	39.73	0.95	0.99	2.75
18/4	91.33	44.10	1.92	4.28	3.22	6.99	37.44	0.94	0.77	1.84
20/1	93.04	47.80	1.43	2.42	3.08	4.52	39.14	0.32	1.27	2.50
20/2	92.48	47.82	1.27	2.11	3.03	4.15	39.32	0.81	1.44	2.63
20/3	62.03	48.72	1.30	2.43	2.13	3.96	39.97	0.85	0.86	3.08
20/4	89.04	48.09	1.02	3.11	2.51	5.25	39.42	0.78	0.74	2.84
24/2	69.75	-	-	-	-	-	-	-	-	-
24/3	65.16	44.95	1.49	3.65	3.63	7.35	36.09	1.03	0.99	1.55
24/3A	93.54	48.54	1.28	2.53	2.25	4.10	38.71	0.84	0.85	2.95
NU24/3B	91.32	48.90	1.18	2.55	2.29	4.37	39.54	0.89	0.88	2.83
NU 24/4	90.58	44.15	1.50	3.80	3.99	7.57	36.78	0.98	1.05	1.47
NU 25/1	61.47	48.80	1.16	2.55	2.29	4.37	39.54	0.89	0.88	2.83
NU 28/2	81.88	43.20	1.20	2.50	2.42	4.71	39.55	0.25	0.97	2.62
NU28/3	82.81	48.98	1.02	2.57	2.30	4.03	39.57	0.82	0.86	2.97
NU28/4	67.80	43.28	1.12	2.45	2.42	4.23	39.63	0.88	0.23	2.80
NU30/2	91.92	45.38	1.37	3.43	3.86	5.70	39.35	0.92	1.10	1.70
NU30/2A	90.95	47.98	1.17	2.54	2.73	4.62	39.52	0.86	1.03	2.55
NU30/3	81.71	45.09	1.27	3.46	3.70	6.25	37.42	0.87	1.08	1.01
NU30/4	94.77	-	-	-	-		-	-	-	-
NU34/2	96.51	45.23	1.45	3.45	3.54	7.08	37.24	1.01	1.02	1.64
NU34/3	94.18	44.71	1.57	3.55	4.67	5.79	38.94	0.33	1.10	1.00
NU34/4	96.05	45.06	1.11	3.15	3.40	5.55	33.60	0.34	1.03	2.05
NU34/5	-	-	-	-	-		-	-	-	-
NU-1	-	-	-	-	-		-	-	-	-

For UDAIPUR MINERALS PVT. LTD.
([illegible])

KEY PERSON

Bottom Band Limestone

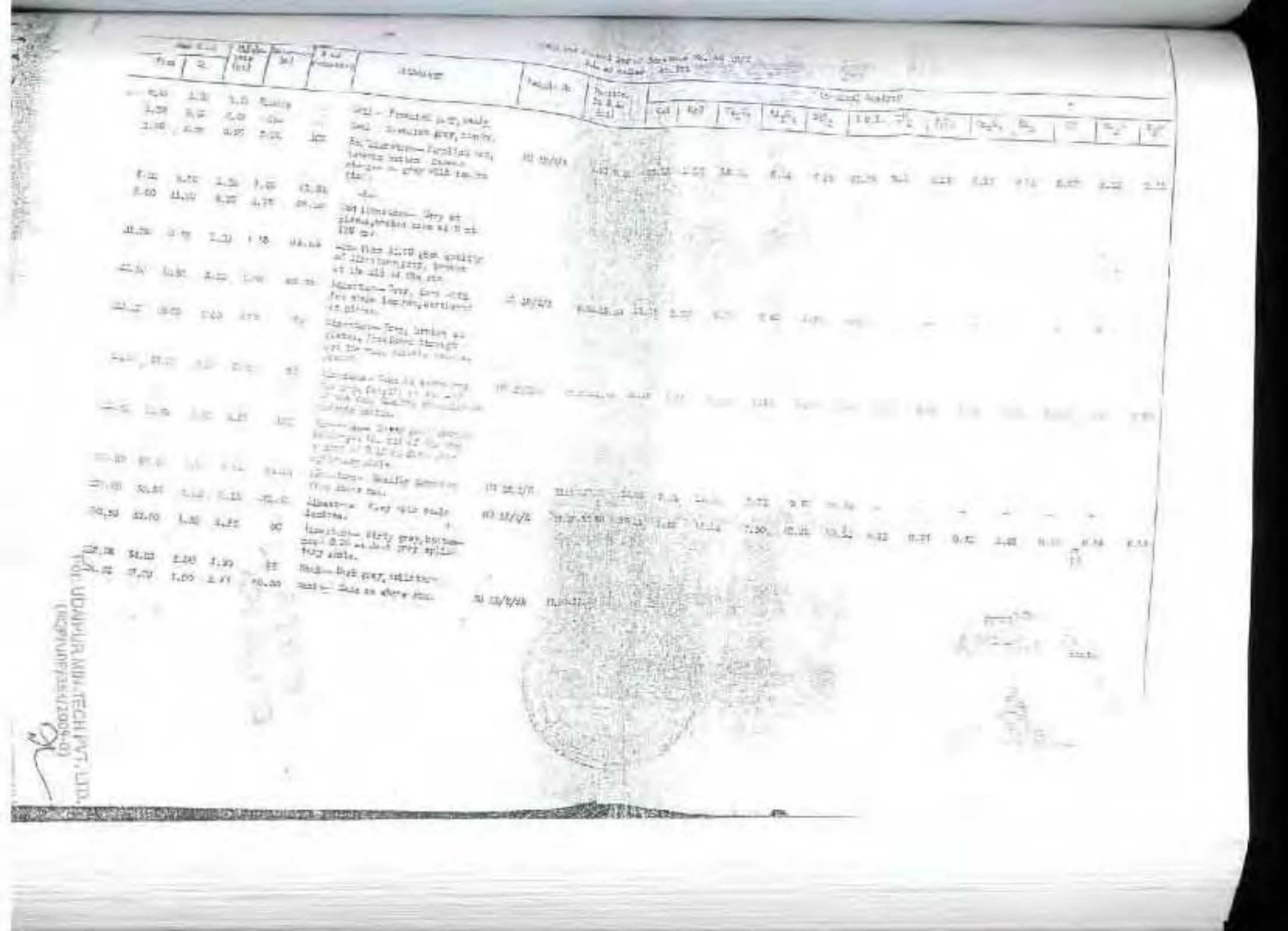
BH No.	R.L (M)	From (m)	To(m)	Thickness (m)	R.R.L.(m)	FRL (m)	Closing depth	Bottom Lithology
20/1	373.523	13.0	65.0	52.0	360.52	308.52	70.50	Basa Stardstore
20/2	410.112	38.0	89.0	51.0	372.11	321.11	108.50	Basa Stardstore
20/3	338.914	6.0	45.0	39.0	332.91	287.91	53.50	Basa Standstone
20/4	408.900	32.5	84.0	51.5	376.40	324.00	94.00	Basa Standstore
24/2	325.446	50.5	103.5	53.0	331.95	278.92	119.00	Basa Stardstore
24/3	392.092	44.5	92.0	47.5	347.59	300.09	95.00	Basa Stardstore
24/3A	330.632	6.0	57.0	51.0	324.63	273.63	72.00	Basa Stardstore
24/3B	391.608	41.0	92.0	51.0	350.61	299.61	100.00	Basa Stardstore
24/4	404.447	58.0	109.0	51.0	346.45	295.45	111.00	Basa Stardstore
26/1	316.127	10.0	62.0	51.0	306.13	255.13	70.50	Basa Stardstore
26/2	341.732	0.0	59.0	51.0	332.79	281.73	66.00	Basa Stardstore
26/3	361.329	27.5	79.0	50.5	333.23	283.33	90.50	Basa Stardstore
26/4	360.894	29.0	79.0	50.0	331.89	281.89	87.00	Basa Stardstore
30/2	336.580	57.0	109.0	52.0	279.58	227.58	137.50	Basa Stardstore
30/2A	308.550	3.0	47.0	44.0	305.55	261.55	62.50	Basa Stardstore
30/3	365.149	32.5	92.0	52.5	325.65	273.15	95.00	Basa Stardstore
30/4	394.892	75.6	81.6	6.0	319.29	313.29	81.00	Prematurely closed in Bottom Limestone
34/2	294.944	45.5	96.0	50.5	249.44	198.94	136.00	
34/3	326.240	39.6	91.5	51.9	286.64	234.74	138.50	
34/4	368.211	67.0	117.0	50.0	301.21	251.21	120.50	
34/5	426.600	58.5	Borehole closed				58.50	Prematurey closed
MU-X	309.302	46.0	Borehole closed				46.00	Prematurey closed

Note : R.R.L. is Roof reduced level of limestone bed in borehole.
F.R.L. is Floor Reduced level of limestone bed in borehole.

Analytical data of Top Band Limestone as Encountered in boreholes

Borehole numbers	Average core recovery in %	Wt. Average						Silica Modulus (Mg)	Alumina modulus (M1)	Lime Saturation factor (L.S.F.)
		CaO	MgO	Fe_2O_3	Al_2O_3	SiO_2	L.O.I.			
NU 1/2	84.09	36.76	1.87	12.91	5.19	8.62	31.70	0.47	0.40	0.97
NU 1/3	88.20	34.69	2.00	15.51	4.62	9.22	31.18	0.46	0.29	0.67
NU 1/3A	-	-	-	-	-	-	-	-	-	-
NU 1/3B	-	-	-	-	-	-	-	-	-	-
NU 18/4	83.84	35.08	2.50	12.76	5.88	9.53	31.37	0.51	0.46	0.84
NU 20/1	15.00	39.44	0.50	9.94	5.80	7.20	34.77	0.43	0.68	1.09
NU 20/2	85.02	39.35	1.55	7.84	3.08	6.32	34.07	0.40	1.05	1.12
NU 20/3		-	-	-	-	-	-	-	-	-
NU 20/4	53.00	44.67	1.29	6.84	3.81	5.00	37.02	0.46	0.55	1.92
NU 24/2	49.64	-	-	-	-	-	-	-	-	-
NU 24/3	78.78	33.66	2.33	14.16	7.04	10.53	30.20	0.49	0.48	0.69
NU 24/3A	-	-	-	-	-	-	-	-	-	-
NU 24/3B	75.82	41.91	1.74	8.44	4.46	6.26	35.45	0.48	0.52	1.47
NU 24/4	82.00	36.46	1.80	11.62	5.65	8.57	31.83	0.46	0.57	0.91
NU 26/1		-	-	-	-	-	-	-	-	-
NU 26/1		-	-	-	-	-	-	-	-	-
NU 28/1	42.23	46.68	1.38	5.65	3.25	3.73	37.94	0.40	0.55	2.54
NU 28/4	33.33	41.25	1.15	10.50	0.01	5.05	34.39	0.30	0.57	1.44
NU 30/2	88.06	36.82	1.73	14.15	3.73	8.52	31.75	0.47	0.26	1.03
NU 30/2A	-	-	-	-	-	-	-	-	-	-
NU 30/3	60.56	-	-	-	-	-	-	-	-	-
NU 30/4	77.33	41.96	1.53	8.25	3.20	6.46	35.28	0.47	0.63	1.53
NU 34/2	80.34	37.50	1.92	14.25	3.75	8.17	31.55	0.45	0.26	1.07
NU 34/4	69.94	-	-	-	-	-	-	-	-	-
NU 34/5	-	-	-	-	-	-	-	-	-	-
NU - X		-	-	-	-	-	-	-	-	-

For UDAIPUR CEMENT WORKS LTD.



Sl. No.	Depth (m)	Core Recovery (%)	RQD (%)	Fracture Index (per m)	Lithology	Sample No.	Plasticity I.S.C. Test	Chemical Analysis											
								SiO_2	Al_2O_3	Fe_2O_3	Fe_2O_3	TiO_2	Loss on Ignition	P_2O_5	Mn_3O_4	MnO_2	CaO	MgO	S%
1	2.00	100	0.0	0.0	87.50	Bed: A Laterite— Dense at 0.0 m with grey mottled white and red at the top, thereafter, vesicular, cavities and holes at places. At the end of the run 3 cm rock core.													
2	10.00	11.00	0.0	4.5	50.00	Laterite— Grey with fine fragments of rock between 6 metres & the end of the run 8.0 m scattered glass felspar pieces.	SS 28/3/1	57.80–63.60	58.00	1.80	6.00	5.50	24.7	28.10	—	—	—	—	—	—	—
3	15.00	19.00	5.00	2.0	80	Laminated— Laterite with fine fragments of rock between 15 metres & the end of the run 15 m scattered glass felspar pieces.	SS 1/4/28	68.20–73.00	14.00	2.10	2.00	2.84	5.20	10.86	0.32	0.60	0.14	1.24	2.54	0.4	5.0
4	20.00	19.00	5.00	2.0	80	Laminated— Laterite with fine fragments of rock between 15 metres & the end of the run 15 m scattered glass felspar pieces.	SS 15/7/5	61.50–65.00	12.00	3.00	5.20	2.10	4.70	10.00				—	—		
5	25.00	47.00	1.0	1.0	74.1	Laterite— Grey, with fragments of rock between 20 metres & the end of the run 25 m scattered glass felspar pieces.	SS 25/2/1	64.50–69.00	13.00	1.70	5.40	4.20	7.30	19.00	0.12	0.80	0.10	1.02	4.00	0.10	4.0
6	30.00	32.00	0.0	0.0	80.0	Laterite— Grey, with fragments of rock between 25 metres & the end of the run 30 m scattered glass felspar pieces.	SS 30/8/2	67.00–72.00	12.50	1.90	5.60	3.80	6.20	18.50				—	—		
7	35.00	38.00	4.00	2.0	85.7	Laterite— Grey, with fragments of rock between 30 metres & the end of the run 35 m scattered glass felspar pieces.	SS 35/5/3	70.00–74.50	11.80	1.60	5.00	3.50	5.80	17.00	0.10	0.70	0.08	0.90	3.50	0.08	3.5
8	40.00	45.00	2.00	1.0	90	Laterite— Grey, with fragments of rock between 35 metres & the end of the run 40 m scattered glass felspar pieces.	SS 40/1/4	72.00–76.00	11.00	1.50	4.80	3.20	5.50	16.00	0.08	0.60	0.06	0.80	3.00	0.06	3.0
9	45.00	47.00	3.00	1.0	92	Laterite— Grey, with fragments of rock between 40 metres & the end of the run 45 m scattered glass felspar pieces.	SS 45/6/2	74.00–78.00	10.50	1.40	4.50	3.00	5.20	15.00	0.06	0.50	0.05	0.70	2.80	0.05	2.8
10	50.00	48.00	3.00	1.00	92	Laterite— Grey, with fragments of rock between 45 metres & the end of the run 50 m scattered glass felspar pieces.	SS 50/3/5	76.00–80.00	10.00	1.30	4.20	2.80	5.00	14.50	0.05	0.40	0.04	0.60	2.60	0.04	2.5

INSPIRE A21

(A GEOTECHNICAL CONSULTANTS PVT. LTD.)

No. (cm)		Thickness (cm)	Recovery (%)	T.C.R. (%)	Lithology	Stratigraphy	Depth in m.b.g.l. (m)	Chemical analysis
From	To							
24.00	27.00	3.00	1.00	33	Limestone— Fg. breccia and shale fragments in glassy, massive to glassy.			
27.00	30.00	3.00	0.83	27.67	Limestone— Dolomitic Bentonite Section changes to light grey	[illegible]	[illegible]	
30.00	33.00	3.00	1.00	33.33	Limestone— Light grey, hard, compact, very fine crystalline with white calcite veinlets	[illegible]	[illegible]	
33.00	36.00	3.00	1.00	100	Limestone— Grey to light grey, [illegible]	[illegible]	[illegible]	
36.00	39.00	3.00	1.00	33.33	[illegible]	[illegible]	[illegible]	
39.00	42.00	3.00	1.00	33.33	Limestone— Fine grained, hard, compact, grey to light grey, with white calcite veinlets	[illegible]	[illegible]	
42.00	45.00	3.00	1.00	33.33	Limestone— Light grey, hard, compact, fine grained, with white calcite veinlets	[illegible]	[illegible]	
45.00	48.00	3.00	1.00	33.33	Limestone— Light grey, hard, compact, fine grained, with white calcite veinlets	[illegible]	[illegible]	
48.00	51.00	3.00	1.00	33.33	Limestone— Light grey, hard, compact, fine grained, with white calcite veinlets	[illegible]	[illegible]	
51.00	54.00	3.00	1.00	33.33	Limestone— Light grey, hard, compact, fine grained, with white calcite veinlets	[illegible]	[illegible]	
54.00	57.00	3.00	1.00	33.33	Limestone— Light grey, hard, compact, fine grained, with white calcite veinlets	[illegible]	[illegible]	
57.00	60.00	3.00	1.00	33.33	Limestone— Light grey, hard, compact, fine grained, with white calcite veinlets	[illegible]	[illegible]	

Core hole closed at the depth of 60.00 m.

APPROVED

FOR UDAIPUR MINERALS PVT. LTD.

KEY PERSON

For UDAIPUR MINI-TECH PVT. LTD.

Authorised Signatory

Sr. No.	Latitude	Longitude	Elevation (m)	Accuracy (m)	Date of Survey	Location	Grade No.	Reference No.	Tangent Distance													
									T.D.	Dip°	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}	T_{11}	T_{12}
26	9.28	8.91	Plains		[illegible]																	
27	9.32	7.10	-do-		-do- [illegible]																	
28	9.11	6.8	-do-		-do-																	
29	9.02	7.01	1.23	15	[illegible]	18	B/34/4	[illegible]	85.12	3.33	4.12	1.15	1.1	12.11	9.71	11.000	6.44	4.77	9.[illegible]	3.33	[illegible]	
30	10.01	7.12	1.18	11.87	[illegible]	19	B/34/5	[illegible]	49.21	5.62	1.13	3.23	7.12	37.11	–	–	–	–	–	–	–	–
						20	B/34/6	[illegible]	43.26	6.23	6.72	8.12	1.7	38.28	1.16	1.12	6.63	4.44	2.[illegible]	[illegible]	8.[illegible]	
31	11.21	8.02	1.21	11.27	[illegible]	21	B/34/7	[illegible]	44.28	8.42	3.21	8.87	1.81	26.21	–	–	–	–	–	[illegible]	[illegible]	
32	9.18	8.22	1.27	14	[illegible]	22	B/34/8	[illegible]	38.67	3.17	2.11	3.25	1.15	22.23	11.2	1.[illegible]	10.12	1.[illegible]	11.[illegible]	[illegible]	[illegible]	
33	10.12	9.44	1.26	12	[illegible]	23	B/34/9	[illegible]	48.87	6.42	1.[illegible]	4.[illegible]	2.12	34.24		–	–			–	–	
34	11.21	9.13	1.19	16	[illegible]	24	B/34/10	[illegible]	46.12	1.[illegible]	2.[illegible]	1.[illegible]	8.11	23.[illegible]	[illegible]	1.[illegible]	2.[illegible]	2.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
						25	B/34/11	[illegible]	42.21	7.12	3.[illegible]	4.[illegible]	4.[illegible]	41.[illegible]	1.[illegible]	–	–	–	–	–	–	
35	11.27	9.[illegible]	1.[illegible]	11.27	[illegible]	26	B/34/12	[illegible]	44.[illegible]	4.[illegible]	1.[illegible]	2.[illegible]	2.[illegible]	34.[illegible]		–	–			–	–	
36	12.[illegible]	9.[illegible]	1.[illegible]	13	[illegible]	27	B/34/13	[illegible]	46.[illegible]	3.[illegible]	1.[illegible]	1.[illegible]	2.[illegible]	36.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
37	11.[illegible]	9.[illegible]	1.[illegible]	11.27	[illegible]																	
38	12.[illegible]	9.[illegible]	1.[illegible]	13	[illegible]	28	B/34/14	[illegible]	48.[illegible]	4.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	33.[illegible]								
39	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
40	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	29	B/34/15	[illegible]	47.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
41	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
42	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	30	B/34/16	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
43	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
44	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	31	B/34/17	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
45	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
46	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	32	B/34/18	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
47	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
48	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	33	B/34/19	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
49	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
50	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	34	B/34/20	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
51	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
52	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	35	B/34/21	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
53	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
54	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	36	B/34/22	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
55	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
56	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	37	B/34/23	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
57	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
58	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	38	B/34/24	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
59	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
60	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	39	B/34/25	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
61	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
62	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	40	B/34/26	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
63	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
64	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	41	B/34/27	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
65	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
66	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	42	B/34/28	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
67	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
68	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	43	B/34/29	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
69	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
70	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	44	B/34/30	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
71	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
72	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	45	B/34/31	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
73	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
74	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	46	B/34/32	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
75	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
76	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	47	B/34/33	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
77	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
78	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	48	B/34/34	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
79	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
80	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	49	B/34/35	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
81	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
82	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	50	B/34/36	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
83	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
84	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	51	B/34/37	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
85	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
86	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	52	B/34/38	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
87	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
88	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	53	B/34/39	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
89	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
90	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	54	B/34/40	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
91	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
92	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	55	B/34/41	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
93	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
94	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	56	B/34/42	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
95	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
96	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	57	B/34/43	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
97	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
98	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	58	B/34/44	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
99	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
100	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	59	B/34/45	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
101	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
102	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	60	B/34/46	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
103	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
104	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	61	B/34/47	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
105	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
106	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	62	B/34/48	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
107	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
108	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	63	B/34/49	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
109	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
110	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	64	B/34/50	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
111	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
112	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	65	B/34/51	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
113	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
114	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	66	B/34/52	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
115	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
116	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	67	B/34/53	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
117	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
118	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	68	B/34/54	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
119	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
120	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	69	B/34/55	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
121	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
122	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	70	B/34/56	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
123	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
124	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	71	B/34/57	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
125	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
126	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	72	B/34/58	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
127	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
128	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	73	B/34/59	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
129	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
130	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	74	B/34/60	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
131	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
132	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	75	B/34/61	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
133	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
134	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	76	B/34/62	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
135	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
136	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	77	B/34/63	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
137	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
138	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	78	B/34/64	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
139	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
140	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	79	B/34/65	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
141	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
142	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	80	B/34/66	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
143	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
144	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	81	B/34/67	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
145	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
146	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	82	B/34/68	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								
147	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
148	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	83	B/34/69	[illegible]	48.[illegible]	5.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]	[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	2.[illegible]	1.[illegible]	1.[illegible]	
149	11.[illegible]	9.[illegible]	1.[illegible]	11.[illegible]	[illegible]																	
150	11.[illegible]	9.[illegible]	1.[illegible]	12	[illegible]	84	B/34/70	[illegible]	48.[illegible]	6.[illegible]	1.[illegible]	1.[illegible]	1.[illegible]	34.[illegible]								

FOR VIDARBHA MINERALS PVT. LTD.

AUTHORISED PERSON

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Depth (m)		Thickness (m)	Recovery (m)	% of recovery	Lithology	Sample No.	Depth	Chemical Analysis												
From	To							CaO	MgO	Fe_2O_3	Al_2O_3	SiO_2	L.O.I.	TiO_2	P_2O_5	[illegible]	[illegible]	[illegible]	Na_2O	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	–	–	–	–	–	–	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Same as previous one but [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					–	–	
						[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]															
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]															
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]															
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]															

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For UDAIPUR MIN-TECH PVT. LTD.
(AQP/...) BY
KEY PERSON

APPROVE

For UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/254/2005-B)

KEY PERSON

APPROVED

APPROVED

KEY PERSON

[illegible]

APPROVED

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For UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDR/354/2009-[illegible])

KEY PERSON

Depth (m) From	Depth (m) To	Thickness (m)	Recovery (m)	% of Recovery	Lithology	Sample No.	[illegible]	CaO	MgO	Fe_2O_3	Al_2O_3	SiO_2	L.O.I.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]							
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	-	-	-	-	-	-
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]														
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]															
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]															

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For UDAIPUR MIN-TECH PVT. LTD.

KEY PERSON


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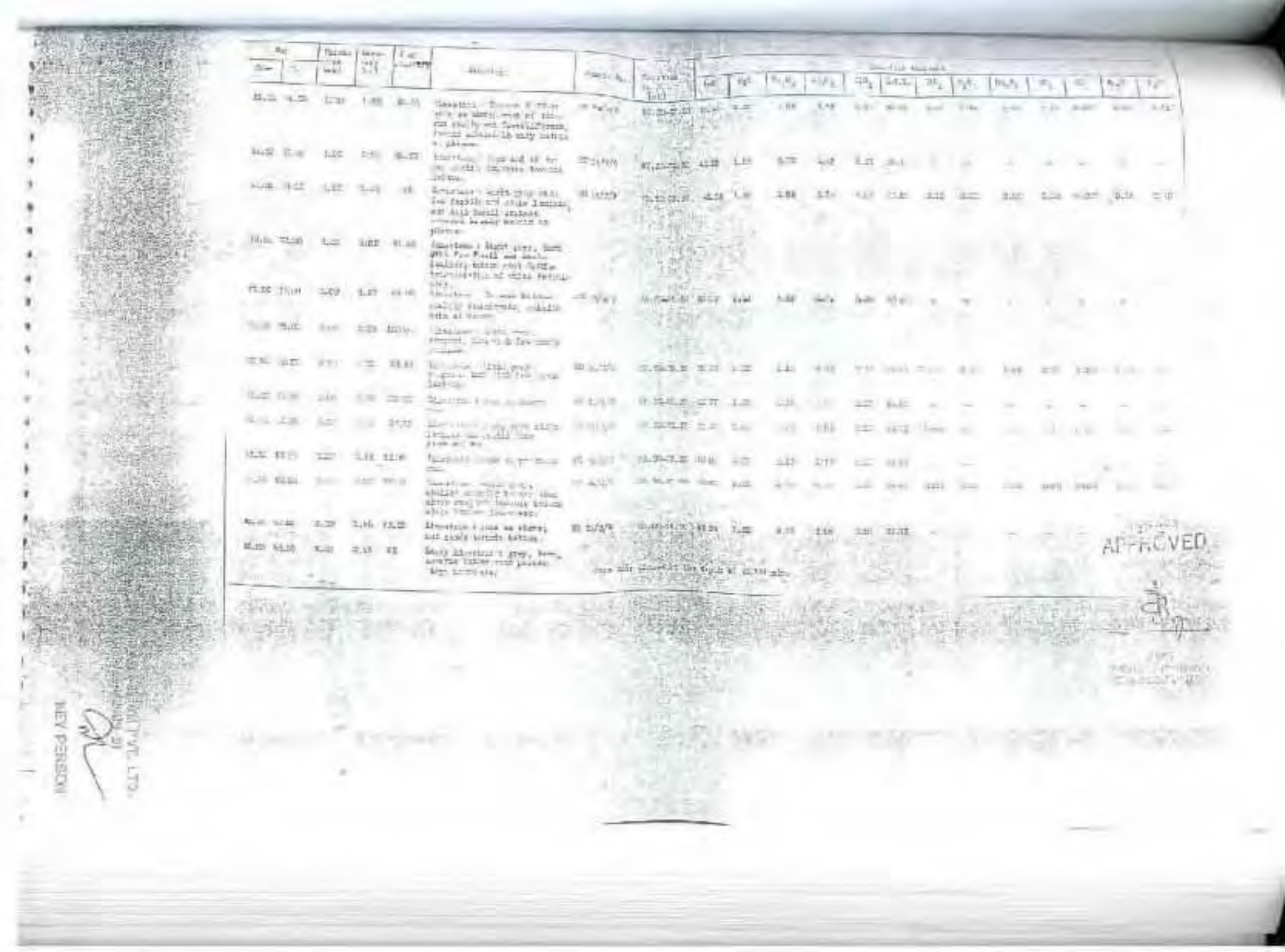
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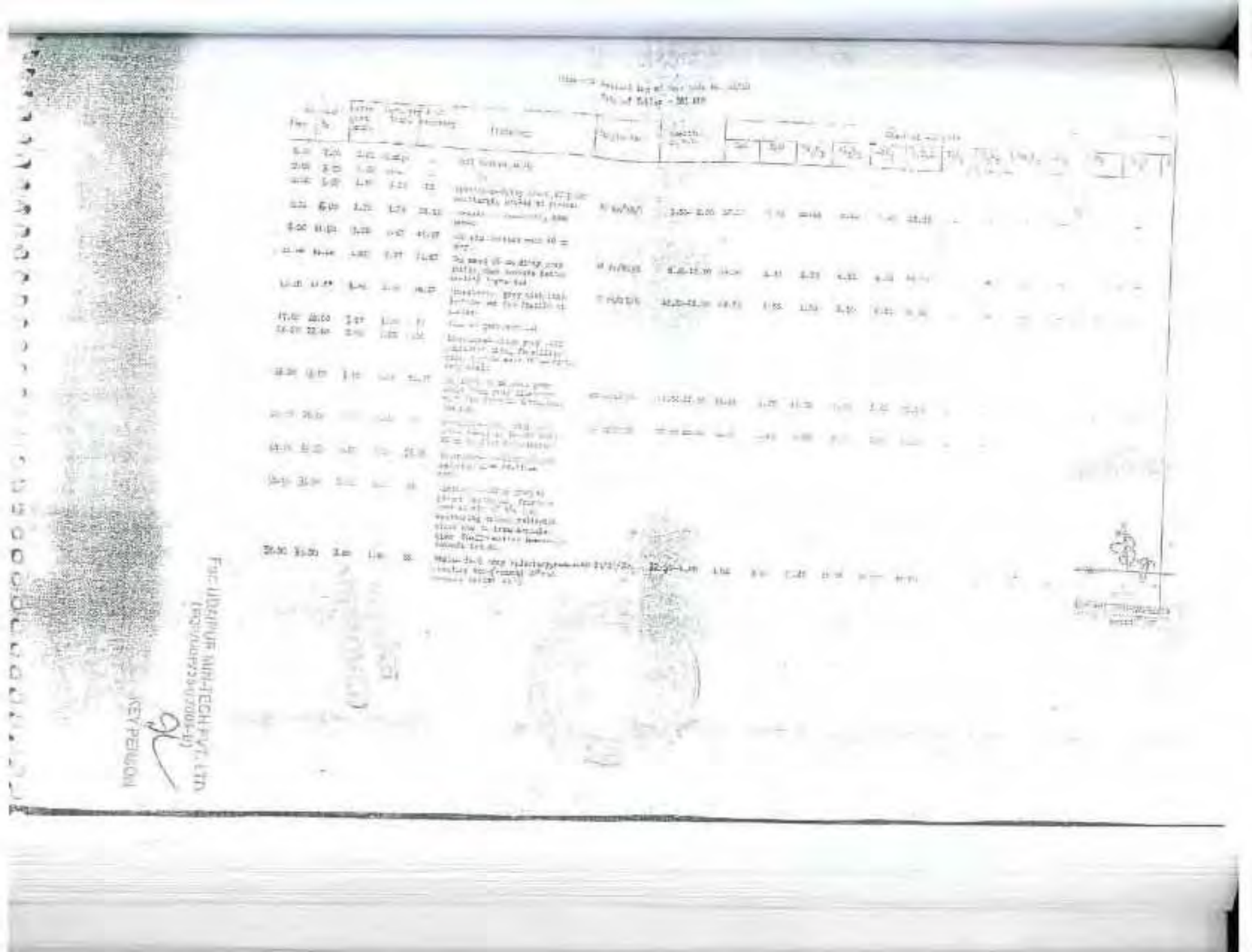
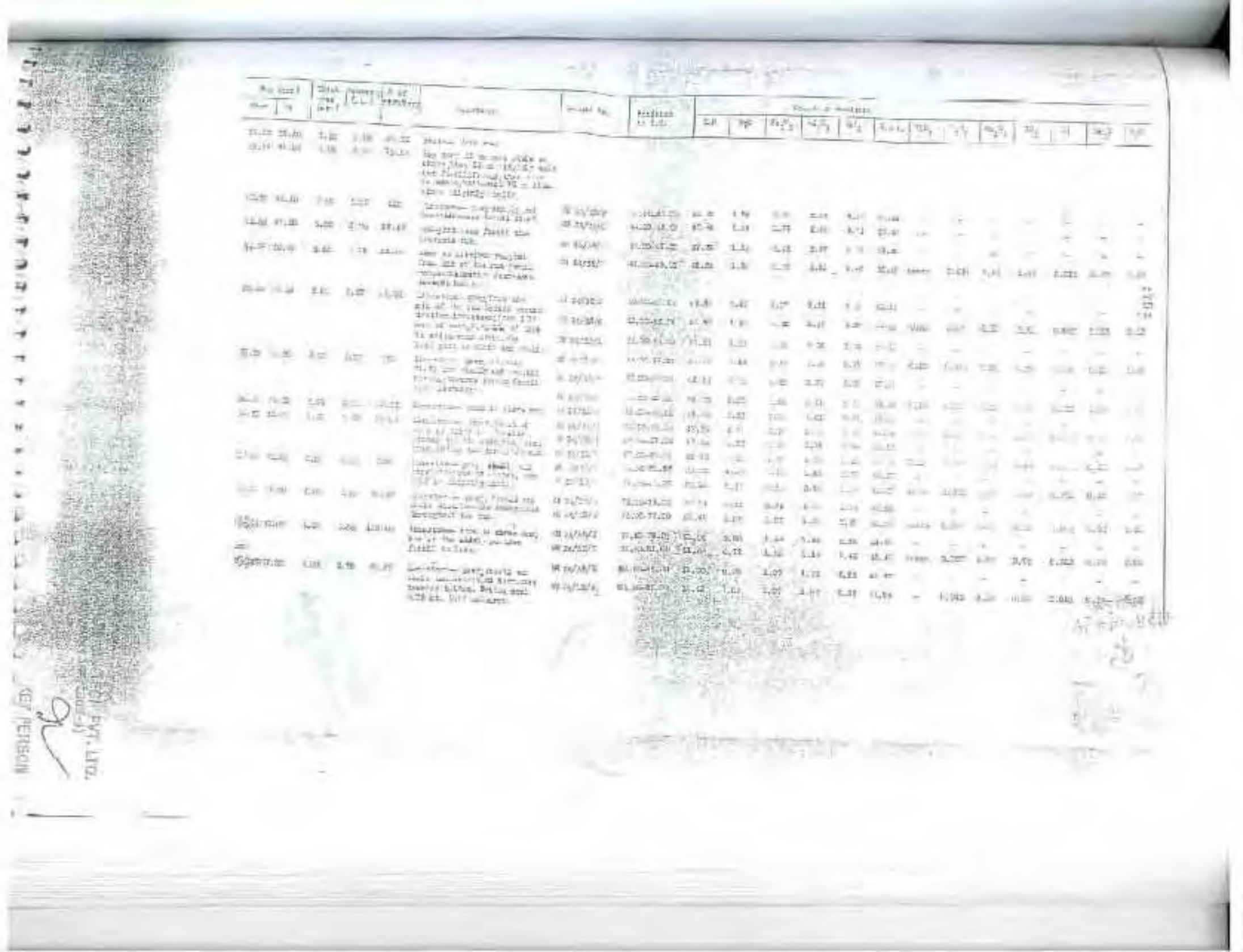
KEY PERSON





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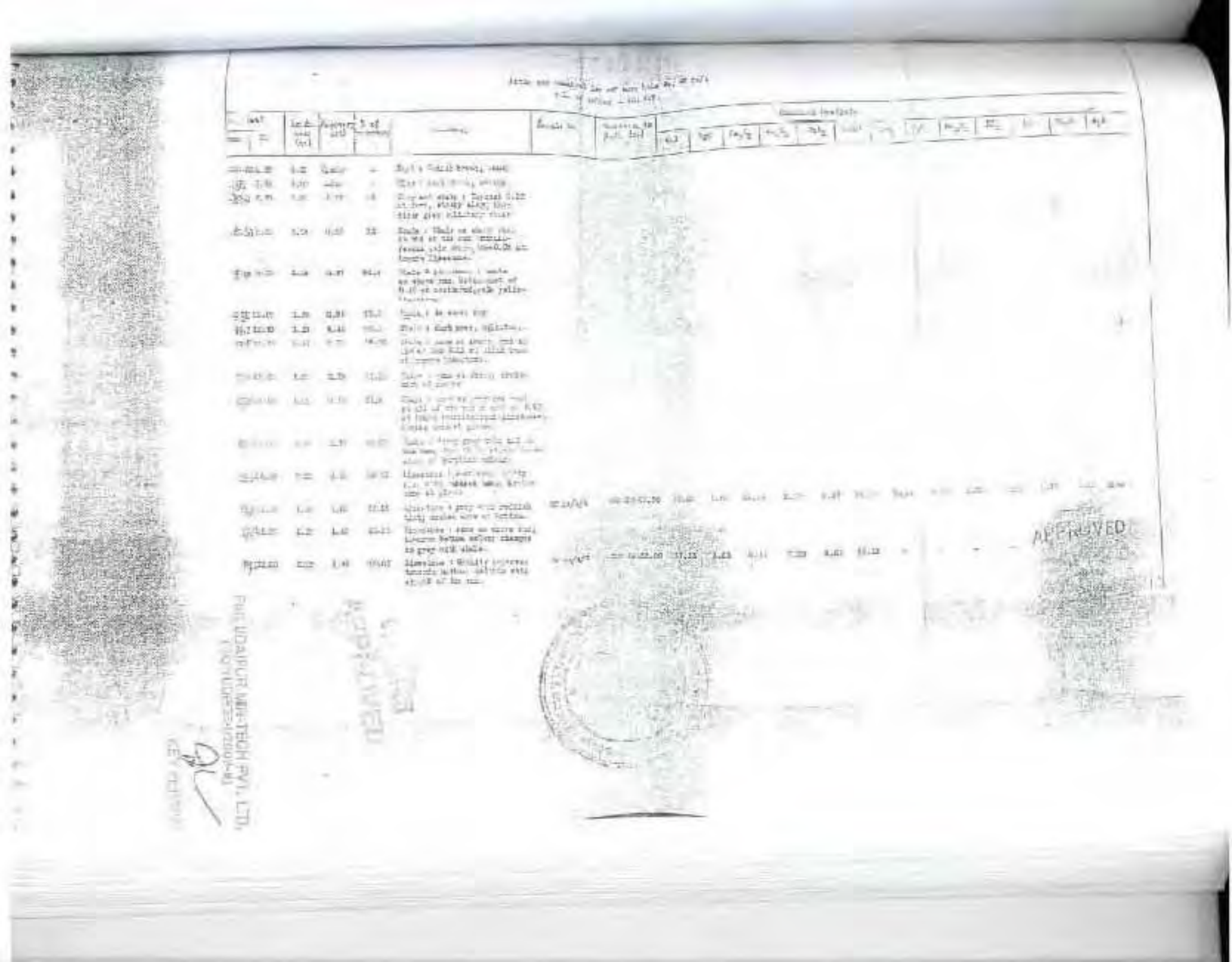
For: UDAIPUR MIN-TECH PVT. LTD.
(ROP/UDP/354/2009-B)

KEY PERSON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From	To	Thickness in m	Core recovery	Recovery %	Lithology	Sample No.	Position in m	Chemical Analysis											
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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For: UDAIPUR MIN-TECH PVT. LTD.
[RQP/UDP/354/2009-8]

KEY PERSON

For UDAIPUR MIN-TECH PVT. LTD.
(RQPVUDH/3547/2009-R)

KEY PERSON

Depth (m)		Recovery (%)	RQD (%)	Fracture Index (per m)	Lithology	Sample No.	Permeability Test Results	Chemical analysis											
From	To							pH	SO_4	Fe_2O_3	Al_2O_3	CaO	MgO	SiO_2	Na_2O	K_2O	TiO_2	Mn_3O_4	P_2O_5
0.00	2.00	1.00	Clayey		Fill - consists, rocks and clayey														
2.00	5.00	3.00	Poor	-	Intercalation of clayey, silty and fine grained														
5.00	7.00	2.00	0.40	10.00	Core recovered 2.00 m. of white [illegible] of hard compact nature. The [illegible] slightly [illegible] and [illegible] fresh [illegible]														
7.00	15.00	8.00	0.60	12.50	Shale: dark to brown, hard, at the end of the run a band of silty and [illegible] [illegible] recovered 8.00 m. The [illegible]														
15.00	17.00	2.00	1.00	50.00	Dark [illegible] Limestone [illegible] at 16.00 m. dip [illegible] [illegible] [illegible]	12 21/7/12	15.00-16.00	12.30	1.00	12.40	1.00	1.00	20.00	-	-	-			
17.00	19.00	2.00	1.00	50.00	[illegible]														
19.00	21.00	2.00	1.00	50.00	[illegible] [illegible] [illegible]														
21.00	23.00	2.00	0.50	25.00	Limestone, grey, hard, [illegible] [illegible]	13 21/7/12	21.00-22.00	20.00	1.00	8.00	5.00	7.00	1.00						
23.00	25.00	2.00	1.00	50.00	Limestone, grey, hard, [illegible] highly fractured, [illegible]														
25.00	28.00	3.00	1.00	33.00	Limestone, grey, [illegible] [illegible]	14 21/7/12	27.00-28.00	17.00	1.00	4.00	5.00	7.00	16.00	-	-	-			

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FOR UDAIPUR MINTECH PVT. LTD.

(AUTHORISED SIGNATORY)

AUTHORISED PERSON

For UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/154/2009-B)

KEY PERSON

स्वीकृत
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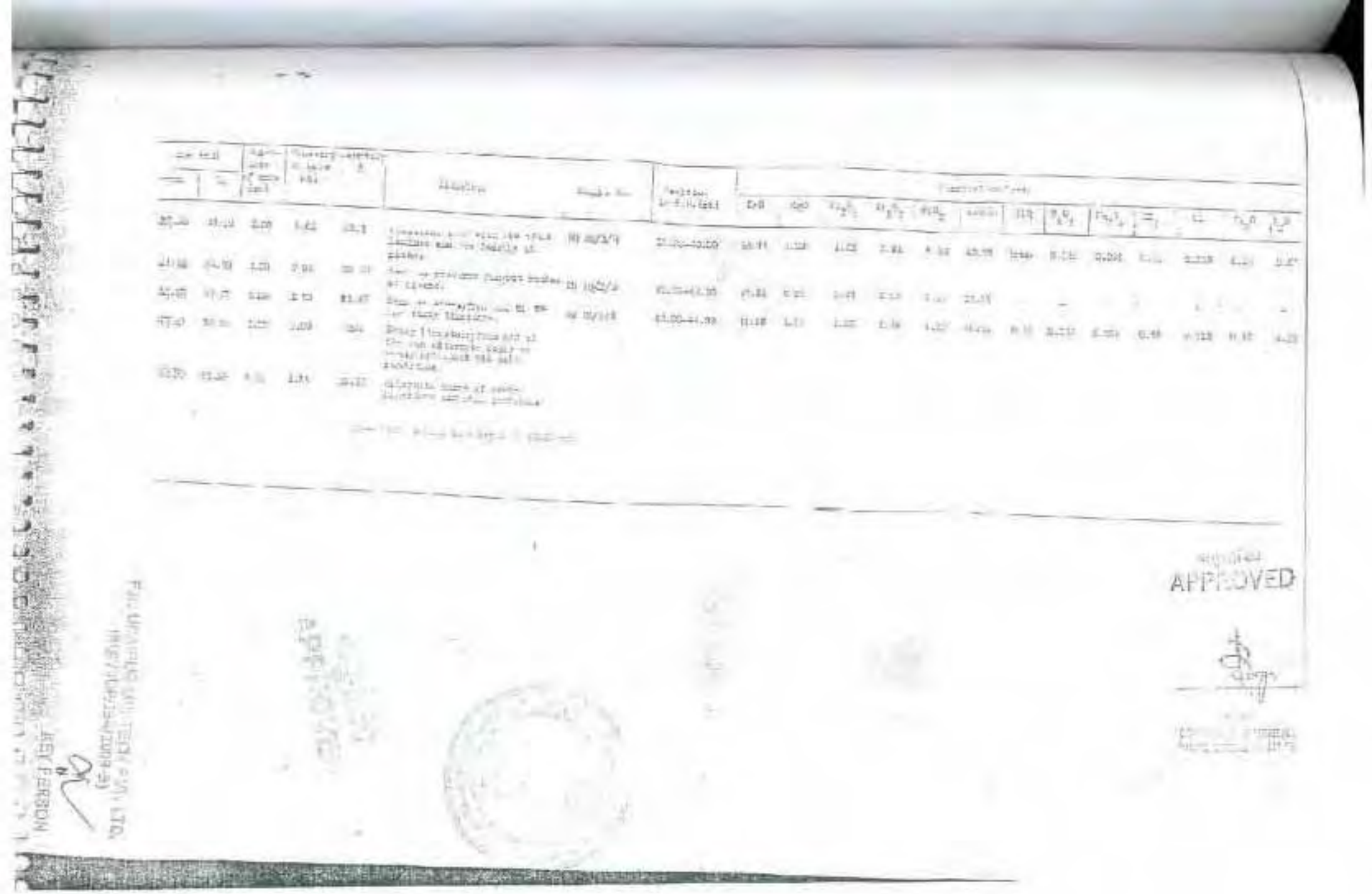
For UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/354/2007-B)

KEY PERSON



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Depth From (m)	Depth To (m)	Core size (m)	Recovery (m)	Recovery (%)	Lithology	Sample No.	Sampled depth (m)	Analytical results (%)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : [illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : [illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : [illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : [illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : [illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : [illegible]	[illegible]	[illegible]	
						[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : [illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : [illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : [illegible]			

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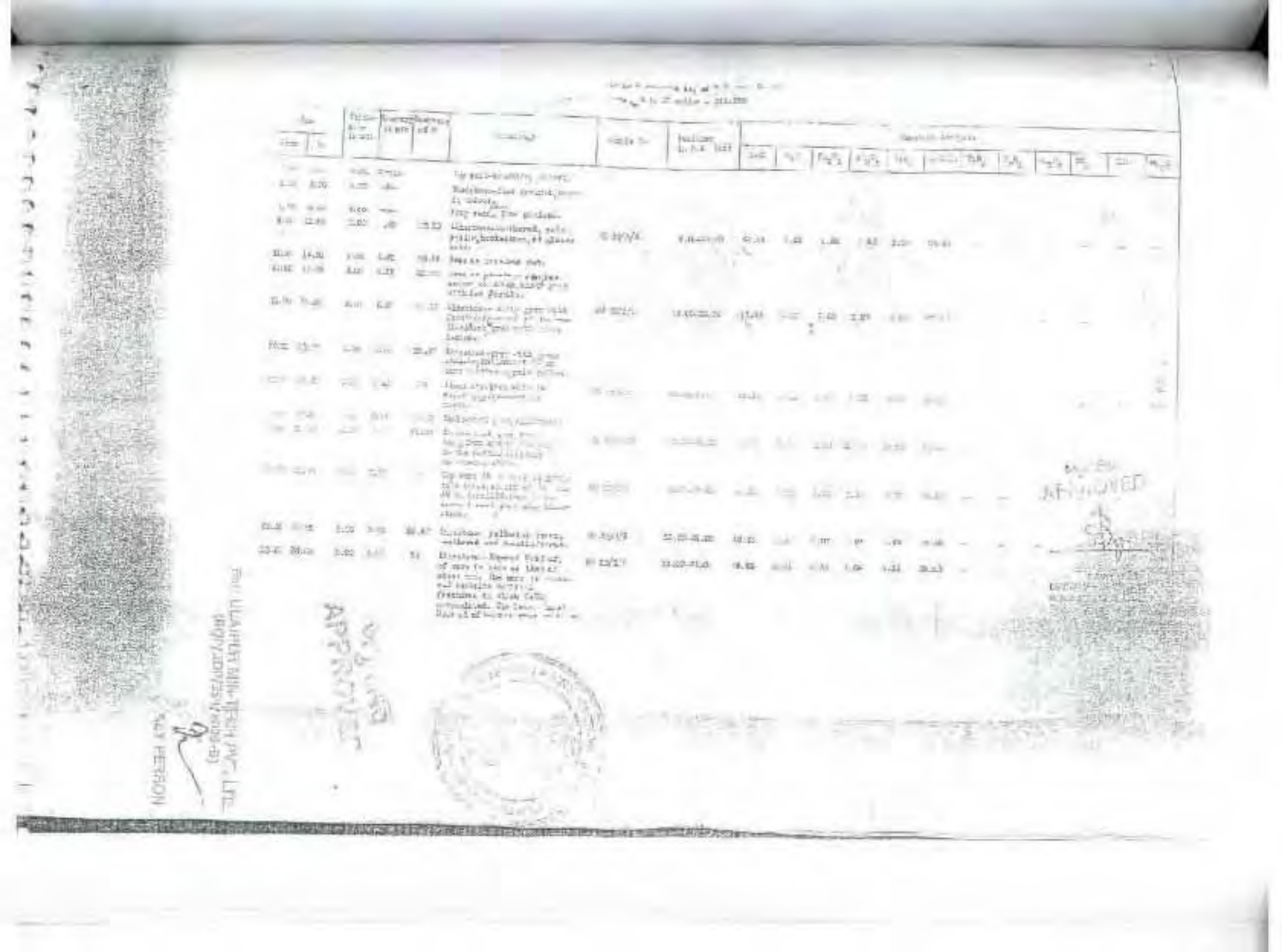
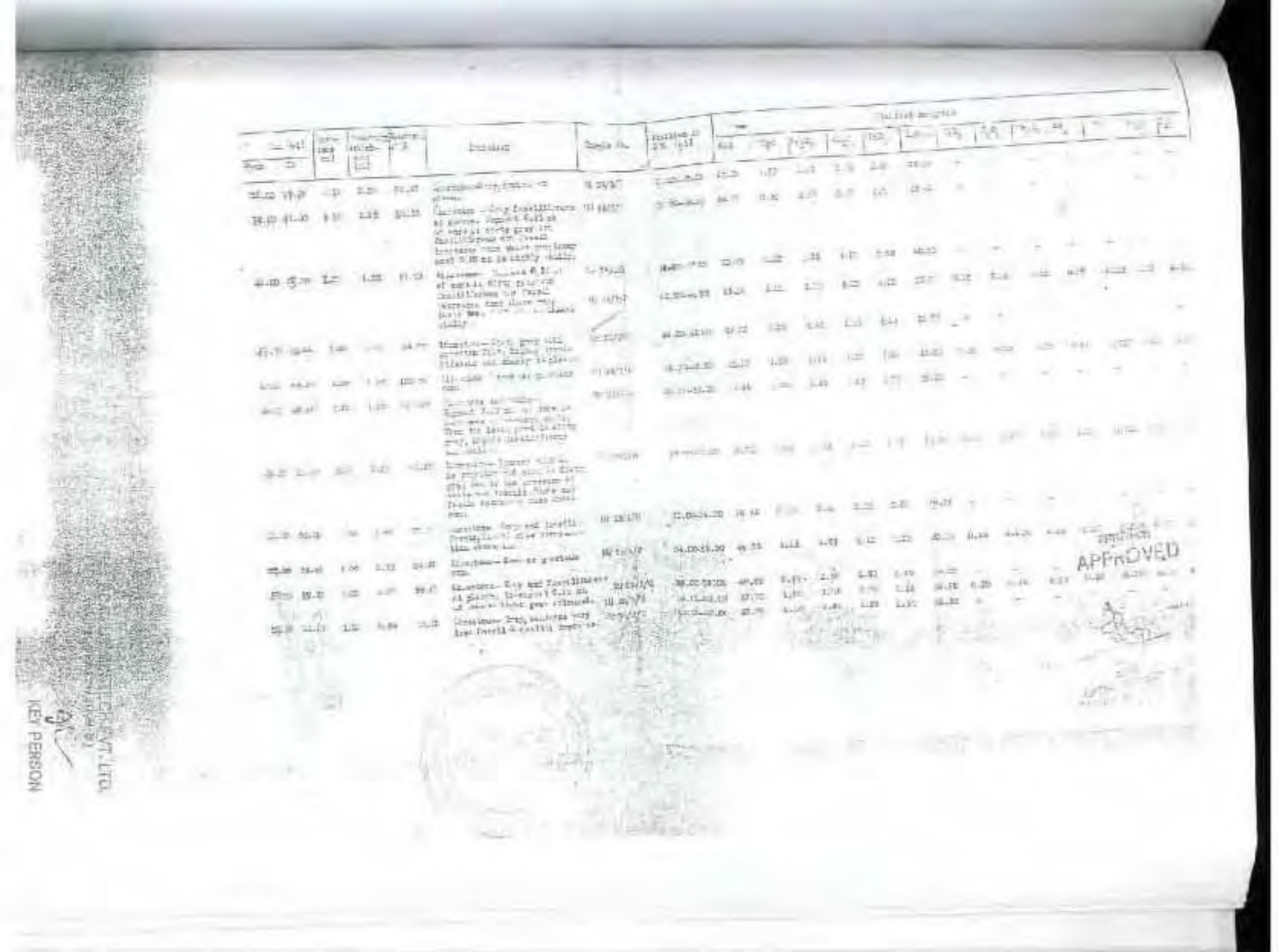
For [illegible] PVT. LTD.

KEY PERSON

For UDAIPUR MIN-TECH PVT. LTD.

KEY PERSON

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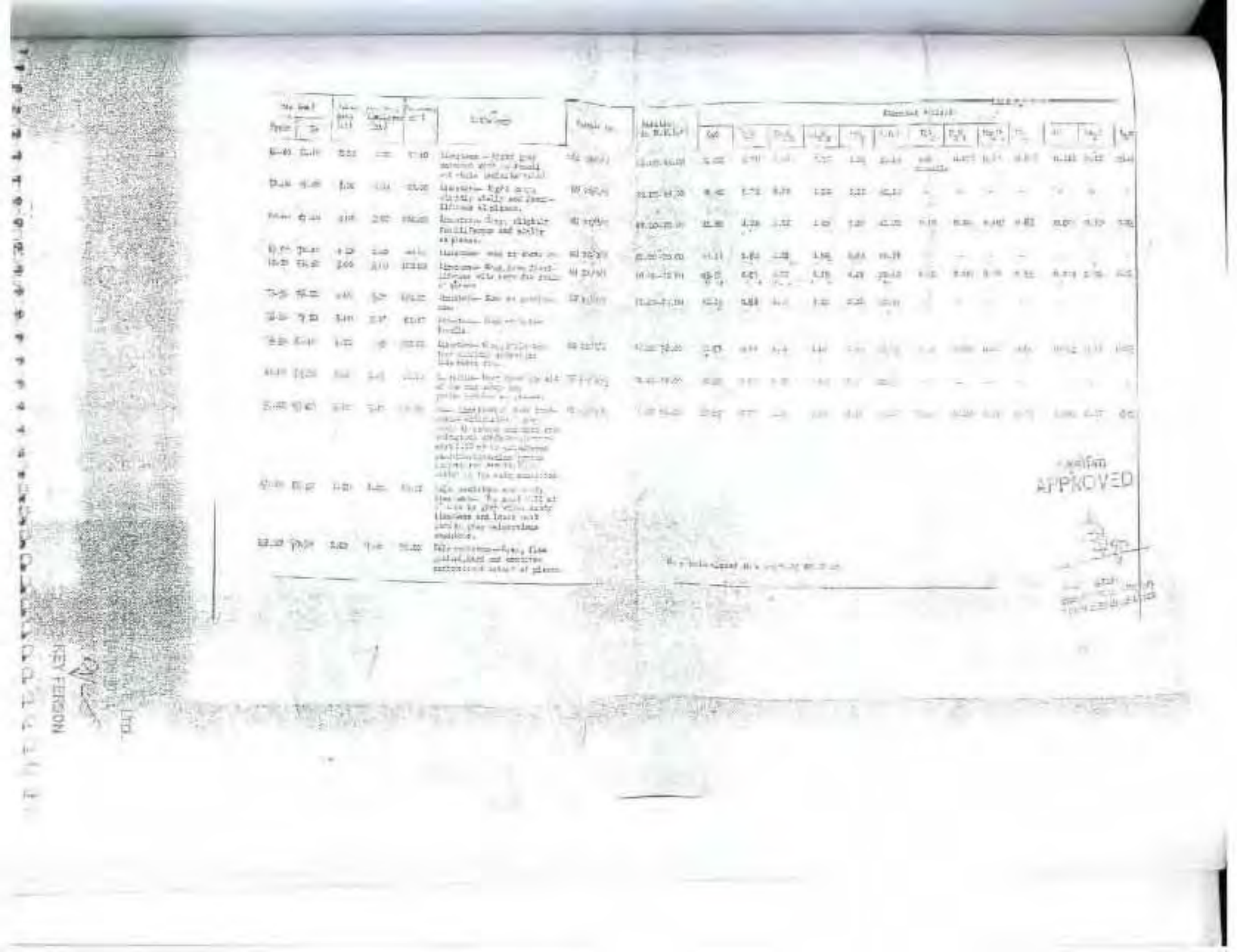
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For, UDAIPUR MIN-TECH PVT. LTD.
(RQP/JDP/331/2006-B)

KEY PERSON

[illegible]

Limestone ...

Hole closed at the depth of [illegible]

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For UDAIPUR MIN-TECH PVT. LTD
(HQR/UDP/359/2009-B)

KEY PERSON

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For UDAIPUR MULTI-DEX PVT. LTD.

AUTHORISED SIGNATORY

KEY PERSON

Depth (m)		Core length (m)	Recovery of core (m)	Recovery %	Lithology	Sample No.	Sample interval (m)	Chemical Analysis												
From	To							CaO	MgO	Fe_2O_3	Al_2O_3	SiO_2	LOI	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : Grey, [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	—	—	—	—	—	—
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : Grey, [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Trace	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : Grey, [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Trace	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : Grey, [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	—	—	—	—	—	—
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : Grey, [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : Grey, [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : Grey, [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : Grey, [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	—	—	—	—	—	—
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone : Grey, [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Trace	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone & [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

(Hole was closed at the depth of [illegible])

अनुमोदित
APPROVED

For UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/354/2009-II)
[illegible]

[illegible]

अनुमोदित
APPROVED

For UDAIPUR MIN-TECH PVT. LTD.
(RCP/UDP/294/2005-0)

Age (Ma)		Duration (Ma)		Event	Description	Sample No.	Position (m.b.s.l.)	Core recovery (%)												
From	To	From	To																	
65.0	64.0	1.0	2.0	64.5	Limestone : white to cream, fine grained, massive, with abundant planktonic foraminifera.															
64.5	63.0	1.5	3.5	63.5	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
63.0	61.5	3.5	5.0	62.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
61.5	60.0	5.0	6.5	60.5	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
60.0	58.5	6.5	8.0	59.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
58.5	57.0	8.0	9.5	58.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
57.0	55.5	9.5	11.0	56.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
55.5	54.0	11.0	12.5	55.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
54.0	52.5	12.5	14.0	53.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
52.5	51.0	14.0	15.5	52.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
51.0	49.5	15.5	17.0	50.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
49.5	48.0	17.0	18.5	49.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
48.0	46.5	18.5	20.0	47.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
46.5	45.0	20.0	21.5	46.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
45.0	43.5	21.5	23.0	44.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
43.5	42.0	23.0	24.5	43.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
42.0	40.5	24.5	26.0	41.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
40.5	39.0	26.0	27.5	40.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
39.0	37.5	27.5	29.0	38.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
37.5	36.0	29.0	30.5	37.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
36.0	34.5	30.5	32.0	35.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
34.5	33.0	32.0	33.5	34.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
33.0	31.5	33.5	35.0	32.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
31.5	30.0	35.0	36.5	31.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
30.0	28.5	36.5	38.0	29.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
28.5	27.0	38.0	39.5	28.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
27.0	25.5	39.5	41.0	26.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
25.5	24.0	41.0	42.5	25.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
24.0	22.5	42.5	44.0	23.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
22.5	21.0	44.0	45.5	22.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
21.0	19.5	45.5	47.0	20.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
19.5	18.0	47.0	48.5	19.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
18.0	16.5	48.5	50.0	17.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
16.5	15.0	50.0	51.5	16.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
15.0	13.5	51.5	53.0	14.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
13.5	12.0	53.0	54.5	13.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
12.0	10.5	54.5	56.0	11.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
10.5	9.0	56.0	57.5	10.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
9.0	7.5	57.5	59.0	8.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
7.5	6.0	59.0	60.5	7.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
6.0	4.5	60.5	62.0	5.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
4.5	3.0	62.0	63.5	4.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															
3.0	1.5	63.5	65.0	2.5	Limestone : Marl, light grey, with abundant planktonic foraminifera; thin bioturbated interbeds of dark grey clay.															
1.5	0.0	65.0	66.5	1.0	Limestone : white, chalky, with abundant planktonic foraminifera and nannofossils.															

FOR HINDUSTAN WAR TECH PVT. LTD.

KEY PERSON

Run (m) From	To	Total Core (m)	Recovery in core	Recovery %	Lithology	Sample No.	Interval (m)	Chemical Analysis
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Same as previous run	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Same as previous run	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Same as above run	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Same as previous run, [illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] grey, [illegible] fine grained [illegible] limestone with very little shale.			

(Bore hole closed at the depth of [illegible] m)

APPROVED

For [illegible] PVT. LTD.
([illegible])
KEY PERSON

APPROVED

M/S UDAIPUR MINI-TECH PVT. LTD.

Depth (m) From - To	[illegible]	[illegible]	[illegible]	Description	[illegible]	[illegible]	Chemical analysis
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			

(Bore hole closed at a depth of [illegible] m.)

APPROVED

For UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/[illegible]/2009-[illegible])

KEY PERSON.

Logs and sections of [illegible]
R.L. at collar – [illegible]

Depth (m)		Thick-ness (m)	Recovery % of the run		Lithology	Sample No.	Depth in (m)	Chemical analysis											
From	To							CaO	MgO	Fe_2O_3	Al_2O_3	SiO_2	L.O.I.	SO_3	TiO_2	Na_2O+K_2O	MR	IC	Na_2O
0.00	3.00	3.00	Nil		Soil- Reddish brown, clayey, sandy.														
3.00	6.00	3.00	4.50	87.0	Limestone- Dark grey, earthy, [illegible]	GL-20/2a/1	3.00-6.00	47.12	4.00	2.36	5.44	1.57	38.51			—		—	
6.00	9.00	3.00	2.85	95.0	Limestone- the top part of (3.15m) core is broken with pebbles like appearance. Rest 0.40 m of core were with white grey coloured pellets like mixed, other part is same as that of above one.	GL-20/2a/2	6.00-7.40	49.60	1.16	1.00	1.21	1.77	41.03	Trace	0.08	0.40	1.21	0.016	0.16
9.00	12.00	3.00	3.0	100.0	Limestone- Grey, chalky at places, [illegible]	GL-20/2a/3	9.00-9.90	51.71	1.12	1.00	0.40	0.40	44.37	—	—	—	—	—	—
12.00	15.00	3.00	3.00	100.0	Limestone- grey, chalk [illegible]	GL-20/2a/4	12.00-13.50	52.43	0.47	1.12	0.80	1.20	44.00	0.08	0.07	0.32	1.21	0.008	0.16
15.00	18.00	3.00	2.70	90.0	Limestone as above cor.														
18.00	21.00	3.00	3.00	100.0	Limestone- Grey, chalky at places, [illegible]	GL-20/2a/5	18.00-19.50	52.00	0.56	0.40	0.80	1.00	44.24	—	—	—	—	—	—
						GL-20/2a/6	19.50-21.00	51.84	0.56	0.40	0.80	1.00	44.24	0.08	0.05	0.24	0.40	0.008	0.08
21.00	24.00	3.00	3.00	100.0	Limestone- Grey, chalky at places, [illegible]	GL-20/2a/7	21.00-22.50	52.43	0.47	1.12	0.80	1.20	44.00	0.08	0.07	0.32	1.21	0.008	0.16
24.00	27.00	3.00	3.00	100.0	Limestone- Grey, chalky at places, [illegible]	GL-20/2a/8	24.00-25.50	52.43	0.47	1.12	0.80	1.20	44.00	0.08	0.07	0.32	1.21	0.008	0.16
27.00	30.00	3.00	3.00	100.0	Limestone- Grey, chalky at places, [illegible]	GL-20/2a/9	27.00-28.50	52.43	0.47	1.12	0.80	1.20	44.00	0.08	0.07	0.32	1.21	0.008	0.16
30.00	33.00	3.00	3.00	100.0	Limestone- Grey, chalky at places, [illegible]	GL-20/2a/10	30.00-31.50	52.43	0.47	1.12	0.80	1.20	44.00	0.08	0.07	0.32	1.21	0.008	0.16
33.00	36.00	3.00	3.00	100.0	Limestone- Grey, chalky at places, [illegible]	GL-20/2a/11	33.00-34.50	52.43	0.47	1.12	0.80	1.20	44.00	0.08	0.07	0.32	1.21	0.008	0.16
36.00	39.00	3.00	3.00	100.0	Limestone- Grey, chalky at places, [illegible]	GL-20/2a/12	36.00-37.50	52.43	0.47	1.12	0.80	1.20	44.00	0.08	0.07	0.32	1.21	0.008	0.16
39.00	42.00	3.00	3.00	100.0	Limestone- Grey, chalky at places, [illegible]	GL-20/2a/13	39.00-40.50	52.43	0.47	1.12	0.80	1.20	44.00	0.08	0.07	0.32	1.21	0.008	0.16
42.00	45.00	3.00	3.00	100.0	Limestone- Grey, chalky at places, [illegible]	GL-20/2a/14	42.00-43.50	52.43	0.47	1.12	0.80	1.20	44.00	0.08	0.07	0.32	1.21	0.008	0.16

For UDAIPUR MINI-TECH PVT. LTD.
(AUTHORISED SIGNATORY)

From	To	[illegible]	[illegible]	[illegible]	Description	Sample No.	[illegible]	Chemical Analysis												
								CaO	MgO	Fe_2O_3	Al_2O_3	SiO_2	L.O.I.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Bore hole closed at a depth of 67.00 m.

For UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/354/2005-8)

KEY PERSON

[illegible]

Depth From (m)	To (m)	Run (m)	Recovery (m)	Recovery %	Lithology	Sample No.	[illegible]	CaO	MgO	Fe_2O_3	Al_2O_3	SiO_2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.00	3.00	3.00	[illegible]	—	Soil [illegible]															
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]															
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]														
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]															
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]															
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]														
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]															
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]														
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]														
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]															
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]														
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]															

APPROVED

For UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/151/2009-B)
KEY PERSON

APPROVED

For [illegible]GAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/351/2014-B)

KEY PERSON

Depth (m)		Core length (m)	Recovery (m)	% of recovery	Lithology	Sample No.	Position in Bore hole (m)	Chemical analysis												
From	To							CaO	SiO_2	Al_2O_3	Fe_2O_3	MgO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	100.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]															
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For UDAIPUR MINTECH PVT. LTD.
(RQP/UDP/35H/2009-E).

KEY PERSON

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	—	Soil—Brownish, loose;		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone—[illegible]		
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone—[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone— same as above	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone and shale— [illegible]		

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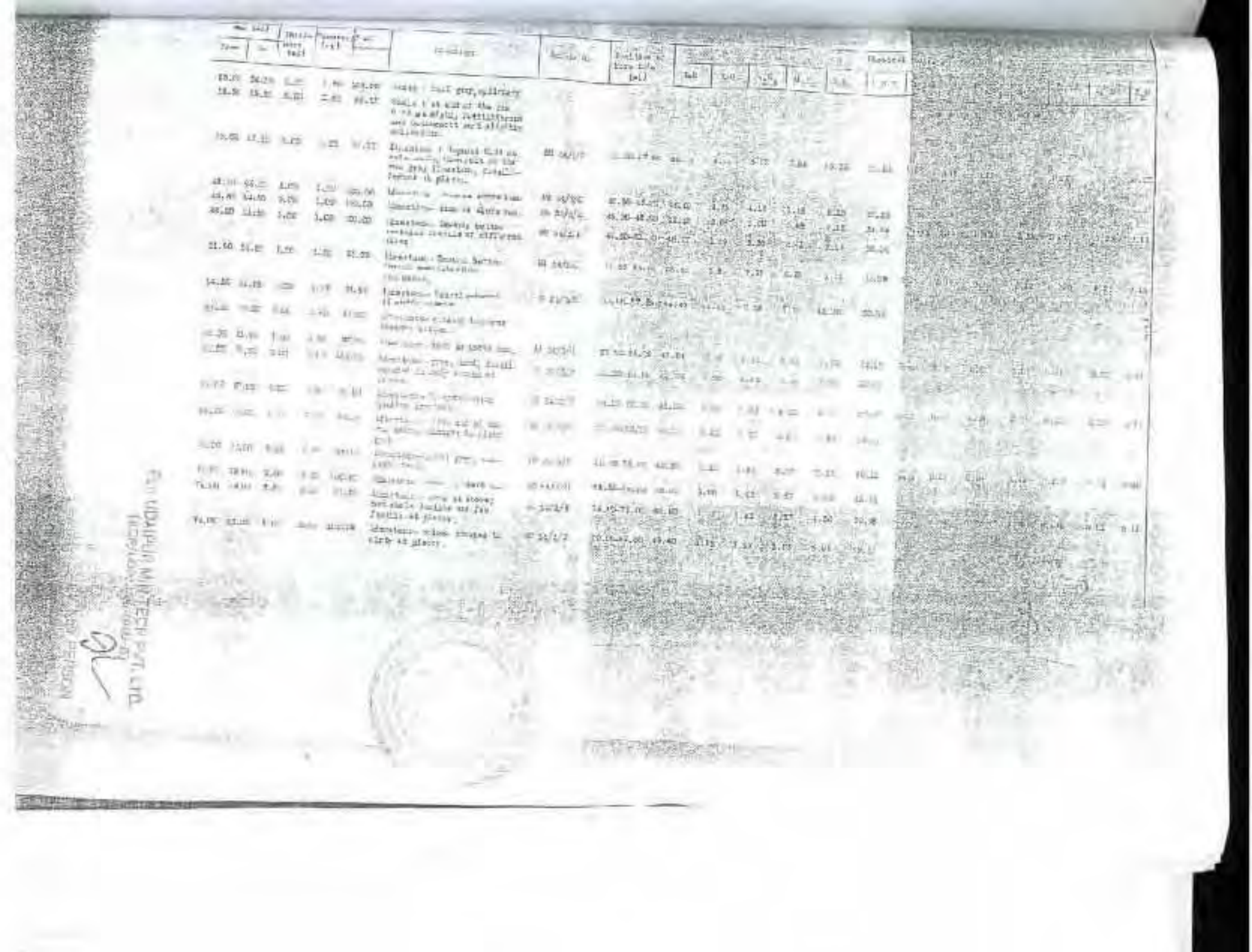
For: UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/[illegible]/2006-[illegible])



From	To	Run (m)	Recovery (m)	% of recovery	Lithology	Sample No.	[illegible] (m)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	85.20	3.00	3.00	100.00	Limestone—light grey, compact, hard, white lineation at places.	[illegible] 28/3/[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	88.00	[illegible]	[illegible]	[illegible]	Limestone—[illegible] laminated towards bottom.	[illegible]	[illegible]	47.40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone—Towards bottom slightly sandy.									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Limestone—same as above run	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	100.00	Limestone—grey, hard and compact shale laminae and few fossils at places, towards bottom sandy.									
[illegible]	97.80	3.00	[illegible]	[illegible]	Sandy limestone—Towards middle, [illegible]									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Alternate bands of sandy limestone and shale, sandstone									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Alternate bands of [illegible] sandstone, and sandy limestone [illegible] sandstone.									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] sandstone—grey, hard, fine grained.									
[illegible]	[illegible]	[illegible]	[illegible]	100.00	[illegible]									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] sandstone—[illegible] at places.									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] sandstone—[illegible]									
[illegible]	[illegible]	3.00	[illegible]	[illegible]	[illegible] sandstone [illegible]									
[illegible]	120.00	[illegible]	[illegible]	[illegible]	Quartzitic sandstone—white, [illegible] fine grained. Contact [illegible]									

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For UDAIPUR MIN-TECH PVT. LTD.
[illegible]/154/2009-91

KEY PERSON

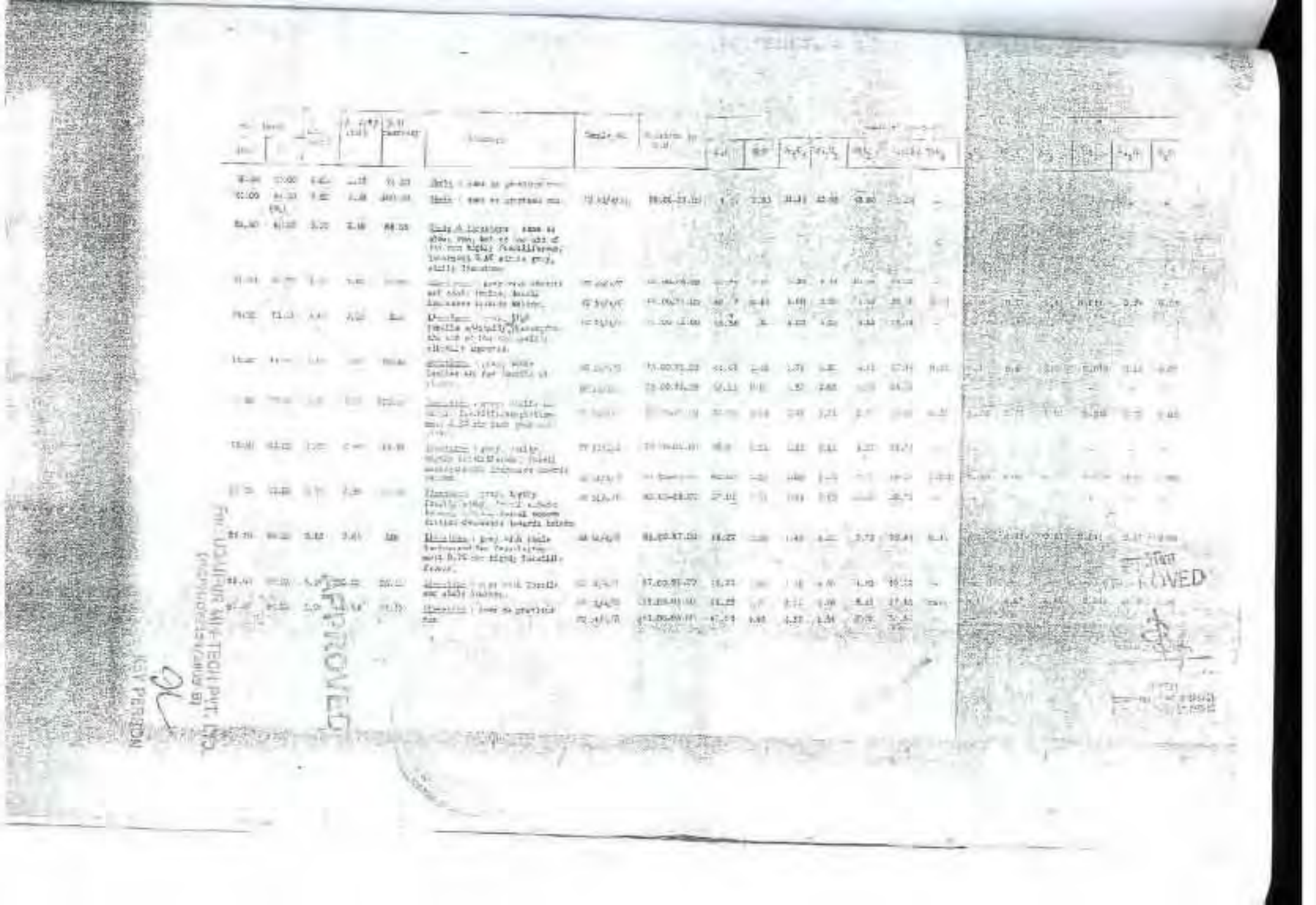
FOR UDAIPUR MID-TECH PVT. LTD.

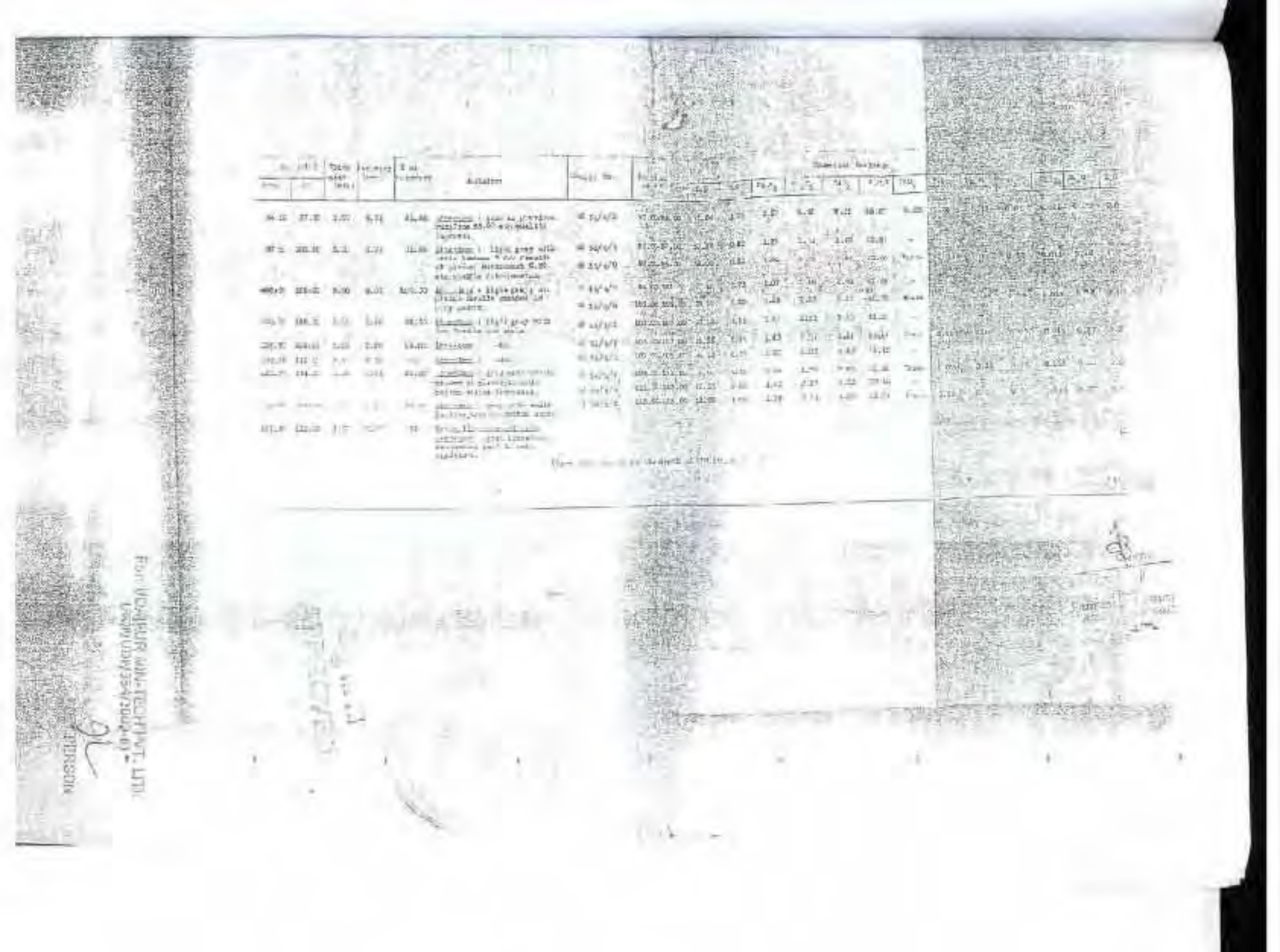
AUTH. SIGNATORY

[illegible]

For [illegible] MIN-TECH PVT. LTD.

KEY PERSON





Annexure No.- 15 B

[illegible]

RAHUL ENGINEERS LABORATORY

(A Govt. of Rajasthan Regd. Unit)

ISO/IEC 17025:2005 & ISO 9001:2000 Certified Laboratory

ISO 9001:2000

NABL

Approved by Govt. of INDIA (DST)

FACILITIES: Testing of Cement, Aggregate, Bricks, Concrete, Timber, Bitumen, Soil & Water

[illegible] Nagar, Bhilwara By-pass Road, Udaipur (Raj.) PIN 313 001, INDIA. Tel : +91-294-2440317, 2440[illegible], [illegible] +91 98290-42349, Telefax : +91 294-244031[illegible], E-mail: [illegible], www.rahulengineers.com

Date :- 06.08.11

Report No.- 11259-5

TEST REPORT

1.	Name of Client	:	Cacom Cement India Limited, Distt.-Dima Hasao (N.C. Hills) Assam
2.	Sample Submitted By	:	Udaipur Mintech
3.	Reference No.	:	Nil, Dated – 22.07.11
4.	Date of Sample Receipt	:	22.07.11
5.	Lab. Job No.	:	11259-5
6.	Name of Work	:	Chemical analysis of Limestone
7.	Material	:	Limestone
8.	Location	:	---

Test Results:- IS : 1760

Lab Job No.	Sample Identification	LOI (%)	CaO (%)	MgO (%)	Al_2O_3 (%)	Fe_2O_3 (%)	SiO_2 (%)
11259-5	CS-5	41.43	52.54	0.40	1.31	1.26	[illegible]

Note:-

1. The test results are relevant only to the samples received in the Laboratory. [illegible]
2. Rahul Engineer's Laboratory shall not in any way be involved in any action following the interpretation of test results.
3. Any discrepancy in test results should be reported within 15 days.
4. This report shall not be reproduced except in full without written approval from Rahul Engineers Laboratory.
5. Subject to Udaipur Jurisdiction only.

Tested By: (R.N.Dixit)

Checked By: T.M.

Certified By: (Lalit Paner) C.E.O/Q.M.

End of Report

For: UDAIPUR MIN-TECH PVT. LTD.
(RQP/IDP/[illegible]/2009-[illegible])

KEY PERSON

OTHER FACILITIES: Testing of all Civil Engineering Materials, Geotech Investigation, Design Mix, Establishment of Q.C. Laboratories, [illegible] Preparations, R & D Work, Chemical Analysis, Environment Impact Assessment, Calibration of Equipments

RAHUL ENGINEERS LABORATORY

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ISO 9001:2000

Date :- 06.08.11

Report No.:- 11259-4

TEST REPORT

1.	Name of Client	Calcom Cement India Limited, Distt.-Dima Hasao (N.C. Hills) Assam.
2.	Sample Submitted By	Udaipur Mintech
3.	Reference No.	Nil, Dated :- 29.07.11
4.	Date of Sample Receipt	29.07.11
5.	Lab Job No.	11259-4
6.	Name of Work	Chemical analysis of Limestone.
7.	Material	Limestone
8.	Location	---

Test Results:- IS : 1760

Lab Job No.	Sample Identification	LOI (%)	CaO (%)	MgO (%)	Al_2O_3 (%)	Fe_2O_3 (%)	SiO_2 (%)
11259-4	CS-4	41.88	51.04	0.68	1.82	1.68	2.92

Note:-
1. The test results are relate only to the samples received in the Laboratory.
2. Rahul Engineers Laboratory shall not in any way be involved in any action following the interpretation of test results.
3. Any discrepancy in test results should be reported within 15 days.
4. This report shall not be reproduced except in full without written approval from Rahul Engineers Laboratory.
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Tested By:

(R.N.Dixit)

Checked By:

T.M.

Certified By

(Lalit Pancholi)

C.E.O./Q.M.

End of Report

For, UDAIPUR MIN-TECH PVT. LTD.

RQP/UDP/354/2005-31

KEY PERSON

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+91 96090-43049, Telefax : +91-294-2440317, E-mail : [illegible], www.rahulengineers.com

Report No.- 11259-3

Date :- 06.08.11

TEST REPORT

1.	Name of Client	:	Calcom Cement India Limited, Distt.-Dima Hasao (N.C. Hills) Assam.
2.	Sample Submitted By	:	Udaipur Mintech
3.	Reference No.	:	Nil, Dated – 29.07.11
4.	Date of Sample Receipt	:	29.07.11
5.	Lab. Job No.	:	11259-3
6.	Name of Work	:	Chemical analysis of Limestone.
7.	Material	:	Limestone
8.	Location	:	—

Test Results:- IS : 1760

Lab Job No.	Sample Identification	LOI (%)	CaO (%)	MgO (%)	Al_2O_3 (%)	Fe_2O_3 (%)	SiO_2 (%)
11259-3	CS-3	41.00	51.88	0.39	1.41	1.42	2.99

Note :-
1. The test results are related only to the samples received in the Laboratory. [illegible]
2. Rahul Engineers Laboratory shall not be in any way be involved in any action following the interpretation of test results.
3. Any discrepancy in test results should be reported within 15 days.
4. This report shall not be reproduced except in full without written approval from Rahul Engineers Laboratory.
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Tested By

(R.N. Dalal)

Checked By

T.M.

Certified By

(Lalit Panwar)
C.E.O./Q.M.

End of Report

APPROVED

For UDAIPUR MINTECH PVT. LTD.

KEY PERSON

OTHER FACILITIES: Testing of all Civil Engineering Materials, Geotech Investigation, Design Mix, Establishment of Q.C. Laboratory, Projects Preparations, R & D Work, Chemical Analysis, Environment Impact Assessment, Calibration of Equipments

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PAN - ADJPP 3102 K

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Cell : +91 91290-43949, Telefax : +91-294-2440317, E-mail : lkpaneri@yahoo.co.in, lkpaneri@rediffmail.com, www.rahulengineers.com

Date :- 06.08.11

Report No.- 11259-2

TEST REPORT

1.	Name of Client	Calcom Cement India Limited, Distt.-Dima Hasao (N.C. Hills) Assam.
2.	Sample Submitted By	Udaipur Mintech
3.	Reference No.	Nil, Dated :- 29.07.11
4.	Date of Sample Receipt	29.07.11
5.	Lab. Job No.	11259-2
6.	Name of Work	Chemical analysis of Limestone.
7.	Material	Limestone
8.	Location	---

Test Results:- IS : 1760

Lab Job No.	Sample Identification	LOI (%)	CaO (%)	MgO (%)	Al_2O_3 (%)	Fe_2O_3 (%)	SiO_2 (%)
11259-2	CS-2	42.32	54.26	0.40	0.71	0.79	0.70

Note:-
1. The test results are refers only to the samples received in the Laboratory.
2. Rahul Engineers Laboratory shall not in any way be involved in any action following the interpretation of test results.
3. Any discrepancy in test results should be reported within 15 days.
4. This report shall not be reproduced except in full without written approval from Rahul Engineers Laboratory.
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Tested By: (R.N.Dixit)

Checked By: T.M.

Certified By: (Lalit Paneri) C.E.O./Q.M.

End of Report

UDAIPUR MIN-TECH PVT. LTD. (RQP/Udr/351/2009-0)

KEY PERSON

OTHER FACILITIES: Testing of all Civil Engineering Materials, Geotech Investigation, Design Mix, Establishment of Q.C. Laboratory, ... Environment Impact Assessment, Calibration of Equipments

[illegible]
EM No. [illegible]
Service Tax No. [illegible]
PAN - [illegible]

NABL

RAHUL ENGINEERS LABORATORY

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ISO/IEC 17025:2005 & ISO 9001:2000 Certified Laboratory

Approved by Govt. of INDIA (DST)

ISO 9001:2000

FACILITIES Testing of Cement, Aggregate, Bricks, Concrete, Timber, Bitumen, Soil & Water

5-6, Gulmohar Nagar, Bhuwana By-pass Road, Udaipur (Raj), PIN 313 001, INDIA, Tel : +91-294-2440317, 29406.. Cell +91 98290 43843, Telefax : +91-294-2440317, E-mail : [illegible]@yahoo.co.in, [illegible]@indiatimes.com, www.rahulengineers.com

Date :- 06.08.11

Report No.:- 11259-1

TEST REPORT

1.	Name of Client	Calcom Cement India Limited, Distt.-Dima Hasao (N.C. Hills) Assam.
2.	Sample Submitted By	Udaipur Mintech
3.	Reference No.	Nil, Dated :- 29.07.11
4.	Date of Sample Receipt	29.07.11
5.	Lab. Job No.	11259-1
6.	Name of Work	Chemical analysis of Limestone.
7.	Material	Limestone
8.	Location	[illegible]

Test Results:- IS : 1760

Lab Job No.	Sample Identification	LOI (%)	CaO (%)	MgO (%)	Al_2O_3 (%)	Fe_2O_3 (%)	SiO_2 (%)
11259-1	CS-1	42.30	54.40	0.19	0.61	0.79	0.90

Note:
1. The test results are relates only to the samples received in the Laboratory. [illegible]
2. Rahul Engineers Laboratory shall not in any way be involved in any action following the interpretation of test results.
3. Any discrepancy in test results should be reported within 15 days.
4. This report shall not be reproduced except in full without written approval from Rahul Engineers Laboratory.
5. Subject to Udaipur Jurisdiction only.

Tested By

(R.N.Ojha)

Checked By

T.M

Certified By:

(Lalit Panwar)
C.E.O./Q.M.

End of Report

RAHUL UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/354/2009-B)
[illegible] PERSON

OTHER FACILITIES: Testing of all Civil Engineering Materials, Geotech Investigation, Design Mix, Establishment of Q.C. Laboratory, Projects Preparations, R & D Work, Chemical Analysis, Environment Impact Assessment, Calibration of Equipments

FEASIBILITY REPORT

1.0 Introduction

The mining lease over 417.5 sect area for mining of limestone ore deposit in new Umrangshu, North Cachar Hills district of Assam was granted to Assam Industrial Development Corporation Ltd(AIDC Ltd), Guwahati on 27.11.1992 for a period of 20 years. (Annexure no.01 and 2).

Later, M/s AIDC Ltd was given permission to transfer the Mining Lease (417.5 Hectares) to M/s Calcom Cement India Limited vide Govt. of Assam letter no. PEM. 58/2005/204 dated 06.12.2008. (Annexure no.03). The deed of transfer between AIDC Ltd and Calcom Cement India Ltd was executed on 07.01.2009.

M/s Calcom Cement India Limited was set up as a special purpose vehicle to set up Cement manufacturing capacity of 5/6 million TPA in the state of Assam according to Memorandum of Understanding (MOU) with Assam Industrial Development Corporation (AIDC) on 8th Sept 2004.

M/s Calcom Cement India Ltd was incorporated on September 20, 2004 as a Public Limited Company under Company Act 1956 and received certificate for commencement of business on November 1, 2004. (Annexure.04).

Calcom Cement India Ltd. is planning to set up a composite cement project located at Umrangshu, North Cachar Hills District and Pipulpukhuri, District Nagaon, Assam. The project will be executed in four lines A, B, C & D. The line 'A' of the project is Split Located Cement Plant with 0.75 MTPA of Clinkerisation Unit at Umarangshu. For which Calcom Cement India Ltd. has obtained Environment clearance from MoEF and it is under construction.

Calcom Lanka Plant at a distance of 70 km from Umrangshu in village Pipol Pukhuri, Dist. Nagaon with a capacity of 1.75 MTPA OPC cement production and 4.15 MTPA PPC Production is partially completed. Calcom Cement

FOR UDHYOG VIHAR PVT. LTD.

KEY PERSON

India Ltd has obtained Environmental clearance from MOEF and the plant has been partially commissioned with bought out Clinker from mainland India. Aggregate project cost of cement plant is Rs. 421.40 Cr.. For this limestone requirement will be 7.0 million tonnes (2063 tpd). Therefore, mining plan is being submitted for a production of 7.0 million tonnes limestone per annum.

Lessee has obtained NOC for Limestone mining unit from the Pollution Control Board , Assam vide their Letter no. WB/Z-II/1-1569/07-08/59 on dated 17th Dec 2007.

All other phase i.e. B, C and D will be installed in Lanka only. Capacity of phase B, C & D is given below:

(i) Line – B : 1.2 MTPA of clinkerisation unit plus 1.7 MTPA of grinding unit
(ii) Line – C : 1.2 MTPA of clinkerisation unit plus 1.3 MTPA of grinding unit
(iii) Line – D : 1.2 MTPA of clinkerisation unit plus 1.5 MTPA of grinding unit

Limestone required for all the four lines will be supplied from M/s. Cascom Cement India Ltd. in January 2009 and renamed as New Umrangshu Limestone Mine of CCIL). It will be necessary to install crushers in Mines area during execution of lines B, C & D because only crushed limestone will be transported from New Umrangshu Mine to the Lanka site.

A grinding unit already exist with capacity of 1.75 MTPA OPC at village Jipoi Pukhuri in Dist Nagaon, which is 70 km far from cement plant at Umrangshu. About 0.75 MTPA clinker supply from Umrangshu plant and rest of quantity purposes from other cement plants.

For this phase wise establishment, limestone requirement will be 7.0 million tones and which will be supply from this mine only. Therefore, mining plan is being submitted for a production of 7.0 million tones limestone per annum for this mine.

1.1 Environmental Setting of the project:-

S.No.	Particulars	Details
1	Locations	
	A. Village	Umrangshu
	B. District	North Cachar hill
	C. State	Assam
	Toposheet No.	83°C14
2	Latitude	25°31'18" to 25°32'05.80" (N)
3	Longitude	92°47'25.20" to 92°30'24"
4	Elevation above sea level	270mRL to 435 mRL.
5	Nearest National Highway	NH-54
6	Nearest Railway Station	Langting railway station
7	Nearest Airport	The nearest airport is 252 km away at Shillong, Guwahati.
8	Nearest Tourist Place within 10km radius	Assam
9	Archaeological Important Place within 10k n radius	Nil
10	Ecological Sensitive Areas (Wild Life Santuaries) witnin 10km radius	Nil
13	Nearest major city with 100000 population within 10km radius	Shillong
14	Nearest Town / City within 10km radius	Umrangshu town
15	Surrounding vilage within 1 km area of the project	Umrangshu village
16	Nearest River	Kopili
17	Nearest Lake/ Ponds	Nil
18	Nearest Hill Ranges	North Cachar hill's
19	Source of Water	Well Near by village
20	Soil Type	Ferruginous soil
22	Seismic Zone	V(c)

1.2 Location & Accessibility

Distance from Imp. Stations	By Road (Kms)
Guwahati(via Shillong)	245
Shilling	140
From Guwahati via Lanka	254
Lanka	64

1.4 Physiography:

The area constitutes the southern flank of the Shillong Plateau and comprises of small flat topped hillock with elevation varying from 840m to 540m above mean sea level. The highest altitude 637.29m in the region has been observed at Khadong, about 12km west of new Umrangshu. The proposed lease area is part of NNW-SSE trending ridge in hilly terrain of the region.

The Umrangshu lease hold is part of the kopili river valley in its northern higher reaches. The lease hold has its highest elevation of about 465 m at the NW and lowest point at 280 m in SE part, maintaining overall slope in the southeast direction, thus providing slope altitude difference of 185 m within aerial distance of about 700m.

1.5 Drainage:

The drainage of the area is collected through many small nallas discharging in the Amrang nalla and Langyen nalla. Both these nallas join in the Southeastern side of the area/near the Langyen Basti and flows in a Southeastern direction with the name of Langyen nalla, which ultimately flows in the Kopili River.

1.6 Vegetation & Agriculture:

The study area presents a hilly topography. A small proportion of the area falls under the category of agricultural land hence there are less agricultural activities in the surroundings of villages. Out of the total area of the district the agricultural land is 5300 Hectares. Base line data is collected from Agriculture Department, Haflong and it is observed that area around the 10 km radius from the mine site has the following main crops.

Kharif Crops: - The areas appear in distinct red colour and smooth texture on the image. Paddy is the Kharif crop grown in the district. Cotton and Jute are grown in limited areas.

Rabi Crops: - Paddy pulses, rape, mustered, castor etc. are the main Rabi crops grown in the district.

For UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDZ/314/2005-B)
RQP PERSON

Cropping pattern of the area depends upon the climatological conditions and need of the local population of the area. Sometimes cropping pattern may get changed during construction and operational phase because of particular requirement of specified anthropogenic activities.

Besides the above-mentioned crops Bamboo, pineapple, ginger, jackfruit, etc. are also grown in the area. Tea is the major cash crop of the area and it is grown in N.C.Hills but on a scale.

1.7 Infrastructural facilities:

Apart from drinking water which is available in all the villages of this hill district considered to be the most backward, the amenities of education, medical, post and telegraph, market / hat, communications, approach by pucca road and power supply are not available in all the villages and except education, in the majority of the villages.

Educational Status of the area is satisfactory primary schools are present in almost all the villages. Water is made available form the surface water sources i.e. Streamlets etc. This water is collected in small reservoirs that are constructed at the mine site and then utilized for drinking and other purposes. Power is made available from the Assam State Electricity Board (A.S.E.B). Post and telegraph facilities are also available in Umrangshu town.

1.8 Climate:

Rainfall annual - 1679 mm

(i) Monthly Maximum Temperature (March) : 36.6°C

(ii) Monthly Minimum Temperature (March) : 15.9°C

(iv) Relative Humidity (Mean)

At 8.30 hours : 66% to 96%

At 17.30 hours : 34% to 98%

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(RQP/UDZ/314/2005-B)
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2.0 GEOLOGY

A. Regional Geology

The Limestone belt of the Kopili Valley, of which New Jamunanagar (Umrangshu) Limestone Mine is a part, belongs to the Jaintia formation of Eocene system of Assam.

The generalized stratigraphic sequences of the Jaintia group are provided in the following table No. 2.

Table – 2.1

Age	Formation	Predominant Litho Types
Eocene	Kopili Stage	Intercalation of splintery shale and medium grained brownish sandstone.
Sylhet Limestone Stage		Fossiliferous limestone, thick well bedded, with occasional shale Partings.
Basal Stage		Massive sandstone with impersistent thin coal seams.

The Pre Cambrians are exposed along the Khandong ridge and at the site of Kopili Hydel Projects, west of the limestone deposit.

Basal sandstones are well exposed near the Kopili and Kharkarz confluence and on the beds of nalla cutting across the limestone belt in the South eastern side of the New Jamunanagar (Umrangshu) block. The Basal sandstone was encountered in all the boreholes drilled in the mining lease area at its closing depth.

Sylhet Limestone occupies large tract along the Kopili valley from Elli falls to Panimur. The eocene limestone belt of Kopili valley has a strike length of about 40 km and width of 2 km to 4 km along the South Eastern side of the Garampani-Umrangshu-Lanka road. Surface exposure of limestone beds has been observed at Jambong, near Umrangshu village and at 4th km, 11th km and 13th km on the Garampani - Lanka road.

The limestone deposits of the area, as identified by Directorate of Geology and Mining (DGM) Assam, have been marked into different blocks as mentioned below.

1. Garampani Block
2. Umrangshu Block
3. Highgrade Block
4. Timbund Block
5. New Umrangsnu Block

The Geological report, prepared by the Directorate of Geology and Mining, (DGM) Assam on the basis of exploration carried out by them in New Jamunanagar (Umrangshu) area has been the basis for geological data of area.

B. Local Geology

The New Umrangshu limestone Mine is located in the Eastern side of the Umrangshu-Lanka road at a distance of about 5 km from the New Umrangshu basti, which is about 12 km from the Umrangshu Township.

The present mining lease area is located in the northern sloping flank of the deposit. A mantle of soil and decomposed weathered rock, varying in thickness from 0.5 m to 4.0 m, covers most of the area of the block. Limestone beds are exposed along the Amrang nalla.

TABLE 2.2

S. No.	Litho Type	Thickness Range (m)
V	Kopili Shale Sandstone alternation	0-54.0 (variable)
IV	Top limestone horizon (inferior)	16.4-32.9 (variable)
III	Shale	5.1-10.0 (mostly 5m)
II	Bottom limestone horizon (Cement grd.)	49.0-52.0 (mostly 50m)
I	Basal Sandstone	Not proved

3.0 Exploration and Reserve:

DGM, Assam carried out prospecting in a potential limestone block in New Umrangshu area. The detailed exploration in New Umrangshu block by DGM Assam commenced in 1987-88, under a three year sponsored scheme of North Eastern Council (NEC), Govt. of India. The DGM completed exploration and submitted a report of investigation for cement grade Limestone deposit in New Umrangshu Block. The report incorporated (1) detailed topographical survey and geological mapping covering an area of 4.176 Sq.Km and drilling data of 22 no boreholes with total drilled of 2017 m. The details of exploration done by GSI & DGM, Assam in past summarized as below:

S No	Exploration agency	Nature of Exploration	Area covered under exploration	Exploratory drilling No. of bore holes/ Meter age drilled	Year of exploration
1	GSI	Prospecting	-		1955-62
2	DGM, Assam	Detailed Exploration	4175 sq km	22 no/ 2017 m.	1987-88

Reserves of Limestone

Table – 2.3

UNFC CODE	Reserve Quantity (in tones)				GRADE
	TOP BAND		BOTTOM BAND	TOTAL	
	TOTAL	RECOVERED (28% of Total)			
122	76312890.05	21356109.22	181424178.40	202780587.60	cement
332	130803544.6	36624392.48	248647711.50	285272704.00	cement

Chemical Analysis of Limestone

CaO	SiO_2	Fe_2O_3	Al_2O_3	MgO
47.68	8.75	1.97	2.61	0.95

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JUSTIFICATION OF RESERVES AS PER UNITED NATION FRAME WORK CLASSIFICATION (UNFC)

Table - A: Geological Axis(G-2)

Description	Detail exploration
1. Geological survey	Geological plan & Geological section on 1:2000 scale showing topography surface geological features, extent of mineral deposit etc.
2. Geological chemical Survey	Sample collected and analyzed
3. Geological Physical Survey	Not required.
4 Technological	i) Pitting : No ii) Trenching : No iii) Drilling : Total bore holes 22 range in depth varies from 49 to 137 m and total drilling 2017 m. spacing of bore hole is varies from 300 to 100 m. out of this 22 bore hole 13 no of bore hole have been exist in this block. iv) Exploratory Mining: No

Table - B FEASIBILITY AXIS (F-2)

Description	(Feasibility study)
1. Geology:	The detail geological mapping /study of lease area has been done. No surface water as well as ground water studies require for lease area.
2. Mining :	Mining plan approved.
3. Environment :	Detail study of EIA/EMP including Socio-Economic aspects is being done and will be submitted to MOEF, New Delhi for Environment clearance.
4 Processing :	The cement grade limestone is directly useable for manufacture of ordinary Port land Cement with beneficiation. However Bulk sampling with analysis will be done.
5. Infrastructure and services, construction activities:	The infrastructure facilities established will be established at the mine such as office, first aid room, V.T. Center, Canteen cum rest shelter, workshop, store, roads etc. and utilized.
6. Costing:	The limestone mine is captive mine for cement plant of lakh tones. Total capital cost of cement plant is Rs 581.80 crores.
7. Marketing :	No marketing of the limestone produced as the entire ROM of mining lease area is being consumed at captive Plants.
8. Economic viability:	The cost of mining and transportation will be about Rs. 600/- per tone for Cement plant from mine lease area. That can be absorbed by the plant for

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	manufacturing of cement as a finished product. Hence the project will be viable.
9. Other factors:	The lessee follow all statutory obligations as per mining law during mining. The side of excavation shall be adequately benched, shaped and secured so as to prevent danger from fall of sides as per regulation 106 of the Metalliferous Mines Regulations 1961 and other provisions of Mines Act, 1952, Mines Rules 1955 & M.C.D.R. 1988 shall also be complied.

Table - C: ECONOMIC AXIS (E-2)

1.Detailed exploration.	General exploration completed.
2.Mining report / Mining plan / working mines.	Mining report prepared. Mining plan approved
3. Specific end-use grades of reserves (above economic cut-off grade).	The management specified the cement grade limestone requirement as under : CaO ≥ 43% SiO_2 < 12% Fe_2O_3 > 3.00%
4. Specific knowledge of forest/non-forest and other land use data.	Entire land is unclassified mixed forest and lessee having surface right for mining.

JUSTIFICATION FOR THE RESERVE UNDER UNFC - 333

Table - A: Geological Axis(G-3)

1.Geological survey	Geological plan & Geological section on 1:2000 scale showing topography surface geological features, extent of mineral deposit etc.
2.Geo-Chemical Survey	Sample collected and analyzed.(Report enclosed as Annexure No.15.)
3.Geo-Physical Survey	Not required.
4.Technological	i) Pitting : No ii) Trenching : No. iii) Drilling : Total 7 bore holes range in depth varies from 46 to 137 m and total drilling 550 m. spacing of bore hole is varies from 400 to 600 m. iv) Exploratory Mining: No

Table - B: FEASIBILITY AXIS (F-3)

1. Geology:	The detail geological mapping /study of lease area has been done. No surface water as well as ground water studies require for lease area.
2. Environment :	Detail study of EIA/EMP including Socio Economic aspects is being done and will be submitted to

For UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/...)

	MOEF, New Delhi for Environment clearance.
3. Infrastructure and services, construction activities:	The infrastructure facilities established will be established at the mine such ANFO mixing shade store, roads etc. and utilized.
4. Other factors:	The lessee follow all statutory obligations as per mining law during mining. The side of excavation shall be adequately benched, shaped and secured so as to prevent danger from fall of sides as per regulation 106 of the Metalliferous Mines Regulations 1961 and other provisions of Mines Act, 1952, Mines Rules 1955 & M.C.D.R. 1988 shall also be complied.

Table - C: ECONOMIC AXIS (E-3)

1.Exploration.	Borehole drilled at the interval more than 400 m
2.Mining report / Mining plan / working mines.	Mining report prepared. Mining plan approved. It is entirely virgin land.
3. Specific end-use grades of reserves (above economic cut-off grade).	The management specified the cement grade limestone requirement as under : CaO ≥ 43% SiO2 < 12% Fe2o3 > 3.00%
4. Specific knowledge of forest/non-forest and other land use data.	Entire land is unclassified mixed forest and lessee having surface right for mining.

4.0 Mining

4.1 Mode of Mining

The limestone mine will be developed by an opencast mechanized mine by conventional mechanized drilling blasting, shoveling and trucking.

4.2 Mining Parameters

The proposed 4.35 million T/annum Clinkerization plant shall require 7.0 million Tones of limestone per annum. Taking the Stripping ratio (OB: LS=1:0.5) into consideration, the total material handling involved shall be of the order of 7.0 Million Tones per annum.

No. of working days	=	270 days/year
Working shifts/day	=	2 shifts, of 8 hours each

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Bench Parameter

Height	=	10 m
Width	=	12·15 m
Slope	=	70 Deg. in shale & 80 Deg. in hard rock.
Primary blast holes		
Size	=	165 mm dia
Length	=	10 m
Angle	=	85 Deg/Vertical

3.3 Explosive:

Controlled Blasting will be done using ANFO, primer (emulsion explosive) and Non Electric initiation system.

3.4 Excavation:

Limestone and hard overburden/intraburden excavation will be done by Excavator and Dumper combination.

3.5 Transport:- Basting material will be loaded by hydraulic excavator of 3·5 m³ capacities and transported by 20 T capacity tipper to the crusher hopper. Additional machine shal. be procured in a phased manner to met the requirement of limestone for the proposed expanded capacity of cement plant.

3.6 Magazines

Two types of arrangements will envisaged:

High explosive magazine with 50 tonne capacity.

Storage of ANFO ingredients with Capacity 50 tonnes.

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3.7 Mining Equipments

The economics of hard rock mining depends largely on the proper selection of equipment for the basic operations i.e. drilling, excavation/loading and hauling from the point of view of their higher availability and maximum factors influencing equipment selection, such as production requirement, method of working, material characteristics, topography, capital requirement

etc. the type, size and number of various equipments have been determined as detailed below:

Name of Machine	No	Make/Model	H.P	Capacity
Excavator	07	TATA EX-1200	641	3.5 Cum
Dumpers	47	TATA	80	20 Tons
Crawler mounted DTH drill	07	IBH-10	247	165 mm
BEML Dozer	01	BD 155	410	
Rock Breaker	06	L&T CK80	110	60 t/Hr
Explosive Van	01	TELCO	80	2500 Kg.
Water Tanker	01	TATA	113	12,000 ltr.
Maintenance Van	01	TATA	110	--

4.0 Environment Management Plan

A. LAND USE PATTERN :- Whole lease area is unclassified mixed forest. Existing landuse of the lease area area is felwa:

PARTICULAR	AREA (In Hect)
A) MINING ACTIVITY	
1. PITS	0.000
2. DUMP(KOPILI ALTRATION/ SHALE)	0.000
3. DUMP (LOW GRADE /CARBONACEOUS)	0.000
4. ROAD	0.936
5. PLANTATION	0.000
6. INFRASTRUCTURE(OFFICE/CRUSHER/MS/MAGAZINE)	0.000
6. TOP SOIL STORAGE(TEMPORARY)	0.000
B. AG. LAND(PRIVATE)	0.000
C. REMAINING VIRGIN GOVT. LAND	416.574
TOTAL AREA	417.50 HECT.

B. WATER REGIME

The area comprises part of the regional drainage system of the Kopili river valley in its northern higher reaches. As the mining lease is in southerly slopping hilly terrain, there is hardly any perennial water source in the area. However, many seasonal watercourses cutting across the hilly terrain carry the heavy surface water flow during the rainy season creating deep gullies and gorges in their course.

In the central part of the lease area, the Amrang nalla cut across in a Southeasterly direction often with steep banks on both sides forming escarpments.

The Amrang nalla joins Langyen nalla, a tributary of the Kopili River, in the Southeastern side. Thus the micro drainage of the area is controlled by the Langyen nalla while macro drainage is a part of the Kopili River master basin.

Though the area is in a high rainfall region, most of the precipitation constitute "run off" with very meager scope of infiltration. Therefore ground water is not available in the hilly terrain.

C. AIR ENVIRONMENT

Ambient air qualities of the immediate surroundings of the mining project area are well within the permissible limit as at present mining operation has not been commenced yet.

D. NOISE ENVIRONMENT

There are several sources in the 5 Km. radius buffer zone, which contributes to the local noise level of the area. Traffic, cement factory as well as activities in mines and near by villages add to the ambient noise level of the area.

E. SOIL ENVIRONMENT

The soils of the district vary from non-laterised red soil to laterised red soil ranging from sandy loam to clayey loam in texture The non laterised red soils occupy a relatively less area along a strip in southern part of the district .The soil in the study area are red in colour may be due to the presence of Iron oxides.

F. HUMAN SETTLEMENT

There is no habitat within core zone. Population density of the buffer is approximately 210/ sq.Km. the circular area in the buffer zone is sparsely populated. The nearest urban population center is Umrangshu township, which has the highest population density in this region. The population of NC hills district is around 1,18000 with male: female ratio is almost 1:1 around the lease area. The major population of the area is in Umrangshu township which has nearly 20,000 inhabitants. Rural population in the surrounding area is widely scattered in

human settlement in some eleven villages of different size range of population 35 - 400, except Umrangshu township. The original inhabitants of the area is Karbis and Dimachs tribes while Kachris and Nepalis too have settled in.

Name of village	Total population	Bearing/ direction
Lenchure	120	South
Garampani	60	East
Lagsurai	40	SE
Dithur	35	South east
Dithur Kuthi	100	South
Thomsanepur	125	South
Langlute	40	South west
Larfinge	120	West
Dimasa	50	North
Umrangshu town	20,000	North
Umrangshu village	400	West

In buffer zone of the study area main workers are 40.43% and marginal workers are 4.72% resulting into 54.85% non-workers indicating at chronic unemployment problem. Total literates are 45.98%. Amenities available in the villages have also been studied. Apart from drinking water which is available in all the villages of the hill district considered to be the most backward, the amenities of education, medical, post and telegraph, market / hat, communications, approach by pucca road and power supply are not available in all the villages. There is no historical place or monuments in study area of 10 km radius. The activities of existing VCL plants have improved the economic status of the area.

The recent industrial development of the region is offering opportunity for people of other parts of the country to come for job. Thus demographic pattern is sure to be changed further in future.

The occupational pattern of the people in Umrangshu town is approximately as under Mining - 10% Trade - 12% Agriculture - 1% Industry - 77%.

Demography

Total population in the study as per 2001 census records is 20713. Analyzing the disposal of rural schedules caste population in the study area, it is evident that the concentration of SC is found to be 1.3% and concentration of ST is 6.6%.

The Amrang nalla joins Langyan nalla, a tributary of the Kopili River, in the Southeastern side. Thus the micro drainage of the area is controled by the Langyan nalla while macro drainage is a part of the Kopili River master basin.

Though the area is in a high rainfall region, most of the precipitation constitute 'run off' with very meager scope of infiltration. Therefore ground water is not available in the hilly terrain.

C. AIR ENVIRONMENT

Ambient air qualities of the immediate surroundings of the mining project area are well within the permissible limit as at present mining operation has not been commenced yet.

D. NOISE ENVIRONMENT

There are several sources in the 5 Km. radius buffer zone, which contributes to the local noise level of the area. Traffic, cement factory as well as activities in mines and near by villages add to the ambient noise level of the area.

E. SOIL ENVIRONMENT

The soils of the district vary from non laterised red soil to laterised red soil ranging from sandy loam to clayey loam in texture The non laterised red soils occupy a relatively less area along a strip in southern part of the district .The soil in the study area are red in colour may be due to the presence of Iron oxide.

F. HUMAN SETTLEMENT

There is no habitat within core zone. Population density of the buffer is approximately 2109 sq.Km. the circular area in the buffer zone is sparsely populated. The nearest urban population center is Umrangshu township, which has the highest population density in this region. The population of NC hills district is around 1,18000 with male female ratio is almost 1:1 around the lease area. The major population of the area is in Umrangshu township which has nearly 20,000 inhabitants. Rural population in the surrounding area is widely scattered in

human settlement in some eleven villages of different size range of population 35 - 403, except Umrangshu township. The original inhabitants of the area is Karbis and Dimachi tribes while Kachris and Nepalis too have setteled in.

Name of village	Total population	Bearing/ direction
Lonchire	120	South
Carumpani	50	East
Lagsurai	40	SE
Dithur	35	South east
Dithur Kuthi	100	South
Thousanegsir	123	South
Langlute	40	South west
Larlinge	120	West
Jimsea	50	North
Umrangshu town	20,000	North
Umrangshu village	400	West

In buffer zone of the study area main workers are 40.43% and marginal workers are 1.72% resulting into 57.85% non-workers indicating at chronic unemployment problem. Total literates are 45.98%. Amenities available in the villages have also been studied. Apart from drinking water which is available in all the villages of this hill district considered to be the most backward, the amenities of education, medical, post and telegraph, market / hat, communications, approach by pucca road and power supply are not available in all the villages. There is no historical place or monuments in study area of 10 km radius. The activities of existing VCL plants have improved the economic status of the area.

The recent industrial development of the region is offering opportunity for people of other parts of the country to come for job. Thus demographic pattern is sure to be changed further in future.

The occupational pattern of the people in Umrangshu town is approximately as under Mining - 10% Trade - 12% Agriculture - 1% Industry - 77%

Demography

Total population in the study as per 2001 census records is 20713. Analyzing the dispersal of rural scheduled caste population in the study area, it is evident that the concentration of SC is found to be 1.8% and concentration of ST is 6.6%.

Sex - Ratio

The population of females in the population of the district as a whole has always been on the lower side as compared to males. A study of the pattern of sex ratio would reveal that there are 1:1.

Socio Economics Measures:- The area was underdeveloped due to infrastructural difficulties and industrial backwardness. The limestone deposits of Kopili valley and coal deposits of near by Meghalaya have been utilized for creating a vibrant cement industry in the area. The opening of New Umrangshu Limestone Mine will result in opportunities through direct and indirect employment and ancillary activities. These factors will have marked positive impacts on socioeconomic status of the area.

The social demographic profile of the area is not likely to be affected, because displacement of people is not involved. The mining in the area has created rural employment. As the lease area is in a hilly terrain with degraded forest, there is no village present. Apart from few small shifting settlements, 3 villages and one urban Town are present within the buffer zone. The population density of the buffer zone is approximately 217/sq.km. The demographic pattern of the region shows thin population. The population of N. C. Hills District is about 1,15,000 with ratio of male to female as almost 1:1. The nearest urban population centre is Umrangshu township which has near 20000 inhabitants mostly connected with Kopili hydel project and associated business activities. Rural populations in the buffer zone of the lease area are widely scattered in human settlements in few isolated villages of different size/range of population 20-400. The original inhabitants of the region are Karbis and dimasa Tribes with Kachras, and Nepalies. In recent years Bengal refugees and industrial workers of cement, paper and other various small industries have influenced the demographic pattern to the extent of about 75% to 80%.

The mining activity in the region has positive impact on the social economic condition of the area by providing employment to the local inhabitants, wages paid increase the per capita income. The density of population in the nearby area

increased due to improved economic conditions such as frequent transportation and medical facilities.

The mining will generate new employment indirectly like transport and maintenance of machines.

The mining will be larger in interest of the mineral development of the country and government will get revenue.

Tribal Issue:- However, the mines and the cement plant are located in tribal belt of the state. The company will have taken it as an opportunity to discharge its Corporate Social Responsibility. So many local people will get employment in mines as well as in plant either directly or through contractors / other agencies. Community development works will be done regularly to uplift the living status of the habitants of the area.

Occupational Health & Safety

There are some health and safety hazards, which may affect the persons employed in the mine. The people may suffer from occupational diseases or may get injured while working in the mine. If proper measures are not taken to protect the persons from these hazards. Occupational health surveillance programme will include the following facilities:

We will have Occupational Health Centre with the following staff and emergency handling facilities:

Doctor	-	1 No.
Nurse	-	3 Nos.
Ward Boy		1 No.
Chowkidar	-	1 No.
Clerk	-	1 No.

In cement and power plant the occupational health surveillance of the employee shall be done on a regular basis and records of the same will be maintained as per the Factory Act / Mining Act. The occupational health surveillance programme will

include lung function, sputum analysis and audiometric analysis on regular basis to observe any contraction due to exposure to dust and noise and corrective measures will be taken accordingly.

Accident Prevention and Disaster Management Plan

The entire mining operation will be done under the supervision of the mines manager having first class mines manager's certificate of competency and supported by a team of mining engineers.

5.0 PROCESSING:-

The ROM limestone will be fed to the crusher of 1000 tph capacity. The ROM limestone dimension not exceeding 1200 mm x 1000 mm x 1000 mm can be fed to crusher and out put sized of the crusher will be -75 mm. Crushing plants will be vented via separate dust collectors through a common stack to atmosphere. Dust collected in the Dust collectors will be fed back to the process. Crushed limestone will be loaded to the Dumpers and will be transported to Lanka to feed Pre-blending system for Line B, C, & D of the composite cement project. Power requirement for the crushing plant will be met from the 132 KV Plant Substations for Line A of Calcom Cement and it will be taken at 6.6 KV. Maximum Power demand for the crushing Plant is 4MVA

6.0 INFRASTRUCTURE:-

At present no any Infrastructure area present in the lease area except approach road. Proposed Infrastructure includes mines office, maintenance workshop, crusher, magazine and ANFO mixing shades etc. will be made in the lease area.

7.0 COSTING

Capital cost of the plant and crusher & machinery = 2866.0 cr.

Machinery	=	2098.63Cr.
Crusher	=	305.00Cr.
Others	=	461.00Cr
Total	=	2865Cr.

Operating cost per tonne:-

Description	Rs./Tonne
Excavator	11.88
Dumper	10.66
Drill machine	2.19
Rock breaker	2.01
Maintenance van	0.08
Water	0.33
Jeep	0.58
Pick up	1.07
Total	30.49

Working capital:- Rs.= 34,188,0000/- for three month.

Limestone raising cost

Calculation for limestone raising cost is given in table:

Sr No.	Description	Cost per metric Tonne (Rs)
i)	Direct Cost (Mining)	47.71
ii	Overheads (Include transportation and Processing operation)	26.00
iii)	Depreciation	1.58
iv)	Taxes (Dead Rend & Surface Rent)	3.00
v)	Cess	1.00
vi)	Mine Closure	1.68
vii)	Royalty	63.0
	Total Cost / Tonne of limestone	140.0

6.0 MARKETING OF MINERAL

Mineral worked out from mines will be transported to the plant for captive use for manufacturing cement. So there is no direct marketing of mineral from mines is involved.

The cement market has growth potential due to the central government liberalization policies and new schemes for housing, road and infrastructure projects. Cement demand growth is anticipated to be about 9-10% increase mainly through road projects, Housing Projects (1.3 million houses in rural & 0.7 million in urban areas). Continuous demand for exports to China and other South East Asian countries along with the increased requirement of the

domestic sector have led all the cement manufacturers in the country to plan for increased capacities.

In the present context, there is a huge gap between demand and supply of cement in North Eastern Region. The demand of cement in this region in the year 2009-10 was 35.00 lakh tonnes as against the production of 20 lakh tonnes. Till now, the gap between demand and supply is being met by importing cement from the central region, mainly from Madhya Pradesh to north-eastern region is approximately Rs.1200/- per tonne which is considerably high.

7.0 ECONOMIC VIABILITY:

The cost of mining will be Rs. 120.00 per tonne from the lease area. That can be absorbed by the plant for manufacturing of cement as a finished product. Hence the project will be viable. A detail of cash flow analysis and sensitivity analysis is given in next page.

8.0 Others

The lessee will follows all statutory obligations as per mining law during mining. The side of excavation shall be adequately benches shaped and secured as to prevent danger from fall of sides as per regulation 106 of the Metalliferous Mines Regulations 1961, Mines Act 1952, Mines Rules 1955 & M.C.D.R. 1988.

Prepared & Sign By

Date 24th Dec 2011
Place : Udaipur.

S.S.Bist
(Mining Geologist and RQP)
RQP/UDP/125/90-A
Email :- ssbist@udaiminetech.com

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(RQP/UDP/354/2000-01)
KEY PERSON

Table 7.1
FORE CAST OF CASH FLOW ANALYSIS

Year	Investment (Rs.)	Revenue (Rs.)	Operating Expenses (Rs.)	Cash flow (Rs.)	Cumulative cash flow (Rs.)	Discount factor 11%	Discounted cash flow (Rs.)
0	58100000000	0	0.00	-58100000000.00	-58100000000.00	1.00	-58100000055.00
1.	40000000	4000000000.00	600000000.00	3350000000.00	-54740000000.00	0.90	-60751400000.00
2	0	29500000000.00	3510000000.00	25960000000.00	-28780000000.00	0.81	-35459830000.00
3.	0	29500000000.00	3540000000.00	25960000000.00	-2820000000.00	0.73	-3836719420.00
4.	0	29500000000.00	3540000000.00	25960000000.00	23140000000.00	0.66	35128149287.40
5.	0	28500000000.00	3540000000.00	25960000000.00	49100000000.00	0.59	82736356415.41
6	0	29500000000.00	3540000000.00	25960000000.00	75060000000.00	0.54	140393816285.21
7	0	29500000000.00	3540000000.00	25960000000.00	101020000000.00	0.48	206733698645.83
8	0	29500000000.00	3540000000.00	25960000000.00	126980000000.00	0.43	292630285998.74
9.	0	2950000000.00	3540000000.00	25960000000.00	162940000000.00	0.39	391228157215.67
10	0	29500000000.00	3540000000.00	25960000000.00	178900000000.00	0.35	507972414407.70

NPV will be 50137.00 Cr.
IRR of the project will be 40%

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(RQP/UDP/354/2000-01)
KEY PERSON

Annexure No.- 17

Pictures of the Mine Lease Area

A

B

For UDAIPUR MIN-TECH PVT. LTD.

C

D

For UDAIPUR MIN-TECH PVT. LTD.
(VQP/MDP/214/2009-10)

Annexure No.- 18

Exclusive Long Book

Attendance Register of
Public Hearing for proposed
New Umrangshu (AIDC) Limestone
Mine Project at New Umrangshu,
N.C. Hills, Assam by
M/s. Calcom Cements India Limited
on 09.11.2007
at Recreation Hall, NEEPCO,
Umrangshu, N.C.Hills, Assam

APPROVED

For GUWAHATI MINI TECH PVT. LTD.

KEY PERSON

Assam Govt.

This is to certify that the register contains of finger Sl no 01 to 117

[signature]
07/11/07

APPROVED

For UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/35/2009-B)
[signature]
KEY PERSON

Signatures of the attendance of Public hearings for proposed [illegible] (Alpe) Lime Stone mining project at [illegible], [illegible] Hill, Assam held at [illegible] Hall, [illegible], [illegible], [illegible] Hills, Assam, [illegible]

SL NO	Name & address	Signature
1	Tehanna Boudha	[signature]
2	Ghan Bhajelk	[signature]
3	[illegible]	[signature]
4	[illegible]	[signature]
05	Achish Wath	[signature]
06	[illegible]	[signature]
07	T Lihrang [illegible]	[signature]
08	[illegible]	[signature]
09	[illegible]	[signature]
10	L. [illegible]	[signature]
11	[illegible]	[signature]
12	M. Rongh[illegible]	[signature]
13	S. Rean	[signature]
14	[illegible] Ronghang	[signature]
15	[illegible] Ronghang	[signature]
16	Sri Upal Bordo	[signature]
17	Sri Sumoni Bordo	[signature]
18	[illegible]	[signature]
19	[illegible]	[signature]
20	[illegible]	[signature]
21	[illegible]	[signature]
22	Ramsing Chowdhury	[signature]
23	[illegible]	[signature]
24	[illegible]	[signature]
25	[illegible] Teron	[signature]
26	[illegible]	[signature]

APPROVED

For LOAIF [illegible] TECH PVT. LTD.

[illegible]

KEY PERSON

Name & Address	Signature
37 Animia Sohadhar	[illegible]
38 VAREN BALMIK	[illegible]
Shyam [illegible]	[illegible]
38 [illegible] ch Tamang	[illegible]
39 M.R. Baruah	[illegible]
38 [illegible]	[illegible]
39 [illegible]	[illegible]
40 J. BARMAN	[illegible]
41 B.K. Sarma	[illegible]
42 R. Majumdar	[illegible]
43 [illegible]	[illegible]
44 A Singh	[illegible]
45 J. [illegible]	[illegible]
46 H. N. Singh	[illegible]
47 M. Ni	[illegible]
48 Nilmani Nath	[illegible]
49 K. G. Singh	[illegible]
50 [illegible]	[illegible]
51 Nabamal Gogoi	[illegible]
52 [illegible]	[illegible]
53 Ananda Bora	[illegible]
54 [illegible]	[illegible]
55 Gopinath Sangma	[illegible]
56 Shri Jaytadal Hazra	[illegible]
57 Shri Jaykesh [illegible]	[illegible]
58 Sri Ram Rongpi	[illegible]
59 [illegible]	[illegible]
60 [illegible]	[illegible]
61 Bipin [illegible]	[illegible]
62 [illegible]	[illegible]
63 A.K. Barman	[illegible]
64 [illegible]	[illegible]
[illegible]	[illegible]
66 A [illegible] 9/11/07	[illegible] 9/11/07

For [illegible] TECH PVT. LTD.

KEY PERSON

Minutes and resolution of the Public Hearing for proposed Umrangshu (Mac) Limestone Mine project at Umrangshu, N.C. Hills, Assam by M/s Calcom Cements India Limited
On 09-11-2008
at Kumaruana Hall, NEEPCO, Umrangshu, N.C. Hills, Assam

1. A.K. Barman, DC, N.C. Hills, Haflong [illegible] 9/11/08

Dr. A.B. Dev Choudhury, Dy. Analyst, P.C.B., Assam [illegible] 09.11.08

Dr. A.B. Dev Choudhury, representative of P.C.B., Assam proposed Mr. A.K. Barman, DC, N.C. Hills as president & Mr. Barman takes the president seat of the Public Hearing.

The president request the representative of P.C.B., Assam to explain the reason of Public hearing & Dr. A.B. Dev Choudhury representative of P.C.B., Assam explain it.

Mr. B. Sharma, chief-executive, M/s Calcom Cements elaborate the project. It covers between 5 km & 7 km milepost of Umrangshu-Lanka road. Total production 7.0 million tons & [illegible] employment will be provided.

Mining lease area 417.5 hectare. no agricultural activity is there in the proposed area.

Dispensary for treatment will be provided at the site & drinking water will be provided from river water. Postal facilities will be provided at the site.

contd. Page 5

APPROVED

For [illegible] PUR MIN-TECH PVT. LTD.
([illegible])
KEY PERSON

[illegible] impact of pollution [illegible]
[illegible] due to the impact of mining & water pollution & noise pollution will be taken care of properly.

Green vegetation will be [illegible] & [illegible] the site to improve the environment.
Blasting will be [illegible] to [illegible] the noise & it will be made by vibration.
Developed green vegetation will control the air pollution.
Blasting will be avoided in the morning & evening hours.
No water body will be created at the mining area so that it would not come out to the [illegible] zone.

Economic development of the local people will be by direct & indirect employment in the project.
The Public opinion are as follows:-

(i) [illegible], Social welfare forum, NGO president [illegible] that industrial development is must but, proper pollution control measures should be provided to control the pollution level.
(ii) Mr. Rabin Terang, Karbi Student [illegible] association, Secy expressed that the local people should not be faced any adverse effect due to the proposed mining project.
(iii) Mr. [illegible] Naris, Dimasa Student Union, president expressed that along with the mining, cement production & packaging should be done at [illegible] & [illegible] itself for more economic

→ Contd. P No 7

For UDAIPUR MIN-TECH PVT. LTD.
(ACP/ASP/314/2009-B)
APPROVED
KEY PERSON

development of the area.

(1) ... Rangthong, representative of Lumshnong village, informed that the economic development should be done.

(2) Mr. Bikon Lapangmalai, expressed that "socio-economic" development should meet & guarantee ... environment should be ... [illegible] flayed industry should be set up at Lumshnong itself to develop the society in all respect.

(3) H. S. Thomas, President GCDA, Lumshnong, ... of Lumshnong, welcomed the M/s Calcom Cement India Limited for the mining activity & requested to develop the socio-economic problem of the local society.

(4) Mr. L. Rangad, president, SSDA, Lumshnong unit expressed that the development should be performed for the local people, we have no objection for any industrial activity.

(5) Finally Mr. G. Chacko of M/s Calcom said that the Autonomous District Council will receive more than Rs 10 Cr. of revenue per year.

At the end Mr A.K. Barman, D.C., ... Hills & president of Public hearing made the vote of thanks to the Public attended in the Public hearing expressing the economic development along with the setting up of Industries.

(contd. Page 7)

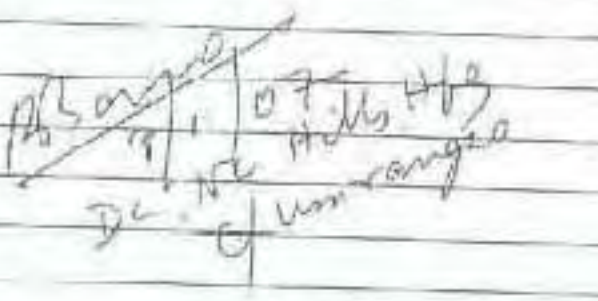
For UDAIPUR MIN-TECH PVT. LTD.
(RJ)/UDP/354/2007-07

KEY PERSON

existence.

Considering the views of Public, Govt's present for the Public Hearing for assessment of total environmental quality of the area it has been decided that M/s New Umrangshu (AIDC) Limestone Mine at village - New Umrangshu, N.C. Hills (Assam) by M/s Calcom Cement India Limited may be allowed to carry out their proposed activities of Lime stone mining at New Umrangshu subject to their re-assessing the total environmental quality of the area.

M/s New Umrangshu (AIDC) Lime Stone Mine project at New Umrangshu, N.C. Hills (Assam) must comply with all directions issued by Pollution Control Board, Assam, Central Pollution Control Board, Delhi, Ministry of Environment & Forest, Govt of India, New Delhi from time to time.



For UDAIPUR [illegible] LTD.

AUTH. PERSON

Annexure no. 20

CALCOM CEMENT

Dated - 5th May 2009

CCIL/PO/2009-2010/Mines

To
The Range Forest Officer,
Umrangshu Range
NC Hills District
Umrangshu, Assam

Subject : Information / Permission regarding survey works on our Mining lease area of 417.5 Hect in New Umrangshu located on Unclassed Forest under NC Hills District Council.

Dear Sir,

You are aware that the Govt of Assam has transferred a mining lease of area 417.5 Hec to Calcom Cement India Ltd and that Calcom has applied for the necessary Forest Clearance and the necessary Forest Surveys have been completed by you.

Calcom has also applied for/ in the process of applying for Environmental Clearance and required IBM clearances in connection with the same this is to inform you that our various contracted as well as internal Survey and Monitoring teams (Surface contouring, Geological Mapping and Environmental study) will be working inside the lease area (core zone) as well as buffer zone (10 km radius) till the clearances are obtained from MOEF & IBM and we start the mining activities.

Please be informed that during the course of the above activity, not cutting of trees or mining activity will be undertaken.

Kindly endorse your permission.

Permitted as per application
Mogar, FR
6-5-2009

RANGE OFFICER
Umrangshu Range
Umrangshu, N.C. Hills.

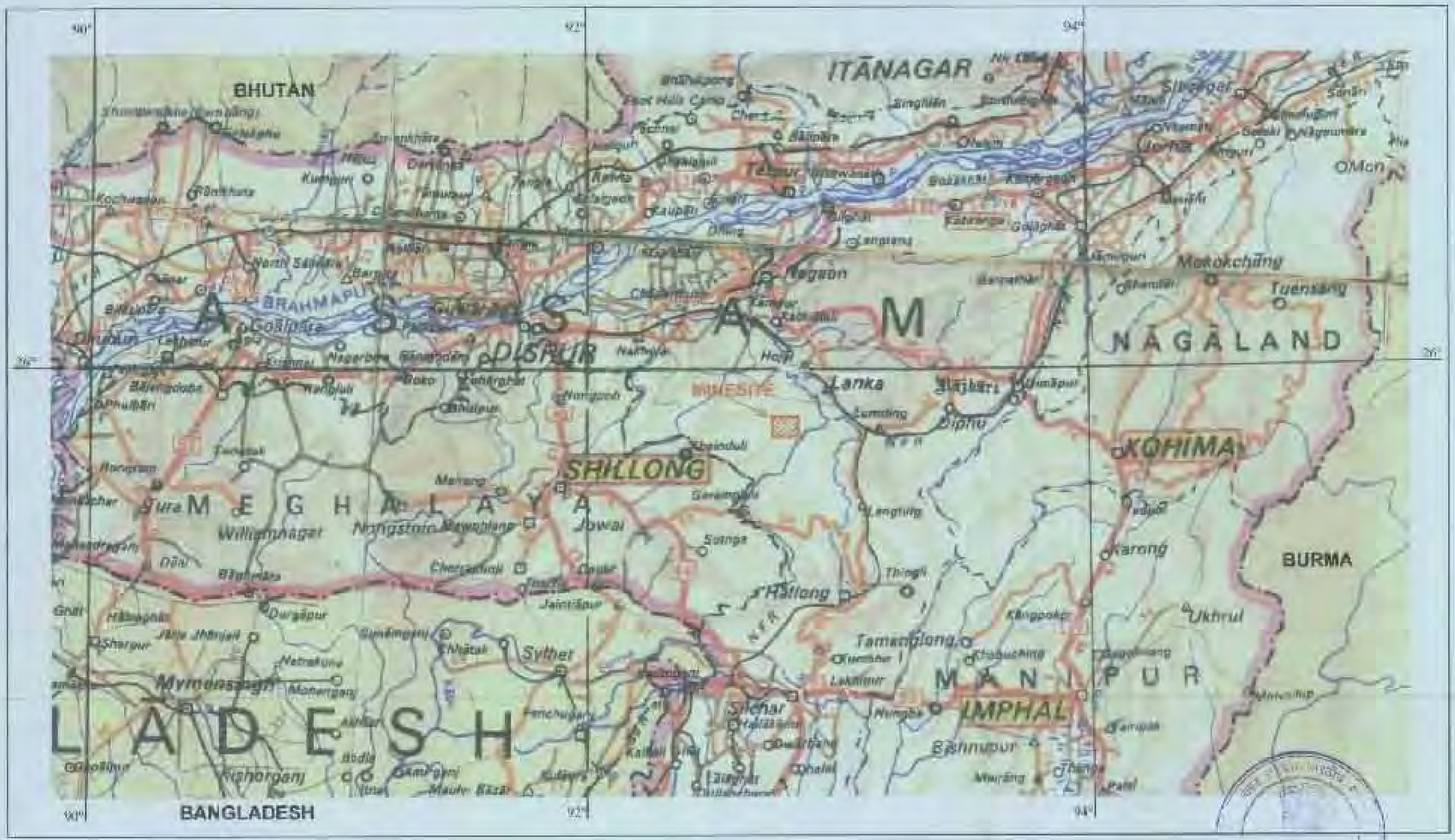
Thanking you

Yours faithfully
For Calcom Cement India Ltd

(Autorised Signatory)

APPROVED

Calcom Cement India Limited
Factory: [illegible]
Regd. Office: [illegible]



N

NOTE-THIS PART OF MAP IMAGE TAKEN FROM ROUTE MAP OF INDIA

अनुमोदित
APPRO.

INDEX

	MINE SITE
	NATIONAL HIGHWAY
	HIGHWAY ROAD
	DISTRICT BOUNDARY
	DISTRICT HEAD QUARTER
	RIVER
	INTERNATIONAL BOUNDARY

DISTANCE

1. HAFLONG VIA (Langlai) TO MINESITE - 109.0 KM.
   (District Head Quarter of North Cachar Hills)
2. LANKA TO MINESITE - 64.0 KM.

PLATE NO.-1

LOCATION MAP

UMRANGSHU LIMESTONE DEPOSIT

NEAR VILLAGE - UMRANGSHU,
DISTRICT - DIMA HASAO (N. C. HILLS), ASSAM

OWNER - **M/S CALCOM CEMENT INDIA LTD.**
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
ASSAM GUWAHATI - 781 003

SCALE- 1CM=12.5 KM.	AREA - 417.30 HECT.

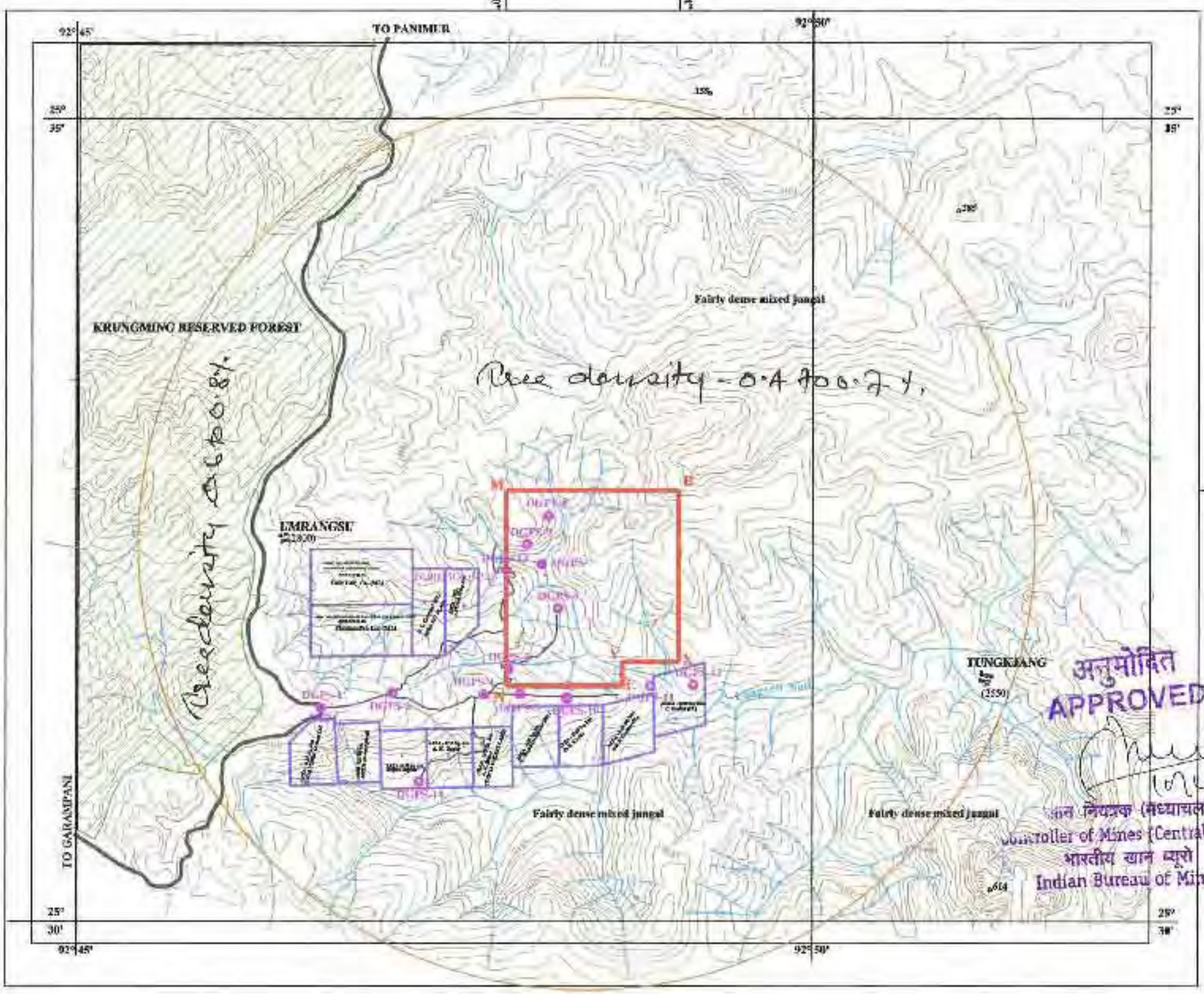
CERTIFICATE :- IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE.
FOr. UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/334/2009-II)

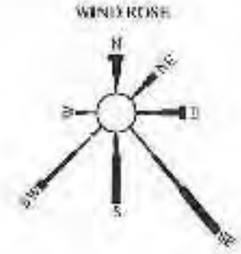
DATE 22.11.09

MANOJ NANDWANA
KEY PERSON

SHAILENDRA SINGH BIST
KEY PERSON

PREPARED BY:
UDAIPUR MIN-TECH PVT. LTD.
206, APEKSHA COMPLEX, IInd FLOOR, HIRAN MAGRI,
SECTOR NO. 11, UDAIPUR (RAJ.)
PHONE NO.- 2489672 (O)





INDEX

	M L AREA (CORE ZONE)
	CONTOURS
	RIVER / NALLAH
	ROAD
	VILLAGE BOUNDARY
	RESERVED FOREST
	GOVT. WASTE LAND
	OTHER LEASE AREA
355	T.I. POINT
	5.0 K.M. BARRIER ZONE

PLATE NO. 2

KEY PLAN

UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE - UMRANGSHU,
DISTRICT - DIMA HASAO (N. C. HILLS), ASSAM

OWNER:- M/S CALCOM CEMENT INDIA LTD.
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
ASSAM GUWAHATI - 781 003

SCALE - 1 : 50000	AREA - 417.50 HECT.

GT SHEET No. 83 C/14 & 15

CERTIFICATE-IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE.
For:- UDAIPUR MIN-TECH PVT. LTD.
[RQP/UDP/354/2009-B]

PLACE- UDAIPUR
DATE- 27.12.2013

MANOJ NANDWANA
KEY PERSON

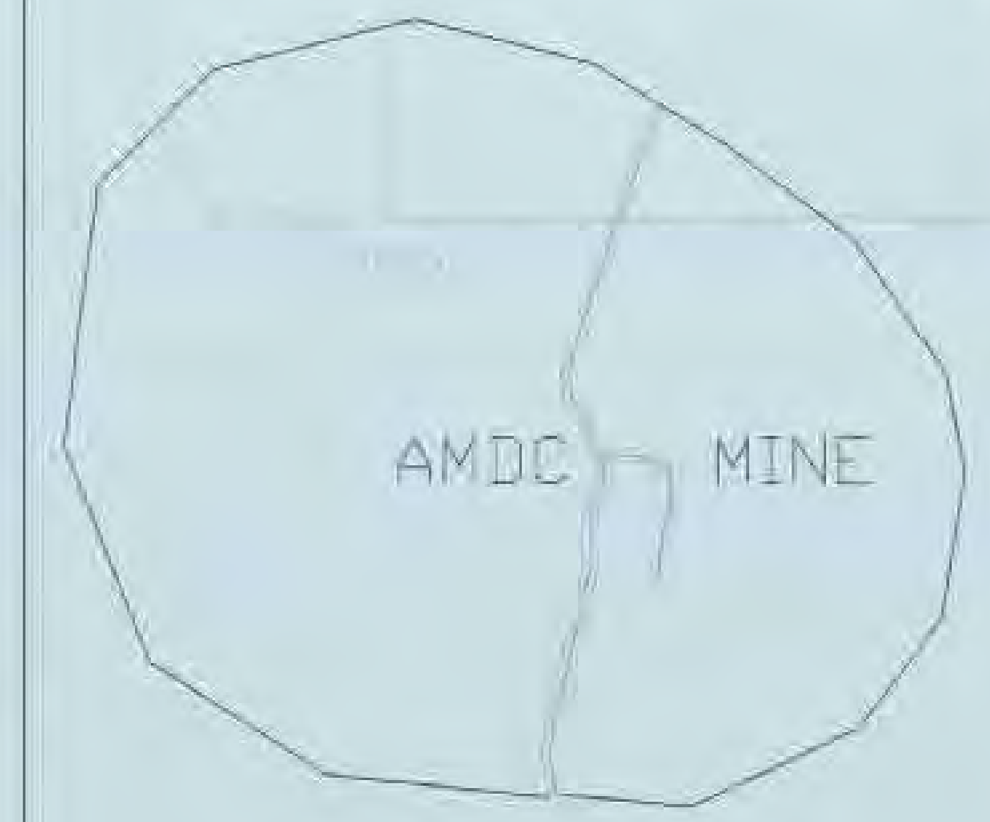
SHAILENDRA SINGH BIST
KEY PERSON

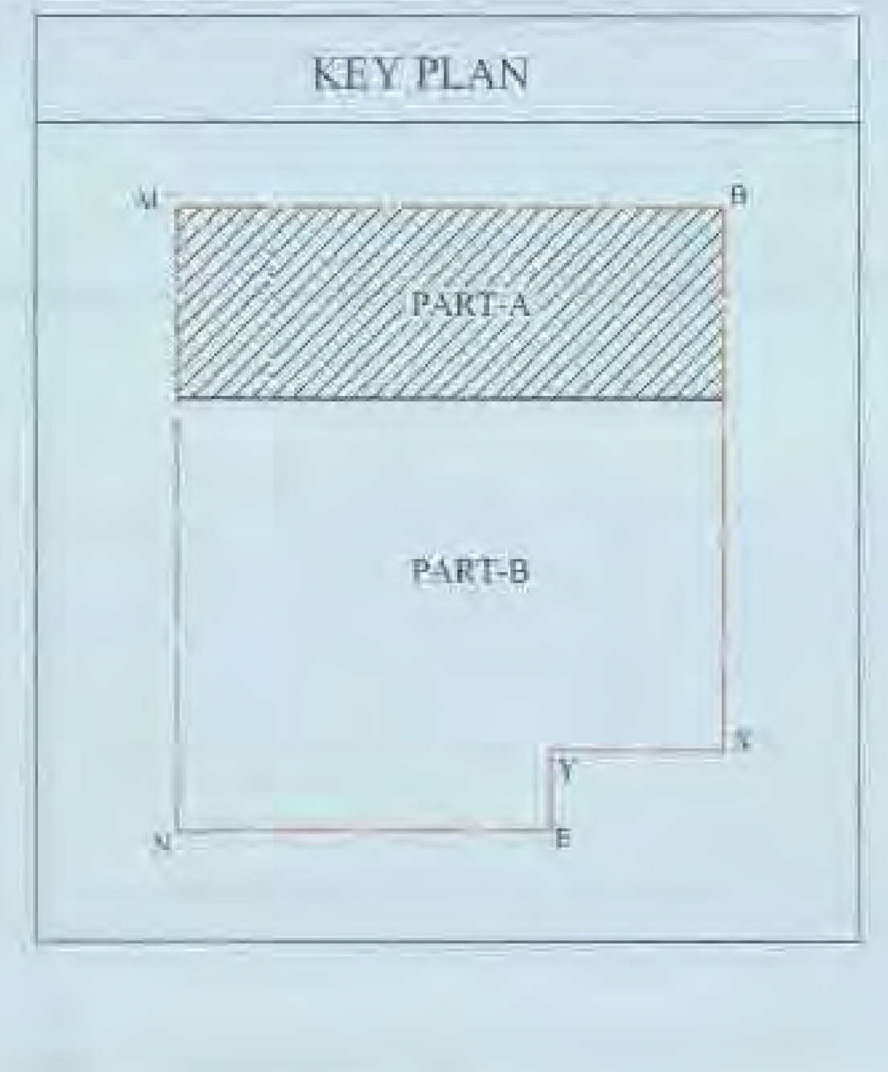
PREPARED BY:

UDAIPUR MIN-TECH PVT. LTD.
206, APEKSHA COMPLEX, IInd FLOOR, HIRAN MAGRI
SECTOR NO. 11, UDAIPUR (RAJ.)
PHONE NO.- 2489672 (O)

DOC. NO.-UMUKEY/23/2013-12

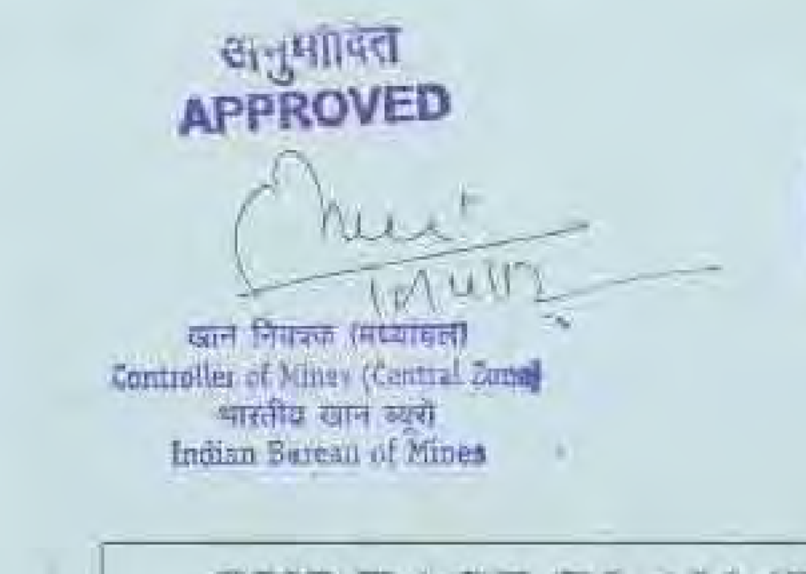
अनुमोदित
APPROVED
नियंत्रक (मध्यांचल)
Controller of Mines (Central Zone)
भारतीय खान ब्यूरो
Indian Bureau of Mines





DATE OF SURVEY-18.08.2005

UPDATED ON- 25-03-2011



SURVEY NOTE

1. ALL DIMENSION IN METERS
2. COUNTOR INTERVAL IS 5.0 METERS
3. ALL LEVELS ARE CONNECTED OF DGM BENCH MARK ON STONE RL- 57.556mRL AT UMRANSU VILLAGE
4. SURVEY WAS CARRIED OUT WITH TOTAL STATION " LEICA - 407"
5. HIGHEST ELEVATION - 435.0mRL
6. LOWEST ELEVATION - 245.0mRL
7. MAXIMUN LEVEL DIFFERENCE - 190.0 METERS

SCALE -1 : 2000

100 200 300 400M

INDEX

	MINING LEASE BOUNDARY
	CONTOUR
	GRID LINE
	ROAD
	SPOT LEVEL
	NALLA
	BORE HOLE WITH NUMBER
	DGPS POINT
	7.5 BARRIER ZONE

PLATE NO.- 3 A

SURFACE PLAN (Part-A)

UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE - UMRANGSHU,
DISTRICT - DIMA HASAO (N. C HILLS), ASSAM

OWNER:- **M/S CALCOM CEMENT INDIA LTD.**
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
GUWAHATI, ASSAM - 781 003

SCALE 1: 2000	AREA - 417.50 HECT.

CERTIFICATE - IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE

For- UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/354/2009-B)

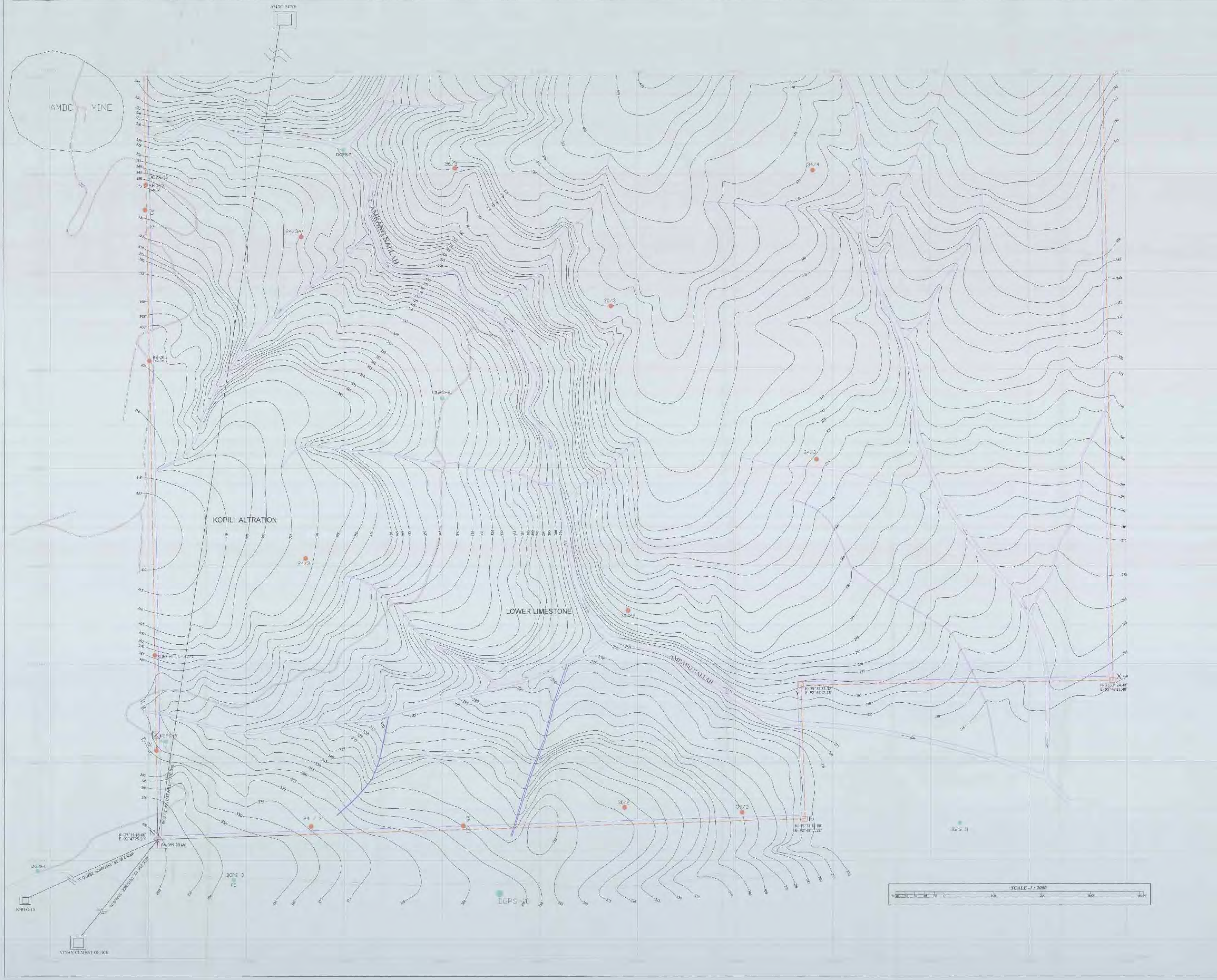
PLACE- UDAIPUR
DATE- 27.12.2011

MANOJ NANDWANA
KEY PERSON

SHAILENDRA SINGH BIST
KEY PERSON

PREPARED BY:
UDAIPUR MIN-TECH PVT. LTD.
206, APEKSHA COMPLEX, IInd FLOOR, HIRAN MAGRI
SECTOR NO. 11, UDAIPUR (RAJ.)
PHONE NO.- 2489672 (O)

DRG. NO. UMT/SUR/383-A/2011-12



KEY PLAN
PART-A
PART-B

DATE OF SURVEY-18.08.2005
UP DATED ON- 25-03-2011

INDEX

	MINING LEASE BOUNDARY
	CONTOUR
	GRID LINE
	ROAD
	SPOT LEVEL
	NALLA
	BORE HOLE WITH NUMBER
	DGPS POINT
	BENCH MARK
	7.5 BARRIER ZONE

SURVEY NOTE

1. ALL DIMENSION IN METERS
2. COUNTOR INTERVAL IS 5.0 METERS
3. ALL LEVELS ARE CONNECTED OF DGM BENCH MARK ON STONE RL- 57.556mRL AT UMRANSU VILLAGE
4. SURVEY WAS CARRIED OUT WITH TOTAL STATION " LEICA - 407"
5. HIGHEST ELEVATION - 435.0mRL
6. LOWEST ELEVATION - 245.0mRL
7. MAXIMUN LEVEL DIFFERENCE - 190.0 METERS

SCALE - 1 : 2000

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APPROVED

PLATE NO - 3 B

SURFACE PLAN (Part-B)

UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE - UMRANGSHU,
DISTRICT - DIMA HASAO (N. C. HILLS), ASSAM

OWNER - M/S CALCOM CEMENT INDIA LTD.
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
GUWAHATI, ASSAM - 781003

SCALE 1: 2000	AREA - 417.50 HECT.

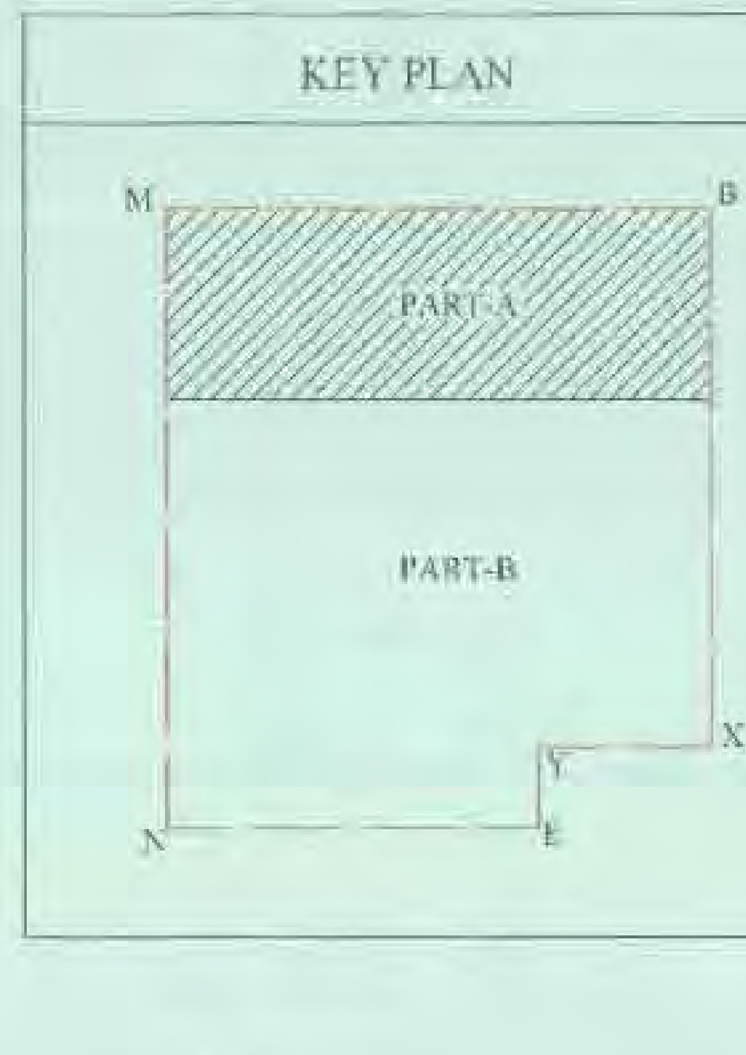
CERTIFICATE - IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE
For- UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/354/2009-B)

PLACE- UDAIPUR
DATE- 27.12.2011

MANOJ NANEWANA
KEY PERSON

SHAILENDRA SINGH BIST
KEY PERSON

PREPARED BY-
UDAIPUR MIN-TECH PVT. LTD.
206, APEKSHA COMPLEX, IInd FLOOR, HIRAN MAGRI,
SECTOR NO. 11, UDAIPUR (RAJ.)
PHONE NO.- 2489672 (O)



DATE OF SURVEY-18.08.2008

UP DATED ON- 25-05-2011

अनुमोदित
APPROVED

Controller of Mines (Central Zone)
Indian Bureau of Mines

INDEX

	MINING LEASE BOUNDARY
	CONTOUR
	GRID LINE
	ROAD
	SPOT LEVEL
	NALLA
	BORE HOLE WITH NUMBER
	DGPS POINT
1	KAPILI ALTRENATION
2	TOP BAND LIMESTONE
5	SHALE
6	BOTTOM BAND LIMESTONE
	MINING BLOCK
	PROPOSED BORE HOLE
	UNFC-122
	UNFC-222
	UNFC-332
	UNFC-333

SCALE -1 : 2000

PLATE NO - 4A

GEOLOGICAL PLAN (Part-A)

UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE - UMRANGSHU,
DISTRICT - DIMA HASAO (N. C. HILLS), ASSAM

OWNER :- M/S CALCOM CEMENT INDIA LTD.
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
GUWAHATI, ASSAM - 781 003

SCALE 1: 2000	AREA - 417.50 HECT

CERTIFICATE :- IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE.

For- UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/354/2009-B)

PLACE - UDAIPUR
DATE - 27-12-2011

MANOJ NANDWANA
KEY PERSON

SHAILENDRA SINGH BIST
KEY PERSON

PREPARED BY:- UDAIPUR MIN-TECH PVT. LTD.
206, APEKSHA COMPLEX, IInd FLOOR, HIRAN MAGRI,
SECTOR NO. 11, UDAIPUR (RAJ.)
PHONE NO. - 2489672 (O)

DRG. NO. UMT/GEO/583-B/2011-12

AMDC MINE

KEY PLAN

PART-A

PART-B

DATE OF SURVEY-18.08.2005

UP DATED ON- 25-03-2011

INDEX

	MINING LEASE BOUNDARY
	CONTOUR
	GRID LINE
	ROAD
	SPOT LEVEL
	NALLA
	BORE HOLE WITH NUMBER
	DGPS POINT
7	KAPILI ALTRNATION
4	TOP BAND LIMESTONE
5	SHALE
6	BOTTOM BAND LIMESTONE
	MINING BLOCK
	PROPOSED BORE HOLE
	UNFC-122
	UNFC-222
	UNFC-332
	UNFC-333

अनुमोदित
APPROVED

PLATE NO.- # B

GEOLOGICAL PLAN (Part-B)

UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE - UMRANGSHU
DISTRICT - DIMA HASAO (N. C. HILLS) , ASSAM

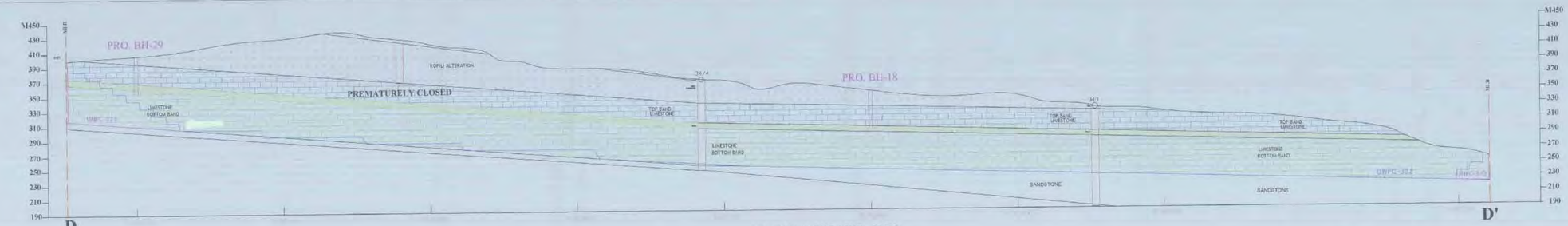
OWNER:- M/S CALCOM CEMENT INDIA LTD.
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
GUWAHATI, ASSAM - 781 003

SCALE 1: 2000 | AREA – 417.50 HECT.

CERTIFICATE :- IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE
For- UDAIPUR MIN-TECH PVT. LTD.
(RQP/UTP/54/2009-B)

PLACE- UDAIPUR
DATE- 07.12.2011
MANOJ NANDWANA KEY PERSON
SHAILENDRA SINGH BIST KEY PERSON

PREPARED BY:- UDAIPUR MIN-TECH PVT. LTD.
206, APEKSHA COMPLEX, IInd FLOOR, HIRAN MAGRI, SECTOR NO. 11, UDAIPUR (RAJ.)
PHONE NO.- 2903672 (O)
ISO: 9001:2008 & 14001:2004



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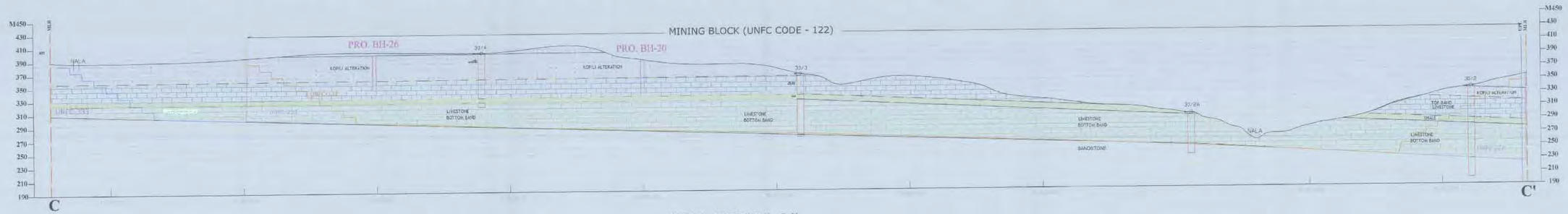

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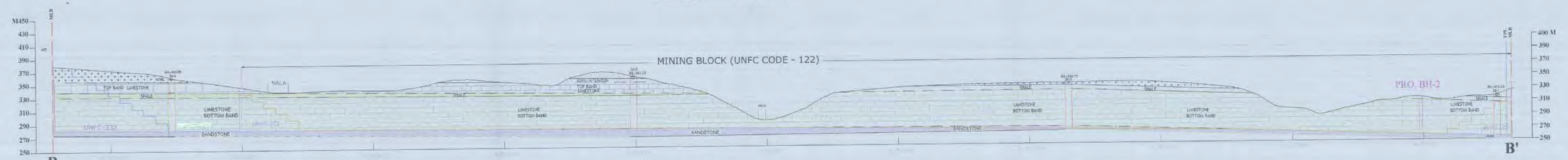

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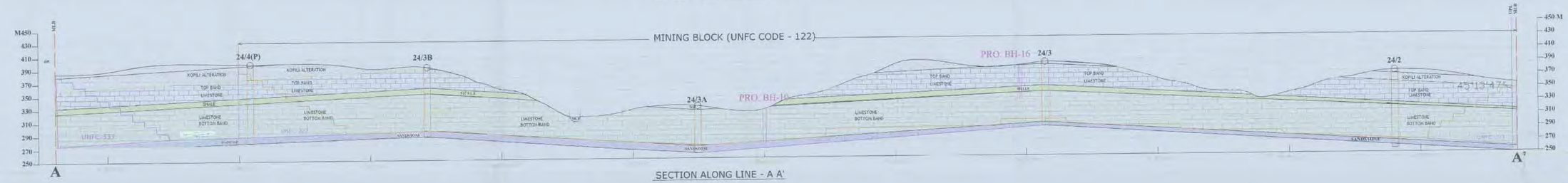

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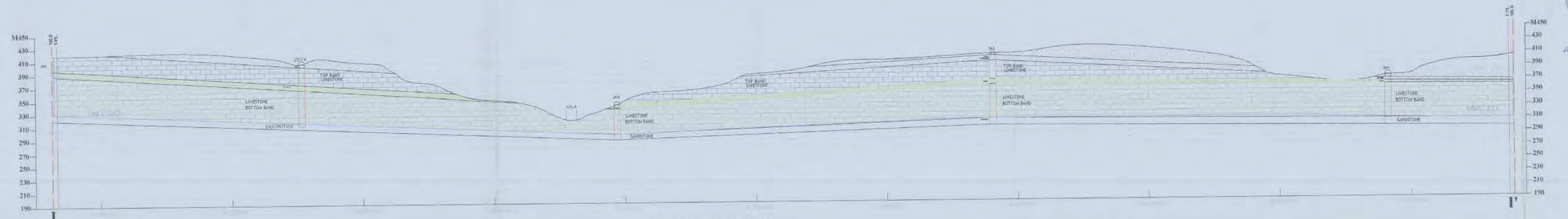


SECTION ALONG LINE - I I'

SCALE -1 : 2000

INDEX

	MINING LEASE BOUNDARY
	SOIL
3	KAPILI ALTRENATION
4	TOP BAND LIMESTONE
5	SHALE
6	BOTTOM BAND LIMESTONE
	SANDSTONE
	MINING BLOCK
	PROPOSED BORE HOLE
	UNFC-122
	UNFC-222
	UNFC-332
	UNFC-333

APPROVED

PLATE NO - 4 C

GEOLOGICAL SECTIONS *(NORTH-SOUTH)*

UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE - UMRANGSHU,
DISTRICT - DIMA HASAO (N. C. HILLS) , ASSAM

OWNER :- M/S CALCOM CEMENT INDIA LTD.
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
GUWAHATI. ASSAM - 781 003.

SCALE 1: 2000 | AREA - 417.50 HECT.

CERTIFICATE :- IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE.
For:- UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDR/554/2009-10)

PLACE: UDAIPUR
DATE: 27/7/2011
MANOJ NANDWANA
KEY PERSON
SHAILENDRA SINGH BIST
KEY PERSON

UDAIPUR MIN-TECH PVT. LTD.
206, APEESHA COMPLEX, 2nd FLOOR, HIRAN MAGRI,
SECTOR NO. 14, UDAIPUR (RAJ.)
PHONE NO. - 2409672 (3)

SECTION ALONG LINE - E E'

SECTION ALONG LINE - F F''

SECTION ALONG LINE - G G'

INDEX

	MINING LEASE BOUNDARY
	SOIL
3	KAPILI ALTRENATION
4	TOP BAND LIMESTONE
5	SHALE
6	BOTTOM BAND LIMESTONE
	SANDSTONE
	MINING BLOCK
	PROPOSED BORE HOLE
	UNFC-122
	UNFC-222
	UNFC-332
	UNFC-333

SCALE - 1 : 2000

PLATE NO. - 4 D

GEOLOGICAL SECTIONS (EAST - WEST)

UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE - UMRANGSHU,
DISTRICT - DIMA HASAO (N. C. HILLS), ASSAM

OWNER :- M/S CALCOM CEMENT INDIA LTD.
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
GUWAHATI, ASSAM - 781 003

SCALE 1: 2000	AREA - 417.50 HECT.

CERTIFICATE :- IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE.
For- UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/354/2009-B)

PLACE - UDAIPUR
DATE - 27.12.2011

MANOJ NANDWANA
KEY PERSON

SHAILENDRA SINGH BIST
KEY PERSON

PREPARED BY :-
UDAIPUR MIN-TECH PVT. LTD.
206, APEKSHA COMPLEX, IInd FLOOR, HIRAN MAGRI,
SECTOR NO. 11, UDAIPUR (RAJ.)
PHONE NO. 2489672 (O)


KEY PLAN
PART-A
PART-B
SECTION ALONG LINE - G G'
G
G'
SECTION ALONG LINE - X-X'
DATE OF SURVEY- 18.08.2005
UP DATED ON- 25-03-2011
SECTION ALONG LINE - A-A'
A
A'
SECTION ALONG LINE - D D'
D'
AMDC MINE
AMRANG NALLAH
1st YR TOP SOIL STORAGE
1st YR
KOPILI ALTRATION
KAPILA ALTRATION
LOWER LIMESTONE
1st YR DUMP
1st YR PLANTATION
IGPS-6
BOREHOLE-29/1
PRO. BH-1
PRO. BH-2
PRO. BH-3
PRO. BH-4
PRO. BH-5
PRO. BH-6
PRO. BH-7
PRO. BH-8
PRO. BH-9
PRO. BH-10
PRO. BH-11
PRO. BH-12
PRO. BH-13
PRO. BH-14
PRO. BH-15
PRO. BH-17
PRO. BH-18
PRO. BH-19
PRO. BH-20
PRO. BH-21
PRO. BH-22
PRO. BH-23
INDEX
SCALE -1 : 2000
अनुमोदित
APPROVED
PLATE NO.-5 a
DEVELOPMENT & PRODUCTION PLAN & SECTIONS OF 1st YEAR
UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE - UMRANGSHU,
DISTRICT - DIMA HASAO (N. C. HILLS), ASSAM
OWNER:- M/S CALCOM CEMENT INDIA LTD.
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
GUWAHATI, ASSAM - 781 003
SCALE 1 : 2000
AREA - 417.50 HECT.
CERTIFICATE :- IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE.
For- UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/354/2009-B)
PLACE- UDAIPUR
MANOJ NANDWANA
KEY PERSON
SHAILENDRA SINGH BIST
KEY PERSON
PREPARED BY:-
UDAIPUR MIN-TECH PVT. LTD.
206, APEKSHA COMPLEX, IInd FLOOR, HIRAN MAGRI,
SECTOR NO. 11, UDAIPUR (RAJ.)
PHONE NO.- 2489672 (O)

INDEX

	MINING LEASE BOUNDARY
	7.5 m. BARRIER ZONE
	CONTOUR
	GRID LINE
	ROAD
	SPOT LEVEL
	NALLA
	BORE HOLE WITH NUMBER
	DGPS POINT
3	KAPILI ALTRENATION
4	TOP BAND LIMESTONE
5	SHALE
6	BOTTOM BAND LIMESTONE
	MINING BLOCK (UNFC CODE 122)
	PROPOSED BORE HOLE
	PROPOSED DEVELOPMENT IInd YEAR
	PROPOSED DUMPSITE IInd YEAR
	PROPOSED TOP SOIL STACK IInd YEAR
	PROPOSED PLANTATION IInd YEAR
	PROPOSED STONEWALL
	PROPOSED GARLAND DRAIN
	PROPOSED ROAD
	DIRECTION OF FACE ADVANCE

APPROVED

PLATE NO:- 5 B

DEVELOPMENT & PRODUCTION PLAN & SECTIONS OF IInd YEAR

UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE - UMRANGSHU,
DISTRICT - DIMA HASAO (N. C. HILLS), ASSAM

OWNER :- **M/S CALCOM CEMENT INDIA LTD.**
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
GUWAHATI, ASSAM - 781 003

SCALE 1: 2000	AREA - 417.50 HECT.

CERTIFICATE :- IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE.
For- UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/354/2009-B)

PLACE: UDAIPUR
DATE: 27.12.2011
MANOJ NANDWANA, KEY PERSON
SHAILENDRA SINGH BIST, KEY PERSON

PREPARED BY
UDAIPUR MIN-TECH PVT. LTD.
206, APEKSHA COMPLEX, IInd FLOOR, HIRAN MAGRI,
SECTOR NO. 11, UDAIPUR (RAJ.)
PHONE NO.- 2489672 (O)

अनुमोदित
APPROVED

PLATE NO.- 5 C

DEVELOPMENT & PRODUCTION PLAN & SECTIONS OF IIIrd YEAR

UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE - UMRANGSHU,
DISTRICT - DIMA HASAO (N. C. HILLS), ASSAM

OWNER:- **M/S CALCOM CEMENT INDIA LTD.**
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
GUWAHATI, ASSAM 781 003

SCALE 1 : 2000	AREA - 417.50 HECT.

CERTIFICATE :- IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE.

For- UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/351/2009-B)

PLACE: UDAIPUR
DATE:- 27.12.2011

MANOJ NANDWANA
KEY PERSON

SHAILENDRA SINGH BIST
KEY PERSON

PREPARED BY: UDAIPUR MIN-TECH PVT. LTD.
206, APEKSHA COMPLEX, IInd FLOOR, HIRAN MAGRI,
SECTOR NO. 11, UDAIPUR (RAJ.)
PHONE NO.- 2489672 (O)


KEY PLAN
PART-A
SECTION ALONG LINE - G G'
SECTION ALONG LINE - X-X'
SECTION ALONG LINE - A-A'
SECTION ALONG LINE - D D'
DATE OF SURVEY: 18-08-2005
UP DATED ON : 25-03-2011
AMDC MINE
PRO. BH-19
PRO. BH-20
PRO. BH-21
PRO. BH-22
PRO. BH-23
PRO. BH-16
PRO. BH-17
PRO. BH-18
PRO. BH-12
PRO. BH-10
PRO. BH-5
PRO. BH-6
PRO. BH-7
PRO. BH-8
PRO. BH-9
PRO. BH-4
PRO. BH-3
PRO. BH-1
PRO. BH-2
IVth YR TOP SOIL STORAGE
IIIrd YR.
IVth YEAR MINING
IVth YR DUMP
IVth YR PLANTATION
IIIrd YR PLANTATION
IInd YR PLANTATION
Ist YR PLANTATION
KOPILI ALTRATION
LOWER LIMESTONE
AMRANG NALLAH
BOREHOLE-20/1
INDEX
SCALE :- 1 : 2000
अनुमोदित
APPROVED
PLATE NO.- 5 D
DEVELOPMENT & PRODUCTION PLAN & SECTIONS OF IVth YEAR
UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE - UMRANGSHU
DISTRICT - DIMA HASAO (N. C. HILLS), ASSAM
OWNER:- M/S CALCOM CEMENT INDIA LTD.
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
GUWAHATI, ASSAM - 781 003
SCALE 1: 2000
AREA - 417.50 HECT.
CERTIFICATE - IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE
For UDAIPUR MIN-TECH PVT. LTD.
PLACE: UDAIPUR
MANOJ NANDWANA
KEY PERSON
SHAILENDRA SINGH BIST
KEY PERSON
PREPARED BY:
UDAIPUR MIN-TECH PVT. LTD.
206, APEKSHA COMPLEX, IInd FLOOR, HIRAN MAGRI,
SECTOR NO. 11, UDAIPUR (RAJ.)
PHONE NO. - 2489672 (O)

KEY PLAN

PART-A

PART-B

SECTION ALONG LINE - G G'

SECTION ALONG LINE - X-X'

DATE OF SURVEY-18.08.2005

UP DATED ON- 25.03.2013

AMDC MINE

PRO. BH-19

PRO. BH-20

PRO. BH-21

PRO. BH-22

PRO. BH-16

PRO. BH-17

PRO. BH-18

PRO. BH-12

PRO. BH-7

PRO. BH-8

PRO. BH-9

PRO. BH-5

PRO. BH-6

PRO. BH-4

PRO. BH-3

PRO. BH-2

PRO. BH-1

DGPS-17

DGPS-7

DGPS-8

DGPS-5

DGPS-4

DGPS-3

DGPS-10

DGPS-11

Vth YR TOP SOIL STORAGE 21 B

Vth YR DUMP - B 60 R

Vth YR DUMP - A 60 R

Vth YR PLANTATION

IVth YR PLANTATION

IIIrd YR PLANTATION

IInd YR PLANTATION

Ist YR PLANTATION

KOPILI ALTRATION

LOWER LIMESTONE

AMBANG NALLAH

Vth YR MINING

BORE HOLE

INDEX

- MINING LEASE BOUNDARY
- 7.5 m BARRIER ZONE
- CONTOUR
- GRID LINE
- ROAD
- SPOT LEVEL
- NALLA
- BORE HOLE WITH NUMBER
- DGPS POINT
- KAPILI ALTRENATION
- TOP BAND LIMESTONE
- SHALE
- BOTTOM BAND LIMESTONE
- PIPING BLOCK (UNFC CODE 122)
- PROPOSED BORE HOLE
- PROPOSED DEVELOPMENT Vth YEAR
- PROPOSED DUMPSITE Vth YEAR
- PROPOSED TOP SOIL STACK Vth YEAR
- PROPOSED PLANTATION Vth YEAR
- PROPOSED STORMWALL
- PROPOSED GARLAND DRAIN
- PROPOSED ROAD
- DIRECTION OF FACE ADVANCE

SCALE-1: 2000

APPROVED

PLATE NO.- 5 E

DEVELOPMENT & PRODUCTION PLAN & SECTIONS OF Vth YEAR

UMRANGSHU LIMESTONE DEPOSIT

NEAR VILLAGE - UMRANGSHU,
DISTRICT - DIMA HASAO (N.C. HILLS) , ASSAM

OWNER: M/S CALCOM CEMENT INDIA LTD.
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
GUWAHATI, ASSAM - 781 003

SCALE-1: 2000 | AREA - 417.50 HECT.

CERTIFICATE - IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE.
For - UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/204/2009-R)

PLACE: UDAIPUR
DATE: 27.12.2013

MANOJ NANDWANA
KEY PERSON

SHAILENDRA SINGH BIST
KEY PERSON

UDAIPUR MIN-TECH PVT. LTD.
206, AYODHYA COMPLEX, IInd FLOOR, SOHAN MARG,
SHOOR NO. 11, UDAIPUR (RAJ.)
PHONE NO.- 2488672 (O)

PREDOMINENT WIND DIRECTION

DATE OF SURVEY :18.08.2009
UP DATED ON- 25-03-2011

AMDC MINE

AMDC (ML)
AREA-0.33 Sq. km.

AREA - 0.35 Sq. km.
A. K. Dugar (THIS IS VACANT LAND)

AREA - 0.35 Sq. km.
K. Meghalaya Mineral 9ML)

AREA - 0.40 Sq. km.
D. K. Chetia

AREA - 0.40 Sq. km.
S & R Traders (PL)

AREA - 0.40 Sq. km.
C. Hadlai (PL)

INDEX

	MINING LEASE BOUNDARY
	CONTOUR
	GRID LINE
	ROAD
	SPOT LEVEL
	NALLA
	BORE HOLE WITH NUMBER
	DGPS POINT
	GOVT. WASTE LAND
	50 M. ZONE
	500 M. ZONE
	OTHER LEASE AREA
	NOISE & VIBRATION MONITORING STATION
	WATER MONITORING STATION
	AIR MONITORING STATION

SCALE - 1:5000

अनुमोदित
APPROVED
10/4/12
खान नियंत्रक (केन्द्रीय)
Controller of Mines (Central Zone)
भारतीय खान ब्यूरो
Indian Bureau of Mines

PLATE NO.- 6

ENVIRONMENT PLAN

UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE - UMRANGSHU,
DISTRICT - DIMA HASAO (N. C. HILLS), ASSAM

OWNER:- M/S CALCOM CEMENT INDIA LTD.
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
ASSAM GUWAHATI - 781 003

SCALE 1:5000 | AREA - 41.50 HECT.

CERTIFICATE :- IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE.
For- UDAIPUR MIN TECH PVT. LTD.
(RQP/UDR/356/2009-10)

MANOJ NANDWANA
KEY PERSON

SHAILENDRA SINGH BIST
STA PERSON

PREPARED BY:-
UDAIPUR MIN-TECH PVT. LTD.
206, APEKSHA COMPLEX, IInd FLOOR, HIRAN MAGRI
SECTOR NO. 11, UDAIPUR (RAJ.)
PHONE NO.- 2489672 (O)

SECTION ALONG LINE - Y Y'
SECTION ALONG LINE - X X'
PROPOSED STONE WALL
PROPOSED GARLAND DRAIN
AMDC MINE
PRO. BH-19
PRO. BH-20
PRO. BH-21
PRO. BH-22
PRO. BH-17
PRO. BH-18
PRO. BH-12
PRO. BH-7
PRO. BH-8
PRO. BH-9
PRO. BH-4
AMRANG NALLAH
PROPOSED TOP SOIL STORAGE
LOWER LIMESTONE
KOPILI ALTRATION
BOREHOLE-20/1
Vth YR DUMP
IVth YR DUMP
IIIrd YR DUMP
IInd YR DUMP
Ist YR DUMP
PROPOSED DUMP-A
PROPOSED DUMP - B
Vth YR PLANTATION
IVth YR PLANTATION
IIIrd YR PLANTATION
IInd YR PLANTATION
Ist YR PLANTATION
KEY PLAN
PART-A
PART-B
DATE OF SURVEY- 18.08.2005
UP DATED ON- 25-03-2011
SCALE -1 : 2000
INDEX
MINING LEASE BOUNDARY
CONTOUR
GRID LINE
ROAD
SPOT LEVEL
NALLA
BORE HOLE WITH NUMBER
DGPS POINT
KAPILI ALTRENATION
TOP BAND LIMESTONE
SHALE
BOTTOM BAND LIMESTONE
MINING BLOCK (UNFC CODE 122)
PROPOSED BORE HOLE
PROPOSED PIT LIMIT END OF Vth YR.
PROPOSED DUMPSITE END OF Vth YR.
PROPOSED TOP SOIL STACK END OF Vth YR.
PROPOSED PLANTATION END OF Vth YR.
PROPOSED STONEWALL
PROPOSED GARLAND DRAIN
PROPOSED ROAD
PROPOSED FENCING
PROPOSED CHECK DAM
NOISE & VIBRATION MONITORING STATION
WATER MONITORING STATION
PROPOSED FENCING
अनुमोदित
APPROVED
PLATE NO.- 6 A
ENVIRONMENT MANAGEMENT PLAN
UMRANGSHU LIMESTONE AREA
NEAR VILLAGE - UMRANGSHU,
DISTRICT - DIMA HASAO (N. C. HILLS), ASSAM
M/S CALCOM CEMENT INDIA LTD.
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
ASSAM GUWAHATI - 781 003
SCALE 1 : 2000
AREA - 417.50 HECT.
CERTIFICATE: IT IS CERTIFIED THAT THIS PLAN & SECTIONS ARE PREPARED UNDER OUR SUPERVISION & ARE CORRECT TO THE BEST OF OUR KNOWLEDGE.
For- UDAIPUR MIN-TECH PVT. LTD.
MANOJ NANDWANA
KEY PERSON
SHAILENDRA SINGH BISHT
KEY PERSON
UDAIPUR MIN-TECH PVT. LTD.
PHONE NO.- 2489671 (O)

INDEX

	MINING LEASE BOUNDARY
	CONTOUR
	GRID LINE
	ROAD
	SPOT LEVEL
	NALLA
	PROPOSED CONCEPTUAL PIT LIMIT END OF MINE LIFE
	PROPOSED DUMP SITE END OF MINE LIFE
	PROPOSED PLANTATION END OF MINE LIFE
	PROPOSED FENCING
	PROPOSED ROAD
	PROPOSED GARLAND DRAIN
	PROPOSED CRUSHER SITE
	PROPOSED OFFICE/ RS
	PROPOSED MAGAZINE
	PROPOSED STONE WALL

SCALE - 1 : 3000

M 150 120 90 60 30 0 150 300 450 600 M

PLATE NO.-7

CONCEPTUAL PLAN & SECTIONS

UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE - UMRANGSHU,
DISTRICT - DIMA HASAO (N. C. HILLS), ASSAM

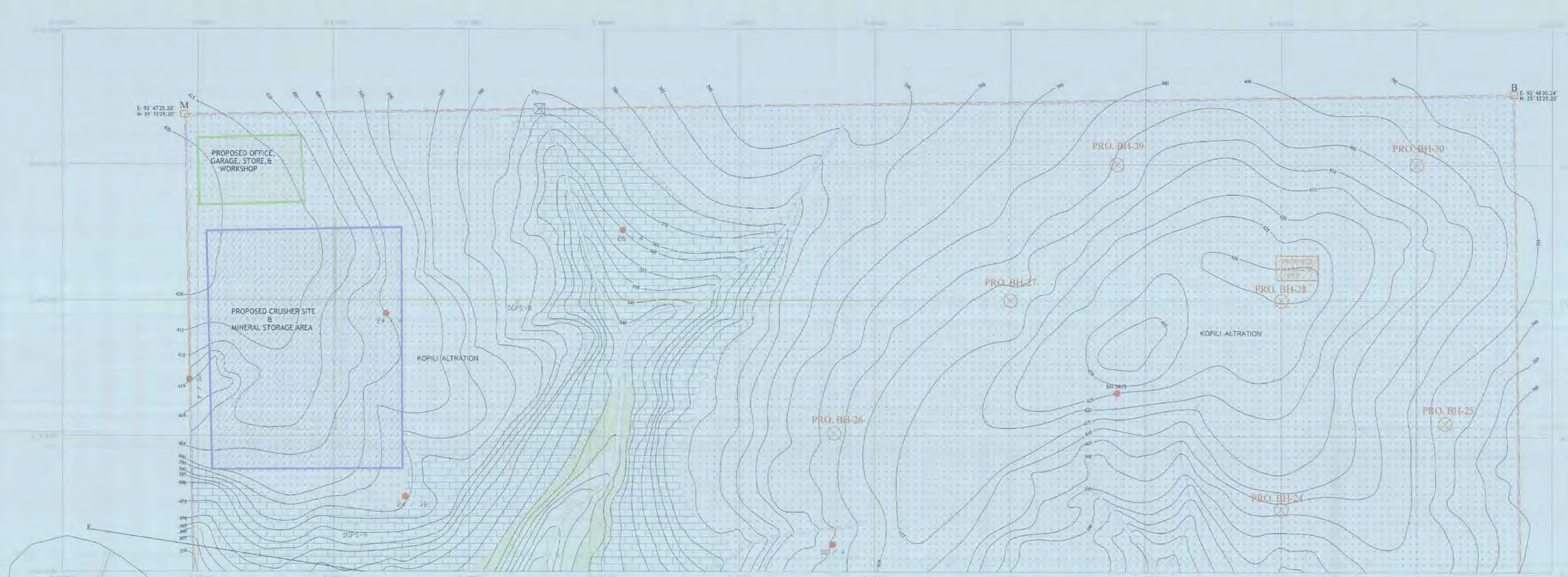
OWNER: M/S CALCOM CEMENT INDIA LTD.
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
GUWAHATI, ASSAM - 781 003

SCALE 1: 3000 | AREA - 417.50 HECT.

CERTIFICATE :- IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE.
For- UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/354/2009-B)

MANDI NANDWANA, KEY PERSON — SHAILENDRA SINGH BISI, KEY PERSON

PREPARED BY: UDAIPUR MIN-TECH PVT. LTD.
206, APEKSHA COMPLEX, IInd FLOOR, HIRAN MAGRI, SECTOR NO. 11, UDAIPUR (RAJ)
PHONE NO. - 2489672 (O)



DATE OF SURVEY-18.08.2005
UP DATED ON- 25-03-2011

KEY PLAN

INDEX

	MINING LEASE BOUNDARY
	7.5 m. BARRIER ZONE
	CONTOUR
	GRID LINE
	ROAD
	SPOT LEVEL
	NALLA
	BORE HOLE WITH NUMBER
	DGPS POINT
3	KAPILI ALTRENATION
4	TOP BAND LIMESTONE
5	SHALE
6	BOTTOM BAND LIMESTONE
	MINING BLOCK (UNFC CODE 122)
	PROPOSED BORE HOLE
	PROPOSED OFFICE, GARAGE, STORE & WORKSHOP
	PROPOSED CRUSHER SITE & MINERAL STORAGE AREA
	PROPOSED MAGAZINE SITE

SCALE -1 : 2000

APPROVED
खान नियंत्रक (मध्यांचल)
Controller of Mines (Central Zone)
भारतीय खान ब्यूरो
Indian Bureau of Mines

PLATE NO - 8 A

PROGRESSIVE MINE CLOSURE PLAN (Part-A)

UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE - UMRANGSHU,
DISTRICT - DIMA HASAO (N. C. HILLS) , ASSAM

OWNER :- M/S CALCOM CEMENT INDIA LTD.
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
GUWAHATI, ASSAM - 781 003

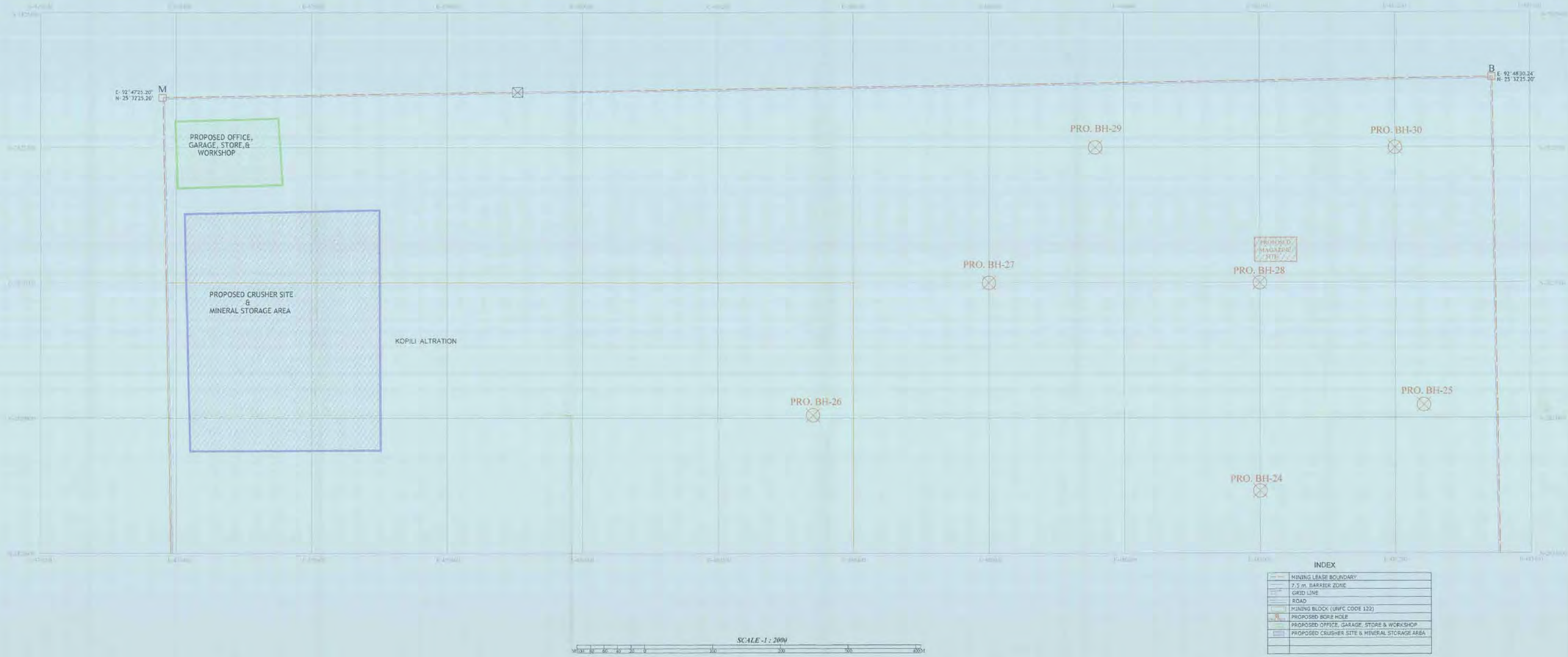
SCALE 1: 2000 | AREA - 417.50 HECT.

CERTIFICATE :- IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE
For- UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/354/2009-10)

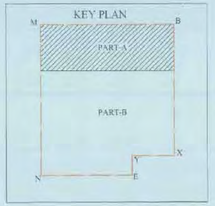
PLACE - UDAIPUR
DATE - 27.12.2011
MANOJ NANDWANA - SHAILENDRA SINGH BIST
KEY PERSON

PREPARED BY-
UDAIPUR MIN-TECH PVT. LTD.
206, APEKSHA COMPLEX, IInd FLOOR, HIRAN MAGRI,
SECTOR NO. 11, UDAIPUR (RAJ.)
PHONE NO.- 2489672 (O)


KEY PLAN
PART-A
PART-B
SECTION ALONG LINE - G G'
SECTION ALONG LINE - X-X'
SECTION ALONG LINE - D D'
SECTION ALONG LINE - A A'
AMDC MINE
PRO. BH-19
PRO. BH-20
PRO. BH-21
PRO. BH-22
PRO. BH-17
PRO. BH-18
PRO. BH-12
PRO. BH-7
PRO. BH-8
PRO. BH-9
PRO. BH-4
PROPOSED TOP SOIL STORAGE
PROPOSED BUND
AMRANG NALLAH
PROPOSED DUMP-A
PROPOSED DUMP-B
IVth YR PLANTATION
Vth YR PLANTATION
IIIrd YR PLANTATION
IInd YR PLANTATION
Ist YR PLANTATION
LOWER LIMESTONE
BOREHOLE-20/1
KOPILI ALTRATION
INDEX
MINING LEASE BOUNDARY
CONTOUR
GRID LINE
ROAD
SPOT LEVEL
NALLA
BORE HOLE WITH NUMBER
DGPS POINT
KAPILI ALTERNATION
TOP BAND LIMESTONE
SHALE
BOTTOM BAND LIMESTONE
MINING BLOCK (UNFC CODE 122)
PROPOSED BORE HOLE
PROPOSED PIT LIMIT END OF Vth YR.
PROPOSED DUMPSITE END OF Vth YR.
PROPOSED TOP SOIL STACK END OF Vth YR.
PROPOSED PLANTATION END OF Vth YR.
PROPOSED STONEWALL
PROPOSED GARLAND DRAIN
PROPOSED ROAD
PROPOSED FENCING
PROPOSED BUND
SCALE :1 : 2000
APPROVED
Controller of Mines (Central Zone)
Indian Bureau of Mines
PLATE NO.- 8 B
PROGRESSIVE MINE CLOSURE PLAN (Part-B)
UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE - UMRANGSHU,
DISTRICT - DIMA HASAO (N. C. HILLS), ASSAM
OWNER:- M/S CALCOM CEMENT INDIA LTD.
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
GUWAHATI, ASSAM - 781 003
SCALE 1: 2000
AREA 417.50 HECT.
CERTIFICATE :- IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE.
For- UDAIPUR MIN-TECH PVT. LTD.
MANOJ NANDWANA
KEY PERSON
SHAILENDRA SINGH BIST
KEY PERSON
PREPARED BY:-
UDAIPUR MIN-TECH PVT. LTD.
SECTOR NO. 11, UDAIPUR (RAJ.)



KEY PLAN



SCALE -1 : 2000

INDEX

	MINING LEASE BOUNDARY
	7.5 m. BARRIER ZONE
	GRID LINE
	ROAD
	MINING BLOCK (UNFC CODE 122)
	PROPOSED BORE HOLE
	PROPOSED OFFICE, GARAGE, STORE & WORKSHOP
	PROPOSED CRUSHER SITE & MINERAL STORAGE AREA

APPROVED

PLATE NO - 9 A

FINANCIAL ASSURANCE AREA PLAN

UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE - UMRANGSHU,
DISTRICT - DIMA HASAO (N. C. HILLS), ASSAM

OWNER :- M/S CALCOM CEMENT INDIA LTD.
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
GUWAHATI, ASSAM - 781 005

SCALE 1: 2000 | AREA - 417.50 HECT.

CERTIFICATE :- IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE.
For- UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/554/2009-B)

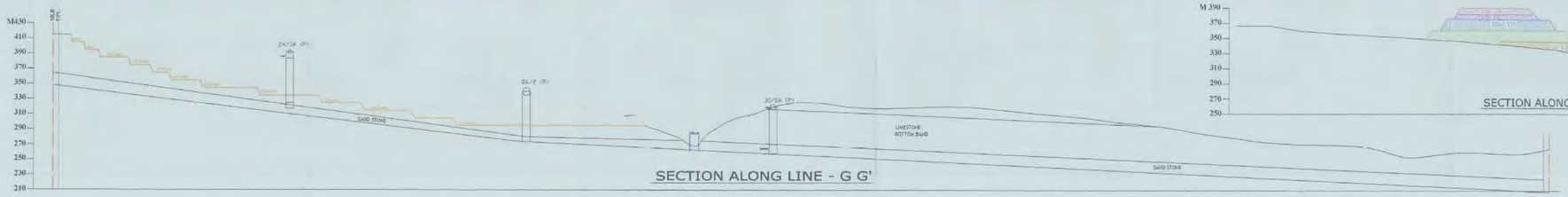
PLACE :UDAIPUR
DATE:- 22.12.2011

MANOJ NANDWANA
KEY PERSON

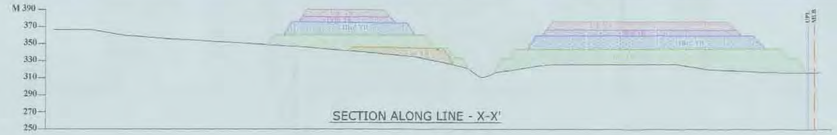
SHAILENDRA SINGH BIST
KEY PERSON

PREPARED BY:- UDAIPUR MIN-TECH PVT. LTD.
206, APEKSHA COMPLEX, IInd FLOOR, HIRAN MAGRI,
SECTOR NO. 11, UDAIPUR (RAJ.)
PHONE NO.- 2489072 (O)

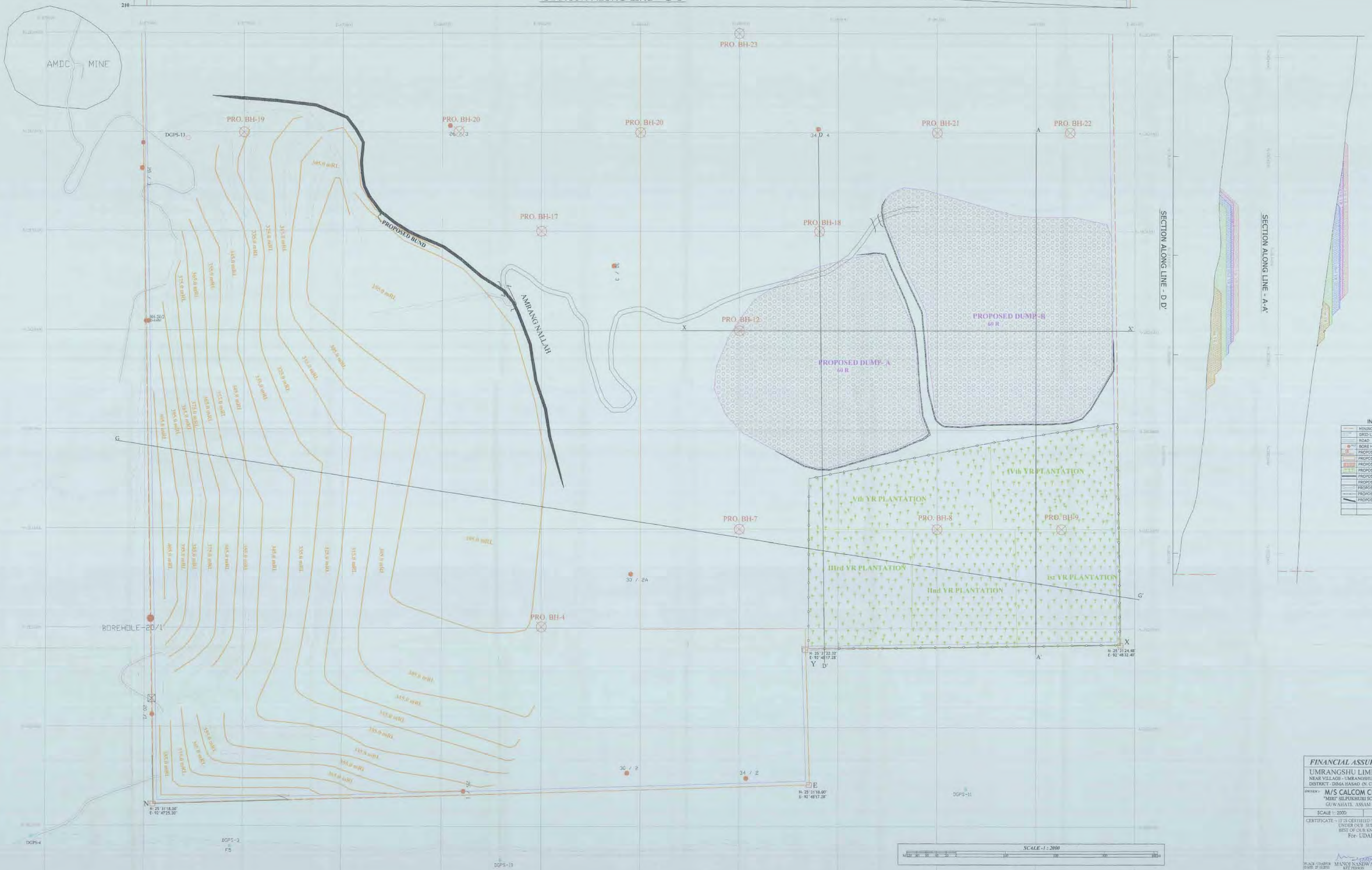
KEY PLAN



SECTION ALONG LINE - G G'



SECTION ALONG LINE - X-X'



SECTION ALONG LINE - D D'

SECTION ALONG LINE - A-A'

INDEX

	MINING LEASE BOUNDARY
	GRID LINE
	ROAD
	BORE HOLE WITH NUMBER
	PROPOSED BORE HOLE
	PROPOSED PIT LIMIT END OF VIth YR.
	PROPOSED DUMPSITE END OF VIth YR.
	PROPOSED PLANTATION END OF VIth YR.
	PROPOSED STONEWALL
	PROPOSED GARLAND DRAIN
	PROPOSED ROAD
	PROPOSED FENCING
	PROPOSED BUND

SCALE - 1 : 2000

PLATE NO.- 9 B

FINANCIAL ASSURANCE AREA PLAN

UMRANGSHU LIMESTONE DEPOSIT
NEAR VILLAGE - UMRANGSHU,
DISTRICT - DIMA HASAO (N. C. HILLS), ASSAM

OWNER> M/S CALCOM CEMENT INDIA LTD.
"MIRI" SILPUKHURI SOUTH BANK, SILPUKHURI
GUWAHATI, ASSAM -781 003

SCALE 1: 2000 | AREA - 417.50 HECT.

CERTIFICATE - "IT IS CERTIFIED THAT THIS PLAN IS PREPARED UNDER OUR SUPERVISION & IS CORRECT TO THE BEST OF OUR KNOWLEDGE"
For- UDAIPUR MIN-TECH PVT. LTD.
(RQP/UDP/354/2009-8)

PLACE: UDAIPUR
DATE: 27.10.2011

MANOJ NANDWANA
KEY PERSON

SHAILENDRA SINGH BIST
KEY PERSON

UDAIPUR MIN-TECH PVT. LTD.
206, AVEKSHA COMPLEX, IInd FLOOR, FORAN MAGRI,
SECTOR NO. 11, UDAIPUR (RAJ.)
PHONE NO.- 2469672 (O)