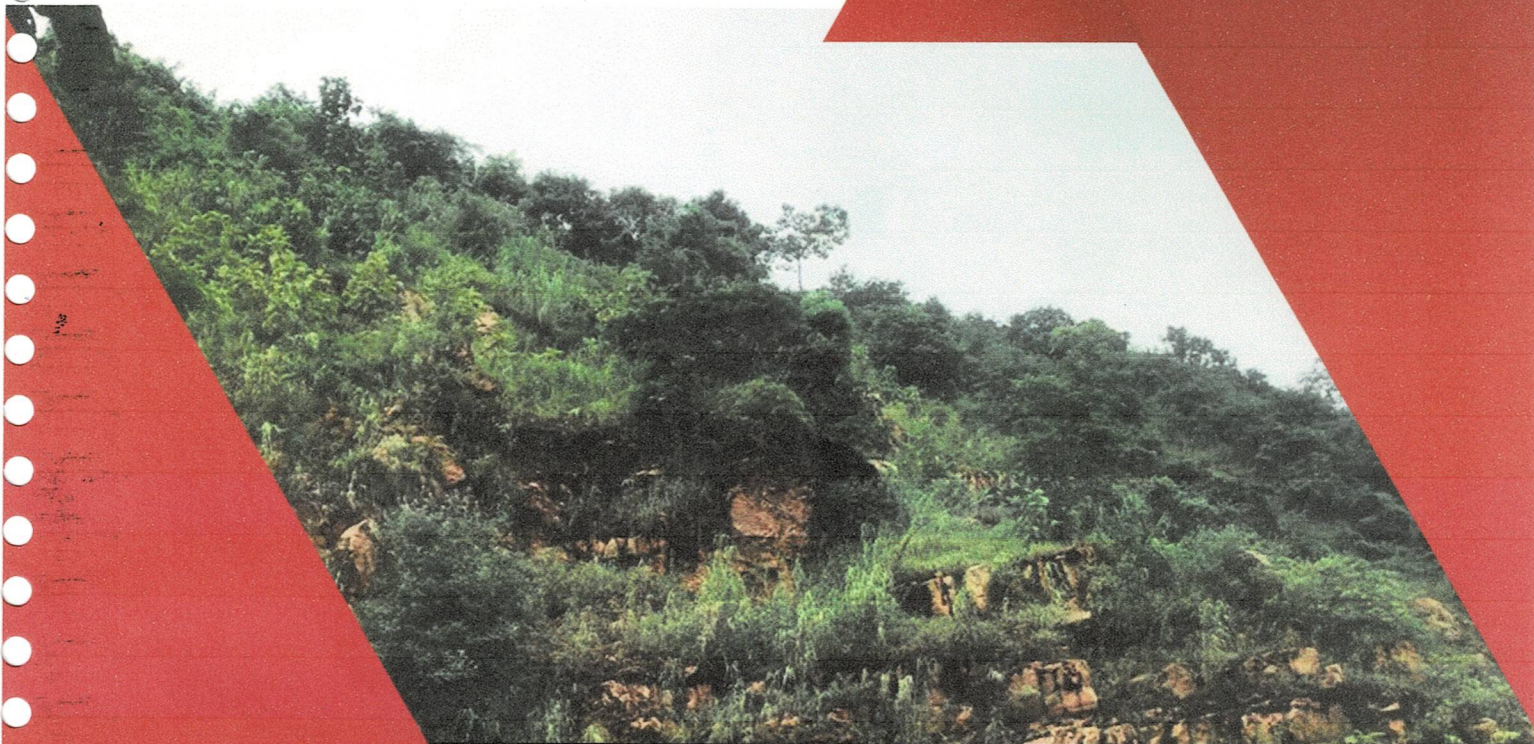


# MINING PLAN

**LANGKAIJURI STONE MAHAL**

**DISTRICT: HOJAI, ASSAM**

**(MAHAL AREA : 5.0 HECTARES  
APPROACH ROAD: 0.42 HECTARES)**



**SUBMITTED  
UNDER RULE – 52 (1) OF THE  
ASSAM MINOR MINERAL CONCESSION RULES 2013**

**APPROVAL FROM  
DIRECTORATE OF  
GEOLOGY & MINING  
ASSAM**

*(Mee)*  
Senior Geologist  
Directorate of Geology & Mining  
Govt. of Assam  
Kharilipara, Ghy-19

**BY:  
IMDAD ALI  
H. NO. 11, PURBANCHAL PATH,  
MATHURA NAGAR,  
DISPUR, GUWAHATI-06, ASSAM**

*Abhijit Bora*  
Abhijit Bora, Ph.D.  
Regd. No. DGM/RQP/02/2014




**Imdad Ali**H. No. 11, Purbanchal Path, Mathura Nagar, Dispur, Guwahati-06, Assam Phone: 9435562929Date: 15/10/21**DECLARATION BY THE APPLICANT**

This Mining Plan is prepared under the provision of Rule 52(1) of the Assam Minor Mineral Concession Rules, 2013 in respect of the 'Langkaijuri Stone Mahal' measuring 5.0 Hectares for five years located near Modertoli Gaon, P.O. Modertoli & P.S. Doboka, District: Nagaon (Assam) under Kathiatoli Range of Nagaon Forest Division, Nagaon District: Nagaon, Assam for extraction of stone in consultation with me. I understand its content and hereby agree to implement the extraction work of the stone in accordance with the prevailing provisions of law. If any other permission is needed, I shall approach the appropriate authority, before commencement of the extraction work.



(Imdad Ali)

  
Abhijit Bora, Ph.D.  
Regd. No. DGM/RQP/02/2014

**Imdad Ali**H. No. 11, Purbanchal Path, Mathura Nagar, Dispur, Guwahati-06, Assam Phone: 9435562929

Date: ...15/10/21...


**CONSENT LETTER FROM THE APPLICANT**

The Mining Plan in respect of the 'Langkaijuri Stone Mahal' measuring 5.0 Hectares, under Kathiatoli Range of Nagaon Forest Division, Nagaon District: Nagaon, Assam for extraction of stone for various constructional purposes within the State of Assam has been prepared by Dr. Abhijit Bora, resident of 2F/3, Beaufort Apartment, Basisthapur Bye Lane-3, P.O. Beltola, Guwahati- 781028, and a RQP with Registration No. DGM/RQP/02/2014 from Directorate of Geology and Mining, Govt. of Assam, Guwahati with validity up to 09-09-2024, on behalf of the undersigned.

I hereby undertake that the Mining Plan so prepared by the said RQP has been made with my knowledge and consent and shall be acceptable and binding on me in all respect.



((Imdad Ali))

  
Abhijit Bora, Ph.D.  
Regd. No. DGM/RQP/02/2014

**CERTIFICATE**

This is to certify that the Mining Plan in respect of the 'Langkajuri Stone Mahal' Mining Contract for extraction of stone for various constructional purposes located near Modertoli Gaon, P.O. Modertoli & P.S. Doboka, District: Nagaon (Assam) for extraction stone under Kathiatoli Range of Nagaon Forest Division, Nagaon District: Nagaon, Assam for mining of stone measuring 5.0 Hectares, has been prepared in favour of the applicant Imdad Ali, under the relevant provisions of the Assam Minor Mineral Concession Rules, 2013.

The Applicant/ Mining Contract Holder shall approach authorities concerned for any other permission, if required, during the process of the Mining Operation.

It is further certified that the information furnished in the Mining Plan is true and correct to the best of my knowledge.

Place: Guwahati

Date: 26/10/2021



**Abhijit Bora, Ph.D.**

**Regd. No. DGM/RQP/02/2014  
(ABHIJIT BORA)**

Registration No. DGM/RQP/02/2014  
Directorate of Geology and Mining  
Govt. of Assam  
Valid up to: 09-09-2024  
Address: 2F/3, Beaufort Apartment,  
Basisthapur Bye Lane-3,  
P.O. Beltola, Guwahati- 781028

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Annexure 3	Photostat copy of GPS Coordinates
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Annexure 3	Photostat copy of LOI
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**INTRODUCTION:**

Imdad Ali, a resident of H. No. 11, Purbanchal Path, Mathura Nagar, Dispur, Guwahati-06, Assam propose to open a stone quarry near Modertoli Gaon, P.O. Modertoli & P.S. Doboka, District: Nagaon (Assam) under Kathiatoli Range of Nagaon Forest Division, Nagaon District: Hojai, Assam for production of stone to meet up the local demand of stones for Stone Crusher units as well as to supply to various government, semi-government and private agencies for civil construction purposes. There is a demand of stone products like road metals, stone chips of different sizes in Nagaon district and adjoining areas and this stone quarry will meet up the requirement of such stone products to some extent.

For collection of such material from Doboka Reserved Forest for a period of 5 (five) years, necessary permission from concerned authority has to be taken before commencement of the production. The Contract area is located near Modertoli Gaon, P.O. Modertoli & P.S. Doboka, District: Hojai (Assam). This stone quarry to be opened by Imdad Ali will surely meet the requirement of the stone products to some extent. The proposed Mining Plan covers a scientific and systematic assessment of the deposit which indicates the details of conservation of the deposit and protection of environment in and around the quarrying area.

This is a mining Contract, proposed to award to Imdad Ali is for five years, as proposed by the competent authority, Department of Environment and Forest, Government of Assam. The location of the quarry site as has been recommended by the Department of Environment and Forest, Government of Assam to issue the Mining Contract is within the Doboka Reserved Forest, for collection of stone. The location of the quarry site is close to National Highway 27, which is about 1.5 KM away from the quarry site, connected by a motorable road. The proposed quarry site is free from human habitation within a radius of about 1.1 KM.

  
Abhijit Bora, Ph.D.  
Regd. No. DGM/RQP/02/2014

- 1 -

**Mining Plan is Approved**  
  
Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam,  
Kahilipara, Ghy-19

The proposed quarry site is under the jurisdiction of Kathiatoli Range of Nagaon Forest Division, Nagaon District: Nagaon, Assam. The area is of 5.0 Hectares with a safety zone of 0.63 Ha (7.5m strip all along the outer boundary of the Mining permit Area) and is a degraded forested area. The area is covered by small vegetations like grasses and shrubs. There is no growth of valuable big trees. The proposed site is not within any protected area under Archeological, Religious, Cultural heritage or Defense establishments. By opening a stone quarry as proposed, this area will be benefited by generation of employment opportunities to the local people as well as growth of economic activities.

**Mining Plan is Approved**



Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam  
Kahilipara, Ghy-19

**Abhijit Bora**  
Abhijit Bora, Ph.D.  
Regd No. DGM/RQP/02/2014



**GENERAL INFORMATION:****The Applicant:**

1. Name : Imdad Ali
2. Office Address : H. No. 11, Purbanchal Path  
Mathura Nagar,  
Dispur, Guwahati-06, Assam
3. Site Address : Langkaijuri Stone Mahal  
Village: Modertoli Gaon  
P.O. Modertoli,  
P.S. Doboka  
District: Hojai (Assam)
4. Status of Applicant : Proprietorial.
5. Mineral Occurring in the area and its use : Quartzite rock (with iron leaching) to be quarried and to be used as construction material as well as road metals.
6. Name of the Quarry : Langkaijuri Stone Mahal
7. Quantity recommended for extraction : 1,50,000 Cu M of stone for 5 years  
(for the Mining Contract Holder)  
50,000 Cu M of stone for 5 years  
(for various developmental work)
8. Contract Period : 5 (five) years.
9. Forest Range & Division : Kathiatoli Range  
Nagaon Forest Division,

*Abhijit Bora*  
Abhijit Bora, Ph.D  
Regd No. DGM/RQP/02/2014

- 3 -

Mining Plan is Approved

*M. Ali*  
Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam  
Kahilipara, Ghy-19

Nagaon,

District: Nagaon, Assam

10. Survey of India Toposheet No. : 83 B/16

involved

11. Latitude/ Longitude : Mahal Area: (Area: 5.0 Ha)

1. 26°09'2.73"N- 92°49'33.89"E	2. 26°08'58.75"N- 92°49'30.04"E
3. 26°08'51.99"N- 92°49'35.10"E	4. 26°08'56.19"N- 92°49'39.67"E
5. 26°09'0.65"N- 92°49'38.07"E	

Approach Road Area: (Area: 0.42 Ha)

	LONGITUDE	LATITUDE		LONGITUDE	LATITUDE
1	92° 49' 38.096" E	26° 8' 54.743" N	23	92° 49' 35.753" E	26° 8' 39.203" N
2	92° 49' 38.197" E	26° 8' 54.836" N	24	92° 49' 35.896" E	26° 8' 39.176" N
3	92° 49' 39.045" E	26° 8' 53.781" N	25	92° 49' 35.353" E	26° 8' 38.359" N
4	92° 49' 39.166" E	26° 8' 53.854" N	26	92° 49' 35.491" E	26° 8' 38.321" N
5	92° 49' 40.183" E	26° 8' 52.628" N	27	92° 49' 34.998" E	26° 8' 36.615" N
6	92° 49' 40.333" E	26° 8' 52.653" N	28	92° 49' 35.137" E	26° 8' 36.580" N
7	92° 49' 39.715" E	26° 8' 51.115" N	29	92° 49' 34.596" E	26° 8' 35.481" N
8	92° 49' 39.859" E	26° 8' 51.118" N	30	92° 49' 34.740" E	26° 8' 35.487" N
9	92° 49' 39.138" E	26° 8' 48.762" N	31	92° 49' 34.279" E	26° 8' 33.643" N
10	92° 49' 39.229" E	26° 8' 48.658" N	32	92° 49' 34.412" E	26° 8' 33.593" N
11	92° 49' 37.437" E	26° 8' 47.194" N	33	92° 49' 34.000" E	26° 8' 32.461" N
12	92° 49' 37.576" E	26° 8' 47.155" N	34	92° 49' 34.143" E	26° 8' 32.478" N
13	92° 49' 37.418" E	26° 8' 45.692" N	35	92° 49' 34.644" E	26° 8' 31.187" N
14	92° 49' 37.559" E	26° 8' 45.661" N	36	92° 49' 34.781" E	26° 8' 31.231" N
15	92° 49' 37.102" E	26° 8' 44.763" N	37	92° 49' 34.324" E	26° 8' 29.660" N
16	92° 49' 37.231" E	26° 8' 44.701" N	38	92° 49' 34.450" E	26° 8' 29.598" N
17	92° 49' 35.924" E	26° 8' 43.540" N	39	92° 49' 33.204" E	26° 8' 27.491" N
18	92° 49' 36.051" E	26° 8' 43.478" N	40	92° 49' 33.340" E	26° 8' 27.535" N
19	92° 49' 35.503" E	26° 8' 42.622" N	41	92° 49' 34.224" E	26° 8' 25.432" N
20	92° 49' 35.631" E	26° 8' 42.564" N	42	92° 49' 34.366" E	26° 8' 25.405" N
21	92° 49' 35.123" E	26° 8' 40.479" N	43	92° 49' 33.801" E	26° 8' 24.119" N
22	92° 49' 35.243" E	26° 8' 40.552" N	44	92° 49' 33.939" E	26° 8' 24.082" N

12. Nearest Railway Station : Jamunamukh

13. Nearest Airport : LGB Airport, Guwahati

14. Nearest Highway : NH - 27



Senior Geologist  
Directorate of Geology & Mining  
Govt. of Assam  
Kahilipara, Ghy-19


Abhijit Bora  
Abhijit Bora, Ph.D.  
Regd. No. DGM/RQP/02/2014

**PARTICULARS OF THE RQP PREPARING THE MINING PLAN:**

1. Name of the RQP : Dr. Abhijit Bora
2. Address : 2F/3, Beaufort Apartment  
Basisthapur Bye lane-3  
P.O. Beltola  
Guwahati- 781028
3. Registration No. : DGM/RQP/02/2014  
Directorate of Geology & Mining,  
Govt. of Assam,  
Kahilipara, Guwahati-19
4. Validity of Registration : Upto 09-09-2024
5. Contact Number : 9864043223
- 6 Email ID : abhijitbora06@gmail.com

**Mining Plan is Approved**

  
Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam  
Kahilipara, Ghy-19

  
Abhijit Bora, Ph.D.  
Regd No. DGM/RQP/02/2014

**LOCATION OF THE PROPOSED CONTRACT AREA:**

The location of the proposed quarry site is close to National Highway 27 which is nearly 1.5 KM away. The road connected with National Highway 27 is a motorable road.

The proposed site is falls under Doboka Reserved Forest under Kathiatoli Range of Nagaon Forest Division. The other details of the proposed Contract area are as follows:

- |                                |  |
|--------------------------------|--|
| 1. Village                     | : Modertoli Gaon   |
| P.O.                           | : Modertoli,   |
| Police Station                 | : Doboka   |
| District                       | : Hojai  |
| State                          | : Assam  |
| 2. Term of the Mining Contract | : 5 (five) years   |
| 3. Total area                  | : 5.00 Hectares  |
| 4. Ownership/ Occupancy        | : Divisional Forest Officer<br>Nagaon Forest Division<br>Nagaon<br>District: Nagaon<br>Assam   |
| 5. Land use pattern            | : The core zone located at Doboka<br>Reserved Forest. Area is degraded<br>forest mainly covered with grasses<br>and scrubs with exposed rocks. |

**Mining Plan is Approved**

*(Signature)*

Senior Geologist Mining,  
Directorate of Geology  
Govt. of Assam  
Kahilipara, Ghy-19

*(Signature)*  
Abhijit Bora, Ph.D.  
Regd No. DGM/RQP/02/2014



## PHYSIOGRAPHY AND DRAINAGE:

The proposed Contract area allotted, Langkaijuri Stone Mahal, is of more or less rectangular shaped. As per statement furnished by Divisional Forest Officer, Nagaon Forest Division, the total area available for mining is about 5.00 Hectares. The general slope of the area is towards north west as the area itself rises from the south eastern side. The topography of the area is undulating one. The altitude ranges from 56M at the bottom of the hill to 80M at the hilltop. The proposed area is free from any valuable tree and useful vegetation but covered with degraded forest with grass, scrubs etc. with exposed rocks.

Drainage pattern of the area is mainly controlled by number of small streams present in the area, finally falls in the nearest paddy field.

## GEOLOGY OF THE ALLOTTED AREA:

### A. Regional Geology:

The Assam plateau lies along the continuation of the Archeans of Bihar and comprises Garo, Khasi, Jaintia hills and to its north-east is the detached area of Mikir hills. Tertiary rocks are well developed in the north-eastern and south-eastern part where they exhibit a more or less complete geological succession ranging from Paleocene to Lower-Pleistocene. The generalized geological succession of Assam is as follows:

Age		Group	Formation	Description of Litho units
Quaternary	Recent		Khadar-newer alluvium	Clay, sand, slit etc.
	Unconformity			
	Pleistocene		Bhanger- Older alluvium	Clay, coarse sand, gravel & boulder.
Unconformity				
Tertiary	Pliocene	Dihing	Dihing	Pebble bed, sandy clay,

*Abhijit Bora*  
Abhijit Bora, Pn D  
Regd No. DGM/RQP/102/2014

**Mining Plan is Approved**

*W. C. S.*  
Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam,  
Kahilipara, Ghy-19

				clay, conglomerate and sand stone
	Mio-Pliocene		Dupitila (Surma Valley) & Namsang (Upper Assam)	Sandstone, mottled clay, grid, conglomerate bed
Unconformity				
Miocene	Tipam	Girujan		Mottled clay, sandy shale & sandstone
		Tipam		Bluish gray to greenish sandstone, clay, shale, conglomerate etc.
	Surma	Bokabil		Shale, Sandy shale, sandstone etc.
		Bhuban		Alteration of sandstone, sandy shale & conglomerate.
Unconformity				
Oligocene	Barail	Tikok Parbat		Banded sandstone with thick coal seams
		Bogolai		Sandstone & shale with numerous thin coal seams, carbonaceous shale, sandstone etc.
		Naogaon		Thin bedded hard sandstone with shale
Eocene	Disang			Dark grey shale & sandstone
	Jayantia	Kopili		Shale, sandstone etc.
		Sylhet sandstone		Sandstone, coal, clay & shale
		Sylhet Limestone		Fossiliferous limestone
Unconformity				
Mesozoic	Jurassic		Volcanic	Trap, basaltic & doleritic rock
Unconformity				
Palaeozoic	Permian	Gondwana	Simgimari	Buff coloured fine grained sandstone, shale, carbonaceous shale with coal & conglomerate etc.,
Unconformity				
Proterozoic	Precambrian	Shillong		Granite, pegmatite, alternating beds of clay,

Abhijit Bora  
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Regd No. DGM/RQP/02/2014

Mining Plan is Approved

*Meeo*  
Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam  
Kahilipara, Ghy-19

				quartzite, phyllite, basalt conglomerate etc.
Unconformity				
Azoic	Archean	Gneissic		Granite, pegmatite, metadolerite, amphibolite, biotite, hornblende, gneiss, calc granulite, pyroxenite etc.

(Regional geology is based on Miscellaneous Publication No.1 of Directorate of Geology and Mining, Government of Assam)

### B. General Geology of the area:

The area proposed to be allotted to Imdad Ali lies within Nagaon district. The geology of the Mining Contract area is massive quartzitic body with impurities. It comprises light grey coloured hard fine-grained quartzite with high quantity of quartz. Joints and fractures are distinct in the Contract area which will be very much useful for mining. (Figure 2)

Mining Plan is Approved

*Mee*

Senior Geologist,  
Directorate of Geology & Mining,  
Govt. of Assam,  
Kahilipara, Ghy-19

*Abhijit Bora*  
Abhijit Bora, Ph.D.  
Regd No. DGM/RQP/02/2014

**THE ALLOTTED LAND AND THE TYPE OF ROCK:**


The total area proposed for grant of Mining Contract to Imdad Ali for stone quarry is 5.00 Hectares. The area is demarcated by the Competent Authority of the Department of Environment and Forest falls within Doboka Reserved Forest under Nagaon Forest Division. (Figure1).


The geographic co-ordinates of the four corner points collected by GPS are:

1. 26°09'2.73"N- 92°49'33.89"E
2. 26°08'58.75"N- 92°49'30.04"E
3. 26°08'51.99"N- 92°49'35.10"E
4. 26°08'56.19"N- 92°49'39.67"E
5. 26°09'0.65"N- 92°49'38.07"E

The geology of the Mining Contract area is massive quartzitic body with impurities. It comprises light grey coloured hard fine-grained quartzite with high quantity of quartz.

**Mining Plan is Approved**

  
Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam  
Kahilipara, Ghy-19

  
Abhijit Bora, Ph.D  
Regd No. DGM/RQP/02/20



**PROPERTIES OF THE STONE:**

The stone is hard, compact, light grey in colour and is fine grained.

The rock deposit is covered with thin layer of vegetation and soil. The rocks are well exposed in the area.

**USE:**

The minerals so available are suitable for use basically in construction works as well as road metals.

**MINEABLE RESERVE OF THE MINERAL AT THE PROPOSED SITE:**

The detailed exploration of the mineral in the area has not been carried out. Therefore, the estimation of the Mineable reserve has been made considering the deposit to be massive and continuous. As per the Letter No. FNGT/ B/ Langkaijuri Stone Mahal/ 2021/ 4257-58, dtd. 29.09.2021, of the Divisional Forest Officer of Nagaon Forest Division, Nagaon, the total Mining Contract period is for five years and the quantity of 2,00,000 Cu.M of stones have been allowed for extraction from this quarry site. The Contract Area is marked as 1, 2, 3 & 4 for mining of mineral as may seen in the Base Map (Fig.1). The Mineable reserve calculated roughly up to the lowest level is approximately 25,00,000 Cu.M.

*Abhijit Bora*  
Abhijit Bora, Ph.D.  
Regd. No. DGM/RQP/02/2014

- 11 -

**Mining Plan is Approved**

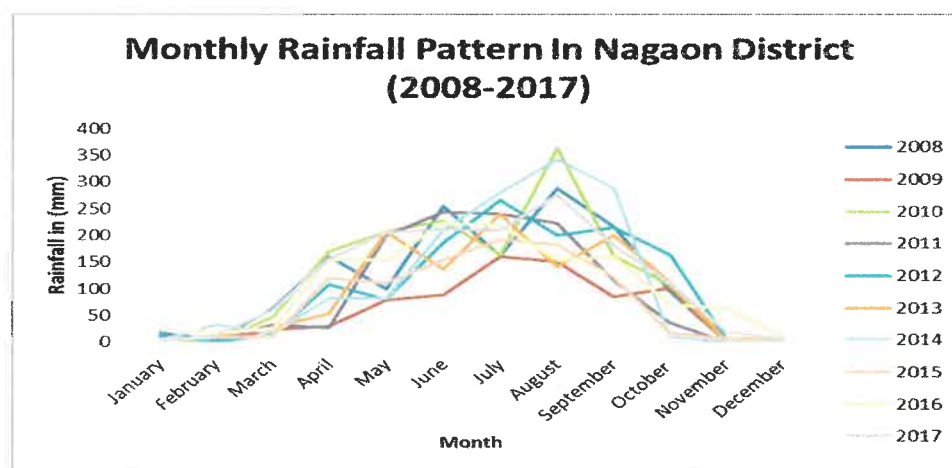
*Mee*  
Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam  
Kahilipara, Ghy-19

## CLIMATE AND RAINFALL:

The climate is in general Monsoon type. But there are some differences from the other districts of Assam. Rainfall increases towards the east and the west of Assam from this district. The pattern of rainfall is such that the south is usually dry and the north is relatively rainier. Rainfall from south to north increases from 1000 mm per annum to 2000 mm per annum. The cold season is from December to February. Floods create havoc usually from June to October. The monsoon lasts from April to May. The post monsoon season lasts from October to November. The average rainfall is about 1750 mm.

Temperature in winter varies from a maximum of 24.8 ° Celcius to a minimum of 11.2 ° Celcius. In summer, temperature varies from a maximum of 32.9 ° Celcius to a minimum of 25.5 ° Celcius. The annual average maximum temperature is 30.4 ° Celcius and the minimum is 19.8 ° Celcius.

Highest Temperature	: 30.4°C
Lowest Temperature	: 19.8°C
Average Annual Relative Humidity	: 87%
Average Annual Rainfall	: 1750 mm

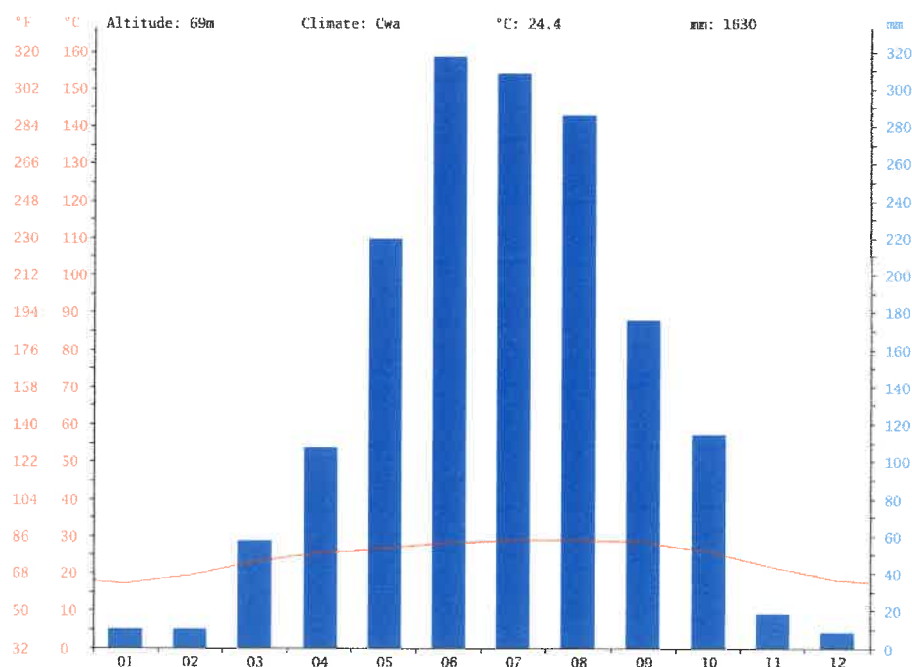


*Abhijit Bora*  
Abhijit Bora, Ph.D.  
Regd. No. DGM/ROD/2/2014

*Meer*  
Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam  
Kahilipara, Ghy-19

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature (°C)	17.4	19.5	23.2	25.6	26.7	28.2	28.9	28.9	28.4	26.1	22	18.5
Min. Temperature (°C)	10.9	13.1	16.7	20.1	22.5	24.7	25.4	25.4	24.8	21.8	16.5	12.2
Max. Temperature (°C)	23.9	25.9	29.7	31.1	30.9	31.8	32.4	32.4	32	30.4	27.6	24.8
Avg. Temperature (°F)	63.3	67.1	73.8	78.1	80.1	82.8	84.0	84.0	83.1	79.0	71.6	65.3
Min. Temperature (°F)	51.6	55.6	62.1	68.2	72.5	76.5	77.7	77.7	76.6	71.2	61.7	54.0
Max. Temperature (°F)	75.0	78.6	85.5	88.0	87.6	89.2	90.3	90.3	89.6	86.7	81.7	76.6
Precipitation / Rainfall (mm)	10	10	57	107	219	317	308	286	176	114	18	8

Climate Table/ Historical Weather Data of Nagaon District.



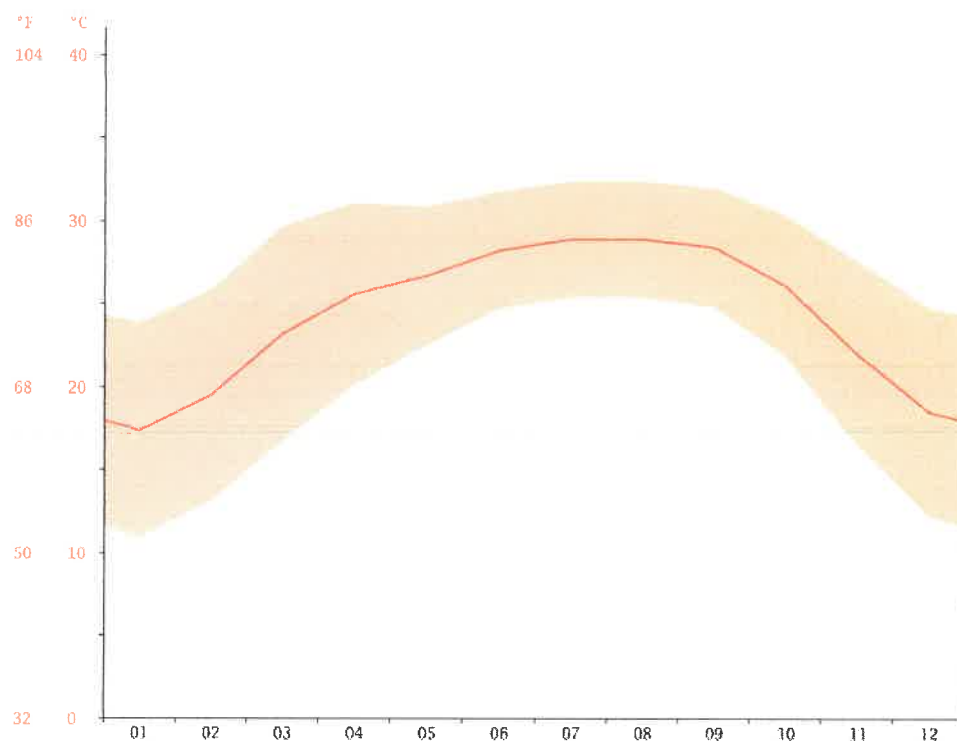
Climate Graph of Nagaon District.

Abhijit Bora  
Abhijit Bora, Ph.D.  
Regd No. DGM/RQP/02/2014

Mining Plan is Approved

M. O. A.

Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam  
Kahilipara, Ghoraghat



Temperature Graph of Nagaon District

Mining Plan is Approved

*(Signature)*

Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam,  
Kahilipara, Ghy-19

*(Signature)*  
Abhijit Bora, Ph D  
Regd No. DGM/RQ/0000000



**MINING:**

In order to ensure mineral conservation, systematic mining and protection of environment, the Assam Minor Mineral Concession Rules (AMMCR), 1994 has been replaced by AMMCR, 2013 and it has been made mandatory to prepare Mining Plan and progressive Mine Closure Plan for grant of any mineral concessions like "Mining Lease", "Mining Contract" or "Mining Permit" in respect of minor minerals for systematic and scientific development of all mines, quarries as well as river bed mining. The responsibility of preparation of "Mining Plan" in respect of any mine applied for mineral concession has been entrusted to technical experts known as "Recognised Qualified Person" (RQP) and this has been made mandatory for all mines and quarries.

In the present case, it is proposed to allow the Mining Contract holder to extract rock boulder is a Reserved Forest. The proposed area is steep towards north western direction and quarrying shall have to be carried out by making benches at suitable levels between the contours in the NE-SW direction as shown in the Figure. 3. As per the contour lines drawn in respect of the area, the hauling road to reach the possible top level of the proposed area shall be constructed from north eastern side of the deposit.

The area is covered with little amount of vegetation and soil, without any tree of significant importance. For facilitating mining in this area and for transportation of the quarry products, an unmetalled approach road already exist up to the quarry site connecting the main road.

There is a top soil cover with thickness varying from 0.75M to 0.5M over whole area except some places where there are exposed rock boulders. Such exposed rocks are weathered rocks and may be used only for the construction of the approach road and backfilling in the mined-out area for reclamation purposes.

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## YEAR WISE PRODUCTION FOR THE CONTRACT PERIOD OF FIVE YEARS:

The quarry has been designed to work for 250 days per year on single shift basis. As per the Letter of Intent No. FNGT/ B/ Langkaijuri Stone Mahal/ 2021/ 4257-58, dtd. 29.09.2021, of the Divisional Forest Officer Nagaon Forest Division, Nagaon District: Nagaon, Assam, the total Mining Contract period is five years and the quantity of 2,00,000 Cu.M of stones have been allowed for extraction from this quarry site, i.e. @ 40000 Cu.M per year approximately. The applicant, however, requested to design the quarry to extract optimum quantities of stone boulders possible, during the period of 5 years granted to the applicant. Considering the above and reserve of the mineral in the area, the mine is designed to produce 40000 Cu.M of stone boulders in average per annum along with some overburden.

The schedule of year wise production of the stone boulders from first and seventh year is as below:

<u>Year</u>	<u>Production (Cu.M)</u>
1 <sup>st</sup> Year	40800
2 <sup>nd</sup> Year	38100
3 <sup>rd</sup> Year	40700
4 <sup>th</sup> Year	39800
5 <sup>th</sup> Year	40600

## USE OF EXPLOSIVES:

The deposit is hard and compact, hence use of explosive is suggested for economic point of view and time to achieve the target production. The applicant is suggested to approach the competent authority, Office of the Deputy Commissioner to take proper permission to use of explosive in proper way and clearance from Pollution Control Board.

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## PARAMETERS CONSIDERED FOR MINE DESIGN AND PROPOSED METHOD OF MINING:

Sl.No	PARAMETERS	REMARKS
1.	Proposed method Mining	Opencast
2.	Mode of Mining	Manual
3.	Working days in a year	250 days
4.	Designed production per day	160 Cu.m
5.	Name of the mineral to be extracted	Quartzite
6.	Bulk density	1.5MT/Cu.m
7.	Specific Gravity	2.60
8.	No. of shift	1
9.	Overburden	2% Contains mixture of soil and weathered rocks

Considering the surface feature, contours, quantity of rocks to be extracted, the nature of the deposit and availability of infrastructure, it is suggested to adopt Opencast Mining method, with compressed air drilling, blasting of large boulders and manual/ mechanized loading.

The layout of the mine shall be as follows:

- A. The hauling road shall be constructed from the datum level at 283M contour towards south west as shown in the Figure 3 showing mining

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operation. It is designed to keep minimum of forty-five numbers of benches (including re-mining benches) throughout the operation to maneuver all the works at a time without hampering the other works.

- B. As shown in the figure, the layout of the faces shall be generally in the NE-SW direction along the contour levels as far as practicable. The bench height is to be maintained at 3M and width up to maximum of 8M.

### YEARWISE MATERIALS TO BE HANDLED: – (in Cu.M)

Year	Proposed Extraction of Stone per year	Overburden removal per year	Total Material to be handled per year	Total material to be handled per day
1 <sup>st</sup> Year	40800	560	41360	165
2 <sup>nd</sup> Year	38100	330	38430	152
3 <sup>rd</sup> Year	40700	200	40900	164
4 <sup>th</sup> Year	39800	0	39800	159
5 <sup>th</sup> Year	40600	0	40600	162

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**DRILLING:**

Different parameters considered for drilling are as follows:

Parameters	Amount
Material to be extracted	2,00,000 Cu.M
No. of working days per year	250 days
Materials to be handled per day	152-165 Cu.M
No. shifts per day	1
Depth of holes	1.5M
Spacing of holes	2.0M – 2.5M
Burden of each hole	1.0M – 1.5M
Pattern of holes	Staggered
Inclination of holes	0
Yield per hole	3.0 Cu.M
No. of holes per day	10-12
Type of drill machine to be used	Handheld jack hammer Drill
Diameter of holes	25mm
No. of drill machine to be maintained	10 Nos. (Max.)

**BLASTING:**

Parameters	Quantity
Yield per hole	3 Cu.M
Powder factor	5.50 MT/Kg
Charge per hole	1.50 Kg
Explosive to be used	Gelatin & ANFO
Detonators	Electric
Delay detonators	25 ms

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**YEARWISE DEVELOPMENT AND PRODUCTION PLAN:****First Year: (Figure 4)**

1. Construction of quarry haul road from the datum level at 283m to a maximum of RL at 349m level approximately.
2. Development of the first overburden and mineral bench B1 at 355m level following the surface contour.
3. The next Benches B2 at 352m level to B11 at 325m level shall be developed at the same time following the respective surface contour.
4. During this year the Bench No. B1 and B11 will be exhausted.
5. The height of all benches will be maintained at 3M and width of 8M.
6. To achieve the target of first year target, mining shall be continued up to Bench 11 (B11).
7. 2<sup>nd</sup> year operation shall be started from the Bench 12.

The synopsis of the parameters of the first-year operation will be as follows:

Parameter	Level (M)	Soil (Cu.M)	Stone (Cu.M)	Total (Cu.M)
Haul road	283-349	90		90
B1	355	30	1500	1530
B2	352	30	2100	2130
B3	349	40	2400	2440
B4	346	40	3000	3040
B5	343	40	3500	3540
B6	340	40	4100	4140
B7	337	50	4600	4650
B8	334	50	4800	4850
B9	331	50	4800	4850
B10	328	50	5000	5050
B11	325	50	5000	5050
<b>Total</b>		<b>560</b>	<b>40800</b>	<b>41360</b>

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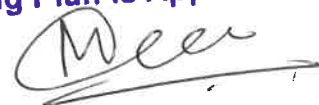
**Second Year: (Figure 5)**

1. 2<sup>nd</sup> year operation shall be started from the Bench 12 (B12) at 322 m level.
2. Subsequently, the Bench No. B13 to B18 will be developed at 319 M to 304m level following the surface contour.
3. During this year the Bench No. B12 to B18 will be exhausted.
4. To achieve the target of stipulated target, mining shall be continued up to Bench18 (B18).

The synopsis of the parameters of the second year operation will be as follows:

Parameter	Level(M)	Soil (Cu.M)	Stone (Cu.M)	Total (Cu.M)
B12	322	50	5000	5050
B13	319	50	5200	5250
B14	316	50	5300	5350
B15	313	50	5500	5550
B16	310	50	5500	5550
B17	307	40	5800	5840
B18	304	40	5800	5840
<b>Total</b>		<b>330</b>	<b>38100</b>	<b>38430</b>

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**Third Year: (Figure 6)**

1. 3<sup>rd</sup> ear operation shall be started from the Bench 19 (B19) at 301 m level.
2. Subsequently, the Bench No. B20 to B40 will be developed at 298 m to 283m level following the surface contour.
3. The stipulated target could not be achieved within the benches mentioned above, remining from Bench 1 to Bench 20 shall have to be carried out to achieve the stipulated target. Remining of Bench 1 to Bench 20 shall be re-designated as Bench 26 (B26) to Bench 45 (B45).
3. During this year the Remining Bench No. B26 to B28 will be exhausted.
4. To achieve the target of stipulated target, mining shall be continued up to Remining Bench 28 (B28).

The synopsis of the parameters of the third-year operation will be as follows:

Parameter	Level(M)	Soil (Cu.M)	Stone (Cu.M)	Total (Cu.M)
B19	301	40	6000	6040
B20	298	40	6000	6040
B21	295	40	5800	5840
B22	292	20	5600	5620
B23	289	20	5000	5020
B24	286	20	4300	4320
B25	283	20	2000	2020
B26	Re-mining Benches	355	0	1500
B27		352	0	2100
B28		349	0	2400
<b>Total</b>		<b>200</b>	<b>40700</b>	<b>40900</b>

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**Forth Year: (Figure 7)**

1. 4<sup>th</sup> year operation shall be started from the Remining Bench 29 (B29) at 346 m level.
2. Subsequently, the Remining Bench No. B30 to B37 will be developed at 343 M to 322 M level following the surface contour.
3. During this year the Remining Bench No. B29 to B37 will be exhausted.
4. To achieve the target of stipulated target, mining shall be continued up to Remining Bench37 (B37).

The synopsis of the parameters of the fourth-year operation will be as follows:

Parameter	Level(M)	Soil (Cu.M)	Stone (Cu.M)	Total (Cu.M)
B29	346	0	3000	3000
B30	343	0	3500	3500
B31	340	0	4100	4100
B32	337	0	4600	4600
B33	334	0	4800	4800
B34	331	0	4800	4800
B35	328	0	5000	5000
B36	325	0	5000	5000
B37	322	0	5000	5000
<b>Total</b>		<b>0</b>	<b>39800</b>	<b>39800</b>

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**Fifth Year: (Figure 8)**

1. 5<sup>th</sup> year operation shall be started from the Remining Bench 38 (B38) at 319 m level.
2. To achieve the stipulated target of 5<sup>th</sup> year, mining shall be continued up to a portion of the B45 at 298m level..
3. During this year the Remining Bench 38 to a portion of the B45 will be exhausted.

The synopsis of the parameters of the fifth-year operation will be as follows:

Parameter	Level(M)	Soil (Cu.M)	Stone (Cu.M)	Total (Cu.M)
B38	319	0	5200	5200
B39	316	0	5300	5300
B40	313	0	5500	5500
B41	310	0	5500	5500
B42	307	0	5800	5800
B43	304	0	5800	5800
B44	301	0	6000	6000
B45	298	0	1500	1500
<b>Total</b>		<b>0</b>	<b>40600</b>	<b>40600</b>

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**DISPOSAL OF MINERAL:**

There will be a stockyard to stock the mineral (stone boulders) outside the quarry site/ Reserved Forest. The large rock boulders produced while quarrying will be broken manually to a suitable size in the quarry itself and will be loaded manually to the Trucks/Dumpers for dispatch to the desired locations.


**END USE OF THE MINERAL:**

The Mineral (Stone Boulders) to be quarried will be utilized mainly for construction of roads and buildings. The rock boulders extracted, are to be processed in a Stone Crusher unit to manufacture road metals and stone chips of different sizes to make it suitable for various road construction and other constructional purposes.

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**MINE DRAINAGE:**

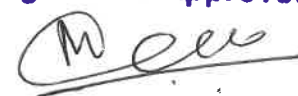
There are a few small streams which is controlling the drainage pattern of the area. The rain water and surface runoff from hilltop goes downwards to the flat land towards the southern side of the Contract area. Suitable garland drain will be constructed before rainy season. This drain will pass through a settling tank before water is discharged into natural drainage system. Workings shall be done from 355m RL to 283m RL, so this is not going to affect water table. The drain and the settling tank will arrest the silt and rock fragments produced due to mining activity in the quarry and allow uncontaminated water to take its own course leaving the debris in the drain/ settling tank. The drain and the setting tank shall be cleaned occasionally as and when required.

No water is likely to be encountered during mining and hence no pumping arrangement is made.


**DISPOSAL OF WASTE:**

The waste comprises mainly overburden, which are top soil and left out rock fragments which are not usable. The top soil and waste rock fragments etc. shall have to be preserved for reclamation purposes in future, which have been described in detail in "Progressive Mine Closure Plan".

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**EXTENT OF MECHANISATION:**

As stated earlier this will be a manual quarry with compressed air drilling and blasting. Boulders will be loaded to the trucks/dumpers manually or mechanically and transport to the respective destination.

**MINING EQUIPMENT:**

SL. No.	Particulars	Specification	No.
1.	Drilling	Hand held Jack	
		Hammer drill machine	10
2.	Compressor	400 CFM capacity	4

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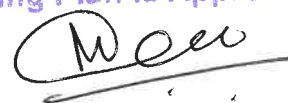
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**EXPLOSIVES AND BLASTING PARAMETERS:**

Primary blasting parameters:-

Sl. No	Particulars	Specification
1.	Type of explosives	High explosives
2.	Yield per hole	3 Cum
3.	Dia. of hole	25 mm
4.	Charging pattern	
	- Bottom charge	High explosives
	- Column charge	ANFO
5.	Minimum No. of holes to be blasted per day to achieve the daily target	8-10
6.	Manner of blasting	Electrical
7.	Sequence of blasting	Multi holes
8.	Charge per hole	1.50 Kg.
9.	Cartridge	0.50 Kg.
10.	ANFO	2.40 Kg.
11.	Detonators	Short delay –Electric

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**TYPE OF EXPLOSIVES:**

As available in the local market it is suggested to use 25 mm Slurry explosives (Class-II) in the proposed quarry. The available brands are Powergel, Superdyne, Dynex-90 etc.

In addition to above, ANFO (Ammonium Nitrate Fuel Oil Mixture) may be used to reduce the cost of explosive. It is prepared by mixing Prilled Ammonium Nitrate with HSD oil in the proportion of 94.5 : 05.5. The ratio of both the explosives will be as below:

Slurry explosive: ANFO = 37.5 : 62.5

**BLASTING OPERATION:**

The blasting operation shall be undertaken by competent persons (blasters) as per Mining Rules & Regulations in force with maximum precautions to make the blasting operation safe.

Frequency of blasting can be optimized by use of delay detonators to reduce the noise and ground vibration within the threshold limit.


Blasting Pattern, stemming, charge per hole should be designed on the basis of field trials to control the flying rocks.

Adequate sirens, signals, posting of guards at strategic points before blasting shall have to be provided.

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**STORAGE OF EXPLOSIVES:**

The nearest explosive dealer is located at Guwahati which is about 135 Km away from the proposed quarry site. It will be very difficult to procure explosives from Guwahati everyday for blasting purposes. On the other hand, Assam is a very sensitive area so far as extremist activities are concerned and there are very strict laws in force in connection with transportation and storage of explosives. It is therefore suggested to obtain help from the nearest Police Station (Jamunamukh) to procure explosives for 5 to 6 days and store in their custody in an Explosive Van. The explosives so stored in the Police Station may be used for blasting in the quarry as when required. Thereafter, another lot of explosives for the next period may be procured for blasting. This modality is preferable, because to obtain an explosive license for a magazine for storage of explosive and then to maintain the magazine security etc. will be very costly and unsafe.

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**OTHER SITE SERVICES:**

Mining Contract Holder will keep all the basic amenities, office and other requirements as per Mining rules and regulations at the base camp near the proposed quarry area. The following facilities are to be provided for smooth running of the mine.

1. Rest shelter for the quarry workers.
2. First Aid room.
3. Site office and store.
4. Arrangement for drinking water and sanitation.
5. Portable Blasting Shelters at suitable points for use by the blaster.

**LIST OF MAN POWER:**

Sl. No.	Designation	Number
1.	Mine Manager	1
2.	Mining Supervisor	2
3.	Blaster	2
4.	Explosive Carrier	2
5.	Driller	7
6.	Office Staff	5
7.	Security Personal	12

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**ENVIRONMENT MANAGEMENT PLAN:****A) Base Line Information:**

Sl. No.	Particulars	Description
1.	Type of Land	Degraded Forest land, with grasses & shrubs.
2.	Whether clearance under Environment (p) Act, 1986 Required?	Yes.
3.	Existing land use pattern	Vacant land, unsuitable for cultivation or human habitation.
4.	Present land occupation	Settlement                      0% Agriculture                      0% Grass                              70% Shrub                              29% Other tree                        1%
5.	Area already degraded	100.00%
6.	Flora and Fauna	Almost Nil
7.	Water regime	There are few small streams running from top of the hills which are active during rainy season
8.	Human settlement	There are no human settlement within a radius of about 1.1 KM of the proposed site.
9.	Public building, place of worship, Monument and cremation ground	Nil
10.	Does the area fall under	

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	notified area Under Water (prevention & Control of pollution) Act' 1974	No
11.	Quality of air	Not assessed.
12.	Climatic condition	High humid & heavy rainfall. Temperature ranges between 32 <sup>0</sup> C to 6 <sup>0</sup> C in winter.

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**ENVIRONMENTAL IMPACT ASSESSMENT:**

As per an order of Hon'ble Supreme Court dated 27-02-12, it has been decided that all mining projects of minor minerals including their renewal, irrespective of the size of the Contract /contract/lease area would require prior environment clearance. Therefore, proposed Mining Contract Area also attracts prior environmental clearance.

The mining operation in the proposed quarry will have some impact on the environment. However, considering the nature and scale of operation the impact on physical environment from this quarrying operation in this area will be less. The broad outlines of probable impacts on environment from this quarrying operation in the area are detailed below:-

**LAND AND AREA:**

After the mining operation to be carried out in the proposed area measuring 5.0 (five) Hectare, the landscape of the quarrying area will be changed. Presently, the area is covered with grasses and some shrubs. After completion of mining operation there is no scope for agriculture activity in this area, but reclamation of this area with plantation of trees shall have to be undertaken by the Mining Contract Holder at his own cost under a "Mine Closure plan" as described.

**AIR QUALITY:**

The air quality will get affected in and around the area due to mining activities like blasting, movement of trucks etc. Since only manual mining will be carried out in the quarry, the impact on environment will be very less due to the mining activities. However, measures like water spraying and use of delay detonators needs to be applied to reduce the impact on the local environment.

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**WATER QUALITY:**

In the rainy season, the water flows down the hill slope directly from south west to north east and goes downwards the nearby fields. All measures to arrest the silt and the rock fragments produced due to mining activity in the quarry including construction of settling tanks has already been suggested in the Mine Drainage chapter. Further it is suggested to analyze water samples at regular intervals to ascertain the quality of water.

**NOISE AND VIBRATION:**

The noise and vibration along with dust are generated due to the following activities while mining:-

1. Operation of mining equipment like drills, compressors etc.
2. Blasting.
3. Movements of transport vehicles.

It is suggested to take following measures to control it by:-

1. Periodic blasting using delay detonators.
2. Arrangement for spray of water in the dust generating areas to suppress the dust.
3. To use thick cover of safety net over the blasting site to prevent splitting out of rock fragments

**SOCIO ECONOMIC ENVIRONMENT:**

The socio economic environment of the locality will improve with upliftment of the economic scenario due to the following reasons:

1. Generation of direct and indirect employment.
2. Development of infrastructure.
3. Growth of business and other economic activities.

**PUBLIC BUILDINGS, MONUMENTS, CREMATION GROUND ETC.:**

The proposed mining site is free from the above mentioned items.

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**PROGRESSIVE MINE CLOSURE PLAN:**

The "Assam Minor Mineral Concession Rules 2013" has made it compulsory to incorporate a "Progressive Mine Closure Plan" and a "Final Mine Closure Plan" in the Mining Plan vide Rule 52(5) (VIII) of the said Rule. But as per the rule, only the "Progressive Mine closure Plan" is to be incorporated in the Mining plan and accordingly the same has been included in this Mining Plan. The "Final Mine closure Plan" shall have to be submitted and obtain approval one year prior to the date of proposed closure of the mine.

**MINE CLOSING OPERATIONS:**

The proposed stone quarry located in a hilly area will have to be operated by 'Opencast method of Mining'. The details of all the workings of the mine for 5 years have been explained in details with extraction of the stone boulder with detailed Plans and sections.

Mine closure plan encompasses rehabilitation process as an ongoing programme designed to restore physical, chemical and biological quality disturbed by the mining activity to a level acceptable to all concerned. It must aim at leaving the area on completion in such a way that rehabilitation does not become a burden to the society after the mining operation is over.

Therefore, Progressive Mine Closure operation is a continuous series of activities starting from the day one of the initiation of the mining project. Here in this present case of stone quarrying, opencast mining shall be carried out with preparation of benches from top of the hilly terrain downwards to the datum level. As described in this mining plan earlier and considering the production schedule, 25 (twenty five) numbers of benches from B1 to B25 shall have be prepared along with re-mining benches from B26 to B45 while mining the stone boulders

*Abhijit Bora*  
Abhijit Bora, Ph.D.  
Regd No. DGM/RQP/02/20

**Mining Plan is Approved**

*Meer*  
Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam,  
Kahilipara, Ghy-19

within the Contract period (See plate of Mine closure Plan-Figure 4). So, from the starting of mining operations onwards while preparing the Bench 1 itself, the Mining Contract Holder shall have to be cautious enough and keep in mind about the activities to be carried out for reclamation of the mined out area.


This stone quarry has large quantity of overburden mainly as top soil and waste rocks. The top soil should be removed and stored separately, while the solid wastes should be stored in external dumps keeping the area to be backfilled free. These external dumps should be stored in benches, which come up during the mining operations. With the progress of the mine face and availability of space for backfilling, the waste rock dumps are first utilized to fill the void up to a planned level. The top soil stored separately should then be laid over it to sustain plan growth.

It may be seen in the plate of the Mine closure Plan that there are in total 45 (forty five) numbers of benches proposed to be created during the mining operation for 5 years. The benches have been marked from No. 1 to 45 in the plate accordingly. As per the process described above, the reclamation work in the Mine closure plan in respect of the mine may be programmed as below:-


5<sup>th</sup> Year: Backfilling of benches with solid waste and plantation with suitable kind of plants at bench after completion of mining operation.

Plantation with suitable kind of plants at last re-mining Bench 26 to Bench 45 along with the surrounding safety zone.

The above schedule of reclamation work may however be altered as per requirement and its suitability.

  
Abhijit Bora, Ph.D.  
Regd No. DGM/RQP/02/2014

Mining Plan is Approved

  
Senior Geologist  
Directorate of Geology  
Govt. of Assam  
Kahilipara, Ghy.

**CONCLUSION:**

After detailed analysis of the baseline data available on the present environment scenario of the proposed area and its impact on the present area for production of stones, different controlling measures suggested against adverse impact, brings out the following facts:

1. The proposed area is a degraded forest land having soil cover with grass/shrubby vegetation and outcrop of rocks.
2. The area is not suitable for any agricultural activities.
3. There is no rare, endangered or unique species of flora and fauna found in this area as per record of the Forest Department.
4. There is no protected Archaeological heritage site, Historical monument, Defense establishment, Place of Worship, Cremation ground within 5 Km radius of the area.
5. There are least chances of contamination of the general air due to this mining operation.
6. There will not be any adverse impact on hydrography and water quality of the locality due to mining operation.
7. Adequate preventive measures have been suggested to combat the air and water pollution that may be caused due to the mining operation.
8. A detailed programme for reclamation of the area has been described in the "Progressive Mine Closer Plan" to combat the ecology of the area.
9. There will be significant upliftment of the socio economic scenario of the area due to establishment of this mining project.

Considering all the points mentioned above, and the fact that the materials produced through this mining project will be utilized for the development of infrastructure of the state, it is expected that the Mining Contract as applied for may be granted for the socio economic upliftment and development of this backward region.

*Abhijit Bora*  
Abhijit Bora, Ph.D.  
Regd No. DGM/RQP/02/20

**Mining Plan is Approved**

*[Signature]*  
Senior Geologist  
Directorate of Geology  
Govt. of Assam  
Kahilipara, Ghy-14



Site Photographs



Plate: 1

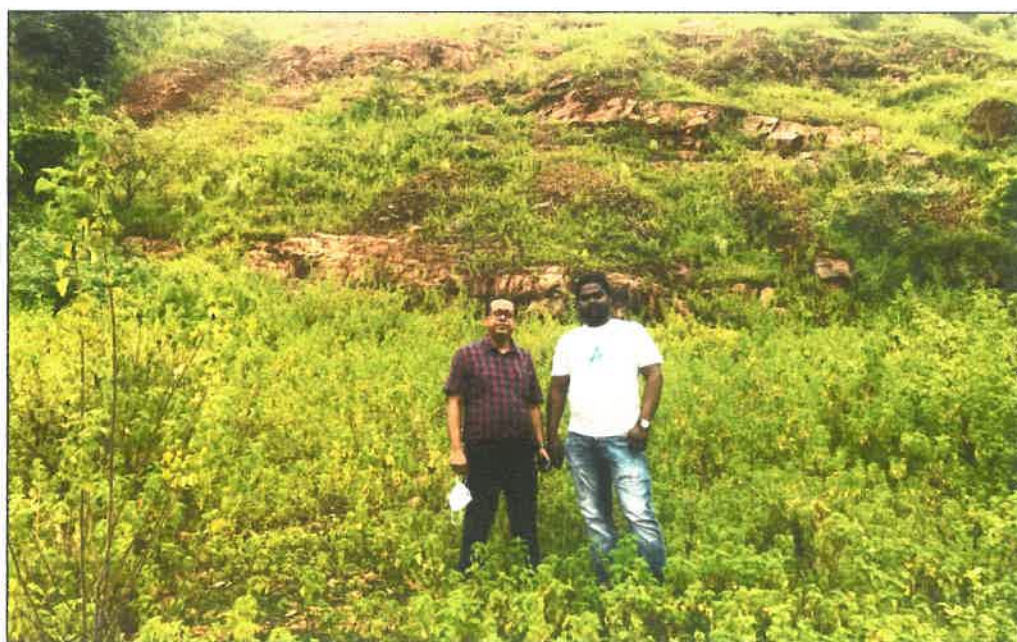
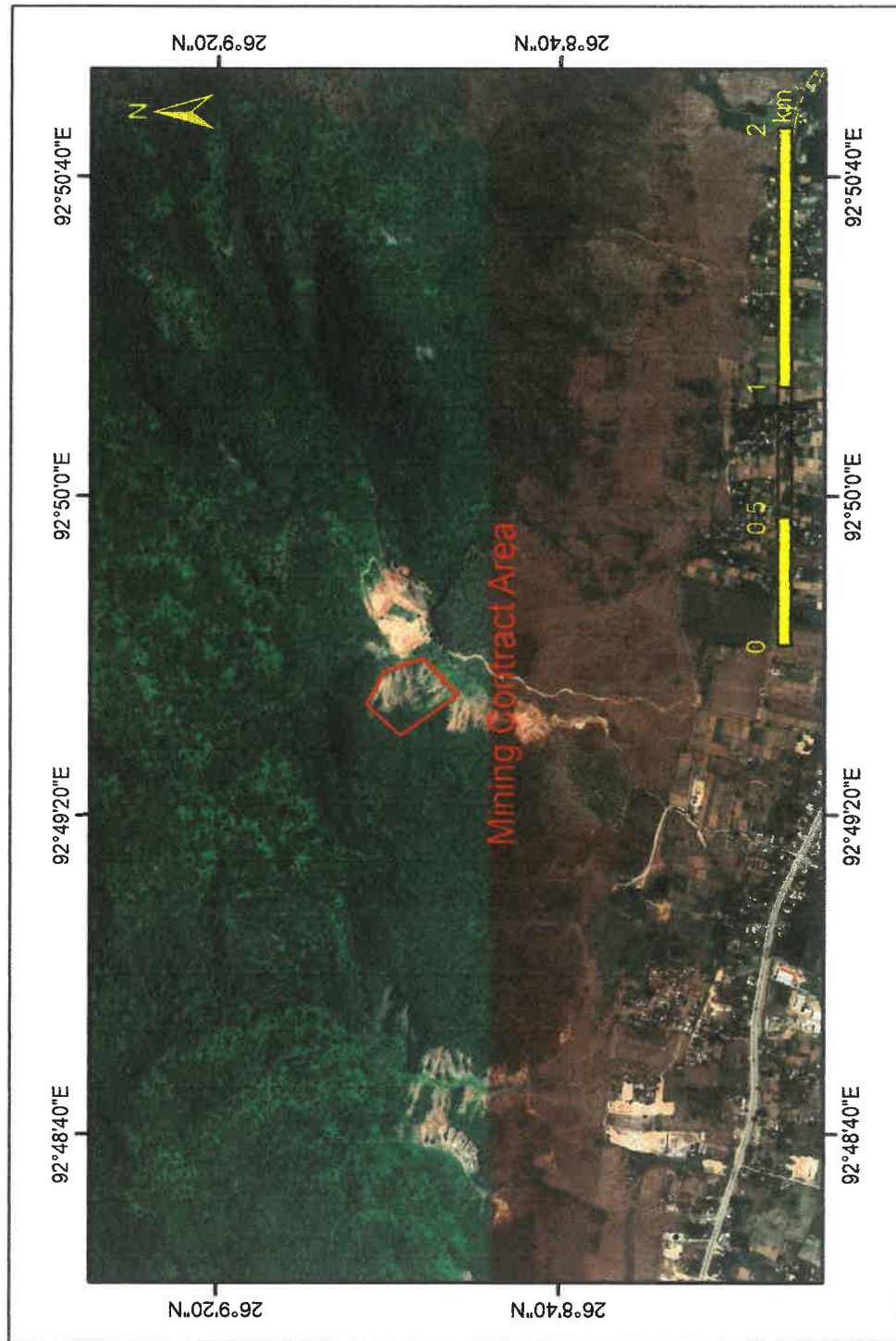


Plate: 2

*Abhijit Bora*  
Abhijit Bora, Ph.D.  
Regd No. DGM/RQP/02/20

**Mining Plan is Approved**

*W. Ali*  
Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam  
Kahilipara, Ghy-19



Google Earth image showing Mining Contract Area for stone.

*Abhijit Bora*  
 Abhijit Bora, Ph.D.  
 Regd No. DGM/RQP/02/20

**Mining Plan is Approved**

*Mee*  
 Senior Geologist  
 Directorate of Geology & Mining,  
 Govt. of Assam  
 Kahilipara, Ghy-19



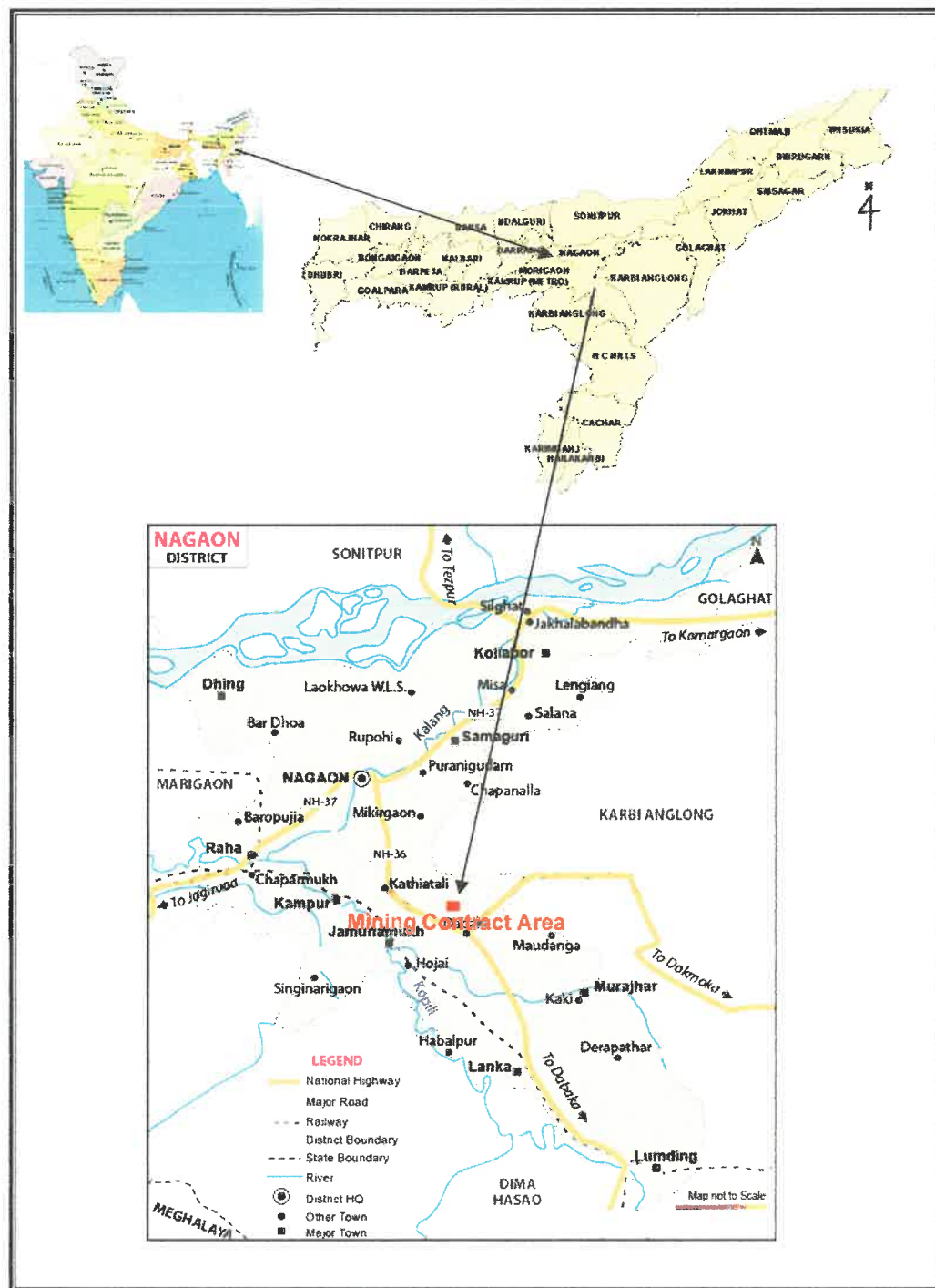


Fig. 1A: Location Map

Abhijit Bora  
Abhijit Bora, Ph.D.  
Regd No. DGM/RQP/02/201

Mining Plan is Approved

*(Signature)*  
Senior Geologist  
Directorate of Geology  
Govt. of Assam  
Kahilipara, Ghy-19

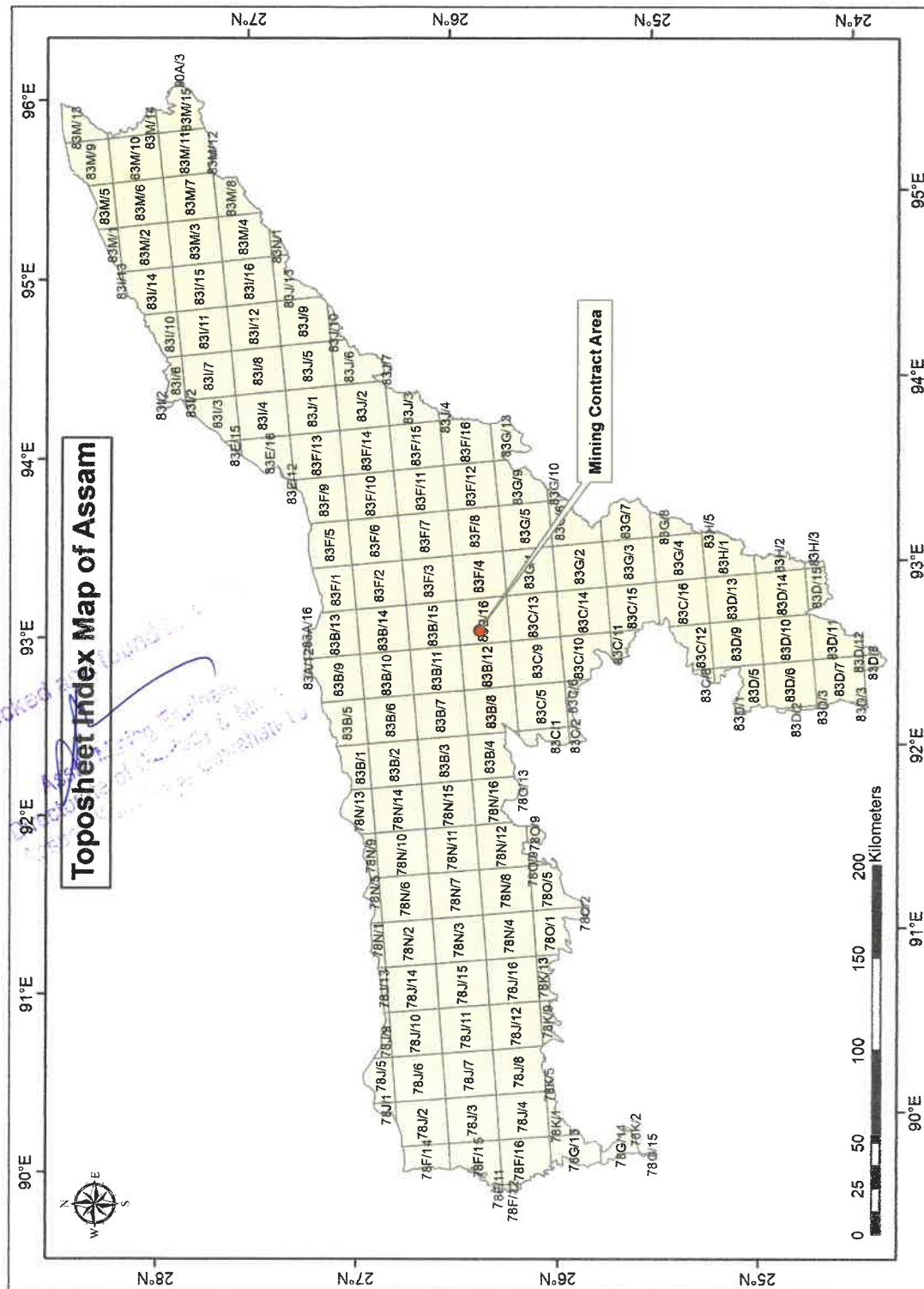


Fig 1B: Toposheet Index Map of Assam showing Mining Contract Area

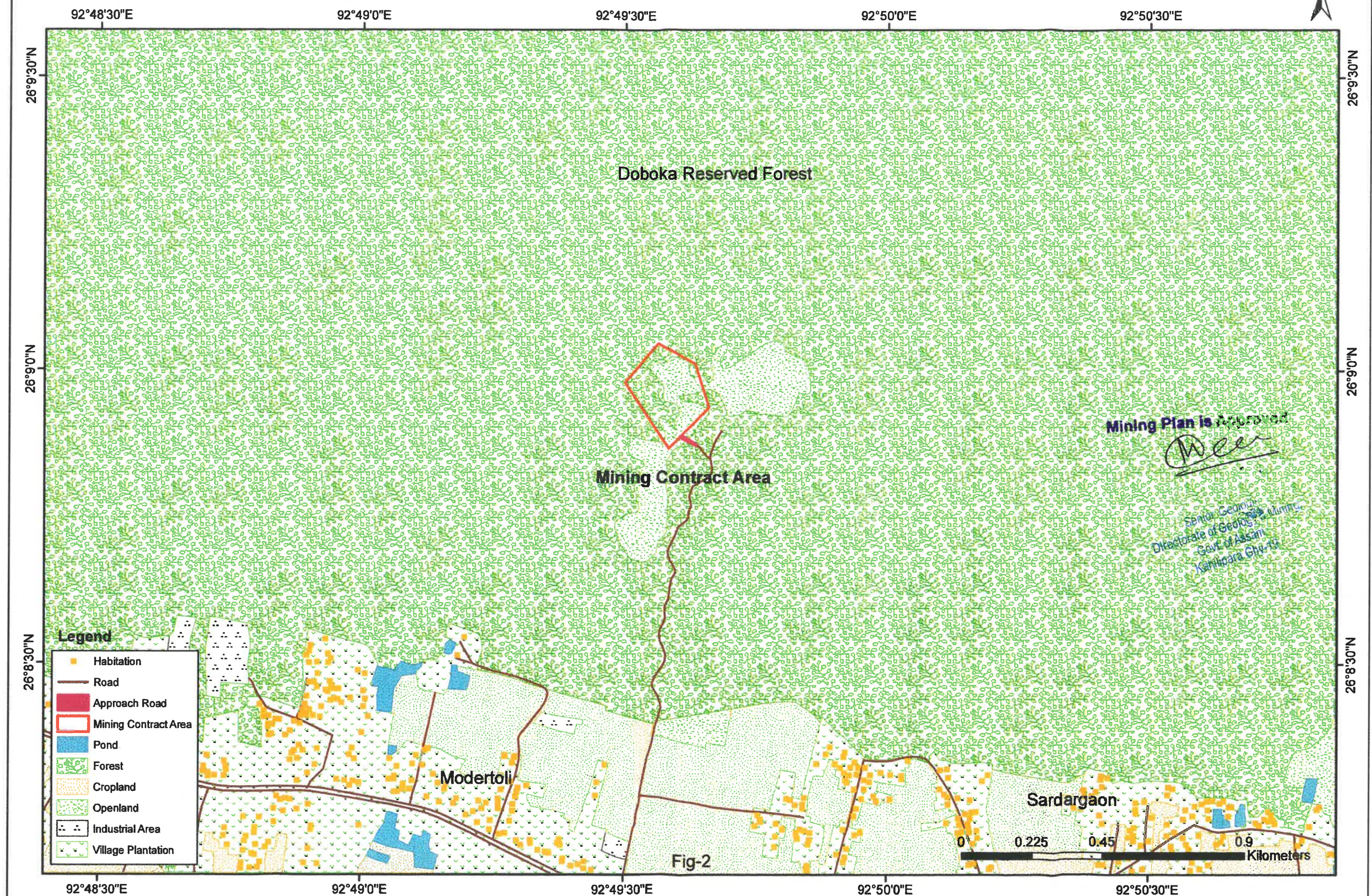
*Abhijit Bora*  
 Abhijit Bora, Ph.D.  
 Regd No. DGM/RQP/02/201

Mining Plan is Approved

*M Ali*  
 Senior Geologist  
 Directorate of Geology & Mining,  
 Govt. of Assam,  
 Kahilipara, Ghy-19



# Key Map of the Mining Contract Area and its Surrounding





92°49'30"E

26°9'0"N

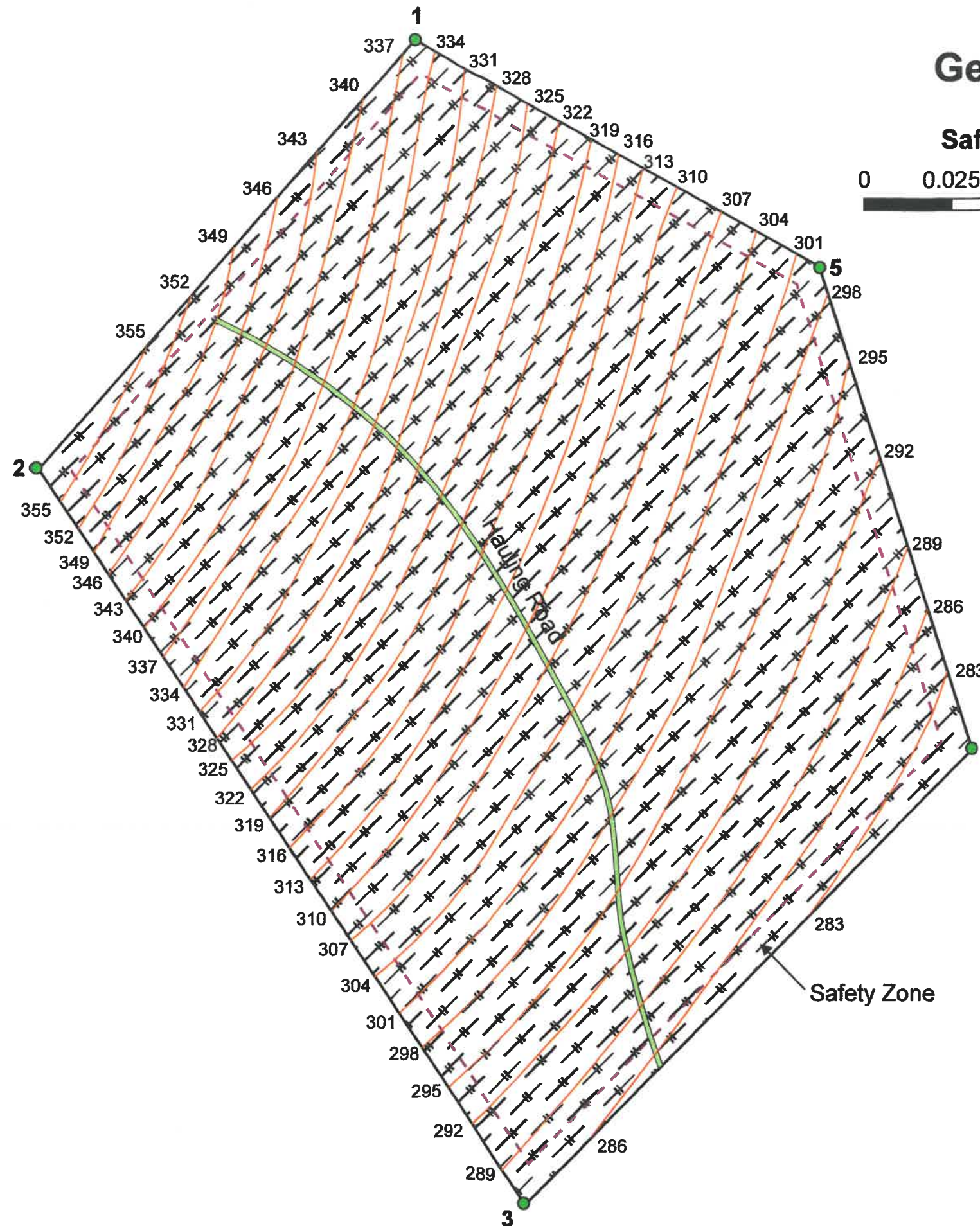


# Geological Map

Area: 5.0 Ha

Safety Zone: 0.63 Ha

0 0.025 0.05 0.1 Kilometers



Mining Plan is Approved

*Meu*

Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam  
Kahilipara, Ghy-19

*Abhijit Bora*  
Abhijit Bora, Ph.D.  
Regd No. DGM/RQP/02/2014

**Langkaijuri Stone Mahal**  
Imdad Ali  
Kathiatoli Range,  
Nagaon Forest Division  
Nagaon,  
Dist.: Nagaon, Assam

## Legend

- Safety Zone
- Contour
-  Quartzite

Figure: 3

92°49'30"E



92°49'30"E



# Surface Plan

Area: 5.0 Ha

Safety Zone: 0.63 Ha

0 0.025 0.05 0.1 Kilometers

Forest Land

Forest Land

Forest Land

Mining Plan is Approved

*(Signature)*

Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam  
Kahilipara, Ghy-19

*(Signature)*  
Abhijit Bora, Ph.D.  
Regd. No. DGM/RQP/02/2014

## Legend

- Road
- Contour
- Hauling Road
- - - Safety Zone
- Temp. Pond/Settling Tank
- Proposed Approach Road
- Mining Contract Area

Note: Stockyard for stone and overburden shall be located outside the Mining Contract Area/ Reserved Forest.

Figure: 4

**Langkaijuri Stone Mahal**  
Imdad Ali  
Kathiatoli Range,  
Nagaon Forest Division  
Nagaon,  
Dist.: Nagaon, Assam

92°49'30"E

26°9'0"N

26°9'0"N

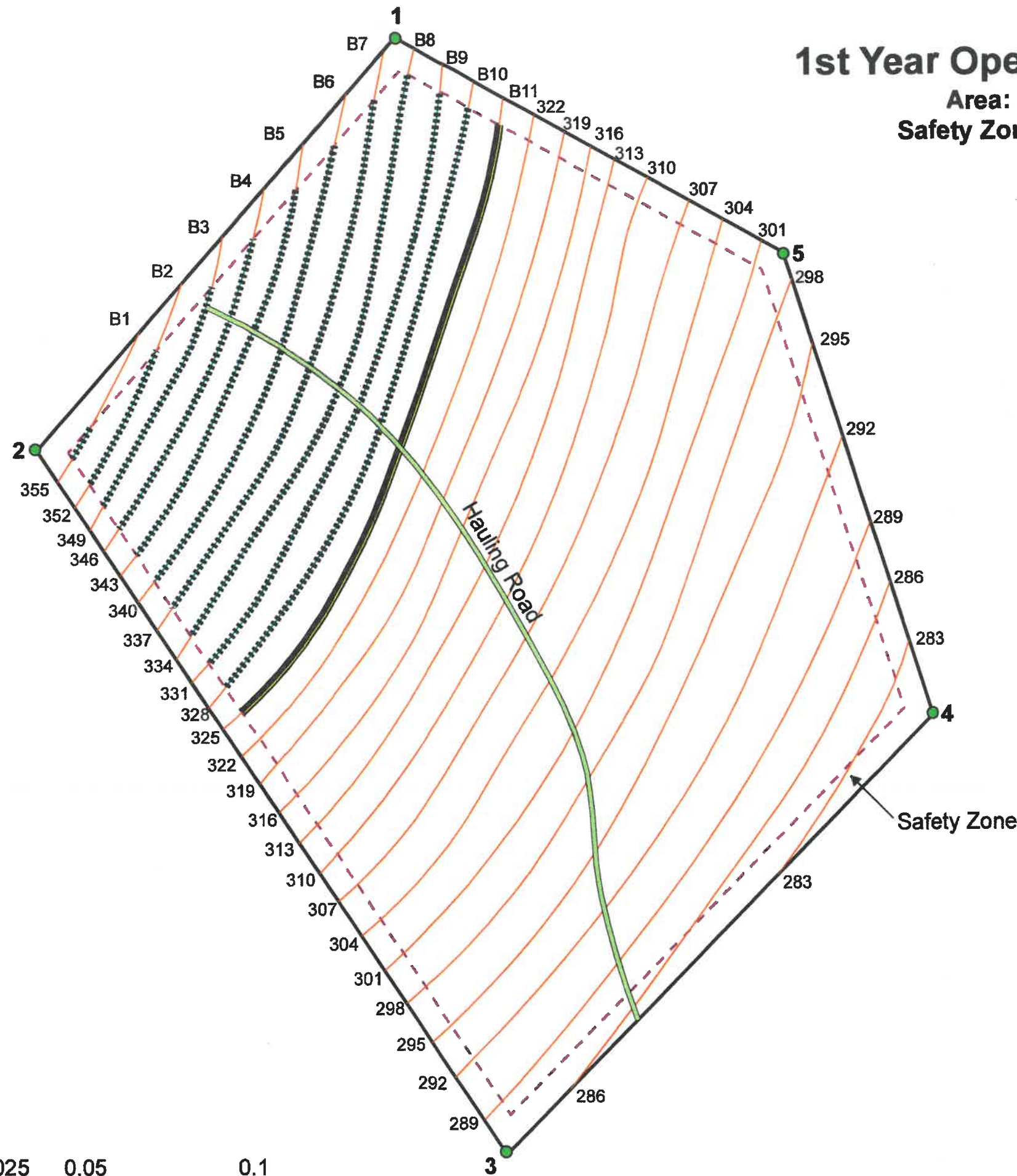


92°49'30"E



# 1st Year Operation Map

Area: 5.0 Ha  
Safety Zone: 0.63 Ha



Mining Plan is Approved

*(Signature)*

Senior Geologist,  
Directorate of Geology & Mining,  
Govt. of Assam,  
Kahilipara, Ghy-19

Safety Zone

*Abhijit Bora*

Abhijit Bora, Ph.D.  
Regd. No. DGM/RQP/02/2014

**Langkaijuri Stone Mahal**  
Imdad Ali  
Kathiatoli Range,  
Nagaon Forest Division  
Nagaon,  
Dist.: Nagaon, Assam

0 0.025 0.05 0.1  
Kilometers

Figure: 5

## Legend

- Contour
- Bench
- Exhausted Bench

92°49'30"E

26°9'0"N

26°9'0"N

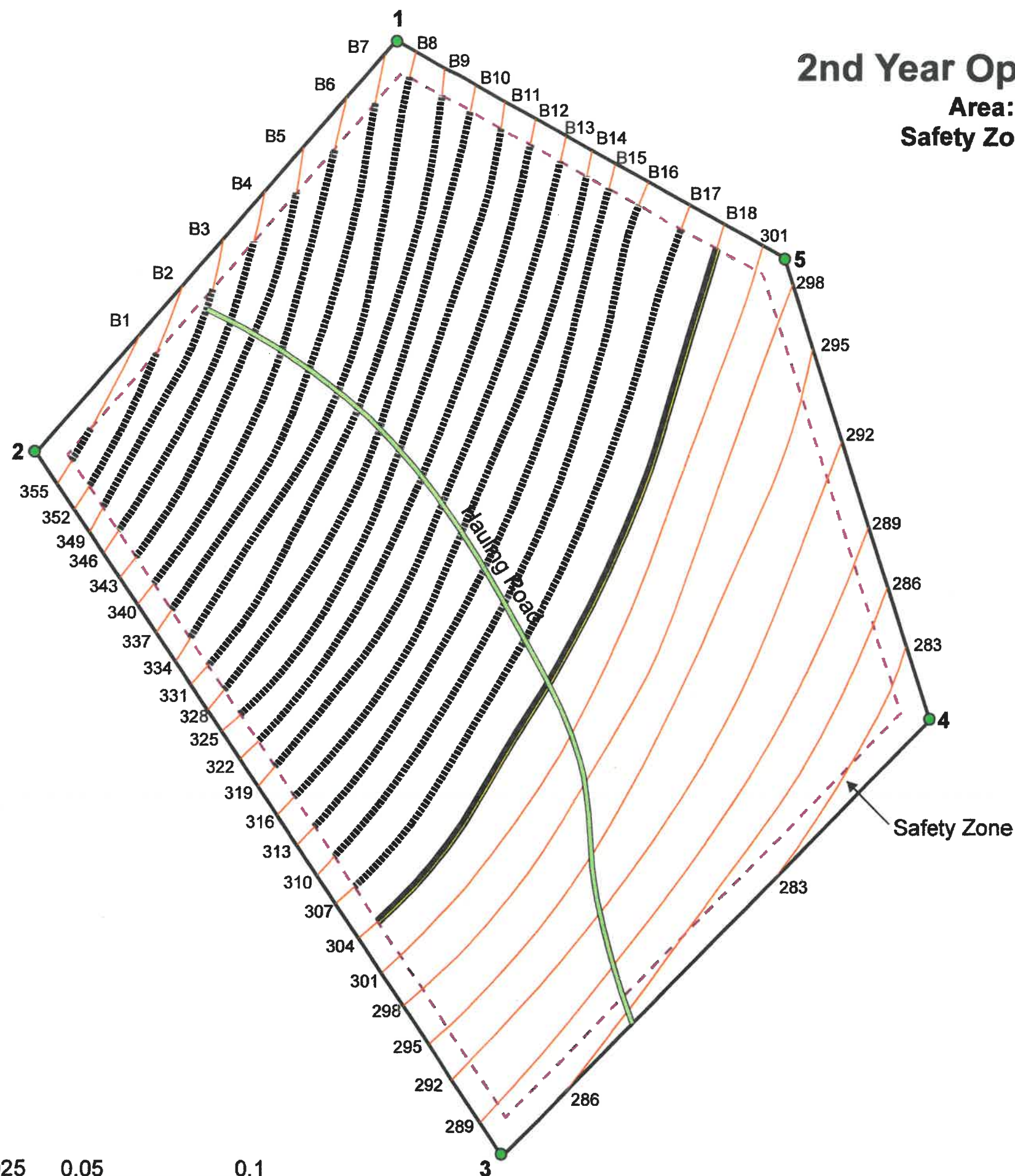
92°49'30"E

26°9'0"N



## 2nd Year Operation Map

Area: 5.0 Ha  
Safety Zone: 0.63 Ha



Mining Plan is Approved

*(Signature)*

Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam,  
Kahilipara, Ghy-19

*(Signature)*

Abhijit Bora, Ph.D.  
Regd. No. DGM/RQP/02/2014

**Langkaijuri Stone Mahal**  
Imdad Ali  
Kathiatoli Range,  
Nagaon Forest Division  
Nagaon,  
Dist.: Nagaon, Assam

0 0.025 0.05 0.1 Kilometers

Figure: 6

### Legend

- Contour
- Bench
- Exhausted Bench

92°49'30"E

26°9'0"N



92°49'30"E

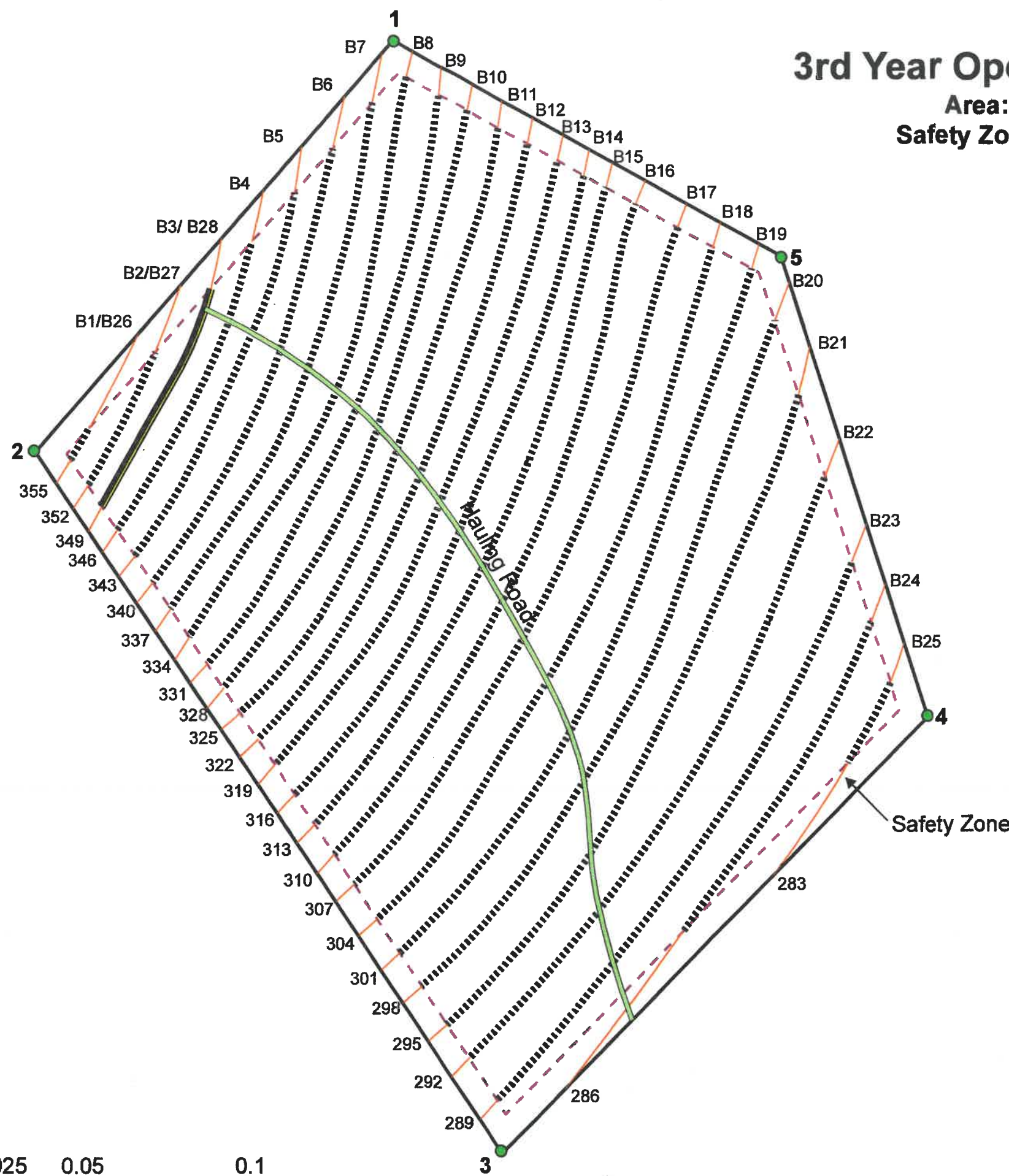


## 3rd Year Operation Map

Area: 5.0 Ha  
Safety Zone: 0.63 Ha

26°9'0"N

26°9'0"N



Mining Plan is Approved

*M. S. S.*

Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam,  
Kahilipara, Ghy-19

Safety Zone

*Abhijit Bora*  
Abhijit Bora, Ph.D.  
Regd. No. DGM/RQP/02/2014

**Langkaijuri Stone Mahal**  
Imdad Ali  
Kathiatoli Range,  
Nagaon Forest Division  
Nagaon,  
Dist.: Nagaon, Assam

0 0.025 0.05 0.1 Kilometers

Figure: 7

### Legend

- Contour
- Bench
- Exhausted Bench

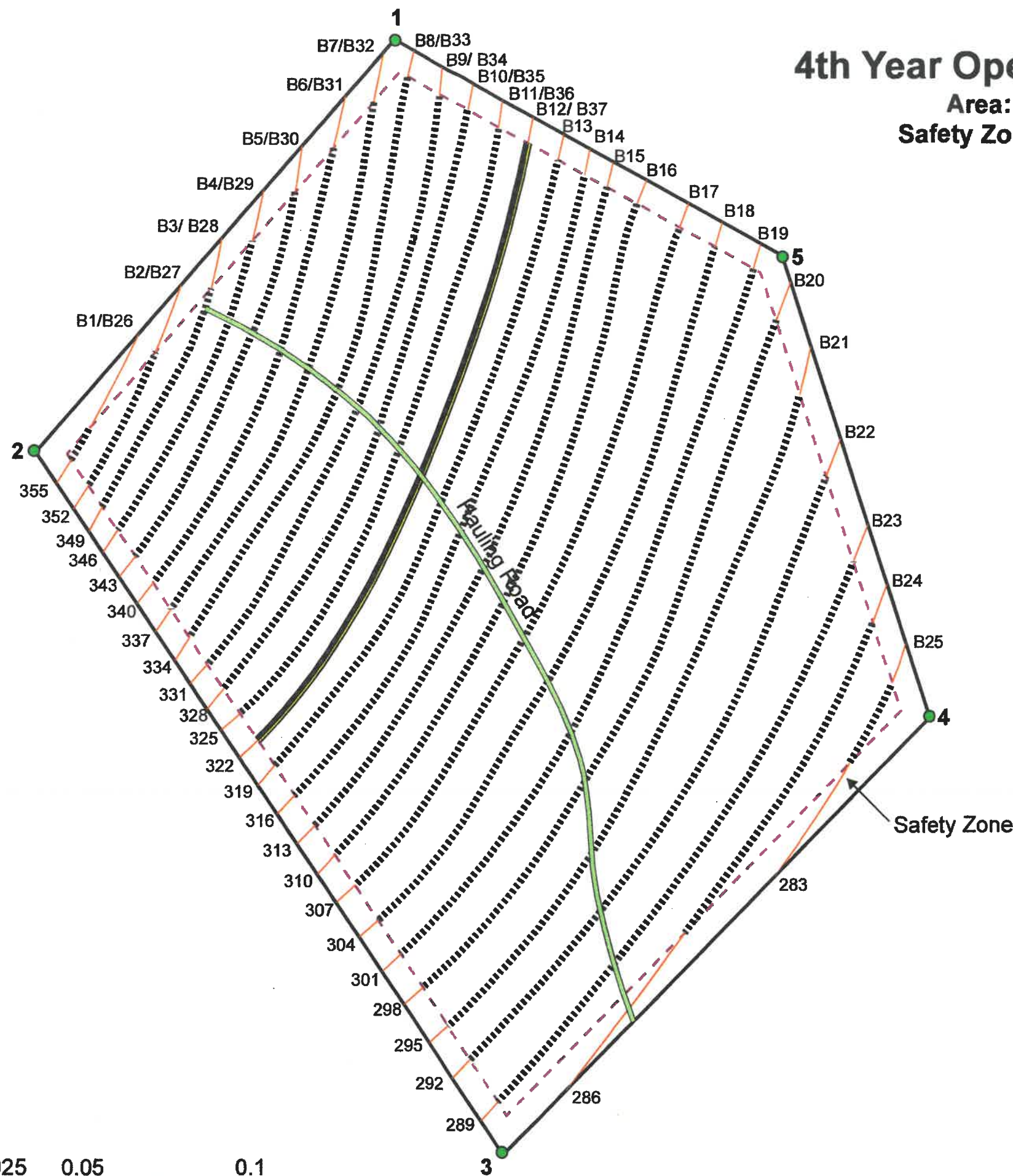
92°49'30"E

92°49'30"E



## 4th Year Operation Map

Area: 5.0 Ha  
Safety Zone: 0.63 Ha



Mining Plan is Approved

*[Signature]*  
Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam  
Kahilipara Ghy-19

*Abhijit Bora*  
Abhijit Bora, Ph.D.  
Regd No. DGM/RQP/02/2014

**Langkaijuri Stone Mahal**  
Imdad Ali  
Kathiatoli Range,  
Nagaon Forest Division  
Nagaon,  
Dist.: Nagaon, Assam

0 0.025 0.05 0.1  
Kilometers

Figure: 8

### Legend

- Contour
- Bench
- Exhausted Bench

92°49'30"E

26°9'0"N



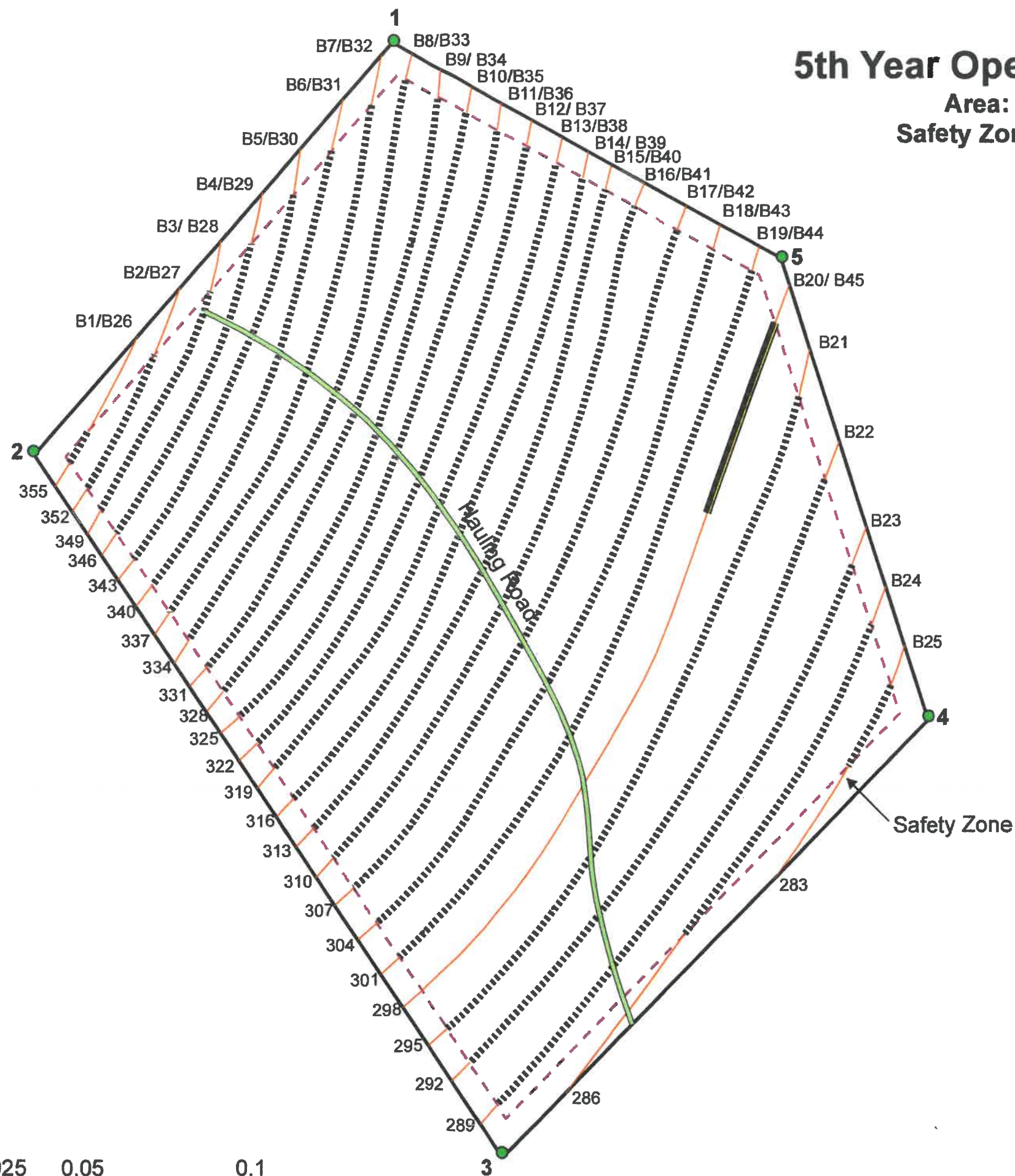
92°49'30"E

26°9'0"N



# 5th Year Operation Map

Area: 5.0 Ha  
Safety Zone: 0.63 Ha



Mining Plan is Approved

*(Signature)*

Senior Geologist,  
Directorate of Geology & Mining,  
Govt. of Assam,  
Kahilipara, Ghy-19

Safety Zone

*(Signature)*  
Abhijit Bora, Ph.D.  
Regd. No. DGM/RQP/02/2014

**Langkaijuri Stone Mahal**  
Imdad Ali  
Kathiatoli Range,  
Nagaon Forest Division  
Nagaon,  
Dist.: Nagaon, Assam

0 0.025 0.05 0.1 Kilometers

Figure: 9

92°49'30"E

26°9'0"N



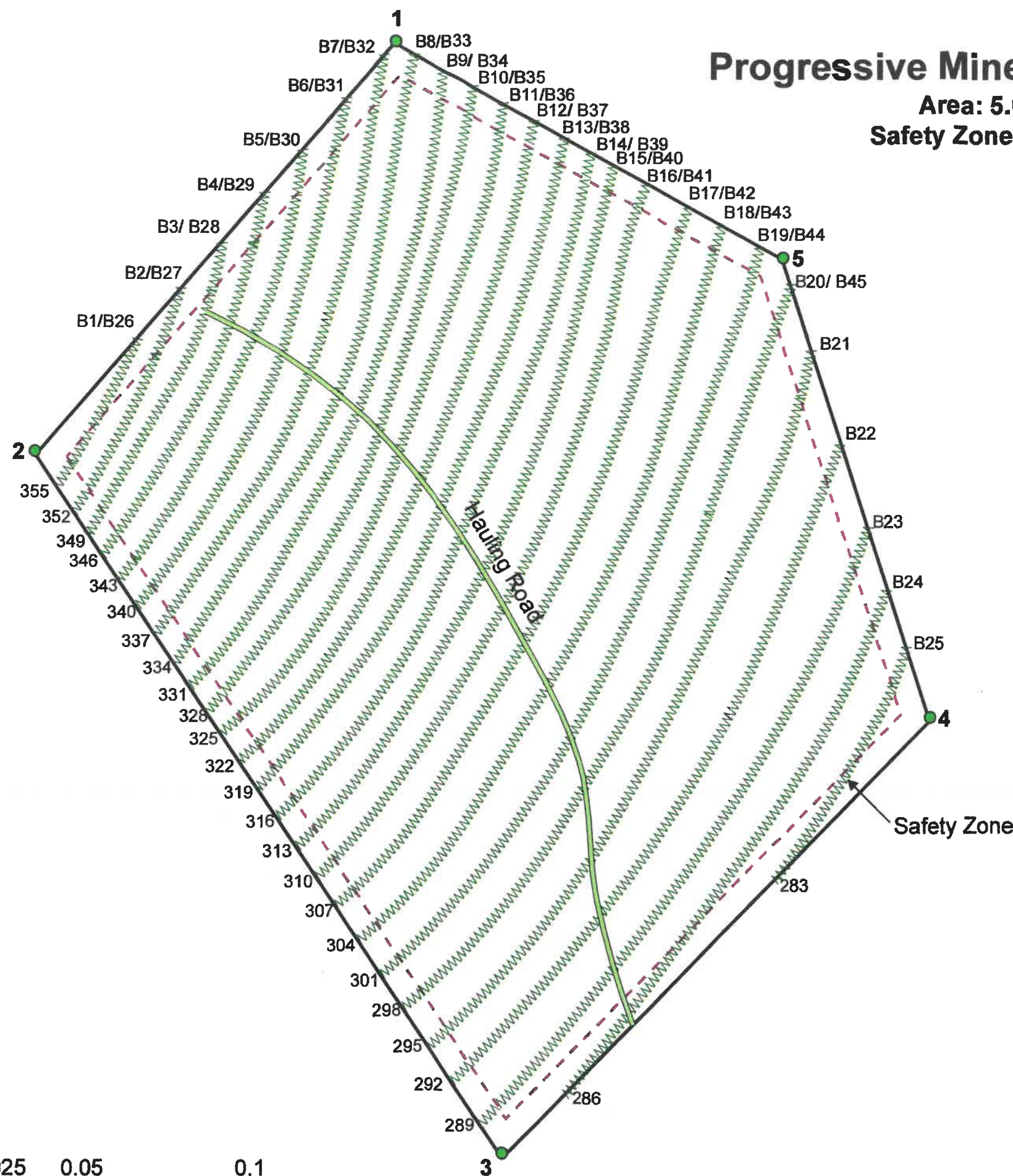
92°49'30"E

26°9'0"N



# Progressive Mine Closure Plan

Area: 5.0 Ha  
Safety Zone: 0.63 Ha



Mining Plan is Approved

*Meu*

Senior Geologist  
Directorate of Geology & Mining,  
Govt. of Assam  
Kahilipara, Ghy-19

*Abhijit Bora*  
Abhijit Bora, Ph.D.  
Regd. No. DGM/RQP/02/2014

**Langkaijuri Stone Mahal**  
Imdad Ali  
Kathiatoli Range,  
Nagaon Forest Division  
Nagaon,  
Dist.: Nagaon, Assam

0 0.025 0.05 0.1  
Kilometers

Figure: 10

## Legend

- Contour
- Bench
- Exhausted Bench

92°49'30"E

26°9'0"N



**GOVERNMENT OF ASSAM**  
**DEPARTMENT OF ENVIRONMENT & FORESTS, ASSAM**  
**OFFICE OF THE DIVISIONAL FOREST OFFICER: NAGAON DIVISION NAGAON**  
**Phone & Fax No. 03672-233610** **Email ID- dfonagaont@gmail.com.**

Letter No. FNGT/B/Langkaijuri Stone Mahal/2021/ **4257-58** Dated- **29/09/2021**

To,

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

Subject: According of Mining Plan etc. in respect of Langkaijuri Stone Mahal of Doboka R. F. for 5 (five) years.

Reference: The CCF & Nodal Officer, (F. C. Act), O/o the PCCF & HoFF, Assam's letter No. FG. 27/FCA/Proposal/ Lankaijuri Stone Mahal/Nagaon Divn., dated- 13/09/2021 & this Office letter No. FNGT/B/Langkaijuri Stone Mahal/2021/5001-02, dtd. 27/09/2021.

Sir,

With reference to the subject cited above, I have the honour to inform you that, the Chief Conservator of Forests & Nodal Officer, (F. C. Act), O/o the Principal Chief Conservator of Forests & Head of Forest Force, Assam has provisionally selected Imdad Ali (user agency) in respect of the Langkaijuri Stone Mahal of 2020-25 in Doboka Reserved Forest, Area- 5.04 Hect. vide his letter No. mentioned under reference of Mineral Concession to extract 1,50,000 m3 Stone for 5 (five) years.


Therefore, I would like to request you to accord necessary **approval for Mining Plan/Pre-feasibility report, and Form 1 M**, from your end against the said Stone Mahal for 1,50,000 m3 of Stone and 50,000 m3 of Stone for various development works.

In this regard, a copy of schedule "A" & a topo-sheet map No. 83 B/16 indicating the Langkaijuri Stone Mahal, are enclosed herewith for your kind information and necessary action.

Enclosed: As stated above.

Yours faithfully,

**29/09/2021**

(B. Deka, IFS)  
Divisional Forest Officer,  
Nagaon Division, Nagaon   
Condt...2

Copy to:-

Sri Imdad Ali, S/o- Abdul Haque, House No. 11, Purbanchal Path, Mathura Nagar, Dispur, Guwahati- 781005 (Assam), for information and necessary action. He is requested to submit the approved Mining Plan/Pre-feasibility report and Form 1 M within (seven) days from the competent authority without fail.

(B. Deka, IFS)  
Divisional Forest Officer,  
Nagaon Division, Nagaon

Memo No. FNGT/A/Langkaijuri Stone Mahal/2021/ 2516-19  
Copy forwarded for favour of kind information and necessary action to:-

Dated- 29/09/2021

1. The Principal Chief Conservator of Forests & Head of Forest Force, Assam, Panjabari, Guwahati- 37.
2. The Addl. Principal Chief Conservator of Forests (T), Upper Assam Zone, Jorhat.
3. The Chief Conservator of Forests & Nodal Officer, (F. C. Act), O/o the Principal Chief Conservator of Forests & Head of Forest Force, Assam, Panjabari, Guwahati- 37.
4. The Conservator of Forests, Northern Assam Circle, Tezpur, Assam.

(B. Deka, IFS)  
Divisional Forest Officer,  
Nagaon Division, Nagaon

**GEO-REFERENCE MAP SHOWING THE PROPOSED 5.04 HECT.  
LANKAIJURI STONE MAHAL (STONE MAHAL AREA – 5 HECT. &  
APPROACH ROAD AREA - 0.04 HECT AT DABOKA RF UNDER  
KATHIATOLI RANGE, KATHIATOLI**

**GPS POINTS LONGITUDE LATITUDE APPROACH ROAD AREA**

1. 26° 8'52.20"N 92°49'38.30"E
2. 26° 8'53.28"N 92°49'36.61"E
3. 26° 8'53.10"N 92°49'36.40"E
4. 26° 8'52.40"N 92°49'38.31"E

*✓*  
Asstt. Conservator of Forests  
Nagaon Forest Division  
Nagaon

**GPS POINTS LONGITUDE LATITUDE STONE MAHAL AREA**

1. 26° 9'2.73"N 92°49'33.89"E
2. 26° 8'58.75"N 92°49'30.04"E
3. 26° 8'51.99"N 92°49'35.10"E
4. 26° 8'56.19"N 92°49'39.67"E
5. 26° 9'0.65"N 92°49'38.07"E

*Submitted*

*[Signature]*

Forest Range Officer  
Kathiatali Range

**Schedule A**  
**"Information Memorandum"**

1. Name of the Mineral Concession Area: **LANGKAIJURI STONE MAHAL UNDER KATHIATOLI RANGE, KATHIATOLI OF 2020-25.**
2. Status of Land: **Reserve Forest**
3. Grant of Mining Contract for collection of Stone in the mining area.
  - (a) Area and Estimated Reserves = **5.00 Ha with 1,50,000 cu.m Stone.**
  - (b) Period of Lease/Contract = **5 years** from date of possession.
  - (c) Reserve Price: **Rs. 3,70,50,000.00 (Rs. Three Crores Seventy Lakhs Fifty Thousand only).**
  - (d) Earnest Money  
10% on reserve price, i.e., **Rs 37,05,000.00** (Rs. Thirty Seven Lakhs Five Thousand only). However, 50% of this amount if bidder is an individual and belongs to S.T/S.C/OBC, i.e., **Rs. 18,52,500.00** (Rupee Eighteen Lakhs Fifty Two Thousand Five Hundred only).
  - (e) G.P.S Coordinates of the corners of mine area: The boundary pillars shall be installed on site by the successful bidder at these and other intermediate locations, as per the directions of competent authority, before start of mining operation.

**North- Boundary of Nagaon South Division**  
**South- Doboka R. F.**  
**East- Doboka R. F.**  
**West- Langkaijuri old Stone Mahal.**

Tracks	Ha	SL. No.	LAT/LONG
<b>Track 1</b>	<b>5.00 Ha.</b>	<b>1</b>	<b>N = 26°08'58.75" E = 092°49'30.04"</b>
		<b>2</b>	<b>N = 26°08'51.99" E = 092°49'35.10"</b>
		<b>3</b>	<b>N = 26°08'56.19" E = 092°49'39.67"</b>
		<b>4</b>	<b>N = 26°09'00.65" E = 092°49'38.07"</b>
		<b>5</b>	<b>N = 26°09'02.73" E = 092°49'33.89"</b>
		<b>6</b>	<b>N = 26°08'53.01" E = 092°49'36.61"</b>
		<b>7</b>	<b>N = 26°08'51.55" E = 092°49'39.51"</b>
		<b>8</b>	<b>N = 26°08'50.67" E = 092°49'39.50"</b>
		<b>9</b>	<b>N = 26°08'54.34" E = 092°49'37.90"</b>



(f) Google Earth image of the Mineral Concession Area-



(g) Representative photograph of the mineral concession area-





(h) Applicable Clearances:

- No Objection Certificate from Deputy Commissioner in case of Mineral concession Area is Revenue land (non-forest land): Already obtained
  - Mining Plan approved by the Director, Geology and Mining Department, Govt. of Assam. The preparation of Mining Plan is under process and the Mining plan shall be transferred to the Successful Bidder/Lessee on payment of required applicable charges (Rs. ....).
  - Environment Clearance and other clearances to be obtained from State Environment Impact Assessment Authority, Govt. of Assam as per and the instructions of the Ministry of Env. , Forests & Climate Change, Govt. of India issued vide S.O. 1533(E), dated 14.09.2006 and its subsequent amendments. The grant of Environmental Clearance is under process at DEIAA/SEIAA and the same shall be transferred to the Successful Bidder/Lessee on payment of required applicable fee (Rs. ....).
  - In case of Mineral concession Area is a Forest land, the Forest Clearance to be obtained under Forest Conservation Act, 1980 from the Ministry of Env. , Forests & Climate Change, Govt. of India shall be transferred to the Successful bidder on payment of Net Present Value-Rs. .... Cost of Compensatory Afforestation -Rs. .... Overhead cost-Rs. .... etc.(Total Rs. ....)
- (i) Quota for Govt. permits: Excess of Mining Plan Quantity over the bid quantity in case of Contract and Permit. However, for lease, maximum quota for govt. works as specified by the competent authority.

Rajen

Choudhury

Digitally signed by  
Rajen Choudhury  
Date: 2020.06.10  
22:31:28 +05'30'

DIVISIONAL FOREST OFFICER,  
NAGAON DIVISION, NAGAON



**GOVERNMENT OF ASSAM**  
**DEPARTMENT OF ENVIRONMENT & FORESTS, ASSAM**  
**OFFICE OF THE DIVISIONAL FOREST OFFICER: NAGAON DIVISION NAGAON**

**Phone & Fax No. 03672-233610**

**Email ID-**

Letter No. FNCT/B/Lankaon Stone Mahal/2021/

Dated-

27/09/2021

To,

Sri Imdad Ali,  
 S/o- Abdul Haque,  
 House No. 11, Purbanchal Path,  
 Mathura Nagar, Dispur,  
 Guwahati- 781005.

**Subject:** Provisional letter of Intent (LoI) Granting Mining Permit to allow Minor Mineral in respect of the Mining Area- Langkajuri Stone Mahal of 2020-25 under Doboka R. F. of Kathiatoli Range, Kathiatoli.

**Reference:** The CCF & Nodal Officer (FC Act), Assam O/o the Principal Chief Conservator of Forests & Head of Forest Force, Assam vide letter No. FG. 27/FCA/Proposal/Lankajuri Stone Mahal/Nagaon Divn. Dtd. 13/09/2021.

Subject to the appeal provision and other provisions of the Assam Minor Mineral concession Rules, 2013 and other applicable laws, and on approval received from the CCF & Nodal Officer (FC Act), Assam O/o the Principal Chief Conservator of Forests & Head of Forest Force, Assam, of your bid amount of Rs. 4,60,05,000/- (Rupees Four crores fifty sixty lakhs five thousand) only, for Mining of 1,50,000 m3 of Stone for a period of 5 (Five) years from "Langkajuri Stone Mahal of 2020-25 under Doboka R. F. of Kathiatoli Range, Kathiatoli of the Nagaon Forest Division is hereby accepted and you are requested to deposit the security amount within 15 (Fifteen) days from the date of issue of this provisional letter of Intent (LoI) and signing of Permit Agreement in FORM- MC- I, as per provisions of AMMC Rule's 2013. An additional amount 10% on bid value has to be deposited towards "Mines-Minerals, Rehabilitation Dev. & Restoration Fund" & 10% District Mineral Foundation Trust (DMF), Nagaon on the actual royalty at the time of depositing the kist money. Failing to comply with the above directions within the stipulated period, the provisional letter of Intent (LoI) will be cancelled without assigning any reason.

**Details of Deposit:-**

(a) 25% of annual dead rent as security deposit on bid value	= Rs.	23,00,250/-
(b) An additional amount equal 1 month's dead rent on bid value	= Rs.	7,66,750/-
<b>Total</b>	<b>= Rs.</b>	<b>30,67,000/-</b>

(Rupees Thirty lakhs sixty seven thousand) only and others relevant taxes.

Provisional Letter of Intent (LoI) issued to you, being the selected highest bidder and you are asked to prepare/submit the following documents.

1. Prepare Mining Plan by the Director Geology & Mining Department.
2. Apply online through MoEF & CC web portal parivesh.nic.in for forest land diversion proposal under the Forest (Conservation) Act, 1980
3. Apply for Environmental Clearance.
4. Prepare Environmental Management Plan.

Contd...2

Further, on received of the above, the final settlement order will be issued in favour of you and then only your operation of Langkaijuri Stone Mahal will be started.

So, you are asked to submit as stated above within 60 (sixty) days from the issue of this letter.

(B. Deka, AFS)  
Divisional Forest Officer,  
Nagaon Division, Nagaon

Copy to:-

The Director, Directorate of Geology & Mining Assam, Kahilipara, Guwahati- 19 for favour of kind information and necessary action.

(B. Deka, AFS)  
Divisional Forest Officer,  
Nagaon Division, Nagaon

Memo No. FNGT/A/Langkaijuri Stone Mahal/2021/ 2179-5  
Copy forwarded for favour of kind information and necessary action for:-

Dated- 7/09/2021

1. The Principal Chief Conservator of Forests & Head of Forest Force, Assam, Panjabari, Guwahati- 37.
2. The Chief Conservator of Forests & Nodal Officer (F. C. Act), Assam O/o the Principal Chief Conservator of Forests & Head of Forest Force, Assam, Panjabari, Guwahati- 37.
3. The Addl. Principal Chief Conservator of Forests (T), Upper Assam Zone, Jorhat.
5. The Conservator of Forests, Northern Assam Circle, Tezpur, Assam.

(B. Deka, AFS)  
Divisional Forest Officer,  
Nagaon Division, Nagaon



খনিজ সম্পদৰ  
অন্বেষণত

GOVERNMENT OF ASSAM  
DIRECTORATE OF  
GEOLOGY AND MINING  
BHU-BIGYAN BHAWAN  
DAKHINGAON, KAHILIPARA, GUWAHATI-19  
Email: [dgmassam@gmail.com](mailto:dgmassam@gmail.com)  
[dgm.assam@gov.in](mailto:dgm.assam@gov.in)  
Dtd. Guwahati, the 11<sup>th</sup> October, 2021.

No. GM/MS /244/ 2380

From :- Sri Ananda Kumar Das, ACS,

Director,

Directorate of Geology & Mining, Assam,

Kahilipara, Guwahati-19.

To :- Imdad Ali.

H. No.11, Purbanchal path, Mathura nagar.

Dispur, Guwahati-06.

Sub :- Regarding submission of petrological report.

Sir,

With reference to the subject cited above I am submitting herewith the petrological study report for the sample submitted by Sri Abhijit Bora, RQP on behalf of Imdad Ali, Purbanchal path, Mathura nagar, Dispur, Guwahati-06. The sample is from Lankajuri stone mahal, Modertoli area of Doboka, Hojai dist.

The petrological study report is prepared in the petrological laboratory.

This is for your information and necessary action.

Enclosure: As stated.

Yours faithfully,

Director,


Directorate of Geology & Mining,

Assam.

# PETROGRAPHIC ANALYSIS REPORT

Sample No	:- 151/ S
Name	:- Sample submitted by Imdad Ali, H.No.11, Purbanchal path Mathura nagar, Dispur, Guwahati- 06.
Location	:- Lonkaijuri stone mahal, Modertoli, Doboka, Hojai dist.
Megascopic Description	:- gray color, semi vitrous lustrue.

<u>Microscopic Description-</u>	
1. Grain size	Grain sizes are small.
2. Grain shape	Anhedral
3. Abundance of minerals	Abundance of quartz with opaque minerals.
4. Primary minerals.	Quartz.
5. Secondary minerals	No secondary mineral is seen.
6. Accessory minerals	Opaque minerals as assessorry minerals.
7. Texture	Grains are showing equigrannular texture.
8. Structural features (If any)	No structural feature could be seen.
9. Mutual relationship	Grains are showing interlocking mutual relationship.
10. Study of inclusions	No inclusion is seen.
11. Name of rock	The sample is a composition of quartz and opaque minerals. From the mineralization it can be ascertained it is a metamorphic rock and the rock is quartzite with impurities.
12. Uses	Fractures and joints could not be seen. The rock contains mostly quartz and opaque minerals. As the deposit is a small one, and quartzite with impurities, therefore, it has less industrial value. So, the rock can be used as ordinary stone.

  
 (Sri Barnalee Nath)  
 Joint Director,  
 In-Charge of Petrological Lab  
 Directorate of Geology & Mining,  
 Govt. of Assam.



CHALLAN  
TR Form -5(a)



GRN	AS000181891202122E	BARCODE	[Barcode]		Date	04/10/2021-11:45:16		Form ID	
Department Geology and Mining					Payer Details				
Type of Payment Non-ferrous Mining and Metallurgical Industries102					TAX ID (If Any)				
					PAN No.(If Applicable)				
Office Name DIRECTORATE OF GEOLOGY and MINING					Full Name		Imdad Ali		
Location Kamrup Metro									
Year 2021-2022 One Time					Flat/Block No.		H.No. 11 Purbanchal Path		
Account Head Details				Amount In Rs.	Premises/Building				
0853-00-102-7080-000 Petrological report				1000.00	Road/Street		Mathura Nagar		
					Area/Locality		Dispur Guwahati- 06		
					Town/City/District				
					PIN				
					Remarks (If Any) Langkaijuri Stone Mahal				
					Amount In		One Thousand Rupees Only		
Total				1,000.00	Words				
Payment Details STATE BANK OF INDIA					FOR USE IN RECEIVING BANK				
Cheque-DD Details					Bank CIN	Ref. No.	00030302021041094178		IK0BHVXBH7
Cheque/DD No.					Bank Date	RBI Date	04/10/2021 11:39:02		Not Verified with RBI
Name of Bank					Bank-Branch		STATE BANK OF INDIA		
Name of Branch					Scroll No. , Date		Not Verified with Scroll		

Department ID :

Mobile No. : 9435562929





CHALLAN  
TR Form -5(a)



GRN	AS000341691202122E	BARCODE			Date	26/10/2021-17:19:11	Form ID		
Department				Geology and Mining					
Type of Payment				Non-ferrous Mining and Metallurgical Industries102					
Office Name				DIRECTORATE OF GEOLOGY and MINING					
Location				Kamrup Metro					
Year				2021-2022 One Time					
Account Head Details				Amount In Rs.		Premises/Building			
0853-00-102-7079-000				5000.00		Road/Street			
Approval of Mining Plan						Mathura Nagar Dispur			
						Area/Locality			
						Guwahati-06			
						Town/City/District			
						PIN			
						Remarks (If Any)			
						Langkaijuri Stone Mahal			
						Amount In			
						Five Thousand Rupees Only			
Total				5,000.00		Words			
Payment Details				STATE BANK OF INDIA					
Cheque-DD Details				FOR USE IN RECEIVING BANK					
Cheque/DD No.				Bank CIN		Ref. No.		00030302021261052615	
				Bank Date		RBI Date		26/10/2021 17:20:16	
Name of Bank				Bank-Branch		STATE BANK OF INDIA			
Name of Branch				Scroll No. , Date		Not Verified with Scroll			

Department ID :

Mobile No. : 9435562929