



**Government Of Rajasthan**

**Office Of The Superintending Mining Engineer, Rajsamand-Circle,**

**Department Of Mines & Geology, Rajsamand (Raj.)**

Telephone & Fax- 02952-220190, E-mail Add- [sme.rajsamand@rajasthan.gov.in](mailto:sme.rajsamand@rajasthan.gov.in)

No. SME/RAJ-CIR/M.S with P.M.C.M/RAJ-1/E-22/18/

Dated : -2018

To,

**Sh. Ashok Jain S/o Sh. Chandan Mal Jain,  
R/o H-12 Petrol Pump, Deogarh  
District Rajsamand (Raj.)**

**SUB :-** Approval of Mining Scheme With Progressive Mine Closure Plan in respect of your Quartz & Feldspar Mine (M.L. No.-6/2004) Lease Area- 4.56 Hect.) for Minerals Quartz & Feldspar Near Village- Khanka ka gurus Tehsil- Kumbhalgarh District- Rajsamand (Raj.) submitted under Rule 29(10)&(5) (vi) of R.M.M.C.R 2017

**REF :-** Your R.Q.P.'s Letter Dated: 20-03-2018 & 26-07-2018

Dear Sir,

In reference of Mines (Grade-II) Department's Notification No.F-15(20)/Mines/Gr.11/94 Jaipur dated 18.03.2002 and Directorate letter No.DMG/Minor/F-2Mar.Pol/U.D./2002/968-1047 dated 30.09.2002 and Notification No.F-14(2)/khan/Gr.2/85 dated 20.04.2005 of Mines (Gr.2) Department, Rajasthan, Jaipur & according to Rule 29 of R.M.M.C.R.- 2017 .

The said area was jointly inspected dated 25-04-2018 by the Mining Engineer Rajsamand Division 1<sup>st</sup> and Senior Geologist Rajsamand. The Mining scheme has been verified after completing the deficiencies pointed out during field inspection.

On the basis of above I hereby **APPROVE** the said Mining Scheme With Progressive Mine Closure Plan this approval is subject to the following conditions:

1. The Mining Scheme With Progressive Mine Closure 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.
2. It is further clarified that approval of the Mining Scheme With Progressive Mine Closure Plan is subject to the provisions of Forest (conservation) Act 1980, Forest (Conservation) Rule, 1981 and Environment Protection Act 1986 any other relevant statutes, orders and guidelines as may be applicable to the lease from time to time.
3. The Mining Scheme With Progressive Mine Closure Plan is approved without prejudice to any order or direction from any court of the competent jurisdiction.
4. The execution of Mining Scheme With Progressive Mine Closure Plan of the said the mining lease shall be subject to vacation of prohibitory orders/notice, if any.
5. If anything found concealed as required by the Mines Act, 1952, MMR-1961 and Rajasthan Minor Mineral Concession Rules 2017 in the contents of the Mining Scheme With Progressive Mine Closure Plan the said approval shall be deemed to have been withdrawn with immediate effect. The approved copies of Mining Scheme With Progressive Mine Closure Plan shall be made available to the concerned offices.
6. Lessee will also follow the conditions mentioned in concerned Environmental clearance order, issued under EIA, notification 2006.

PTO—

(N.K. Bairwa)

Supdy. Mining Engineer,  
Department of Mines & Geology,  
Rajsaamand-Circle, Rajsaamand (Raj.)

Dated: 23/8/2018

No. SME/RAJ-CIR/MLS with P.M.C./M/RAJ-1/F-22/18/ 2364

Copy forwarded for kind information to:-

- Copy forwarded for kind information to:-
1. The Director of Mines Safety, Directorate General of Mines Safety, Jhama Kotra road, H.M. Sector-8, Udaipur (Raj.).
  2. Mining Engineer, Division I<sup>st</sup> along with a copy of the approved Mining Scheme.
  3. Sr. Geologist Kajsamand.
  4. Shri Madhav Lal Agrawal, R.Q.P., 02, Gariyawas Choraya, Madri Road, Shri-nagar, Road no-1 Udaipur (Raj.).
  5. Guard File.

(N.K. Bairwa).

Suptdy. Mining Engineer,  
Department of Mines & Geology,  
Rajamahand-Circle, Rajamahand (Ra.)

# Scheme of Mining

## With Progressive Mine closure Plan

(Submitted under Rule 29 (5) (10) of R.M.M.C.R., 2017)

Approved vide Letter No.   
SME/Raj-Cir/Mining Plan/Scheme   
Raj I/F 24/10/ Dtd 26-2-2018 Quartz & Feldspar mine

M. L. NO. 06/04 23/8/18

NEAR VILLAGE : KHANKHA KA GURHA  
TEHSIL, DISTRICT, STATE : KUMBHALGARH, RAJSAMAND &  
RAJASTHAN

LEASE AREA : 4.56 HECT.

LAND TYPE : GOVT. WASTE LAND

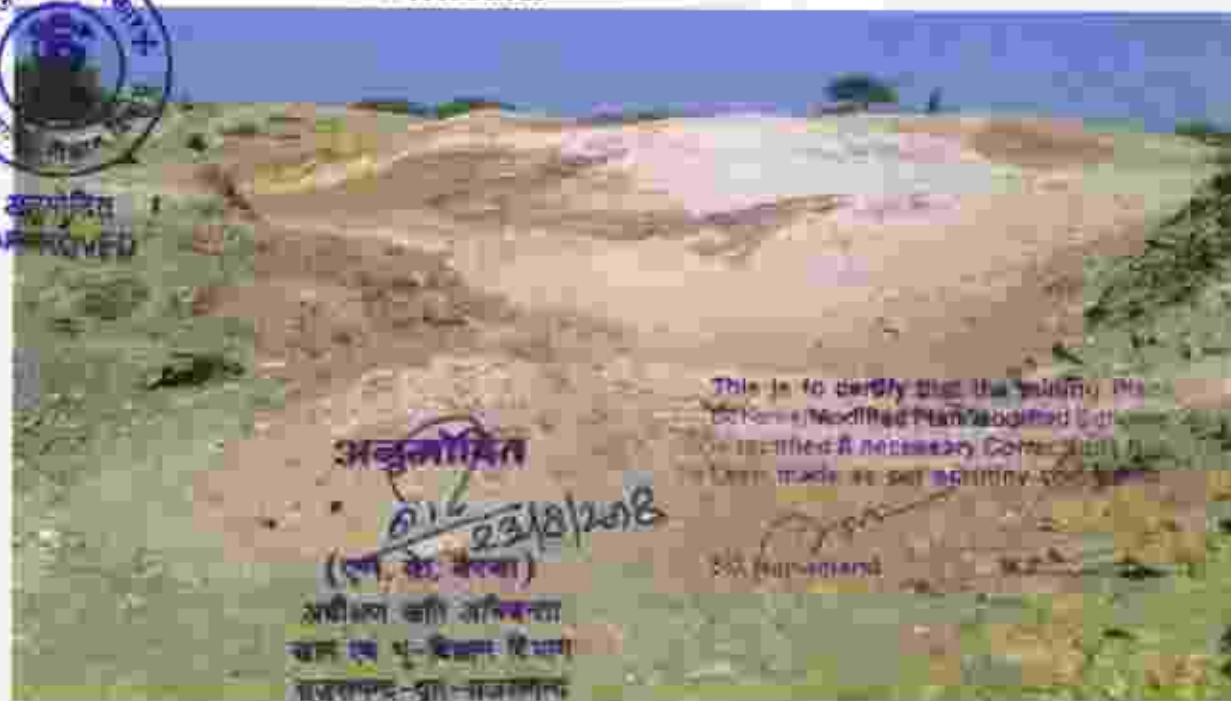
DATE OF EXECUTION : 12/05/2008

EXPIRY OF LEASE PERIOD : 11/05/2058

PERIOD OF SCHEME OF MINING : 2018-19 to 2022-23  
WITH PMCP



अनुमोदित  
APPROVED



This is to certify that the Mining Plan  
Scheme/Modified Plan/Modified Plan  
has been verified & necessary corrections  
have been made as per authority concerned.

अनुमोदित

01/2 23/8/2018

(एन. के. बरवा)

अधीक्षक जॉय अभिवृत्ता  
खान एवं प-विभाग विभाग  
राजसमन्द-पुन-राजसमन्द

01/2 23/8/2018

LESSEE

**Sh. Ashok Jain**

S/o Sh. Chandan Mal Jain  
R/o H-12, Petrol Pump, Deogarh,  
Rajsamand (Raj.)

Ph. No.- Not Available

Email:- Not Available

PREPARED BY

**Madhav Lal Agrawal, RQP**

02, Gariyawas Choraya,  
Madri Road, Shrinagar, Road No.-1,  
Udaipur (Raj.)-313003

Reg. No. RQP/SME/ (UDAI-CIRCLE)/2015/12,

Valid up to 19/02/2020

Tel. No. 9414162329,

Email:- madhavaagrawal956@gmail.com

**Madhav Lal Agrawal RQP**

02, Gariyawas Choraya, Madri Road,

Shri nagar, Road No.-1, Udaipur (Raj.) - 313003

Reg. No. RQP/SME/ (UDAI-CIRCLE) 2015/12, Valid up to 19/02/2020.

Tel. No. 9414162329,

Email- [madhavagrawal195ya@gmail.com](mailto:madhavagrawal195ya@gmail.com).

### **CERTIFICATE FROM RQP**

The provisions of under Rule 29 (5) (10) R.M.M.C.R., 2017 have been observed in the preparation of the scheme of mining with Progressive Mine closure plan for Khakha Ka Gurha Quartz & Feldspar mine (M. L. No. 6/04) over an area of 4.56 hect. of **Sh. Ashok Jain**, S/o Sh. Chandan Mal Jain, R/o H-12, Near Petrol Pump, Deogarh, Rajsamand (Raj.) State and whenever specific permissions are required, the lessee will approach the concerned authorities of **Supdt. Mining Engineer, Rajsamand, circle Rajsamand**.

The information furnished in the scheme of mining with progressive mine closure plan is true and correct to the best of our knowledge.

Date:

Place: Udaipur



**Madhav Lal Agrawal**

Reg. No. RQP/SME/ (UDAI-CIRCLE) 2015/12

Valid up to 19/02/2020



अनुमोदित  
APPROVED

## Part –B

### 9.0 CERTIFICATE / UNDERTAKINGS / CONSENT LATTER

#### Sh. Ashok Jain

H-12, Near Petrol Pump, Deogach, Rajsamand (Raj.)

#### A. CONSENT LATTER/UNDERTAKINGS/CERTIFICATE FROM THE LESSEE

1. Scheme of mining with Progressive Mine closure plan in respect of Khakha Ka Gurha Quartz & Feldspar Mine (M.L. No. 6/04) over an area of 4.56 hect. in Village - Khakha Ka Gurha, Tehsil -Kumbhalgarh, Dist.- Rajsamand (Raj.) under Rule 29 (5) (10) R.M.M.C.R., 2017 has been prepared by Sh. Madhav Lal Agrawal, RQP Reg. No. RQP/SME/ (UDAI-CIRCLE)/2015/12.

This is to request the Supdt. Mining Engineer, Rajsamand, circle Rajsamand to make further correspondence regarding any regarding of scheme of Mining with the said recognized person at his following address:

**Madhav Lal Agrawal, RQP**

02, Gariyawas Choraya Madri Road,

Shri nagar, Road No.-1, Udaipur (Raj.) – 313003

Reg. No. RQP/SME/ (UDAI-CIRCLE)/2015/12. Valid up to 19/02/2020

Tel. No. 9414162329.

Email- madhavagrwal1956@gmail.com

We herby undertake that all modification/updating as made in the said scheme of mining by the said recognized person be deemed to have been made with our knowledge and consent and shall be acceptable on us and binding in all respects.


2. It is certified that the CCOM's Circular No. 2/10 will be implemented and complied with when an authorized agency is approved by the State Government.



अनुमोदित  
APPROVED

3. It is certified that the Progressive Mine Closure Plan of Khakha Ka Gurha , Quartz & Feldspar mine (M.I. No. 6/04) of **Sh. Ashok Jain**, over an area of 4.56 hect. complies with all statutory Rules, Regulations, Orders made by the Central Government or State Government, Statutory organizations, Court etc. which have been taken into consideration and Wherever any specific permission is required, the Lessee will approach the concerned authorities.  
The information furnished in the **Progressive Mine Closure plan** is true and correct to the best of our knowledge and records.
4. The provisions of **mines Act, Rules and Regulations** made there under have been observed in the scheme of mining over an area of 4.56 hect. in Village- Khakha Ka Gurha , Tehsil - Kumbhalgarh, Dist.- Rajsamand (Raj.) belonging to Khakha Ka Gurha Mine and where specific permissions are required the lessee will approach the **D.G.M.S.** Further standards prescribed by **D.G.M.S.** in respect of **miners' health** will be strictly implemented"

Date :-  
Place:- Rajsamand

  
**Ashok Jain**  
S/o Sh. Chandan Mal Jain  
H-12, Near Petrol Pump, Deogarh,  
Rajsamand (Raj.)



# CONTENTS

Ch. No.	Particular	Page
	Introduction	6
1.	General	7
2.	Location and Accessibility	8
3.	Detail of Approved Mining Plan	10
<b>PART-A</b>		
1.	Geology and Exploration	13
2.	Mining	20
3.	Mine Drainage	31
4.	Stacking of Mineral Reject/ sub grade Material and Disposal of waste	32
5.	Use of Mineral	35
6.	Processing of ROM and Mineral Reject	36
7.	Other	38
8.	Progressing Mine Closure Plan	39



## PLATES

<u>Sr. No.</u>	<u>Particular</u>	<u>Scale</u>	<u>Plate</u>
1.	Key cum Location Plan/ Land Use Pattern/	1:50000	1
2.	Route Plan	Not to be scale	2
3.	Surface Plan	1:1000	3
4.	Geological Plan & Sections	1:1000	4 A-4 B
5.	Mine lay out	1:1000	5
6.	Year wise development plans & section	1:1000	6 A-6 B
7.	Environment Plan	1:5000	7
8.	Progressive mine closure plan	1:1000	8
9.	Conceptual Plan	1:1000	9

## List of Annexure

<u>Sr. No.</u>	<u>Description</u>	<u>Annexure No.</u>
1	Approved Mining plan cover page	1
2	Lease agreement copy	2
3	Map & Demarcation Report of the M.L. area	3
4	Superimposed Khasra Map & Jamabandi	4
5	RQP Certificate	5



## INTRODUCTION

Khakha Ka Gurha Quartz & Feldspar mine for an area 4.56 hect. was granted in favour of **Sh. Ashok Jain**, S/o Sh. Chandan Mal Jain, R/o H-12, Near Petrol Pump, Deogarh, Rajsamand (Raj.) vide Director of mines & Geology, Udaipur order no DMG/Raj-I/CC-I/P-1(1) 6/04/196 dated 24/01/2008 and the lease deed was executed on 29/04/2008 and lease deed was registered on dated 12/05/2008 to 11/05/2038 for 30 years (Copy attached).

The Mining plan with progressive mine closure was approved by the Supdt. Mining Engineer Udaipur Circle, Udaipur letter No. SME/UD-Cir/Mining Plan/Scheme/Raj/Major/F-139/07/3095-3102 dated 3/01/2008.

The lease period was extended up to 11/05/2058 vide order no. ME/Raj-I/CC-I/ML-06/2004/653 date 25/02/2015 (Copy attached).

The Scheme of mining with progressive mine closure plan was approved vide letter no SME/UD-Cir/Mine-Scheme/Raj-I/Major/F-10/12/2731 dated 23/08/2013 for next five years.

The Modified mining scheme was approved vide order no. SME/Raj/Cir/Mining Plan/Scheme/Raj-I/F-10/12/14986-90 Dated 1/02/2016.

SCHEME OF MINING With Progressive Mine Closure Plan is Submit under Rule 29 (5) (10) R.M.M.C.R., 2017 for next five years (12/05/2018 to 11/05/2023).

No National Park/sanctuary falls within 10Km. of the lease area.



अनुमोदित  
APPROVED

अनुमोदित

01/6 23/8/2018  
(एच. का. वैरडा)

अधीक्षक अग्नि अग्निपत्ता  
आल एवं भू-विज्ञान विभाग  
राजसमंद-कुत-राजसमंद

This is to certify that the mining Plan/  
Scheme/Modified Plan/Modified Scheme  
is rectified & necessary Corrections has  
been made as per scrutiny comments.

B.G. Rajsamand

M.C.

## Chapter 1: GENERAL

a.) Lessee's Name and Address:-

Sh. Ashok Jain,

S/o Sh. Chandan Mal Jain

H-12, Near Petrol Pump, Deogarh,

Rajsamand (Raj.)

b.) Status of Lessee:- An Individual

c.) Mineral(s) which is/are included in the prospecting license (for fresh grant) - NA.

d.) Mineral(s) which is/are included in the letter of Intent/lease deed-  
Quartz & Feldspar

e.) Mineral(s) which lessee Intends to Mine:-  
Quartz & Feldspar

f.) Name and Address of the Recognized Person

Madhav Lal Agrawal, RQP

02, Gariyawas Choraya, Madri Road,

Shri nagar, Road No.-1, Udaipur (Raj.) - 315003

Reg. No. RQP/SME/ (UDAI-CIRCLE)/2015/12, Valid up to 19/02/2020

Tel. No. 9414162329.

Email- madhavagrawal1956@gmail.com



## 2.0 LOCATION AND ACCESSIBILITY

**a) Details of the existing area:** The area under consideration has been shown in Plate No.1 of the scheme of mining. The lease area falls in G.T. sheet No. 45G/11.

**Name of mines:** - Khakha Ka Gurha Quartz & Feldspar mine

**Date of grant of lease:-** 12/05/2008 to 50 years.

**Expiry date:-** 11/05/2058

### Existing land use pattern

<i>Sl. No.</i>	<i>*All the areas are given in Hectares</i>	<i>Forest Land</i>	<i>Pvt. Waste Land</i>	<i>Pvt. Ag. Land</i>	<i>Govt. waste Land</i>	<i>Total</i>
1	Pits & Quarries	----	----	----	0.8624	0.8624
2	Top soil Dump	----	----	----	----	----
3	Dumps	----	----	----	0.1305	0.1305
4	Mineral Stack Yard	----	----	----	----	----
5	Sub Grade stack Yard	----	----	----	----	----
6	Infrastructure ( Work shop, administrative Building)	----	----	----	----	----
7	Roads	----	----	----	0.1208	0.1208
8	Railway	----	----	----	----	----
9	Green Belt	----	----	----	----	----
10	Tailing Pond	----	----	----	----	----
11	Effluent Treatment Plant	----	----	----	----	----
12	Mineral Separation Plant	----	----	----	----	----
13	Township	----	----	----	----	----
14	Non Utilized	----	----	----	3.4463	3.4463
<b>Total</b>		----	----	----	<b>4.56</b>	<b>4.56</b>

### Name of lease holder

**Sh. Ashok Jain ,**

S/o Sh. Chandan Mal Jain

H-12, Near Petrol Pump, Deogarh,

Rajsamand (Raj.)



## b) Details of lease area with location map:

Table : Details of the area

Forest		Non- forest	
Forest (specify)	Area (ha)	Land Type	Area (ha)
Nil	Nil	(i) Govt. Waste land	4.56
		(ii) Pvt. Waste land	Nil
		(iii) Grazing land	Nil
		(iv) Agriculture land	Nil
		(v) Others (specify)	Nil

Total Lease area : 4.56 Hect.

District & State : Rajsamand & Rajasthan

Taluka : Kumbhalgarh

Village : Khakha Ka Gurha

Type of lease area : Non forest land

**Whether the area falls under Coastal Regulation Zone (CRZ):-**

No area falls under Coastal Regulation Zone

**Existence of public road/railway line etc.:-**

The lease area is about 1.2Km NE of Village Khakha Ka Gurha, Tehsil- Kumbhalgarh, Dist.- Rajsamand. The lease area is connected to village Khakha Ka Gurha by kaccha Rasta. The lease area is about 20.00Km from Kumbhalgarh.

Toposheet No. with Latitude-Longitude of all corner boundary point/ pillars - Copy enclosed

(c) General location map showing area and access routes have been attached:-  
(Attached plate No. 2)



## Chapter 3: DETAILS OF APPROVED MINING PLAN

### 3.1 Date and reference of earlier approved Mining Plan/Scheme-

Sr. No.	Type of document & rule under	Approval letter no. & date	Lease area in hect.	Validity period
1.	Mining Plan with progressive mine closure plan. (Under rule 22 of MCR 1960 & 23B of MCDR 1988 amended in 2003.)	SME/UD-Cir/Mining Plan/Scheme/Raj/Major/F-139/07/3095-3102 dated 3/01/2008	4.56	12/05/2008 to 11/05/2013
2.	Scheme of mining with progressive mine closure plan	F-10/12/2731 dated 23/08/2013	4.56	12/05/2013 to 11/05/2018
3.	Modified Scheme of mining with progressive mine closure plan	14986-90 Dated 1/02/2016	4.56	12/05/2015 to 11/05/2018

### 3.2 Detail of last Modification if any (for the previous approved period) of approved MP/SOM, indicating date of approval, reason for Modification.

No Modification was found in the approved Modified mining scheme.

### 3.3 Give review of earlier approved proposal (if any) in respect of exploration, Excavation, Reclamation etc...

**3.3.1 Exploration:-** Exploration was proposed in the approved Modified Mining scheme. The lessee had not put any prospecting pit and Trenches in the lease area.

Year	Proposed Pit/Trench	Size in M.			Actual	Reason
		L	W	D		
2013-2018	PT - 1	6	3	3	No prospecting Trench has been made.	The Lessee has mined from only from the existing pits.
	PT - 2	6	3	3		
	PT - 3	6	3	3		
	PT - 4	6	3	3		

### 3.3.2 Mine Development

It was proposed to develop old pit for mineral. Mining was carried out in the old pit. Development in pits are as follows:-



Year of working	Proposed Benches in Mineral	Actual position Benches in Mineral
2015-16	3mx 3m	Pit area in surface
2016-17		Total area in pit after three year = 0.8624 Hect.
2017-18		

**3.3.3 Exploitation-** As mentioned in previous approved mine plan/ scheme, the recovery of mineral (Q & F) shown as 50% of R.O.M. here it is to specify that recovery of mineral (Q & F) is not as per approved Modified scheme. Reason is nature of host rock (Pegmatite) feldspar is interlocking with mica. Due to interlocking of mica with mineral feldspar is not useful (viable) commercially i.e. not dispatchable. Therefore feldspar interlocking with mica is as a waste and it is to be dumped in overburden. Thus at present mining of mineral Quartz & Feldspar from the host rock (Pegmatite) recovery of minerals feldspar by manual shorting is to be establish approximately 20% (Which is 17% feldspar and 3% Quartz) and rest 80% of ROM (Mined out) Counted as waste. The deviation is tabulated as follows:-

Year of working	Proposed Production (MT)		Achieved Production (MT)	
	Quartz	Feldspar	Quartz	Feldspar
2015-16	13549	2258	Nil	965
2016-17	15074	2512	Nil	2335
2017-18	18041	3007	-	-

**3.3.4 Waste Management.** The proposal for dumping in the approved modified mining scheme was in the lease area. Presently no overburden lying in the lease area.

Year of working	Proposed Waste expected to be generated (MT)	Waste generated & dumped
2015-16	22581	overburden lying in the lease (Overburden used for mine road making & others)
2016-17	25124	
2017-18	30069	



अनुमोदित  
APPROVED

**3.3.5 Afforestation Programme-** At present 16 plantation exists within the lease area. The lessee had proposed 25 saplings & had tried for it but was not able to prevent the saplings from the hot climate and the animals in the region.

Year	Saplings were to be planted	Presently available	Reason
2015-16	25	5	Scarcity of water and improper arrangement for safe guard of Saplings
2016-17	25	8	
2017-18	25	3	

### **3.3.6 Mine Reclamation & Rehabilitation**

No Reclamation was proposed in the approved modified Mining scheme and no Reclamation work was carried out.

### **3.4 Give status of Compliance Violations pointed out by IBM.**

There are no violations under MCDR during last three years.

### **3.5 Indicate and give details of any suspension/closure/prohibitory order issued by any Government agency under any rule or Court of law. –**

No suspension/closure/prohibitory order issued by any Government agency under any rule or Court of law.

### **3.6 In case the MP/SOM is submitted under Rule 9 and 10 of the CDR 88 or under Rule 22 (6) of the MCR 1960 for approval of modification, specify reason and justification for modification under these Rules.**

None



## Chapter 1: GEOLOGY AND EXPLORATION

The fieldwork comprising of topographical survey and geological mapping and data collection was done in phases. The contouring for the lease area was undertaken. The mineral & the other prominent features of the area were also marked.

2017) **Detail description of the topography, drainage pattern, vegetation, climate, and rainfall data:**

**Topography:-** Topographically the lease area is mild hilly land. There is no permanent nallah. There is no forestland in this mining lease area. The altitude of the area is 696-710 MRL. For the survey Pillar A\* is considered 700mRL above MSL as Benchmark.

**Drainage pattern:-** There is no firm drainage within the lease area.

**Vegetation:-** Practically no vegetation except some scanty bushes and shrubs of xerophytic nature could be seen within this lease area throughout the year.

**Climate:-** The climate in the area is dry with extreme temperature variation. Most of the rain falls during the period of July to September.

**Rainfall data:-** The average rainfall in this area is very low, and it hardly exceeds 600mm.

Given below are the prominent villages, with their aerial distance, which falls around this lease area:

*Table: Adjoining Villages (with aerial distances in Km)*

Towards SW	Khiakha Ka Gurha	About 1.2 km
Towards W	Mawela Ka Gurha	About 1.0 km
Towards NE	Nimri	About 2.0 km
Towards SE	Dodiwas	About 2.2 km
Towards NE	Jajira Ka Gurha	About 1.8 km
Towards NW	Dunger Ji Ka Gurha	About 1.8 km

**b) Regional Geology:** Rock Formation area comprises mainly Granite Gneiss, Banded Gneiss, Augen Gneiss, Hornblende Schist of Shambhugarth Formation of



Sand Mata Complex of Bhilwara Super group. On the basis of spatial disposition, lithological association, and grade of metamorphism, along with syntectonic acid igneous intrusive a tentative litho logical association may be derived on shown below:-

Recent			Alluvium
Post-Delhi Intrusions			Ultra basic, Pegmatite and Quartz veins
Gyanagarh-Asind Acidic Suite			Granite, Granite-Gneiss
Raipur-Jalayan (Mafic Suite)			Amphibole
Bhilwara Super-Group(Archaea)	Sandmata Complex	Shambhugarh Formation Badnore formation	Granite Gneisses & Banded Granites Complex (Migmatite)

The heterogeneous assemblages of rocks which are regionally metamorphosed to high-pressure amphibolites, and migmatized to various degrees have been included into Sandmata Complex. The complex is unconformably overlain by the rocks of Gogunda Group of Delhi Supergroup in the west.

Sandmata Complex mainly comprises migmatite, composite gneisses, calc-gneiss, Biotite schist, garnet-sillimanite schist, sillimanite-staurolite garnetiferous, Biotite schist, hornblende schist, Biotite-chlorite schist, mica schist, dolomitic marble, conglomerate, quartzite, par-amphibolite, epidiorite.

Pegmatite bodies with average trend WSW to ENE are found intruded in the rocks of Sandmata Complex. The mineral Quartz and Feldspar are associated with Pegmatite & exposed on the surface and are likely to continue below the ground level. Mica seems to be of poor quality and not potential.

### Local Geology

The area is occupied by granite gneiss and Migmatite belong to Shambhugarh rock formation of the Sandmata Complex of Bhilwara super group intruded by the pegmatite. The local geological succession for the area may be summarized as below:-

Recent		Soil cover
Post-Delhi Intrusions		Pegmatite Quartz vein
Bhilwara Super group	Banded Gneiss Complex	Mica Schist



अनुमोदित  
APPROVED

Pegmatite rocks are distributed in the form of massive body occupying the centre part of the M. L. area. The trend of pegmatite rock is concordant. The mineral quartz and Feldspar is forms with pegmatite. Feldspar is of pink color. The pegmatite body consists 20% recovery (about 3% Quartz & 17% Feldspar). Both Quartz & Feldspar minerals are of medium quality which is mineable and saleable. The mineral feldspar is not easily sortable from mica. The Mica found is in small flaks, poor in quality and quantity and presently does not have any economic value.

**c) Economic minerals:** Pegmatite is the host rock for feldspar, quartz mineralization. However feldspar and quartz are two good economic minerals. Feldspar found in this area is light pink to whitish in colour having good prismatic cleavages, hardness 5, bulk density 2.6 and vitreous lusture. Quartz found in this area is snow white to white, light pink in colour.

**Dip & Strike:** The deposits in the old pit show consistency with respect to dip as well as strike direction. The dip of the Quartz & Feldspar deposit is about 74° southwest. The strike direction of the Quartz & Feldspar deposit can be taken as NW-SE.

**d) Name of prospecting/exploration agency**

**Sh. Ashok Jain ,**

S/o Sh. Chandan Mal Jain

H-12, Near Petrol Pump, Deogarh,

Rajsamand (Raj.)

**e) Details of prospecting/exploration already carried out**

I. Details of old pits in table:-



Pit	Area (m <sup>2</sup> )	Depth (m)	Location between grid line	Results
Pit no. 1	2642	6	100N-200N & 0E-100E	Quartz, Feldspar
Pit no. 2	1860	3	50N-150N & 0E-100W	Quartz, Feldspar
Pit no. 3	1469	8	150N-250N & 0E-100W	Quartz, Feldspar
Pit no. 4	2653	10	200N-300N & 0E-100W	Quartz, Feldspar

(Old pits is shown on surface geological plan)

**II. Number of boreholes indicating type (Core/RC/DTH), diameter, spacing, inclination, Collar level, depth etc... with standard bore hole logs duly marking on**

There is no borehole exist in the lease area.

**III. Details of samples analysis indicating type of sample:**

### **GRADE AND CHEMICAL PROPERTIES**

Grade and Chemical properties of Quartz & Feldspar mineral found in the lease area as follows:

#### **GRADE**

The mode of occurrence of Quartz & Feldspar has imparted certain characteristics that have greatly enhanced the value of the deposit. The mineral occurs in mixed form & is separated at the surface. From economics point of view the mineral is of good quality, interlocking with mica & it is separable by hammering & chiseling.

#### **CHEMICAL PROPERTIES**

Quartz & Feldspar found in the lease area having the following chemical properties is shown on table:-

#### **Physical Properties**

S.No	Mineral	Particulars	Results (%)	Mineral	Particulars	Results (%)
1	<b>Quartz</b>	Colour	White	<b>Feldspar</b>	Colour	Flesh
2		Sp. Gravity	2.6		Sp. Gravity	2.6
3		Hardness	7.0		Hardness	5.0



## Chemical Properties

S.No	Mineral	Particulars	Results (%)	Mineral	Particulars	Results (%)
1	<b>Quartz</b>	SiO <sub>2</sub>	99.74	<b>Feldspar</b>	SiO <sub>2</sub>	70.1
2		Fe <sub>2</sub> O <sub>3</sub>	0.05		Fe <sub>2</sub> O <sub>3</sub>	0.29
3		Al <sub>2</sub> O <sub>3</sub>	0.03		Al <sub>2</sub> O <sub>3</sub>	19.01
4		CaO	0.02		K <sub>2</sub> O	8.5
5		MgO	0.06		Na <sub>2</sub> O	2.1
6		LOI	0.10			

## IV. Expenditure incurred in various prospecting operations:

Prospecting pit	Trenches
--	--

f) The surface plan of the lease area may be prepared on a scale of 1:1000 or 1:2000 with contour interval of maximum of 10meter depending upon the topography and size of the area duly marked by grid lines showings all features indicated.

(Attached plate No. 3)

g) for preparation of geological plan, surface geological plan prepared on a scale of scale of 1:1000 or 1:2000 specify under Para 1.0(f) of part A of the format may be taken as the base plan. The detailed of the exploration already carried out along with supporting data for existence of mineral, locations proposed exploration, various lithounites with structural features, mineralized/Ore zone with grade variation if any may be marked on the geological plan along with other features indicated.

(Attached as plate No. 4)

h) Geological section may be prepared on natural scale of geological plan at suitable interval across the lease area from boundary to boundary:-

(Attached as plate No. 4)



**Proposed Plan of Exploration-** The mineral is out cropping at the surface. To confirm the continuity seven prospecting pit is proposed.

Trench	Year of Implementation	Sizes in meters			Location
		Length	Width	Depth	
PPP-1	2017-18	3	3	3	00N-50N & 50E-100E
PPP-2		3	3	3	150N-200N & 0E-50W
PPP-3		3	3	3	150N-200N & 100W-abv

Proposed location of prospecting pits as shown on surface geological plan plate no. 4.

j) Reserves and Resources as per UNFC with respect to the threshold value notified by IBM may be furnished in a tabular form as given below:

**Mineral Resources:** (Mineral resources may be estimated purely based on level of exploration with reference to the threshold value of minerals declared by IBM)

Level of Exploration	Resources in MT	Grade
G1-Detailed exploration	—	—
G2-General exploration	2048701	—
G3- Prospecting	—	—
G4- Reconnaissance	—	—

Feasibility study report along with financial analysis for economic viability of the deposit as specified under the UNFC field guidelines may be incorporated

(Attached Annexure – feasibility Report)

k) Detailed Calculation of Reserves/Resources:-

Reserves Estimated in the previous Mining Plan  
In the approved mining Plan, it was calculated as:

Mineral	Reserves in Tonnes
331	1535885
332	512816
333	512816
Total	2561517



अनुमोदित  
APPROVED

### Depletion of Reserves

The amount of mineral already excavated as shown in the table for last five year

Year of working	Mineral already excavated (MT)	
	Quartz	Feldspar
2015-16	Nil	965
2016-17	Nil	2335
2017-18	--	--
<b>Total</b>		<b>3300</b>

### Balance Reserve

Mineral	Reserves in Tonnes
331	1535885-3300 = 1532585
332	512816
333	512816
<b>Total</b>	<b>2558217</b>

### Anticipated Life of Mine

We are considering average production of 60138 MT of mineral per annum.

Anticipated Life = Mine able (111 + 121) Reserve/Avg. Annual Production

$$= 2045401/60138 = 34 \text{ Years.}$$

The Life of mine may change depend upon the prospecting results, rate of production and the extent of mechanization done by the lessee in near future.



## Chapter 2: MINING

### A. Open Cast Mining

a) Briefly describe the existing as well as proposed method for excavation with all design parameters indicating on plans /sections:-

**Proposed Mining Method:-** The mine shall be developed by mechanized opencast Mining. The mineral is laying on the sub surface therefore mechanized opencast Mining has been the obvious choice.

Bench Parameters shall be – 1. Height - 3m

2. Width - More than 6m or 3 times of the width of widest machine.

Overall slope –  $45^{\circ}$

Gradient of the Haul Road:- 1 in 16 (ramps).

Width of the approach Road:- 3M

The mine shall be developing in first five year shall be all side of the lease as shown in plate no. 6A-6E.

The ultimate pit size shall be

Ultimate Size of the Pit at the end of life of mine:- 1.5373 Hect.

Ultimate Pit Depth:- 11m from Benchmark

Ultimate Pit Slope:- $45^{\circ}$

Area to be covered Under Plantation:- 2.1404 Hect.

The main operation shall be digging, shorting and the transportation by trucks. The Mineral trucks are to be loaded by manually.

**Design parameters** The mineral shall be first sorted out manually to remove the impurities associated with it. The sorted mineral shall be then carried to the temporary Stack Yard & then further loaded for onwards transportation by dumper to the factories & other parts of the state. The overburden shall also be dumped by manually/Tractors/JCB.



## DRILLING & BLASTING

The Blasting will be done by the authorized contractors on contractual Basis. These contractors have their own safety explosive container as well as Explosive License.

### Broad Blasting Parameters

Length of Shot Holes	: 1.6 m
Diameter of Shot Holes	: 52 mm
Spacing	: 1 m
Burden	: 0.8 m
Stemming	: 30%

### Type of Explosive

Special Gallatin, delay detonator, Safety

### Charges per Hole & Powder Factor

1. Expected Powder Factor	: 4 Tonnes/kg of explosive
2. Quantity of Ore Broken Per Hole = Depth x Burden x Spacing x Sp. Gravity = $1.5 \times 0.8 \times 1 \times 2.6$	: 3.00 Tonnes
3. Explosive Required per Hole	: $3.12/4 = 0.78$ kg
Sp. Gel. Per Cartridge	: 0.15 kg
A.N.F.O. per hole	: 0.60 kg

Total Insitu rock to be blasted per year (max. for this period) = 60138 tonnes

No. of holes required in a year =  $60138/3 = 20046$  hole

No. of holes required in a day (working of 300 days per year)  
=  $20046/300 =$  about 67 hole

Amount of explosive required in a day =  $67 \times 0.78 =$  about 52 kg.

### OMS

No. of Shift Per Day	: One
No. of Working Days/year	: 300
Average Production per day	: $60138/300 = 200$ Tonnes
Proposed No. of Labours	: 30
OMS	: $200/30 = 7.0$ Tonnes

**Storage of explosive** The explosive shall be supplied by the authorised contractor at the blasting site at the time of blasting. The explosive shall be directly used so no storage of explosive is proposed.

### Safety Precautions



1. During handling all care shall be taken that no inflammable elements should be there.
2. Only safety explosive container with explosive license shall be used for safe & secure transportation of explosive.
3. Efficient Siren will be blown prior to the blasting & after clearance of blasting.

(b) Indicate year-wise tentative Excavation in metric tonnes indicating development, ROM, pit wise as in table:-

**I. Insitu Tentative Excavation**

Year	Pit No.	Total tentative excavation (MT)	Top soil (MT)	OB/ SB/IB (MT)	Rom (MT)			ROM/ Waste Ratio
					Ore (MT)	Sub grade (MT)	Mineral Reject (MT)	
2018-19	1.	67548	1998	12986	10513	5256	36795	1:3.5
2019-20	1,2,3,4	74522	2481	16127	11182	5591	39140	1:3.5
2020-21	1,2,3,4	68515	1274	8281	11792	5896	41272	1:3.5
2021-22	1,2,3,4	59991	—	—	11998	5999	41993	1:3.5
2022-23	3,4	60138	—	—	12028	6014	42096	1:3.5
		330714	5753	37394	57513	28756	201296	

**Production for the five year Period**

Year	2018-19	2019-20	2020-21	2021-22	2022-23
Recoverable Production target in (MT) 20% of ROM (3% Quartz & 17% Feldspar)	10513	11182	11792	11998	12028

**Mineral Reject:** The excavated material that do not constitute useful material.

**ROM:** The material excavated from mineralized zone and includes mineral reject and unsalable mineral component.

**OB:** Means overburden capping waste.

**SB:** means side burden waste on both hang wall and foot wall sides of the ore body.

**IB:** means intermediate burden waste between two or more ore body.

**II. Dump Rehandling (for the purpose of recovery of mineral):**

**Estimated available material (Cum)**

Dump identification No.	Year wise handling (Cum)	Estimated Recovery of salable material (Cum)	Reject (Cum)
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—



**(c) Proposed year wise development for next five years.**

**2018-19-** During this year of mining scheme the lessee will excavate from the existing Old pit. The old Pit shall advance in all Direction. Two bench of overburden (RL 698-abv, 695-abv) and two benches (RL 698-695, 695-692) in mineral shall be prepared. The bench height 3 m shall be formed with a bench width of 3m. About 52564MT of ROM shall be excavated. This will include 10513MT of recoverable mineral & 36795MT wastes from ROM & 5256MT sub grade mineral generated. The overburden shall be generated from OB bench 12986MT.

**Bench wise overburden excavation**

At Section	Bench at R.L.	Length X Width (m <sup>2</sup> )	Depth (m)	Total excavation in m <sup>3</sup>	Sp. Gr. MT/m <sup>3</sup>	ROM Waste Tones
YY'ZZ'	698-abv	1730	1.3	2249	2.6	5847
YY'ZZ'	695-abv	2112	1.3	2745.6	2.6	7139
<b>TOTAL</b>						<b>12986</b>

**Bench wise ROM excavation**

At Section	Bench at R.L.	Length X Width (m <sup>2</sup> )	Depth (m)	Total excavation in m <sup>3</sup>	Sp. Gr. MT/m <sup>3</sup>	Mineral ROM Tones	Mineral Rec. 20% MT	Sub grade mineral 10%	Mineral Reject from ROM 70% MT
YY'ZZ'	698-695	1450	3	4350	2.6	11310	2262	1131	7917
YY'ZZ'	695-692	5289	3	15867	2.6	41254	8251	4125	28878
<b>TOTAL</b>						<b>52564</b>	<b>10513</b>	<b>5256</b>	<b>36795</b>

**2019-20 -** During this year of mining scheme the lessee will excavate from the existing the Old pit. The old Pit shall advance in all Direction. Three benches of overburden (RL 707-abv, 704-abv, 701-abv) and four benches (RL 707-704, 704-701, 701-698, 692-689) in mineral shall be prepared. The bench height 3 m shall be formed with a bench width of 3m. About 55913MT of ROM shall be excavated. This will include 11182MT of recoverable mineral & 39140MT wastes from ROM & 5591MT sub grade mineral generated. The overburden shall be generated from OB bench 16127MT.

**Bench wise overburden excavation**

At Section	Bench at R.L.	Length X Width (m <sup>2</sup> )	Depth (m)	Total excavation in m <sup>3</sup>	Sp. Gr. MT/m <sup>3</sup>	ROM Waste Tones
XX'ZZ'	707-abv	1341	1.3	1743.3	2.6	4533
XX'ZZ'	704-abv	1113	1.3	1449.5	2.6	3769
XX'ZZ'	701-abv	2315	1.3	3009.5	2.6	7825
<b>TOTAL</b>						<b>16127</b>



**Bench wise ROM excavation**

At Section	Bench at R.L.	Length X Width (m <sup>2</sup> )	Depth (m)	Total excavation in m <sup>3</sup>	Sp. Gr. MT/m <sup>3</sup>	Mineral ROM Tones	Mineral Rec. 20% MT	Sub grade mineral 10%	Mineral Reject from ROM 70% MT
XX'ZZ'	707-704	1045	3	3135	2.6	8151	1630	815	5706
XX'ZZ'	704-701	1745	3	5235	2.6	13611	2722	1361	9528
XX'ZZ'	701-698	3215	3	9645	2.6	25077	5015	2508	17554
ZZ'	692-689	1396	2.5	3490	2.6	9074	1815	907	6352
<b>TOTAL</b>						<b>55913</b>	<b>11182</b>	<b>5591</b>	<b>39140</b>

**2020-21** - During this year of mining scheme the lessee will excavate further from the surface. One bench of overburden (RL 698-abv) and three benches (RL 701-698, 698-695, 692-689) in mineral shall be prepared. About 58960MT of ROM shall be excavated this will include 11792MT of recoverable mineral & 41272MT waste from ROM & 5896MT sub grade mineral generated. The overburden shall be generated from OB bench 8281MT.

**Bench wise overburden excavation**

At Section	Bench at R.L.	Length X Width (m <sup>2</sup> )	Depth (m)	Total excavation in m <sup>3</sup>	Sp. Gr. MT/m <sup>3</sup>	ROM Waste Tones
XX'	698-abv	2450	1.3	3185	2.6	8281
<b>TOTAL</b>						<b>8281</b>

**Bench wise ROM excavation**

At Section	Bench at R.L.	Length X Width (m <sup>2</sup> )	Depth (m)	Total excavation in m <sup>3</sup>	Sp. Gr. MT/m <sup>3</sup>	Mineral ROM Tones	Mineral Rec. 20% MT	Sub grade mineral 10%	Mineral Reject from ROM 70% MT
XX'	701-698	3259	3	9777	2.6	25420	5084	2542	17794
ZZ'	698-695	3850	3	11550	2.6	30030	6006	3003	21021
ZZ'	692-689	450	3	1350	2.6	3510	702	351	2457
<b>TOTAL</b>						<b>58960</b>	<b>11792</b>	<b>5896</b>	<b>41272</b>

**2021-22** - During this year of mining scheme the lessee will excavate further from the first & third year pit. Two benches (RL 698-695, 692-689) in mineral shall be prepared. About 59990MT of ROM shall be excavated this will include 11998MT of recoverable mineral & 41993MT waste from ROM & 5999MT sub grade mineral generated.



### Bench wise ROM excavation

At Section	Bench at R.L.	Length X Width (m <sup>2</sup> )	Depth (m)	Total excavation in m <sup>3</sup>	Sp. Gr. MT/m <sup>3</sup>	Mineral ROM Tones	Mineral Rec. 20% MT	Sub grade mineral 10%	Mineral Reject from ROM 70% MT
XX'ZZ'	698-695	5376	3	16128	2.6	41933	8387	4193	29353
YY'ZZ'	692-689	2315	3	6945	2.6	18057	3611	1806	12640
<b>TOTAL</b>						<b>59990</b>	<b>11998</b>	<b>5999</b>	<b>41993</b>

**2022-23** - During this year of mining scheme the lessee will excavate further from the surface. One bench (RL 695-692) in mineral shall be prepared. About 60138MT of ROM shall be excavated this will include 12028MT of recoverable mineral & 42096MT waste from ROM & 6014MT sub grade mineral generated. The recoverable mineral includes 2406MT Quartz & 9622MT of Feldspar.

### Bench wise ROM excavation

At Section	Bench at R.L.	Length X Width (m <sup>2</sup> )	Depth (m)	Total excavation in m <sup>3</sup>	Sp. Gr. MT/m <sup>3</sup>	Mineral ROM Tones	Mineral Rec. 20% MT	Sub grade mineral 10%	Mineral Reject from ROM 70% MT
ZZ'	695-692	3210	3	23130	2.6	60138	12028	6014	42096
<b>TOTAL</b>						<b>60138</b>	<b>12028</b>	<b>6014</b>	<b>42096</b>

The production & waste generation can be summarized as:

Year	Pt. No.	Total tentative excavation (MT)	Top soil (MT)	OR/ SB/IB (MT)	Rom (MT)			ROM/ Waste Ratio
					Ore (MT)	Sub grade (MT)	Mineral Reject (MT)	
2018-19	1	67548	1998	12986	10513	5256	36795	1:3.5
2019-20	1,2,3,4	74522	2481	16127	11182	5591	39140	1:3.5
2020-21	1,2,3,4	68515	1274	8281	11792	5896	41272	1:3.5
2021-22	1,2,3,4	50991	--	--	11998	5999	41093	1:3.5
2022-23	3,4	60138	--	--	12028	6014	42096	1:3.5
		<b>330714</b>	<b>5753</b>	<b>37394</b>	<b>57513</b>	<b>28756</b>	<b>201296</b>	

### Production for the five year Period

Year	2018-19	2019-20	2020-21	2021-22	2022-23
Recoverable Production target in (MT) 20% of ROM (3% Quartz & 17% Feldspar)	10513	11182	11792	11998	12028



अनुमोदित  
APPROVED

**d) Salient features of working**

The mining method shall be open cast mechanized mining.

In the five year the working would be extended to systemize. The faces would be advanced in all the directions & depth wise for production as well as recovery. The benches shall be taken 3m height. Haul road & Bench to Bench ramp shall be made of 1 in 16 gradient & the width of the road shall be more then 3m. The loading shall be done by manually in the dumper. This will help in better utilization of the resources and systematic development of the mine.

**e) Describe briefly the layout of mine workings, pit road layout, the layout of faces and sites for disposal of overburden/waste along with ground preparation prior to disposal of waste, reject etc. A reference to the plans and sections may be given. UPL or ultimate size of the pit is to be shown for identification of the suitable dumping site.**

The mining shall be done to make the mines safe and systematic with the required production. The Mining shall be started from near northeast boundary. In next year the existing pit-I shall be advanced in northeast directions. The mine mineral shall be collected in the mineral stack yard and then sorted over their manually before its final dispatch to various industries through trucks. The sub grade generated shall be collected in sub grade stack yard and shall be then mixed with high-grade mineral for use in various industries. The waste generated shall be carried through trucks to the dump yard in the lease area. The Bench height shall 3m & bench width shall be more than the bench height.

**Utilization of mineral:-** The mined out mineral in the lease area shall be utilized ceramic industries.

**Waste & Sub Grade Handling:-** for the five year the waste & sub grade generation is as follows table :-



**Waste generation**

S. No.	Year	2018-19	2019-20	2020-21	2021-22	2022-23	Total
1	Mineral Waste (MT)	36795	39140	41272	41993	42096	201296
2	Over burden (MT)	12986	16127	8281	--	--	37394
3	Total Waste (1+2) MT	49781	55267	49553	41993	42096	238690
4	In m <sup>3</sup>	19147	21257	19059	16151	16191	91805
5	Swell volume in m <sup>3</sup>	22976	25508	22871	19381	19429	110165

The waste generated shall be dumped as shown plate no: 5.

**Sub Grade Mineral shown on table:**

Year	2018-19	2019-20	2020-21	2021-22	2022-23
<b>Sub Grade Mineral (MT)</b>	5256	5591	5896	5999	6014

The sub grade shall be stack as shown on plate no. 5.

**f) CONCEPTUAL MINING PLAN:-****f.i Proposal of Conceptual Plan**

The Proposals of the Conceptual Closure are based on the Geology and Topography of the region. A part of the excavated region shall be converted into water reservoir after exhausting the complete available mineral. The Lessee shall make water drains for the purpose. The surroundings of the proposed Water Reservoir would be fenced. Remaining part of the excavated region shall be backfilled and aforrestation shall be carried out over it. This shall also increase the aesthetic beauty of the area. The office and other buildings, the mine road and the other entire infrastructure developed by the Lessee shall be used by the local people as public buildings. The virgin region shall be used for agriculture purposes.



### **f.ii Land Degradation and Reclamation**

(i) For the five year Land Degradation and Reclamation is as follows:-

Total Excavated Area	: 2.1795 Hectares
Area to be Converted into Water Reservoir	: 1.9115 Hectares
Area to be Reclaimed (near statutory barrier)	: —
Remaining Dump Area	: 0.2680 Hectares

(ii) For the end of life the Land Degradation and Reclamation is as follows:-

Total Excavated Area	: 3.6777 Hectares
Area to be Converted into Water Reservoir	: 1.5373 Hectares
Area to be Reclaimed	: 2.1404 Hectares
Remaining Dump Area	: —

### **f. iii Rehabilitation**

As no personnel are expected to be migrated due to mining in the lease area and the adjoining region is also having a good mineral potential, the rehabilitation of the employees is not going to be a problem. The workers and other staff can get job in the neighboring areas after the end of life of mine. The lessee shall also try for employment of the workers.

### **f. iv Plantation Proposals**

The area falls in semi arid zone and there is a shortage of water so a large-scale plantation is not possible. The rains are also scanty hence it is essential that the sapling of plant should be such which required minimum water and hence it is proposed to plant 25 trees per year of the following:

1. Karanj      2. Pipal      3. Neem      4. Amul Tas
5. Shisham



As per norms one hectare area is required for planting 25 trees/Year. Each year an

S. No.	Year of Plantation	Target of Plantation	Assumed survival	Replenishment of Casualties	Total
1	2018-19	25	20	-	20
2	2019-20	25	20	5	25
3	2020-21	25	20	5	25
4	2021-22	25	20	5	25
5	2022-23	25	20	5	25

**Eco-Friendly Mining Association** and the Association shall also plants as their plan.

Schedule of plantation for the next five year.

Place of proposed plantation: - The plantation shall be done at the following places:-

1. Nearby area of the School
2. At the Dump
3. At the govt. waste land provided by the Govt.
4. At Own Private Land
- 5 nearby State Highway road

#### **f.v Anticipated Life of Mine**

We are considering average production of 60138 MT of mineral per annum.

$$\text{Anticipated Life} = \text{Mine able (111 + 121) Reserve/Avg. Annual Production} \\ = 2045401/60138 = 34 \text{ Years.}$$

The Life of mine may change depend upon the prospecting results, rate of production and the extent of mechanization done by the lessee in near future.

**g. Extent Of Mechanization-** Initially Dumper will also arrange on hire basis. Later the lessee will go for own mechanization.

The mining method shall be open cast manual mining.

#### **(i) Drilling Machines-**

Machine	No.	Make	HP/Capacity
	1	Local	75 CFM
	1	Local	32mm



अनुमोदित  
APPROVED

**(ii) Loading Equipment**

Manually

**(iii) Haulage and Transport Equipment**

**a. Haulage within the Mining Lease hold**

Type	Nos	Size Capacity	Make	Motive Power	H.P.
Dumper	2	10 tonner	Ashok Leyland	Diesel	75HP

Where the Dumpers are fitted with exhaust conditioner should be indicated

**b. Transport from mine head to the destination**

The mineral produced from the pit shall be first brought at a spot outside the pit by manually, where it shall be sorted. The sorted mineral shall be then stacked separately.

This mineral shall be then loaded into the trucks & Dumper by manually for its onwards transportation to the various grinding units at different destinations.

The waste rock produced shall be loaded by manually & dumped by dumper for its transportation to the reject dump yard.

**(iv) Miscellaneous Operations**

**a. Operations:** - A Miscellaneous operations like maintenance of haul and access roads, dust suppression by water spraying field etc. shall be done.

**b. Machineries Deployed**

Type	NOS	Size Capacity	Make	Motive Power	H.P.
Water tanker with sprinkler arrangement with tractor	1	5000ltd.	Local	Diesel engine	

**B. Underground Mines: Not Applicable.**



### Chapter 3: MINE DRAINAGE

**a) Minimum and maximum depth of water table based on observations from nearby wells and water bodies**

The Ground water table is 50m (in rainy season) to 55m (in Dry Season).

**b) Indicate maximum and minimum depth of Workings.**

The working level in next five year is likely to reach 689mRL, so it is not likely to touch the Ground water table in dry season.

**c) Quantity and quality of water likely to be encountered, the pumping arrangements and places where the mine water is finally proposed to be discharged:**

There is scarce chance of this water entering into the Pits. If rainwater do get collected in pits and remain there for a considerable period of time, it takes about two to three months to percolate down the ground. Normally work at bottom of the pit remains suspended in the months following the rains. However, in case of necessity the water may be pumped out using two diesel engines driven pump of say 25 H.P. This water can be spilled in the water drain made for the proper drainage of the mine water outside the mining lease area.

**d) Described regional and local drainage pattern also indicate annual rain fall, catchments area, and likely quantity of rain water to flow through the lease area:-**

The drainage is represented small streams, which originate in the hills and are lost in summer as well as in the winter. The average rainfall in this area is very low, and it hardly exceeds 600mm. Seasonal water stream do pass through the lease area in which the water flows through natural gradient. It is capable of dealing with the rainwater during the rainy season.

Water availability in the region is very scare now a day so it is being proposed to discharge the water collected in to the pit during rains into other non working areas for positive use like agriculture etc.



## Chapter 4. STACKING OF MINERAL REJECTS/SUB GRADE MATERIAL AND DISPOSAL OF WASTE

a) Indicate briefly the nature and quantity of Top soil, overburden / waste and Mineral Reject to be disposed off.

**Top soil:-** Top-soil is lying over the Overburden. During Overburden excavate intermix soil shall also generate.

**Overburden/ waste:-** Overburden is lying over the mineral. During mineral mining intermix soil shall also generate.

**Mineral Reject:-**

The waste rocks (biotite schist) found in the area is as a overburden over the Mineral bed & rejects of sorting of interlocking with mica with mineral. The thickness of mineral waste/OB varying is 0.5-3.0m. The Rock fragments of small size interlocking with mica are also resulted after mining.

Year	Topsoil (MT)		Mineral Rejects (MT)			
	Reuse/spreading	Storage	Backfilling	Storage	Blending	Beneficiation
2018-19	--	12986	--	36795	--	--
2019-20	--	16127	--	39140	--	--
2020-21	--	8281	--	41272	--	--
2021-22	--	--	--	41993	--	--
2022-23	--	--	--	42096	--	--

b) The proposed dumping ground within the lease area de proved for presence of absence of mineral and be outside the UPL unless simultaneous backfilling is proposed or purely temporary dumping for a short period is proposed in mineralized area with technical constraints & justification:

**Selection of Waste Rock Dump Site**

1. It is in the non-mineralized zone and outside the UPL.
2. The topography is favorable for dumping.
3. The area is sufficient for long-term use.
4. To prove the barren status of proposed site proposal of PPP has been given in exploration program.



**c) Disposal of waste, configuration and sequence of year wise build up of dumps along with the proposals for protective measure:**

*Table : Waste generation*

S. No.	Year	2018-19	2019-20	2020-21	2021-22	2022-23	Total
1	Mineral Waste (MT)	36795	39140	41272	41993	42096	201296
2	Over burden (MT)	12986	16127	8281	—	—	37394
3	Total Waste (1+2) MT	49781	55267	49553	41993	42096	238690
4	In m <sup>3</sup>	19147	21257	19039	16151	16191	91805
5	Swell volume in m <sup>3</sup>	22976	25508	22871	19381	19429	110165

\* Swell factor taken as 1.2

**Stacking the Over burden** Top Soil/OB is lying over the mineral. During mineral mining intermix soil shall also generate. It is proposed to stack the rejects produced from this mine temporarily at the sites shown in the plate's 6A-6E. Extent of area required is shown in following table.

*Table : Extent of area for waste dump*

Year	2018-19	2019-20	2020-21	2021-22	2022-23
Total Area (m <sup>2</sup> )	2872	3189	2859	2423	2429
Avg. height of Dump	8m	8m	8m	8m	8m

\* Sloping profile of dump: - 3T

**Location:-** Near Pillar A.

**Generation & Stacking of top soil:**

It is also proposed to stack the topsoil (near pillar C) near the area where development of a "Green Belt" has been proposed. This green belt is proposed near the lease boundary. A retaining wall shall be erected to protect wash out of the topsoil. The Topsoil Layer 0.2 m Thickness shall spread over the backfilled area for a forestation over it.

The Generation of soil from top layer is as follows table :-



**Table: Proposed top soil to be generation:**

Year	2018-19	2019-20	2020-21	2021-22	2022-23
Top Soil (MT)	1998	2481	1274	--	--
Top soil in m <sup>3</sup>	768	954	490	--	--
Swell Volume in M <sup>3</sup>	922	1145	588	--	--
Total Area (m <sup>2</sup> )	307	382	196	--	--
Avg. height of Top Soil	3m	3m	3m	--	--

The Avg. Height shall be 3.0 m for the five-year. Size of Topsoil: 50m x 25m x 3m near pillar C.

**Generation & Stacking of Sub Grade Mineral:** - It is also proposed to stack the Sub grade. The sub grade generated shall be collected in sub grade stack yard and shall be then mixed with high-grade mineral for use in various industries. The Sub grade mineral shall be used in mixing in high grade to make marketable/Avg. grade. The Generation shall be:-

**Table: Sub Grade Mineral**

Year	2018-19	2019-20	2020-21	2021-22	2022-23
Sub Grade in MT	5256	5591	5896	5999	6014
Sub Grade in M <sup>3</sup>	2022	2150	2268	2307	2313
Swell Volume (m <sup>3</sup> )	2426	2580	2721	2769	2776
Total Area (m <sup>2</sup> )	485	516	544	554	555
Avg. height in m	5m	5m	5m	5m	5m

The total area covered by the sub grade mineral at the end of this plan shall be 2400m<sup>2</sup>.

**Height:-** 5.0 m, **Area:-** 80m x 30m.



## Chapter 5: USE OF MINERAL AND MINERAL REJECT

a) Describe briefly the requirement of end-use industry specification in term of physical & chemical composition:

The mined out mineral from the lease area shall be used to ceramic industry.

b) Brief requirement of intermediate industries involved in upgradation of mineral before its end-use:

Nil

c) Detail requirements for other industries, captive consumption, export, association industrial use etc:-

Nil

d) Indicated precise physical and chemicals specifications stipulated by buyers:-

### Physical Properties

S.No	Mineral	Particulars	Results (%)	Mineral	Particulars	Results (%)
1	<b>Quartz</b>	Colour	White	<b>Feldspar</b>	Colour	Flesh
2		Sp. Gravity	2.6		Sp. Gravity	2.6
3		Hardness	7.0		Hardness	5.0

### Chemical Properties

S.No	Mineral	Particulars	Results (%)	Mineral	Particulars	Results (%)
1	<b>Quartz</b>	SiO <sub>2</sub>	99.74	<b>Feldspar</b>	SiO <sub>2</sub>	70.1
2		Fe <sub>2</sub> O <sub>3</sub>	0.05		Fe <sub>2</sub> O <sub>3</sub>	0.29
3		Al <sub>2</sub> O <sub>3</sub>	0.03		Al <sub>2</sub> O <sub>3</sub>	19.01
4		CaO	0.02		K <sub>2</sub> O	8.5
5		MgO	0.06		Na <sub>2</sub> O	2.1
6		LOI	0.10			

e) Detail of processes adopted to upgrade the ROM to suit the user requirements:-

Nil



## Chapter 6: PROCESSING OF ROM AND MINERAL REJECT

- a) If processing / beneficiation of the ROM or Mineral Reject is planned to be conducted, briefly describe nature of processing / beneficiation. This may indicate size and grade of feed material and concentrate (finished marketable product), recovery etc.

The minerals produced from the mines need only specific sorting & grading for Size, Grade & Recovery factor. No mineral beneficiation processing will be required at mines for mineral. Impurities will be removed simply by hand picking. Besides this no other processing or beneficiation is required on proposed at the mine site

- b) Give a material balance chart with a flow sheet or schematic diagram of the processing procedure indicating feed, product, recovery, and its grade at each stage of processing.

Not applicable

- c) Explain the disposal method for tailings or reject from the processing plant.

Not Applicable

- d) Quantity and quality of tailings /reject proposed to be disposed, size and capacity of tailing pond, toxic effect of such tailings, if any, with process adopted to neutralize any such effect before their disposal and dealing of excess water from the tailings dam.

Not Applicable

- e) Specify quantity and type of chemicals if any to be used in the processing plant.

No.



f) Specify quantity and type of chemicals to be stored on site / plant.

No processing / beneficiation is proposed.

g) Indicate quantity (cum per day) of water required for mining and processing and sources of supply of water, disposal of water and extent of recycling. Water balance chart may be given.

No water shall be required for processing. Water shall be required in mining to cater for drinking purposes, dust suppressing at faces and on haul roads, and plantation. Total water requirement in the mine will be about 3.0-4.0KLD for drinking, spraying and plantation.



## Chapter 7: OTHER

### Describe briefly the following

#### a) Site Services

The Electric Power line does not exist in the lease area. The nearby villages are electrified.

#### • Water Supply

Water is being supplied from a well near the mine. A small water tank is also proposed in the proposed mine office premises. This can be used for supply of water to mining work, spraying, watering the plants and drinking purposes.

#### • First Aid

Primary First aid facility is proposed at the proposed mine office.

#### • Mine office

Permanent mine office is proposed in the western side of the lease area.

#### • Rest Shelter

Permanent rest shelter is proposed.

#### • Latrines and Urinals

At the mine site urinal and latrine are proposed.

#### b) EMPLOYMENT POTENTIAL

The mine owner shall employ Mine official (Mines Manager, Foreman) in accordance with the provision of the MMR 1961 & Mining engineer under MCDR 88. The workers to be employed shall be semi-skilled and unskilled. Most of them will come from the nearby villages. With the increase in the production additional man power shall be required. Considering the OMS 7.0MT in the manual mining the organizational set up proposed is given below:-

High-Skilled	Mining Engineer	1 full time	As per rule 42 of MCDR 1988 as per Rule
	Geologist	1 Part time	
	Mines Manager	1 full time	
Semi-Skilled	Mines Mate/Mines Foreman	1 full time	
	Skilled Labours/ Operators	15 full time	
	Unskilled Labourers	10 full time	
unskilled	Watchmen	1 full time	



अनुमोदित  
APPROVED

## CHAPTER 8.0 PROGRESSIVE MINE CLOSURE PLAN

### 8.1 Environment Base line information: Attach a note on the status of baseline information with regard to the following

The lease area is characterized by the typical topography having mild hilly land. The soil available in the area overlaying on the O/B & mineral is not good for farming/cultivation. The land use pattern is given in the following table

*Table: Existing Land use pattern within the Lease Area*

Sr. No.	*All the areas are given in Hectares	Forest Land	Pvt. Waste Land	Pvt. Ag. Land	Govt. waste Land	Total
1	Pits & Quarries	----	----	----	0.8624	0.8624
2	Top soil Dump	----	----	----	----	----
3	Dumps	----	----	----	0.1305	0.1305
4	Mineral Stack Yard	----	----	----	----	----
5	Sub Grade stack Yard	----	----	----	----	----
6	Infrastructure ( Work shop, administrative Building)	----	----	----	----	----
7	Roads	----	----	----	0.1208	0.1208
8	Railway	----	----	----	----	----
9	Green Belt	----	----	----	----	----
10	Tailing Pond	----	----	----	----	----
11	Effluent Treatment Plant	----	----	----	----	----
12	Mineral Separation Plant	----	----	----	----	----
13	Township	----	----	----	----	----
14	Non Utilized	----	----	----	3.4463	3.4463
<b>Total</b>		----	----	----	<b>4.56</b>	<b>4.56</b>

**8.1.1 Water regime and presence of water reservoir** The average rainfall in the area is low it hardly exceeds 500 mm. The Ground water table is 50m (in rainy season) to 55m (in Dry Season). The nearest sources of drinking water are wells from where the potable water is fetched and stored.

### 8.1.2 Quality of Air, ambient noise level and water:-

No survey has been conducted of the preparation of Plan.

The quality of air could be said quite clean and natural, free from any harmful gases arising out of any industrial establishment/ complex including mining ventures. The area in and around the mine could be said free from any nuisance



of repetitive nature such as noise. The source of noise generation will be the playing of machinery. Its magnitude will not be match to cause general arrogances. Thus, it is quite calm. Quality of ground water is free from pollution. Water is parable.

### 8.1.3 Flora & Fauna: -

There are 20 no. of babul tree & other bushes exist in the lease area. No Fauna exist in the lease area.

### 8.1.4 Climatic condition

The climate in the area is Drag. The area experiences wide temperature variation of as high as 45°C in summer to as low as 6°C during the winter season. Strong wind blows during the summer season. The winds charge the atmosphere with the dust particles. The wind direction in general is usually NE - SW.

### 8.1.5 Human settlement

The population in and around this lease area is very thin. The nearest human settlement area is the village Khakha Ka Gurha having population is show in following table. The adjoining villages are:

S. No.	Village	Population	Distance from ML Area
1.	Khakha Ka Gurha	850	About 1.2 km
2.	Mawela Ka Gurha	600	About 1.0 km
3.	Nimri	500	About 2.0 km
4.	Dodiwas	500	About 2.2 km
5.	Jajira Ka Gurha	650	About 1.8 km
6.	Dunger Ji Ka Gurha	400	About 1.8 km

### 8.1.6 Public Building, Places of Worship and Monument:-

No Public Building, National Monument, place of Worship, Sanctuary, National Park, exist in and around the lease area.

### 8.1.7 Indicate any sanctuary is located in the vicinity of leasehold.

No National Park/sanctuary falls within 10Km. of the lease area.



## 8.2 Impact Assessment: Attach an Environmental Impact Assessment Statement describing the impact of mining and beneficiation on environment on the following:-

Impact of mining activities on the environment:

Given below are the details of the assessment made for the likely impact of mining activities on the environment, both biotic and abiotic:

### 8.2.1 Land area

As a result of mining activities there shall be less effect on present landscape. The area will be effected due so mining, dumping of O/B. soil, plantation prepared infrastructure and Roods, The land degradation shall be as shown in the table

*Table No: At the End of the five periods*

Particular	Total Area (Hectare)
Pits	1.9115
Dump	0.2680
Top soil stack	0.1037
Infrastructure	0.0113
Mineral Stack yard	0.0156

*Table No.: At the End of the Life of the Mine*

Particular	Total Area (Hectare)
Backfilled area	2.1404
Water reservoir	1.5373
Infrastructure	--

Likely depth of the pit at the end of the 5<sup>th</sup> year is 15m

**8.2.2 Air Quality:** - The only source to pollute air is the generation of dust while undertaking the manual mining operation including sizing the mineral. But the level of dust concentration is practically of very low order.

**8.2.3 Water Quality:-** The mineral produced and the waste rocks generated are not likely to pollute the water quality in any manner.

**8.2.4 Noise Level:-** Generation of ground vibration and noise is practically under limit and low enough with the manual mining operation to have any adverse impact on this account to the workers and local inhabitants.

**8.2.5 Vibrations Levels (due to blasting):-** not applicable.



अनुमोदित  
APPROVED

**8.2.6 Water Regime:-** in absence of water regime in 500 meters periphery no impact will anticipate on water regime. The Ground water table is 50m (in rainy season) to 55m (in Dry Season).

**8.2.7 Acid mine drainage:-**

NA

**8.2.8 Surface subsidence –**

Mining method is proposed is open cast manual mining.

**8.2.9 Socio-Economics:-** by having an economic activity near the villages, the socio and demographical profile of the local habitants will get positive impact, by direct and indirect jobs.

**8.2.10 Historical Monuments:** No historical monument or building is present in the lease area.

**8.3 Progressive reclamation Plan:-**

The Proposals of the Final Closure are based on the Geology and Topography of the region. At the end of the mining operation, a part shall be back filled and remaining part of the lease area would be used as water reservoir, the water reservoir would be fenced. The Backfilled and None utilized area would be used for afforestation after spreading topsoil over it. The local people would use the Buildings and Roads for their infrastructure facilities.

**8.3.1 Mined Out Land**

*Table: Mined Out Land (Hectare)*

Particular	Present	At the end of Mining Plan	At the end of Life of Mine
Broken Up Area	0.8624	1.9115	3.6777
Back Filled Area	Nil	Nil	2.1404
Water Reservoir	Nil	Nil	1.5373
Reclaimed Area	Nil	Nil	--

*\*All the area are in Hectare*

**Mined Out Land Planning** The mined out land planning is required to be done to ensure that:

As the land matures, it shall be made ready for future use.



जुलुसि  
APPROVED

- b. At all the times mining pits and the roads shall be maintained in safe condition to prevent landslides etc. and stability shall not be disturbed.
- c. Water drainage shall be maintained and cleaned in a manner that surface water shall not cause quarry flooding.
- d. The plantation proposed above would not only help in the restoration of the land use but also improve the eco-system of the area.

**Land Use Pattern** The lease area is having Govt. Waste Land. In general the area is flat land. There is no village or human settlement in the lease area. Permanent vegetation in the area is also very less prominent.

The present land use pattern is as indicated in the following Table:-

*Table: Present land use pattern*

Sr. No.	*All the areas are given in Hectares	Forest Land	Pvt. Waste Land	Pvt. Ag. Land	Govt. waste Land	Total
1	Pits & Quarries	----	----	----	0.8624	0.8624
2	Top soil Dump	----	----	----	----	----
3	Dumps	----	----	----	0.1305	0.1305
4	Mineral Stack Yard	----	----	----	----	----
5	Sub Grade stack Yard	----	----	----	----	----
6	Infrastructure ( Work shop, administrative Building)	----	----	----	----	----
7	Roads	----	----	----	0.1208	0.1208
8	Railway	----	----	----	----	----
9	Green Belt	----	----	----	----	----
10	Tailing Pond	----	----	----	----	----
11	Effluent Treatment Plant	----	----	----	----	----
12	Mineral Separation Plant	----	----	----	----	----
13	Township	----	----	----	----	----
14	Non Utilized	----	----	----	3.4463	3.4463
<b>Total</b>		----	----	----	<b>4.56</b>	<b>4.56</b>

**Land reclamation & Tree plantations** The land reclamation and afforestation proposals are presented in plate 8 of the scheme of mining. The lessee is committed to take care of and reclaim the mining area as proposed in the plan. At the end of the mining operation, a part shall be back filled and remaining part of the lease area would be used as water reservoir, the water reservoir would be fenced. And a part of the remaining region would be used for plantation.



अनुमोदित  
APPROVED

### Post Mining Land Use Plan

As mining in the pits is not going to be completed during the period of this five-year period, this point is not applicable.

### Proposed Land pattern during next five years

*Table: Proposed Land use pattern during next five years*

Sr. No.	*All the areas are given in Hectares	Pvt. Waste Land	Pvt. Ag. Land	Govt. waste Land	Total
1	Pits & Quarries	---	---	1.9115	1.9115
2	Top soil Dump	---	---	0.1037	0.1037
3	Dumps	---	---	0.2680	0.2680
4	Mineral Stack Yard	---	---	0.0156	0.0156
5	Sub Grade stack Yard	---	---	0.1993	0.1993
6	Infrastructure (Work shop, administrative Building)	---	---	0.0113	0.0113
7	Roads	---	---	0.1082	0.1082
8	Railway	---	---	---	---
9	Green Belt	---	---	0.1159	0.1159
10	Tailing Pond	---	---	---	---
11	Effluent Treatment Plant	---	---	---	---
12	Mineral Separation Plant	---	---	---	---
13	Township	---	---	---	---
14	Non Utilized	---	---	1.8265	1.8265
Total		---	---	4.56	4.56

**End Land Use Pattern at the end of the life of the mine** At the end of the mining operation, a part shall be back filled and remaining part of the lease area would be used as water reservoir and a part of the remaining region would be used for plantation.

The proposed end land use pattern is as indicated in the following Table

*Table: Proposed end land use pattern*

Sr. No.	*All the areas are given in Hectares	Pvt. Waste Land	Pvt. Ag. Land	Govt. waste Land	Total
1	Water Reservoir	---	---	1.5373	1.5373
2	Top soil Dump	---	---	---	---
3	Backfilled area	---	---	2.1404	2.1404
4	Stack Yard	---	---	---	---
5	Sub Grade stack Yard	---	---	---	---
6	Infrastructure (Work shop, administrative Building)	---	---	---	---
7	Roads	---	---	---	---
8	Railway	---	---	---	---
9	Green Belt (other than Backfilled)	---	---	0.8823	0.8823
10	Tailing Pond	---	---	---	---
11	Effluent Treatment Plant	---	---	---	---
12	Mineral Separation Plant	---	---	---	---
13	Township	---	---	---	---
14	Non Utilized	---	---	0	0
Total		---	---	4.56	4.56



अनुमोदित  
APPROVED

### 8.3.2 Top soil Managements:

It is also proposed to stack the topsoil (near pillar C) near the area where development of a 'Green Belt' has been proposed. This green belt is proposed near the lease boundary. A retaining wall shall be erected to protect wash out of the topsoil. The Topsoil Layer 0.2 m Thickness shall spread over the backfilled area for a forestation over it. The Generation of soil from top layer is as follows table: -

**Table No.: Proposed top soil to be generation:**

Year	2018-19	2019-20	2020-21	2021-22	2022-23
Top Soil (MT)	1998	2481	1274	—	—
Top soil in m <sup>3</sup>	768	954	490	—	—
Swell Volume in M <sup>3</sup>	922	1145	588	—	—
Total Area (m <sup>2</sup> )	307	382	196	—	—
Avg. height of Top Soil	3m	3m	3m	—	—

The Avg. Height shall be 3.0 m for the five-year. Size of Topsoil: 50m x 25m x 3m near pillar C.

**8.3.3 Tailing Dam Management:-** No Tailing Dam is proposed.

**8.3.4 Acid mine drainage, if any and its mitigative measures.**

No

**8.3.5 Surface subsidence mitigation measures through backfilling of mine voids or by any other means and its monitoring mechanism.**

The information on protective measures for reclamation and rehabilitation works year wise may be provided as per the following table:-

**SUMMARY OF YEARWISE PROPOSAL FOR ITEM NO. 8.3**

Item	Details	Proposed	Actual	Remarks
Dump management	Area afforested (ha)	—	—	—
	No of saplings planted	—	—	—
	Cumulative no of plants	—	—	—
	Cost including watch and care during the year	—	—	—
Management of worked out benches	Area available for rehabilitation (ha)	—	—	—
	Afforestation done (ha)	—	—	—
	No of saplings planted in the year	—	—	—
	Cumulative no of plants	—	—	—
	Any other method of rehabilitation (specify)	—	—	—
	Cost including watch and care during the year	—	—	—
Reclamation and Rehabilitation by backfilling	Void available for backfilling (L x B x D) pit wise/ stop wise	—	—	—
	Void filled by waste / tailings	—	—	—
	Afforestation on the backfilled area	—	—	—
	Rehabilitation by making water reservoir	—	—	—
	Any other means (specify)	—	—	—
Rehabilitation of waste land within lease area	Area available (ha)	—	—	—
	Area Rehabilitated	—	—	—
	method of rehabilitation	—	—	—
Other (specify)	Plantation	0.1097	—	—

\* Landfilled dump is active.



अनुमोदित  
APPROVED

#### 8.4 Disaster Management and Risk Assessment

The proposed workings are by opencast manual mining method. Underground mining is not proposed. No tailing dam is proposed. Thus high risk accident like land slide, subsidence, fire, seismic activities etc, are not expected. In case of accident a well-equipped First Aid station shall be available at mine-site for giving first aid to injured persons.

#### 8.5 Care and Maintenance during Temporary Discontinuance

In case of temporary discontinuance of work, the mine workings will be in the watch of the Security Guard employed for the purpose. Before entering the labour into mine workings or faces during the resumption of work, the workings and faces are proposed to be inspected by Authorized person.



## 8.6: FINANCIAL ASSURANCE

The lessee is required to submit the financial assurance for the area to be put to use for mining and allied activity at the end of plan period. Following table shows the calculation as per the CCOM's Circular no. 4/2006 dated 17/02/2006.

Sr. No.	Head	Area put on use at start of scheme (in Ha.)	Additional requirement during scheme period (in. Ha.)	Total (in. Ha.)	Area considered as fully reclaimed & rehabilitated (in. Ha.)	Net area considered for calculation (in. Ha.)
1.	Area under mining	0.8624	1.0491	1.9115	--	1.9115
2.	Storage for top soil	--	0.1037	0.1037	--	0.1037
3.	Overburden/ dump	0.1305	0.1375	0.2680	--	0.2680
4.	Mineral Stack Yard	--	0.0156	0.0156	--	0.0156
5.	Infrastructure (Workshop, administrative building etc.)	0.1208	0.1095	0.0113	--	0.0113
6.	Road	--	0.1082	0.1082	--	0.1082
	Railway	--	--	--	--	--
	Green Belt	--	0.1159	0.1159	--	0.1159
	Falling pond	--	--	--	--	--
	Effluent treatment	--	--	--	--	--
	Mineral Separation plant	--	--	--	--	--
12.	Township area	--	--	--	--	--
13.	Sub-Grade Stack Yard	--	0.1993	0.1993	--	0.1993
<b>GRAND TOTAL</b>		<b>1.1137</b>	<b>1.6198</b>	<b>2.7335</b>	<b>--</b>	<b>2.7335</b>

The lessee has already submitted required financial assurance to Mining Engineer Rajsamand.

Date:   
Place: Udaipur

  
Madhav Lal Agrawal

Reg. No. RQP/SME/ (UDAI-CIRCLE)/2015/12

Valid up to 19/02/2020

This is to certify that the mining Plan  
has been approved by the RQP/SME Scheme  
for the purpose of mining and allied activities  
and the lessee has submitted the required financial assurance.

  
D.C. Rajsamand

अनुमोदित

01/23/0/2018  
(स. के. बैरवा)

अवकाश कर्मि अंशदा  
जाल एवं धु-विज्ञान विभाग  
राजसमन्द-डूंगर-राजसमन्द

Category-B

## MODIFIED SCHEME OF MINING

with:

PROGRESSIVE MINE CLOSURE PLAN  
SUBMITTED UNDER RULE 37 OF R.M.M.C.R.1986.

For

KHAKHA KA GURHA QUARTZ & FELDSPAR MINE (M.L.NO.-6/04)

NEAR VILLAGE - KHAKHA KA GURHA, TEHSIL-KUMBHALGARH,

DIST.-RAJSAMAND, RAJASTHAN

MINE AREA - 4.56 HECT (NON FOREST)

(S.O.M PERIOD: 2015-16 to 2017-18)

MINING LEASE PERIOD: 12.05.2008 to 11.05.2058

14986-90  
11/2/16  
Approved vide Letter No  
SME/Raj-Cir/Mining Plan/Scheme  
Raj.T.A.2-16



### LESSEE

SHRI ASHOK JAIN

R/O NEAR PETROL PUMP, DEOGARH,

RAJSAMAND, STATE RAJASTHAN,

MOBILE - 91-9414154722

EMAIL ID: kdengarch@rediffmail.com

अनुमोदित

(राजेश चौधरी)

अधीक्षक कनिष्ठ अभियन्ता

खान एवं भू-विज्ञान विभाग

राजसमन्द-कुम्भलगढ़-राजस्थान

### PREPARED BY

M/S UDAIPUR MIN. TECH PVT. LTD.

206 APEKSHA COMPLEX, SECTOR-11

UDAIPUR-313002 (RAJ)

PHONE - 0294-2489672, MOBILE 9414154722

NO. RQPIUDP/354/2009 B. Valid up to 20.8.2019

Email - esbist@udarmintech.com



अनुमोदित  
APPROVED

