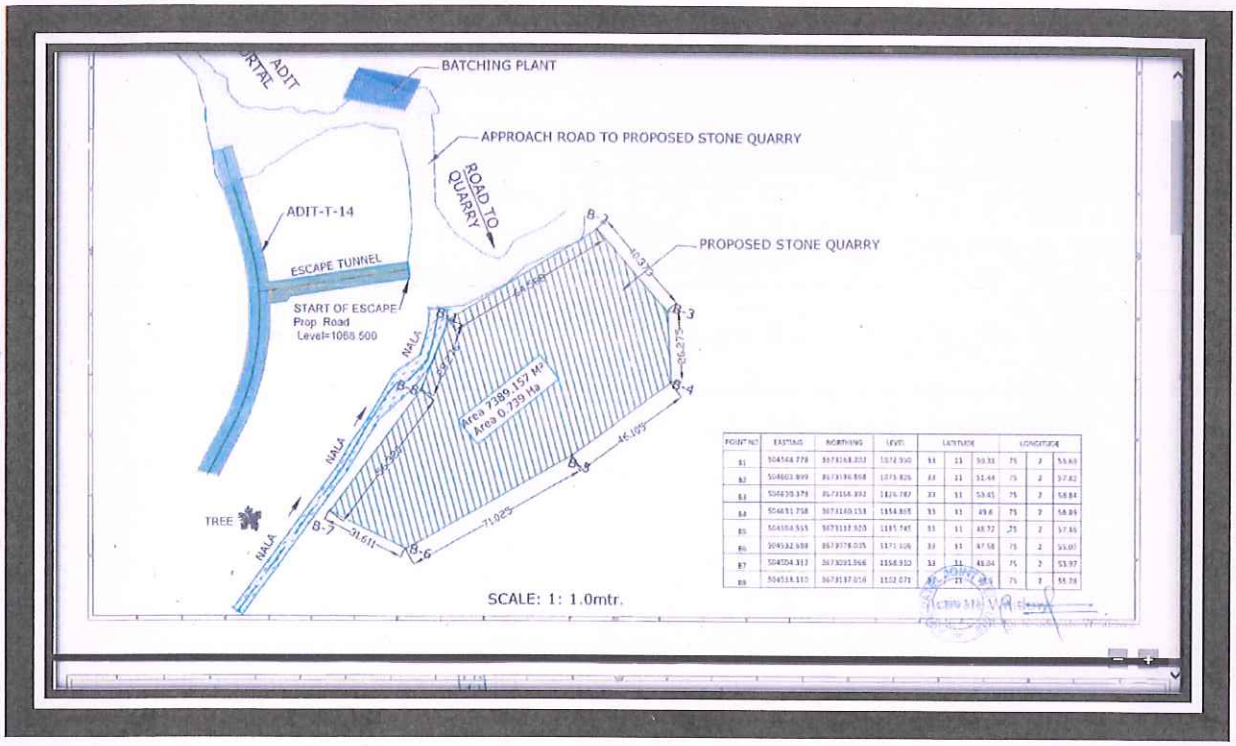
MINING PROPOSALS IN RESPECT OF MASANARY STONE QUARRY NEAR VILLAGE DHEDHA, (TEHSIL GOOL, DISTRICT RAMBAN, JAMMU & KASHMIR (UT)

Area 0.993hectares.

("B□" Category Mine)



PPLICANT:

M/S AGE-PATEL JV, C/O PATEL ENGINEERING LTD, JOGESWARI (WEST) MUMBAI 400102.

CELL NO 84919465329

REPARED BY

AbdulMajidMir

Geotechanical consultant,

Registared Qualified Person from J&K Govt

Rgd. No 11/DGM/RQP/201

AGE-PATEL JOINT VENTURE USBRL T-15

INTRODUCTION:

AGE-PATEL Joint Venture is a reputed construction company with the certificate of ISO 14000:2015, ISO 9001:2015 & OHSAS 18001:2007 C/O Patel Engineering Ltd. The company is registered with IRCON INTERNATIONAL LTD under company Act 1956 vide no IRCON/ J&KCELL/ JAT/ 14/ 1014/K-B/T-15/326/1018, dated 14/04/2016 for package T-15 including construction of Tunnel T-15, part TunnelT-14 including Bridge no-61 (Between km 73.785 to km 860848 approx) on Katra-Banihal section of Udhampur- Srinagar–Baramulla New BG Railway Line project (package T-15, Jammu & Kashmir.

In order to complete the construction work assigned to the AGE-PATEL JV, there is requirement of masonry stones (minor mineral) of suitable specification. The company after making the necessary survey and conducting the specification test identified an area of 0.993 near village Dhedha falling in forest area under compartment no 70/Ar, Range- Gool, Block-Sangaldan, Ramban Forest Division, District- Ramban.

Since the land identified belongs to the forest department, therefore company accordingly has approached the forest authorities for diversion of the identified land for the mining purposes.

The area identified contains the masonry stone (minor mineral) and these stones are required for the construction and development of Udhampur- Banihal rail line by the company.The mining of the minor minerals at the site, after diversion shall be made in accordance with the MM (D&R) Act 1957, after seeking the environmental clearance and consent to operate besides mining permission from the competent authorities.

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1.0 GENERAL

a) Name of Lessee/
b) Address: -
Sangaldan

M/s AGE-PATEL JOINT VENTURE.
C/O Patel Engineering Ltd Village.Mohra Chakani,

Tehsil Gool Dist Ramban-182144
Jammu & Kashmir UT (India)
Phone No. - +91-8899001648
Mobile No...+91-8491946567
Alok.kumar@pateleng.com
bhoj.prasad@pateleng.com

State-

c) **Status of Lessee:-**

AGE-PATEL JV (a joint venture)company is registered with IRCON INTERNATIONAL LTD under company Act 1956 vide no IRCON/ J&KCELL/ JAT/ 14/ 1014/K-B/T- 15/326/1018, dated 14/04/2016 for package T-15 including construction of Tunnel T-15, part TunnelT-14 including Bridge no-61 (Between km 73.785 to km 860848 approx.) on Katra-Banihal section of Udhampur- Srinagar–Baramulla new BG Railway Line project (package T-15, Jammu & Kashmir.

d) Sequence of events regarding grant of lease are given as under:

1. The company after making the necessary survey and conducting the specification test identified an area of 0.993 at Dhedha falling in forest area under compartment no 70/Ar,. Range- Gool, Block-Sangaldan, Division Ramban Forest Division, District- Ramban. The company has applied to the forest department for diversion of said area for mining purposes.

2. Mineral (s) which is the applicant/ lessee intends to mine:-

Masonry Stones/Phyletic Quartzite or Sandstone, (Minor Mineral)

e) Name of Recognized Person under rule 17A of MCR, 2016 or a Person employed under clause (c) of Sub rule (1) of 23 of MCDR, 2017 (Applicable for scheme of Mining only) Preparing Mining Plan

A.M.Mir-9-Jamia pattan-
193121. Cell No-9419458699,
7006353028.
E-mai-ammirdyd@gmail.com.

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2.0 LOCATION AND ACCESSIBILITY

a) Lease Details

Name of mine: - Stone Quarry, Dhedha Tehsil Gool, District Ramban

Lat/ Long of any boundary point.

Point "B1" Latitude 33°11' 50.35"N, Longitude 75° 02' 55.69"E.

Details of Applied area with location map

Forest (Specify)	Area (ha)	Non-forest	Area(ha)
FOREST LAND	0.0.993	(i) Waste land	NIL
		(ii) Grazing Land	------
		(iii) Agricultural land	------
		(iv) Others	--------

Total lease area= 0.993 hectors.

i) Taluka- Ramban, Village- Dhedha

ii) District Ramban, J&K

(UT). iii)

Existence of public road/railway line, if any nearby and approximate distance:-

No public road or Railway line exists in or near the area. However, there exist roads developed by the construction company engaged in the construction of Rail line project for which the Masonry stones from this

quarry are needed. The mine will be approached with existing road and no new road has to be constructed.

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Topo-sheet no. with latitude & Longitude of all corner boundary point/ pillar.

Topo-sheet no	43O/2, 43O/3		
Latitude & Longitude of all corner boundary point/ pillar.	Pillar No	Latitude	Longitude
	Pillar "B1"	33°11' 50.35"N	75° 02' 55.69"E.
	Pillar "B2"	33°11' 51.44"N	75° 02' 57.82"E.
	Pillar "B3"	33°11' 50.45"N	75° 02' 58.84"E.
	Pillar "B4"	33°11' 49.60"N	75° 02' 58.89"E.
	Pillar "B5"	33°11' 48.72"N	75° 02' 57.46"E.
	Pillar "B6"	33°11' 47.58"N	75° 02' 55.07"E.
	Pillar "B7"	33°11' 48.04"N	75° 02' 53.57"E.
	Pillar "B8"	33°11' 49.50"N	75° 02' 55.28"E.

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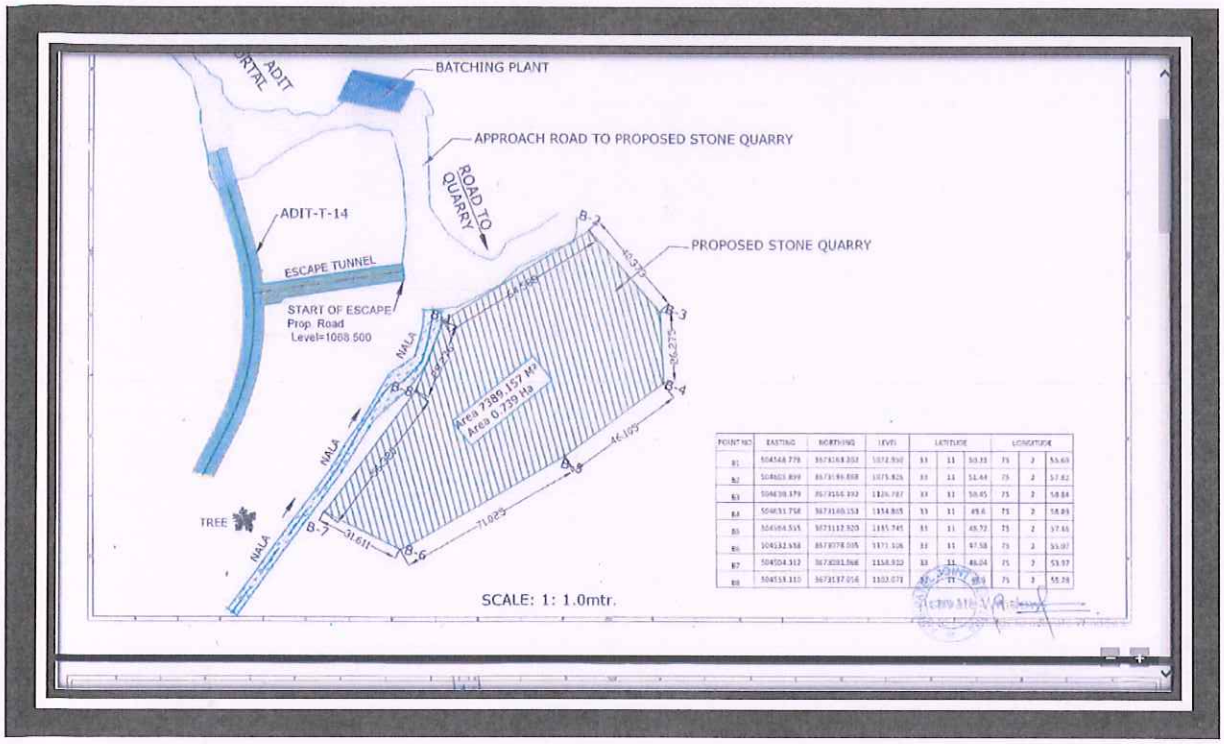
Location Map:

Location Map is attached as UNDER



3.0 INFRASTRUCTURE FACILITIES:

WATER:

Water is available about 5km at Dharamkund from Chanjia Nalla, a tributary of River Chenab. The Water can also be obtained from River Chenab near Pelanka. For drinking purpose Water can be made available from the PHE water scheme available in the area.

Electricity:

Power supply at 440 V is available within a short distance of 3 kms of the applied area at Sangaldan.

Transport and communication:

Public transport busses ply on the Jammu –Srinagar highway, an all-weather road about 25 kms away from the lease hold. Tehsil/District Headquarter, Ramban is about 25 Kms away from the lease site. Local busses and other light vehicles ply

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regularly on Ramban –Gool Road about 5 kms away from the lease/License area.

Locations of Some Important places are as under.

Jammu	175 kms
Srinagar	175 kms
Udhampur	125 Kms
Ramban (District Head Quarter)	62 Kms

Railway Station:

Nearest Railway station is at Udhampur about 125Kms away from the lease /license sit.

Hospital: Government Health Centre is available at Sangaldan 25 kms away from the lease/ license site.

Dak Bungalow, Telegraph, post office etc.:

Rest house facilities are available at Sangaldan and Ramban which also have a post & Telegraph and police station.

The area is connected through cell phone network preferably BSNL, Jio and Air Tell cell networks.

Education Facilities:

A primary school is located at Ind and Higher education facilities are available at Gool, Sangaldan & Ramban, the tehsil and district head quarter.

4.0. GEOLOGY:

(A). General-

The Proposed Stone Quarry namely "MASANARY STONE QUARRY Near VILLAGE DHEDHA, TEHSIL GOOL, DISTRICT RAMBAN" comprising an area of 0.993 hectors falls in the survey of India topo sheet no 43 O/2. The proposed extraction area falls within the Geographic coordinates -33°11' 50.35"N -75° 02' 55.69"E,33°11' 51.44"N-75° 02' 57.82"E. 33°11' 50.45"N-75° 02' 58.84"E, 33°11' 49.60"N, -75° 02'58.89"E, 33°11' 48.72"N - 75° 02' 57.46"E, 33°11' 47.58"- 75° 02 ' 55.07"E, 33°11'48.04"N -75° 02' 53.57"E -33°11' 49.50"N - 75° 02' 55.28"E, corresponding to the

boundary pillars B1, B2, B3, B4, B5, B6, B7, & B8 respectively.

(B). Physiography:

The area under reference is marked by highly rugged mountainous topography and general slop of the area is from North-West to South-East direction. The Masonry stones band is exposed along fairly steep slopes of the hill dipping in NW direction striking almost in NE-SW direction.

The Chenab and its tributary are the main drainage in the area. There is a Nalla bounding the deposit on its eastern side. There is no spring or other source of water within lease area or outside to it within approx 500 meters.

(C). Regional Geological set up of the area:

The area is located near the foot of Southern slops of the Pir Panjal range of Kashmir Himalayas. The regional set up of the area as has been worked out by the earlier workers is as under.

Unit	Age	Lithology
Murrees	Upper Oligocene to Lower Miocene	Interbedded grey sandstone, purple red and greenish clay and shale.
----------	MURREE THRUST	----------
Eocene	Sabathus	Splintery light grey, green and cream coloured shale interceded with bedded limestone.
	PANJAL THRUST	----------
----------	Infra Cambrian	-thick phyllites at places interbedded with mica schist, quartzite interbedded with thick Gypsum bands.
Dogra slates		

(D). **Local Geology.**

The instant Masonry Quarry stone deposit of Dhedha is a promising deposit comprise phyllitic Quartzite, a good quality Masonry stone with a quantity of around 5.59lakhs

m3 of geological reserves. The general amount of dip of the beds varies from 35° to 45°diping in N-W direction. The phyllitic quartzite or Sandstone here is contained within the upper Murrees formation. This Sandstone is generally grey in co lour, hard, well jointed and medium grained.

(E)Structure:

The dip and strike of the deposits and wall rock formations are conformab le running in NW-SE direction. Sandstone in the area is massive, greyish in colour with thin laminations of green and brown colours. The sandstone deposits here are highly jointed.

(F) Nature of Wall Rock:

The rocks both hanging and footwall are grey phyllites with development o f cleavage planes at close intervals. The phyllites are frequently crumbled and jointed due to the folding and compressing of area it has undergone.

(G)Effect of weathering:

The effect of weathering on these minor mineral deposits is not prominent as the surface run off of the rain water is rapid and underground percolations of Precipitated water is very low as being located on steep slope of a hillock. The out crop looks fresh and greyish or bluish grey in colour.

(H)Control of Mineralization:-

The deposit is believed to be a sedimentary deposit that belongs to Murrees formation of Upper Oligocene to Lower Miocene age. The rocks have undergone medium grade metamorphism. Mineralogical changes are not very significant.

(I) Physical Characteristics of Deposit:-

The Grayish Phylitic Quartize/ Sand stone in this area are interbedded with purple red and greenish clay and shale. Phylitic Quartzite/ Sand stone are very hard and compact mass due to Dynamic metamorphism.

(J). Details of Exploration carried in the area:-

The area has been explored by the pioneer workers of Geology from time to time. The area under discussion has been mainly studied for academic purposes to know the origin and behavior of the Murrees formation. However, the area falling East side, on the other side of the River Chenab has been explored by the GSI and DGM

extensively for economic purposes and as a result reserves of around 10 million tons of Gypsum has been confirmed in that area near Dharamkund.

Quality of Deposits:

The Phyllitic rocks of the proposed licensed area are angular in shape with crystalline particle surface having aphanitic texture, fine grained, compact and hard with innocuous nature of aggregate. The chief minerals present are Quartz, felspar, biotite and amphibole. As per the laboratory report obtained by the company, the rock contained in the licensed stone quarry is compact, hard and quite suitable for its use in construction purposes.

(K) Geological Reserves:

The Geological reserves have been expected to the tune of around 5.59lakhs m3 of masonry rocks to be extracted within 5 years.

5.0 -Mining:

The Stone Quarry contains the fine grained Quatzitic Phyllites/ Sandstone which is hard but fractured and can be mined easily with the help of Rock Breakers with scaling attachment. In case of some hangover or hard rock formation encountered during the excavation, use of explosive can be made. Thus the mining of the stones in general shall be carried by use of Mechanical plants.

a -Proposed Method of Mining:

In order to utilize the full potential of the deposit within the given period of five years, with all safety and precautions, the mine shall be operated from the top. For this the mine is to be approach at top through a haulage road passing through the middle of the proposed licensed area.

b - Development:

Once the approach is made to the top of the mine, the development of benches shall start from top to bottom with bench height not more than 6m with slope of bench inside to an angle of at least 20^{o}

c- Conceptual plan:

An ultimate plan has been drawn based on the existing date which is sufficient to draw a final picture of post mining position which is envisaged as below:-

The company intends to mine out the given quantity of stones from the mine within five years with the rate of annual production around 0.08 million tons a year. The mining in the area shall start from top along boundary pillar B3, B4, B5 to down

ward direction. The mining shall be done in bench form with the bench height of 6m. The exhausted benches shall be reclaimed side by side and plantation of suitable plants shall be made on the exhausted benches and the whole area will be developed into a forest before handing over to the parent Forest department.

Thus after the production of the material from a block which was in a slope form will now look in terrace form suitable for plantation growth and with proper care and maintained can be developed in to a lush green forest presenting a lush green picturesque view.

e -Ultimate pit limit (End of lease Period):

Since the requirement of stones from the proposed licensed area is linked with the time bound Udhampur-Banihal to Srinagar Rail Line project, therefore, the deposit will get exhausted within five years with the proposed rate of around 0.08 million tons/year production of masonry stones

f- Sites for disposal of waste and sub grade minerals:

The unwanted debris material shall be dumped at dump yard of the company about 300m approx away on the west of the Quarry area.

g- Back filling of the pits:

Back filling of the pits shall be made immediately after the benches reach to ultimate pit limit and shall be rehabilitated through plantation after spreading required amount of soil over them for healthy vegetation and plantation. Also retaining wall at the base of the last bench shall be constructed to strengthening the base of the lower bench of the exhausted mine.

h-Afforestation:

A fair amount of plantation shall be made along the ultimate pit limit and over exhausted benches. The plantation of specific verity with the consultation of forest department shall be made very from 2nd year. During 2nd year the plantation shall be done all along the ultimate pit limit and over the exhausted benches. The plantation pattern shall be as given under

Year	Area in Hectors	No of tree/year.
1st year		500
2nd year		500
3rd year		500
4th year		500

5th year		500
Total		2500

The anticipated rate of survival would be 50% and mortalities have to be replaced.

i -Community development:

The mining project is linked with the construction of the prestigious Railway link between Udhampur- Banihal to Srinagar. Thus the project shall have greater impact on the social, commercial and economic development in the area. A large number of people in the area will get engaged with the project for their economic benefits, directly or indirectly. The project will boost in particular the economic development of the community residing in this area.

J-Post mining land use envisaged:

After completion of the exploitation work and rehabilitation of the exhausted benches followed plantation of desired species of plants, chosen in consultation with the forest department, followed by the erection of the protection wall at the lower bench, the area shall be returned to the concerned forest department.

k)-Extent of Mechanization:

The above detailed production shall be achieved with the help of mechanical plants including the Hydraulic Excavator for excavation of rocks, Rock Breaker cum Loader for breaking and loading of the mineral to the dumpers and the dumpers for transportation of mineral to its destination outside the mine area.

l)-Blasting:

Blasting shall take place only when needed to blast overhangs or hard rock if encountered.

m. Storage of explosive:

The company has already the storage facilities for its explosive used in tunneling of the package T-15 and part of T-14 tunnel of the USBRL Project and when explosive is needed same shall be got from the same store.

6- Handling of mining waste and separate stacking of sub-grade mineral:

No huge mining waste or subgrade mineral is expected during the exploitation of stones except any weather material and fine stone material. The same shall be stored in already existing dump yard of the company about 300meters away towards SE of

the mine.

6.1- Land chosen for disposal of waste:

The company has chosen a barren land near the portal of T-14 tunnel about 300m in S-E of the Quarry under proper permission from the competent authority and same shall be used for the waste disposal of the instant Stone Quarry too.

6.2- Rate of yearly generation of Sub-grade mineral with reference to thresh hold value and proposals for stacking for next five years. (Submit necessary plan & Sections)(In case variations from the recommended thresh-hold value of IBM, please give adequate justification and reasons).

No sub-grade mineral shall be generated during course of mining; therefore no proposal for separate stocking has been envisaged for the next three/five years.

7.0-Use of Mineral:

The use of Quarry Stones from the mine is for constructional and developmental purposes. Here the stones will be used for the production of aggregates of different size for use in the construction of Rail Tunnel.

a)-Physical Properties:

Table no 7

S.No	Particulars
Colour	Light Grey
Texture	Aphanitic
Grain size	Fine Grained
General physical conditions	Compact and Hard
Sp. GR	2.7
Nature of Aggregate	Innocuous
Water absorption	0.51
Aggregate crushing value%	19.8
Aggregate impact value	16.5
Aggregate Abrasion value%	19.2
Aggregate Compressive Strength (kg/cum²) at dry condition	465.8
Aggregate Compressive Strength (kg/cum²) at saturated condition	421.5

b)-Chemical Properties:

The chemical behavior of the mineral in the lease area is generally persistent. Based on the Microscopic examination the mineral contents observed in the rocks of the Stone Quarry contain Quartz >60% and the rest 40% are Felsper, Sericite, Plagioclase & Calcocite-covellite.

8.0 Mineral Beneficiation:

No mineral processing or beneficiation shall take place at mine site. The mineral after excavation shall be carried to the destination through dampers for further process and use.

a)-Quantity and type of chemical(s) to be used in the processing plant:

Since there is no processing involved, therefore, no chemical shall be used, hence not applicable in the instant case.

b)-Quantity of (m/day) of water required for mining and processing and source(s) of supply of water, disposal of water and extent of recycling:

There is no processing. Hence no water is required. Water shall be required only for mine to cater for drinking purposes, dust suspension at faces and haulage road. The requirement of water for the purpose is estimated at 1000 KL liters per day for which the source is local Chinjjar Nallah ware from water will be carried under proper permission from I &FC department.

No waste water shall be generated after spraying water at faces and along haulage road as the excess of water shall be absorbed by the dust particles or shall go through the phyllites pore or shall go into atmosphere as vapors. When there is no reuse of water therefore no recycling of water is needed.

8.1-Employment potential

For safe and systematic mining sufficient technical, supervisory staff together with labors is required that shall be at the strength summarized as under-

S.No	Management staff	Requirement
1	Manager Mines	1
2	Mine Geologist	1
3	Mine mate	1
4	Blaster (in case blasting is needed)	1
5	Mine foreman	1
6	Shift Supervisor	2
7	Drill operators	1

8	Compressor operators	2
9	Medical Assistant	1
10	Maintenance	1
11	Skilled workers	2
12	Un-skilled workers	3
13	Dumper Driver	5
	total	22

8.2 -Site Services

The following services shall be provided outside mine area.

Mine
Office Rest
Shelter
First aid.

9.0-Environment Management Plan:

In preparation of the mine plan of mine special emphasis has to be given on the environmental protection so as to have least adverse impact on the present environmental scenario. Open cast mining cause some land degradation and disturb the ecology of the area. The efforts in preparing the environment management plan should be to restore the ecology of the area as much as possible which can be made possible by planning the mine working in most systematic, safe and scientific manner.

9.1- Land use within lease area (Core Zone):

The land use in the lease area (core Zone) may be classified as barren land surrounded by some forestation mainly towards N-NW. The area is marked by massive Sandstone outcrop with some weathered debris material on both in West and East side of the rock body striking NE-SW well exposed from top to bottom. The existing land use within lease area is tabulated as under.

S.No	Factors	Area involved(Hectors)
1	Quarries/old pits	Nil
2	Pitting	Nil
3	Dumping	Nil
4	Road	Nil
5	Foot track	Nil
6	Workshop	Nil

7	Township	Nil
8	Sampling channel	nil
9	Processing plant	Nil
10	Forest area	0.993

The area belongs to the Forest department and the no of forest trees of various species involved in the mine area as per the estimate of forest department is as under.

Species	Trees (30 & above)	Poles (10 to& 20 to 30 cms)	Saplings(0 to10cms)	Tota l
	2	2	14	18
Total	2	2	14	18

9.2 -Land Use (Buffer Zone).

The area around five kms radius contains rocks comprising mostly Phyllits slates, gypsum, quartzite and sandstone. The valley plans contains alluvium formations. The Quarry area is located in forest area with scattered forestation. No cultivated land or habitation falls within the Buffer zone of the Quarry.

9.3-Water Regime:

The Mine area is devoid of any water body and the area being located on a hill slope there is no possibility of encountering a water table during mining as the water table in the area lies much below the base boundary of the mine area. There is no stream or rain fed Nalla falling in the close vicinity of the Quarry area.

9.4-Fauna & Flora:

The fauna in the Buffer zone seen includes Porcupines, Ghoral ,Kakar, Hares, Chakor, and wild Fowls etc.

The general elevation in the buffer zone has high peaks-2100 msl. This zone mainly consists of dry mixed Decius flora consisting species of Acacia, Jujube, Rhododendron, Bombex, Zizplnis and Adhatoda species. Fodder trees of Behul, Chakera, Trimoli, Kharik, Garial and Ban are also found in the Buffer Zone or surrounding area.

The forest trees found in the core and buffer zone consists of Broad leaved-Kau (olea Cuspidata) and Robinia.

9.5-Quality of Air, Ambient Noise level & Water:

There are no industrial and mining activities around the mine area. The general air in the area is as clean as in any remote Himalaya region. There is no industrial

emission- solid, liquid or gaseous form to cause any air pollution. Agricultural activities which are of very small scale in area can hardly cause any air pollution. The vehicular transport which plays in limited manner does not cause any pollution in this area.

Similarly ambient of noise is practically zero except background noise level of the nature, even nearest population more than 2kms away from the lease area.The tape water for drinking purposes comes from the catchment area at high reaches which is portable water.

9.6-Climatic Conditions:

The Quarry area falls in tropical monsoon climatic zone. Four seasons are prominent in the area viz-

March to June----------summer.

July to September ----------Monsoon

October to November--------- Post Monsoon

December to February--------winter

9.8-Relative Humidity:

Relative humidity in the area varies from 70% to 94%. It is low during the months of January to March and show rise during the months from July to September.

9.9-Rain Fall:

District Ramban, being located in the Kashmir Himalayan ranges receives less rain fall as compared to Jammu Siwalik region. The area receives a maximum rainfall around 1300mm yearly with maximum rain fall during the months of March, April, July and August.

9.10- Human Settlement.

Physiography plays an important role in mountainous regions. In the area the human settlement is either near the river/nallah banks or on the gentle hill slops. The area being a hilly terrain, there is scarcity of agricultural land. Irrigation facilities are limited in the area. Population is scantly and people live in the scattered house on the

hill slops or near foot hills. General economy of the people is very poor.Most population of the area is engaged either in agricultural activities, pasturing of cattle and some are working as labours in the constructional and developmental works going on in Ramban area. Primary education facilities are around 3km from the mine area and higher education facilities are available at Ramban, the district Headquarter. There is no permanent human settlement within 2kms radius of the lease area.

9.11- Cropping pattern.

Cultivation of wheat and vegetables are seen in the areas surrounding the Quarry. Seasonal vegetable in small quantities of Ginger, Grams, Urad etc are also sown in area where ever agricultural land is available.Kharif crops in the area are-Maize, Paddy, Ginger, Chilies, Cholai, Rajmah etc. Rabi Crops in the area are Wheat, Barley, Mustered, Gram, Potato etc. Terrace cultivation is commonly practiced in the area.

The occupation of people in general is Agriculture, animal pasturing. Some are working as daily rated labours in various constructional works going on in the Ramban district.

9.16-Public Buildings, Places of Worship & Monuments:

There are no public buildings, place of worship or any monument within or in surrounding of mine area up to >500 meters.

9.17-Weather the area has been notified under water (prevention and preservation Act 1975).

The area has not been notified under water (prevention and preservation Act 1975).

10- Environment impact Assessment:

The Environment impact on various parameters is anticipated as under:

a)- Land:

The impact on the landform or physiography of the mine area will be limited to the extent of modification of slope. Mining activity is proposed to be undertaken in a systematic manner in benches of 6mts height keeping the slope angle under <70 degree. The area is virtually barren and not being put to any specific use. Therefore, mining is not likely to affect other spheres of the human activity but will be to a extent helpful for slope stabilization in the area which often gives in at such mineralized zones.

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b) - **Air Quality:**

The Hydraulic rock breaking equipment together with the loader will cause least air pollution but there is apprehension of dust production due to playing dumpers for transportation of excavated material which has to be taken care through spraying water over approach roads.

C-Water Quality:

There is no source of water within the lease hold. Also there is no chance of intersecting any water body in the lease area. It has already been mentioned that the impact on water quality is not expected of any significance mainly no perennial water body exists within area. Ground water goes deep in mountainous region and no spring has been notices having catchment relationship with the mining area. There is not seen any water body within the buffer zone of the mine area, hence no chance of any condemnation of any water body due to mining of stones in the area.

d- Noise Level:

Since the mining is done mainly with the use of Hydraulic rock breakers, loaders with occasional drilling and blasting of hard rock formations for which tools like wagon driller, Jack hammers, blasting, besides playing of dampers shall cause some problem of noise pollution in working zone. The noise pollution by the equipment's can be avoided through proper schedule of working and use of air plugs while working of the equipment in the mine area. Since the mine is around >500 meter from the surrounding habitation, therefore, working of a these mining equipment's will not cause any noise pollution in the surroundings, besides there no public place, place of worship, school or any other such institution that can suffer due to any noise pollution. However, every precaution shall be made in keeping the noise level of the mining equipment to the minimum level by regular maintenance of same equipment.

e)-Vibration Levels (Due to Blasting).

Since the blasting in the area will be done if found necessary to break down hard rock formation or dangerous over hanged rocks encountered therefore there are less chances of vibration as controlled blasting of less intensity will be involved therefore there will be no vibration of high magnitude that results any land slide in the area. Moreover, due to inward dip direction of the rocks contained in the mining area together with angle of repose of benches less than 70 degree provides slope stability in the mine area.

f)-Socio- economics:

The base line data with respect to Socio-economic presents a highly pathetic picture. All most all the parameters point out that the area is highly backward. Any industrial intervention in this area should and must be encouraged.

The proposed mining provides direct employment to at least 20 people, whereas indirect employment by way of business opportunities, contracts, transport etc, is many times. The management should also take help from NGO's to create awareness about education and formation of self-help groups and opportunity of self-employment so that the socio-economic equilibrium in the area is maintained with defined forward progress.

g)-Historic Monuments etc:

Nothing of this type exists within the lease area or within buffer zone of the lease area. Therefore, there will no impact of mining on such things.

h) **Biota:-**

1) Fauna:

It is expected that mining and associated activities have not deteriorated the scenario to any irretrievable stage. The present plan proposes some mitigation measures also.

2) **Flora:**

It is expected that present plantation program will in fact have an overall positive effect on flora.

11.0 -Environmental Management plan

I)-Temporary storage and utilization of top soil:

As mentioned earlier that the area is mainly marked by sandstone and phyllites and is by and large barren, rocky and devoid of any appreciable top soil. However, the thin layer of soil over rocks will be fully scraped before any mining work is started and the soil so scraped will be preserved separately and will be spread over the exhausted benches for healthy plantation.

II)-Year wise proposal for reclamation:

Reclamation and post mining use of mined area are of utmost importance. Therefore, reclamation and rehabilitation programme has to be carefully planned. Since the area falls in a hilly area surrounded by the forests, therefore, for reclamation, forestry is the best choice. Species of the tree shall be so selected that it is useful to the surrounding environment. The choice of plantation shall be with consultation with the forest

department as the Quarry area belongs to the forest department.

When the mine will reach to the ultimate pit limit, it will be reclaimed by backfilling the exhausted benches followed by a layer of top soil to support vegetation. The top soil and waste material dumped in the dump yard outside the lease area during mining operation will be used for back filling, the waste material being filled as the bottom layer and top soil on the top so that plantation can be done over it. The existing land use and proposed land use at the end of mining will be as under.

Land use	present	After five years
Area under mining	nil.	0.993 hector.
Area under road	nil	nil
Area covered by plantation	nil	nil
Build up area	nil	0.993
Area covered by dumps	nil	nil
Waste land	nil	nil

III. Programe of afforestation:

In order to restore the environment and ecological balance in the area affected by mining, afforestation is considered to be an effective measure. In the area afforestation will be carried out with mining along ultimate pit limit left all along the mining area and over the exhausted benches when they reaches to ultimate pit limit. All the benches will be bought under plantation drive to the extent that whole area represents a forest area.

IV- Plantation procedure

Before sowing and plantation, the site would undergo adequate preparation in order to achieve successful growth. Selection of site, top soil spreading, spacing, digging of pits and soil preparation would be the first step. It will be desirable to take advice from local forest official's from time to time better for the rehabilitation of the area through healthy forestation.

V-Post plantation care:

Since the area belongs to the forest department, therefore after reclamation and plantation the area shall be handed over to the concerned forest department for further watch and ward.

VI- Methods of Silting, Plantation and Grossing on the Mined out benches.

Plants shall be procured from Forest department. To place the plant in the field pits 60cm x 60 cm x 90 cm size at 6 m spacing shall be dug. Soil mixed with organic manure will be spread inside the pit and plants procure are put into the pit and the vacant space surrounding the plat is filled with extra soil to its upper level. The plantation shall be managed and supervised by a plantation in-charge.
The year wise plantation programme is given in table as under.

Year	Area in Hectors	No of tree/year.
1st year		500
2nd year		500
3rd year		500
4th year		500
5th year		500
Total		2500

VII- Stabilization and vegetation of Dumps with waste dump management.

The waste dumps which lie outside the lease area shall be properly maintained. These dumps shall be protected on down slope side by retaining wall of 1mx1.5m to prevent any wash off of dumped material. Year wise plantation shall be done on these waste dumps just after the dump get fully occupied with the waste material.

VVI-Measure for mining adverse effect on water regime:

Development of mine itself, changes the natural topography of an area that leads to the development of different water channels during precipitation periods causing turbidity and erosion activities.

With the progress of mining operation some scree material will be generated which is likely to roll down during rains. Moreover, during heavy showers, the gushing water may cause erosion of water courses to carry out already settle sediments accumulated in it. It is therefore, necessary to maintain the water course in the mine area properly by taking the following measure before it will lead to any soil erosion or land sliding in the mine area or turbidity of the main drains in the area. Therefore, iy is necessary to take up the following steps to prevent the adverse effects on water regime.

1. It is necessary to provide garland drainage to divert water coming from above the lease area towards its sides to prevent down coming rain water from mixing of any contaminations of mine area.

2. Check dams should be constructed at suitable places on drainage coarse to prevent soil erosion and to prevent direct flow of rain water from mine to the main drains in the area.
3. The sediments retained against the dams should be cleaned at regular intervals
4. Retaining walls and drains should be provided around dumps to prevent any wash off of the waste material.
5. Settling tanks should be provided below the drains to permit settling of sediments carried by running water. These tanks should be cleaned regularly to prevent any over flow of sediments

X-Protective measure for ground vibrations /air blast caused by blasting:

The most common complaint concerning blasting is the ground vibrations causing damage to building and such other installations located close to the blasting site. In the case of this no such installation is located in the vicinity up to around 500 meters from mine site. Also the blasting shall be done when need arises and the charge per hole is comparatively less, therefore; the intensity of blasting will be of no high intensity and magnitude. However, proper precautions shall be taken to keep the persons away from the blasting area by providing a siren which shall be blown before firing and after firing is over.

XI-Air and Dust pollution:

a). No toxic substance are released into atmosphere during mining of stones and as such there seems to be no potential threat to the health of human beings.
b). Quartzic phyllites being hard in nature will cause less generation of dust during excavation, drilling or blasting. However, the workers engaged with drilling work shall be provided with masks.
c). there are more chances of dust generation due to playing of vehicles for transportation of material form the mine to other place. This dusting through playing of vehicle shall be controlled by regular spray of water over approach roads leading to mine.

XII. Noise pollution.

Long time exposure to high noise level can cause damage to hearing, fatigue, and disorder to blood pressure. The main source of noise is the Rock breaker, drilling and blasting operations. To prevent the workers from any effects of noise pollution they will be provide with ear plugs besides their working schedule will be made in shifts to avoid their long exposure to noise.

XIII- Measures for protecting historic monuments and for rehabilitation of human settlement likely to be disturbed due to mining activities.

As has been said already, the nearest habitation is more than 500 meters away from the mine area, hence no need of any human settlement to be done. Moreover, there exists no historic monument or public place around the mine area that needs to be protected.

XII-Socio-economic benefits arising of mining:

First and far most benefit that the mine will provide is direct employment to at least 30 people, besides, it will provide indirect employment by way of business opportunities, construction and transport contracts, Dhabas, tea stalls , grossory shops. In this way there will be improvement in communication, medical facilities and education is like to go high. In nutshell industrial activity in this backward area will be as a bone to the people who otherwise are forced to migrate from this place for sustenance.

In addition to the benefits to the local community mining in his area will also contribute to the exchequer by way of Royalty and other taxes. Moreover, the District Monetary fund which is 20% of Royalty is to be utilized by the District administration for the benefits of the habitants of this area.

XIII-Monitoring schedule:

Proper monitoring of Air, Water, and Noise shall be carried out as per IBM guidelines issued from time to time. All the measures, described above shall be taken to keep the pollution levels within the permissible limits. Protective steps proposed shall be reviewed periodically and their effectiveness ascertained once in a quarter see any impact of mining on the surrounding areas.

h- Any other information: Results of any investigation carried out for scientific mining, conservation of minerals and protection of environment, future proposals, if any.

None---

10.0 Progressive Mine closure plan:

10.2-Reason for Closure:

The mining activity shall continue in accordance with the scheme of Mining unless there is any reason for its closure. At present there is no foreseeable reason regarding the closure of the mine? The progressive mine closure plan is being submitted under amended Rule 23(B) of MCDR 1988.

10.3-Statury obligations:

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As per the Rule 23(B) of MCDR 1988, for existing mining lease, a progressive mine closure plan is required to be submitted incompliance to the above given rule of MCDR 1988.

10.4-Closure plan preparation:

In case it is felt that mine is to be closed for any reason what so ever, a mine closure plan in advance shall be got prepared by a RQP as per the conditions prevailing at that point of time.

Presently progressive mine closure plan is submitted by the lessee duly prepared by a registered by a RQP.

10.5-Description:

Already give under Chapter 1(Part-A).

10.6-Methodas of Mining:

a)- It is an open cast mine.

b)-Development work and mining will go side by side during next five years.

C)- the excavation to the development of haulage road with go with the utilization of Rock Breaker cum Dozer and the extraction from benches will be carried out by same.

d)-Since the material to be excavated is a hard rock with less of soil cover and interbedded loose rock, Therefore, there is will be less generation waste

e)-The area is free from any habitation water body or other structures that could otherwise interfere in to the working of the mine.

f)-Adequate number of boundary pillars shall be erected and marked with red paint and maintained for the demarcation of the lease area.

g)-Conversion factor for hard rock/sandstone has been taken as 2.7.

h)-2.39 tons of Masonry stones are expected from the mine and the life of the mine with proposed production will be 3years.

i)-For the safe and scientific mining , proper drainage would be maintained with the erection of parapet wall, retaining walls, toe walls, check dams at desired places.

10.7-Mineral Beneficiation.

Stones shall be directly transported in raw form from the mine and no beneficiation shall be done at mine site.

10.8-Review of Implementation of Mining plan/ including 5 year Mine Closure plan:

Indicate in detail the various proposals committed with special emphasis on the proposals for protection of environment in the approved Mining Plan/Scheme of mining including five year Mine closure plan up to the closure of mine vis a vis their status of implementation. Highlight the areas which might have been contaminated by mining activities and types of contamination that might be found there. The reasons from the proposals, if any, with corrective measures taken should be given.

Salient features to be covered are as under	Proposals as per the approved PMCP	Position at the end of lease
Top soil storage, prevention and utilization.	Top soil in small thickness will be scraped and stocked in earmarked dumps	Top soil will be spread over back filled benches for healthy plantation and vegetation.
Land reclamation and rehabilitation	Back filling shall be done particularly in lower exhausted benches.	Back filling shall be made at certain depression/ pits and the benched have not exhausted, no back filling of same has been made yet.
Waste/dump management	Generation of waste will be dumped at earmarked dumps	The waste generated shall be dumped outside lease area and simultaneously are being covered by way of plantation.

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Afforestation programme with precautions, proposals for survival and protection of plantations.	A proposal of plantation was there covering whole of the mine area after being exhausted.	The targets shall be achieved successfully and there will be developed a green belt along the mine boundary and exhausted benches.
Quality of air	The mine is a B2 category , away from human settlement and there are less chances of any degradation of air beyond the permissible limits due this mining	Water sprinkling shall regularly be done over approach roads which can be major source of dust emission in the mine area.
Quality and make of water including ground and surface water.	No specific proposal was there in approved PMCP.	As said in mining plan, mining operations are carried in a small scale hence no major impact are observed. Moreover, the nine being located on a hill slope, the water table is more down then the mine elevation.
Noise level and Vibration source of noise to be identified, pattern of blast holes, design of blast with details of sufficient no of experimental blast s Conducted to be given.	No specific proposal was give there in approved PMCP and the mine so far operated is a semi mechanized	As said in mining plan, the mine is an open cast,a small one and worked under mechanized methods of mining
Treatment of mine water and effluent /toxic substance before discharge.	No mine discharge is proposed	Not applicable
Recirculation of treated water	Not applicable	Not applicable.

10.9-Closure Plan:

The Mine is an open cast with a life of three years at the present rate of production. Therefore, the reclamation and back filling of trenches shall be started very from the 2nd year and during these three years all the exhausted benches shall

be got under proper plantation of forest species and whole area shall be handed over to the Forest department, the custodian of this area.

10.10-Water Quality Management:

There is no source of any water in the lease area. The lease area exists on a hill slope and no ground water table exists in the area the extent of dip down extraction of stones It is still proposed that regular water sampling will be done along drainage of the lease area during rainy season to see the effect of exploitation of sandstone on running water near lease area, if any, for adopting the remedial measures.

10.11-Air Quality Management:

The present quality of air is as fresh as in any remote Himalayan region with the Spm contents not exceeding 50 mg/cum Moreover, the rock being hard there are less chances of emissions while its extraction or breaking. There are chances of dust emissions due to playing of dumpers on the nearby riad and haulage. Measures shall be applied by way of sprinkling water over the haulage road and the approach road to keep the spm contents under control.

10.12-Waste Management:

As has already been mentioned material that comes out incidental to the mining of as waste shall be dumped at specific dump yard outside the mine area and each dump will be protected by stone fencing and yearly plantation will be made over such dumps. In case of any mine closure, the parapet walls will be utilized in back filling of the benches created due to development of haulage road and bench formations.

10.13-Tailing Damp Management:

No tailing are expected as there is no process involved.

10.14-Infra Structure:

The mine is a small one worked with a few mechanical equipments and there is no infrastructure or machinery by way of ropeway, rails, township or any treatment machinery is installed at the mine site.

10.15 : Disposal of Mine Machinery:

It is a small type mine worked with a few mechanical tools that shall be utilized at other workings of the company hence no disposal is to be made in case of any closure.

10.16 **: Safety and Security:**

The benches shall be dressed as per the plan and the loose rocks on the slopes will be completely removed. The pits/trenches will be reclaimed by way of spreading soil on the exposed surfaces. Plantation will be made and maximum efforts will be made to ensure the stability of slopes.

10.17-Diaster Management & Risk assessment:

This should deal with action plan for high risk accidents like landslide, Subsidence flood, Inundation in underground mine, fire, seismic activities, Tailing Damp failure etc. and emergency plan for quick evection, ameliorative measures to be taken etc. The capacity of lessee to meat such eventualities and the assistance to be required from local authority should also be described.

The present and proposed mining method is an open cast mining with the use of Mechanical plants and occasional blasting. During the operation and exploration of Stones all provision prescribed for B2 class mine under MCDR 1988, Mines Act 1952, MCR 1962 and all laws applicable to mine will strictly be complied with. No problem is anticipated due to surface or ground water in the area. However, accidents from the use of movement of vehicles, slope failure, pit inundation cannot be ruled out.

Being hilly and mountainous range, the area is susceptible to land slide and other seismic activities. Licensee is capable to deal with such eventualities.

10.18-Care and Maintenance during Temporary Discontinuous:

In case of any temporary discontinues due to any court order or due to statutory requirement or any other unforeseen circumstances following measures for care and maintenance shall be taken:

a)-Notice of temporary discontinuous of work in mine shall be given to Director Geology & Mining, J&K State

b)- all the mining tools shall be shifted to safer place.

C) -Entrance to the mine or part of mine to be discontinued shall be fenced off as per the DGMS circular and security guard posted for the safety and unauthorized entry to the mine.

d)-competent person shall inspect the mine regularly.

e)- Care and unkeep plantation shall be carried out regularly.

f)- Retaining walls, parapet walls, check dams shall properly be maintained.

10.19-Economic Repercussion of Closure of Mine and Men power Retrenchment:

Men power retrenchment compensation to be given, socio-economic repercussions and remedial measures consequent to closure of mine should be described ,specifically stating the following:-

Number of local residents employed; there will be at least 10 persons from local habitation working as skilled and semiskilled labours in the mine for at least nine months a year.

Compensation; the compensation to the labours shall be with substance of himself and family will be provide as per labour law and Mines Act.

Satellite occupation connected with mining activity; the life of mine is much more that the period of this progressive mine closure plan, hence this paragraph is not applicable at present.

Continued engagement of employment in the rehabilitated, status of mining lease area and other remnant activities;

Not applicable in this progressive mine closure plan.

Envisaged repercussions on the expectation of society around due to closure of mine;

This paragraph belongs to final closure of the mine and not related with this

progressive mine closure plan.

10.20-Time schedule for abandonment:

This is a mine plan for the next five years only and no abandonment or temporary discontinuous of mine is being proposed during this period. However, for any unforeseen abandonment, the time schedule is given as under:-

S.no	Item	Jobs	Time Schedule
1	Mined out land	Soil spreading, plantation, reclamation process	Very from 2nd year after the start of operation or just after situation demands.
2	Water Quality	Protection of surface and ground water.	Not needs as there exists no water body in the mine area and ground water level is considerable down from the extraction level of mineral in the mine.
3	Air Quality	Monitoring of Spm level	Not needed as the mine is located in remote sub- Himalayan region where air quality is fresh and where no mining is going on, there is no need of monitoring the Spm level which remains under permissible limits under normal conditions.
4	Top soil management	Not required	As the mine area is barren having rocky topography, therefore, there is no generation of top soil.
5	Tailing Dam Management	Check erosion, Silting.	Long term, immediately after closure.
6	Infrastructure	Retention or maintenance of infrastructure	Just after the closure of mine.
7	Disposal of Machinery	Decommissioning of mine machinery.	The mine is a small to be operated for a few year and, where a few mechanical plants shall be utilized and needs no disposal.
8	Waste management	Disposal of waste,	Day to day basis along with mineral

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		if any.	removal.
9	Safety and security.	Dressing of pits, safety measures.	On day to day basis after the operation starts.
10	Disaster Management	Action plan for risk management, accidents, emergency plan etc.	Immediate.
11	Care and maintenance during temporary Discontinuous.	Remedial measures	Immediate.

10.21-Anandonment Cost: (Protection of Environment)

The abandonment cost for the protection of environment is described as under.

S.no	Item	Cost of Material	Cost of labour	Total Cost
1	Spreading of soil and preparation of land	350 cum @ Rs200/cum	Rs=4000/	Rs=74000/=
2	Plants /trees/shrubs	540 nos. @ Rs.50/=	Rs=6000/	Rs=33000/=
3	Maintenance, supervision, Mortality.	40 trees @ Rs50/=	Rs 600/=	Rs=2600/=
4	Water Quality	Nil	Nil	Nil
5	Air Quality	Nil	Nil	Nil
6	Waste Managemrnt	Nil	Nil	Nil
7	Top Soil Management	Nil	Nil	Nil
8	Infrastructure	Nil	Nil	Nil
9	Tailing Dump Management	Nil	Nil	Nil

10	Disposal of Mining Machinery	Nil	Nil	Nil
11	Disaster Management/ Risk Management	Rs.50,000/= shall always kept handy	--------	Rs=50000/=
12	Safety an security	-------	------	Rs=50000=
13	Care & Maintenance during discontinuity	Shall be spend on contingency plan	-------	Rs=20000=
14	Total			Rs=229600/=

10.22- Financial Assurance:

The amount of financial assurance is worked out as under:-

i)-Area to be excavated ----------=0.63 Hectors.

ii)-Storage of top soil ---------- Nil. -

iii)-Overburden/ dump/Rock reject ---------- 0.1 ------

iV)-Mineral Storage---------- 0.00-

V)-Infrastructure. Nil -

Vi)-Roads - - Nil

Vii)-Railway - - Nil -

Viii)-Green Belt - 0.2

iX)-Tailing pound - - Nil

X)-Effluent treatment plant Nil ------

Xi)-Mineral suspension plant - - Nil -

Xii)-Town ship area Nil

Xiii)- Area put in use in proposed five years----------0.63 hectors.

Total financial assurance @ Rs 25000/hector. ---------- Rs=15750=00.

In the "B" category mine, subject to minimum one lac, financial assurance shall be given as rupees one lac for which a letter of intent from a national bank on account of 0.993 hectors for "B" class mine shall be submitted by the applicant.

Place- Ramban

Date- January-2021

RQP.

A.M.Mir

Registration No:11/DGM/RQP/2017

Project proponent

M/s AGE-PATEL Joint Venture,

AGE-PATEL JOINT VENTURE USBRL T-15

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