

**GOVERNMENT OF ANDHRA PRADESH
DEPARTMENT OF MINES & GEOLOGY**

From,
Sri K. Subrahmanyeswara Rao M.Sc., (Tech),
Assistant Director of Mines & Geology,
D.No. 54-18-63/3, plot No.17, L.I.C. Colony,
VIJAYAWADA -8.

To
The Chairman,
State Environmental Impact,
Assessment Authority(SEIAA),
Vijayawada, Andhra Pradesh.

Lr.No.1648/O/2018, dt.11-01-2019.

Sir,

Sub: MINES AND QUARRIES – Quarry lease within 500 Mts radius of Mining project of transfer of Quarry Lease for Quartz & Feldspar over an extent of 2.720 hectares in Sy No. 119(P) & 126/3(P) of Khambampadu Village, A. Konduru Mandal in Krishna District in favour of M/s. Aparna Enterprises Ltd – SEIAA, AP - Environmental Clearance – Certain Information requested – Submitted – Regarding.

- Ref: 1. Proceedings No. 7045/R2-3/2018 dt:01-10-2018 of the Director of Mines and Geology, Ibrahimpatnam.
2. Proceeding No. 1648/Q/2018, dt:22-11-2018 of the Asst. Director of Mines and Geology, Vijayawada.
3. Representation letter dt. 11-01-2019 from M/s. Aparna Enterprises Ltd.

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I invite kind attention to subject and references cited and submit that through the reference 1st cited, the Director of Mines & Geology, Ibrahimpatnam has accorded permission for transfer of the quarry lease held by Sri N.V. Vatsavardhan for Quartz & Feldspar, over an extent of 2,720 hectares in Sy No. 119(P) & 126/3(P) of Khambampadu Village, A. Konduru Mandal of Krishna District in favor of M/s Aparna Enterprises Ltd for captive consumption of the mineral for the unexpired portion of the lease period i.e., upto 18-06-2027 under Rules 12(5) (h) (viii) of APMMC Rules 1966 subject to the condition that the transferee submit to Environmental Clearance. Accordingly, this office has executed the transfer lease deed and issued work orders for the unexpired lease period upto 18-06-2027 vide reference 2nd cited.

Through the reference 3rd cited, the applicant M/s. Aparna Enterprises Ltd has requested this office to furnish the information with regards to mining projects existing quarry leases located within 500 Mts radius from the periphery of their quarry lease area of the projects under consideration for issue of Environmental Clearance.


In this connection, It is submitted that as per this office records there is no quarry lease existing within a radius of 500 mts from the periphery of quarry lease of M/s. Aparna Enterprises Ltd.

Lease Name	Extent (in Hect)	Status	Details of lease areas	Grant Order/Work Order	Remarks
M/s Aparna Enterprises Ltd	2.720	Existing Lease having valid EC vide Proc.No. DEIAA/AP/418/VJA/2017, dt.23-01-2018	Sy.No. No.119(P) & 126/3(P), of Khambampadu (V), A. Konduru (M), Krishna District.	Grant Order (1) GO Ms No.349, Ind & Comm Dept, dt.28-12-2006, Transfer Grant order (2) Proc No. 7045/R2-3/2018 dt:01-10-2018, Work Order No. (1)418/M2/2005, Dt:19-06-2007 (2)Proc.No.1648/Q/ 2018, dt:22-11-2018	Not Applicable to Cluster as per MoFRCC notification SO 2269/EJ, dt. 01-07-2016

This is submitted for favour of information.

Enclose. Lease sketch Map.

Yours faithfully,


Assistant Director of Mines and Geology,
Vijayawada.
Govt. of A.P., Vijayawada, Krishna Dt.

Copy submitted to

The Director of Mines & Geology, Ibrahimpatnam, Vijayawada for favour of kind information.
The Deputy Director of Mines & Geology, Kakinada for favour of kind information.

Copy to


M/s Aparna Enterprises Ltd., Hyderabad.

CLUSTER MAP SHOWING THE 500M DISTANCE FROM THE QL AREA M/S.APARNA ENTERPRISES LIMITED, EXTENT OF 2.720 Hec in SY NO. 119(P) & 126/3(P) OF KHAMBHAMPADU VILLAGE, A.KONDURU MANDAL, KRISHNA DISTRICT, A.P.



BP No	LATITUDE	LONGITUDE
1	N16°59'37.650"	E080°38'14.020"
2	N16°59'36.350"	E080°38'16.970"
3	N16°59'34.400"	E080°38'16.300"
4	N16°59'34.040"	E080°38'16.500"
5	N16°59'34.370"	E080°38'17.010"
6	N16°59'34.270"	E080°38'17.480"
7	N16°59'33.910"	E080°38'17.480"
8	N16°59'33.590"	E080°38'18.060"
9	N16°59'32.620"	E080°38'20.760"
10	N16°59'30.340"	E080°38'20.360"
11	N16°59'31.480"	E080°38'18.500"
12	N16°59'28.900"	E080°38'18.030"
13	N16°59'31.400"	E080°38'14.210"
14	N16°59'35.310"	E080°38'15.350"
15	N16°59'35.280"	E080°38'15.150"
16	N16°59'34.950"	E080°38'14.810"
17	N16°59'35.700"	E080°38'13.320"

INDEX

	M/S.APARNA ENTERPRISES LIMITED QL AREA EXTENT 2.720Hec
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LESSEE

K.Viswanath


SURVEYOR
O/O ADMG VIJAYAWADA


11/12/2019
ASSISTANT DIRECTOR OF MINES & GEOLOGY
VIJAYAWADA

**ENVIRONMENTAL MANAGEMENT PLAN
(CLUSTER)**

Of

**M/s. APARNA ENTERPRISES LIMITED
MINING OF QUARTZ & FELDSPAR
OVER AN EXTENT: 2.720 HA**

**Mine Address: Sy. No.119 & 126/3
Khambhampadu (V), A.konduru (M)
Krishna (Dt.), Andhra Pradesh**

**Prepared By
P.V. SATYANARAYANA
RQP/DMG/AP/34/2017
Bommasani Sadhan, 2nd Floor,
Near One Centre,
Gollapudi,
Vijayawada-521225
Mobile No.8940343373
Email Id:latticeit.in@gmail.com**

INTRODUCTION

Mining is the extraction of minerals or other geological materials from the earth through suitable method (open cast or underground) from an ore body, lode, vein, seam, reef or placer deposits. These deposits are mined normally when the extraction of the mineral is economically viable or due to economic interest. Mineral area classified as two groups i.e., Major and Minor Minerals.

In a developmental activity like Quartz mining, all the exercises must co-exist satisfactorily with its surrounding condition so as to minimize the adverse impact on the environment. To control the likely adverse impacts and to achieve this goal, it is necessary to prepare an Environmental Management Plan, which has to be implemented by the proponents, in order to achieve environmental protection along with production profits.

M/s Aparna Enterprises Limited, grant of quarry lease for Quartz & Feldspar over an extent of 2.720 Ha., in Sy.No: 119 & 126/3 of Khambhampadu Village, A.Konduru Mandal, Krishna District, Andhra Pradesh State.

The Asst. Director of Mines and Geology, Vijayawada, submitted the proposals recommending for grant of quarry lease for Quartz & Feldspar over an extent of 2.720 Ha., in Sy.No:119 & 126/3 of Khambhampadu Village, A.Konduru Mandal, Krishna District, Andhra Pradesh State, in favour of M/s Aparna Enterprises Limited, for a period of 20 years.

After careful examination of the proposals of the Assistant Director of Mines and Geology, Vijayawada, it is decided in principle to grant the quarry lease for Quartz & Feldspar over an extent of 2.720 Ha., in Sy.No:119 & 126/3 of Khambhampadu Village, A.Konduru Mandal, Krishna District, Andhra Pradesh State, in favour of M/s Aparna Enterprises Limited, for a period of 20 years vide Director of Mines & Geology, Ibrahimpatnam, Notice No. 7045/R2-3/2018 dated 01-10-2018.

The mining plan approved vides Letter No: 3620/MS/31M/VJA/2018, dated 12/12/2018.

Cluster Formation:

Asst. Director of Mines & Geology, Vijayawada has issued a letter stating that there are no existing leases within 500 mts of M/s Aparna Enterprises Limited Letter No. 1648/Q/2018, Dated: 11.01.2018

The Salient Features of the Proposed Project:

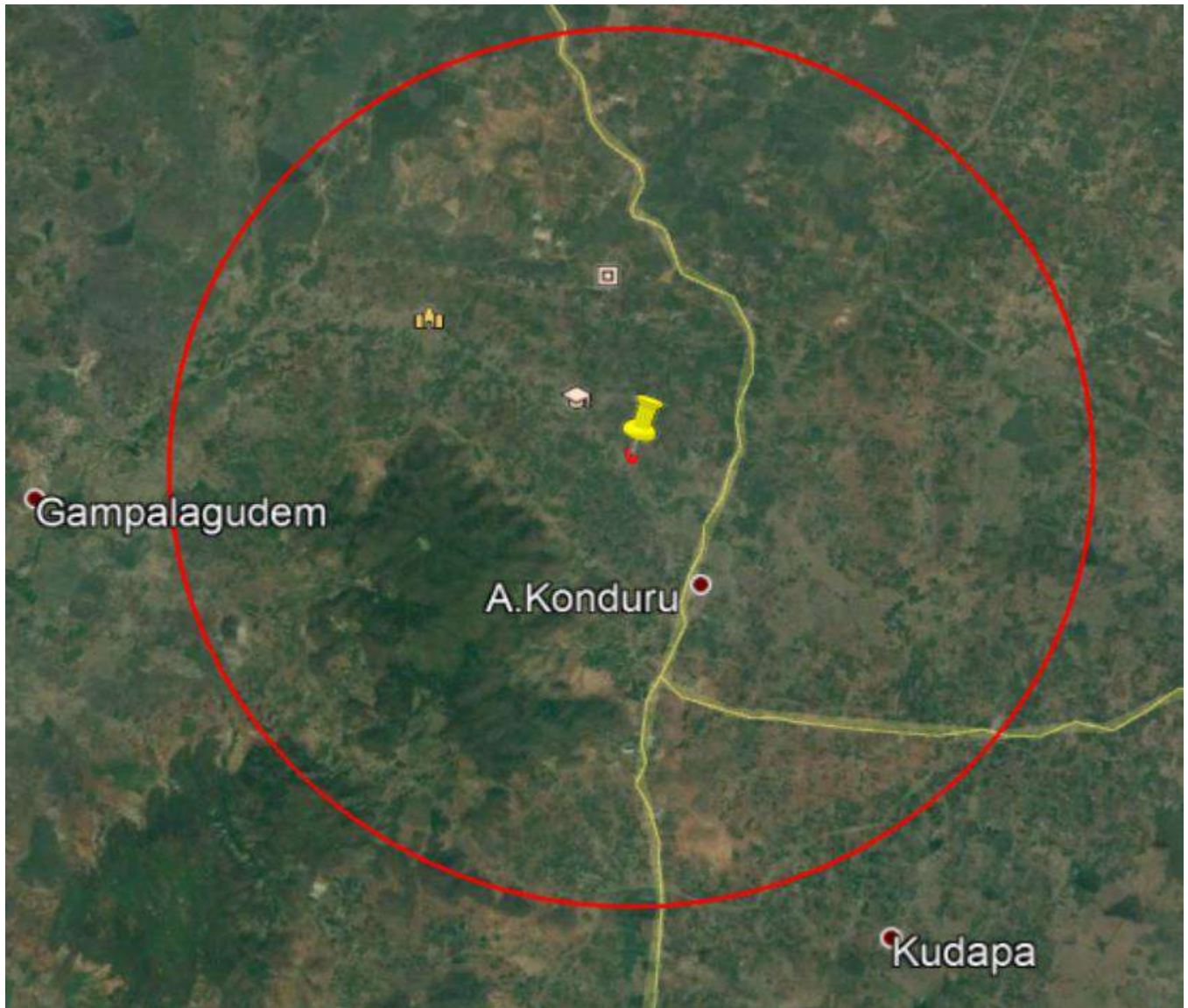
Nature of the project	M/s Aparna Enterprises Limited Mining of Quartz & Feldspar
Size of the Project	Maximum Production: 1,09,055.08 T/Annum
LOCATION OF PROJECT	
District & State	Krishna District, Andhra Pradesh
Village & Mandal	Khambhampadu Village, A.Konduru Mandal,
Land Availability	2.720 Ha.,
Nearest Village	Khambhampadu Village at 2.6Kms towards SE of the Q.L. Area
Ownership	Private Land
Toposheet No.	65 C/3 & C/4
GENERAL CLIMATIC CONDITIONS	
Annual rainfall	1000 mm
Min and max temp.	29° C and 37° C
Avg. relative humidity	75%
Predominant wind direction	SW to NE
HISTORICAL / IMPORTANT PLACES	
Nearest human settlement	Major habitation is Khambhampadu village at a distance of 2.6 kms
Nearest town	A.Konduru at a distance of 6.8 kms
Nearest railway station	Kondapalli Railway Station at 51 kms

Archaeological/Historically Important Site	No historical movements exist in and around the quarry lease proposed area.
Infrastructure Facilities	Hospitals, schools and community facilities are Available at A.Konduru Mandal Headquarters.

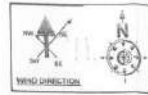
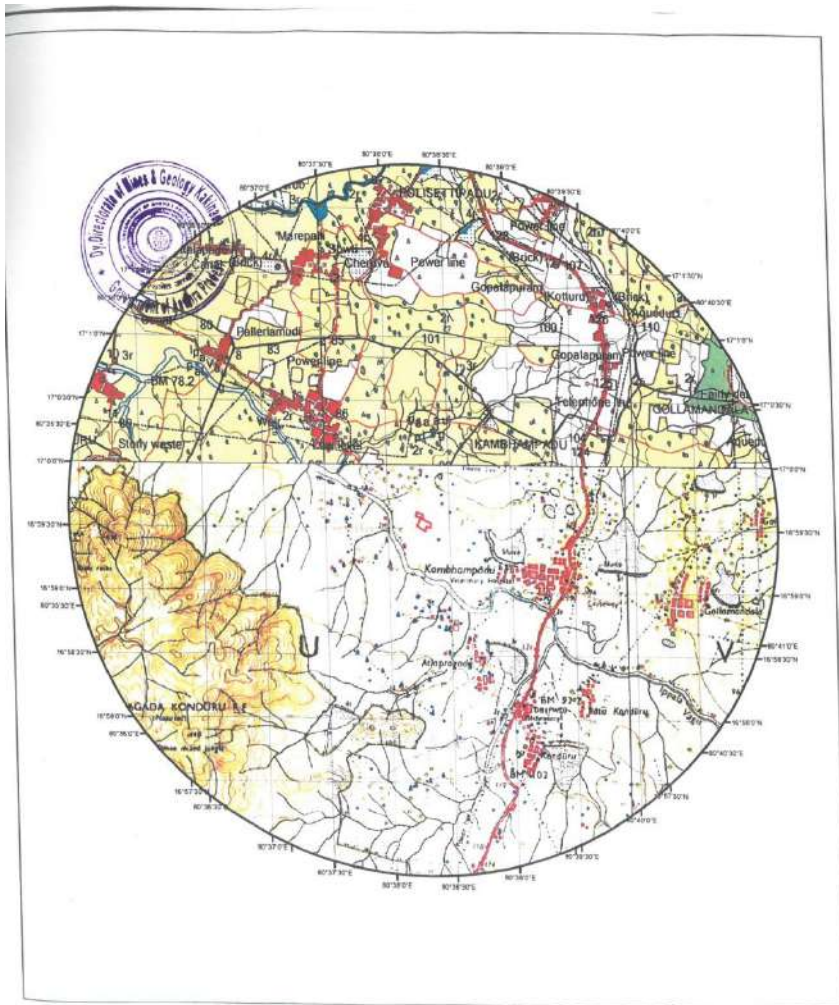
Boundary Coordinates:

Boundary Points	Latitude	Longitude
a	N16°59'37.650"	E080°38'14.020"
b	N16°59'36.350"	E080°38'16.970"
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GOOGLE MAP AROUND 10 KM RADIUS



TOPO MAP AROUND 05 KM RADIUS



**PLATE - I KEY CUM LOCATION MAP
FOR
REVISED SECOND SCHEME OF MINING FOR
QUARTZ & FELDSPAR**

Over an extent of 2,760 Hectares in Sy No. 199 & 126/3 of
Kambampadu (V), Akonduru (M), Krishna District
Telangana State

Part of Toposheet No. 65C/3&65C/4 Scale 1 : 50,000

S.NO	LATITUDE	LONGITUDE	S.NO	LATITUDE	LONGITUDE
a	N16°59'37.650"	E080°38'14.020"	j	N16°59'30.340"	E080°38'20.360"
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i	N16°59'32.620"	E080°38'20.760"			

MAP DATUM : WGS - 84	
Position Format	ddd - mm - ss.s
Map Datum	WGS - 84
Units	Metric
North Reference	True North
Variance	001° W
Angle	Degrees

LEGEND

STREAM	FOREST AREA	METAL ROAD
TANK	HILLS	LOCATION OF AREA
RIVER	ROAD	VILLAGE

LESSEE
S. Vijayalakshmi
M/s Aparna Enterprises Limited

The Plans and Sections are prepared
based on the same may be authenticated
by the State Government
CORRECTNESS CERTIFIED

(P.V. SATYANARAYANA)
ROPI/DMG/AP/34/2017
DDP/DMG/HYD/43/2017

DETAILS OF THE MINE

Mine Area

M/s Aparna Enterprises Limited was granted a mining lease for quartz & Feldspar over an extent of 2.720 Ha., in Sy.No: 119 & 126/3 of Khambhampadu Village, A.Konduru Mandal, Krishna District, Andhra Pradesh. The lease area is located at a distance of 2.6 kms from Khambhampadu village.

GEOLOGY AND EXPLORATION:

Topography:

The mining lease area is situated on the Plain Land. The lowest contour is 91 M and highest contour is 93M in Topo plan.

REGIONAL GEOLOGY:

The district constitutes a part of the Indian Peninsular Shield. The district formed by Archean include Khondalite suite of rocks Charnockite, Schist's, Granites and Anthracites. The major rocks of this group have a regional strike and foliation in the ENE – WSW direction with steep dips towards SSE. The geological succession of the district was given below.

Geological Age

Formation

Sub Recent to Recent

River Gravel, Alluvium Kankar and Soil

Mio – Pliocene

Rajahmundry Sandstones

-----Unconformity-----

Eocene

Deccan Traps

-----Unconformity-----

Lower Jurassic

Upper Gondwana Super Group

Gollapalle Sandstones

Upper Permian

Lower Gondwana Super Group

Chintalapudi Sandstone

-----Unconformity-----

Late Proterozoic

Palnadu Group

Narji Limestone, Shales &
Quartzite

Banaganapalli

-----Unconformity-----

Middle Proterozoic

Cuddapah Super Group – Nallamalai Formation – Cumbum Shales &
Quartzites

-----Unconformity-----

Archean

Quartz Veins & Dolerites, Khondalites, Granites,
Aplites, Pegmatites, Peninsular Gneiss, Charnockites &
Dharwars

GEOLOGY OF THE AREA:

The subject area falls on the northern part of the district consisting of Dharwars, which belong to the Archean age. The two distinct units consist the subject area. These two Litho units are (1) Quartz Vein with Feldspar as Hang wall and (2) Muscovite Schists in footwall. The subject area is covered by the soil. However, the Quartz & Feldspar body has exposed as two veins in the center and NW-SE part of the area. The Quartz & Feldspar veins are seen in the excavated pits. The Quartz & Feldspar is massive, Fine grained and Glassy in nature. It is colorless to translucent. The Quartz & Feldspar vein has a NW-SE strike and the dip is about greater than or equal to 45° SW. Feldspar occurs as a hanging wall over the two exposed Quartz Bodies

QUARTZ RESERVES:

The Reserves are estimate by multiplying the cross sectional area with the influence distance of section, tonnage factor (T.F) and recovery factor (R.F). The tonnage factor of Quartz is considering as 2.7 & the tonnage factor of Feldspar is considering as 2.6.

The deposit of quartz & feldspar were mineralized under major joints / faults i.e., NW-SE direction under passes a vein body. Here major vein is passing through the lease area i.e., of NW-SE direction.

As the Quarry Lease area is under working since 2007, so based on the working pits of the quarry lease area, the Vein of Quartz & Feldspar were passing through the Quarry Lease area as the direction is projected and Then it is exhibited that the nature of deposit is intermixed of Quartz & Feldspar. Hence, 30% Quartz & 70% Feldspar will be considered on basis of vein presence in the old working pit and 10% Quartz & 90% Feldspar will be considered on basis of newly explored vein. However, not arrive the intermixed nature of over burden within the deposit due to origin of Quartz & Feldspar deposit was plutonic

TOTAL GEOLOGICAL RESERVES (PROVED)

S.no	CROSS-SECTIONNS	CROSS SECTIONAL AREA (sq.m)	AVERAG E DETAILS	AVG. CROSS SECTIONAL AREA (sq.m)	Distance B/W Sections	VOLUME	QUARTZ (30%)	FELDSPAR (70%)	TONNES	
									QUARTZ (2.7)	FELDSPAR (2.6)
S ₁	A-A1	358	(S1+S2)/2	417	42	17,514	5,254.2	12,259.8	14,186.34	31,875.48
S ₂	B-B1	476								
S ₃	C-C1	1,116	(S3+S4)/2	1,198	38	45,524	13,657.2	31,866.8	36,874.44	82,853.68
S ₄	D-D1	1,280								
S ₅	E-E1	1,288	(S4+S5)/2	1,284	36	46,224	13,867.2	32,356.8	37,441.44	84,127.68
S ₆	F-F1	1,288								
SUB TOTAL						1,50,478	45,143.4	1,05,334.6	1,21,887.18	2,73,869.96

TOTAL GEOLOGICAL RESERVES (PROVED)

	CROSS-SECTIONNS	CROSS SECTIONAL AREA (Sq.m)	AVERAG E DETAILS	AVG. CROSS SECTIONAL AREA (Sq.m)	Distance B/W Sections	VOLUM E CU.M	Quartz	Feldspar	Quartz	Feldspar
							10%	90%	T.F. (2.7)	T.F. (2.6)
S ₇	G-G1	1,520	(S7+S8)/2	1,623	32	51,936	5,193.6	46,742.4	14,022.72	1,21,530.24
S ₈	H-H1	1,726								
S ₉	I-I1	1,706	(S8+S9)/2	1,716	36	61,776	6,177.6	55,598.4	16,679.52	1,44,555.84
SUB TOTAL						1,13,712	11,371.2	1,02,340.8	30,702.24	2,66,086.08

TOTAL GEOLOGICAL RESERVES (PROBABLE)										
S.N o	CROSS- SECTIONS	CROSS SECTIONAL AREA (sq.m)	AVERAGE DETAILS	AVG. CROSS SECTIONAL AREA (sq.m)	Distance B/W Sections	VOLUME	QUARTZ (30%)	FELDSPAR (70%)	TONNES	
									QUARTZ (2.7)	FELDSPAR (2.6)
S ₁	A-A1	717	(S1+S2)/ 2	517	42	21,714	6,514.2	15,199.8	17,588.34	39,519.48
S ₂	B-B1	317								
S ₃	C-C1	970	(S3+S4)/ 2	1311.5	38	49,837	14,951.1	34,885.9	40,367.97	90,703.34
S ₄	D-D1	1653								
S ₅	E-E1	1662	(S4+S5)/ 2	1657.5	36	59,670	17,901	41,769	48,332.7	1,08,599.4
S ₆	F-F1	1554	(S5+S6)/ 2	1608	32	51,456	15,436.8	36,019.2	41,679.36	93,649.92
SUB TOTAL						1,82,677	54,803.1	1,27,873.9	1,47,968.37	3,32,472.14

TOTAL GEOLOGICAL RESERVES (PROBABLE)										
	CROSS- SECTION S	CROSS SECTIONAL AREA (Sq.m)	AVERAGE DETAILS	AVG. CROSS SECTIONAL AREA (Sq.m)	Distanc e B/W Section s	VOLUME CU.M	Quartz	Feldspar	Quartz	Feldspar
							10%	90%	T.F. (2.7)	T.F. (2.6)
S ₇	G-G1	1007	(S7+S8)/ 2	1025	32	32,800	3,280	29,520	8,856	76,752
S ₈	H-H1	1043								
S ₉	I-I1	891	(S8+S9)/ 2	967	36	34,812	3,481.2	31,330.8	9,399.24	81,460.08
SUB TOTAL						67,612	6,761.2	60,850.8	18,255.24	1,58,212.08

RESERVES AVAILABLE FOR MINING (Proved)

Total Geological Reserves	6,92,545.46 Tons
Total Geological Reserves of Quartz (Available)	1,52,589.42 Tons
Total Geological Reserves of Feldspar (Available)	5,39,956.04Tons
Proposed Production Per Annum including Quartz and feldspar	1,09,055.08 Tons

Life of the Mine = Total Mineable Reserves / Average Annual Production

= 6, 92,545.46 Tons / 1, 09,055.08 Tons

= 6.35 OR SAY 6 YEARS

Production Proposed for Four years

The lessee intends to extract the Quartz & Feldspar production to the tune of 1,09,055.08 Tons per annum during four years of balance period.

During the plan period, it is proposed to exploit the Quartz & Feldspar from the total area of 11,315 M2, under Cross Sections A-A1 to C-C1 between the grids N 70-250 & E 20-225 (Plate – V).

Other than fully mechanized open cast 'A' category, method of mining operations will be employed to Compressor with Jackhammers will be utilized for drilling the holes. Excavation, haulage will be done by manually. Manual sorting and sizing of the mineral will be done manually. Hired trucks will transport the minerals.

YEAR WISE DEVELOPMENT

YEAR	QUARTZ & FELDSPAR
1 st Year 2017- 18	<p>2017-18 Year has been completed ,Depleted reserves in this year was 10,250 Cu.M</p> <p>A Surface area of 932 M² is excavated producing 10,250 Cu.M of Quartz with a depth of 11 M</p>
2 nd Year 2018- 19	<p>During 2nd year, the mining will be initiated from Old pit of the mining lease area between the grids N 100-175 & E 100-150.</p> <p>25,313.75 Tones of Volume will be obtained by excavating a sectional area of 385 M² with the sectional influence of 25M, producing 17,517.5 Tons of Feldspar (70% in old vein recovery) and 7,796.25 Tons of Quartz (30% in old vein recovery) will be generated by forming two temporary benches with bench height of 6M & width 6M and those are utilized for further Year.</p>
3 rd Year 2019- 20	<p>During 3rd year, the mining will be continue Below the 2nd Year workings between the grids N 50-200 & E 100-175.</p> <p>1,39,659.71 Tones of Volume will be obtained by excavating a sectional area of 253 M² with the sectional influence of 25M in a old vein , & another sectional area of 982 M² with the sectional influence of 48 M in a old vein producing 1,21,809.74 Tons of Feldspar (70% in old vein recovery & 90% in newly explored Vein recovery) and 17,849.97 Tons of Quartz (30% in old vein recovery & 10% in newly explored Vein recovery) will be generated by forming four temporary benches with bench height of 6M & width 6M.</p>
4 th Year 2020- 21	<p>During 4th year, the mining will be continue from EAST of 1st & 2nd Year workings between the grids N 100-200 & E 150-250.</p> <p>1,48,373.28 Tones of Volume will be obtained by excavating a sectional area of 1292 M² with the sectional influence of 44M, producing 1,33,024.32 Tons of Feldspar (90% in newly explored Vein recovery) and 15,348.96 Tons of Quartz (10% in newly Explored Vein recovery) will be generated by forming nine temporary benches with bench height of 6M & width 6M.</p>
5 th Year 2021- 22	<p>During 5th year, the mining will be continue from West of the 4th Year workings between the grids N 100-250 & E 50-150.</p> <p>1,22,873.6 Tones of Volume will be obtained by excavating a sectional area of 640 M² with the sectional influence of 73M, producing 37,843.2 Tons of Feldspar (70% in old vein recovery) and 85,030.4 Tons of Quartz (30% in old vein recovery) will be generated by forming five temporary benches with bench height of 6M & width 6M</p>

YEAR WISE PRODUCTION FOR 4 YEARS (Quartz & Feldspar)

Year	Sectional Area	Influence	Volume	Quartz		Feldspar		Quartz	Feldspar	Total Volume In T.F.
				T.F. (2.7)	T.F. (2.6)					
	(M ²)	(M)	(M ³)	@ R.P	(M ³)	@ R.P	(M ³)	Tons	Tons	
2 nd Year 2018-19	385	25	9,625	@30%	2,887.5	@70%	6,737.5	7,796.25	17,517.5	25,313.75
3 rd Year 2019-20	253	25	6,325	@30%	1,897.5	@70%	4,427.5	5,123.25	11,511.5	16,634.75
	982	48	47,136	@10%	4,713.6	@90%	42,422.4	12,726.72	1,10,298.24	1,23,024.96
	Total		53,461	6,611.1		46,849.9		17,849.97	1,21,809.74	1,39,659.71
4 th Year 2020-21	1292	44	56,848	@10%	5,684.8	@90%	51,163.2	15,348.96	1,33,024.32	1,48,373.28
5 th Year 2021-22	640	73	46,720	@30%	14,016	@70%	32,704	37,843.2	85,030.4	1,22,873.6
SUB-TOTAL			1,66,654	29,199.4		1,37,454.6		78,838.38	3,57,381.96	4,36,220.34
AVERAGE			41,663.5	7,299.85		34,363.65		19,709.59	89,345.49	1,09,055.08

PROJECT DESCRIPTION:

Type of Mining:

The method of mining shall be opencast and semi-mechanized on single shift basis. Jack Hammer drilling and blasting shall carry out excavations. Bench height and width to be maintain at 6 m and 6 m each respectively with overall slope of ramp (or) internal roads at 45o-60°. Excavation and loading shall be carrying out with simple excavators with capacity of 0.9-to 1.1 Cu.M bucket. This shall be utilized for development of Quarry/Mine, excavation and loading into the trucks. Tippers of 10 T capacities shall be utilizing for all transportation purposes.

The firm intends to extract the Quartz & Feldspar production to the tune of 1, 09,055.08 Tons of Quartz & Feldspar per annum during the five years of the plan period.

- Capacity of Quartz & Feldspar raising per annum = 1, 09,055.08 Tons
- Total excavation (Maximum Production) = 4, 36,220.34 Tons
- No of Working Days considered = 250
- Total required quantity of excavation per Annum = 1, 09,055.08 Tons
- Total required quantity per day = 436.22 Tons per day

The opencast mine operations consist of four major operations viz. drilling, blasting, loading and transport

The details of Machinery being utilized at quarry are as follows:-

S.No.	Rated Capacity	Requirement of Machinery
1.	Hitachi Bucket Capacity 0.9 M ³	1 No.
2.	Jack Hammers	4 No's.
3.	Tractor Mounted Compressor	1 No.
4.	Water Tanker (Tractor Mounted) 5000 L	1 No.
5.	Tippers	2 No's.

EMPLOYMENT POTENTIAL:

The human resources deployed are as follows:

S.No.	Category	No's.
	Supervisory Cadre	
1.	Mines Manager cum Mining Engineer	1
2.	Mine Mate	1
	Work Persons	
3.	Excavator Operator	1
4.	Drivers	5
5.	Compressor Operator	4
6.	Semi Skilled Workers	20
7.	Un-skilled Workers	20
	TOTAL	52

FRESH WATER REQUIREMENT & WASTE WATER GENERATION

S.No	Description	Fresh water	Waste water	Disposal
1.	Domestic	2.5 KLD	2.0 KLD	Septic tank followed by soak pit
2.	Green belt	4.0 KLD	--	--
3.	Dust suppression	5.0 KLD	--	--
TOTAL		11.5 KLD		

MANAGEMENT OF OVER BURDEN

The production and waste generation during the Period i.e. 2018-19 to 2022-23 tabulated below:

Year	Production in Tons	Waste in Tons (country Rock)	Ore : Waste
2nd Year 2018-19	25,313.75	432	1:0.017
3rd Year 2019-20	1,39,659.71	60,944	1:0.43
4th Year 2020-21	1,48,373.28	1,13,294	1:0.76
5th Year 2021-22	1,22,873.6	20,054	1:0.16

ENVIRONMENTAL MANAGEMENT PLAN

The Environmental Management Plan envisage for this Mining Project is described here under with a strong commitment to follow the best Environmental Practices to reduce the negative implication to make this Project a sustainable development endeavor.

The management action plan aims at controlling pollution at the source level to the possible extent with the available and affordable technology followed by treatment measures before they are discharge.

Air Environment and control measures:

The proposed mining activity would result in the increase of suspended particulate matter due to fugitive dust resulting from mining operations and transportation activities. Wet drilling will be adopted to suppress the dust generated during drilling. This water will also aid in cooling the drill bits which will be recirculated.

Dust emissions and particulate emissions mitigation measures will be through water spraying at all the sources of dust formation and these measures are further elaborated as follows:

Dust rising due to drilling will be controlled by covering the drill rods with cloth; dust extractors will also be employed.

- Regular water sprinkling at dust emanating sources viz., drilling, storage dumps and transportation through haulage roads, etc will be carried out.
- Regular grading of haul roads and service roads will be taken up to clear accumulation of loose material.
- Periodic maintenance of transport vehicles and equipment will be carried out to check emission levels.
- Greenbelt will be developed with avenue plantation all along the haulage roads and peripheral plantation all around the mine in order to control dust.
- Overloading of trucks will be avoided and carrying the ore/mineral in covered trucks will be taken-up to minimize pollution levels.
- Water will be sprayed on haul roads for minimization of re-suspension of dust due to transportation.

Water Pollution Management:

However, during rains the water flows through the slopes of the M.L. area and across the mine lease boundary and joins a natural drainage.

The rainwater that collects in the mine pit bottom during the rainy season will be utilized for water spraying on the haul roads and mining area. This water will also be used for the plantation in and around the Mine Lease area.

The total water requirement will be 11.5 KLD which will be utilized from nearby bore well and treated water from septic tank. The usage will be as follows:

- Spraying/Sprinkling on dumps, haulage roads - 5.0 KLD
- Plantation - 4.0 KLD
- Domestic Use - 2.5 KLD
- The following that flows in the core zone will be routed adequately through channels to avoid any erosion and contamination.
- The mine pit water collected due to rains will be utilized for water spraying on the haul roads and for watering plantation.

The wastewater generated from the domestic usage will be fed to septic tank followed by soak pit.

Garland drain and retention wall will be provided.

Noise Environment:

There will be intermittent noise levels while usage of jack hammers. The noise levels are expected to be below 75dB. This will however be for very short duration. No mining activities are planned during night time. A thick green belt will be developed to act as noise attenuator. The management plan for controlling noise pollution is envisaged as follows.

The noise generated is very much minimum as the Quartz is majority of manual and minimum Vehicular Traffic.

- The machinery will be maintained properly to reduce the noise levels.
- The protective noise reducing gear like earmuffs, earplugs will be provided by the company.
- Proper maintenance of equipment.
- Machinery will be fitted with properly designed noise generating acoustic silencers.

- Providing noise insulation/padding wherever practicable.
- Proper maintenance and periodic lubrication of noise generating parts of the machines.
- Provision of thick plantation in and around the mine is planned in order to reduce the noise and prevent it from reaching to surrounding habitation areas.

Manual Picking:

Boulder crusher ranges:

- 10-30 mm
- 30-100 mm
- 100-200 mm

S.No.	Equipment	Noise Levels (dB) (when no control measures)	Control Measures	Noise Levels (dB) (With controllability)
1.	Air Compressor	90-95	<ul style="list-style-type: none"> • Attenuate radiated compressor noise by erecting a sound curtain at compressor mounted area. • Control reflected noise from the ceiling by adding a roof to the sound curtain wall, • Reduce reflected noise by adding acoustical absorption. 	15-25% reduction
2.	Metal Crusher	87-96	<ul style="list-style-type: none"> • Resilient mountings, chute linings, acoustic curtains, lagging, covers etc can bring about useful reductions in noise levels • Reducing sound radiating surfaces e.g use mesh guards instead of plate metal; 	15-25% reduction
3.	Excavator	85-90	<ul style="list-style-type: none"> • Engine Exhaust silencers • Retro-fitting existing equipment with damping materials • Mufflers, or enclosures; • Erecting barriers and Maintenance • Vibration isolation e.g of 	15-25% reduction

			operators' cabins and vehicle cabs	
4.	Blasting	110-120	<ul style="list-style-type: none"> • By implementing controlled blasting • The adequate covering of detonating cord, if it is used with at least 0.6 m of material, can reduce noise levels. • More common now is the use of in-hole initiation, or the use of non-electric (shock tube) initiation techniques, and substantial noise reductions can be achieved by this method. 	15-25% reduction
5.	Tippers Movement	90-100	<ul style="list-style-type: none"> • Development of greenbelt in the periphery of mine and all along the haul roads. • Vehicle movements on site are controlled and adequately supervised. • Restriction of speed 	15-25% reduction

IMPACTS DURING CONSTRUCTION & OPERATION PHASE

Impacts during construction phase:

S.No.	Components	Aspect	Potential Impact
Constructional Phase			
1.	Topography & Geology	Site development	No significant adverse Impacts
2.	Soil	Construction activity leading to top soil removal & erosion	Minor negative impact
3.	Land use & Aesthetics	Land Development	Positive impact
4.	Water Quality	Surface runoff from project site; Improper debris disposal; Discharge of sewage from labour camp.	Short term, but no significant negative impact.
5.	Ambient Air Quality	Dust emissions from site preparation, excavation, material handling and other construction activities at site.	Short term minor negative impact inside the site premises. No negative impact outside the site.
6.	Noise	Noise generated from construction activities, operation of construction equipment and traffic.	Short term minor negative impact near noise generation sources inside premises. No significant impact on ambient noise levels at sensitive receptors.
7.	Ecology Flora and Fauna	The area is hill & rocky terrain. Hence only small bushes are present.	Short term minor negative impact
8.	Socio economy	Increased job opportunity. Economy related to semiskilled expected to boom.	Overall positive impact
9.	Traffic Pattern	Haul truck movement and possibility of traffic congestion outside on sector road.	Minor negative impact
10.	Solid Waste	Waste will be generated from construction activities.	Proper disposal plan will be implemented. No adverse impact.

Impacts during operation phase:

S.No.	Components	Aspect	Potential Impact
Operational Phase			
1.	Water Usage	Total domestic water of over 2.0 KLD will be used during operation phase.	Source of water will be supply through water tankers. No significant adverse impact
2.	Water Quality	Domestic effluent will be dispose to septic tank followed by soak pit.	No significant adverse impact
3.	Ambient Air Quality	Particulate and gaseous emissions from DG sets and vehicle movement. Fugitive dust due to mining operations	The impacts will be localized by implementing dust suppression system for fugitive dust , sprinkling of water all along the haul roads , dust control measures at crusher by implementing bag house will reduce negative impact.
4.	Noise	Noise from vehicle movement and operation of diesel generator sets during power failure located in basement for common area lighting & lift in case of Energy Centre fails	Minor negative impact inside premises. No significant impact at sensitive receptors.
5.	Ecology Flora and Fauna	Land use change	No negative impact.
6.	Socio economy	Increased job opportunity. Better social infrastructure such as better connectivity.	Overall positive impact
7.	Traffic Pattern	Mine road which is well connected to state highway.	Only additional trucks will ply due to this there will not be any impact on traffic pattern
8.	Solid Waste	Rejected waste will be used for plantation, roads, filling ditches and reclamation of the pit at the time of closure, road development etc. Biodegradable and non bio degradable solid waste will be sold to the authorized vendors.	No negative impact

GREEN BELT DEVELOPMENT

The development of greenbelt in the peripheral buffer zone of the mine lease area will be undertaken well before the starting of the mining activity.

Green Belt has been recommended as one of the major component of Environmental Management Plan, which will improve ecology, environment and quality of the surrounding area.

Plantation will be done along the haulage roads and the unused area in the M.L. area will be developed with green cover. Suitable advice on this plantation activity will be consulted with the local Forest Department along with measures to ensure good survival rate.

Concepts of Green Belt Development

The concepts of Green Belt Plantation scheme are

1. Nature of Pollutants
2. Emission Levels
3. Maximum Impact zone

CRITERIA FOR SELECTION OF SPECIES

Species to be selected should fulfill the following specific requirements of the area

- Availability of seed material
- Tolerance to specific conditions or alternatively wide adapts ability to eco-physiological conditions.
- Rapid growth
- Capacity to endure water stress and climatic extremes after initial establishment
- Differences in height, growth habits
- Pleasing appearance
- Providing shade
- Ability of fixing atmospheric Nitrogen
- Improving waste lands.
-

DESIGN OF GREEN DEVELOPMENT

The greenbelt shall be developed around the plant to act as a sink for pollutants, attenuation of noise levels and improvement in aesthetic quality of the plant. The following criteria shall be adopted in the design of greenbelt:

1. Generally fast growing trees should be planted as otherwise it will take many years for other types of trees to attain their full height.
2. Trees will be planted along the road side in such a way that there is no direct line of sight when viewed from appoint outside the foliage perimeter.
3. Trees growing up to 10 m or more in height with thick perennial foliage should be planted around the plant.
4. Sensitive species such as magnifier indicia should be planted in patches along the entire greenbelt to work as an indicator of pollution.
5. Trees shall be planted staggeredly in each row (minimum three rows encircling the perimeter of the plant).
6. Tree trunk being free foliage up to a height of 2 to 3 m, it is advisable to grow shrubs in front of trees to give coverage to the open portion.
7. Greenbelt will be developed all around the plant area with a width of 10 m.
8. Greenbelt will be developed around the plant except wherever buildings and other structures.
9. Local Plant species will used for development of green belt.

Socio-Economic Environment

Agriculture and sheep rearing are important profession of the people living in the village besides involving themselves in quarrying activity. The quarrying activity in this area improved the socio-economic status of the local people by virtue of direct and indirect employment.

Safety and Environment

The proponent will provide all necessary provisions stipulated under the Factories Act and mines act. In addition a safety committee will be formed and manned by equal participants from Management and Workers.

The mining in this area does not involve any hazardous methods. The applicant is providing First Aid facilities at mine site.

- The management firmly believes in the concept of safety and environmentally sustainable growth. The authorities and staff are very much concern in Environment issues.

- The management is going to develop scientifically designed green belt around the premises to mitigate air and noise pollution impacts on the surroundings.
- The management proposed to monitor ambient air as per APPCB guidelines.
- All the employees are provided with personal protective equipment such as helmets, hand gloves, safety shoes, goggles and apron as per their place of work.
- The management will provide safety training to all employees periodically and regularly.

POST PROJECT ENVIRONMENTAL MONITORING PROGRAMME

In order to maintain the environmental quality within the standards, regular monitoring of various environmental components is necessary. The mine manager will take care of Environmental Management activities with objectives as

- To implement control/mitigation measures
- To monitor this implementation process
- To determine and improve the efficiency of the implemented measures
- To identify any other unforeseen effect on environment not covered hereby and

Regular monitoring of various environmental parameters shall be carried out through third party to ascertain the following points:

- Status of air, noise, water, land pollution within the plant and in its vicinity;
- Generate data for predictive or corrective purpose in respect of pollution; and
- To assess and monitor environmental impacts periodically.
- The frequency of monitoring will be done as per norms.

PROJECT SCHEDULE AND COST ESTIMATES:

The envisaged maximum annual production of Quartz & feldspar in a year is estimated to be 1,09,055.8 Tons per annum.

The cost of the project : **19.0 Lakhs**

EMP Cost : **5.0 Lakhs**

List of the cost of the project consists of the following major components:

S.NO	Component of the Project	Status	Total Cost in Rs.
1.	Land and Site development	Working Pits	4.00 Lakhs
2.	Buildings and civil works (Site Services)	65Sq.m	1.00 Lakhs
3.	Machinery	Hired Machinery	4.50Lakhs
4.	Processing and Consultancy Charges		1.50Lakhs
5.	Provisions for contingencies		1.50Lakhs
6.	Working Capital		6.50Lakhs
7.	Financial assurance and purchase of NSS binds	Furnished	-
Total cost of Project			19,00,000

Proposed CSR Activities:

SI.NO.	Activity	Cost
1.	Ramalayam Temple development - Paints (Khambampadu Village)	0.25 Lakhs
2.	Church development-Paints (Khambampadu Village)	0.25 Lakhs

CONCLUSIONS

The land that is going to be disturbed cannot be reclaimed during the lease period, as the quartz & quartzite is persisting at further depth and it will take a very long time to exhaust. No measures are proposed for reclamation of the disturbed land during the next five years. There is no other significant negative impacts are anticipated as the involved mining activities are very small. All possible measures shall be adopted to control pollution emissions to the minimum and kept below CPCB/MoEF/SPCB standard norms (Air, water, noise standard limits).

SITE PHOTOGRAPHS

