

**SIMPLIFIED MINING SCHEME WITH PROGRESSIVE MINE  
CLOSURE PLAN**

N/v – Saiwad, Tehsil – Jamwa Ramgarh, District Jaipur, Raj. M.L. No. 44/1997

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(Submission under Rule 29(5)(10) and Under rule (29)(13) up to 1.0 ha. of Rajasthan Minor  
Mineral concession rules 2017)

**(Chapter No. 1)**

**1. GENERAL INFORMATION ABOUT LESSEE**

**1. (a) Name and Address of the Lessee**

**Shri Puran Mal Meena  
S/o Shri Kalayan Sahay Meena**

R/o:- Plot No. C - 46, Bai Ji Ki Kothi, Jhalana, Doongri, Jaipur (Raj.)

**1. (b) Status of the Lessee (Individual/Firm/Company)**

**Lessee is Individual**

Lease holder **Shri Puran Mal Meena Address:** - R/o:- Plot No. C - 46, Bai Ji Ki Kothi, Jhalana, Doongri, Jaipur (Raj.) is carrying out mining for mineral Masonry Stone lease area. This is held mining lease of area 1.0 hectare (M.L.NO.- 44/1997) for Masonry stone, N/v- Saiwad, Tehsil – Jamwa ramgarh, District:- Jaipur (Rajasthan) As per amendments in Rajasthan Minor Mineral Concession Rules 29(5)(10) and Under rule (29)(13) up to 1.0 ha. of Rajasthan Minor Mineral concession rules 2017)in Case of mining lease having area up to 1.0Ha., the Lessee shall submit Simplified Mining Scheme Including Progressive mine Closure plan along with non refundable fee of 5000/-, to competent authority for its review of mining plan for next five year approval. Therefore, the Lessee is submitting this Simplified Mining Scheme Including Progressive mine Closure plan in compliance of above stated rules. The Lessee approached the RQP for preparation of Simplified Mining Scheme. The Lessee authorized the RQP to prepare, submit, modify, and withdraw and to collect the approved copies of the Simplified mining Scheme (refer letter of authorization by Lessee as Certificate- 1). Subsequently, Field Survey was carried out on 07- 03-2018 by Instrument GPS Garmin 72 make & T.S. Sokia CX 105.

**1. (c) Name and address of the authorized person, who prepared the mining scheme.**

**MUKESH KUMAR GUPTA**

Registration No	:	SME/JP/RQP/2015/07
Validity	:	11.03.2020
Address of RQP	:	Plot No.-21 First Floor, Aarna-2 Tower Kartarpura Industrial Area, Jaipur (Rajasthan)
Phone No.	:	0141-4036199 (O), Mobile 9799-744347
Email id	:	<a href="mailto:mkguptarqp@gmail.com">mkguptarqp@gmail.com</a> , <a href="mailto:rme.envirotech@gmail.com">rme.envirotech@gmail.com</a>

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**(Chapter No. 2)**

**2. Details of the mining lease**

**2. (a) M.L. No. 44/1997**

**Table 1 Details of mining lease area**

M.L. No.	44/1997
Location of Mine	Near Village - Saiwad Tehsil- Jamwa Ramgarh, District- Jaipur Raj.
Lease out Area	1.0 Hectare

**2. (b) Name of Mineral**

Masonry Stone (Cheja Patther).

**2. (c) Description report of the mining lease with plan (enclose copy of sanction order/lease deed)**

**Table 2 Description report of mining lease area**

DESCRIPTION REPORT			
FROM	TO	BEARING	DISTANCE (In mts.)
FRP(Temple Bhomiya Ji)	X	270 <sup>0</sup> 00'00"	70M
X	Y	360 <sup>0</sup> 00'00"	500M
Y	P	270 <sup>0</sup> 00'00"	120M
P	A	360 <sup>0</sup> 00'00"	250M
A	B	360 <sup>0</sup> 00'00"	100M
B	C	270 <sup>0</sup> 00'00"	100M
C	D	180 <sup>0</sup> 00'00"	100M
D	A	90 <sup>0</sup> 00'00"	100M

LEASE AREA 100 X100 = 10,000 SQ Mtr = 1.0 hectare

Copy of Demarcation report is annexed as Annexure – 2

Demarcation map annexed as annexure -3

Copy of Lease Agreement is enclosed as Annexure – 4

**Table 2 Showing Latitude & Longitude of Lease Area**

Lease Pillar	Latitude	Longitude
A	27°1'21.16"N	75°55'41.23"E
B	27°1'24.41"N	75°55'41.26"E
C	27°1'24.44"N	75°55'37.63"E
D	27°1'21.19"N	75°55'37.6"E

**FRP Details:** FRP: - Temple Bhomiya Ji

Latitude-27°00'56.745"

Longitude- 75°55'47.925"

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## 2. (d) Key plan of the area:

The Key Plan of 5 km radius showing all topographical & other features such as Drainage, Hutments, Roads, Agriculture Land, Forest Land, Waste Land and Open Scrub Land is enclosed on R.F. 1:50,000. All requisite details are enclosed as Plate No. 2.

## 2. (e) Location map of the mining lease, showing the details of the approach roads up to the mine is enclosed as (Plate no. 1).

## 2. (f) Details of the mining lease:

**Table 4 Lease area falls in following Khasra**

Near Village	Tehsil	District & State	Khasra No.	Status of land	Area	Period
Saiwad	Jamwa Ramgarh	Jaipur	2	Government Land	1.0 Ha.	30 years w.e.f 09/10/1998

## 2. (g) Superimposed map of sanctioned area on revenue map

Superimposed map of sanctioned area on revenue map is enclosed as Annexure-5.

## 2.(h) Infrastructure facilities : Nearest railway station, Police Station, Post office, medical facilities, water & electricity, education facilities, mode of transportation of mineral, river / canal / port, if any etc.

Requisite information is tabulated here under in Table No. 5

**Table 5 Infrastructure**

S.No.	Particulars	Details
1.	Nearest railway station	The nearest railway station is Jaipur Railway Station which is located at 25.0 Km from mine site.
2.	Nearest Police station	The nearest police Station is Amber which is situated about 7.0 Km mine site.
3.	Nearest Post office	The nearest post office is Natata which is situated at a distance of 1.0 Km from the mine site. Post office is approachable with link road.
4.	Medical facilities	The nearest Govt. Hospital is at Saiwad which is situated at a distance of 1.0 km.
5.	Water and Electricity facilities	Drinking water is available at village - Saiwad. Also, the water of hand pump and well located nearby area is potable and is used for drinking by the villagers and habitants. Water required for dust suppression will be bought by tankers from nearby well

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		on hire basis.
6.	Education facilities	The school facilities are available Senior Secondary School & in village Saiwad which is about 1.0 km. from the mine site.
7.	Mode of transportation of mineral	The mine is situated on link road passing from village, Saiwad - Jamwa Ramgarh – Amber – jaipur. To reach at the mine, Metal led road is up to the site Via- Jaipru – -amber- Jamwaramgarh - Saiwad. (Plate No. 2, Location plan) Mineral will be transported by truck/Dumper from mine site.
8.	River/Canal/Port	Within five km. radius of the lease area, there is a river which is flowing South East Direction of lease area.
9.	Airport	The nearest Airport is Sanganer (Jaipur) Airport are about 28 km.

## 2. (i) (i) Power and Electricity

There is no electric line passing through the mine area, however, the electricity is available in the village Saiwad which is about 1.0 Km away from village Saiwad.

## 2. (j) (ii) Water Supply:

Drinking water is available at village Saiwad. Also, the water of hand pump and well located nearby area is potable and is used for drinking by tankers from nearby well on hire basis.

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## (Chapter No. 3)

### GEOLOGY & EXPLORATION

#### **3. No. of existing mining pits, their dimensions and locations, plan & section of the pits, brief geology of the area:**

##### **3. (a) Number of Existing mining pits:**

- (i) Mining Pit area as shown in Plate no.4
- (ii) Plan and section of the pit is given on Plate no.4

##### **3.1 Physiography and Drainage**

The lease area is located 1.0 Km North West of village Saiwad. The area for which Simplified mining scheme is prepared is hilly area. the lease area is occupied by Quartzite and negligible quantity of alluvium. The highest altitude 450mRL and lowest altitude 401 mRL in lease area.

General drainage pattern is South Eastern side of the Mining Lease Area.

##### **Surface Geological Plan Refer Plate No.4**

##### **Vegetation**

The lease area is free from any type of vegetation only few bushes are present nearby lease area.

##### **Climate**

The area is characterized by semi arid type with an average annual rainfall of about 530mm. which is mainly received during June to September.

The minimum temp – varies from 1.0<sup>0</sup> to 30<sup>0</sup> C

Maximum Temp – varies from 25<sup>0</sup> to 47<sup>0</sup> C.

##### **3.2 Geology of the area**

##### **3.2.1 Regional Geology**

The regional Geological settings of jaipur District show a wide variety of rock type belonging to the Delhi Super Group of Middle Proterozoic age. The rock formations which outcrop in jaipur District are mainly Quartzite, Amphibolites, Mylonite, Dolomite, Migmatite, Gneisses, Cal Schist, Marble, Mica Schist etc. the regional Geological Sequence of the region as described by Geological Survey of India, Miscellaneous Publication No. 30, Part 12, 2<sup>ND</sup> revised edition is as follows:-

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<b>Super Group</b>	<b>Group</b>	<b>AGE</b>	<b>LITHOLOGY</b>
Recent			Soil, Sand dunes
Post Delhi			Pegmatite, Granite
Delhi Super Group	Ajabgarh Group	Lower – middle Proterozoic	Muscovite – Biotite Group, Quartzite, amphibolites, Mylonite, dolomite, Migmatite, Gneisses, Calc Gneiss, Cal Schist, Marble, Mica schist, calcite,
	Alwar Group		Biotite schist, Calc Biotite Schist, Quartzite

**3.2.2 Geology of the Lease**

Geologically the Lease Area belongs to Delhi Super Group. The Quartzite is the major litho unit of the area. the stratigraphic sequence of the litho unit of the area present in the area is as follows:-

Recent & sub recent	-	Alluvium & blown sand
Delhi super Group	Ajabgarh Group	Quartzite

To understand the structural configuration and the applied are surface geological mapping has been prepared on a scale of 1:1000 Geological cross – Section are also drawn and a longitudinal section prepared on a scale 1:1000(V), 1:1000(H) so as to understand the structural configuration of lease area.

In the present area only Masonry Stone is available.

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## (Chapter No. 4)

### 4.0 Parameters of estimation of category of reserves and there categorize:-

The following parameters have been considered while estimating the geological reserves (Insitu):

1. Average 0.10m Cover has been considered as Soil.
2. Cross sectional area for each section has been derived by graphical method using Auto CAD software
3. The rocks on the hillock (Masonry Stone) are exposed up to 450 mRl (outside the lease area) and it is assumed to continue at least 60 Mts below the ground level. Therefore, Proved reserves of Masonry Stone are computed up to 390 mRl.
4. Average 20 m (390 - 370 mrl) depth of masonry Stone below Proved category has been considered for probable category reserve.
5. Average 5m (370-365 mrl) depth of Masonry Stone below probable category has been considered for possible category reserve.
6. Cross sectional area computed has been multiply by influence length to get the volume.
7. Volume of Masonry Stone so obtained has been multiply by density (Specific Gravity) which is considered as 2.5 to get the insitu geological reserves of Masonry
8. Recovery of Masonry Stone is assumed as 95% of total reserve. The recovery is assumed based on the observations in this area as well as in the adjoining area; it may vary within reasonable limits. However, the remaining 5% waste as murrum will be used in haul road maintenance.

Calculation of geological Reserves along different section are tabulated here under.

**TABLE 4.1: PROVED RESERVES UP TO 390 MRL (331)**

Section Line	Depth (m)	X-Sectional Area M <sup>2</sup>	Volume M <sup>3</sup>	Tonnage Vol x 2.5 (Ton)	Recovery of Masonry stone	
					95%	Waste 5%
A-A'	60	1875	1,12,500	2,81,250	2,67,187	14,063
<b>TOTAL</b>				<b>2,81,250</b>	<b>2,67,187</b>	<b>14,063</b>

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**TABLE 4.2: PROBABLE RESERVES UP TO 370 MRL (332)**

Section Line	Depth (m)	X-Sectional Area M <sup>2</sup>	Volume M <sup>3</sup>	Tonnage Vol x 2.5 (Ton)	Recovery of Masonry stone	
					95%	Waste 5%
A-A'	20	10,000	2,00,000	5,00,000	4,75,000	25,000
<b>TOTAL</b>				<b>5,00,000</b>	<b>4,75,000</b>	<b>25,000</b>

**TABLE 4.2: POSSIBLE RESERVES UP TO 465 MRL (333)**

Section Line	Depth (m)	X-Sectional Area M <sup>2</sup>	Volume M <sup>3</sup>	Tonnage Vol x 2.5 (Ton)	Recovery of Masonry stone	
					95%	Waste 5%
A-A'	5	10,000	50,000	1,25,000	1,18,750	6,250
<b>TOTAL</b>				<b>1,25,000</b>	<b>1,18,750</b>	<b>6,250</b>

## 4.1 Mineable Reserve

### Total Reserve

Nature of Reserve	UNFC	Rec. Mineral 95% (MT)	Waste Mineral 5% (MT)
<b>Proved</b>	<b>111</b>	<b>2,67,187</b>	<b>14,063</b>
<b>Probable</b>	<b>121</b>	<b>4,75,000</b>	<b>25,000</b>
<b>Total</b>		<b>7,42,187</b>	<b>39,063</b>

1. Mineable proved Mineral = Proved Mineral – Mining Losses & Mineral Block in benches (10%)

$$= 2,67,187 - 26,718$$

$$= 2,40,469 \text{ MT}$$

2. Mineable Probable Mineral = Probable Mineral – Mining and Mineral Block in Benches (10%)

$$= 4,75,000 - 47,500$$

$$= 4,27,500 \text{ MT}$$

## 4.2 Waste Generated

Total waste generated about 74,218 MT .It will be used in road maintenance and filling of low lying area.

## 4.3 Anticipated Life of Mine

Average production proposed is about of 1,00,000 MT of per annum. Therefore Anticipated Life = Mineral yet to be excavated/ annual production.

$$= 6,67,969/1,00,000 = 6.67$$

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= 6 years and 7 month

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

## UNFC Classification-

Classification	Code	Quantity
Total mineral Resources (111+121)	-	7,42,187
A. Mineral Reserve	-	-
1. Proved Mineral	111	2,40,469
2. Probable Mineral	121	4,27,500
B. Remaining Resources	-	-
1. Feasibility Mineral Resource	222	26,718
2. Pre Feasibility Mineral Resources	223	47,500
3. Measured Mineral Resource	331	-
4. Indicated Mineral Resource	332	-
5. Inferred Mineral Resource	333	1,25,000
6. Reconnaissance Mineral Resource	334	-

### 4.4 Surface Plan and Section.

Existing pit of mine working is shown on Plate no.4; Geological section has been prepared (Refer plate no. 4)

### 4.5 Details of production and dispatches of last 5 years.

As per Assessment sheet given by lessee, production has been carried as following:

**Table- 7 Production Figure Last 5 years**

S.No	Years	Production in tonnes
1.	2013-14	57607
2.	2014-15	27455
3.	2015-16	19255
4.	2016-17	23091
5.	2017-18	

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**(Chapter No. 5)**

**5. Physical & geological characteristics of the deposits.**

**Table 9**

<b>S.No.</b>	<b>Properties</b>	<b>Mineral</b>
1	Occurrence	Regular outlines
2	Structure	Zonal
3	Texture	Fine to Coarse grained
4	Color	Light Brown
5	Form	Crystalline
6	Luster/Glose	Dull
7	Transparence	Quartz grains opaque to translucent
8	Hardness	6.5 to 7 on Mohr's hardness
9	Specific gravity	2.5

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**(Chapter No. 6)**

**6. Details of the mining machinery deployed or to be deployed and their detailed specifications.**

Mining would be carried out open cast in Semi mechanized manner. Details of mining machinery proposed to be deployed are as under:

**Description of Machineries and type of machinery and equipment proposed to be used in different mining activities**

**1) Drilling Machines**

S.N o.	Type	No s.	Dia. of hole (mm)	Size / capacity	Motive Power	H.P.
1	Wagon Drill	1	100 mm	9-11 m	Pneumatic	
	Compressor	1		450 cfm	Diesel	170
2	Tractor Drill	1	32 mm	1.5 meter	Pneumatic	50
	Compressor	1		120 cfm	Diesel	

**(2) Loading Equipment**

S.N o.	Type	Nos .	Bucket capacity in Cu.m.	Motive Power	H.P.
1	Crawler Excavator/Loader	1	1.3 Cu.m	Diesel	205
2	Crawler Excavator/Loader	1	0.9 Cum/Rock Breaker	Diesel	160
3	Backhoe Loader	1	0.3 Cu.m	Diesel	76

**(3) Haulage and Transport Equipment**

**(a) Haulage within the mining leasehold**

S.No.	Type	Nos.	Size / capacity	Motive Power	H.P.
1	Tipper	2	9 ton	Diesel	180
2	Tractor Trolley	1	4 ton	Diesel	50
3	Water Sprinkling Tanker	1	5000 Ltr	Diesel	50

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

- Ore transported by: **Hired trucks**

Details of hauling / transport equipment:

S.N o.	Type	Nos.	Size / capacity	Motive Power	H.P.
1	Trucks	6	20 ton	Diesel	180
2	Tractor Trolley	6	6 ton	Diesel	50

\* Make cannot be assured.

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## (Chapter No. 7)

### **7.0 Open-pit, open-cast or open cut mining**

is a surface mining technique of extracting rock or minerals from the earth by their removal from an open pit or borrows

Since, the Masonry stone is exposed at the surface or have a soil cover of less than 0.1 mts and the thickness of the masonry stone deposit is sufficient enough to be economically mineable, open cast semi- mechanized mining is the suitable method for mining in this area.

The semi mechanized of opencast mining are proposed for exploitation of mineral and waste. The bench height and width are proposed as 6/10 meter & respectively. Loading is proposed manually as well as by mechanical loader. Rock Breaker is proposed to be used for sizing as and when required. Haul roads are proposed up to the faces for transportation of mineral and waste. Tractor trolley and tippers are proposed for transportation of mineral and waste. Haul roads are proposed up to loading point. The overburden is unconsolidated and alluvium sand. Lessee may sometimes use controlled blasting as per the need.

It is planned excavate 1,00,000 ton TPA in the first year to 1,00,000 ton TPA in the fifth year of mining plan. The excavation is proposed to increase in the successive years and the lessee intends to produce 1,00,000 ton of TP per annum when the Mine is fully developed.

The Mineral Masonry stone shall be sold /captive used as construction material after obtaining the required permissions from the competent authorities which includes the crushing and screening also. Specification and list of machinery deployed in miscellaneous activities i.e. mining, loading, sizing, transporting, crushing, screening and processing etc are given above. Muffle blasting/Deep hole controlled blasting is done after taking permission from DGMS.

The haul road is proposed and maintained up to working pit faces, infrastructure, crushing unit, dump sites and plantation sites. The transportation of waste & mineral is proposed by tractor trolley and tippers. Proposed site of waste dump, soil stack, site service and Plantation, etc is illustrated on surface plan plate No. 4

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## 7. (a) Method of mining:

Mining will be carried out by open cast benching method by practicing semi mechanized method.

### Layout of Mine

Benches will be developed in such a manner that bench height remains up to 6 meters and bench width shall be 10/20 Mts. To ensure safety the bench slope will be kept 60° and over all pits slope will be maintained 45°. The ultimate depth limit of mining will be 370 mRL. Along boundaries of lease area 7.5 meter wide safety zone will be left as required by RMMCR, 1986.

### Mine Road Layout

Approach track to the mine already exist which will be utilized as haul road.

### Salient Points of Proposed Mining

- The mining method will be open cast semi mechanized.
- Blasted material will be removed from mine pit with the help of Excavators and Dumpers.
- Bench height is proposed to be kept 6 m. However bench height is increased, required then permission will be sought from Director General of mines safety.
- Controlled blasting will be carried out with delay detonator.
- The bench width will not be less than bench height; however working bench will have a width around 2.5 times of width of moving machinery.
- Considering the nature of rocks, drilling with light charge blasting is proposed with authorized license agency.
- Loading will be carried out by JCB & back hoe loaders of high capacity up to 1-2 Cu.m.

### ➤ MINE WORKINGS:

After the opencast mine is developed by forming benches, the next operation is winning of mineral. Winning of mineral will be carried out by drilling blast holes by C.A. operated jack hammer drills/Wagon operated deep hole drilling, blasting the same with explosive, loading of blasted material by JCB/ back hoe loaders into tippers or trolleys and transporting the same to domestic buyers or to the captive/ others crushers. Lessee may install the captive crusher within the lease area or outside the lease area. The processed mineral from these crushers is then transported to the local consumers by loading the same with the help of

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front end loaders of 0.6 to 1 m<sup>3</sup> bucket capacity into trucks. Crusher may be installed based on this mine or either within lease area or to the adjoining area in future.

## **LOADING:**

Loading of mineral would be carried out by JCB & back hoe loaders & front end loaders deployed at mine.

## **7. (b) PROPOSED YEAR WISE DEVELOPMENT FOR FIVE YEARS**

Proposed development ensuing five years since, inception of mining activity the year wise development will be carried out as under:

**During First Year:** During first year mining will be carried out from 422mRL to 401 mRL. (As shown in Development Section Plate No. 5)

**During Second Year:** During second year mining will be carried out from 445 mRL to 415 mRL. (As shown in Development Section Plate No. 5)

**During Third Year:** During third year mining will be carried out from 450mRL to 424 mRL. (As shown in Development Section Plate No. 5)

**During Fourth Year:** During Fourth year mining will be carried out from 424mRL to 406 mRL. (As shown in Development Section Plate No. 5)

**During Fifth Year:** During Fifth year mining will be carried out from 445RL to 408mRL. (As shown in Development Section Plate No. 5)

## **7. C PROPOSED RATE OF PRODUCTION WHEN MINE IS FULLY DEVELOPED**

### **Production Schedule:**

The Production Schedule would be @ 333.33 Tons per day. The haul road is available up to the faces and sites of stock. Working of mine will be carried out top downwards. Approach roads will be provided up to faces and infrastructure in future. The mineral is proposed to transport by tippers and trucks. Water tankers with sprinkling arrangement will be deployed for suppression of dust at haul roads during moving machineries. Wet drilling will be carried out.

The Targeted production is @ **333.33 tons per day**. Annual production considering 300 working days in a year = 333.33 x 300 = 1,00,000 **Tons per annum**. ± 20% variation may take place in target as per market requirement.

Year wise expected production during the currency of Simplified Mining Scheme will be as follows:

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**Table 11 Targeted Annual Productions of Masonry  
Stone (Cheja Patther)**

Year	Masonry Stone (Cheja Patther) in tones
01-04-2018 To 31-03-2019	1,00,000
01-04-2019 To 31-03-2020	1,00,000
01-04-2020 To 31-03-2021	1,00,000
01-04-2021 To 31-03-2022	1,00,000
01-04-2022 To 31-03-2023	1,00,000
<b>Total</b>	<b>5,00,000</b>

**7. (d) MINEABLE RESERVES AND ANTICIPATED LIFE OF THE MINE**

As per paragraph 3.(c) the mineable reserve of Masonry Stone (Cheja Patther) are **tons. 6,67,969** Targeted Production is proposed as **1,00,000 Tons per annum** of Masonry Stone (Cheja Patther). The life of the Mine worked out to be around **6.67 Life of mine may vary as per actual production obtained.**

**7. (e) CONCEPTUAL MINING PLAN**

Conceptual Mining plan is the ultimate limit of the pit (UPL) which is assumed at the end or life of mine. Average general ground level of the area is 400 mRL around lease area and Hill Top is at 450 mRL, from 450mRL to 400ugl is proposed to go up to depth of 50m. From 400ugl to 370 bgl is proposed to go up to depth of 30m. Hence, total Mining is proposed to go up to depth of 80 m from the Hill top. Mining is proposed up to 370 mRL. Water table in the area is about 60 m bgl (340 mRL). Mining below water table is not proposed. However, if water table is likely to be intersected during mining, prior permission will be obtained from competent authority. The waste dump will not exist at the end of life of mine. Plantation at proposed site will be carried out to enhance green belt area and to confine the Air pollution arising out of mining activity.

**7. (f) Ultimate extent and size of the pit**

General Ground Level of surrounding of Lease area is 400 mRL. Mineral is present in the entire lease area. Mining will be carried out by opencast semi-mechanized method with each bench height of 6 mtr. Permission will be sought from DGMS if lessee goes for more bench height than 6 mtr. Drilling, Blasting will be carried out for easy excavation of rocks. Benching will be

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carried out from top downwards. Haul road is proposed to extend up to faces as mining advances. The ultimate extent and size of the pit is as follows.

**Table 12**

Deposit	Pit (Approx.)
Length of working	85 meters
Width of working	85 meters
Depth of working	50 meters Ugl 30Mts bgl ( <i>i.e</i> 370mRL) (probable limit)

**7. (g) The final slope angle adopted**

Considering the stability of rocks the final slope angle of pit or say ultimate pit slope is proposed  $45^{\circ}$  from horizontal. This slope angle will remain quite safe for these Masonry Stone deposits.

**7.(h) Ultimate capacity of dumps**

(a) This is a Masonry Stone mining. In Masonry Stone all size fractions of Masonry Stone are usable for different purposes during construction hence, practically no waste is generated therefore no waste dump will remain at the end of life of mine, hence no waste dump stack and reclamation has been proposed.

(b) **Stabilization of Dumps:** The waste dump is not formed at site, so there is no proposal for stabilizations of waste.

(c) **Ultimate Pit Limit:** The surface limit of the working at the end of lease period is Ultimate pit limit. This limit remains inside lease area by leaving 7.5 mtr safety barriers from adjoining lease boundary.

**7. (i) BLASTING:**

The overburden is unconsolidated soil, sand material. The mineralized Sand Stone bed is basically soft and mining will be done with the help of earth movers equipments. The mine is run by skilled labors and lessee may use limited control blasting for removing the OB in such type of mining.

Blasting is proposed to win the OB during the course of mining. Mainly deep hole control blasting shall be practice for the primary blasting for this purpose wagon Drill machine will be utilized which has hole diameter 105 to 115 mm and depth of hole shall be 9-12 m, the drill machine shall be pneumatically operated to supply compressed air for the drilling machine operation with diesel operated compressor of 600 c.f.m capacity.

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Short hole and secondary blasting is also proposed by jack hammer drills and also Rock Breaker is proposed to employ for secondary breaking which is driven by tractor mounted compressor or pocklane machine. The charge will not be more than one third of the length of the hole drilled to achieve the optimum powder factor.

In all one wagon drills machine and two Jack Hammer drill machine are employed to achieve the targeted production.

## **Broad blasting Parameters for heavy charge blasting**

1. Spacing	:	3 to 3.5Mtr
2. Burden	:	3 Mtr
3. Depth of hole	:	6 Mtr.
4. Tonnage of each hole	:	160 t
5. Charge per hole	:	18.78 kg.
6. No. of Cartridge	:	2
7. No. of round alternate day	:	1
8. No. of row	:	1
9. Wt. Of Cartridge	:	2.5 Kg
10. Powder Factor	:	8.38 tones /Kg

## **(b) Broad blasting Parameters for light charge blasting**

The Board blasting parameters will be as under: -

1. Spacing	:	0.80 Mtr
2. Burden	:	1.00 Mtr
3. Depth of hole	:	1.6 Mt.
4. Tonnage of each hole	:	4.77 Mt
5. Charge per hole	:	0.60 kg.
6. No. of Cartridge	:	1
7. No. of round per day	:	1 to 2
8. No. of row	:	1
9. Wt. Of Cartridge	:	125 gm
10. Powder Factor	:	4.69tones/Kg

## **Type of explosives used/ to be used**

Following explosives will be used for carrying out blasting.

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- a. ANFO (AN 94%, FO 6%)
- b. Slurry Explosive
- c. Detonating Fuse
- d. Electric Delay Detonator

## **1. Powder factor in ore and overburden/waste/development heading.**

Powder factor in case of deep hole blasting is 8.38 tones/ kg of explosives and in case of light hole charge is 4.69 tones/ kg.

## **2. Whether secondary blasting is needed, if so describes it briefly.**

To break up the larger fragments secondary blasting may be carried out wherever necessary.

## **3. Storage of explosives (like capacity and type of explosive magazine).**

Explosive is obtained on contract basis from the authorized dealer as and when required on the same day when blasting is to be carried out.

### **Safety precautions**

Following precautions will be undertaken:

- i. Stemming should be strong and adequate and not less than  $1/3^{\text{rd}}$  length of the hole. This will check blowouts.
- ii. Blasting should be avoided in early morning and late evening hours to avoid temperature inversion conditions.
- iii. The burden at any point in the charge length should not be less than optimal.
- iv. Blasting may be avoided at the time when strong surface winds are blowing towards inhabited area.
- v. The burden at any point in the charge length should not be less than optimum.
- vi. The wind direction at the time of blasting should not be towards the structure to be protected, especially if wind speed is high.
- vii. Blasting will be carried out during lunch hours 1 to 2 PM.
- viii. Proper warning system will be practised before blasting at site
- ix. Drilling and Blasting will be carried out as and when required.
- x. Blasting would be carried out by license magazine holder in presence of competent person on higher basis.

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Masonry stone cannot be worked without drilling and blasting. However, blasting with heavy and mild charge will be carried out, depending on the requirement. Broad blasting parameters in general are as under:

**Table 13 Broad Blasting Parameters for Deephole blasting**

1.	Spacing	3.0 m -3.5 m
2.	Burden	3.0 m
3.	Depth of hole	6.0 m
4.	Diameter	100 mm
5.	Powder Factor	9 Kg/MT

**Table 14 Broad Blasting Parameters for Light Charge Blasting**

1.	Spacing	2.0 m
2.	Burden	1.5 m
3.	Depth of hole	1.8 m
4.	Diameter	32 mm
5.	Powder Factor	5 Kg/MT

**7. (j) Storage of explosive:**

As mining operations is on a limited scale, therefore requirement of explosives will be very low. Therefore, no explosives will be stored at the mine site. Explosives required for blasting will be transported from nearby magazine in approved explosives required for blasting will be transported from nearby magazine in an approved explosive van and the residue explosive after blasting will be returned to the same magazine. There will not be any infrastructure and mining operations in 50 meter radius of magazine. Suitable provision of fencing, guard huts etc will be done as per Indian Explosive Act Blasting operation will be done by blaster/mines manager appointed by the lessee.

**7. (l) MINE DRAINAGE**

**(k) Likely depth of water table**

The general ground level of lease area is around 400 mRL.

The level of ground water table is varying between 60 m below Surface Level. It fluctuates around 10 meters in dry and wet season. Thus during dry season the level of ground water table is 340-330 mRL.

Mining within lease area is proposed up to 370 mRL hence Mine working will not intersect water table. There is zero discharge of mine water during mining. Hence no mine water effluent is generated from mine.

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The rainwater of direct precipitation will collect in a working, which is naturally run off in natural drains around mines. No obstruction is made due to mining.

**(ii) Depth of Workings:**

Proposed deepest working will be far above the ground water table. It will be up to **370 mRL** (probable limit of working) which is far above the level of ground water table 340 mRL.

Thus ground water will not be intersected in the workings.

**(iii) Quantity and quality of water encounter**

The monsoon water of direct precipitation will collect in mine workings and this water has to be removed after the rains in case of deep cuttings.

The dewatering is proposed through a sump made in the bottom of the pit to check the silt.

The dewatering is proposed in nearby natural water course. No ground water is intersected in mine workings. Quality of drinking water of nearby tube well is drinkable and potable.

**7. (m) SURFACE PLAN AND SECTION:**

This is an existing mine and working is presently going on. Existing working is shown on plate no, 4

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**(Chapter No. 8)**

8. Year wise annual programme of mining for next 5 years is shown on development plan & section as per Plate No.-4.

**Table 15 Showing details of Production for next five years**

S.No.	Masonry Stone (Cheja Patther) in tones
01-04-2018 To 31-03-2019	1,00,000
01-04-2019 To 31-03-2020	1,00,000
01-04-2020 To 31-03-2021	1,00,000
01-04-2021 To 31-03-2022	1,00,000
01-04-2022 To 31-03-2023	1,00,000
<b>Total</b>	<b>5,00,000</b>

**Mineral Beneficiation**

The Masonry Stone shall be either sold to the Crusher units or the lessee may install Stone Crusher unit/units of 200 TPH Capacity each either in the Mining Lease as per the requirement.

**SURFACE TRANSPORT**

Mechanical loader, rock breaker will be engaged for extraction & loading of mineral and for construction of haul road and bench development.(Specification and list of machinery deployed in miscellaneous activities i.e. mining, loading, sizing, transporting, crushing, screening and processing etc are given in the Mining chapter.

The mineral produced will be dispatched to the consignee by trippers and trolley

**SITE SERVICES**

**Office and store:** - An office –cum-store will be constructed near the pillar A in the first year of mining plan as shown proposed year wise development plan plate no-5.

**Water supply:** - The water is required for drinking purpose only drinking water is available by the water tanks in the lease area.

**Power supply:** - Electric line is passing through the lease area so lessee will take connection from this line wherever required.

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**Workshop:** - As already stated the mining is semi mechanized so there is requirement of work shop.

**First-aid facility:-**A first aid box with all necessary materials will be kept all the times in the office building for use as and when required

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**(Chapter No. 9)**

9. **Details of the employment: (Management Plan) technical/skilled/unskilled persons etc.**

**Technical and Supervisory Staff:**

A Part time Mining Engineer and one mining mate are sufficient to supervise mine. If Lessee deploys HEMM Machine then Lessee has to employ full time certificate holder second class mines manager for supervision of mine.

A clerk is proposed for maintaining the records.

A watchman is proposed for ward and watch duty.

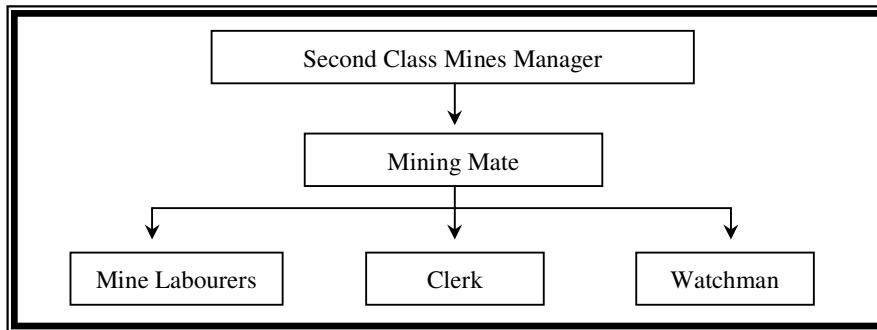
**Laborers**

The following laborers are proposed:

Skilled - 6 (Operation of Excavators, Dumpers)

Unskilled Labour – 15

**The organization chart is proposed as follow:**



**Fig. 1 Organization Chart**

**SIMPLIFIED MINING SCHEME WITH PROGRESSIVE MINE  
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**(Chapter No. 10)**

**10. Measures taken and to be taken for land restoration, reclamation and plantation in/or nearby lease area.**

Plantation will be carried out of lease or other can be prescribed by lessee.

In Summarized, some details are mentioned in this chapter. The Lease area is mostly rocky, plantation will be carried out at earmarked site as shown in the Plate No.5 The greenery will improve aesthetic environment of the area at the same time it will help in preventing environmental pollution. During plantation, it is suggested that the preferences will be given to local species of trees, shrubs and herbs. Grass species will be propagated to bind the loose particles of soil. Plantation will be carried out during every monsoon season. Selection of plants based on the resistance to dust and adverse climatic conditions will be made. Green belt on proposed plantation site as shown on Plate No.5 will be carried out. 27 plants per year in every monsoon season would be planted; dead plants will be replaced with new plants.

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## (Chapter No. 11)

### **11. Measures taken and to be taken for protection of environment in and around mining lease area.**

Impacts on surrounding environment would be mainly due to:

- Anthropogenic activities such as habitat alteration
- Noise
- Land degradation

As the mining lease area is in non-forest land and devoid of vegetation thus the area does not support such as endemic, endangered or threatened species. Therefore, there will be no adverse impact of the mining activity on animals found beyond the mining lease area and the impact on the fauna of the buffer zone due to the mining activity will be marginal. However, measures will be taken to minimize the impact of mining on faunal environment of the area are as follows:

- Adverse impacts of air, water, land & noise pollution on fauna will be reduce with the help of development of thick vegetative cover at the periphery of mine area and other un-worked area as per Plate No.5
- Greenery development in mine area, as per environment management plan which will further improve the local biodiversity of the area and helps in creating suitable environment for local faunal species by providing habitat to birds, insects from distant places.
- Adopt environmental friendly management strategies and practices such as facilitating Parindey (Hanging water pots) for birds and small cemented water tanks for local animals at different sites of study area.

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**(Chapter No. 12)**

**12. Measures taken and to be taken for dumping overburden, stacking of top soil and utilization of top soil.**

- As there is some top soil in the area thus stacking of top soil is proposed. If some soil comes across during mining operation, then it will be stacked at temporary stack and will be used for plantation in every monsoon season.
- Some overburden will be generated, hence, it will be proposed temporary.

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## (Chapter No. 13)

### 13. Measures taken and to be taken for the control of water, noise and air pollution.

#### ➤ **Surface Water:**

There is no water course passing through the lease area. Water channel streamlets flows during monsoon season. No natural water course is being altered.

#### ➤ **Ground Water:**

The level of ground water table is varying between 60 m below Surface Level. It fluctuates around 10 meters in dry and wet season. Thus during dry season the level of ground water table is 340-330 mRL.

Mining within lease area is proposed up to 370 mRL hence Mine working will not intersect water table. There is zero discharge of mine water during mining. Hence no mine water effluent is generated from mine.

The rainwater of direct precipitation will collect in a working, which is naturally run off in natural drains around mines. No obstruction is made due to mining.

Mining in the area will not intersect groundwater table at any stage of mining hence no impact of mining on ground water is anticipated; therefore measures are not required.

#### ➤ **Measures to Control Air Pollution:**

The magnitude of air pollution in the mine varies with the method of mining, type of minerals and level of mechanization. The air pollution in the form of dust, fumes and gases are generated by drilling and blasting operations, movement of mining machineries, loading and unloading activities etc.

#### ➤ **Control of Gaseous Pollution:**

In mining activities the sources of gaseous emissions is from blasting and emissions from diesel engines of machineries. The blasting in the area will be carried out on small scale controlled blasting will be carried out by use of delay detonator. The emissions from mine machineries can be controlled by proper maintenance of mine machineries and other transport vehicles used in mining operations. The gaseous pollution in the mining area is within permissible limits.

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- **Control of dust Pollution:**

The main pollutant in air is suspended particulate matter (SPM), which is generated during various activities of mining such as, removal of overburden, drilling, blasting and movement of transport vehicles. The following precautions will be taken to minimize generation of dust during different mining operations.
- **Annual/Six monthly monitoring**

for Air, Noise, and Water & Soil will be carried out to measure effect of mining to mine site & surroundings. Monitoring report will be submitted to competent authority.
- (a) **During Drilling**
  - (i) Sharp drill bits will be used for drilling.
  - (ii) The drill machine will be operated with dust extractor arrangement.
  - (iii) Drill operators and helpers will be provided with personal protective appliances.
- (b) **During Blasting**
  - (i) Blasting will be carried out in day time between 1 P.M. to 2 P.M., during this time movement of men and animals is very feeble. Proper warning signals will be given before blasting.
  - (ii) Blasting will be carried out by competent persons and all the precautions laid down in MMR, 1961 will be followed.
  - (iii) Secondary blasting will not be carried out in the mine.
  - (iv) Proper stemming per hole also minimizes dust and fly rocks.
  - (v) Rock breaker will be used.
- (C) **During Transport operations**
  - (i) All the haul roads will be kept leveled, wide and compacted.
  - (ii) Regular water spraying will be carried out on haul roads in the mining area to suppress dust.
  - (iii) In order to reduce dust pollution, green belt cover will be developed around the dumps, mining boundary and along roads etc.

In addition to above, plantation will be carried out by the Association/Agency appointed by Association at the place as shown on Plate No. 5

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**Table 16 Stage wise plantation details in cluster**

**Area as marked in Plate no.5**

Year	No. of Plants	Replacement sapling about 20%
I	26	5
II	26	5
III	26	5
IV	27	6
V	27	6
<b>Total</b>	<b>132</b>	<b>27</b>

- **Spacing between plants will be kept 4mx4m**
- **33% area of Lease out area will be covered under plantation at the end of life of mine.**
- **Measures to Control Impacts of Noise**
  - (i) All the machineries including transport vehicles will be properly maintained to minimize generation of noise. Adequate silencers in the machineries will be provided to reduce generation of noise.
  - (ii) Drilling with sharp bits also minimizes generation of noise.
  - (iii) Controlled blasting is being carried out with proper charge of explosive to minimize noise during blasting.
  - (iv) Secondary blasting is not carried out in the mine area.
  - (v) Creation of dense plantation in mining area will also reduce propagation of noise outside the core zone.
- **Measures for Ground Vibration and Fly rocks:** The following precaution will be taken to minimize ground vibration and fly rocks though there is no permanent structure which may be damaged due to vibrations.
  - (i) Blasting will be carried out by competent persons in the supervision of Mine's Manager.
  - (ii) Not more than 10 holes will be blasted at a time.
  - (iii) Stemming length is kept more than one third of the hole, it helps in reduction of ground vibrations.
  - (iv) Before drilling and blasting, the face is cleared with loose rock which may be otherwise source of fly rock.
  - (v) The blast holes will be drilled slightly inclined towards the free face. This reduces noise, vibration and fly rock

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**(Chapter No. 14)**

**14. CORPORATE SOCIAL RESPONSIBILITIES (CSR)**

Mining activities have invariably brought a drastic change in the environment including the society connected with region. Mostly remote areas deprived from urbanization and influence of modern civilization fall within the limits of mine development. The impact of this mining project will be positive. Majority of the work force shall be local people coming from and within the district. The local people will get employment opportunities, better medical and educational facilities etc., mainly due to the mining operation from this project. In addition to this, literacy rate and living standards shall increase due to the enhanced earning of villagers. This area will also have better medical, educational, transportation and communication facilities, which are also directly, linked with the establishment of the mining project. In the buffer zone villages, the masonry stone mining project will be one of the major economic activities resulting in generation of revenues to the state and central governments by way of royalties, taxes, etc., and the living condition of the persons shall improve, thus contributing to the overall up gradation of living standards. There would tremendous earning of revenue by raw material alone from this region.

**CONCLUSION**

In the light of above observations, it can be concluded that above mining project near village – Saiwad Tehsil – Jamwa Ramgarh, District – Jaipur of Rajasthan state will be safe from environmental viewpoint. Quartzite and Masonry Stone mining on small scale will not affect the environment of the area. The lessees have agreed to implement the proposed Environment management plan as well as conditions imposed by RSPCB as deemed fit and necessary from time to time

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**(Chapter No. 15)**

**15. Details of health checkup and insurance of all employed persons**

The occupational hazards would be related to dust pollution, noise and blasting. The persons may get injuries from slope failures, moving machineries, fall from high places, fly rocks during blasting etc. DGMS has given necessary guidelines for safety against these accidents. The following precautions will be taken to protect the workers from these hazards.

- (i) All the safety equipments such as hard boots, helmets, masks, ear plugs and safety belts will be provided to workers working in mine.
- (ii) All the persons will be instructed and provided training for operation of machinery
- (iii) Separate foot paths will be provided for mine workers.
- (iv) A well equipped first aid kit will be kept ready at the mine site.
- (v) Mining and blasting will be carried out with all precautions laid down in MMR, 1961. Proper warning is being given before blasting.
- (vi) In order to assess the health and hygiene, the health check up or medical tests will be conducted once in a year by cluster association. All employees will be medically examined as per the Mines Act, 1952 periodically and record will be maintained. Mine safety and road safety awareness signals will be kept for mine workers. Training for workers will be provided about safety at mines.
- (vii) Personal accident claim insurance policy will be provided to workers deployed in mine.

**M.K Gupta**

(SME/JP/RQP/2015/07)

**(Signature of Lessee)**

**SIMPLIFIED MINING SCHEME WITH PROGRESSIVE MINE  
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**Progressive Mine Closure Plan**

**(Submission under Rule 29(13) of  
RMMCR 2017)**

**SIMPLIFIED MINING SCHEME WITH PROGRESSIVE MINE  
CLOSURE PLAN**

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Submission under Rule 29(13) of RMMCR 2017

**(Chapter No. 16)**

**16.0 PROGRESSIVE MINE CLOSURE PLAN**

**16.1 INTRODUCTION**

This Progressive Mine Closure plan is for Mineral Masonry Stone Mining Lease No. 44/1997, for mineral Masonry Stone, N/v - Saiwad, Tehsil - Jamwa Ramgarh, Dist- Jaipur, (Raj.) over an area of 1.0 hect. Under Rule 29 (13) of RMMCR 2017

Lease holder **Shri Puran Mal Meena Address: - R/o:- Plot No. C - 46, Bai Ji Ki Kothi, Jhalana, Dhoongri, Jaipur (Raj.)**

is carrying out mining for mineral “Masonry Stone” from lease area. This is held mining lease of area 1.0 hectare (**M.L.NO.- 44/1997**) for Masonry stone (Cheja Patther), N/V - Saiwad Tehsil – Jamwa Ramgarh, District:- Jaipur (Rajasthan)

**16.2 REASON FOR CLOSURE**

The mine is proposed to close on account of exhaustion of economical recoverable Masonry Stone reserve in lease holds area. The mine may be closed on account of others unforeseen reasons i.e. force measures of Government directives etc. for which information and notice shall be seemed to concerned Govt. authorities and departments.

**16.3 STAUTORY OBLIGATIONS**

The lease number 44/1997 was applied by **Shri Puran Mal Meena** to the Government of Rajasthan. The lease period of 30 years. The lessee shall follow all applicable rule & regulations under RMMCR 2017.

**16.4 CLOSURE SCHEME PREPARATION**

**16.4.1 Lessee name and address:**

**Shri Puran Mal Meena  
S/o Shri Kalayan Sahay Meena**

# SIMPLIFIED MINING SCHEME WITH PROGRESSIVE MINE CLOSURE PLAN

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R/o:- Plot No. C-46, Bai Ji Ki Kothi, Jhalana, Doongri, Jaipur (Raj.)

## 16.4.2 Name and address of the recognized person who prepared this progressive closure Scheme:

**MUKESH KUMAR GUPTA**

Registration No. : SME/JP/RQP/2015/07

Validity : Up to Year 2020

Address of RQP : Plot No.-21 First Floor, Aarna-2 Tower  
Kartarpura Industrial Area, Jaipur (Rajasthan)

Phone No. : 0141-4913716 (O), Mobile 9799-744347

Email id : [mkguptarqp@gmail.com](mailto:mkguptarqp@gmail.com),  
[rme.envirotech@gmail.com](mailto:rme.envirotech@gmail.com).

## 16.5 Name of the Executing Agency

Not Applicable

## 16.6 MINE AREA DESCRIPTION

### 16.6.1 GEOLOGY

Geology is same as described in approved mining plan in para 3.3

### 16.6.2 Total Reserve (yet to be excavated)

## 16.7 GEOLOGICAL RESERVES AND GRADE

### Total Reserve

Nature of Reserve	UNFC	Rec. Mineral 95% (MT)	<u>Waste Mineral 5%</u> (MT)
Proved	111	2,67,187	14,063
Probable	121	4,75,000	25,000
<b>Total</b>		<b>7,42,187</b>	<b>39,063</b>

Mineable proved Mineral = Proved Mineral – Mining Losses & Mineral Block  
in benches (10%)

$$= 2,67,187 - 26,718$$

$$= 2,40,469 \text{ MT}$$

# SIMPLIFIED MINING SCHEME WITH PROGRESSIVE MINE CLOSURE PLAN

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Mineable Probable Mineral = Probable Mineral – Mining and Mineral  
Block in Benches (10%)  
**= 4,75,000 – 47,500**  
**= 4,27,500 MT**

## Waste Generated

Total waste generated about 74,218 MT .It will be used in road maintenance and filling of low lying area.

## 16.8 Anticipated Life of Mine

Average production proposed is about of 1,00,000 MT of per annum. Therefore Anticipated Life = Mineral yet to be excavated/ annual production.

$$= 6,67,969/1,00,000 = 6.67$$

= 6 years and 7 month

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

## 16.9 MINING METHOD

Semi Mechanized Mining Method shall be adopted.

Bench Parameters shall be – 1. Height - 6m 2. Width - More than 6m

## 16.10 YEARWISE PRODUCTION OF MASONRY STONE.

**Table 16 Targeted Annual Productions of Masonry Stone (Cheja Patther)**

Year	Masonry Stone (Cheja Patther) in tones
01-04-2018 To 31-03-2019	1,00,000
01-04-2019 To 31-03-2020	1,00,000
01-04-2020 To 31-03-2021	1,00,000
01-04-2021 To 31-03-2022	1,00,000
01-04-2022 To 31-03-2023	1,00,000
<b>Total</b>	<b>5,00,000</b>

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## 16.10.1 DISPOSAL OF WASTE

Total waste generated about 74,218 MT. this 10% may also find market at times as GSB for construction of Roads. Therefore, 10 % waste may be stored temporarily and ultimately there may not be any waste in the area.

If the waste does not find any market then It will be used in road maintenance and filling of low lying area.

## 16.10.2 Progressive Mine Closure Scheme

## 16.10.3 Mined Out Land planning.

As per the year wise development plan the deposit will worked by making benches in the pit and the mineral will not be exhausted of fully depleted up to next 5 years in this deposit so no activities are suggested i.e, back filling/ reclamation/ rehabilitation etc. hence no activities regarding reclamation of excavated area is proposed in this closure plan.

Care will be taken to degrade the minimum area for carrying out mining operations so that their may be minimum environmental pollution.

### Mined Out Land Planning

The mined out land Planning is required to be done to ensure that:

- i. As soon as the land matures, it shall be made ready for future use.  
At all the times mining pits and the roads shall be maintained in safe condition to prevent land slides etc. and stability shall not be disturbed.

Water drainage shall be maintained and cleaned in a manner that surface water shall not cause quarry flooding.

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

	*All the areas are given in Hectares	Forest Land	Pvt. Ag. Land	Govt. waste Land in hect.	Pvt. Waste Land in hect.	Total in hect.
1	Pits & Quarries	----	----	0.6	----	0.6
2	Top soil Dump	----	----	----	----	----
3	OB Dumps (Old)	----	----	0.0	----	0.0

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4	Stack Yard	----	----	----	----	----
5	Sub Grade stack Yard	----	----	----	----	----
6	Infrastructure ( Work shop, administrative Building)	----	----	----	----	----
7	Roads	----	----	0.0025	----	0.0025
8	Railway	----	----	----	----	----
9	Green Belt	----	----	0.2(out side)	----	0.2(out side)
10	Tailing Pond	----	----	----	----	----
11	Effluent Treatment Plant	----	----	----	----	----
12	Mineral Separation Plant	----	----	----	----	----
13	Township	----	----	----	----	----
14	Non Utilized	----	---	0.3975	----	0.3975
<b>Total</b>		----	----	<b>1.0</b>	----	<b>1.0</b>

*Table-25: Present land use pattern*

**Land reclamation & Tree Plantations**

The land reclamation and afforestation proposals are presented in plate 5 of the Mining Scheme. The Lessee is committed to take care of and reclaim the applied mining area as proposed in the Scheme. 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.

**Post Mining Land Use Scheme**

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

**16.11 Proposed Land pattern during next five years**

**Table11.2 Proposed Land use pattern during next five years**

	*All the areas are given in Hectares	Forest Land	Pvt. Ag. Land	Govt. waste Land	Pvt. Waste Land	Total
1	Pits & Quarries	----	----	0.72	----	0.72
2	Top soil Dump	---	---	0.002	----	0.002
3	OB Dumps proposed	----	----	0.002	----	0.002

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4	Mineral Stack Yard	---	---	0.004	----	0.004
5	Sub Grade stack Yard	----	----	----	----	----
6	Infrastructure (Work shop, administrative Building)	----	----	----	----	----
7	Roads	----	----	0.04	----	0.04
8	Railway	----	----	----	----	----
9	Green Belt	----	--	0.2(outside) 0.13(inside)	----	0.2(outside) 0.13 (inside)
10	Tailing Pond	----	----	---	----	---
11	Effluent Treatment Plant	----	----	----	----	----
12	Mineral Separation Plant	----	----	----	----	----
13	Township	----	----	----	----	----
14	Non Utilized	----	----	0.102	----	0.102
<b>Total</b>		----	----	<b>1.0</b>	----	<b>1.0</b>

## 16.12 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 11.3 Proposed Land use pattern end of life of mine**

	*All the areas are given in Hectares	Forest Land	Pvt. Ag. Land	Govt. waste Land	Pvt. Waste Land	Total
1	Pits & Quarries	----	----	0.87	---	0.87
2	Top soil Dump	---	---	----	----	----
3	Backfilled area	----	----	----	---	----
4	Mineral Stack Yard	---	---	----	----	----
5	Sub Grade stack Yard	----	----	----	---	----
6	Infrastructure (Work shop, administrative Building)	----	----	----	----	----

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7	Roads	----	----	---	----	---
8	Railway	----	----	----	----	----
9	Green Belt (Inside and outside of lease area) ha.	----	----	0.13(Inside) 0.2(Outside)	----	0.13(Inside) 0.2(Outside)
10	Tailing Pond	----	----	---	----	---
11	Effluent Treatment Plant	----	----	----	----	----
12	Mineral Separation Plant	----	----	----	----	----
13	Township	----	----	----	----	----
14	Non Utilized	----	----	----	----	----
<b>Total</b>		----	---	<b>1.0</b>	----	<b>1.0</b>

### 16.13 Post Plantation Care

Post Plantation cares including provision for Watering them. Most of these trees will be Planted during the rainy season. The type of trees proposed usually does not require much care after Plantation. However, the management will allocate workers to look after them, on a regular basis. This Green Belt will be properly fenced. The water for the purpose of Plantation during the period other than rainy season will be fetched from the wells.

The Plantation Scheme proposed above would not only help in the restoration of the land use but also improve the eco-system of the area.

It is suggested that a joint effort be made in consultation with the experts on the soil conservation, agro-forestry and a forestation, so that a systematic land use pattern could be evolved. The Lessee of this mine is willing to take part in such an effort.

### 16.14 Water Quality Management and Impact Assessment

#### Surface Water

The working pits and proposed waste rock dumpsites shall be away from any seasonal water stream. Thus there will be no impact of mining in the natural flow of water and the drainage system in the applied lease area.

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## Ground water

The area is consisting of hillocks. No nallas are flowing through the area. As per study and available data from the nearby No water bodies. the likely depth of water table is 60 mts.

## Water quality

The mineral produced and the waste rocks generated are not likely to pollute the water quality in any manner.

## 16.15 Air Quality Management

The only source to pollute air shall be the generation of dust while undertaking the manual mining operation including sizing the mineral. But the level of dust concentration shall be practically of very low order.

## 16.16 Proposed Plantation

**Table11.4 Proposed Plantation**

	Location	No. of Trees	Area
Present	----	Nil	Nil
End of five year period	Statutory barrier & Nearby haul road, or nearby Govt. school	80	0.2 hect.
End of Life of Mine	Statutory barrier & Nearby haul road, or nearby Govt. school	132	0.33 Hectare

## 16.17 Disposal of Mining Machineries

Most of the machineries used for mining activity are being hired on contract basis hence the machineries shall be carried with operating contractors from the mine after completion of contract.

## 16.18 Safety And Security

Most of the mined out area is proposed for reclamation in a systematic manner by filling it back by overburden removed during mining and the area is proposed to bring to the original landscape. The area which is being not reclaimed shall be utilized for water storage and shall be properly fenced to

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prevent any unauthorized entry in to the area. The water from this area shall be discharged after treatment for agriculture use. All the safety measures as per the mine rules will be provided. For safety purpose the following measures are also proposed:

- a. Barbed wire fencing is proposed around all the pits, to check the Inadvertent entry of livestock in the mining area (excavation).
- b. Security Guard are proposed for ward and watch duty and for security purpose. He will not allow any general public person and livestock near the cutting of the proposed workings.
- c. The safe workings are proposed in the supervision of technical and qualified supervisory staff.

## **16.19 Disaster Management and Risk Assessment**

The proposed workings are by opencast Semi Mechanized 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.

## **16.20 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.

## **16.21 ECONOMIC REPURCUSSION OF CLOSURE OF MINE AND MANPOWER RETENCHMENT**

## **16.22 Number of Local Residents Employed**

As per the Mining Scheme 6-15 workers other than the supervisory staff shall be employed for the mining activity. The labours employed shall be from the nearby villages. Half of them are 6 skilled labours and the other half shall be 15 unskilled labours. Some local habitants of the area will also get indirect job from the mining activities such as transportation grinding etc.

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**16.23 Status of continuation of the family occupation and scope of joining the occupation back.**

As the mine is not supposed to be closed in the proposed period of this Scheme, so this point is not applicable.

**16.24 Compensation given or to be given to the employees connecting with sustenance of himself and their family members.**

The compensation to the employees with sustenance of himself and their family members will be provided as per Regulation.

**16.25 Satellite Occupations Connected To the Mining Industry.**

The life of applied mine is much more than the period of this Progressive Mine Closure Scheme hence this is not applicable presently.

**16.26 Continued engagement of employment in the abilitated status of Mining Lease area and any other remnant activities.**

Not applicable, in this Progressive Mine Closure Scheme.

**16.27 Envisaged Repercussions on the Expectation of the Society Around Due to Closure of Mine.**

This paragraph is not related to this progressive mine closure Scheme.

**16.28 Financial security : As under rule (14) of RMMCR 2017, Every lease holder shall provide financial security on account of protective, reclamation and rehabilitation measures @ Rs.15000 per ha. If not submitted earlier.**

**Shri Puran Mal Meena**

**SIGNATURE OF RQP**

**(Lessee)**