GOVERNMENT OF ANDHRA PRADESH
DEPARTMENT OF MINES AND GEOLOGY

From
Sri.B.Jagannadha Rao, M.Sc.,
Deputy Director of Mines & Geology,
Nellore.

To
M/s. MICA ZONE,
Mg.Pt.Sri G.Krishnam Raju,
Jaflapuram Village
Sydapuram Mandal,
SPSR Nellore District-524407

Letter No.1128/MP/Feldspar,Mica&Quartz/NLR/2021,dated:31.08.2021

Sir,

Sub:- Mines & Minerals – Mining Plan for Quarry Lease applied area of M/s. MICA ZONE, Mg.Pt.Sri G.Krishnam Raju for Quartz, Feldspar & Mica over an extent of 10.723 Hects / 26.49 Acrs (including safety buffer zone and road area) in Forest Land in Sy.No.466 (Comp.No.120) of Turimerla Village, Turimerla RF of Sydapuram Mandal SPSR Nellore District - Approved – Regarding.

Ref:-
1. Proceeding No.28594/P.RQP/01, dated 13.05.2016 of the Director of Mines and Geology, Ibrahimpatnam.
2. Circular Memo No.3861432/P/2020, dated 16.07.2021 of the Director of Mines and Geology, Ibrahimpatnam.
3. Draft Mining Plan submitted on 02.08.2021 submitted by M/s. MICA ZONE, Mg.Pt.Sri G.Krishnam Raju.
4. RC.No.598/2021F11, dt:16.08.2021, from DFO, Nellore.
5. Inspection Report of this office Technical Staff.
6. This office Letter No.1128/MP/Feldspar,Mica&Quartz/NLR/2021, dt:23.08.2021.
7. Letter dated 28.08.2021 along with 6 sets of fair Mining Plan from the Applicant / RQP.

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In exercise of the powers conferred by the Director of Mines and Geology, Ibrahimpatnam through the reference 1st cited and keeping in view of the instructions issued by the Director of Mines and Geology vide reference 2nd cited for processing of Mineral Concession applications falling in the forest area , I hereby approve the Mining Plan, in respect of Quarry Lease applied area of M/s. MICA ZONE, Mg.Pt. Sri G.Krishnam Raju for Quartz, Feldspar & Mica over an extent of 10.723 Hects / 26.49 Acrs (including safety buffer zone and road area) in Forest Land in Sy.No.466 (Comp.No.120) of Turimerla Village, Turimerla RF of Sydapuram Mandal SPSR Nellore District under Rule 7A & 12(5) (C) of Andhra Pradesh Minor Mineral Concession Rules, 1966 read with G.O.Ms.No.56, Industries & Commerce (Mines-II) Department, dated:30.04.2016. This approval is subject to the following conditions.

1. The proposals contained in the approved mining plan for the period of five years shall be applicable from the date of execution of the lease deed and for the mining activities to be carried out within the lease hold area as per the approved mining plan only.

Contd...2

2. This Mining Plan is approved without prejudice to any other laws applicable to the Quarry Lease area from time to time whether made by the Central Government, State Government or any other authority.

3. Approval of the Mining Plan does not in any way imply the approval of the Government in terms of any other provisions of the Mines and Minerals (Development and Regulation) Act, 1957 and amended act 2015 and the Mineral Concession Rules 1960 (Amended Rules 2016) and any other laws including the Forest Conservation Act, 1980.

4. The Mining Plan is approved subject to strictly adhering to the Relevant Regulations of MMR 1961 and obtaining prior permission from Director General Mines Safety whenever and where ever it is required.

5. The approval authority does not owe the responsibility with regard to Assessment of the reserves, erroneous certification made by the R.Q.P. if any and approval is tentative, subject to Modification on new findings at a later date as per the provisions of (23 B & 23 D) of MCDR, 1988, since the evaluation is done on random basis.

6. The applicant/ lessee shall safeguard the structures, public buildings, roads, railway line, electric line and water bodies exists if any as per regulations 109 & 127 of MMR, 1961.

Encl: Approved Mining Plan.

Yours faithfully,

B. Gangadhar 31/8/2021

Deputy Director of Mines & Geology
Nellore.

Copy submitted to the Director of Mines and Geology, Ibrahimpatnam along with A.M.P.

Copy submitted to the Member of Secretary, Andhra Pradesh Pollution Control Board, Visakhapatnam along with AMP for information.

Copy to Sri P.Viswam, (RQP/BNG/346/2015/A), Anoosri Mining Solutions, Near Sivalayam Temple, Sydapuram (V) (PO) & (M), SPSR Nellore District – 524407 for information.

Copy submitted to the Regional Controller of Mines, IBM, Sultan Bazar, Hyderabad along with A.M.P.

Copy submitted to the Director of Mines Safety, Gruhakalpa (Block-2), Nampally, Hyderabad for favour of information.

Copy to the Asst. Director of Mines and Geology, Nellore along with A.M.P.

MINING PLAN

FOR MICA, QUARTZ AND FELDSPAR OVER A TOTAL EXTENT OF 10.723 HA / 26.49 AC INCLUDING 1.340 HA SAFETY BUFFER ZONE & 0.370 HA ROAD AREA IN SY.NO. 466 OF TURIMERLA VILLAGE, TURIMERLA RF OF SYDAPURAM MANDAL, SPSR NELLORE DT, A.P.

This Mining plan is prepared as per guidelines in FORM – T ,
Under Amended Rule 12 (5) (c) of APMMC Rule 1966 & Rule 23(B) of MCDR, 1988

'B' category - Semi Mechanized Open Cast Mine
(OTFM) - Other Than Fully Mechanized Mine.

FOREST LAND

APPLICANT

M/s MICA ZONE,
Mg.Partner. Sri G. Krishnam Raju,
S/o G. Narayana Raju
Jaflapuram Village,
Sydapuram Mandal,
SPSR Nellore District-524407.

PREPARED BY

ANOOSRI MINING SOLUTIONS
P.VISWAM,
(RQP/BNG/346/2015/A)
Near Sivalayam,
Sydapuram (V), (PO) & (M)-524407
SPSR Nellore Dist. A.P

DECLARATION

This Mining Plan of **M/s Mica Zone, Mg.Partner: Sri G. Krishnam Raju** Mica, Quartz and Feldspar over an Extent of 10.723 Ha / 26.49 Ac including 1.340 Ha Safety buffer zone and 0.370 Ha Road area in Sy.No 466 of Turimerla Village, Turimerla RF of Sydapuram Mandal, SPSR Nellore District and Andhra Pradesh State has been prepared by Anoosri Mining Solutions (Sri P. Viswam, (RQP /BNG /346/2015/A)) in full consultation with me and I understand its contents and agree to implement the same in accordance with the law.

Place:

Date:

For MICA ZONE

Managing Partner

Signature of the Applicant

CERTIFICATE

Certified that the provisions of Mines Act-1952, Mines Rules-1955 and Regulations-1961, made there under have been observed in the preparation of this Mining Plan for Mica, Quartz and Feldspar over an Extent of 10.723 Ha / 26.49 Ac including 1.340 Ha Safety buffer zone and 0.370 Ha Road area in Sy.No 466 of Turimerla Village, Turimerla RF of Sydapuram Mandal, SPSR Nellore District and Andhra Pradesh State in favour of **M/s Mica Zone, Mg.Partner: Sri G. Krishnam Raju** and wherever any specific permissions are required, the applicant will approach the Director General of Mines Safety.

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

Deputy Director of Mines & Geology Government of A.P. Nellore

Place: Sydapuram

Date: 28-08-2021

P. Viswam
(RQP/BNG/346/2015/A)
ANOOSRI MININMG SOLUTIONS

CERTIFICATE

Certified that the provisions of Mineral Conservation and Development Rules, 1988 have been observed in the preparation of this Mining Plan for Mica, Quartz and Feldspar over an Extent of 10.723 Ha / 26.49 Ac including 1.340 Ha Safety buffer zone and 0.370 Ha Road area in Sy.No 466 of Turimerla Village, Turimerla RF of Sydapuram Mandal, SPSR Nellore District and Andhra Pradesh State in favour of **M/s Mica Zone, Mg. Partner: Sri G. Krishnam Raju.**

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

Place: Sydapuram

Date: 28-08-2021

P.Viswam
(RQP/BNG/346/2015/A)
ANOOSRI MINING SOLUTIONS

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Deputy Director of Mines & Geology
Government of A.P. Nellore

This Mining Plan is Approved Subject to the conditions stipulations indicated in the Mining plan Approval Letter No. 1128/MP/QFM/NLR/2021 Date ...../2021.....

MINING PLAN

FOR MICA, QUARTZ AND FELDSPAR OVER A TOTAL EXTENT OF 10.723 HA / 26.49 AC INCLUDING 1.340 HA SAFETY BUFFER ZONE & 0.370 HA ROAD AREA IN SY.NO. 466 OF TURIMERLA VILLAGE, TURIMERLA RF OF SYDAPURAM MANDAL, SPSR NELLORE DT, A.P.

This Mining plan is prepared as per guidelines in FORM – T, Under Amended Rule 12 (5) © of APMMC Rule '1966 & Rule 23(B) of MCDR, 1988

'B' category – Semi Mechanized Open Cast Mine (OTFM) Other Than Fully Mechanized Mine.

INTRODUCTION:

M/s Mica Zone, Mg. Partner: Sri G. Krishnam Raju is a private partnership firm located in Turimerla Village, Sydapuram Mandal, SPSR Nellore District, A.P.

M/s Mica Zone, Mg. Partner: Sri G. Krishnam Raju has applied for grant of a new mining lease for Mica, Quartz and Feldspar over an extent of 10.723 Hectares (26.49 Acres) including 1.340 Ha Safety buffer zone and 0.370 Ha Road area in Sy. No. 466 of Turimerla Village, Turimerla RF of Sydapuram Mandal, SPSR Nellore District, A.P.

M/s Mica Zone, Mg. Partner: Sri G. Krishnam Raju has applied for mining lease for Mica, Quartz & Feldspar and over an extent of 10.723 Hectares (26.49 Acres) in Sy. No. 466 of Turimerla Village, Turimerla RF of Sydapuram Mandal, SPSR Nellore District and Andhra Pradesh State. The said quarry lease application was received by the Assistant Director of Mines and Geology, Nellore.

The Director of Mines and Geology, Ibrahimpatnam, Vijayawada had forwarded the proposal to the Principal Chief Conservator of Forests, Guntur for further processing of application under Sec 2 of the Forest Conservation Act, 1980 vide letter No. 6228/D8/2020, dated 25.03.2021. (Enclosed the copy of Annexure.III)

Approved

B. JAGANNADHA RAO 21/8/2021

(Approving Authority of Nellore District)
Deputy Director of Mines & Geology
SPSR Nellore District

The approved mining plan shall also reflect the restrictions to be adopted by the applicant while conducting quarry operations due to existence of any structures, railway line, roads, water bodies such as river, lake etc., and the stipulated distances as per the various regulations prescribed under M.M.R. 1961.

The Director of Mines and Geology, Ibrahimpatnam issued guidelines for grant of Mining lease / quarry lease in forest lands for clearances under forest conservation act 1980 vide memo no. 3861432/P/2020 dated 16/07/2021. On the basis of authenticated DGPS Surveyed sketch of proposed forest area with Geo Co Ordinates duly indicating the land use plan for mining, Safety Zone and approach roads.

Accordingly this Mining Plan is submitted on the basis of the Circular Memo No:3861432/P/2020 dated 16/07/2021, issued by Government of Andhra Pradesh Department of Mines and Geology Ibrahimpatnam, Sub: Mines & Minerals – Granting of Mining Lease/Prospecting License/Quarry Leases in Forest lands, copy enclosed as **Annexure II**.

M/s Mica Zone, Mg. Partner: Sri G. Krishnam Raju has approached Anoosri Mining Solutions Sri P. Viswam, Mining Engineer & RQP, (enclosed copy of certificate as Annexure No. I) for preparation of the mining Plan for the above applied area.

Accordingly this Mining Plan is prepared as per the guidelines of **FORM – T**, under G.O.Ms.56, I&C(Mines-II), DT: 30/04/2016 of AP for obtaining the Environmental Clearance (EC) from State Environmental Impact Assessment authority (SEIAA) & annual production Plan under semi mechanized **Open cast** method of mining under Rule 7(A) of APMMCR 1966.

In the applied area having three Parallel pegmatites are encountered. The details of pegmatites are given in the main text. The applicant was intents to operate the mine by opencast method of working.

Now the proposals are made for 5 years plan period and submitted to the Deputy Director of Mines & Geology, Nellore, for approval.

I. GENERAL:

1.	**Name and address of the Applicant**	:	**M/s MICA ZONE,** **Mg.Partner. Sri G. Krishnam Raju,** S/o G. Narayana Raju Jaflapuram Village, Sydapuram Mandal, SPSR Nellore District-524407.
2.	**Status of the Applicant**	:	Private Partnership Firm (Copy enclosed as Annexure IV)
3.	**Mineral or Minerals which the applicant intends to mine**	:	Mica, Quartz and Feldspar
4.	**Name and Address and Regd. No. of The recognized person who prepared the Mining plan**	:	P.VISWAM, (RQP/BNG/346/2015/A), Angosri Mining Solutions, Near Sivalayam, Sydapuram (PO) & (M) SPSR Nellore Dt, A.P.

Deputy Director of Mines & Geology
Government of A.P.

II. LOCATION AND ACCESSIBILITY

1. Lease area / applied area details

1	**Village**	Turimerla
2	**Mandal**	Turimerla RF of Sydapuram Mandal
3	**District**	SPSR Nellore
4	**State**	Andhra Pradesh
5	**Survey No**	466
6	**Extent**	10.723 Ha (26.49 Acres) including 1.340 Ha Safety buffer zone and 0.370 Ha Road area
7	**Ownership of Occupancy**	Forest Land.
8	**Geo Co-ordinates**	The applied area for mine falls under the survey of India Topo sheet No. 57 N/11 at the intersection of North Latitude 14.26974959 to 14.26385056 and East Longitude 79.72237974 to 79.71768945.The applied area Boundary pillar co-ordinates are shown in Surface Plan (Plate No: 3).
9	**Location of the area and approach**	Approach road is available connecting to Turimerla village. This village is connected to the main road of Gudur-Sydapuram – Podalakur. Nearest Railway station is Gudur about 26 km from Kalichedu village. The location of the applied area is indicated in Key – Cum - Location Map (Plate –1).

B.P	Latitude	Longitude
S-1	14.26913019	79.71768945
S-2	14.26942789	79.71826183
S-3	14.26974959	79.71887898
S-4	14.26899273	79.71938878
S-5	14.26810843	79.7199832
S-6	14.26741459	79.72048126
S-7	14.26663948	79.72102963
S-8	14.26603441	79.72174109
S-9	14.26549018	79.72237974
S-10	14.26489275	79.72173726
S-11	14.26412527	79.72181771
S-12	14.26385056	79.72157381
S-13	14.26404542	79.72140261
S-14	14.26491049	79.72077096
S-15	14.26567908	79.72020605
S-16	14.26600911	79.71913235
S-17	14.26748259	79.71889263
S-18	14.26838004	79.71823685

Infrastructure & Communications

Availability of Water	The ground water is available 30 M BGL. The agricultural fields around the applied area are irrigated by ground water.
Availability of Electricity	Electricity is available in all the villages and in the agricultural lands for bore wells.
Communication Network	Tele Communications are available at the Turimerla and Kalichedu Village
Road Network	State Transport Bus Services from Nellore & Gudur is available on this road network.
Nearest Rail Head	Gudur Railway Station is 26 Km from the applied area.
Port Facility	Krishnapatnam Port is about 60 Km from the applied area. .
School	Primary School Education is available Kalichedu and Turimerla villages. Higher Education is available at Podalakur, Sydapuram &Gudur Town.
Medical Facility	Govt. Hospital is available at Sydapuram village. Gudur & Nellore Town is well placed for Doctors, Nursing Homes & Hospitals.

BOUNDARIES

North	Forest Land
South	Forest Land
East	Forest Land
West	Forest Land

Deputy Director of Mines & Geology Department of A.P. Nellore

2. General Location :Key cum Location Map enclosed as Plate No:1

III. DETAILS OF APPROVED MINING PLAN, IF ANY;

Not applicable.

PART – A

1.0 GENERAL DETAILS OF THE APPLIED AREA/MINING LEASE

1	**Topography**	The applied area for mine falls under the survey of India Topo sheet No. 57 N/11 at the intersection of North Latitude 14.26974959 to 14.26385056 and East Longitude 79.72237974 to 79.71768945. The entire applied area is undulating elevated with very gentle slope South to North. Twenty one old Pits were Existed in the applied area over an area of 0.580 Ha. The topographic plan has been prepared with 1.00 m contour interval its highest elevation is 46 m MSL at southern side and lowest elevation is 40 m MSL at Northern side end at surface. The general trend of the drainage pattern is towards Northern direction and the general drainage pattern is dendritic to sub-dendritic in nature. Bench mark is located at Eastern side in the applied area and marked as BM 41 m MSL. Topography of the applied area is shown on Surface Geological Plan, enclosed as Plate No. 3. There are 21 old Pits which are excavated within the applied area; with a depth of 2 to 7 mts. Maximum depth in Pit No.15 is 7 mts.
2	**Drainage**	Only during the rainy season makeup of mine water at this mine is by percolation / seepage from striates. This is pumped out regularly by adoption of 1 unit of water pump of 10HP capacity. No regular timings are observed and the pumps are being operated according to the necessity.
3	**Vegetation**	The applied area falls in forest area. The entire area except existing pits and approach roads covered with bushes and open scrub. The applicant plans to cover the entire applied area with vegetation by the time the mining operations comes to a close.
4	**Climate**	The mean daily maximum temperature in the district is about 38^{0}C in may and the mean daily minimum temperature is about 20^{0}C in December/January. Temperature in the district begins to rise from the middle of February till June. With the onset of southwest monsoon in June, the temperature decreases to about 20^{0}C and is more or less uniform during the monsoon period. The relative humidity ranges from 60 to 80% in the mornings, whereas in the evenings it varies from about 45 to more than 70%.
5	**Rainfall**	The annual normal rainfall of the district is 1084mm. The peculiarity of this district is that contribution of SW monsoon is far less than the contribution of NE monsoon rainfall. About 70% of the annual rainfall is contributed by the east about 700 to 800 mm in the district.

2.0 GEOLOGY AND EXPLORATION

(a) Brief description of Regional Geology with reference to location of Applied area/ Lease area

Regional Geology

The rock type of Nellore Mica belt has been stratigraphically grouped by Geological Survey of India as per the sequence which is summarized below.

Alluvium
Cuddalore sandstones
Rajmahal plant beds.

Granite : with associated veins and lenses of pegmatite and Quartz.
Granite gneiss : with inclusions of basic rocks quartz schist, chlorite schist, etc.,

Period of Diastrophism

Precambrians : Kandra volcanics consisting of dolerite, tuff, epidiotite, hornblendschist, chlorite schists etc.,

Schistoseseriesconsistingofquartzite, quartzschist, quartz- micaschist, Mica schist, Biotiteschist, Muscovite-Biotiteschist, Hornblendschist, chloriteschist, phyllites etc., Pegmatite and quartz veins are mostly intrusive in to schistose series of rocks along the foliation planes or structurally weak zones. These intrusive are also subject to subsequent structural disturbances.

Mica deposits are confined to these pegmatites and their concentrations within the pegmatite have varied mineralogical and structural controls. Consequently, the mica mining activity has been broadly concentrated in the following sections of the mica belt.

Gudur zone : Around Chennur, Patragunta villages,
Sydapuram zone : Sydapuram, Thurpu pundla, Ananthamadugu,
Utukurzone : Utukur, Kalichedu, Turimerla, Jogipalli, Chaganam villages,
Talupurzone : Talupuru, Degapudi, Mudhigedu etc.,
Thatiparthi zone : Thatiparthi and around.

(b) Detailed description of Geology of applied area

The schist belt of Nellore district is considered as Synclinorium with a gentle northerly plunge. The strike of the Three pegmatites are South-West and North-East with westerly dips at an amount of $50^0$to 70^0. The folding movement produced shearing and faulting. This activity facilitated instruction of pegmatite in the week zones and formation of commercial mica deposits. The schistose country rocks are well foliated and the pegmatite solutions intruded into it through this foliation and solidified as elongated lenses.

Twenty One old Pits were existed in the applied area up to a depth of 2 mts to 7 mts. Pegmatite was exposed in all pits in the applied area. The details of all pegmatite Ore bodies are tabulated below:

Pegmatite No	Strike length in the applied area	Average width	Dip direction & Amount
Pegmatite 1	150 mts	150 mts	N-W , 60° to 70°
Pegmatite 2	200 mts	160 mts	N-W , 60° to 70°
Pegmatite 3	215 mts	130 mts	N-W , 60° to 70°

(c) Details of prospecting license holder

M/s MICA ZONE,
Mg.Partner. Sri G. Krishnam Raju,
S/o G. Narayana Raju
Jaflapuram Village,
Sydapuram Mandal,
SPSR Nellore District-524407.

(d) Details of prospecting carried out

There are 21 (Twenty One) numbers of old pits which were worked by previous mine owners in the applied area covered a total area of 0.380 Hectares, the pits have gone up to an average depth of 2m to 7m and a maximum depth of 7 m in pit no.15.

(e) Surface plan area on 1:1000 scale

The features are drafted to prepare the Surface plan in 1:2000 scale is enclosed as plate No: 3

(f) Geological plan prepared on a scale 1:1000

The features are drafted to prepare the Surface Geological plan in 1:2000 scale is enclosed as plate No: 3a.

(g) Geological sections on natural scale at suitable interval across the lease Area or applied area.

The features are drafted to prepare the Geological Cross Sections in 1:2000 scale is enclosed as plate No: 3b.

(h) Broadly indicate the future program of exploration with due justification taking into consideration, the future tentative excavation programme planned in this plan period.

Year	No. of Boreholes (Core/RC /DTH)	Grid Interval	Total Meterage	No. of Pits, Dimensions and Volume	No. of Trenches, Dimensions and Volume	
					No	L X W X D
1st Year	---	---	---	---	---	---
2nd Year	---	---	---	---	---	---
3rd Year	---	---	---	---	---	---
4th Year	---	---	---	---	---	---
5th Year	---	---	---	---	---	---

Note: In the entire applied area all the pits are well exposed pegmatite body. Hence no exploration proposed

(i) Reserves and Resource as per UNFC. Detailed calculation of reserves shall be stated.

Twenty One Pits were existed in the applied area up to a depth of 2 mts to 7 mts. Three Pegmatites were exposed in all pits in the applied area. The details of all pegmatite Ore bodies are tabulated below:

Pegmatite No	Strike length in the applied area	Average width	Dip direction & Amount
Pegmatite 1	150 mts	150 mts	N-W , 60° to 70°
Pegmatite 2	200 mts	160 mts	N-W , 60° to 70°
Pegmatite 3	215 mts	130 mts	N-W , 60° to 70°

For the present estimation the following procedure has been adopted, as per the classification of UNFC the deposit falls under (1V) Lenses, Veins and Pockets, irregular shaped modest to small size bodies.

Parameters considered for mineral reserves estimation.

Pegmatite ore body

Twelve Nos. of Geological cross Sections are drawn at an interval of 50 m for pegmatite reserves. These sections are designed as A-A' to L-L'. Bulk density considered as 2.5 and the recovery from the pegmatite ore body is arrived individually as **3% Crude Mica, 12% Scrap Mica, 12% Quartz, 30% of feldspar and remaining 43 % considering as waste, and 5 % Mica, 10% Quartz, 40% of feldspar and remaining 45% considering as waste** from existing sub grade mineral (low grade) dumps.

GEOLOGICAL PARAMETERS CONSIDERED FOR PROVED CATEGORY (G1)

GEOLOGICAL AXIS (G1)

Geological Survey:

Mapping: Mapping on 1: 1000 Scale with 1.0 m contour interval. Permanent pillar (Bench Mark) 41 m MSL at Eastern side in the applied area is referred as bench mark shown in surface plan and other maps.

Detailed topographical and geological plans are prepared. All geological features, pits, extent of mineralization and structural feature etc., are demarked on the Surface Geological plan. Accordingly sections and other relevant plans are prepared and numbered respectively. Exploratory data are also demarked on Surface Geological plan.

Reserves /Resources Estimation for Open Cast:

Pegmatite: The estimation of pegmatite reserves is made by using the cross sectional method. The geological cross sections are prepared at an interval of 50mts, across the strike of the ore body. The thickness of deposit is arrived on the basis of exposure of the pegmatite body. The depth of the ore body has taken 36 m. i.e., 106 m to 70 m from the surface in various sections. The area of individual litho-units in each cross section is measured and multiplying sectional interval and tonnage is arrived by multiplying with its bulk density. The bulk density considered as 2.5 ton/cum. The Recovery is taken **3% Crude Mica, 12% Scrap Mica, 12% Quartz, 30% of feldspar and remaining 43 % considering as waste** mineral.

Existing Sub grade mineral old dumps: 5 % Mica, 10% Quartz, 40% of feldspar and remaining 45% considering as waste from existing sub grade mineral (low grade) dumps.

The mine will work by semi mechanized method of mining by using drilling, blasting and loading

Reserves /Resources Estimation for Open Cast:

The entire pegmatite Ore bodies are found to be productive width. Proved (G1 scale of exploration) reserves are the reserves estimation is confined to the mineralized area and the proved thickness by way of exposure of the deposit above the surface in the applied area and are categorized as proved reserves.

The reserves are calculated and given below:

RESERVES FROM PRGMATITE:

Section	Sec. Area	C/S influence	Volume	Specific Gravity	Quantity
	Sq.M	M	Cu.M		MT
A-A'	2931	50.0	146550	2.5	366375
B-B'	2951	50.0	147550	2.5	368875
C-C'	2543	50.0	127150	2.5	317875
D-D'	3245	50.0	162250	2.5	405625
E-E'	4392	50.0	219600	2.5	549000
F-F'	5276	50.0	263800	2.5	659500
G-G'	2674	50.0	133700	2.5	334250
H-H'	662	50.0	33100	2.5	82750
I-I'	2970	50.0	148500	2.5	371250
J-J'	4124	50.0	206200	2.5	515500
K-K'	1425	50.0	71250	2.5	178125
L-L'	600	60.0	36000	2.5	90000
Total					**4239125**

RESERVES FROM THE SUB GRADE MINERAL (LOW GRADE) DUMPS:

Dump	Area	Height	Volume	Swelling factor	Quantity volume/1.3(s.f) *2.5 (s.g)
	Sq.Mts	Mts	Cu.M		MT
1	1787	1.5	2681	1.3	5155
2	2343	1.0	2343	1.3	4506
3	341	1.5	512	1.3	984
4	1448	0.6	869	1.3	1671
5	502	1.0	502	1.3	965
6	3863	1.2	4636	1.3	8915
7	576	1.5	864	1.3	1662
8	580	1.0	580	1.3	1115
Total					**24973**

Deputy Director of Mines & Geology
Government of A.P. Nellore

Reserves/Resource:

Detailed Summary of Geological and Mineable reserves is furnished under.

UNFC Code	Category	Pegmatite Reserves	Crude Mica	Scrap Mica	Quartz	Feldspar	Clean ore	waste
			@ 3 %	@ 12 %	@ 12 %	@ 30%	@ 57 %	@ 43 %
		MT	MT	MT	MT	MT	MT	MT
111	Proved	**4239125**	127174	508695	508695	1271738	2416301	1822824

UNFC Code	Category	Dump reserves	Mica	Quartz	Feldspar	Clean ore	waste
			@ 5%	@ 10 %	@ 40%	@ 55 %	@ 45 %
		MT	MT	MT	MT	MT	MT
111	Proved	**24973**	1249	2497	9989	13735	11238

UNFC Classification of Estimated Reserves and Resources

Classification	UNFC Code	ROM from Pegmatites (MT)	ROM from Dumps (MT)
A. Mineral Reserve			
(1) Proved Mineral Reserve	111	**4239125**	**24973**
(2) Probable Mineral Reserve	121+122	--	--
B. Remaining Resources			
(1) Feasibility Mineral Resource	211	--	--
(2) Pre-feasibility Mineral Resource	221 & 222	--	--
(3) Measured Mineral Resource	331	--	--
(4) Indicated Mineral Resource	332	--	--
(5) Inferred Mineral Resource	333	--	--
(6) Reconnaissance Mineral Resource		--	--
Total Mineral Resources (A+B)		**4239125**	**24973**

Deputy Director of Mines & Geology Government of A.P. Nellore

FEASIBILITY AXIS(F1):

(Feasibility report along with financial analysis per economic viability of the deposit.):

Feasibility Study: The applicant has undertaken feasibility study as following.

1. Geology:

Area Geology: The Lithological formations consist of metamorphic rocks represented by schists and gneisses. The area is consists of Nellore schist belt having mica as economic importance. The igneous rocks are represented by quartz and pegmatite. The pegmatite is a light coloured acid igneous rock with major constituents of quartz , feldspars and mica as an accessory mineral of economic importance. The three parallel pegmatites (pegmatite 1, 2 and 3) in this mine are lensoidal bodies having strike lengths of 150, 200 and 215mts respectively with its long axis towards North-West and dipping towards west with 60° to 70°.The country rock 'Hornblende Schist' is having joint planes, parallel to the general strike of the formation. In this area the pegmatites having more Feldspar, less Quartz and Mica. The intercalations of Quartz, Mica and Feldspar in the pegmatites are a special character of the area, in which the percentage of recovery of constituents of pegmatite plays predominant role in evaluating the scope of the pegmatite (mineral).

Mineralogy of the mine:

Pegmatites have been worked from the open quarry.

Mica: The mica is available in the form of books and small intercalated minerals in the pegmatite. The mica is having greasy luster and brittle and flaky in nature. In pegmatite, the recovery of crude mica is found to be about **3%** and scrap mica is about **12%**. Minerlogically, the pegmatite is having muscovite mica with clear cleavages and in crisscross form.

Quartz: The physical quality of the Quartz in pegmatite is dull white and semi glassy in nature and having concoidal fracture. It is having glassy luster. In pegmatite, the recovery of Quartz is found to be about **12%**.

Feldspar: The Feldspar is gray and white in colour& greasy luster. It is having multiple joints and concoidal fracture. In pegmatite, the recovery of Feldspar is found to be about **30%** from open cast. Minerlogically, the Pegmatite is having soda and potash feldspar.

And 5 % Mica, 10% Quartz, 40% of feldspar and remaining 45 % considering as waste from existing sub grade mineral (low grade) dumps.

Detailed exploration:

The applicant has undertaken Mapping on 1: 1000 Scale with 1.00 mts contour interval. Permanent pillar(BM 41 m MSL)is at Eastern side in the applied area, boundary pillar 'S-4' referred as bench mark in preparation of surface plan and other maps.

2. Mining:

The applicant is undertaking mining by Open cast Semi-Mechanized (OTFM) method of mining in pegmatite-1 will be carried out with the help of drilling and blasting.

Opencast Mining:

It is proposed to operate the mine by semi mechanized method (OTFM) of open cast mining with systematic & scientific method of mining in southern part of the applied area. Bench height will be maintained at 6m and width will be maintained more than bench height as per the statutory requirements and Slope of benches will be maintained at 60^0. The applicant proposes to produce Mica, Quartz and Feldspar by drilling and blasting for progressing benches and for handling of ore/waste material. However, Drilling & blasting techniques will be used for hard formations only. The ore body is blasted and loaded by small size excavator in to tippers of 10 ton capacity and transported to the end users and dump yards. The proposed Development Plan for the plan period shown in Plate 4.

3. Environmental:

A. Environmental baseline data:

(i) **Present Land Use Pattern**:
There are 21 (Twenty One) numbers of old pits in the applied area covered at an area of 0.580 Hectares, pit gone up to a maximum depth of 7 mts in pit no.15.The applied area falls in forest area. The entire area except existing pits and approach roads covered with bushes and open scrub.

(ii) **Water regime**: The ground water is not contaminated due to mining.

(iii) **Flora and Fauna**: The soil existing in the area is partially fertile. Therefore, few trees are grown with small bushes and thorny trees. No wild animals are witnessed in the vicinity of the area since 50 years as reported by local people.

(iv) **Quality of air, ambient noise level and water**: The quality of air and water is good. The area is not having noise making units. The drilling and blasting are rarely used; hence it is free from noise. The water is potable.

(v) **Climatic Condition:** The area is falling under Semi Arid Tropical Zone. The area is having dry climate. The minimum temperature recorded in Mandal Head Quarter is 18°C in December and maximum temperature in May month is about 42°C. The general wind direction is South West to North East.

(vi) **Human Settlement:** The area is surrounded by few small villages and towns. The main occupation of the local people is business, agriculture, sheep rearing. The details of the villages, location, distance and population are given in the following table.

Details of the nearest villages and their details:

Sl. No	Village	Distance (Km)	Population
1.	Kalichedu	1.00	2500
2.	Turimerla	1.00	1500
3.	Griddalur	2.00	1800
4.	Utukuru	2.00	1500
5.	Perumallapadu	2.20	800

(vii) Public Buildings, Places and Monuments:

No Public Places and Monuments are situated within a distance of 2.00 Km.

(viii) Does area (partly or fully) fall under notified area under water (prevention & control of Pollution) Act. 1974:

The area is not falling under Notified area under Water Act, 1974.

B. Environmental Impact Assessment:

(i) Land Scape: The applied area is being used for mining. Pitting etc., therefore the landscape will be altered.

(ii) Air quality: Semi mechanised opencast method of mining have been proposed, at quarries it is filled with dust, due to transportation on the road, blasting etc. but it will be within the permissible limits by sprinkling of water on roads and covering the drill rods with wet cloth. Air quality will not be disturbed, as the quarrying is very limited.

(iii) Water quality: The seepage water quality will not be polluted due to hard strata and no mineral coming across the water course. Total water will be pumped out to the surface in time to time.

(iv) Noise levels: Apart from drilling and transportation. The background noise levels will be slightly high. The area is away from roads where frequent traffic is encountered. Hence, the impact due to noise levels will be negligible.

(v) Vibration level: In this area the mineral is tenable to easy mining. Therefore, the blasting will be done seldom. Hence, the vibration is negligible, however less explosive will be used in shot hole.

(vi) Water regime: The ground water is not contaminated due to mining.

(i) Socio-economics: The Mining applied area is 1.00 Km away from the nearest villages Turimerla and the proposed mining activity will fetch employment to the local people which improve socio-economical condition of the surrounding Villagers.

(vii) Historical monuments: No historical monuments are existed in and around the mine within a radius of 5.0 KM.

C. Environmental Management Plan:

i. Temporary storage and utilization of top soil: the area having top Soil with an average thickness of 1.00 m.

ii. Year wise proposal for reclamation: No reclamation was proposed. In this 5 years plan period because the mine is under initial stage.

Afforestation: the applicant proposed to plant eucalyptus in the 7.5 mts buffer area. Details of afforestation for this 5years plan period have been tabulated below.

Year-wise Proposed Plantation during this plan period:

Year	No. of Plants	Area m^2	Location	Type of Plants
1st Year	50	500	North East side in the 7.5mts buffer area	Eucalyptus
2nd Year	50	500	North East side in the 7.5mts buffer area	Eucalyptus
3rd Year	50	500	North East side in the 7.5mts buffer area	Eucalyptus
4th Year	50	500	North East side in the 7.5mts buffer area	Eucalyptus
5th Year	50	500	North East side in the 7.5mts buffer area	Eucalyptus
Total	**250**	**2500**		

iii. **Stabilization and vegetation of waste dumps :**
The applicant is intended to make terracing and garland drains around the waste/sub grade dumps.

iv. **Measures to control the erosion and sedimentation of water course:** The water course as such in not existing in the mining area. Therefore the question of erosion and sedimentation of water course will not arise.

v. **Treatment and disposal of water from mine:** The water pumped out from the mine will be let off to plantation.

vi. **Measures to minimizing adverse effect on water regime:** The adverse effect of mining over water regime in surrounding area is not there. The details measures to be taken are given in above paragraph.

vii. **Protective measures for ground vibrations / air blast caused by blasting:** It is proposed to conduct shot firing carefully. Therefore vibration is negligible.

viii. **Measures for protection of historical monuments & for rehabilitation of human settlements likely to be disturbed due to mining activity:** No historical monuments exist in and around the mine within a radius of 2 KM.

ix. **Socio-economic benefits arising out of mining :** The local village people are getting work in mine and the socio-economic benefit will reach common workmen in and outside the mine directly or indirectly. Due to inflow of money from mines, the business activity will be increased, in such a manner socio-economic benefits will occur.

4. **Processing:**
In this mine the applicant is supplying the mineral without processing to consumers. Therefore, mineral processing is not being done in this mine.

5. **Infrastructure and services and construction activities:** Site services will be construct on NW side of applied area the applicant plans to utilize it as the office, the applicant is providing drinking water supplied by village water tank, first aid facilities to their workers and private medical practitioner. They will developed very good plantation around their buildings and created good atmosphere.

6. Costing:

As the quarry is proposed to work in the open cast by semi mechanized method quarry, it may cost about Rs. 30,00,000/- as capital investment required for purchasing mine equipment and advances to labour. The estimated cost of production of Mica is Rs.10000/- per ton, Quartz is Rs.850/- per ton and Feldspar is Rs.550/- per ton.

Detailed exploration: The detailed exploration such as Topographical Survey and pitting, etc. is done in this quarry. The Topographical Survey was undertaken in this area and Surface Geological mapping was done on 1: 1000 scale with 1.0 mts contour in the applied area. Permanent pillar (Bench Mark 41 m MSL) at Eastern side in the applied area is referred as bench mark in preparation of surface plan and other maps.

Details of analytical result of Mica, Quartz and Feldspar:

The applicant will be done Chemical analysis of the minerals after commencement of operations.

7. Specific knowledge of forest / Non-Forest& other land use data:

The applied area is a Forest land. The applied area is being used for opencast mining. The details of the land Survey No, extent etc, are given in following Table.

Details of the applied area

State & District	Mandal	Village	Sy.No.	Area in Ha	Ownership of occupancy
A.P. & SPSR Nellore	Sydapuram Mandal	Turimerla (Turimerla RF)	466	10.723 Ha	Forest land

The quarry applied area falls under the survey of India Topo sheet 57 N/11 at the intersection of North Latitude 14.26974959 to 14.26385056 and East Longitude 79.72237974 to 79.71768945. The applied area Boundary pillar co-ordinates are shown in Surface Plan (Plate No: 3).

ECONOMIC AXIS: E 1

Marketing: The applicant is having good market for Mica, Quartz and Feldspar.

Economic Viability: As seen in above Para, the mining is economically feasible at present.

Other factors: The applied area is far away from the village and having congenial condition to work. The mining area is surrounded by few villages; the labourers are attending mining work from surrounding villages.

By studying above conditions, the reserves exposed to surface mining works are considered as feasible F-1 category minerals.

(k) Mineral Reserves

(i) Mode of mining, recovery factor, Mining Loses, Processing Loses etc.,

It is proposed to carryout mining operations by manual opencast. The exploration done so far has proved the mineable reserves of **4239125 MT** of pegmatite ROM (**clean ore @57% is 2416301 MT** which contains Mica, Quartz and Feldspar) and **24973 MT** of Dumps (low grade) ROM (**clean ore @55% is 13735 MT** which contains Mica, Quartz and Feldspar). The reserves will be increasing as the pegmatite is worked deeper.

Recovery:

Mica: The mica is available in the form of books and small intercalated minerals in the pegmatite. The mica is having greasy luster and brittle and flaky in nature. In pegmatite, the recovery of crude mica is found to be about **3%** and scrap mica is about **12%**. Minerlogically, the pegmatite is having muscovite mica with clear cleavages and in crisscross form.

Quartz: The physical quality of the Quartz in pegmatite is dull white and semi glassy in nature and having concoidal fracture. It is having glassy luster. In pegmatite, the recovery of Quartz is found to be about **12%**.

Feldspar: The Feldspar is gray and white in colour& greasy luster. It is having multiple joints and concoidal fracture. In pegmatite, the recovery of Feldspar is found to be about **30%**. Minerlogically, the Pegmatite is having soda and potash feldspar.

And 5 % Mica, 10% Quartz, 40% of feldspar and remaining 45% considering as waste from existing sub grade mineral (low grade) dumps.

(ii) Cut of grade, ultimate pit depth

Mica is used in electrical insulations as it has very high electrical resistance and can withstand very high temperatures. Mica is used in industries. Scrap mica is used to manufacture micanite sheets (to use as heat resistant). Mica powder is used to make mica tapes the applicant is selling mica in crude from two different traders dealing mica in the market. Brief description is given in following table.

Specification of buyer for crude and scrap mica:

Radicals	**%**
Silica as Si O_2	45.16
Iron as Fe_2 O_3	5.80
Alumina as Al_2O_3	31.01
Calcium & Magnesium oxides as Ca O + Mg O	1.92
Total alkalies as K_2O + Na_2O	9.09

Physical properties:

Specification	**Crude mica**	**Scrap mica**
Size	3 to 10 Inches	½ to 3 inches
Colour	**Green**	**Green**

(iii) Mineral blocked due to presence of /maintenance of benches, barriers, internal roads electrical lines e

Reserves will be blocked under the 7.5 buffer are given below:

Section	**Sec Area**	**C/ S influence**	**Volume**	**Specific Gravity**	**Quantity**
	Sq.mts	Mts	Cu.M		MT
A-A'	430	50.0	21500	2.5	53750
B-B'	458	50.0	22900	2.5	57250
C-C'	256	50.0	12800	2.5	32000
D-D'	242	50.0	12100	2.5	30250
E-E'	525	50.0	26250	2.5	65625
F-F'	512	50.0	25600	2.5	64000
G-G'	407	50.0	20350	2.5	50875
H-H'	248	50.0	12400	2.5	31000
I-I'	223	50.0	11150	2.5	27875
J-J'	464	50.0	23200	2.5	58000
K-K'	1157	50.0	57850	2.5	144625
L-L'	394	60.0	23640	2.5	59100
Total					**674350**

Reserves will be blocked under the safety benches (UPL) are given below:

Section	Sec Area	C/ S influence	Volume	Specific Gravity	Quantity
	Sq.mts	Mts	Cu.M		MT
A-A'	755	50.0	37750	2.5	94375
B-B'	775	50.0	38750	2.5	96875
C-C'	405	50.0	20250	2.5	50625
D-D'	632	50.0	31600	2.5	79000
E-E'	1009	50.0	50450	2.5	126125
F-F'	1063	50.0	53150	2.5	132875
G-G'	558	50.0	27900	2.5	69750
H-H'	569	50.0	28450	2.5	71125
I-I'	548	50.0	27400	2.5	68500
J-J'	1015	50.0	50750	2.5	126875
K-K'	943	50.0	47150	2.5	117875
L-L'	432	60.0	25920	2.5	64800
Total					**1098800**

Total reserves blocked:

Reserves under	Quantity	Crude Mica	Scrap Mica	Quartz	Feldspar	Clean ore	waste
	MT	@ 3 %	@ 12 %	@ 12 %	@ 30%	@ 57 %	@ 43 %
Under 7.5 safety buffer	674350	20231	80922	80922	202305	384380	289971
Under Bench slopes	1098800	32964	131856	131856	329640	626316	472484
Total	1773150	53195	212778	212778	531945	1010696	762455

The internal roads are of temporary in nature the follow the suite of benches that will be formed.

No electrical lines are passing in the proposed working area.

Reserves are estimated within the safety buffer zone and road area.

(iv) Total Mineral reserves

Category of Reserves			Reserves in MT of ROM	Clean ore
Proved (111)	Pegmatite (57% clean ore)		**4239125**	**2416301**
	Dump (55% clean ore)		**24973**	**13735**
Probable (121)			**0**	**0**
Reserves Blocked	Under 7.5 mts buffer area	674350	1773150	1010696
	Under UPL	1098800		
Total			**6037248**	**3440732**

(v) Mineable reserves and anticipated life of mine

Total mineable reserves from three pegmatites	:	4239125	MT of ROM
Total mineable reserves from existing dumps	:	24973	MT of ROM
Total	:	**4264098**	**MT of ROM**
Maximum production per annum during the plan period	:	**110073**	**MT of ROM**
Anticipated life of the mine	:	**38.5**	**Say 39 years**

Life of the mine has been estimated based on the available proved reserves at the time of preparation of the plan. However, the life of the mine may change on the review of reserves at the end of plan/scheme period.

(vi) Conceptual Mining Plan :

Total Geological resources estimated in this applied area are around **6037248 MT** of pegmatite ROM and sub grade mineral (low grade) dumps. The reserves excluding blocked reserves under ultimate pit limit, 7.5 mts buffer zone and Ultimate pit limit, the available quantity is around **4239125 MT** of pegmatite ROM in this applied area.

As per the average annual production of **110073 MT**, the anticipated life of the mine is **39 years**. However, the life of the mine may change based on the further exploration during the course of mining.

3.0 MINING

There are three parallel pegmatites were encountered in the applied area, namely pegmatite 1, pegmatite 2 and pegmatite 3. The applicant intents to operate the mine in the pegmatite 1 by semi mechanised open cast method of mining.

Details of pegmatite bodies are tabulated below:

Pegmatite No	Strike length in the applied area	Average width	Dip direction & Amount
Pegmatite 1	150 mts	150 mts	N-W , 60° to 70°
Pegmatite 2	200 mts	160 mts	N-W , 60° to 70°
Pegmatite 3	215 mts	130 mts	N-W , 60° to 70°

(a) OPEN CAST MINING

(i) Description of existing / proposed method for excavation with all design parameters indicating on plans / sections.

It is proposed to operate the mine by semi mechanized method (OTFM) of open cast mining with systematic & scientific method of mining in southern part of the applied area. Bench height will be maintained at 6m and width will be maintained more than bench height as per the statutory requirements and Slope of benches will be maintained at 60^0. The applicant proposes to produce Mica, Quartz and Feldspar by drilling and blasting for progressing benches and for handling of ore/waste material. However, Drilling & blasting techniques will be used for hard formations only. The ore body is blasted and loaded by small size excavator in to tippers of 10 ton capacity and transported to the end users and dump yards. The proposed Development Plan for the plan period shown in Plate 4.

The mining (open cast method) of pegmatite will be carried out in sections A-A' to C-C' during this plan period work will start from surface level towards bottom. The proposed mining area is located in the southern side of the applied area and away from village and water tank. The area also proved under G1 scale of exploration.

As the formation is semi hard in nature, the mining will be carried-out with 4 ½ inch DTH drill holes and blasting will be used for breaking the material. The drilling will be done to a depth of 6.00 m bench.

The Mica, Quartz and Feldspar produced will be transported directly to the consumer.

The general ground water table is found at a depth of about more than 40 m below ground level in the surrounding areas. The mining operations may reach up to maximum depth of about 20 m (up to this plan period) and 36 mts (up to end of life of mine) from the surface, which is above the ground water table. Hence, no ground water is likely to be encountered throughout the life of the mine.

(ii) Indicate year wise tentative excavation in metric tons indicating development, ROM, pit wise as in table:

Year	Peg. No	Total tentative Exaction from quarry	ROM from Mineralized Zone			OB/SB/ IB	Top soil		Total waste	ROM waste ratio
			Clean Ore	Sub grade ore	Mineral reject/ waste					
		Cu.M	Cu.M	Cu.M	MT	MT	Cu.M	MT	MT	
1st Year	1	109890	62638	0	0	0	6755	13510	47253	1:0.43
2nd Year	1	110310	62876	0	0	0	6828	13656	47433	1:0.43
3rd Year	1	109845	62613	0	0	0	7423	14846	47233	1:0.43
4th Year	1	110010	62705	0	0	0	0	0	47304	1:0.43
5th Year	1	110310	62876	0	0	0	0	0	47433	1:0.43
TOTAL		**550365**	**313708**	**0**	**0**	**0**	**21006**	**42012**	**236656**	**1:0.43**

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1st Year In this year 1st bench (width of bench is 6mts will be excavated from quarry applied area covering the area of **1425 m²** from this excavation about **109890 MT** of ROM from quarry will be excavated from top to bottom between the RLS of 100 to 94 m and covering the sections B-B' and C-C' during this year.

Bench	Pegmatite1										OB				
	Sec Area	Height	Volume	Specific Gravity	Quantity	Crude Mica	Scrap Mica	Quartz	Feldspar	Waste	Sec Area	C/S influence	Volume	Specific Gravity	Quantity
						3%	12%	12%	30%	43%					
	Sq.Mts	Mts	Cu.M	-	MT	MT	MT	MT	MT	MT	Sq.Mts	Mts	Cu.M	-	MT
1st Bench	7326	6.0	43956	2.5	109890	3297	13187	13187	32967	47253	0	0	0	0	0
Total					**109890**	**3297**	**13187**	**13187**	**32967**	**47253**	0	0	0	0	0

2nd Year In this year 1st bench (width of bench is 6mts will be excavated from quarry applied area covering the area of **7400 m²** from this excavation about **110310 MT** of ROM from quarry will be excavated from top to bottom between the RLS of 99 to 95 m and covering the sections B-B' and C-C' during this year.

Bench	Pegmatite1										OB				
	Sec Area	Height	Volume	Specific Gravity	Quantity	Crude Mica	Scrap Mica	Quartz	Feldspar	Waste	Sec Area	C/S influence	Volume	Specific Gravity	Quantity
						3%	12%	12%	30%	43%					
	Sq.Mts	Mts	Cu.M	-	MT	MT	MT	MT	MT	MT	Sq.Mts	Mts	Cu.M	-	MT
1st Bench	7354	6.0	44124	2.5	110310	3309	13237	13237	33093	47433	0	0	0	0	0
Total					**110310**	**3309**	**13237**	**13237**	**33093**	**47433**	0	0	0	0	0

3rd Year In this year 1st and 2nd benches (width of bench is 6mts will be excavated from quarry applied area covering the area of **7423 m²** from this excavation about **109845 MT** of ROM from quarry will be excavated from top to bottom between the RLS of 100 to 87 m and covering the sections B-B' and C-C' during this year.

Bench	Pegmatite1										OB				
	Sec Area	Height	Volume	Specific Gravity	Quantity	Crude Mica	Scrap Mica	Quartz	Feldspar	Waste	Sec Area	C/S influence	Volume	Specific Gravity	Quantity
						3%	12%	12%	30%	43%					
	Sq.Mts	Mts	Cu.M	-	MT	MT	MT	MT	MT	MT	Sq.Mts	Mts	Cu.M	-	MT
1st Bench Part	3911	6.0	23466	2.5	58665	1760	7040	7040	17600	25226	0	0	0	0	0
2nd Bench Part	3412	6.0	20472	2.5	51180	1535	6142	6142	15354	22007	0	0	0	0	0
Total					**109845**	**3295**	**13182**	**13182**	**32954**	**47233**	0	0	0	0	0

4th Year In this year 2nd bench (width of bench is 6mts will be excavated from quarry applied area covering the area of **7218 m²** from this excavation about **110010 MT** of ROM from quarry will be excavated from top to bottom between the RLS of 94 to 88 m and covering the sections B-B' and C-C' during this year.

Bench	Pegmatite1										OB				
	Sec Area	Height	Volume	Specific Gravity	Quantity	Crude Mica	Scrap Mica	Quartz	Feldspar	Waste	Sec Area	C/S influence	Volume	Specific Gravity	Quantity
						3%	12%	12%	30%	43%					
	Sq.Mts	Mts	Cu.M	-	MT	MT	MT	MT	MT	MT	Sq.Mts	Mts	Cu.M	-	MT
2nd Bench Part	7334	6.0	44004	2.5	110010	3300	13201	13201	33003	47304	0	0	0	0	0
Total					**110010**	**3300**	**13201**	**13201**	**33003**	**47304**	0	0	0	0	0

5th Year In this year 2nd and 3rd benches (width of bench is 6mts will be excavated from quarry applied area covering the area of **7354 m²** from this excavation about **110310 MT** of ROM from quarry will be excavated from top to bottom between the RLS of 94 to 83 m and covering the sections B-B' and C-C' during this year.

Bench		Pegmatite1									OB				
	Sec Area	Height	Volume	Specific Gravity	Quantity	Crude Mica	Scrap Mica	Quartz	Feldspar	Waste	Sec Area	C/S influence	Volume	Specific Gravity	Quantity
						3%	12%	12%	30%	43%					
	Sq.Mts	Mts	Cu.M	-	MT	MT	MT	MT	MT	MT	Sq.Mts	Mts	Cu.M	-	MT
2nd Bench Part	4654	6.0	27924	2.5	69810	2094	8377	8377	20943	30018	0	0	0	0	0
3rd Bench Part	2700	6.0	16200	2.5	40500	1215	4860	4860	12150	17415	0	0	0	0	0
Total					**110310**	**3309**	**13237**	**13237**	**33093**	**47433**	0	0	0	0	0

YEAR WISE PRODUCTION FOR 5 YEARS PLAN PERIOD FROM OPEN CAST MINING:

Year	ROM	Crude Mica (3%)	Mica (12%)	Quartz (12%)	Feldspar (30%)	Clean ore (57%)	Waste from ROM	Top Soil		OB	Total waste
	MT	MT	MT	MT	MT	MT	MT	Cu.M	MT	MT	MT
1st Year	109890	3297	13187	13187	32967	62638	47253	6755	13510	0	47253
2ndYear	110310	3309	13237	13237	33093	62876	47433	6828	13656	0	47433
3rdYear	109845	3295	13182	13182	32954	62613	47233	7423	14846	0	47233
4thYear	110010	3300	13201	13201	33003	62705	47304	0	0	0	47304
5thYear	110310	3309	13237	13237	33093	62876	47433	0	0	0	47433
Total	**550365**	**16510**	**66044**	**66044**	**165110**	**313708**	**236656**	**21006**	**42012**	**0**	**236656**
Average	**110073**	**3302**	**13209**	**13209**	**33022**	**62742**	**47331**	**4201**	**8402**	**0**	**47331**

Drilling, Blasting, Powder factor, Deployment of Machinery and Etc.,

Drilling:

The applicant will appoint a second class mines manager certificate holder to work as a mines manager and mining mate to supervise drilling and blasting workings. Drilling and blasting done to get required fragmentation from ROM, drilling and blasting plays an important role in mining activity. The blasting hole will be drilled with 4 ½ inch DTH rig to a depth of 6.0 m with spacing of 2.0 m and burden 2.5 m. Each drill hole will be charged with low strength explosives of 4kgs.

The blasting is being conducted to loosen the strata and with the help of excavator the Pegmatite will be excavated. The total ROM will be moved surface to segregate the minerals. The lumps of quartz and feldspar will be separated by manual.

Blasting will be done to break the pegmatite rock in respect of open cast mining. The total development (ROM) for the 5 years plan period in open cast is 550365 MT; i.e. 110073 MT of Production (ROM) per year.

Average working days per year 250 days
Therefore 110073 /250 = 440.29 say 441 MT of ROM per day.

Blast holes of 6 m depth will be drilled using DTH driven by compressed air. If necessary Jack hammer drilling and blasting techniques will be adopted for secondary blasting. The holes will be drilled with a spacing of 2.0 m and burden of 2.5 m. Each hole will account for about 30 Cu.M of material per blast. 30x2.5 (Density) = 75 MT per hole of 6 m depth.

That is 441/75 = 5.88 say 6 holes per day.

Thus, the requirement of development cum production may require on an average about 6 holes daily. Slurry explosives, electrical detonators will be used for blasting. A hole will be loaded with 3 kg of explosive. For 6 holes, 18 kg (6 x 3 kg) of explosive required.

i.e., drilling with Jackhammer

Depth of hole	:	6.0 m
Spacing	:	2.0 m
Burden	:	2.5 m

Yield per one meter of hole:

(Height of bench x spacing x burden x density)/depth of the hole

(6 m x 2 m x 2.5 m x 2.5)/6m= 12.5 MT per meter hole

Average daily production of requirement of ROM : 441 MT/day

Therefore Meterage of holes to be drilled per day 441/12.5 : 35.28 say 36 mts

i.e., no. of holes = 36/6 = 6 holes.

Motive power of a DTH rig is 10 m/hour

We need 36 mts per day; i.e. 36/10 = 3.6 hrs.

Therefore; one number of wagon drill required to achieve the targeted production: one only plus one spare jack-hammer.

Blasting:

For fragmentation of insitu Production, the blasting is conducted in this area. The blast hole of 6.0 m will be drilled with the help of 4 to 4 ½ inch DTH drills and Air Compressor of 250 cfm capacity. It is proposed to drill 6 m deep shot hole with 2.0 m spacing and 2.5 m burden. The details of Fuse Wire and Detonators deployed for blasting and burden calculations are as below:

Depth of Hole 6 m x spacing 2.0 m x burden of 2.5 m x 2.5 MT density = 75 MT of pegmatite produced per hole.

Powder factor of pegmatite in opencast mine:

= Quantity of ore blasted / explosive used
= 6.0 m (depth) X 2.0 m (spacing) X2.5 m (burden) X 2.5 (Density) / [3kg]
= 37.5 / 3.0 Kg
= 12.5

So, 3 Kg of explosive are required per hole.

Anticipating 250 working days, to meet the annual production of 110073 MT of pegmatite, 6x250 = 1500 shot holes are required. For that, (1500 shot holes X 3Kg Explosive per hole = 4500 Kg) 4500 kg of explosive required per year.

It is proposed to carryout mining operations by semi mechanized (OTFM) opencast method by adopting 4 ½ inch DTH drilling to drill 6.0 m and blasting with conventional explosives like slurry, detonators, safety fuse etc., regular benches of about 6 m height will be formed.

Blast holes will be drilled up to a depth of 6.0 m with a spacing of 2.0 m and a burden of 2.5 meters. Drill holes are drilled in staggered pattern, each blast hole will be charge with class II Slurry explosives (super dyne, power tel etc.,) of 3 kg and blasted with ele.delay detonators.

The rain/ seepage water i.e., likely to be accumulated in come of time shall be collected in the sump located at the lowest contour of the quarry and the same will be bailed out through periodic pumping. Pumping is done by one electric pump of 10 HP.

Deployment of mining machinery:

The pegmatite is hard in structure; therefore, it is proposed to undertake drilling by jackhammers and deep hole blasting with compressed air. The Applicant intends to engage matching compressor with 3 taps and 250 cfm capacity to operate 3 drilling machinery of 32 mm drill rods (in case of less than 1.5 m depth.)

1) Drilling Machines:

Sl No.	Type of drill	Nos.	Dia. of drill-rod	Motive power	Make
1.	4 ½" DTH pneumatic drill	1	4 1/2"	10 m/h	2018
2.	Holman / Atlas Copco Jackhammer	1	32 mm	18 m/h	2019

2) Loading and excavating equipment: Excavator

Sl No.	Type of drill	Nos.	Bucket capacity	Make	H.P
1.	L&T PC 210	1	0.9 Cu.M	2019	89

3) Tippers:

Sl No.	Type	Nos.	capacity	Make	H.P.
1	Ashok Leyland	3	10 MT	2017	100

Adequacy of machineries/ mine equipment Plan:

1. Effective working days : 250 days per year
2. No. of Shifts : One shift per day
3. Working hours per shift : 7 effective hrs
4. Availability of machinery : L & T PC-210

Production target: 110073 /250 = 440.29 sat 441 MT of production per day

Loading machine (L & T, PC 210) Excavator:
In this mine, it is planned to produce 441 MT of ROM per day

Bucket capacity (Bc) : 0.9 m^3
Fill factor (Ff) : 0.8
Swelling factor (Sf) : 1.3
Loading capacity of bucket: 0.9 x 0.8 = 0.72 Cu.M

0.72/1.3 = **0.56 Cu.M** of ROM (or) 0.56x 2.5 (density)= **1.4 MT.**

For one truck (4.0 m^3 or 10 MT) loading,
4.0 /0.56 Cu.M =7.14 say 8 buckets (or) 10/1.4 = 7.14 say 8 buckets are required.
For one bucket, loading 60 seconds are required.
Therefore, for 8 buckets or one truck load 480 seconds are required.

No. of tippers loading per hour with 90 % efficiency:
(3600 sec. / 480 sec) x 0.9 (efficiency)= 6.75 say 7 tippers;
Therefore 7 tippers will be loaded per hour, i.e., 70 MT of ROM per hour.

So, for handling 441 MT of material, an excavator will take 6 ½ hr.
(441 / 70 = 6.3 hrs say approximately 6 ½ hr)

For leveling the backfilled material at proposed reclamation area 30 mts may be required. Roughly 7 hrs of utilization of the machine for ROM loading, in the remaining time of shift it is used to leveling, OB removal and other works.
In this area, secondary blasting is not required.

(iii) Dump management

The extraction of Mica, Quartz and Feldspar from ROM is labour intensive. Skilled labourers will sort out Mica, Quartz and Feldspar grade wise separately outside the applied area.

Remaining waste will be dumped in the proposed waste dump in the applied area.

The waste material during the plan period from quarry will be **123061 Cu.M** [(236656 MT/2.5) *1.3 = 123061 Cu.M] dumping of the waste material is dumped in proposed waste dump in the applied area without affecting the surface water course.

The erosion control measures have been undertaken so that, no silt is allowed to flow down the dump slopes, carrying the solid particles along with the rain water and deposit in the water tanks. The dump is designed to have reverse slopes so that rainwater does not flow on the dump slopes.

Dump height will be within the limits and well stabilized.

(iv) Layout of mine workings, pits, roads etc.,

Production proposed for the next five years

It is proposed to produce **550365 MT of ROM** (Mica, Quartz, Feldspar and waste material) during the next five years plan period with an average annual production of **110073 MT** from an area of 16594 Sq. Mts including existing pits, Benches of 6 m height will be developed during the plan period.

The bench height is planned to make 6 m height with 60 to 65^0 slopes and 1 in 16 gradient hauling roads. The slice is 1.5 m because manual drilling by using jack hammers with 1.5 m drill rod (two slices per bench). The blasting is being conducted to loosen the strata and with the help of excavator the Pegmatite will be excavated.

The applicant proposed to take up open cast operations in the applied area between the grids E 362100 – E 361800 & N 1577300 - N 1577900. The excavation activities will be taken up in the proposed working area advancing from surface to downwards as shown in plate no. 4.

(b) Under Ground Mining:

Not applicable

4.0 MINE DRAINAGE

(a) Minimum and Maximum depth of water table:

During summer Water table Depth ranges from 60 to 70 m.

(b) Indicate maximum and minimum depth of workings

Quarry will be goes up to 18 mts depth from the surface level (from RL 100 mts to RL 82 mts i.e., 18 mts).

(c) Quantity and Quality of water

i) Surface water: The surface water available at the mine site is being used for washing etc. by the staff and workers in the mine. The water from the mine contains suspended particles. Hence this water is pumped from the mine into a collection tank and since there are no soluble minerals in the mine the water from the mine is used for plantation.

ii) Rivers, streams, nallas, etc.: No water course within the applied area.

iii) Ground water: The source of underground water into this mine is the natural percolation from strata. It is being pumped out regularly. It is being used for watering the trees and other plantations without any adverse effects.

(d) Regional Drainage pattern

The makeup of mine water at this mine is by percolation / seepage from striates by natural rain water only. It is estimated about 2000 to 4000 liters / day in rainy season. This is pumped out regularly by adoption of 2 units of water pumps of 10HP capacity. No regular timings are observed and the pumps are being operated according to the necessity.

Deputy Director of Mines & Geology Government of A.P. Nellore

5.0 STOCKING OF MINERAL REJECT / SUB GRADE MATERIAL AND DISPOSAL OF WASTE

Not applicable as on mineral rejects.

The waste material during the plan period from quarry will be **123061 Cu.M** [(236656 MT/2.5) *1.3 = 123061 Cu.M] dumping of the waste material is dumped in proposed waste dump in the applied area without affecting the surface water course.

The extraction of Mica, Quartz and Feldspar from ROM is labour intensive. Skilled labourers will sort out Mica, Quartz and Feldspar grade wise separately outside the applied area.

Remaining waste will be dumped in proposed waste dump in the applied area.

6.0 USE OF MINERAL AND MINERAL REJECT

Mica: Mica is used as insulator in the electrical circuits. The dielectric strength of good quality of mica is 10,000 volts. Mica can withstand a very high temperature. Now it is used in artificial satellites. Most of the mica produced in India is exported to the advanced countries.

Quartz: Quartz containing 99%+ silica is used in glass industry. This is also used in electrical and electronic industry for manufacturing semi-conductors, computer chips, etc., used as O.F.C s also in communication industry. There is demand for quartz in indigenous consumption as well in export.

Feldspar: Feldspar containing 12%+ alumina is used in ceramic industry, in sanitary-ware and floor tiles.

7.0 PROCESSING OF ROM AND MINERAL REJECT

The mineral beneficiation is purely manual. No mechanical means is involved. The crude mica collected from mine. The unwanted stony portion of crude mica will be removed by hammering with specially designed tools. After dressing and splitting into thin mica flakes the crude mica is sold as such. The quartz and feldspar have been handpicked by identifying their physical characteristics by experienced workers.

8.0 OTHERS

a) SITE SERVICES

Office, Rest Rooms, First Aid Room, Shelters, and Water for drinking was provided in the private land owned by the applicant.

b) EMPLOYMENT POTENTIAL

Employment Potential of Managerial & Technical Personnel:

The details of designated management & technical personnel with qualification and potentiality of employment for this mine is tabulated below:

S. No.	Designation	No. of Posts
1	Mine Manager	1
2	Surveyor (part time)	1
3	Elec. Supervisor (Part time)	1
4	Mechanic/Pump operator	1
5	Haulage Operator	1
6	Mine Mate – cum - Blaster	2
7	Office clerk/Register Keeper	1
8	Drillers	3
9	Un skilled workers (muckers)	8
10	Watch & ward	1
	Total	**20**

PART – B
PROGRESSIVE MINE CLOSURE PLAN

1.0 ENVIRONMENT BASE LINE INFORMATION

i	**Exiting land use pattern**	Area	Hectares
		Area under mining (old pits)	0.580
		Infrastructure	0.000
		Green Belt	0.000
		Dumps (Existing)/Stack yards	1.144
		Roads	0.363
		Mineral stacking	0.000
		Magazine	0.000
		TOTAL AREA UTILISED	**2.087**
		TOTAL MINE LEASE AREA	**10.723**
ii	**Water Regime**	The water table is about 30m to 50m below the general ground level. As such water regime is not disturbed. During summer season ground water further goes down.	
iii	**Human Settlement**	The area is surrounded by few small villages and towns. The main occupation of the local people is business, agriculture, sheep rearing.	
iv	**Public Buildings, Places &monuments**	No Public Places and Monuments are situated within a distance of 5.00 Km	
v	**Sanctuaries**	No Bird or animal sanctuaries Places are situated within a distance of 10.00 Km	
vi	**Eco-Sensitive Areas**	No Eco-Sensitive areas are situated within a distance of 10.00 Km	

2.0 ENVIRONMENTAL IMPACT ASSESSMENT

a	**Land area**	**Head**		**Area in Ha**
		Area under mining	Broken (old pits)	0.580
			To be broken	1.665
		Green Belt	Existing	0.000
			Proposed	0.250
		Sub grade mineral dumps	Existing	1.144
			Proposed	0.000
		Infrastructure	Existing	0.000
			Proposed	0.030
		Roads	Existing	0.363
			Proposed	0.000
		Waste dump	Existing	0.000
			Proposed	0.280
		Proposed sub grade mineral dump	Existing	0.000
			Proposed	0.300
		Mineral stacking	Existing	0.000
			Proposed	0.000
		Magazine		0.000
		TOTAL AREA UTILISED		**4.612**
		TOTAL MINE LEASE AREA		**10.723**
b	**Air Quality**	During drilling and blasting dust emissions are negligible and for a short time only. Drilling area shall be covered by tarpaulin or wet gunny. Since the material is mostly stony, with very little dust, dust emissions are negligible. Haul roads do not contain any loose soil. They have hard rocky top are covered with broken rock, hence dust emissions during transport are very slight. The air is not critically polluted and the additionality due to the proposed mining is negligible. Dust suppression by water spraying during dry period.		
c	**Water Quality**	No treated and un treated effluence are going to be discharged. Domestic sewage shall be treated in soak pit.		
d	**Noise Levels**	No impact outside the mine pit. Workers will use ear plugs and mufflers.		
e	**Vibration Levels**	Blasting is an important and vital aspect of mining. It is essential to assess the impact of this activity on the surrounding area, especially on the near-by structures and dwelling houses. The quantity of charge used in the mine at any point is very small. Further except for the essentials like rest shelter, canteen, mines office, no other infrastructure is within the mining area. Further, the area is located at 1.0 km away from the nearest		

		village; and as the proposals are in belowground, the vibrations will not propagate up to the village. Hence, the impact due to blasting is negligible. However control blasting will be adopted to control the vibrations and sound.
f	**Water Environment**	The chemical analysis of Mica, Quartz and Feldspar does not show any hazardous parameters. Hence, the rain water passing through the mine workings does not affect. However, during monsoon there is every possibility of transportation of the silt and sedimentation into the surrounding area, which may cause pollution to the natural drainage system. During mining activity a part of the dust generated by the vehicular movement get mixed with the rain water and carried as solid suspension along with it, causing siltation in the seasonal nallah. The ground water table is about 30 m below the general ground level. Hence, the ground water will not be affected.
g	**Acid Mine Drainage**	No acid will be generated from Mica Mines
h	**Surface Subsidence**	Not applicable
i	**Socio economies**	The applied area is 0.5 Km away from the nearest village Kalichedu and the proposed mining activity will fetch employment to the local people which improve socio-economical condition of the surrounding Villagers
j	**Historical Monuments**	No historical monuments are existing in and around the mine within a radius of 5.0 KM.
k	**Bio-Diversity**	No impact will happen to the Mankind, flora and fauna by the mining operations, excepting minor vibrations due to blasting, sound pollution and dust which will be under control and within the permissible limits.

3.0 PROGRESSIVE RECLAMATION PLAN :

Restoration and reclamation is very much essential in any mining industry. No part / whole of the pit area is proposed for reclamation / backfilling as entire area will be active in mining operation up to the end of mining plan period.

4.0 MINED– OUT LAND

Land Use Pattern of the Mining area during the next 5 years will be as follows

Area		Hectares
Area under mining	Broken (Old pits)	0.580
	To be broken	1.665
Green Belt	Existing	0.000
	Proposed	0.250
Sub grade mineral dump	Existing	1.144
	Proposed	0.000
OB Dump	Existing	0.000
	Proposed	0.000
waste dump	Existing	0.000
	Proposed	0.280
Proposed sub grade mineral dump	Existing	0.000
	Proposed	0.300
Infrastructure (site services)	Existing	0.000
	Proposed	0.030
Roads	Existing	0.363
	Proposed	0.000
Mineral stacking	Existing	0.000
	Proposed	0.000
Magazine		0.000
TOTAL AREA UTILISED		**4.612**
TOTAL MINE LEASE AREA		**10.723**

5.0 TOP SOIL MANAGEMENT:

Red Morum is the top Soil in this applied area up to 1.00 mts. A quantity of 42012 MT of top soil will be generated over an area of 21006 Sq.mts. It will be used for plantation.

6.0 TAILING DAM MANAGEMENT:

Not applicable

7.0 DISASTER MANAGEMENT AND RISK ASSESSMENT:

No high risk accidents are anticipated as the project is manual Open Cast method of mining operation in a fairly stable area free from land subsidence, earthquake etc. No tailing dam is proposed and there is no associated risk. However, in case of any eventuality the following persons will be available for contact.

Key Persons:

M/s MICA ZONE,
Mg.Partner. Sri G. Krishnam Raju,
S/o G. Narayana Raju
Jaflapuram Village,
Sydapuram Mandal,
SPSR Nellore District-524407.

8.0 CARE AND MAINTENANCE DURING TEMPORARY DISCOUNTENANCE:

An emergency plan to deal with the situation of temporary discontinuance or incomplete program due to Court order/due to statutory requirements or any other unforeseen circumstances will be drawn by the technical & managerial personnel to suit the specific situation of this mine. This will be reviewed & modified to suit changing conditions and needs. This would take care of preventing of access to dangerous places, pits and preventing accidental fall into the pit of animals & men. Security will also look into the safety measures placed at various places like firefighting equipment and switch gear etc.

The following specific measures are taken,

(i) Proper and adequate security at the entrance/exit to the mine to prevent entry of unauthorized person with proper gates under lock.
(ii) Top edges of the quarry will be fenced-off with approved type of fencing.
(iii) Special security and fire preventing measures will be taken at dangerous places/explosive magazine etc.,
(iv) All the above will be examined by mines manager once in a week to ensure that they are in order.

ITEM	DETAILS	PROPOSED	ACTUAL	REMARKS
	Area afforested(Ha)	Nil	Nil	--
Dump Management	No. of saplings planted			
	Cumulative no of plants			
	Cost including watch and care during the year			
Management of worked out benches	Area available for rehabilitation(specify)	Nil	Nil	--
	No of saplings planted in the year			
	Cumulative no of plants			
	Any other method of rehabilitation(specify)			
	Cost including watch and care during the year			
Reclamation and rehabilitation by backfilling	Void available for backfilling (LxBxD) pit wise/stope wise	Nil	Nil	--
	Void filled by waste /tailings			
	Afforestation on the backfilled area			
	Rehabilitation by making water reservoir any other means(specify)			
Rehabilitation of waste land within lease	Area available(Ha) Area Rehabilitation Method of Rehabilitation	Nil	Nil	--

9.0 FINANCIAL ASSURANCE

Financial assurance will be submitted in any encashable form such as a bank guarantee from a scheduled bank at the rates equivalent to rates prescribed in Rule 7 and Rule 12(5) (C) of Mineral Concession Rules, 1966, G.O. Ms. No.53 Dated: 27.02.2019 for five years period expiring at the end of validity of the document.

10.0 INFORMATION INDICATING BREAK UP OF AREAS IN THE MINING LEASE FOR CALCULATION OF FINANCIAL ASSURANCE SHALL BE IN THE FORMAT GIVEN BELOW:

All units are in Hectares

Sl. No	Type of land use	As at present	During the Plan period	Total	The area considered as fully reclaimed and rehabilitated	Net area considered for calculation
A	B	C	D	E=C+D	F	G=E-F
1	Area under Mining	0.580	1.665	2.245	0	2.245
2	Storage for top-soil	0	0	0	0	0
3	Waste Dump	0	0.280	0.280	0	0.280
4	Proposed sub grade mineral dump	0	0.300	0.300	0	0.300
5	Mineral storage	0	0	0	0	0
6	Infrastructure	0	0.030	0.030	0	0.030
7	Roads	0.363	0	0.363	0	0.363
8	Railway	0	0	0	0	0
9	Green belt	0	0.250	0.250	0	0.250
10	Tailing pond	0	0	0	0	0
11	Screening & washing plant	0	0	0	0	0
12	Magazine	0	0	0	0	0
13	Township Area	0	0	0	0	0
14	Sub-grade storage	1.144	0	1.144	0.413	0.731
Total		**2.087**	**2.525**	**4.612**	**0.413**	**4.199**

Area considered for calculation of Financial Assurance : 4.199 Ha.

The Financial Assurance required is minimum @ Rs.50, 000.00 for below 5 Hectares As per the amended Rule 7 and Rule 12(5) (C) of Mineral Concession Rules-1966, G.O.Ms. No.53 Dated: 27.02.2019, Hence the financial assurance of Rs.50, 000.00 in the form of Bank Guarantee will be submitted to the Assistant Director, Department of Mines and Geology, Nellore.

PLANS AND SECTIONS :

Plans and sections are enclosed.

For MICA ZONE

Applicant: Managing Partner

P. Viswam
RQP/BNG/346/2015/A

Place:
Date: 28-08-2021

Deputy Director of Mines & Geology
Government of A.P. Nellore

This Mining Plan is Approved Subject to the conditions stipulations indicated in the Mining plan Approval Letter No. 1128/MP/Q.Fly./NLR/2021
Date ...../2021.....

Approved
B. JAGANNADHA RAO 31/8/2021
(Approving Authority of Nellore District)
Deputy Director of Mines & Geology
SPSR Nellore District

CERTIFICATE

This is to certify that the mining plan with Progressive Mine Closure Plan comply all statutory rules, regulations, orders made by the Central or State Government, statutory organizations, court etc., have been taken in to consideration and wherever any specific permission is required, the applicant will approach the concerned authorities. The undertaking also given herewith stating that all measures proposed in this mining plan with progressive mine closure plan will be implemented in a time bound manner as proposed.

UNDER TAKING

It is hereby undertaken that all the measures proposed in this "Mining Plan with Progressive Mine Closure Plan" will be implemented in a time bound manner as proposed.

Deputy Director of Mines & Geology
Government of A.P. Nellore

For MICA ZONE

Managing Partner

Signature of the applicant

Place:

Date:

ANNEXURES

ANNEXURE No. I

खनन योजना तैयार करने के लिए अर्हता प्राप्त व्यक्ति के रूप में मान्यता

प्रमाण पत्र

CERTIFICATE OF RECOGNITION AS QUALIFIED PERSON TOPREPARE MINING PLAN

(खनिज रियायत नियमावली 1960 के नियम 22सी के अंतर्गत)

(Under Rule 22C of Mineral Concession Rules, 1960)

श्री पूनामल्ली विश्वम पुत्र श्री पी. सुब्बा झेट्टी, निवासी - 13/2, 2nd मैन रोड, नांजामाबागारहरा, चामराजपेट, जिला- बैंग्लोर, बैंग्लोर-560018, राज्य- कर्नाटका, जिनका फोटो एवं हस्ताक्षर दिया गया है उनकी योग्यता तथा अनुभवो के संतोषजनक प्रमाण पत्र देने के एवज में एतद द्वारा खनिज रियायत नियमावली 1960 के नियम 22 सी के अंतर्गत खनन योजना/ खनन अभियोजना/उतरोत्तर खान बंद/ अंतिम खान बंद करने की योजना तैयार करने के लिये अर्हता प्राप्त व्यक्ति के रूप में मान्यता दी जाती है.

Shri Poonamalli Viswam son of P.Subba Jhetty resident of :-13/2, 2nd Main road, Nanjamabaagarhara, Chamrajpet, District- Bangalore, Bangalore- 560018, State- Karnataka whose Photograph and Signature is appended herewith having given satisfactory evidence of his qualifications & experience is hereby granted RECOGNITION under Rule 22C of the Mineral Concession Rules,1960 as a Qualified Person to prepare Mining Plan / Scheme of Mining / Progressive Mine Closure Plan / Final Mine closure plan.

उनका पंजीकरण क्रमांक/ His Registration Number is

आर.क्यू.पी./बेंग/346/2015/ए	RQP/BNG/346/2015/A

यह मान्यता दस वर्ष की अवधि के लिए वैध है जो दिनांक 29.03.2025 को समाप्त होगी।

The recognition is valid for a period of Ten Years ending on 29.03.2025.

खनन योजना / खनन अभियोजना /उतरोत्तर खान बंद/ अंतिम खान बंद करने की योजना में यदि कोई गलत/झूठ सूचनाएँ दी गई हो तो उनका यह प्रमाण पत्र वापस ले लिया जाएगा।

Furnishing any wrong/false information in the Mining Plan/Scheme of Mining / PMCP / FMCP may lead to withdrawal of this certificate.

आर.क्यू. पी. के हस्ताक्षर / Signature of RQP

Deputy Director of Mines & Geology
Government of A.P.

स्थान/Place: बैंग्लोर/Bangalore

दिनांक/Date: 30.03.2015

30/03/15

क्षेत्रीय खान नियंत्रक/

Regional Controller Of Mines

Regional Controller of Mines
Eastern Bureau of Mines
Govt. of India, Bangalore-560027

ANNEXURE -II

GOVERNEMENT OF ANDHRA PRADESH
DEPARTMENT OF MINES AND GEOLOGY :: IBRAHIMPATNAM

Circular Memo No.3861432/P/2020 Dated:16.07.2021.

Sub: Mines &Minerals - Granting of Mining Lleases/Prospecting Licence/Quarry Leases in Forest Lands – Instructions issued – Regarding.

Ref: 1. Memo. No. 3778/For(1)20001-1, Dt. 20.04.2001 from Environment,Forest,Science &Technology(For.1) Department.
2. Memo. No. 5624/For.(1)/2005-2, Dt. 1.09.2005 from Environment,Forest,Science & Technology Department.
3. Circular Memo.No.10205/P1/2001, Dt. 29.05.2009. from Director of Mines &Geology, Hyderabad.
4. Circular Memo.No.10205/P1/01, Dt. 16.09.2009. from Director of Mines &Geology, Hyderabad.
5.Ref.No.EFS02-15029/94/2018-FCA-SEC-PCCF/FCA-,Dt.13.07.2021. from Principal Chief Conservator of Forest &Head of Forest Force, Guntur.

*****

The attention of the all Assistant Directors and Deputy Directors of Mines &Geology In the state are drawn to the subject and references cited. Through the reference 4th cited Director of Mines &Geology issued Guidelines for processing of ML/QL applications for clearances under forest Conservation Act 1980, to avoid legal complications in future.

In the reference 5th cited, the Principal Chief Conservator of Forest & Head of Forests, Andhra Pradesh stated that during the virtual meeting held with GoI, MoEF & CC, New Delhi on 08.07.2021 while receiving the proposals of the some of applications for which this office forwarded to PCCF for grant of Quarry lease in forest areas, they suggested the authenticated DGPS surveyed sketch of proposed forest area with Geo-coordinates duly indicating land use plan for mining, safety zone, approach road in respect of the four mining proposals,and necessary instruction are being issued to the above user Agencies to furnish the Draft Mining plan based on the above precise area arrived after conducting DGPS survey, to the Director of Mines &Geology, Andhra Pradesh., Ibrahimpatnam for necessary action. Further also informed that the DM&G, AP/the representative authorized by him, may approach the concerned Divisional Forest Officers for entry into Forests to inspect the precise forest area proposed for mining purpose, and finally requested to submit AMP of the said mining proposals as stated below:

1. Grant of quarry lease over an extent of 4.78 ha. Of forest land in compartment no.127, Kondaveedu RF, Ameenabad beat, Perecherla (V), Medikondur Mandal, Guntur for Road Metal &Building Stone in favour of Kunambrahmananda Redd, Ongole, Prakasam District.

2. Grant of quarry lease over an extent of 4.49 ha. Of forest land in compartment no.127, Kondaveedu RF, Ameenabad beat, Perecherla(V), Medikondur Mandal, Guntur for Road Metal &Building Stone in favour of Sri Dar Appa Rao, West Godavari District.

3. Diversion of forest land over an extent of 4.72 ha. In compartment no.450 of Yerrakonda R, Tummagunta Village, Kanigiri Mandal, Prakasam District for excavation of Quartz in favour of M/s AhobilaNarasimha Minerals.

4. Diversion of 4.90 ha. Of forest land falling in compartment no.205 of Ragimanupenta RF, Banagarupalyam (M), Chittoor (West) Division in f/o M/s Prathima Granites for grant of quarry lease for Black Granite.

In this connection it is to inform that, as per the existing provisions laid down under APMMC Rules 1966 the AMP shall allowed only after issue of Notice (LOI) to the applicant. But as per the present instructions received from the PCCF vide reference 5th cited, in the cases, where the M.C. Applications falls in forest area, the proposal shall submit along with AMP duly following the instructions issued in the references 3rd & 4th cited.

Therefore the ADM&G's and DDM&G's in the state are directed while processing mineral concession applications falling in the forest area, proposals shall submit to the DM&G along with the AMP and strictly adhering the instructions issued earlier and approach with the concerned DFO to process the Mineral concession applications as the procedure intimated by the PCCF if necessary.

Further the DDM&G's in the state are directed to consider the AMP for approval of the forest area applications in advance without issuing of Notice to the applicants requesting to submit AMP, EC &CFE.

Sd/- V.G.Venkata Reddy
Director of Mines &Geology

Encl: References as stated above

To
The all ADM&G's (Regular) in the State.
The all DDM&G's in the State.
Copy to the Section Superindents from D1 to D13 / In- charge officers of sections Sand, Vigilence, IT, MR, MERIT,
Copy to DM&G pashi.
Copy submitted to the Principal Chief Conservator of Forest & Head of Forest Force, AranyaBhavan, Andhra Pradesh, K.M. Munshi Road, Guntur-522004, with a request to issue suitable instructions to DFO's in the State for allow if the Mines &Geology Officials and user Agencies to inspect and preparing of AMP in the forest areas.

//Attested//

G. Sunil Babu.
Assistant Director of Mines &Geology

ANNEXURE-III

GOVERNMENT OF ANDHRA PRADESH
FOREST DEPARTMENT

Ref,no.EFS02-15029/15/2021-FCA
SEC-PCCF/FCA-3,
Dated: **31/03/2021**

Office of the Prl, Chief Conservator of Forests &
Head of Forest Force, Andhra Pradesh,
'Aranya Bhavan', K.M. Munshi Road,
Guntur – 522004.

Sri N. Prateep Kumar, IFS.,
Prl. Chief Conservator of Forests &
Head of Forest Force

Sub: APFD – F(C) Act, 1980 - Application for grant of quarry lease for Mica, Quartz & Feldspar over an extent of 10.723 Hectares / 26.49 acres in Sy.no.466 of Turimerla village, Turimerla RF of Sydapuram Manda, SPSR Nellore district – Filed by M/s Mica Zone, Mg. Part: Sri G. Krishnam Raju – Statutory proformae furnished by DMG – Reg

Ref:- Director of Mines and Geology, Ibrahimpatnam, Vijayawada, Krishna district Lr.no.6228/D8/2020, dated: 25.03.2021.

-o0o-

It is informed that, the Director of Mines and Geology, Ibrahimpatnam, Vijayawada, Krishna District in the reference cited has forwarded statutory proformae proposal grant of quarry lease for Mica, Quartz & Feldspar over an extent of 10.723 Hectares / 26.49 acres in Sy.no.466 of Turimerla village, Turimerla RF of Sydapuram Manda, SPSR Nellore district in favour of M/s Mica Zone, Mg. Part. Sri G. Krishnam Raju and requested to process the proposal to accord forest clearance.

In this regard, as per the Forest (Conservation) Act, 1980, no forest land should be diverted for non-forestry purposes without prior approval of the GoI and as per the guidelines issued by MoEF, GoI, New Delhi any proposal seeking permission for diversion of forest land under F(C) Act, 1980 will be accepted and processed only when the proposal is uploaded in the Ministry's web portal. However, before submission of proposals through online, with the permission of the Prl.Chief Conservator of Forests & Head of Forest Force, Andhra Pradesh, Guntur, the area proposed to be diverted has to be surveyed using DGPS, by the User Agency, and the resultant DGPS, raw data has to be authenticated by this office.

In view of the above and after careful examination of the request with reference to Chapter-6 of the guidelines issued by MoEF&CC, Government of India in F.no.5-2/2017-FC, dt: 28.03.2019, permission is hereby accorded to M/s. MICA Zone, Mg. Part. Sri G. Krishanm Raju, to conduct DGPS survey in the proposed forest area, subject to the following conditions.

1. This survey shall not involve any clearing of forest or cutting of trees and operations are restricted to clearing of bushes and loping of tree branches for purpose of sighting.

2. The Divisional Forest Officer, SPSR Nellore shall ensure completely that in no case permission is given to the user agency for proposed forest areas falling in

Protected Areas unless Prl. Chief Conservator of Forests (WL) & Chief Wildlife Warden permits. Compliance to Eco-sensitive zone and Wildlife Corridors shall also be observed.

3. The user agency shall not cause any violation to the provisions of Forest (Conservation) Act, 1980 and A.P. Forest Act, 1967.

4. This permission for DGPS survey in the proposed forest land shall not confer any right on the Applicant for diversion of the said forest land for any other purpose. To this extent the Divisional Forest Officer, SPSR Nellore Division shall obtain undertaking from the user agency, before allowing for DGPS survey.

5. Survey shall be conducted on both the sides of the linear projects.

M/s Mica Zone, Mg. Partner. Sri G. Krishnam Raju, Nellore district is requested to approach the Divisional Forest Officer, SPSR Nellore for conducting DGPS survey in the presence of forest officials. The Divisional Forest Officer, SPSR Nellore is requested to allow the user agency to conduct DGPS survey and also to deploy the forest staff while undertaking the survey by the user agency. The Divisional Forest Officer, SPSR Nellore shall offer specific remarks with firm opinion for locating the project inside the forest land duly verifying with Gazette Notification of RF block.

Further, while submitting DGPS surveyed maps and raw data in CD format for verification and authentication by this office, the Divisional Forest Officer, SPSR Nellore shall ensure that CD must contain proper data rather than soft copy of the maps and also the maps shall be signed by the feld officers, so as to avoid unwanted delay in processing the proposal.

Further, to avoid repeated errors while taking geo-coordinates in DGPS survey by the user agency, care should be taken to follow the methodology for DGPS survey of forest boundaries enclosed to PCCF & HoFF, A.P., Guntur Circular no.10/2013, dated 02.08.2013 (copy enclosed for ready reference) and further instructions issued by the Addl.Prl.Chief Conservator of Forests (Res. & IT) in Ref.no.7577/2016/M&E.1 (IT) dated 08.08.2016 (copy enclosed for ready reference). It is also requested to see that the survey area should be peg marked for stations to record the data and road width should be mentioned in the original map which will be submitted by the user agency.

Encl:- As above.

N Prateep Kumar
Prl. Chief Conservator of Forests &
Head of Forest Force

To

1. M/s. Mica Zone, Mg. Partner, Sri G. Krishnam Raju, S/o G. Narayana Raju, Jaflapuram (V), Sydapuram (M), SPSR Nellore – 524407

2. The Divisional Forest Officer, SPSR Nellore.

Copy to the Conservator of Forests, Guntur Circle, Guntur for information.

Copy with enclosures forwarded to the Prl. Chief Conservator of Forests (WL) & Chief Wildlife Warden, A.P., O/o the PCCF (HoFF), A.P., Guntur for information.

ANNEXURE - IV

भारतीय गैर न्यायिक

एक सौ रुपये

Rs. 100

ONE HUNDRED RUPEES

रु. 100

सत्यमेव जयते

भारत INDIA

INDIA NON JUDICIAL

BV 749631

ఆంధ్రప్రదేశ్ आन्ध्र प्रदेश ANDHRA PRADESH

Date:15.12.2016 Serial:15156 Denomination: 100

CH. ANITHA
Licensed Stamp Vendor
L.R. No. 34-04-001/2014
15/286, Velayana adapuram,
EAST GUDUR, SPSR Nellore Dt.

Purchased by: Guntamadugu Krishnam Raju S/o Narayana Raju, Jaflapuram(V),Sydapuram(M)

For Whom: MICA ZONE Rep by Mg Partner Guntamadugu Krishnam Raju

RECONSTITUTED DEED OF PARTNERSHIP

This deed of partnership is executed at Jafalapuram Village, Sydapuram Mandal, Nellore District, Andhra Pradesh on this 31st day of March, 2017 among

1. GUNTAMADUGU KRISHNAM RAJU, S/o NARAYANA RAJU, aged about 33 years residing at Jafalapuram Village, Chaganam Post, Sydapuram Mandal, Nellore District, Andhra Pradesh.(Hereinafter called the party of the First part)
2. BATTHALA SUBBA REDDY, S/o KRISHNA REDDY aged about 45 years residing at Thippavarapadu Village, Gudur Mandal, Nellore District, Andhra Pradesh. (Hereinafter called the party of the Second part)
3. PALLAPU GIRI, S/o CHINNA RAMAIAH, aged about 30 years residing at Jogipalli Village, Sydapuram Mandal, Nellore District, Andhra Pradesh. (Hereinafter called the party of the Third part)
4. THIRAKALA SEKHAR, S/o JAYARAMAIAH, aged about 38 years residing at Kamakshi Nagar, Goginenipuram Village, Gudur Mandal, Nellore District, Andhra Pradesh. (Hereinafter called the party of the Fourth part)
5. YELLA SRAVAN KUMAR REDDY, S/o GOPAL REDDY, aged about 47 years residing at D.No.14-27-1, ICS Road, Gudur, Nellore District, Andhra Pradesh. (Hereinafter called the party of the Fifth part)
6. GOODALA VENKATA RAMANA REDDY, S/o KRISHNA REDDY aged about 43 years residing at Thippavarapadu Village, Gudur Mandal, Nellore District, Andhra Pradesh. (Hereinafter called the party of the Sixth part)
7. GUNTAMADUGU LAKSHMI VARAPRASAD, S/o NAGABHUSHNAM aged about 21 years residing at Jafalapuram Village, Chaganam Post, Sydapuram Mandal, Nellore District, Andhra Pradesh. (Hereinafter called the party of the Seventh part)

1. [signature] 5. [signature]
2. BSB Reddy 6. G. [signature]
3. P. Giri 7. [signature]
4. T. Sekhar

Continued.......2

BV 749632

ఆంధ్రప్రదేశ్ आन्ध्र प्रदेश ANDHRA PRADESH

Date:15.12.2016 Serial:15157 Denomination: 100/-

Purchased by: Guntamadugu Krishnam Raju S/o Narayana Raju, Jaflapuram(V),Sydapuram(M)

For Whom: MICA ZONE Rep by Mg Partner Guntamadugu Krishnam Raju

The above parties hereinafter called 'PARTNERS' which term wherever the context so admits shall mean and include their Heirs, Legal Representatives, Executors, Administrators and Assignees.

WHEREAS the above 3 to 6 parties have formed themselves into a Partnership Firm on 04th day of February,2015 with GUNTAMADUGU CHANDRA MOHAN RAJU S/o NARAYANA RAJU and ALTHURU SRINIVASULU REDDY S/o RAMI REDDY to carry on the business of "MINING, PURCHASES, PROCESSING, SALE, EXPORT OF MICA, FELDSPAR, QUARTZ and VERANDUMS" in the name and style of "MICA ZONE" at S. No. 46/2A, Main Road, Jaflapuram Village, Chaganam Post, Sydapuram Mandal, Nellore District, Andhra Pradesh and the same is evidenced by the Deed of Partnership dated 04.02.2015 executed and signed by 3 to 6 parties, GUNTAMADUGU CHANDRA MOHAN RAJU and ALTHURU SRINIVASULU REDDY.

WHERE AS the above 3 to 6 parties, Guntamadugu Chandra Mohan Raju and Althuru Srinivasulu Reddy carried on the business stated above from 04.02.2015 to 05.08.2015. On 06.08.2015 the above party of the first part and the party of the second part have expressed their desire to join the partnership and the same day Guntamadugu Chandra Mohan Raju and Althuru Srinivasulu Reddy also have expressed their desire to retire from the partnership, for which the other partners accepted. It is evidenced by the Partnership Deed executed and signed on 06.08.2015.

WHEREAS all the above 1 to 6 parties started on the said business up to 30.03.2017. On 31.03.2017 the party of the seventh part GUNTAMADUGU LAKSHMI VARAPRASAD expressed his desire to join in to the partnership firm for which the other existing partners accepted.

WHEREAS the incoming partner i.e the party of the seventh part, i.e. GUNTAMADUGU LAKSHMI VARAPRASAD has brought in his share capital as accounted for in the books of accounts of the partnership.

WHEREAS the same day after admitting the party of the seventh part GUNTAMADUGU LAKSHMI VARAPRASAD, the above 2 to 6 parties i.e. BATTHALA SUBBA REDDY, PALLAPU GIRI, THIRAKALA SEKHAR, YELLA SRAVAN KUMAR REDDY and GOODALA VENKATA RAMANA REDDY has expressed their desire to retire from the partnership firm due to their personal reasons, for which the other partners accepted. The amount due to the retiring partners has been determined with regard to their investment in the firm including accumulated interest, remuneration, and profit or loss if any as represented by their capital accounts as on the date of retirement and the amount so determined was paid in full.

WHEREAS the retiring partners shall not have any right or claim or liability of what so ever on the Assets and liabilities of the firm existing as at the date of retirement and to be acquired or incurred if any in future and on the profits or losses to be earned or incurred in future from this 31st day of March, 2017.

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ఆంధ్రప్రదేశ్ आन्ध्र प्रदेश ANDHRA PRADESH BV 749633

Date:15.12.2016 Serial:15158 Denomination: 100/-

Purchased by: Guntamadugu Krishnam Raju S/o Narayana Raju, Jaflapuram(V),Sydapuram(M).

For Whom: MICA ZONE Rep by Mg Partner Guntamadugu Krishnam Raju

(3)

NOW THIS DEED OF RECONSTITUTED PARTNERSHIP WITNESSETH AS UNDER:

1. That the parties aforesaid mutually agreed to be the partners of the firm on the terms and appearing hereinafter
2. That the partnership business shall be that "Mining, Purchases, Processing, Sale, Export of Mica, Feldspar, Quartz and Vermiculite" in the name and style of "MICA ZONE" at S. No. 46/2A, Main Road, Jafalapuram Village, Chaganam Post, Sydapuram Mandal, Nellore, Nellore District, Andhra Pradesh and such other place or places as the partners may decide from time to time.
3. That the Office of the Partnership shall be situated in the above mentioned address.
4. That this Reconstituted partnership shall come in to effect from this 31st day of March, 2017.
5. That the capital required for this partnership shall be contributed by the partners as and when necessary according to their convenience and capacity.
6. That the business of the partnership shall be managed by the party of the First part i.e. GUNTAMADUGU KRISHNAM RAJU and shall be called as the Managing partner. The other partner shall assist the Managing partner in the proper conduct of the business.

   That Managing partner shall have the power to negotiate all purchases and sales to assign contracts, receipts, letter of correspondence and all kinds of negotiable and transferable instruments and also to appoint staff, to remove or suspend and dismiss and to fix their remuneration and business or allowances if any either in his individual capacity or in the capacity of the Managing partner of the firm.
7. That the Bank account or accounts shall be opened in the name of the partnership firm and the same shall be operated by the Managing partner i.e. GUNTAMADUGU KRISHNAM RAJU.
8. That the interest on capital shall be charged @ 12% per annum or such rate or rates as may be prescribed in the Income Tax Act and as may be decided by the partners from time to time.

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Continued 4

ఆంధ్రప్రదేశ్ आन्ध्र प्रदेश **ANDHRA PRADESH**

BV 749634

Date:15.12.2016 **Serial:15159** **Denomination: 100/-**

Purchased by: Guntamadugu Krishnam Raju S/o Narayana Raju, Jaflapuram(V),Sydapuram(M)

For Whom: MICA ZONE Rep by Mg Partner **Guntamadugu Krishnam Raju**

(4)

9. That if at any time a loan or loans are needed for the advancement of the business the promissory note or bond or any other instrument executed in this regard in favour of the creditors whether individual or banks or any other financial institutions shall be executed and signed by the Managing partner i.e. **GUNTAMADUGU KRISHNAM RAJU.**

10. That it is decided by all the partners to carry on the contract works and the contract works which are obtained by the partners in their individual capacity shall also be considered as the contract work of the firm. The entire contract works if any held in the personal names of the partners shall also be treated as the contracts of the firm.

11. That all the other partner shall be working partner and they shall be responsible for conducting the affairs of the business to the best of their knowledge and ability and each shall be paid @ Rs. 10,000/- per month as salary subject to the Provisions contained in the Income Tax Act, 1961 in this regard. However more or lesser remuneration can also be given by mutual consent of the partners keeping in view the profits and other condition of the firm.

12. That the partners shall remain true and faithful to each other and shall render true and correct accounts of all the transactions and things done by them on behalf of the partnership business.

13. That no partners shall without the previous consent in writing of the other partners assign, transfer or mortgage his share or interest in the partnership or introduce any other person as partner therein.

14. That all the books of account shall be kept at the place of the firm and shall not be removed from that place without the consent of the other partners and also they shall be open for inspection in usual working time by the partners who shall be entitled to take extracts or copies thereof.

1.
2. BSBReddy
3.
4. T. Selvy.
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Continued..... 5

ఆంధ్రప్రదేశ్ आन्ध्र प्रदेश ANDHRA PRADESH

Date:15.12.2016 Serial:15160 Denomination: 100/-

Purchased by: Guntamadugu Krishnam Raju S/o Narayana Raju, Jaflapuram(V),Sydapuram(M)

For Whom: MICA ZONE Rep by Mg Partner Guntamadugu Krishnam Raju

BY 749635

15. That the usual books of accounts of the partnership business shall be maintained and the same shall be closed to profit and loss at the end of March every year the resultant profit or loss as the case may be shall be shared by the partners hereto as follows:-

1. GUNTAMADUGU KRISHNAM RAJU	80%
2. GUNTAMADUGU LAKSHMI VARAPRASAD	20%
TOTAL	100%

16. That the terms and conditions of this partnership shall be altered so as to simplify, modify or to be dealt in any other suitable manner with mutual consent of both the partners and the same shall be incorporated as a separate paper which form part and parcel of this deed.
17. That this Partnership shall be terminable at will.
18. That for the matters not specifically provided in this deed, the provisions of the Indian Partnership Act, 1932 shall apply.

IN WITNESS WHERE OF THE parties hereto have set their hands and signatures at this deed of Partnership on this 31st day of March, 2017.

Witness:

1.

2.

Signature of Partners:

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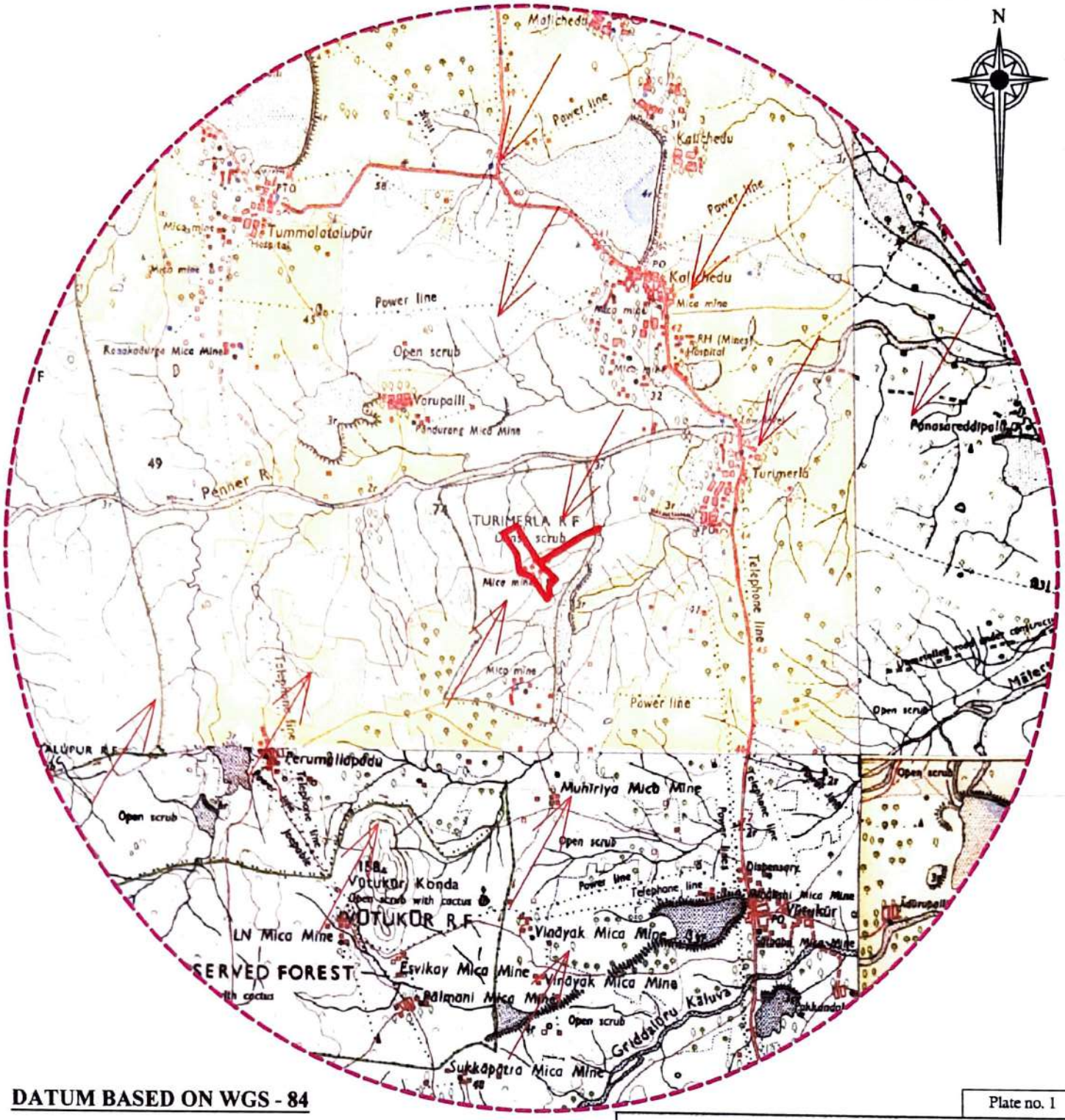
ANNEXURE V

PHOTOGRAPHS OF BOUNDARY PILLARS

PLATES



DATUM BASED ON WGS - 84

Geo co-ordinates Latitude: 14.26913019
Longitude: 79.71768945

Plate no. 1

Mining Plan for Mica, Quartz & Feldspar Over an Extent of 10.723 Hectares Including Safety Buffer Zone and Road Area in Sy. No. 466 of Turimerla(V), Turimerla R.F of Sydapuram(M), SPSR Nellore(DT), Andhra Pradesh.

APPLICANT: M/S MICA ZONE
Mines & Minerals
SRI G. KRISHNAM RAJU

KEY CUM LOCATION PLAN
TOPOSHEET NO: 57 N/11

Scale:- 1 : 50,000 (1cm = 500m)

The above Plan is Prepared on the basic of authenticated mining lease sketch provided by the State Govt and certified that the above plan is correct

For M/S Mica Zone

Managing Partner
Applicant

P. Viswam, B.E. Mining
(RQP/BNG/346/2015/A)

INDEX

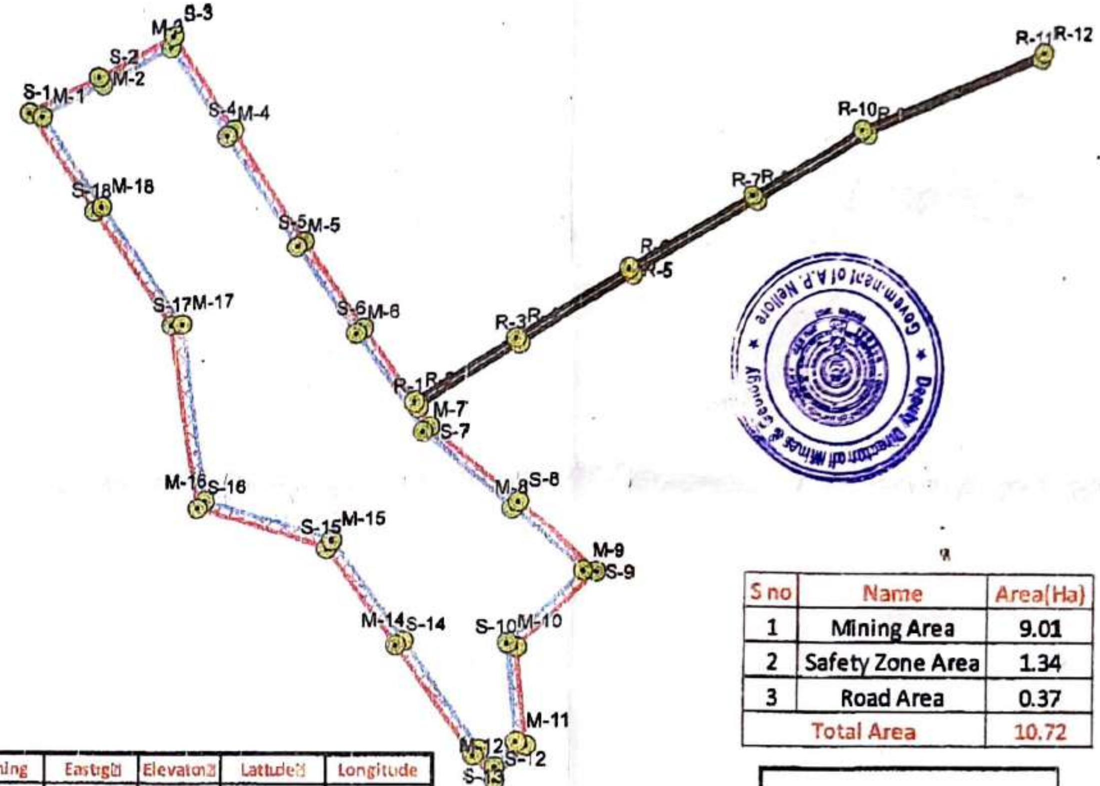
- Applied Area
- 5 Km Radius Line
- Villages
- Water Source
- B.T Road
- Wind Direction

PLATE No. 2

Map Showing the Diversion of Forest Land in Comp-No-120, Turimerla RF, ~~Chaganam Beat~~ Jummalatalpur Beat, Venkatagiri Range, Nellore Division for grant of Quarry lease for Mica, Quartz & Feldspar in favour of M/s Mica Zone, Mg.part: Sri G. Krishnam Raju.

1:6000

S no	Name	Northing	Eastng	Elevaton	Lattude	Longitude
1	M-1	1577869.893	361686.061	35.360	14.26910566	79.71779447
2	M-2	1577898.325	361740.001	38.680	14.26936536	79.71829296
3	M-3	1577930.482	361801.044	37.719	14.26965909	79.71885710
4	M-4	1577851.703	361852.059	39.387	14.26894951	79.71933396
5	M-5	1577753.824	361915.433	41.580	14.26806788	79.71992635
6	M-6	1577677.054	361968.595	41.216	14.26737657	79.72042300
7	M-7	1577591.013	362027.354	42.437	14.26660172	79.72097199
8	M-8	1577521.959	362104.942	42.663	14.26598136	79.72169464
9	M-9	1577464.720	362169.863	39.279	14.26549327	79.72226858
10	M-10	1577405.257	362101.002	41.761	14.26492623	79.72166407
11	M-11	1577320.061	362108.814	41.742	14.26415649	79.72174082
12	M-12	1577298.003	362090.676	38.494	14.26395619	79.72157383
13	M-13	1577312.929	362077.887	41.280	14.26409048	79.72145454
14	M-14	1577407.834	362011.266	41.333	14.26494506	79.72083223
15	M-15	1577492.633	361951.236	43.099	14.26574555	79.72024733
16	M-16	1577532.801	361835.126	42.521	14.26606594	79.71919330
17	M-17	1577690.251	361813.524	40.183	14.26748814	79.71898505
18	M-18	1577793.596	361739.717	36.021	14.26841865	79.71829568
19	S-1	1577872.669	361674.747	34.764	14.26913019	79.71768945
20	S-2	1577905.260	361736.681	36.601	14.26942789	79.71826183
21	S-3	1577940.481	361803.459	37.035	14.26974959	79.71887898
22	S-4	1577856.452	361857.999	39.593	14.26899273	79.71938878
23	S-5	1577758.275	361921.591	41.668	14.26810843	79.71998320
24	S-6	1577681.226	361974.904	41.365	14.26741459	79.72048126
25	S-7	1577595.155	362033.595	42.451	14.26663948	79.72102963
26	S-8	1577527.800	362109.985	39.795	14.26603441	79.72174109
27	S-9	1577467.217	362178.558	39.351	14.26549018	79.72237974
28	S-10	1577401.509	362108.878	41.284	14.26489275	79.72173726
29	S-11	1577316.562	362117.091	41.364	14.26412527	79.72181771
30	S-12	1577286.317	362090.609	38.388	14.26385056	79.72157381
31	S-13	1577307.975	362072.257	40.123	14.26404542	79.72140261
32	S-14	1577404.046	362004.635	41.393	14.26491049	79.72077096
33	S-15	1577489.403	361944.155	43.141	14.26567908	79.72020605
34	S-16	1577526.550	361828.515	42.583	14.26600911	79.71913235
35	S-17	1577689.693	361803.550	37.873	14.26748259	79.71889263
36	S-18	1577789.360	361733.346	36.296	14.26838004	79.71823685
37	R-1	1577611.909	362022.958	42.550	14.26679039	79.72093019
38	R-2	1577616.776	362019.638	42.293	14.26683422	79.72089917
39	R-3	1577664.127	362110.244	41.441	14.26726676	79.72173654
40	R-4	1577669.186	362107.041	41.453	14.26731233	79.72170659
41	R-5	1577724.904	362211.464	40.619	14.26782118	79.72267160
42	R-6	1577729.553	362207.644	40.463	14.26786301	79.72263596
43	R-7	1577790.673	362321.034	39.719	14.26842114	79.72368381
44	R-8	1577795.320	362317.329	39.564	14.26846297	79.72364924
45	R-9	1577853.844	362426.633	38.434	14.26899742	79.72465936
46	R-10	1577857.590	362421.266	38.653	14.26903102	79.72460942
47	R-11	1577925.628	362589.744	36.351	14.26965440	79.72616752
48	R-12	1577931.128	362592.093	36.278	14.26970424	79.72618902



S no	Name	Area(Ha)
1	Mining Area	9.01
2	Safety Zone Area	1.34
3	Road Area	0.37
	Total Area	10.72

Legend

- DGPS Points
- Mining Area
- Safety Zone Area
- Road Area

District Forest Officer
SPSR NELLORE

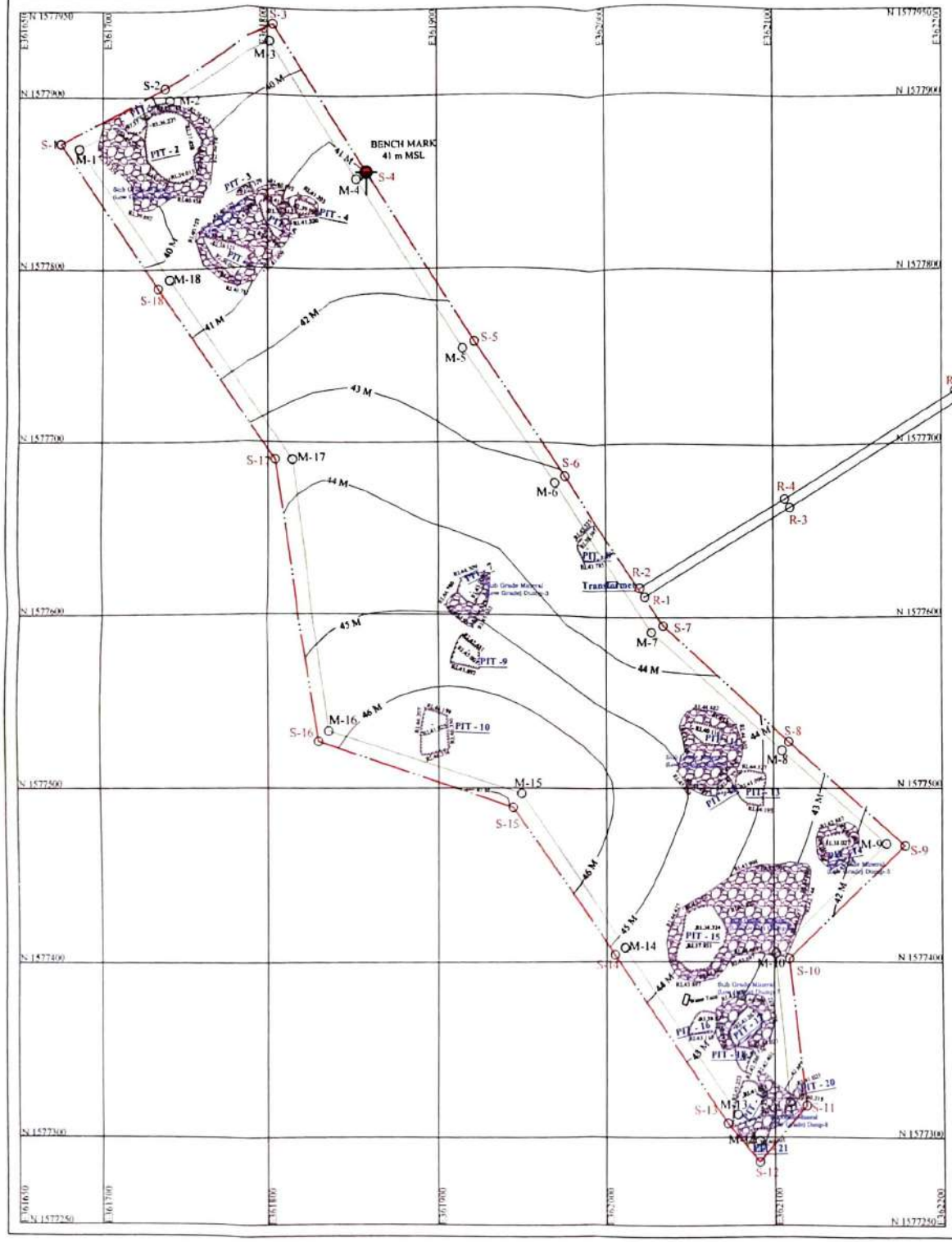
The DGPS/GNSS/ETS data is only verified, the absolute locations of Points shall be verified by the concerned field officers.

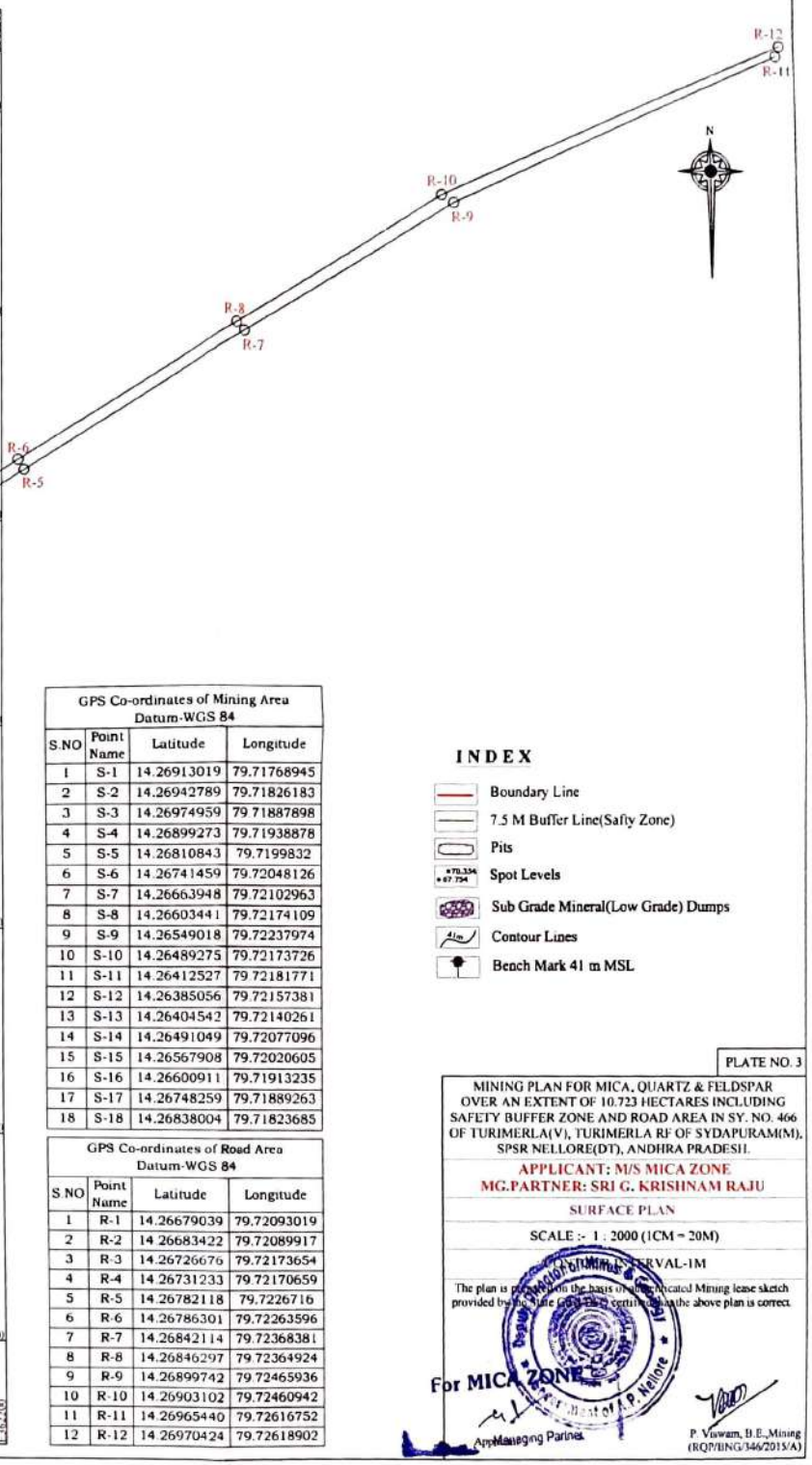
0 87.5 175 350 525 700

For MICA ZONE
Managing Partner

P. VISWAM, B.E.
RQP/BNG/346/2018

FOREST RANGE OFFICER
(GIS), O/o. Prl.CCF (HoFF),
Aranya Bhavan, Guntur





GPS Co-ordinates of Mining Area Datum-WGS 84			
S.NO	Point Name	Latitude	Longitude
1	S-1	14.26913019	79.71768945
2	S-2	14.26942789	79.71826183
3	S-3	14.26974959	79.71887898
4	S-4	14.26899273	79.71938878
5	S-5	14.26810843	79.7199832
6	S-6	14.26741459	79.72048126
7	S-7	14.26663948	79.72102963
8	S-8	14.26603441	79.72174109
9	S-9	14.26549018	79.72237974
10	S-10	14.26489275	79.72173726
11	S-11	14.26412527	79.72181771
12	S-12	14.26385056	79.72157381
13	S-13	14.26404542	79.72140261
14	S-14	14.26491049	79.72077096
15	S-15	14.26567908	79.72020605
16	S-16	14.26600911	79.71913235
17	S-17	14.26748259	79.71889263
18	S-18	14.26838004	79.71823685

GPS Co-ordinates of Road Area Datum-WGS 84			
S.NO	Point Name	Latitude	Longitude
1	R-1	14.26679039	79.72093019
2	R-2	14.26683422	79.72089917
3	R-3	14.26726676	79.72173654
4	R-4	14.26731233	79.72170659
5	R-5	14.26782118	79.7226716
6	R-6	14.26786301	79.72263596
7	R-7	14.26842114	79.72368381
8	R-8	14.26846297	79.72364924
9	R-9	14.26899742	79.72465936
10	R-10	14.26903102	79.72460942
11	R-11	14.26965440	79.72616752
12	R-12	14.26970424	79.72618902

INDEX

- Boundary Line
- 7.5 M Buffer Line(Safty Zone)
- Pits
- Spot Levels
- Sub Grade Mineral(Low Grade) Dumps
- Contour Lines
- Bench Mark 41 m MSL

PLATE NO. 3

MINING PLAN FOR MICA, QUARTZ & FELDSPAR OVER AN EXTENT OF 10.723 HECTARES INCLUDING SAFETY BUFFER ZONE AND ROAD AREA IN SY. NO. 466 OF TURIMERLA(V), TURIMERLA RF OF SYDAPURAM(M), SPSR NELLORE(DT), ANDHRA PRADESH.

APPLICANT: M/S MICA ZONE
MG.PARTNER: SRI G. KRISHNAM RAJU

SURFACE PLAN

SCALE :- 1 : 2000 (1CM = 20M)

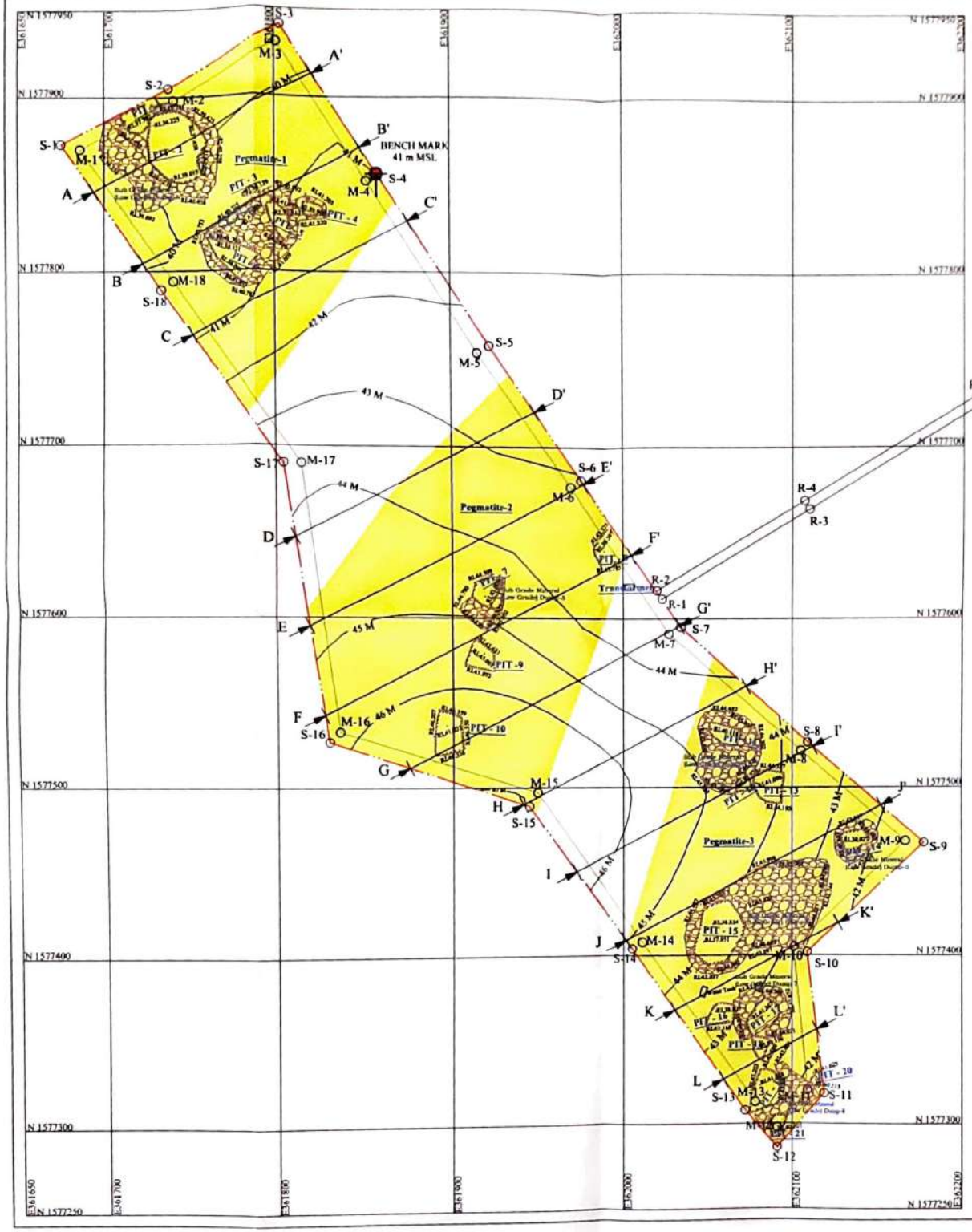
CONTOUR INTERVAL-1M

The plan is prepared on the basis of the authenticated Mining lease sketch provided by the State Govt. I do certify that the above plan is correct.

For MICA ZONE

Managing Partner

P. Viswam, B.E., Mining
(RQP/BNG/346/2015/A)



GPS Co-ordinates of Mining Area Datum-WGS 84			
S.NO	Point Name	Latitude	Longitude
1	S-1	14.26913019	79.71768945
2	S-2	14.26942789	79.71826183
3	S-3	14.26974959	79.71887898
4	S-4	14.26899273	79.71938878
5	S-5	14.26810843	79.7199832
6	S-6	14.26741459	79.72048126
7	S-7	14.26663948	79.72102963
8	S-8	14.26603441	79.72174109
9	S-9	14.26549018	79.72237974
10	S-10	14.26489275	79.72173726
11	S-11	14.26412527	79.72181771
12	S-12	14.26385056	79.72157381
13	S-13	14.26404542	79.72140261
14	S-14	14.26491049	79.72077096
15	S-15	14.26567908	79.72020605
16	S-16	14.26600911	79.71913235
17	S-17	14.26748259	79.71889263
18	S-18	14.26838004	79.71823685

GPS Co-ordinates of Road Area Datum-WGS 84			
S.NO	Point Name	Latitude	Longitude
1	R-1	14.26679039	79.72093019
2	R-2	14.26683422	79.72089917
3	R-3	14.26726676	79.72173654
4	R-4	14.26731233	79.72170659
5	R-5	14.26782118	79.7226716
6	R-6	14.26786301	79.72263596
7	R-7	14.26842114	79.72368381
8	R-8	14.26846297	79.72364924
9	R-9	14.26899742	79.72465936
10	R-10	14.26903102	79.72460942
11	R-11	14.26965440	79.72616752
12	R-12	14.26970424	79.72618902

INDEX

- Boundary Line
- 7.5 M Buffer Line(Saffty Zone)
- Pits
- Spot Levels
- Sub Grade Mineral(Low Grade) Dumps
- Contour Lines
- Bench Mark 41 m MSL
- Pegmatite
- Section Line

PLATE NO 3a

MINING PLAN FOR MICA, QUARTZ & FELDSPAR OVER AN EXTENT OF 10.723 HECTARES INCLUDING SAFETY BUFFER ZONE AND ROAD AREA IN SY. NO. 466 OF TURIMERLA(V), TURIMERLA RF OF SYDAPURAM(M), SPSR NELLORE(DT), ANDHRA PRADESH.

APPLICANT: M/S MICA ZONE
MG.PARTNER: SRI G. KRISHNAM RAJU

SURFACE GEOLOGICAL PLAN

SCALE :- 1 : 2000 (1CM = 20M)

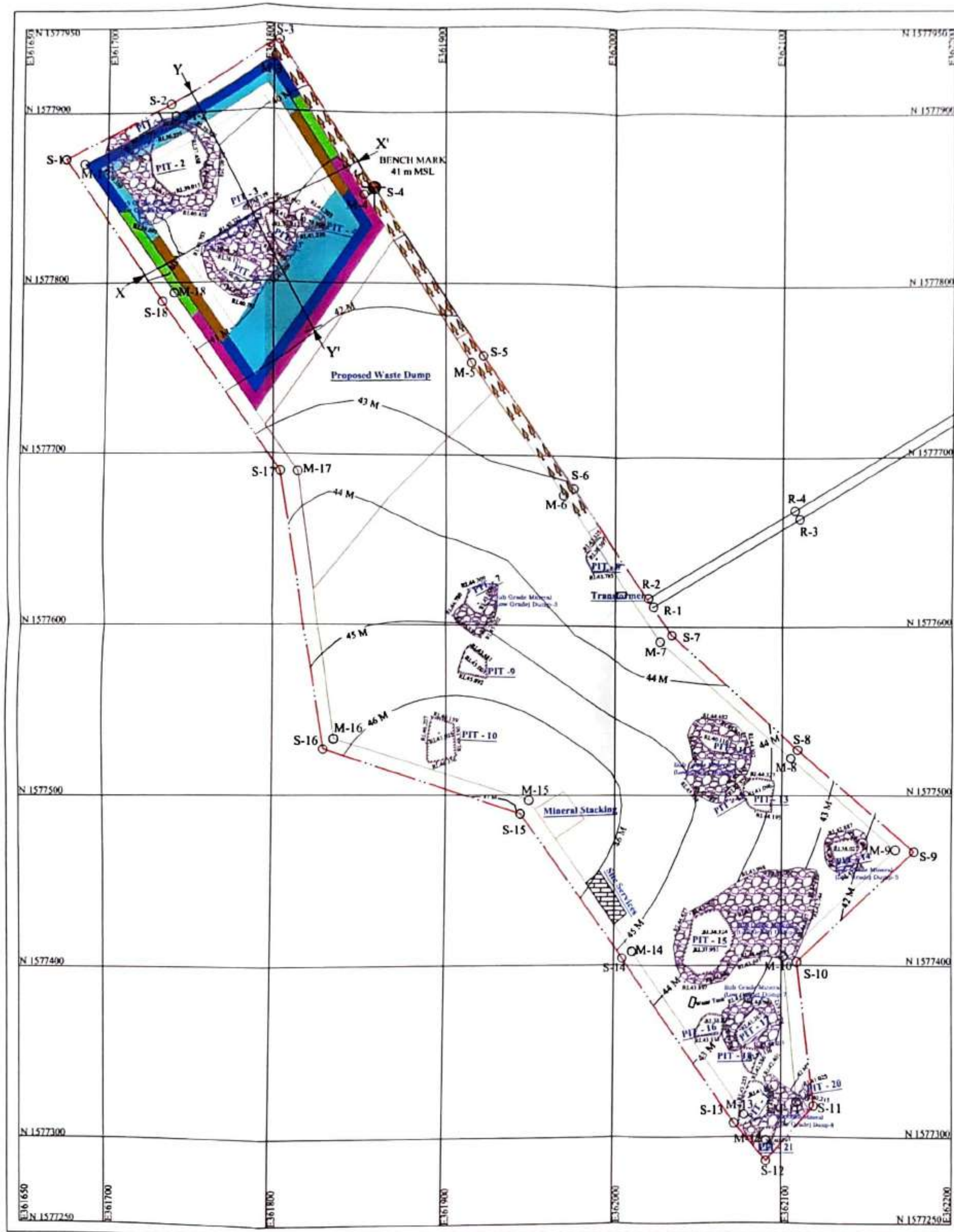
CONTOUR INTERVAL-1M

The plan is prepared on the basis of authenticated Mining lease sketch provided by the State Government and I certify that the above plan is correct.

For MICA ZONE

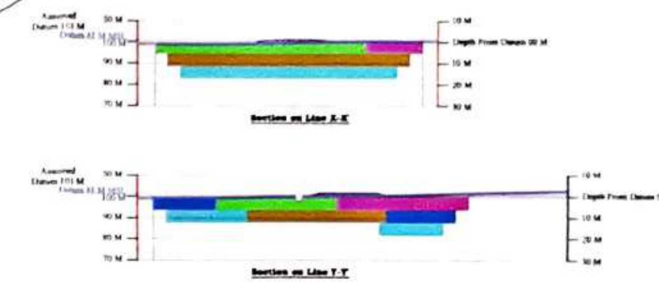
Applicant

Deputy Director of Mines & Geology



Proposed Workings **Proposed Plantation**

- 1st Year
- 2nd Year
- 3rd Year
- 4th Year
- 5th Year



GPS Co-ordinates of Mining Area Datum-WGS 84			
S.NO	Point Name	Latitude	Longitude
1	S-1	14.26913019	79.71768945
2	S-2	14.26942789	79.71826183
3	S-3	14.26974959	79.71887898
4	S-4	14.26899273	79.71938878
5	S-5	14.26810843	79.7199832
6	S-6	14.26741459	79.72048126
7	S-7	14.26663948	79.72102963
8	S-8	14.26603441	79.72174109
9	S-9	14.26549018	79.72237974
10	S-10	14.26489275	79.72173726
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12	S-12	14.26385056	79.72157381
13	S-13	14.26404542	79.72140261
14	S-14	14.26491049	79.72077096
15	S-15	14.26567908	79.72020605
16	S-16	14.26600911	79.71913235
17	S-17	14.26748259	79.71889263
18	S-18	14.26838004	79.71823685

GPS Co-ordinates of Road Area Datum-WGS 84			
S.NO	Point Name	Latitude	Longitude
1	R-1	14.26679039	79.72093019
2	R-2	14.26683422	79.72089917
3	R-3	14.26726676	79.72173654
4	R-4	14.26731233	79.72170659
5	R-5	14.26782118	79.7226716
6	R-6	14.26786301	79.72263596
7	R-7	14.26842114	79.72368381
8	R-8	14.26846297	79.72364924
9	R-9	14.26899742	79.72465936
10	R-10	14.26903102	79.72460942
11	R-11	14.26965440	79.72616752
12	R-12	14.26970424	79.72618902

INDEX

- Boundary Line
- 7.5 M Buffer Line(Safty Zone)
- Pits
- Spot Levels
- Sub Grade Mineral(Low Grade) Dumps
- Contour Lines
- Bench Mark 41 m MSL
- Section Line
- Praposed Waste Dump
- Praposed Mineral Stacking
- Site Services

PLATE NO. 4

MINING PLAN FOR MICA, QUARTZ & FELDSPAR OVER AN EXTENT OF 10.723 HECTARES INCLUDING SAFETY BUFFER ZONE AND ROAD AREA IN SY. NO. 466 OF TURIMERLA(V), TURIMERLA RF OF SYDAPURAM(M), SPSR NELLORE(DT), ANDHRA PRADESH.

APPLICANT: M/S MICA ZONE
MG.PARTNER: SRI G. KRISHNAM RAJU

MINE LAYOUT PLAN & SECTIONS

SCALE : 1 : 2000 (1CM = 20M)
INTERVAL-1M

The plan and sections are prepared on the basis of authenticated Mining ... Govt/DFO certified that ... sections are correct.

For MICA ZONE
Applicant Managing Partner

Deputy Director of Mines & Geology, Government of A.P., Nellore

P. Vasram, B.E.,Mining
(RQP/HNG/346/2015/A)

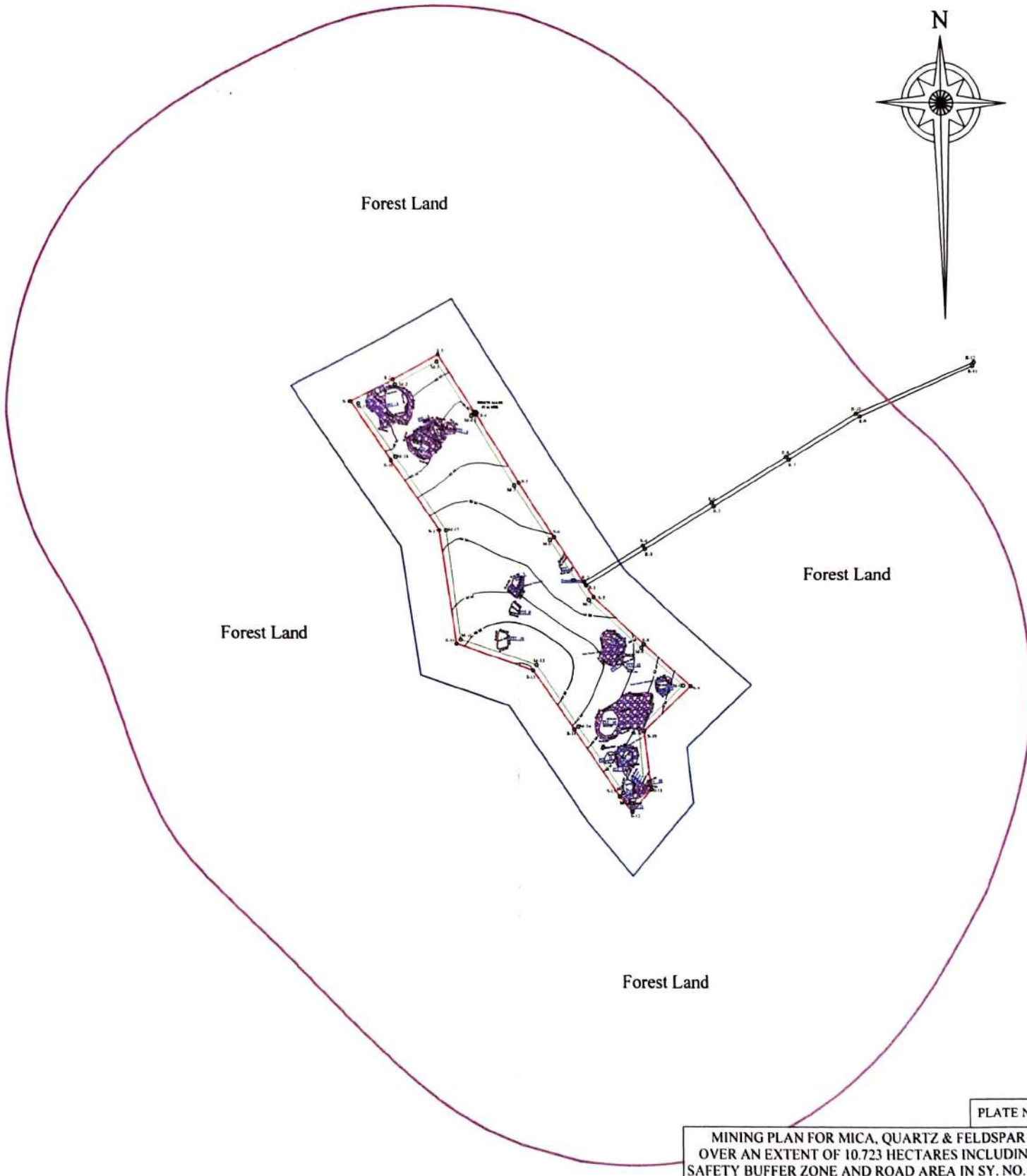


PLATE NO. 5

MINING PLAN FOR MICA, QUARTZ & FELDSPAR OVER AN EXTENT OF 10.723 HECTARES INCLUDING SAFETY BUFFER ZONE AND ROAD AREA IN SY. NO. 466 OF TURIMERLA(V), TURIMERLA RF OF SYDAPURAM(M), SPSR NELLORE(DT), ANDHRA PRADESH.

APPLICANT: M/S MICA ZONE
MG.PARTNER: SRI G. KRISHNAM RAJU

ENVIRONMENT PLAN

SCALE :- 1 : 5000 (1CM = 50M)

CONTOUR INTERVAL-1M

The plan is prepared on the basis of authenticated Mining lease sketch provided by the State Govt. and certified that the above plan is correct

Deputy Director of Mines & Geology Government of A.P. Nellore

For M/S MICA ZONE

Managing Partner

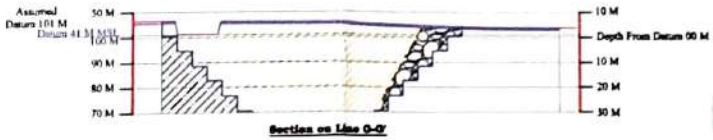
Applicant

P. Viswam, B.E.,Mining
(RQP/BNG/346/2015/A)

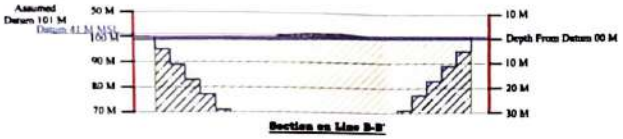
INDEX

- Boundary Line
- 7.5 mts Buffer Line(Safty Zone)
- 500 mts Periphery Line
- 60 mts Buffer Line

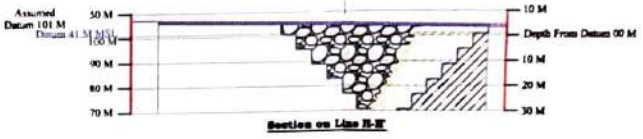
Section on Line A-A'



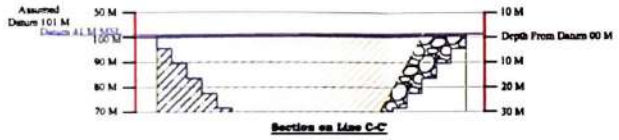
Section on Line G-G'



Section on Line B-B'



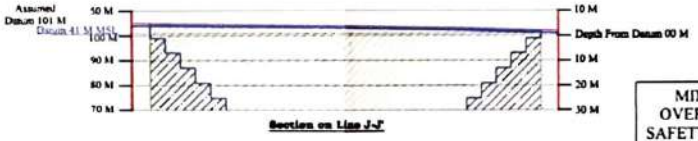
Section on Line H-H'



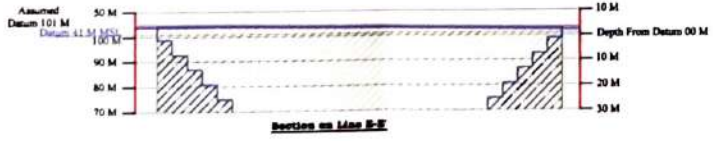
Section on Line C-C'

Section on Line I-I'

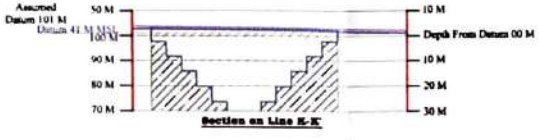
Section on Line D-D'



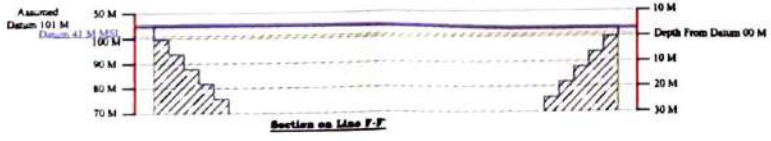
Section on Line J-J'



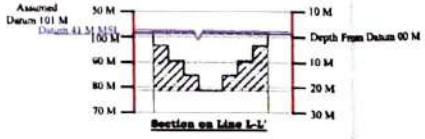
Section on Line E-E'



Section on Line K-K'



Section on Line F-F'



Section on Line L-L'

INDEX

- Boundary Line
- 7.5 mts Buffer Line(Safty Zone)
- Profile Line
- Top Soil
- Pegmatite
- Over Burden
- Ultimate Pit Limit
- Blocked Reserves Under UPL

PLATE NO. 3b

MINING PLAN FOR MICA, QUARTZ & FELDSPAR OVER AN EXTENT OF 10.723 HECTARES INCLUDING SAFETY BUFFER ZONE AND ROAD AREA IN SY. NO. 466 OF TURIMERLA(V), TURIMERLA RF OF SYDAPURAM(M), SPSR NELLORE(DT), ANDHRA PRADESH.

APPLICANT: M/S MICA ZONE
MG.PARTNER: SRI G. KRISHNAM RAJU

GEOLOGICAL CROSS SECTIONS

SCALE :- 1 : 2000 (1CM = 20M)

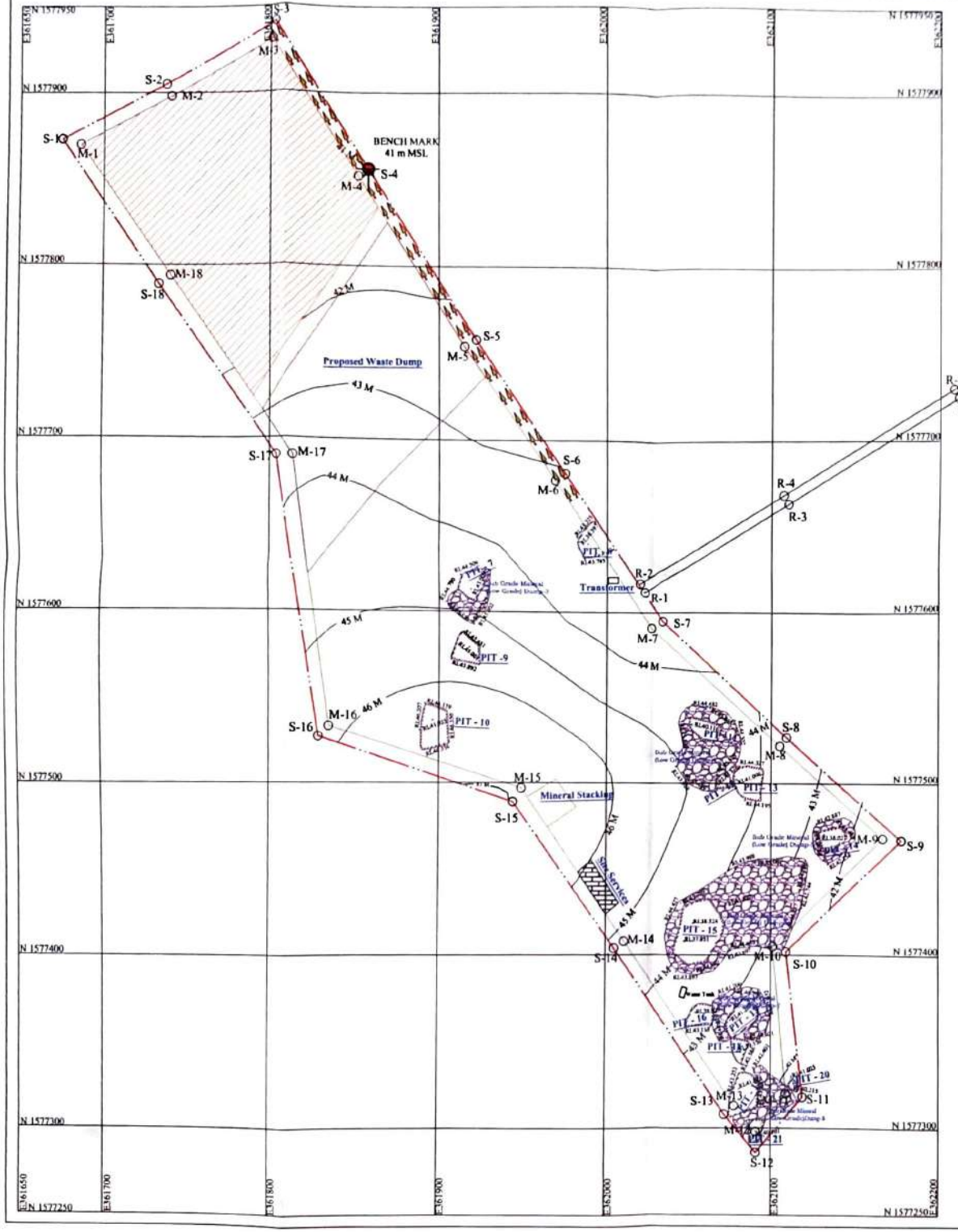
The sections are prepared on the basis of authenticated Mining lease sketch provided by the applicant. I certified that the above sections are correct.

Deputy Director of Mines & Geology
Department of A.P. Nellore

For MICA ZONE

Applicant
Managing Partner

P. Viswam, B.E.,Mining
(RQP/BNG/346/2015/A)



GPS Co-ordinates of Mining Area Datum-WGS 84			
S.NO	Point Name	Latitude	Longitude
1	S-1	14.26913019	79.71768945
2	S-2	14.26942789	79.71826183
3	S-3	14.26974959	79.71887898
4	S-4	14.26899273	79.71938878
5	S-5	14.26810843	79.7199832
6	S-6	14.26741459	79.72048126
7	S-7	14.26663948	79.72102963
8	S-8	14.26603441	79.72174109
9	S-9	14.26549018	79.72237974
10	S-10	14.26489275	79.72173726
11	S-11	14.26412527	79.72181771
12	S-12	14.26385056	79.72157381
13	S-13	14.26404542	79.72140261
14	S-14	14.26491049	79.72077096
15	S-15	14.26567908	79.72020605
16	S-16	14.26600911	79.71913235
17	S-17	14.26748259	79.71889263
18	S-18	14.26838004	79.71823685

GPS Co-ordinates of Road Area Datum-WGS 84			
S.NO	Point Name	Latitude	Longitude
1	R-1	14.26679039	79.72093019
2	R-2	14.26683422	79.72089917
3	R-3	14.26726676	79.72173654
4	R-4	14.26731233	79.72170659
5	R-5	14.26782118	79.7226716
6	R-6	14.26786301	79.72263596
7	R-7	14.26842114	79.72368381
8	R-8	14.26846297	79.72364924
9	R-9	14.26899742	79.72465936
10	R-10	14.26903102	79.72460942
11	R-11	14.26965440	79.72616752
12	R-12	14.26970424	79.72618902

INDEX

- Boundary Line
- 7.5 M Buffer Line(Safty Zone)
- Pits
- Spot Levels
- Sub Grade Mineral(Low Grade) Dumps
- Contour Lines
- Bench Mark 41 m MSL
- Proposed Plantation
- Proposed Open Cast Workings
- Praposed Waste Dump
- Praposed Mineral Stacking
- Site Services

PLATE NO. 6

MINING PLAN FOR MICA, QUARTZ & FELDSPAR OVER AN EXTENT OF 10.723 HECTARES INCLUDING SAFETY BUFFER ZONE AND ROAD AREA IN SY. NO. 466 OF TURIMERLA(V), TURIMERLA RF OF SYDAPURAM(M), SPSR NELLORE(DT), ANDHRA PRADESH.

APPLICANT: M/S MICA ZONE
MG.PARTNER: SRI G. KRISHNAM RAJU

FINANCIAL ASSURANCE PLAN

SCALE :- 1 : 2000 (1CM = 20M)

CONTOUR INTERVAL-1M

The Mining Plan is prepared on the basis of authenticated Mining lease sketch provided by the State Govt. I do certified that the above plan is correct.

Deputy Director of Mines & Geology
Government of A.P. Nellore
MICA ZONE
Applicant

P. Viswam, B.E.,Mining
(RQP/BNG/346/2015/A)