GOVERNMENT OF ANDHRA PRADESH
DEPARTMENT OF MINES AND GEOLOGY

From
Sri.K.Srinivasa Rao, M.Sc., M.Phil;
Deputy Director of Mines & Geology(FAC),
Nellore.

To
Sri Pemmasani Dilip Kumar,
S/o. P.Pardhasaradhi,
Perumallapadu Village,
Sydapuram Mandal,
SPSR Nellore District

Letter No.1539/MP/Mica,Quartz&Feldspar/NLR/2021,dated:27.12.2021

Sir,

Sub:- Mines & Minerals – Mining Plan for Quarry Lease applied area of Sri Pemmasani Dilip Kumar for Mica, Quartz & Feldspar over an extent of 4.890 Hects (including 0.69 Hects safety buffer zone area and 0.12 Hects Road area) in Sy.No.357 of Chaganam, Compartment No.121, R.F.Utukur, Sudapuram 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 07.10.2021 filed by Sri Pemmasani Dilip Kumar.
4. RC.No.151/2021F11, dt: 30.09.2021, from DFO, Nellore.
5. Inspection Report of this office Technical Staff.
6. This office Letter No.1539/MP/Mica, Quartz & Feldspar /NLR/2021, dt:06.11.2021.
7. Letter dated 23.12.2021 along with 5 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 Sri Pemmasani Dilip Kumar for Mica, Quartz & Feldspar over an extent of 4.890 Hects (including 0.69 Hects safety buffer zone area and 0.12 Hects Road area) in Sy.No.357 of Chaganam, Compartment No.121, R.F.Utukur, Sudapuram Mandal, SPSR Nellore District under Rule 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.

Contd...2

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.
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,

27/12/2021

Deputy Director of Mines & Geology(FAC)
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, Vijayawada 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 4.890 HA INCLUDING 0.69 HA SAFETY BUFFER ZONE AREA AND 0.12 HA ROAD AREA IN SY NO. 357 OF CHAGANAM, COMPARTMENT NO.121, R.F. UTUKUR, SYDAPURAM MANDAL, SPSR NELLORE DT, ANDHRA PRADESH.

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

SRI PEMMASANI DILIP KUMAR,
S/o P. Pardhasaradhi,
Perumallapadu Village,
Sydapuram Mandal,
SPSR Nellore District, A.P.

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 **Sri Pemmasani Dilip Kumar** for Mica, Quartz and Feldspar over an Extent of 4.890 Ha including 0.69 Ha Safety buffer zone area and 0.12 Ha Road area in Sy. No. 357 of Chaganam, Compartment No.121, R.F. Utukur, 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.

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

Place: Perumallapadu

Signature of the Applicant

Date:

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 4.890 Ha including 0.69 Ha Safety buffer zone area and 0.12 Ha Road area in Sy. No. 357 of Chaganam, Compartment No.121, R.F. Utukur, Sydapuram Mandal, SPSR Nellore District and Andhra Pradesh State in favour of **Sri Pemmasani Dilip Kumar** 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: 17-11-2021

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 4.890 Ha including 0.69 Ha Safety buffer zone area and 0.12 Ha Road area in Sy No. 357 of Chaganam, Compartment No.121, R.F. Utukur, Sydapuram Mandal, SPSR Nellore District and Andhra Pradesh State in favour of **Sri Pemmasani Dilip Kumar.**

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: 17-11-2021

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

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This Mining Plan is Approved Subject to the conditions stipulations indicated in the Mining plan Approval Letter No. 1539/MP/M.Q.L./NLR/2021 Date 27/12/2021

MINING PLAN

FOR MICA, QUARTZ AND FELDSPAR OVER A TOTAL EXTENT OF 4.890 HA INCLUDING 0.69 HA SAFETY BUFFER ZONE AREA AND 0.12 HA ROAD AREA IN SY NO. 357 OF CHAGANAM, COMPARTMENT NO 121, R.F. UTUKUR, SYDAPURAM MANDAL, SPSR NELLORE DISTRICT, ANDHRA PRADESH.

PREPARED AS PER THE GUIDELINES IN FORM- T
(Amended Rule 12 (5) (C) of APMMC Rule '1966 and Progressive Mine Closure Plan Under Rule 23(B) OF MCDR 1988)

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

INTRODUCTION:

Sri P.Srikanth has filed an application for grant of Quarry Lease for Mica, Quartz and Feldspar over an applied extent of 4.890 Ha including 0.69 Ha Safety buffer zone area and 0.12 Ha Road area in Sy. No. 357 of Chaganam, Compartment No.121, R.F. Utukur, Sydapuram Mandal, SPSR Nellore District, A.P. The said quarry lease application was received by the Asst. Director of Mines & Geology; Nellore.

The applicant Sri P.Srikanth was expired on 23.04.2021 due to Covid-19. The Asst. Director of Mines & Geology; Nellore reported to that Sri Pemmasani Dilip Kumar furnished family member certificate along with affidavits of his parents as declared that Sri Pemmasani Dilip Kumar as legal heir to the quarry lease application filed by Deceased applicant Sri P.Srikanth and they are willing to No Objection to process the application for grant of quarry lease for Mica, Quartz and Feldspar in the name of Sri P.Dilip Kumar who is successor applicant. Further the Tahsildar, Sydapuram Mandal has issued family member certificate.

Finally the ADM&G Nellore requested to change the name of user agency and recommended for grant of quarry lease in favour of **Sri Pemmasani Dilip Kumar** instead of Sri Pemmasani Srikanth under rule 25-A of MC Rules, 1960.

Approved
27/12/2021
K. SRINIVASA RAO
(Approving Authority of Nellore District)
Deputy Director of Mines & Geology (FAC)
SPSR Nellore District.

In view of the above circumstances, the Director of Mines & Geology, Ibrahimpatnam requested the PCCF, Amaravathi, Guntur to change the user applicant name as **Sri Pemmasani Dilip Kumar** instead of Sri P.Srikanth and requested to process and accord clearance for diversion of forest land for non-forest purpose for grant of quarry lease for Mica, Quartz & Feldspar an extent of 4.890 Ha in Sy.No.357 of Chaganam, Compartment No.121, R.F. Utukur, Sydapuram Mandal, SPSR Nellore District. Letter No. 8452/D8/2020, Dt: 26.07.2021. (Copy enclosed as Annexure III).

Through the **Circular Memo No: 3861432/P/2020 dated 16/07/2021**, issued by Government of Andhra Pradesh Department of Mines and Geology Ibrahimpatnam, instructions has already been issued to all the ADM&Gs and DDM&Gs to submit the proposals on applications with regard to Forest area along with AMP as per the procedure intimated by the Pri.Chief Conservator of Forests, Guntur. (Copy enclosed as Annexure II)

A detailed 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.

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.

Sri Pemmasani Dilip Kumar has approached Anoosri Mining Solutions Sri P. Viswam, Mining Engineer & RQP, and (enclosed copy of certificate as Annexure. I) for preparation of 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 12 (5) (C) of APMMC Rule '1966.

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

I. GENERAL:

1.0	**Name and address of the Applicant**	:	**Sri Pemmasani Dilip Kumar,** S/o P.Pardhasaradhi, Perumallapadu Village, Sydapuram Mandal, SPSR Nellore District, Andhra Pradesh
2.0	**Status of the Applicant**	:	Individual
3.0	**Mineral or Minerals which the applicant intends to mine**	:	Mica, Quartz and Feldspar
4.0	**Name and Address and Regd. No. of The recognized person who prepared the Mining plan**	:	P.VISWAM, (RQP/BNG/346/2015/A), Anoosri Mining Solutions, Near Sivalayam, Sydapuram (PO) & (M) SPSR Nellore Dt, A.P.

II. LOCATION AND ACCESSIBILITY

1.0 LEASE AREA / APPLIED AREA DETAILS

1	**Village**	Chaganam, Compartment No.121, R.F. Utukur
2	**Mandal**	Sydapuram
3	**District**	SPSR Nellore
4	**State**	Andhra Pradesh
5	**Survey No**	357
6	**Extent**	4.890 Ha including 0.69 Ha Safety buffer zone area and 0.12 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/12 at the intersection of North Latitude 14.23795477 to 14.23549828 and East Longitude 79.71256945 to 79.70775163. The applied area Boundary pillar co-ordinates are shown in Surface Plan (Plate No:3)

B.P	Latitude	Longitude
S-1	14.23669413	79.70775163
S-2	14.23704656	79.70860735
S-3	14.23761401	79.70954841
S-4	14.23795477	79.71041625
S-5	14.23711704	79.71085995
S-6	14.23675166	79.71105356
S-7	14.23648634	79.71027281
S-8	14.23586641	79.70929817
S-9	14.23549828	79.70834319
S-10	14.23609934	79.70804726
RO-1	14.23625101	79.71198626
RO-2	14.23618382	79.71194904
RO-3	14.23623414	79.71193362
RO-4	14.23669998	79.71178267
RO-5	14.23671842	79.71183037
RO-6	14.23686680	79.71166996
RO-7	14.23691327	79.71170171
RO-8	14.23680172	79.71102368
R-11	14.23642018	79.71256945
R-12	14.23646659	79.71254118

9	**Location of the area and approach**	The applied area in Sy No. 357 of Chaganam, Compartment No. 121 of Utukur RF Chaganam Beat, Sydapuram Mandal, SPSR Nellore District and A.P. is located at a distance of 3.5 km from Gudur to Podalakur Road and is reachable by a Village Road branching off to Jogipalli Village from jogipalli cross road at utukuru vilage, a cart track branching – off at Jogipalli to applied area 2.7 kms leads to the deposit area, and about 2.00 km SE of Perumallapadu Village to applied area. The Mining lease applied area is situated at a distance of about 3.5 km from NE of the Chaganam Village. The applied area is covered with jungile and also noticed 3 old pits. Nearest Post Office is utukur. This main road is connected to the Chennai – Kolkata National high way and connected at Chillakur village. Nearest Railway station is Gudur about 15 km from the applied area. The location of the applied area is indicated in Key – Cum - Location Map (Plate –1).

Infrastructure & Communications

Availability of Water	The ground water is available 50 M to 60 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 Utukur and nearest villages.
Road Network	State Transport Bus Services from Podalakur, Nellore & Gudur is available on this road network.
Nearest Rail Head	Gudur Railway Station is 19 Km from the applied area.
Port Facility	Krishnapatnam Port is about 57 Km from the applied area.
School	Primary School Education is available Utukur Village. Higher Education is available at Podalakur, Gudur & Nellore.
Medical Facility	Govt. Hospital is available at Griddaluru and Sydapuram villages. Gudur & Nellore Town is well placed for Doctors, Nursing Homes & Hospitals.

BOUNDARIES

North	Forest land
South	Forest land
East	Forest land
West	Forest land

2.0 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/12 at the intersection of North Latitude 14.23795477 to 14.23549828 and East Longitude 79.71256945 to 79.70775163. The Key plan prepared using Topo sheet on 1: 50000 scale. The key plan cum location map is enclosed as Plate No-1. (a) The applied area having 3 small old pits over an area of 0.027 Ha with an average depth of 0.5 to 1.5 m. (b) Top Soil in this applied area 2 mts the ore body is hard in nature. (c) The entire applied area is undulating elevated with very gentle slope towards South East. The applied area having a topo relief of 55 mts with highest and lowest contours of 805 and 750 mts. (d) The general trend of the drainage pattern is towards South east direction and the general drainage pattern is dendritic to sub-dendritic in nature. (e) The topographic plan has been prepared with 1.00 m contour its highest contour is 71 m MSL and lowest contour is 64 m MSL. Bench mark is located at North side (S-4 Boundary Pillar) in the applied area and marked as BM 64.876 m MSL. Topography of the applied area is shown on Surface Geological Plan, enclosed as Plate No. 3.
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.
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 pegmatite is SE and NW with flat 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.

The applied area having 3 small old pits over a total area of 280 Sq. m with an average depth of 0.5 to 1.5 m. Pegmatite was exposed in South East side in the applied area. The details of pegmatite body are tabulated below:

Pegmatite	Pit No	Strike length in the applied area	Average width in the applied area	Dip direction & Amount
Pegmatite	Pit 1,2 & 3	320 mts	70 mts	N-W , 60° to 70°

(c) Details of prospecting license holder / user agency

Sri Pemmasani Dilip Kumar,
S/o P.Pardhasaradhi,
Perumallapadu Village,
Sydapuram Mandal,
SPSR Nellore District, A.P.

(d) Details of prospecting carried out

The applied area having 3 small old pits over an area of 0.028 Ha with an average depth of 0.5 to 1.5 mts.

(e) Surface plan area on 1:1000 scale

The features are drafted to prepare the Surface cum surface geological plan in 1:1000 scale is enclosed as plate No: 3.

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

The features are drafted to prepare the Surface cum surface geological plan in 1:1000 scale is enclosed as plate No: 3.

(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 1:1000 scale is enclosed as plate No: 3a.

(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	---	---	---	---	---	---

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

The applied area having 3 small old pits over an area of 280 Sq. m with an average depth of 0.5 to 1.5 m. Pegmatite was exposed in South East side in the applied area. The details of pegmatite body are tabulated below:

Pegmatite	Pit No	Strike length in the applied area	Average width in the applied area	Dip direction & Amount
Pegmatite	Pit 1,2 & 3	320 mts	70 mts	N-W , 60° to 70°

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

Parameters considered for mineral reserves estimation.

Pegmatite ore body

- Six Nos. of Geological cross Sections are drawn at an interval of 50 m for pegmatite reserves. These sections are designed as A-A' to F-F' sections. Bulk density considered as 2.5 and the recovery from the pegmatite ore body is arrived individually as **5% Mica, 50% Quartz, 20% of Feldspar and remaining 25% considering as waste** in open cast workings as per the observations made in the surface.

(j) FEASIBILITY REPORT along with financial analysis per economic viability of the deposit.

GEOLOGICAL AXIS (G1)
Geological parameters considered for proved category
Geological Survey:

Mapping: Mapping on 1: 1000 Scale with 1.0 mtr Contour. Permanent pillar (BM 64.876 m MSL) at North 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 is also demarked on Surface cum 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 50 mts, 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 **24 mts** from the Datum (Datum 64.876 m MSL). 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. Reserves are estimated by cross sectional method. Area of cross section was taken by deducting 7.5 m buffer zone at both sides. Thus the area of cross section will be minable only. The Recovery is taken **5% Mica, 50% Quartz, 20% of feldspar and remaining 25% considering as waste** in open cast workings as per the observations made in the surface.

Reserves /Resources Estimation for Open Cast:

The entire pegmatite body was 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 Mineable Reserves are calculated and given below:

Mineable reserves from pegmatite:

Section	Sec. Area	C/S influence	Volume	Specific Gravity	Quantity
	Sq.M	M	Cu.M		MT
A-A'	688	45	30960	2.5	77400
B-B'	2263	50	113150	2.5	282875
C-C'	1670	50	83500	2.5	208750
D-D'	1393	50	69650	2.5	174125
E-E'	1172	50	58600	2.5	146500
F-F'	791	50	39550	2.5	98875
Total					**988525**

Reserves/Resource:

Detailed Summary of Geological and Mineable reserves is furnished under.

UNFC Code	Category	pegmatite Reserves	Mica	Quartz	Feldspar	Clean ore	waste
			@ 5%	@ 50%	@ 20%	@ 75%	@ 25%
		MT	MT	MT	MT	MT	MT
111	Proved	**988525**	49426	494263	197705	**741394**	247131

UNFC Classification of Estimated Reserves and Resources

Classification	UNFC Code	ROM from Pegmatite (MT)	Clean Ore @ 75% (MT)
A. Mineral Reserve			
(1) Proved Mineral Reserve	111	**988525**	**741394**
(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)		**988525**	**741394**

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 and feldspars and mica as an accessory mineral of economic importance. The pegmatite in this mine is lensoidal body having strike length of 320, with its long axis towards North-West with an average width of 70mts and dipping towards north-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 pegmatite is having more Quartz, less Feldspar and Mica. The intercalations of Quartz, Mica and Feldspar in the pegmatite 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:

Pegmatite has 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 Mica is found to be about **5%**. Mineralogically, 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 **50%**.

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 **20%** from open cast. Mineralogically, the Pegmatite is having soda and potash feldspar.

Detailed exploration:

The applicant has undertaken Mapping on 1: 1000 Scale with 1.00 mts contour. Permanent pillar(BM 64.876 m MSL)is at North 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 method of mining in pegmatite, has been 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 northern part to middle part of the applied area. Bench height will be maintained at 3m 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**:
The applied area having 3 small old pits over a total area of 280 Sq m with an average depth of 0.5 to 1.5 mts, the applied area falls in forest area. The entire area except existing pits and approach roads is 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	Direction	Distance in Km	Population in Nos. (as per census 2011)
1.	Utukur	East	3.20	2067
2.	Perumallapadu	NW	2.0	3099
3.	Chaganam Raju Palem	SW	2.6	490
4.	Jaflapuram	SW	3.0	223

(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: Manual 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: Due to 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.

(vii) Socio-economics: The Mining applied area is 2.0 Km away from the nearest village Perumallapadu and the proposed mining activity will fetch employment to the local people which improve socio-economical condition of the surrounding Villagers.

(viii) Historical monuments: No historical monuments are existed in and around the mine within a radius of 2.0 KM.

C. Environmental Management Plan:

Temporary storage and utilization of top soil:

Red Morum is the top Soil in this applied area up to 2.00 mts. A quantity of **43318 Cu.M** of top soil will be generated during this 5 years plan period. It will be used for plantation.

Year wise proposal for reclamation:

No reclamation is proposed in this 5 years plan period. It is proposed to undertake semi mechanised opencast method of mining. Hence, reclamation is not proposed in this mine. During production in 5 years period a little quantity of waste material will be generated from the workings.

Afforestation:

The applicant proposed to take up plantation in the safety zone (0.69 ha area)or will deposit the required amount in the CAMPA account so as to carry out plantation in the safety zone area by the Forest Dept as the case may be.

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

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

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

iv. **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.

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

vi. **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.

vii. **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:** An existing building which was built prior to the FC Act, 1980 exists in the proposed area and 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.

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 and regular spot levels in the applied area. Permanent pillar at south side in the applied area is referred as bench mark in preparation of surface plan and other maps.

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. 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	Chaganam R.F. Utukur	357	4.890 Ha including 0.69 Ha Safety buffer zone area and 0.12 Ha Road area	Forest land

The applied area for mine falls under the survey of India Topo sheet No. 57 N/12 at the intersection of North Latitude 14.23795477 to 14.23549828 and East Longitude 79.71256945 to 79.70775163. 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 mining. The exploration done so far has proved the mineable reserves of **988525 MT** of pegmatite ROM (**clean ore @75% is 741394 MT** the reserves will be increasing as the pegmatite is worked deeper.

Pegmatite ore body:

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 Mica is found to be about **5%**. Mineralogically, 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 **50%**.

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 **20%**. Mineralogically, the Pegmatite is having soda and potash feldspar.

(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 processed form (mixed 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 m (safety zone) safety buffer area are given below:

Section	Sec Area	C/ S influence	Volume	Specific Gravity	Quantity
	Sq.mts	Mts	Cu.M		MT
A-A'	329	45	14805	2.5	37012.5
B-B'	208	50	10400	2.5	26000
C-C'	202	50	10100	2.5	25250
D-D'	183	50	9150	2.5	22875
E-E'	188	50	9400	2.5	23500
F-F'	216	50	10800	2.5	27000
Total					**161638**

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'	289	45	13005	2.5	32513
B-B'	302	50	15100	2.5	37750
C-C'	253	50	12650	2.5	31625
D-D'	266	50	13300	2.5	33250
E-E'	265	50	13250	2.5	33125
F-F'	297	50	14850	2.5	37125
Total					**205388**

Total reserves blocked:

Reserves under	Quantity	Mica @ 5%	Quartz @ 50 %	Feldspar @ 20 %	Total @75%	Waste @ 25 %
	MT	MT	MT	MT	MT	MT
Under 7.5 safety buffer	161638	8082	80819	32328	121228	40409
Under Bench slopes	205388	10269	102694	41078	154041	51347
Total	**367025**	**18351**	**183513**	**73405**	**275269**	**91756**

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.

(iv) Total Mineral reserves

Category of Reserves			Reserves of ROM in MT	Clean ore (75%) in MT
Proved (111)	Pegmatite		**988525**	**741394**
Probable (121)			**0**	**0**
Reserves Blocked	Under Safety Zone (7.5 mts buffer area)	161638	367025	275269
	Under UPL	205388		
Total			**1355550**	**1016663**

(v) Mineable reserves and anticipated life of mine

Total mineable reserves from pegmatite : **988525 MT of ROM**

Maximum production per annum during the plan period : **40516 MT of ROM**

Anticipated life of the mine : **24.39 Say 25 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 **1355550 MT** of pegmatite ROM. The reserves excluding blocked reserves under ultimate pit limit, 7.5 mts buffer zone and Ultimate pit limit, the available quantity is around **988525 MT** of pegmatite ROM in this applied area.

The anticipated life of the mine is **25 years** for open cast method of working. However, the life of the mine may change based on the further exploration during the course of mining.

3.0 MINING

The applied area having 3 small old pits over an area of 280 Sq. m with an average depth of 0.5 to 1.5 m. Pegmatite was exposed in south east side in the applied area. The details of pegmatite body are tabulated below:

Pegmatite	Pit No	Strike length in the applied area	Average width in the applied area	Dip direction & Amount
Pegmatite	Pit 1,2 & 3	320 mts	70 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 northern part of the applied area. Bench height will be maintained at 3m 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 F-F' during this plan period work will start from surface level towards bottom. The proposed mining area is located in the northern side of the applied area and away from village and 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 jack hammer drilling and blasting etc. The drilling and blasting will be used for breaking the material. The drilling will be done to a depth of 1.5mts depth (Each slice) bench height will be maintained at 3.0 m with two slices of 1.5mts with the help of 32mm jack hammer drill. Bench width will be maintained more than bench height the loading will be by a suitable excavator.

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 50-60 m below ground level in the surrounding areas. The mining operations may reach up to maximum depth of about 10 m (up to this plan period) from the datum, 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	Pit No	Total tentative Exaction	ROM from Mineralized Zone			OB/SB/ IB	Top soil	Total waste	ROM waste ratio
			Clean Ore	Sub grade ore	Mineral reject				
		MT	MT	Cu.M	MT	MT	Cu.M	MT	
1st Year	-	40763	30572	0	0	1903	15402	12093	1:0.30
2ndYear	-	40440	30330	0	0	2370	12236	12480	1:0.31
3rdYear	-	40298	30223	0	0	2728	10826	12802	1:0.32
4thYear	-	40545	30409	0	0	6325	4320	16461	1:0.41
5thYear	-	40533	30399	0	0	2713	534	12846	1:0.32
Total		**202578**	**151933**	**0**	**0**	**16038**	**43318**	**66682**	**1:0.33**
Average		**40516**	**30387**	**0**	**0**	**3208**	**8664**	**13336**	**1:0.33**

1st Year:

From Quarry: In this year 2 benches will be excavated from quarry applied area covering the area of **7701 m²** from this excavation about **40763 MT** of ROM from quarry will be excavated from top to bottom between the RLS of 66.02 to 60 m and covering the sections A-A' to C-C' during this year.

Section on line	Pegmatite									OB				
	Sec Area	C/S influence	Volume	Specific Gravity	Quantity	Mica 5%	Quartz 50%	Feldspar 20%	Waste 25%	Sec Area	C/S influence	Volume	Specific Gravity	Quantity
	Sq.Mts	Mts	Cu.M	-	MT	MT	MT	MT	MT	Sq.Mts	Mts	Cu.M	-	MT
A-A'	87	45	3915	2.5	9788	489	4894	1958	2447	3	45	135	2.5	338
B-B'	239	50	11950	2.5	29875	1494	14938	5975	7469	12	50	600	2.5	1500
C-C'	220	2	440	2.5	1100	55	550	220	275	13	2	26	2.5	65
Total					**40763**	**2038**	**20381**	**8153**	**10191**					**1903**

2nd Year:

From Quarry: In this year 2 benches will be excavated from quarry applied area covering the area of **6220 m²** from this excavation about **40440 MT** of ROM from quarry will be excavated from top to bottom between the RLS of 66.18 to 60 m and covering the sections C-C' and D-D' during this year.

Section on line	Pegmatite									OB				
	Sec Area	C/S influence	Volume	Specific Gravity	Quantity	Mica 5%	Quartz 50%	Feldspar 20%	Waste 25%	Sec Area	C/S influence	Volume	Specific Gravity	Quantity
	Sq.Mts	Mts	Cu.M	-	MT	MT	MT	MT	MT	Sq.Mts	Mts	Cu.M	-	MT
C-C'	220	48	10560	2.5	26400	1320	13200	5280	6600	13	48	624	2.5	1560
D-D'	208	27	5616	2.5	14040	702	7020	2808	3510	12	27	324	2.5	810
Total					**40440**	**2022**	**20220**	**8088**	**10110**					**2370**

3rd Year:

From Quarry: In this year 2 benches will be excavated from quarry applied area covering the area of **5556 m²** from this excavation about **40298 MT** of ROM from quarry will be excavated from top to bottom between the RLS of 66.36 to 60 m and covering the sections D-D', E-E' & F-F' during this year.

Section on line	Pegmatite									OB				
	Sec Area	C/S influence	Volume	Specific Gravity	Quantity	Mica 5%	Quartz 50%	Feldspar 20%	Waste 25%	Sec Area	C/S influence	Volume	Specific Gravity	Quantity
	Sq.Mts	Mts	Cu.M	-	MT	MT	MT	MT	MT	Sq.Mts	Mts	Cu.M	-	MT
D-D'	208	23	4784	2.5	11960	598	5980	2392	2990	12	23	276	2.5	690
E-E'	179	50	8950	2.5	22375	1119	11188	4475	5594	13	50	650	2.5	1625
F-F'	159	15	2385	2.5	5963	298	2981	1193	1491	11	15	165	2.5	413
Total					**40298**	**2015**	**20149**	**8060**	**10074**					**2728**

4th Year:

From Quarry: In this year 3 benches will be excavated from quarry applied area covering the area of **2194 m²** from this excavation about **40545 MT** of ROM from quarry will be excavated from top to bottom between the RLS of 65.66 to 55 m and covering the sections F-F', A-A' & B-B' during this year.

Section on line	Pegmatite									OB				
	Sec Area	C/S influence	Volume	Specific Gravity	Quantity	Mica 5%	Quartz 50%	Feldspar 20%	Waste 25%	Sec Area	C/S influence	Volume	Specific Gravity	Quantity
	Sq.Mts	Mts	Cu.M	-	MT	MT	MT	MT	MT	Sq.Mts	Mts	Cu.M	-	MT
F-F'	159	35	5565	2.5	13913	696	6956	2783	3478	11	35	385	2.5	963
A-A'	167	45	7515	2.5	18788	939	9394	3758	4697	43	45	1935	2.5	4838
B-B'	523	6	3138	2.5	7845	392	3923	1569	1961	35	6	210	2.5	525
Total					**40545**	**2027**	**20273**	**8109**	**10136**					**6325**

5th Year: In this year 2 benches will be excavated from quarry applied area covering the area of **3665 m²** from this excavation about **40533 MT** of ROM from quarry will be excavated from top to bottom between the RLS of 65.65 to 55 m and covering the section B-B' during this year.

From quarry:

Section on line	Pegmatite									OB				
	Sec Area	C/S influence	Volume	Specific Gravity	Quantity	Mica 5%	Quartz 50%	Feldspar 20%	Waste 25%	Sec Area	C/S influence	Volume	Specific Gravity	Quantity
	Sq.Mts	Mts	Cu.M	-	MT	MT	MT	MT	MT	Sq.Mts	Mts	Cu.M	-	MT
B-B'	523	31	16213	2.5	40533	2027	20266	8107	10133	35	31	1085	2.5	2713
Total					**40533**	**2027**	**20266**	**8107**	**10133**					**2713**

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

Year	ROM From quarry	Mica	Quartz	Feldspar	Clean ore	Waste from Quarry	OB	Total waste
		5%	50%	20%	75%	25%		
	MT	MT	MT	MT	MT	MT	MT	MT
1st Year	40763	2038	20381	8153	30572	10191	1903	12093
2nd Year	40440	2022	20220	8088	30330	10110	2370	12480
3rd Year	40298	2015	20149	8060	30223	10074	2728	12802
4th Year	40545	2027	20273	8109	30409	10136	6325	16461
5th Year	40533	2027	20266	8107	30399	10133	2713	12846
Total	**202578**	**10129**	**101289**	**40516**	**151933**	**50644**	**16038**	**66682**
Average	**40516**	**2026**	**20258**	**8103**	**30387**	**10129**	**3208**	**13336**

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

Drilling:

The applicant will appoint a manager and a mining mate to supervise drilling and blasting workings. Drilling and blasting will be done in supervision of mining mate, to get required fragmentation from ROM drilling and blasting plays an important role in mining activity. The blasting hole will be drilled with 32mm jack hammer drill to a depth of 1.5 m with spacing of 0.8 m and burden 0.8 m. Each drill hole will be charged with low strength explosives of 0.125 kgs.

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 shifted to surface to segregate the minerals. The lumps of quartz and feldspar will be separated manually.

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 202578 MT; i.e. 40516 MT of Production (ROM) per year.

Average working days per year 290 days

Detailed calculations of depth of hole, spacing, burden, yield, no. of holes required and drilling machines required etc., are tabulated below:

Average production per annum	average quantity	**40516**	MT
working days per year		**290**	days
Production per day	Average production/w.days per year	**139.7**	MT
Spacing		**0.8**	mts
Burden		**0.8**	mts
Depth of hole		**1.5**	mts
Yielded of the each hole	spacing x burden x depth of hole	**0.96**	Cu.M
Yield per hole in MT	Yielded of the each hole*BD	**2.4**	MT
Yield per 1 meter hole	Yield per hole in MT/ depth of hole	**1.6**	MT
No of holes required /day	average day production/yield per hole	**58.2**	Nos
	i.e.,	**59.0**	Nos
Change per hole		**0.125**	Kgs
Powder factor	yield per hole/charge per hole	**19.2**	Cu.M/kg
Total explosive required/day	no of holes per day x charge per hole	**7.375**	Kgs
Motive power of a jack hammer		**18**	mts /hour
total meterage required per day	no. of holes x depth of hole in mts	**88.50**	mts
therefore time required for drilling for one day required production	total meterage/ motive power of a jack hammer	**4.92**	hrs

Therefore; no. of jack hammer drills required to achieve the targeted production: one Jack hammer drill only plus one spare jack-hammer.

Blasting:

For fragmentation of insitu Production, the blasting is conducted in this area. Blasting work will be given to outsourcing agency, which as the explosive license. The applicant was appointed a second class manager certificate holder as a mines manager and mine foremen/mining mate to supervise drilling and blasting workings. Drilling and blasting are done in the supervision of mining mate.

The blast hole of 3 m will be drilled with the help of 32 mm drill rod, Jack Hammer and Air Compressor of 250 cfm capacity. It is proposed to drill 1.5 m deep shot hole with 0.8 m spacing and 0.8 m burden. The details of Fuse Wire and Detonators deployed for blasting and burden calculations are as below:

Average production per annum	average quantity	**40516**	MT
working days per year		**290**	days
Production per day	Average production/w.days per year	**139.7**	MT
Spacing		**0.8**	mts
Burden		**0.8**	mts
Depth of hole		**1.5**	mts
Yielded of the each hole	spacing x burden x depth of hole	**0.96**	Cu.M
Yield per hole in MT (quantity of ROM Blasted per hole)	Yielded of the each hole*BD	**2.4**	MT
explosive used per hole (Charge per hole)		**0.125**	kg
Powder Factor	yield per hole/charge per hole	**19.2**	MT/kg
no of holes required per day	production per day/ yield per hole	**58.2**	holes
	i.e.,	**59.0**	Nos
no.of shot holes per annum	w.days x holes per day	**16882**	holes
explosive required per annum	holes per annum* charge per hole	**2110**	kg

It is proposed to carryout mining operations by semi mechanized (OTFM) opencast method by adopting 32mm jack hammer drilling to drill 1.5 m and blasting with conventional explosives like slurry, detonators, safety fuse etc., regular benches of about 3 m height (with two slices of 1.5mts each) will be formed.

Blast holes will be drilled up to a depth of 1.5 m with a spacing of 0.8 m and a burden of 0.8 meters. Drill holes are drilled in staggered pattern; each blast hole will be charged with class II Slurry explosives (super dyne, power tel etc.,) of 0.125 kg and blasted with ele.delay detonators.

The rain/ seepage water i.e., likely to be accumulated income 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 with compressed air. The applicant is intended to engage hired 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.)

Machinery for	Type	Nos. required	Capacity	Motive power/ HP	Make
Drilling	Holman Jackhammer	1	32 mm dia	18 m/h	2020
Loading & excavating	L&T PC 130	1	0.9 Cu.M	150 HP	2020
Transportation	Tippers (Ashok Leyland)	2	10 MT truck	100 HP	2021

Adequacy of machineries/ mine equipment Plan:

1. Effective working days : 290 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-130

Calculations for excavator timings and excavator required are given below:

Total production for this plan /scheme period		**202578**	MT
Proposed years		**5**	
Average Annual production	Total production / proposed years	**40516**	MT
Working days per year		**290**	Days
Production Per day	Annual production/working days	**140**	MT
Machine (Excavator) proposed	L&T PC 130		
Bucket capacity (BC)		**0.6**	m^3 of ROM
Fill factor (FF)		**0.8**	
Swelling factor (SF)		**1.3**	
One bucket Loading capacity in Cu.M	BCXFFXSF	**0.369**	Cu.M
One bucket Loading capacity in MT	Cu.Mx 2.5	**0.923**	MT
No. of Buckets required for one tripper or truck of 4.0 Cu.M	4.0 Cu.M/Loading capacity	**10.83**	Buckets
No. of Buckets required for one tripper or truck of 10 MT Cu.M	10.0 MT/Loading capacity	**10.83**	Buckets
Time Calculation :			
Time taken for one bucket loading		**60**	sec
Time taken for one tipper or truck	N0. of buckets * one bucket time	**650**	sec
No. of tippers or trucks loading per hour with 90 percent efficiency	(60 min/time taken for 1 tipper)*0.9	**5.0**	tippers
total quantity loaded per hour	10 MT*tippers per hour	**50**	MT
Time taken for handling of daily production by proposed excavator and tipper combination	Day production/ quantity loaded per hour	**2.80**	Hrs

For leveling the backfilled material at proposed reclamation area 3 hrs may be required. Roughly 3½ 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.

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. Remaining waste will be dumped in the dump area proposed in the applied quarry area over an extent of 3500 sq.mts (0.350 Ha).

The **waste material** during the plan period from **quarry will be 26335 Cu.M** [(50644/2.5) *1.3 = 26335 Cu.M] and **OB of 8340 Cu.M** [OB of 16038 MT/2.5)*1.3 = 8340 Cu.M]. The waste and OB material will be dumped in proposed waste dumps in the South west side over an area of 3500 sq.mts 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.

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

Production proposed for the next five years

It is proposed to produce **202578 MT** of ROM (Mica, Quartz, Feldspar and waste material) during the next five years plan period with an average annual production of **40516 MT** from an area of **21938 Sq. Mts**, Benches of 3 m height (with two slices of 1.5mts each) will be developed during the plan period.

The bench height is planned to make 3 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 360600 – E 361000 & N 1574150 - N 1574450. 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

iii) MINE DRAINAGE

(a) Minimum and Maximum depth of water table:

During summer Water table Depth ranges from 50 to 60 m.

(b) Indicate maximum and minimum depth of workings

The Quarry goes up to 10 mts depth in pegmatite by open cast method of working from the surface level.

(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 irrigation.

ii) Rivers, streams, Nallahs, 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.

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 26335 Cu.M** [(50644/2.5) *1.3 = 26335 Cu.M] and **OB of 8340 Cu.M** [OB of 16038 MT/2.5)*1.3 = 8340 Cu.M]. The waste and OB material will be dumped in proposed waste dumps in the South west side over an area of 3500 sq.mts 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.

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

Land restoration and reclamation is very much essential in any mining industry. Due to mining activity in this area, there will be change in the ground profile in the form of pit and waste dumps.

The ore bearing area will be semi mechanically mined-out up to the ultimate pit limit maintaining required bench height and width with due consideration for slope stability. 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 plan period.

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	Mine Mate – cum - Blaster	1
3	Clerk	1
4	Drillers	2
5	Operators (DTH & Excavator)	1
6	Drivers	2
7	Helpers	2
8	Un skilled workers	6
9	Watch & ward	1
	Total	**17**

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

PART – B
PROGRESSIVE MINE CLOSURE PLAN

1.0 ENVIRONMENT BASE LINE INFORMATION

i	**Exiting land use pattern**	Area	Hectares
		Area under mining (old pits)	0.028
		Infrastructure	0.000
		Green Belt	0.000
		Dumps (Existing)/Stack yards	0.000
		Roads	0.000
		Mineral stacking	0.000
		Magazine	0.000
		TOTAL AREA UTILISED	**0.028**
		TOTAL MINE APPLIED AREA	**4.890**
ii	**Water Regime**	The water table is about 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 2.00 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:

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

Sl No	Land area Under different head	Existing land use Area in ha (Within 4.890 ha Forest Area proposed for Diversion)	Proposed land use Area in next 5 years in ha		Proposed land use Area in entire 20 years lease period in ha		Remarks
01	Mining area	0.028 ha (broken old pits during earlier mining period)	Open cast	2.166 ha	Open cast (Including proposed, waste dumps, OB dumps and mineral stacking)	4.080 ha	Out of 4.080 ha proposed for mining, effective area under mining will be 4.080 ha including proposed waste and OB dumps prior to enactment of FCA, 1980. Out of 4.080 ha 2.194 ha will be open cast mining in the next 5 years.
			Already broken up area	0.028 ha			
			Total	2.194 ha			
02	Safety zone / Green belt	0	0.69 ha Total safety zone proposed: 0.69 ha (7.5 mts all along the mining area)		0.69 ha		In addition to the safety zone, plantation will be carried out wherever possible on the surface.
03	Waste & OB Dump	0	0.35 Ha		-		-
04	Infrastructure	0	0		0		No building/infrastructure was proposed within the applied area
05	Screening plant	0	0		0		No screening plant was proposed within the applied area
06	Roads	0	0.12 ha		0.12 ha		An approach road is required to reach mining area through forest area at north side of the applied area.
07	Mineral staking	0	0.05ha		-		Mineral staking will be done in an area of 0.100 ha in the applied area
08	Magazine	0	0		Nil		Magazine will be stored in the patta land owned by the User Agency
Total		0.028 ha	3.404 ha		4.890 ha		Out of 5.62 ha proposed for diversion, an extent of 0.747 ha already been broken during previous lease period.

a. 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.

b. Water Quality

No treated and un treated effluence are going to be discharged. Domestic sewage shall be treated in soak pit.

c. Noise Levels : No impact outside the mine pit. Workers will use ear plugs and mufflers.

d. 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 2.0 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.

e. 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 50 m below the general ground level. Hence, the ground water will not be affected.

f. Acid Mine Drainage : No acid will be generated from Mica Mines.

g. Surface Subsidence : Not applicable

h. Socio economies

The Mining applied area is 2.0 Km away from the nearest village Perumallapadu and the proposed mining activity will fetch employment to the local people which improve socio-economical condition of the surrounding Villagers.

i. Historical Monuments

No historical monuments are existing in and around the mine within a radius of 5.0 KM

j. 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 :

Land restoration and reclamation is very much essential in any mining industry. Due to mining activity in this area, there will be change in the ground profile in the form of pit and waste dumps.

The ore bearing area will be semi mechanically mined-out up to the ultimate pit limit maintaining required bench height and width with due consideration for slope stability. 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 plan period.

In this 5 years plan period plantation is proposed in the safety zone (7.5 Mts buffer Safety Zone Area) . It is proposed to undertake semi mechanized opencast method of mining. During production in 5 years period a little quantity of waste material will be generated from the workings.

Afforestation:

The applicant proposed to take up plantation in the safety zone (0.69 ha area)or will deposit the required amount in the CAMPA account so as to carry out plantation in the safety zone area by the Forest Dept as the case may be.

4.0 MINED– OUT LAND

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

Sl No	Land area Under different head	Existing land use Area in ha (Within 4.890 ha Forest Area proposed for Diversion)	Proposed land use Area in next 5 years in ha		Proposed land use Area in entire 20 years lease period in ha		Remarks
01	Mining area	0.028 ha (broken old pits during earlier mining period)	Open cast	2.166 ha	Open cast (Including proposed, waste dumps, OB dumps and mineral stacking)	4.080 ha	Out of 4.080 ha proposed for mining, effective area under mining will be 4.080 ha including proposed waste and OB dumps prior to enactment of FCA, 1980. Out of 4.080 ha 2.194 ha will be open cast mining in the next 5 years.
			Already broken up area	0.028 ha			
			Total	2.194 ha			
02	Safety zone / Green belt	0	0.69 ha Total safety zone proposed: 0.69 ha (7.5 mts all along the mining area)		0.69 ha		In addition to the safety zone, plantation will be carried out wherever possible on the surface.
03	Waste & OB Dump	0	0.35 Ha				-
04	Infrastructure	0	0		0		No building/infrastructure was proposed within the applied area
05	Screening plant	0	0		0		No screening plant was proposed within the applied area
06	Roads	0	0.12 ha		0.12 ha		An approach road is required to reach mining area through forest area at north side of the applied area.
07	Mineral staking	0	0.05ha		-		Mineral staking will be done in an area of 0.100 ha in the applied area
08	Magazine	0	0		Nil		Magazine will be stored in the patta land owned by the User Agency
Total		0.028 ha	3.404 ha		4.890 ha		Out of 5.62 ha proposed for diversion, an extent of 0.747 ha already been broken during previous lease period.

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

5.0 TOP SOIL MANAGEMENT:

Red Morum is the top Soil in this applied area up to 2.00 mts. A quantity of **43318 Cu.M** of top soil will be generated. 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:

Sri Pemmasani Dilip Kumar,
S/o P.Pardhasaradhi,
Perumallapadu Village,
Sydapuram Mandal,
SPSR Nellore District, A.P.

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)			
Dump Management	No. of saplings planted	Nil	Nil	--
	Cumulative no of plants			
	Cost including watch and care during the year			
Management of worked out benches	Area available for rehabilitation(specify)			
	No of saplings planted in the year			
	Cumulative no of plants	Nil	Nil	--
	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			
	Void filled by waste /tailings			
	Afforestation on the backfilled area	Nil	Nil	--
	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	During the Plan period	The area considered as fully reclaimed and rehabilitated	Net area considered for calculation
A	B	C	D	E=C-D
1	Area under Mining	0.028	2.166	2.194
2	Infrastructure	0	0	0
3	Storage for top-soil	0	0	0
4	OB Dump	0	0	0
5	Waste dump	0	0.350	0.350
6	Mineral storage	0	0.050	0.050
7	Road area	0	0.120	0.120
8	Railway	0	0	0
9	Green belt (7.5m safety zone area)	0	0.690	0.690
10	Tailing pond	0	0	0
11	Screening & washing plant	0	0	0
12	Magazine	0	0	0
13	Township Area	0	0	0
14	Sub-grade storage	0	0	0
Total		**0.028**	**3.376**	**3.404**

Area considered for calculation of Financial Assurance : 3.404 Ha.

The Financial Assurance required is minimum @ Rs.50000.00 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.50000.00 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.

Applicant:

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

Place: Sydapuram
Date: 17-11-2021

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. 1539/MIP/MQF/NLR/2021 Date 27/12/2021

Approved
27/12/2021
K. SRINIVASA RAO
(Approving Authority of Nellore District)
Deputy Director of Mines & Geology (FAC)
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

Place: Perumallapdu

Signature of the applicant

Date:

ANNEXURES

ANNEXURES

ANNEXURE – I

खनन योजना तैयार करने के लिए अहर्ता 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 अहर्ता 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

स्थान/Place: **बैंग्लोर/Bangalore**

दिनांक/Date: **30.03.2015**

30/03/15

क्षेत्रीय खान नियंत्रक/

Regional Controller Of Mines

Regional Controller of Mines
Indian Bureau of Mines
Govt. Bangalore-560022

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.

ANNEXURE

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

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

To
The all ADM&G's (Regular) in the State.
The all DDM&G's in the State.
Copy to the Section Superintendents from D1 to D13 / In- charge officers of sections Sand, Vigilence, IT, MR, MCRIT,
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
DEPARTMENT OF MINES & GEOLOGY::IBRAHIMPATNAM

From
V.G. VENKATA REDDY,
Director of Mines & Geology,
5th Floor, Anjaneya Towers,
Ibrahimpatnam, Krishna District.

To
The Principal Chief Conservator of Forests,
Aranyabhavan, Guntur,
Andhra Pradesh.

Letter No.8452/D8/2020, dt:26.07.2021.

Sir,

Sub:- Mines and Quarries - Application for grant of quarry lease application for Mica, Quartz & Feldspar an extent of 4.890 Hectares in Sy.No.357 of Chaganam R.F.Utukuru, Sydapuram Mandal, SPSR Nellore District -Further information furnished - Regarding.

Ref:- 1.This office Lr.No.8452/D8/2020,dt:31.12.2020.
2.Lr.No.3147/P/2020,dt:26.06.2021 from the ADM&G, Nellore.

***

I invite kind attention to the subject and references cited, through the reference 1st cited, this office submitted statutory Proformas (8 sets) with check list Proforma-M in respect of the applicant Sri P.Srikanth for diversion of forest land for non-forest purpose over the subject area. But, in the meantime the applicant was expired on 23.04.2021 due to Covid-19.The same was certified by the Birth and Death Registrar Perumallapadu (copy enclosed).

In the reference 2nd cited, the ADM&G, Nellore reported that Sri Pemmasani Dilip Kumar furnished family member certificate along with affidavits of his parents as declared that Sri Pemmasani Dilip Kumar as legal heir to the quarry lease application field by deceased applicant Sri P.Srikanth and they are willing to No objection to process the application for Grant of Quarry lease for Mica, Quartz and Feldspar in the name of Sri P.Dilip Kumar who is successor applicant. Further, the Tahsildar, Sydapuram Mandal has issued family members certificate vide his FMC No.012102663279, dt:11.05.2021 (copy enclosed) as follows:-

Name	Relationship	Age
Pemmansani Pardhasaradhi	Father	66
Pemmasani Sivaravamma	Mother	62
Pemmansani Dilip Kumar	Brother	39

Finally, the ADM&G, Nellore requested to change the name of user agency and recommended for grant of quarry lease in favour of Sri Pemmasani Dilip Kumar instead of Sri Pemmasani Srikanth under rule 25-A of MC Rules, 1960.

In view of the above circumstances, I request to change the user applicant name as Sri Pemmasani Dilip Kumar instead of Sri P.Srikanth and requested to process and accord clearance for diversion of forest land for non-forest purpose for grant of Mica, Quartz & Feldspar an extent of 4.890 Hectares in Sy.No.357 of Chaganam R.F. Utukuru, Sydapuram Mandal, SPSR Nellore District.

Yours faithfully,
Sd/-V.G.VENKATA REDDY
DIRECTOR OF MINES & GEOLOGY

Encl: As above

Copy to the Asst. Director of Mines & Geology, Nellore for information.
Copy to the Deputy Director of Mines & Geology, Nellore for information.

//ATTESTED//

for DIRECTOR OF MINES AND GEOLOGY

PLATES

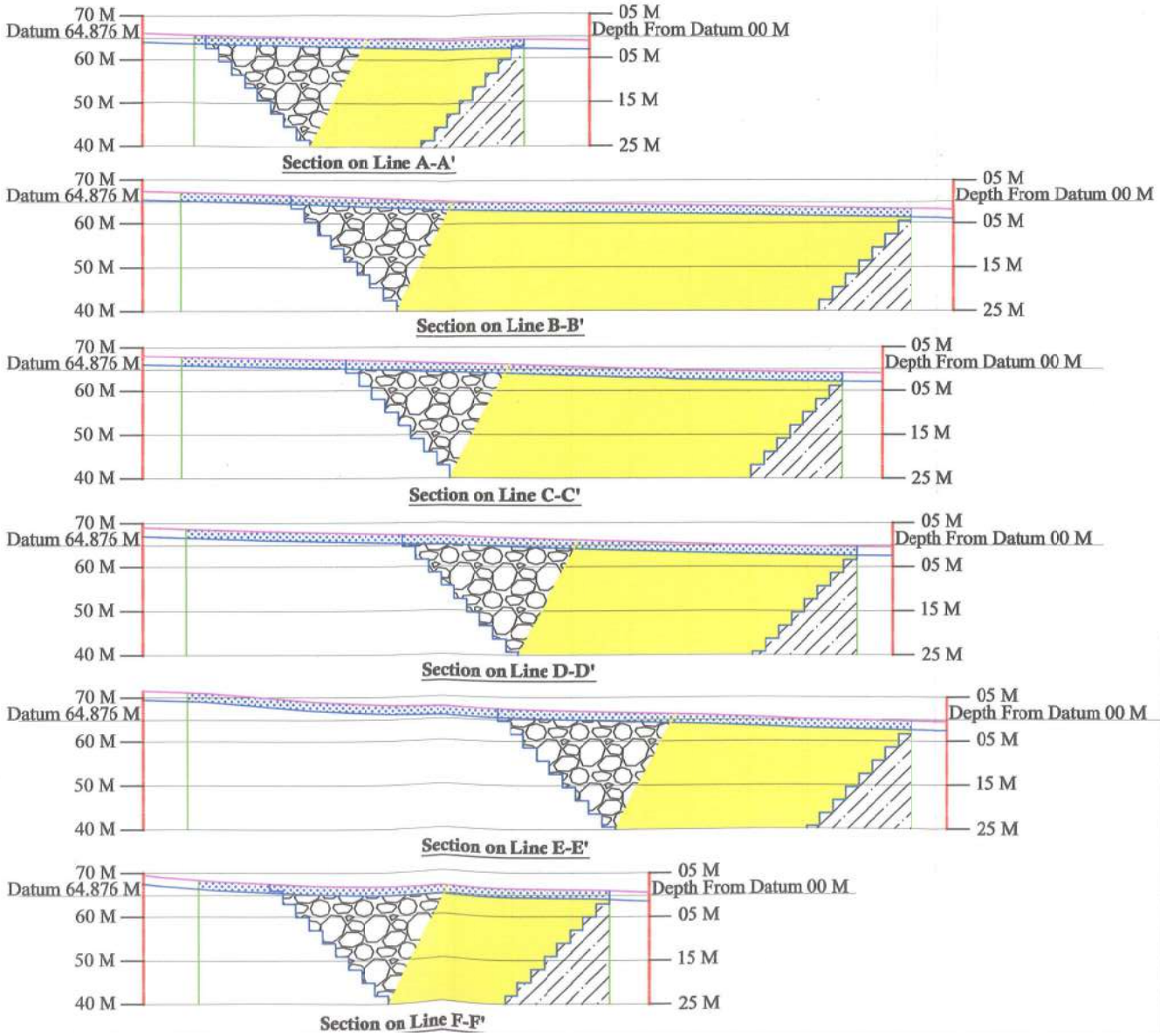
PLATES

Prepared by:

ANOOSRI MINING SOLUTIONS

Near Sivalayam,
Sydapuram (V), (PO) & (M)-524407
SPSR Nellore Dist., Andhra Pradesh.

anoosrims@gmail.com



INDEX

- Boundary Line
- 7.5 M Buffer Line
- Profile Line
- Top Soil
- Pegmatite
- Over Burden
- Ultimate Pit Limit
- Blocked Reserves Under UPL

Plate No. 3A

Mining Plan for Mica, Quartz and Feldspar over an extent of 4.890 Hectares(Mining Area 4.08Ha, SafetyZone Area 0.69Ha & Road Area 0.12Ha) in Sy.No. 357 of Chaganam R.F.Utukuru, Sydapuram (M), SPSR Nellore (Dt), Andhra Pradesh.

APPLICANT : SRI PEMMASANI DILIP KUMAR

GEOLOGICAL CROSS SECTIONS

Scale : 1 : 1000 (1cm = 10m)

The Sections are Prepared on the basis of authenticated mining lease sketch provided by the State Govt/DFO certified that the above Sections are correct

Applicant

P. Viswam, B.E.,Mining

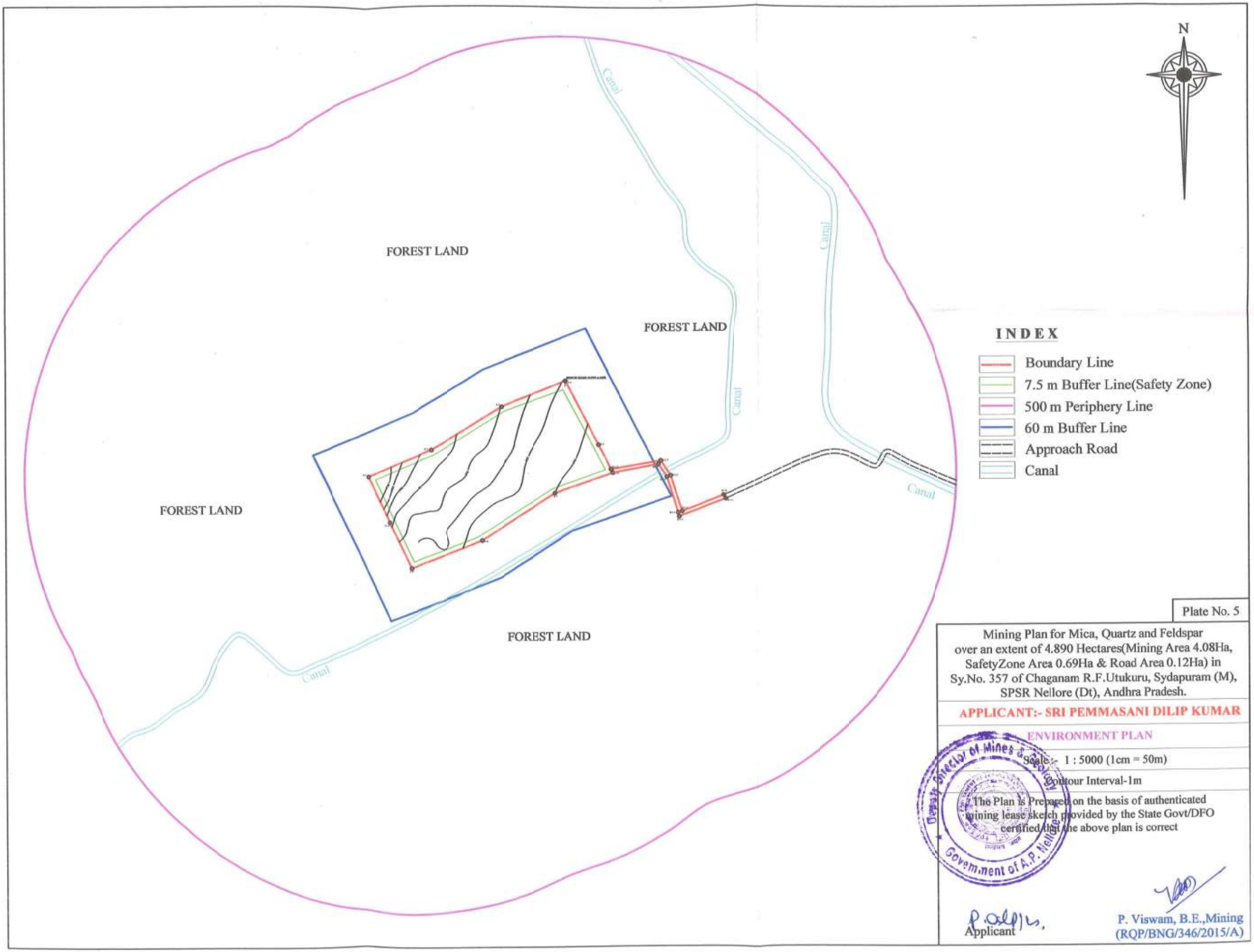


Plate No. 5

Mining Plan for Mica, Quartz and Feldspar over an extent of 4.890 Hectares(Mining Area 4.08Ha, SafetyZone Area 0.69Ha & Road Area 0.12Ha) in Sy.No. 357 of Chaganam R.F.Utukuru, Sydapuram (M), SPSR Nellore (Dt), Andhra Pradesh.

APPLICANT:- SRI PEMMASANI DILIP KUMAR

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/DFO certified that the above plan is correct

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

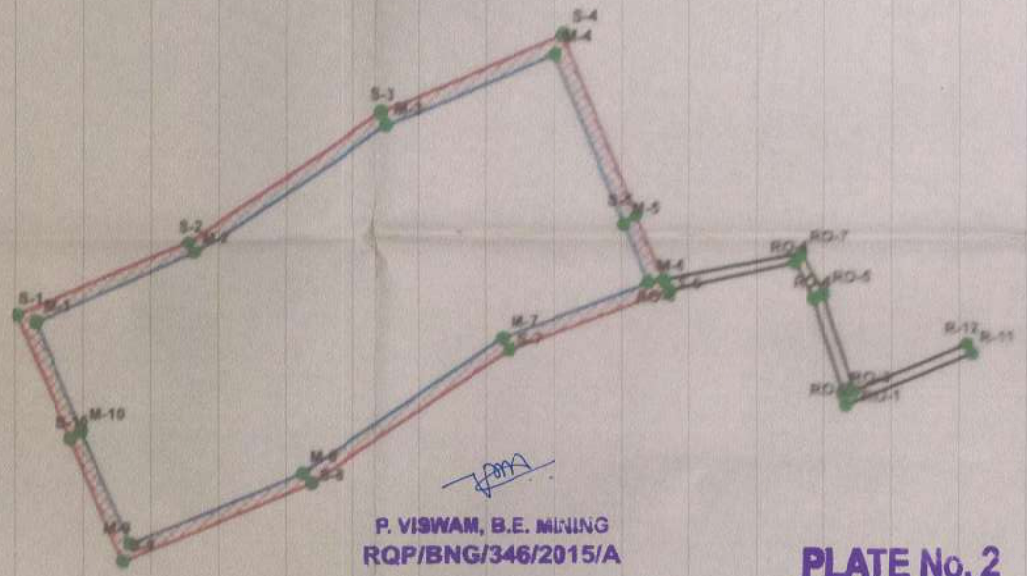
Applicant

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

Map Showing the Diversion of Forest Land in Comp-No-121,Utukuru RF,Chaganam Beat,Venkatagiri Range, Nellore Division for grant of Quarry lease for Mica,quartz & Feldspar in favour of Sri P. Srikanth.

1:2500

S no	Name	Northing	Eastng!!	Elevation!!	Latitude!!	Longitude
1	M-1	1574286.466	360592.981	71.157	14.23665857	79.70784760
2	M-2	1574322.360	360679.024	66.614	14.23698734	79.70864314
3	M-3	1574384.231	360780.395	64.557	14.23755171	79.70957940
4	M-4	1574418.643	360867.367	63.028	14.23786713	79.71038362
5	M-5	1574330.821	360911.870	61.705	14.23707549	79.71080055
6	M-6	1574299.101	360927.852	60.930	14.23678955	79.71095028
7	M-7	1574272.448	360850.619	61.473	14.23654476	79.71023592
8	M-8	1574203.492	360743.460	62.076	14.23591607	79.70924639
9	M-9	1574167.444	360649.178	63.092	14.23558549	79.70837637
10	M-10	1574228.625	360620.493	67.517	14.23613709	79.70810554
11	S-1	1574290.458	360582.647	72.165	14.23669413	79.70775163
12	S-2	1574328.931	360675.198	66.890	14.23704656	79.70860735
13	S-3	1574391.141	360777.090	64.591	14.23761401	79.70954841
14	S-4	1574428.319	360870.941	63.001	14.23795477	79.71041625
15	S-5	1574335.382	360918.304	61.437	14.23711704	79.71085995
16	S-6	1574294.847	360938.972	60.338	14.23675166	79.71105356
17	S-7	1574265.963	360854.565	61.343	14.23648634	79.71027281
18	S-8	1574197.968	360749.017	61.480	14.23586641	79.70929817
19	S-9	1574157.816	360645.745	63.306	14.23549828	79.70834319
20	S-10	1574228.484	360614.184	67.771	14.23609934	79.70804728
21	RO-1	1574238.907	361039.308	56.519	14.23625101	79.71198626
22	RO-2	1574231.498	361035.253	56.466	14.23618387	79.71194904
23	RO-3	1574237.073	361033.617	56.626	14.23623414	79.71193362
24	RO-4	1574288.695	361017.614	57.079	14.23669998	79.71178267
25	RO-5	1574290.706	361022.773	59.032	14.23671842	79.71183037
26	RO-6	1574307.217	361005.555	59.277	14.23686680	79.71166996
27	RO-7	1574312.398	361009.009	58.780	14.23691327	79.71170171
28	RO-8	1574300.402	360935.778	60.605	14.23680172	79.71102368
29	R-11	1574257.274	361102.339	56.593	14.23642018	79.71256945
30	R-12	1574262.424	361099.317	56.539	14.23646659	79.71254118



P. VISWAM, B.E. MINING
RQP/BNG/346/2015/A

PLATE No. 2

District Forest Officer
SPSR NELLORE

S no	Name	Area (Ha.)
1	Mining Area	1.8
2	Safety Zone Area	2.9
3	Road Area	0.3
	Total Area	4.9

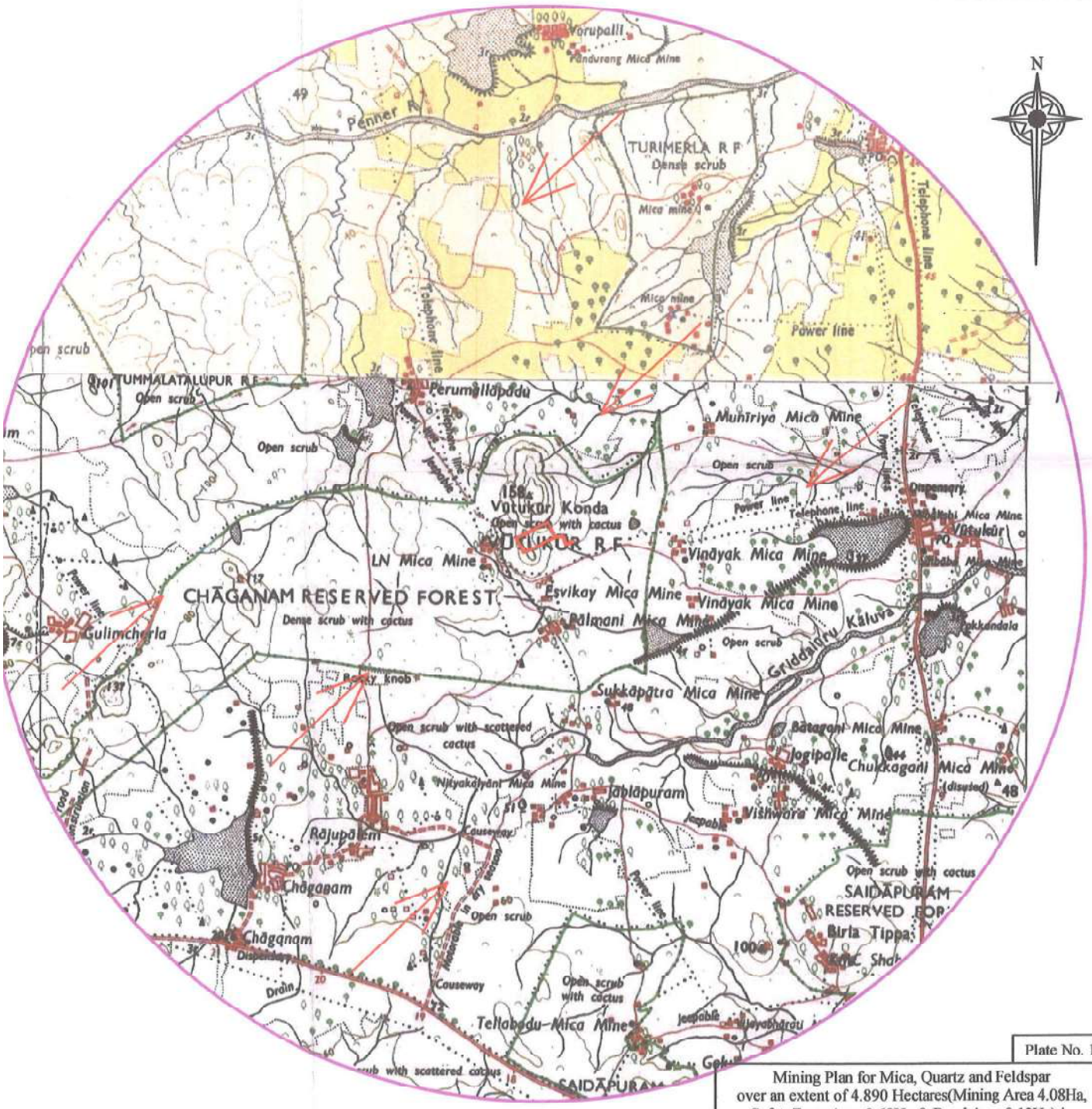
Legend
- DGPS Points
- Mining Area
- Safety Zone Area
- Road Area

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

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

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

0 50 100 200 300 400 Meters



DATUM BASED ON WGS - 84

GEO CO-ORDINATES LATITUDE: N14.23711704
LONGITUDE : E79.71085995

INDEX

- M.L AREA
- 5 Km RADIUS LINE
- VILLAGES
- WATER SOURCE
- B.T ROAD
- RESERVE FOREST
- WIND DIRECTION

Plate No. 1

Mining Plan for Mica, Quartz and Feldspar over an extent of 4.890 Hectares(Mining Area 4.08Ha, SafetyZone Area 0.69Ha & Road Area 0.12Ha) in Sy.No. 357 of Chaganam R.F.Utukuru, Sydapuram (M), SPSR Nellore (Dt), Andhra Pradesh.

APPLICANT:- SRI PEMMASANI DILIP KUMAR

TOPO SHEET NO: 57 N/12

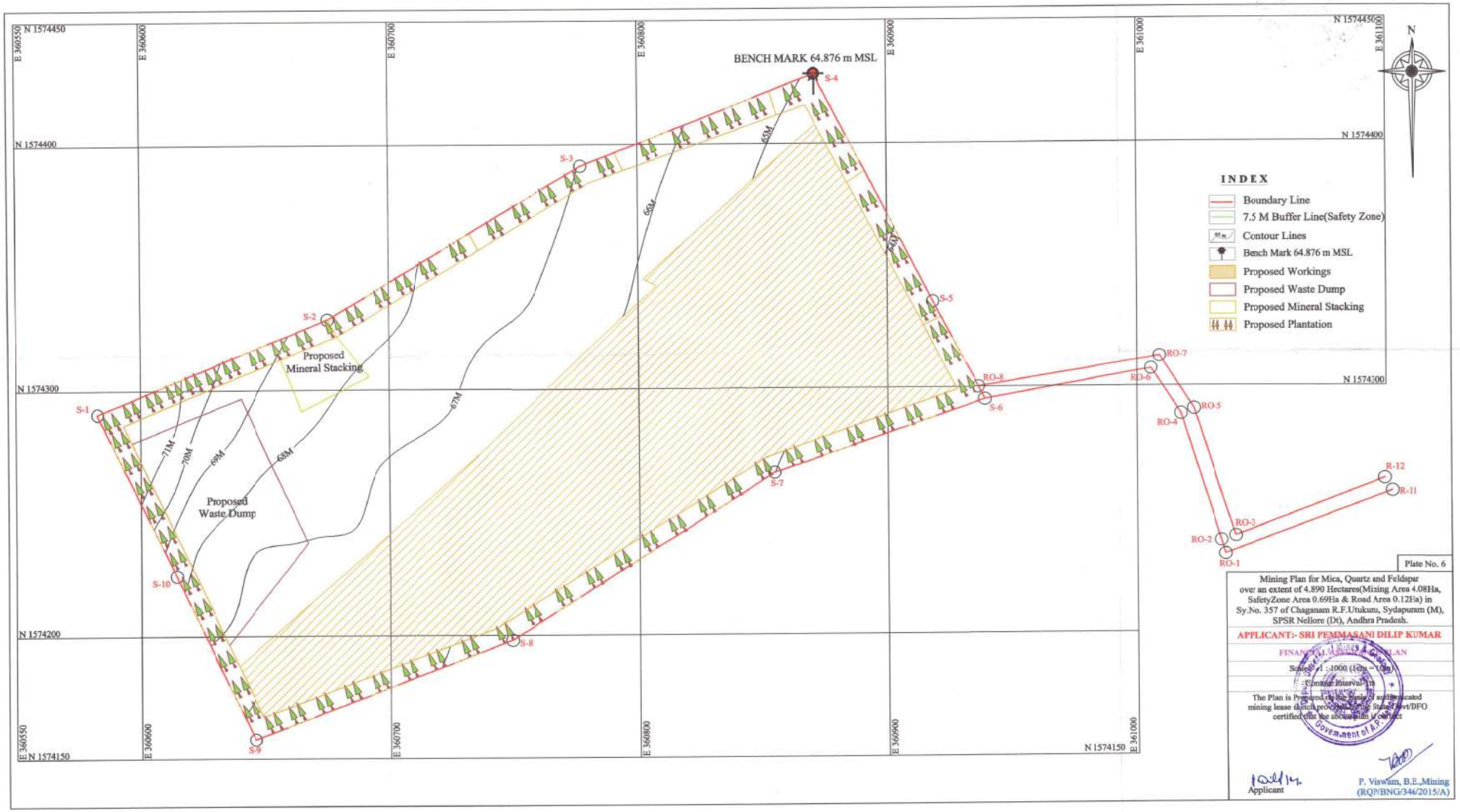
Scale :- 1 : 50000 (1cm = 500m)

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

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

Applicant

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


BENCH MARK 64.876 m MSL
N 1574450
N 1574400
N 1574300
N 1574200
N 1574150
E 360550
E 360600
E 360700
E 360800
E 360900
E 361000
E 361100
S-1
S-2
S-3
S-4
S-5
S-6
S-7
S-8
S-9
S-10
RO-1
RO-2
RO-3
RO-4
RO-5
RO-6
RO-7
RO-8
R-11
R-12
Proposed Mineral Stacking
Proposed Waste Dump
71M
70M
69M
68M
67M
66M
65M
N
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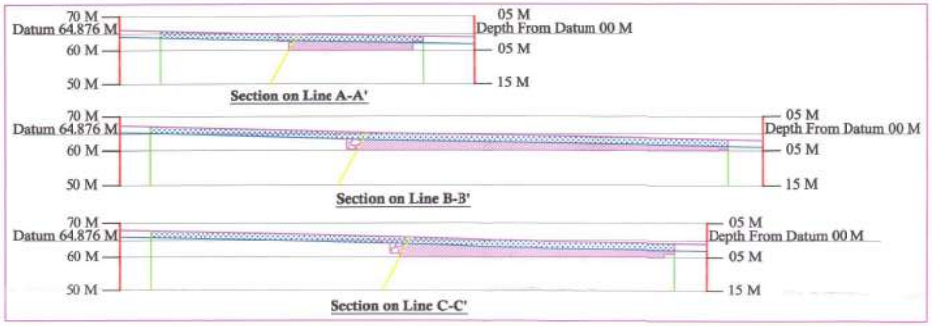
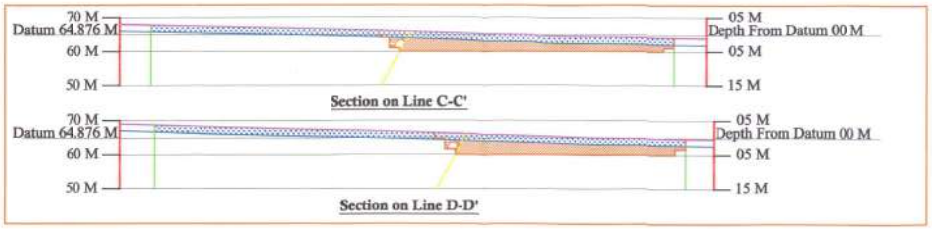
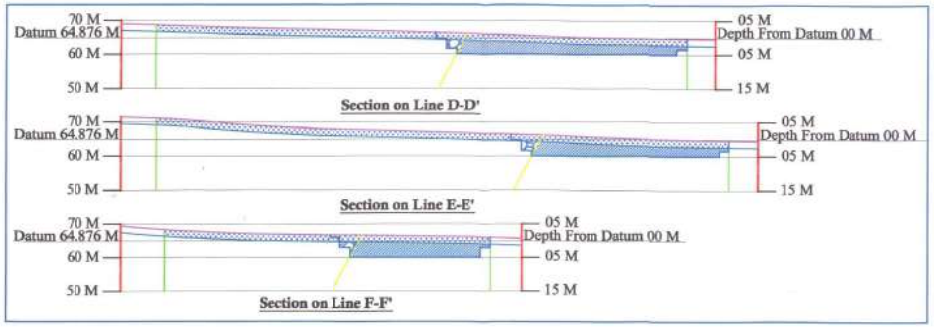
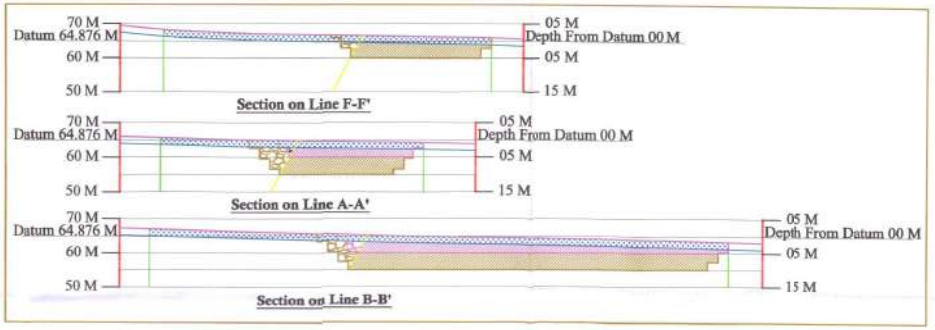
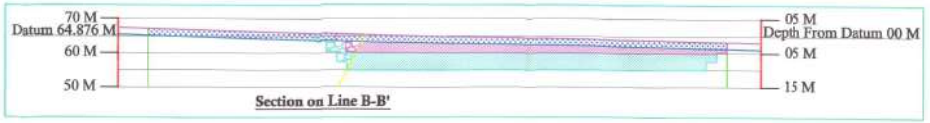
Boundary Line
7.5 M Buffer Line(Safety Zone)
Contour Lines
Bench Mark 64.876 m MSL
Proposed Workings
Proposed Waste Dump
Proposed Mineral Stacking
Proposed Plantation
Plate No. 6
Mining Plan for Mica, Quartz and Feldspar over an extent of 4.890 Hectares(Mining Area 4.08Ha, SafetyZone Area 0.69Ha & Road Area 0.12Ha) in Sy.No. 357 of Chaganam R.F.Utukuru, Sydapuram (M), SPSR Nellore (Dt), Andhra Pradesh.
APPLICANT:- SRI PEMMASANI DILIP KUMAR
FINANCIAL
PLAN
Scale :- 1 :1000 (1cm = 10m)
Contour Interval :1m
The Plan is Prepared on the basis of authenticated mining lease sketch provided by the State Govt/DFO certified that the above plan is correct
Applicant
P. Viswam, B.E.,Mining
(RQP/BNG/346/2015/A)











INDEX

- Boundary Line
- 7.5 M Buffer Line
- Profile Line
- Top Soil

Proposed Workings	Proposed Workings
1st Year	
2nd Year	
3rd Year	
4th Year	
5th Year	

Plate No. 4A

Mining Plan for Mica, Quartz and Feldspar over an extent of 4.890 Hectares(Mining Area 4.08Ha, SafetyZone Area 0.69Ha & Road Area 0.12Ha) in Sy.No. 357 of Chaganam R.F.Utukuru, Sydapuram (M), SPSR Nellore (Dt), Andhra Pradesh.

APPLICANT:- SRI PEMMASANI DILIP KUMAR

MINE LAYOUT SECTIONS

Scale: Mines 1:500 (1cm = 10m)

The Sections are Prepared on the basis of authenticated mining leases sketch provided by the State Govt/DFO certified that the above Sections are correct

Applicant

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

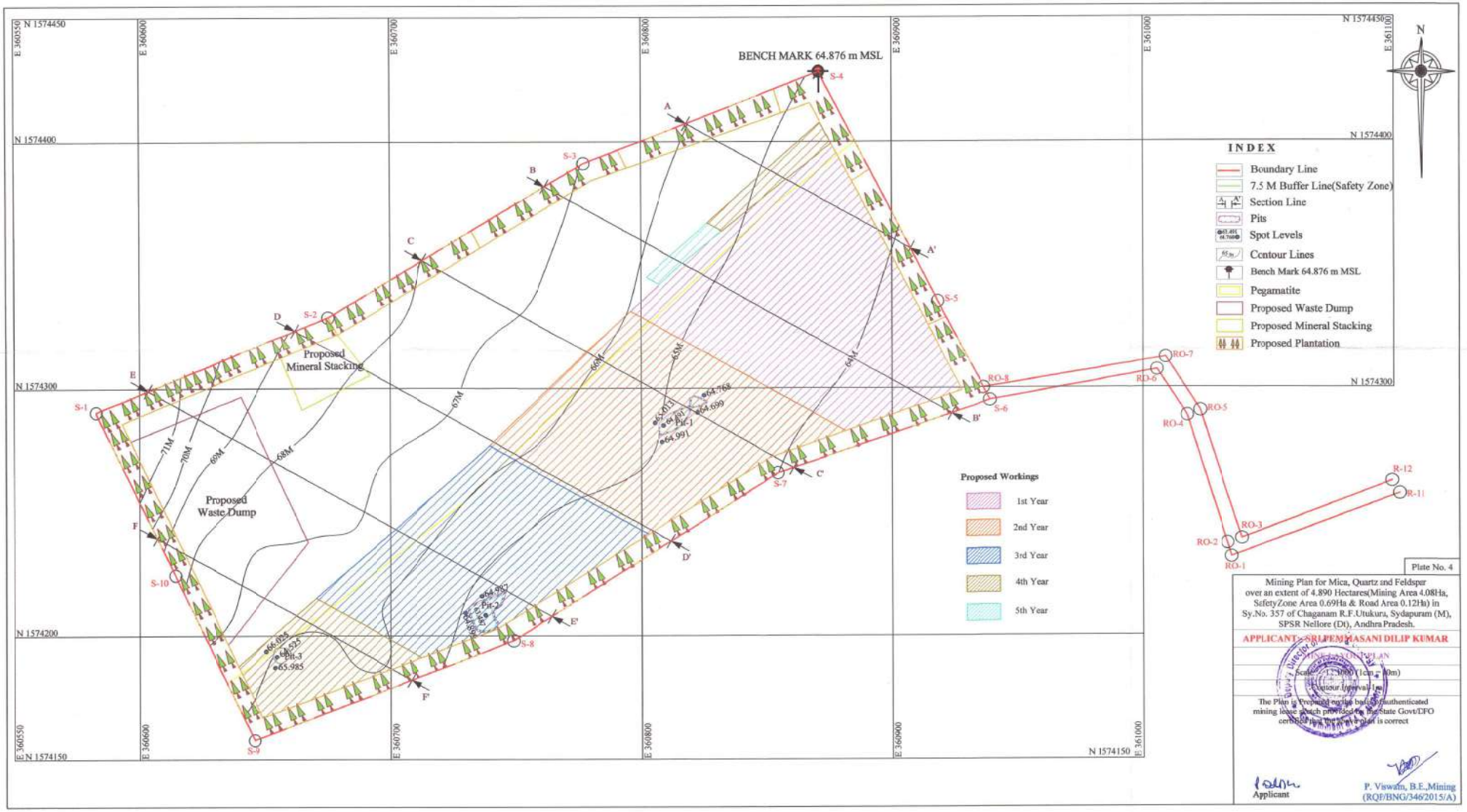


Plate No. 4

Mining Plan for Mica, Quartz and Feldspar over an extent of 4.890 Hectares(Mining Area 4.08Ha, SefetyZone Area 0.69Ha & Road Area 0.12Ha) in Sy.No. 357 of Chaganam R.F.Utukuru, Sydapuram (M), SPSR Nellore (Dt), Andhra Pradesh.

APPLICANT : SRI.PEMMASANI DILIP KUMAR

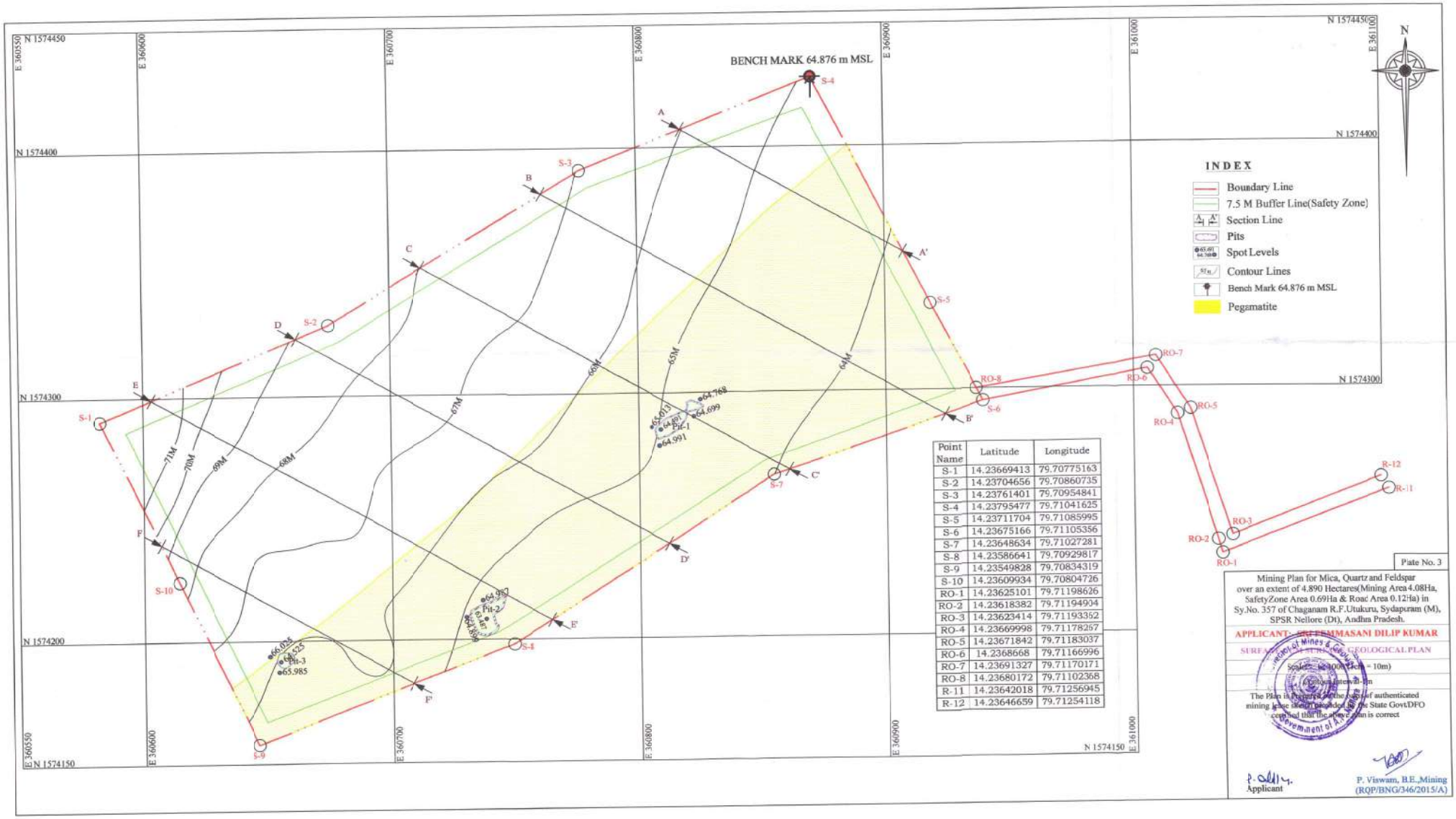
Scale : 1:1000 (1cm = 10m)

Contour Interval : 1m

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

Applicant

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



Point Name	Latitude	Longitude
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S-3	14.23761401	79.70954841
S-4	14.23795477	79.71041625
S-5	14.23711704	79.71085995
S-6	14.23675166	79.71105356
S-7	14.23648634	79.71027281
S-8	14.23586641	79.70929817
S-9	14.23549828	79.70834319
S-10	14.23609934	79.70804726
RO-1	14.23625101	79.71198626
RO-2	14.23618382	79.71194904
RO-3	14.23623414	79.71193352
RO-4	14.23669998	79.71178267
RO-5	14.23671842	79.71183037
RO-6	14.2368668	79.71166996
RO-7	14.23691327	79.71170171
RO-8	14.23680172	79.71102368
R-11	14.23642018	79.71256945
R-12	14.23646659	79.71254118

Plate No. 3

Mining Plan for Mica, Quartz and Feldspar over an extent of 4.890 Hectares(Mining Area 4.08Ha, SafetyZone Area 0.69Ha & Roac Area 0.12Ha) in Sy.No. 357 of Chaganam R.F.Utukuru, Sydapuram (M), SPSR Nellore (Dt), Andhra Pradesh.

APPLICANT: SRI ESMMASANI DILIP KUMAR

SURFACE AND GEOLOGICAL PLAN

Scale:- 1:1000 (1cm = 10m)

Contour Interval - 1m

The Plan is prepared on the basis of authenticated mining lease sketch provided by the State Govt/DFO certified that the above plan is correct

Applicant

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