

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

From  
Sri B.Ravikumar, M.Sc.,  
Deputy Director of Mines and Geology,  
Block No's 58&59, Old RIMS Hospital,  
Opp: Collector Office, Trunk Road,  
Ongole, Prakasam district.

To  
M/s Sri Shirdi Sai Minerals,  
Sri G.Venkata Subba Reddy,  
S/o Late G.Rama Subba Reddy,  
3/848-6, Maruthi nagar, YMR colony,  
Proddatur, YSR Kadapa district- 516 360

**Letter No. 619/MP/Quartz/MRKP/2022, dated: 01.04.2022**

Sir,

Sub:- Mines & Minerals – Quarry Lease applied area of M/s Sri Shirdi Sai Minerals, for Quartz, over an extent of Hects 10.170 in Compt.No. 475 of Ekunampuram Village Mundlapadu beat, Veligonda R.F, C.S Puram section, Kanigiri range, Prakasam District – Mining Plan - Approved – Regarding

- Ref:-
1. Govt.Memo 7674/M.II(1)/2014, Ind& Com. Department, dated. 03.02.2016
  2. Proceeding.No.28594/P.RQP/01, dt: 13.05.2016 of the Director of Mines and Geology, Ibrahimpatnam.
  3. Memo No. 3861432/P/2020, dated 16.07.2021 of the Director of Mines and Geology, Ibrahimpatnam.
  4. Letter received from M/s Sri Shirdi Sai Minerals, on 8.03.2022
  5. Inspection Report submitted this office Technical Staff
  6. This office Letter No. 619/MP/Quartz/MRKP/2022, dt: 25.03.2022
  7. Letter dated 31.03.2022 along with 6 sets of fair Mining Plan from the Lessee / RQP.

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In exercise of the powers conferred by the Director of Mines and Geology, Ibrahimpatnam, through the reference 2<sup>nd</sup> cited and keeping in view of the Memo issued by the Director of Mines and Geology, Ibrahimpatnam vide reference 3<sup>rd</sup> cited, I hereby approve the Mining Plan for a period of 5 years in respect of Quarry Lease applied area of M/s Sri Shirdi Sai Minerals, for Quartz, over an extent of Hects 10.170 in Compt.No. 475 of Ekunampuram Village Mundlapadu beat, Veligonda R.F, C.S Puram section, Kanigiri range, Prakasam District, under Rule 7A of Andhra Pradesh Minor Mineral Concession Rules, 1966 read with G.O.Ms.No.56, Industries & Commerce (Mines-II) Department, dated:30.04.2016. This approval is subject to the following conditions.

1. The proposals contained in the approved mining plan including Progressive Mine closer Plan shall be applicable from the date of execution of the lease 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.

Contd..2

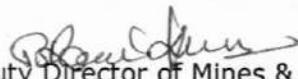
4. The Mining Plan is approved subject to strictly adhering to the Relevant Regulations of MMR 1961 and obtaining prior permission from Director General Mines Safety whenever and where ever it is required.
5. The approval authority does not owe the responsibility with regard to Assessment of the reserves, 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.
- 7 The applicant / Lessee shall abide the minimum annual production ( % of mine plan) approved as required under Rule 12(5)( C) (i) of APMMC Rules 1966 & Schedule IV amended vide G.O Ms No. 90, Inds& Com(M.I) Dept.,dt 17.12.2020

SI.No	year	Minimum Annual production (Percentage of Approved Mining Plan)
1	Year 1	10 %
2	Year 2	30 %
3	Year 3	50 %
4	Year 4 onwards	60 %

8. The Grant is liable for cancellation should it be found that it was grossly inequitable or was made under a mistake of fact or owing to mis representation or fraud or in excess of authority.
9. The applicant/ lessee shall submit the Finance Assurance required under Mine Closure Plan minimum @ Rs.50,000.00 for below 5.000 Hectares. As per the amended Rule 7 of Mineral Concession Rules-1966, G.O.Ms.No.53, dated 27.02.2019, Hence the Financial Assurance of Rs.50,000.00 in the form of Bank Guarantee has to be submitted to the Assistant Director of Mines and Geology, Markapuram.

Encl: Approved Mining Plan.

Yours faithfully,

  
Deputy Director of Mines & Geology,  
Ongole.

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

Copy submitted to the Pri. Chief Conservator of Forests & Head of Forest Force, Aranya Bhavan, A.P, K.M Munshi Road, Guntur for information.

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

Copy to T.Brahmaiah, RQP/DMG/AP/39/2017, Ecoment Laboratories Pvt Ltd, D.No: 1/2277, 1<sup>st</sup> floor, Aove Bandhan Bank, Rajivpark Road, YSR Kadapa district 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, Markapur along with A.M.P.

# MINING PLAN INCLUDING PROGRESSIVE MINE CLOSURE PLAN

SUBMITTED UNDER RULE 7(A) OF APMMC - 1966  
& RULE 23 OF MCDR 2017.

**FIRST FIVE YEARS PLAN PERIOD**

**For**

**Q U A R T Z**

**EXTENT: 10.170Hectares.**

**Type of Land: Forest land.**

**Category of the mine: Other Than Fully Mechanized.**

**In**

**Comp. No. 475 of Ekanapuram Village, Mundlapadu Beat,**

**Veligonda R F, C.S. Puram Section, Kanigiri Range,**

**Praksham District – 523 112.**

**Andhra Pradesh.**

**OF**

**M/s. Sri Shiridi Sai Minerals,**

**Sri. G. Venkata Subba Reddy**

**S/o. Late G.RamaSubba Reddy,**

**3/848-6, Maruthi Nagar, Y M R Colony, Proddatur,**

**Y.S.R Kadapa District– 516 360,**

**Andhra Pradesh, INDIA.**

**Cell No: +91 +91-94402 84409.**

**Email Id: [sshiridi325@gmail.com](mailto:sshiridi325@gmail.com).**

**Prepared By:**

**Dr. T. Brahmaiah,**

**RQP/DMG/AP/39/2017.**

**Ecomen Laboratories Pvt Ltd.,**

**D.No. 1/2277, First Floor,**

**Above Bandhan Bank,**

**APHB Colony, Rajiv Park Road,**

**Y.S.R Kadapa District – 516001.**

**Cell : +91 99161 99129 & +91 7075694670.**

**Email Id: [kadapa@ecomen.im](mailto:kadapa@ecomen.im),**

**Web Site: [www.ecomen.in](http://www.ecomen.in).**



## **LETTER OF CONSENT**

The Mining Plan & Progressive Quarry closure plan in respect of **precise area** to be grant of quarry lease for Quartz in favor of **M/s Sri Shiridi Sai Minerals, Managing Partner: Sri. G. Venkata Subba Reddy** over an extent of 10.170Hectares in Comp. No. 475 of Mundlapadu Beat, Veligonda RF, C.S Puram Section, Kanigiri Range, Prakasham District, Andhra Pradesh State has been prepared by Recognized qualified persons Dr. T. Brahmaiah.

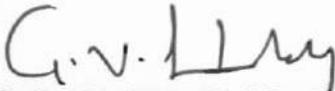
We request to the make further correspondence regarding the Modified Mining Plan with the Recognized Qualified Persons at the following addresses.



**Dr. T. Brahmaiah,**  
RQP/DMG/AP/39/2017.  
**Ecomen Laboratories Pvt Ltd.,**  
D.No. 1/2277, First Floor,  
Above Bandhan Bank,  
APHB Colony, Rajiv Park Road,  
Y.S.R Kadapa District – 516001.  
Cell: +91 99161 99129 & +91 7075694670.

We hereby undertake that all the proposals made in the Mining Plan by the Recognized Qualified Persons are deemed to have been made with the knowledge and consent it shall be acceptable to me in all respects

**M/s. Sri Shiridi Sai Minerals,**

  
**Sri. G. Venkata Subba Reddy,**  
**Managing Partner.**

## **RQP CERTIFICATE**

This is Certify that the Mining Plan Has Been Prepared as per the rule 7(A) of Andhra Pradesh Minor Mineral Concession Rules, 1966. Whenever specific permission is required for any deviation, the Lessee will approach the Authorities of the Department of Mines & Geology.

The provisions of Mines Act, Rules and Regulations made there under have been observed in preparation of Mining plan for Extraction of **Quartz**. The Quarry lease area is Forest Land over an extent of 10.170Hectares in Comp. No. 475 of Mundlapadu Beat, Veligonda RF, C.S Puram Section, Kanigiri Range, Prakasham District, Andhra Pradesh State. The Quarry lease applied area to be granted in favor of **M/s Sri Shiridi Sai Minerals, Managing Partner: Sri. G. Venkata Subba Reddy** has been agreed to implement the Mining plan in full and whenever specific permission is required, the Lessee will approach the Director General of Mines Safety. The information furnished in the Mining plan is true and correct to the best of my knowledge.



**Dr. T. Brahmaiah,**  
RQP/DMG/AP/39/2017.

## **CERTIFICATE**

This is to certify that the Mining Plan & Progressive quarry closure Plan of precise area to be grant of quarry lease for **Quartz** in favour of **M/s Sri Shiridi Sai Minerals, Managing Partner: Sri. G. Venkata Subba Reddy** over an extent of 10.170Hectares in Comp. No. 475 of Mundlapadu Beat, Veligonda RF, C.S Puram Section, Kanigiri Range, Prakasham District, Andhra Pradesh State has been prepared in full consultation with me. We have understood the contents of the Mining Plan & Progressive quarry closure Plan and agreed to implement the same in accordance with all statutory provision of the rules and wherever specific permissions are required, we will approach the D.G.M.S. Further, standards prescribed by D.G.M.S. The standards prescribed by the D.G.M.S will be strictly implemented.



**M/s. Sri Shiridi Sai Minerals,**

*G. V. Subba Reddy*  
**Sri. G. Venkata Subba Reddy,**  
**Managing Partner.**

## **CERTIFICATE**

The precise area to be grant of quarry lease for **Quartz** in favor of **M/s Sri Shiridi Sai Minerals, Managing Partner: Sri. G. Venkata Subba Reddy** over an extent of 10.170Hectares in Comp. No. 475 of Mundlapadu Beat, Veligonda RF, C.S Puram Section, Kanigiri Range, Prakasham District, Andhra Pradesh State complies and has taken into consideration all statutory rules, regulations, orders made by the Central or State Government, Statutory Organization, Court etc, and where ever any specific permission is required we will approach the concerned authorities.

We also give an undertaking to the effect that all the measures proposed in this closure plan will be implemented in a time bound manner as proposed.



**M/s. Sri Shiridi Sai Minerals,**

*G.V. Subba Reddy*

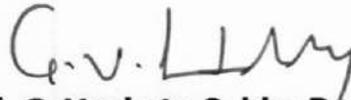
**Sri. G. Venkata Subba Reddy,  
Managing Partner.**

## **UNDERTAKING**

With respect to our proposed **Quartz** Quarry at Comp. No. 475 of Mundlapadu Beat, Veligonda RF, C.S Puram Section, Kanigiri Range, Prakasham District, Andhra Pradesh State over an extent of 10.170Hectares. We hereby give an undertaking that we will take all the clearances, from the respective authorities as required i.e, EC, CFE, CFO, permissions from SEIAA, APSPCB & DGMS, etc. marked on the surface plan before commencement of the Mining operations in the said proposed area.

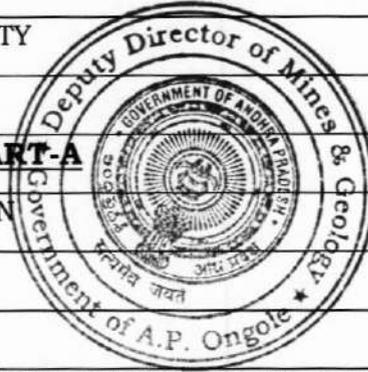


**M/s. Sri Shiridi Sai Minerals,**

  
**Sri. G. Venkata Subba Reddy,**  
**Managing Partner.**

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## LIST OF ANNEXURES

Sl. No.	PARTICULARS	Annexure No.
1.	COPY OF THE DMG MEMO	I
2.	COPY OF THE FIRM & ADDRESS PROOF OF THE APPLICANT	II
3.	COPY OF THE RQP CERTIFICATE	III
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## LIST OF PLATES

SL.NO.	NAME OF THE PLATE	PLATE NO.	SCALE
1	KEY PLAN	1	1: 50,000
2	LEASE SKETCH	2	1: 4,000
3	SURFACE CUM GEOLOGICAL PLAN.	3	1: 2,000
4	GEOLOGICAL CROSS SECTIONS	3A	1: 2,000
5	PROPOSED PRODUCTION AND SECTIONS	4-4A	1: 2,000
6	LAND USE PLAN	5	1: 2,000
7	CONCEPTUAL MINING PLAN & SECTIONS	6	1: 2,000
8	PROGRESSIVE MINE CLOSURE PLAN	7	1: 2,000
9	ENVIRONMENTAL PLAN	8	1: 5,000



M/S. SRI SHIRIDI SAI MINERALS, MG. PTR: SRI. G. VENKATA SUBBA REDDY OVER AN EXTENT : 10.170HA

**MINING PLAN INCLUDING PROGRESSIVE MINE CLOSURE PLAN OF M/S SHIRIDI SAI MINERALS MANAGING PARTNER OF SRI. G. VENKATA SUBBA REDDY FOR QUARTZ IN EKANAPURAM VILLAGE, COMPARTMENT NO. 475 OF MUDLAPADU BEAT, C.S. PURAM SECTION, KANIGIRI RANGE, PRAKASHAM DISTRICT, ANDHRA PRADESH STATE OVER AN EXTENT OF 10.170 HECTARES.**

**INTRODUCTION:**

M/s. Sri Shiridi Sai Minerals, Managing Partner: Sri. G. Venkata Subba Reddy filed an application for grant of Quarry lease for Quartz in Compartment No. 475 of Mudlapadu Beat, C.S Puram Section, Kanigiri Range, Prakasham District, Andhra Pradesh State over an extent of 10.170Hectares.

In the 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. Principal Chief Conservator Of Forest & Head of Forest Force, Andhra Pradesh that during the virtual meeting held with G.O. MEF & CC , New Delhi on 08.07.2021 while receiving the proposals of the some applications for which this office forwarded to PCCF for grant of the quarry lease in forest areas they suggested the authenticated DGPS surveyed Sketch of proposed forest area with Gps coordinates duly indicating land use plan for mining, Safety zone, approach road in respect of the four mining proposals, and necessary instructions are being issued to the above user agencies to furnish the draft mining pan based on the above Precise area arrived after conducting DGPS survey , to the Director of Mines & geology , Andhra Pradesh, Ibrahimpatnam for necessary actin . 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 inspects the precise forest area proposed for mining purpose.

**In this Connection it is to inform that, as per the existing provisions laid down under APMMC Rules 1996 the AMP shall allowed only after issue of notice (LOI) to the applicant. But as per the present instructions received from PCCF vide Ref.No.EFS02-15029/94/2018-FCA-SEC-PCCF/FCA-,Dt.13.07.2021 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 Circular Memo. No.10205/P1/2001, Dt:29.05.2009. Director of mines & geology, Hyderabad. And Circular Memo. No.10205/P1/2001, Dt:16.09.2009. Director of mines & geology, Hyderabad.**

APPROVED

(B. RAVI KUMAR)

Deputy Director of Mines & Geology  
ONGOLE, A.P.

Therefore the ADM&G's and DDM&G's in the state are directed while processing mineral concession applications filing 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 PCF if necessary.

However, the Approved Mining Plan shall reflect the restrictions to be adopted by the applicant while conducting quarry operations due to the 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 Metalliferous Mines Regulations, 1961

The Mining Plan is prepared as per guide lines issued in Form-T in G.O. M.S. No. 56, Industries & Commerce (Mines-II), **Dated: 30<sup>th</sup> April 2016** Under Rule 7 (A) (1) of APMMC Rules, 1966 and Progressive Mine Closure plan under Rule 7 A (3) of APMMC Rules, 1966 for the five years period and submitted to the Deputy Director of Mines & Geology, Ongole, Prakasam District for approval.



**I. GENERAL:**

**1. NAME & ADDRESS OF THE APPLICANT :**

**PERMANENT & CORRESPONDENCE ADDRESS:**

**NAME & ADDRESS OF APPLICANT: M/S SRI SHIRIDI SAI MINERLS**

**Managing Partner : Sri. G. Venkata Subba Reddy,  
S/o. Late. G. Rama Subba Reddy,  
3/848-6, Maruthi Nagar,  
Y M R Colony, Proddatur,  
Y.S.R District- 516 360  
Andhra Pradesh, INDIA**

**Cell No: +91 94402 844908**

**Email Id: sshiridi325@gmail.com**

**(Address proof is enclosed vide annexure No -II).**

**2. STATUS OF APPLICANT / LESSEE :**

Individual : **Partnership Firm.**  
Private Company : -  
Firm : -

**3. MINERAL (S) WHICH ARE INCLUDED IN THE LETTER OF INTENT :**

**Quartz.**

**4. NAME AND DETAILS OF PERSON EMPLOYED FOR PREPARING MINING**

**PLAN:**

Name : **Dr.T. Brahmaiah**  
RQP/DMG/AP/39/2017  
Address : **Ecomen Laboratories Pvt Ltd**  
**D.No. 1/2277, First floor,**  
**Above Bhandhan Bank,**  
**Rajiv park road, APHB colony,**  
**Y.S.R Kadapa – 516 002.**  
Telephone : +91-9916199219.  
E. Mail : [kadapa@ecomen.in](mailto:kadapa@ecomen.in)

RQP Certificate is enclosed vide **Annexure – III.**



## II. LOCATION AND ACCESSIBILITY:

### I. LOCATION AND ACCESSIBILITY

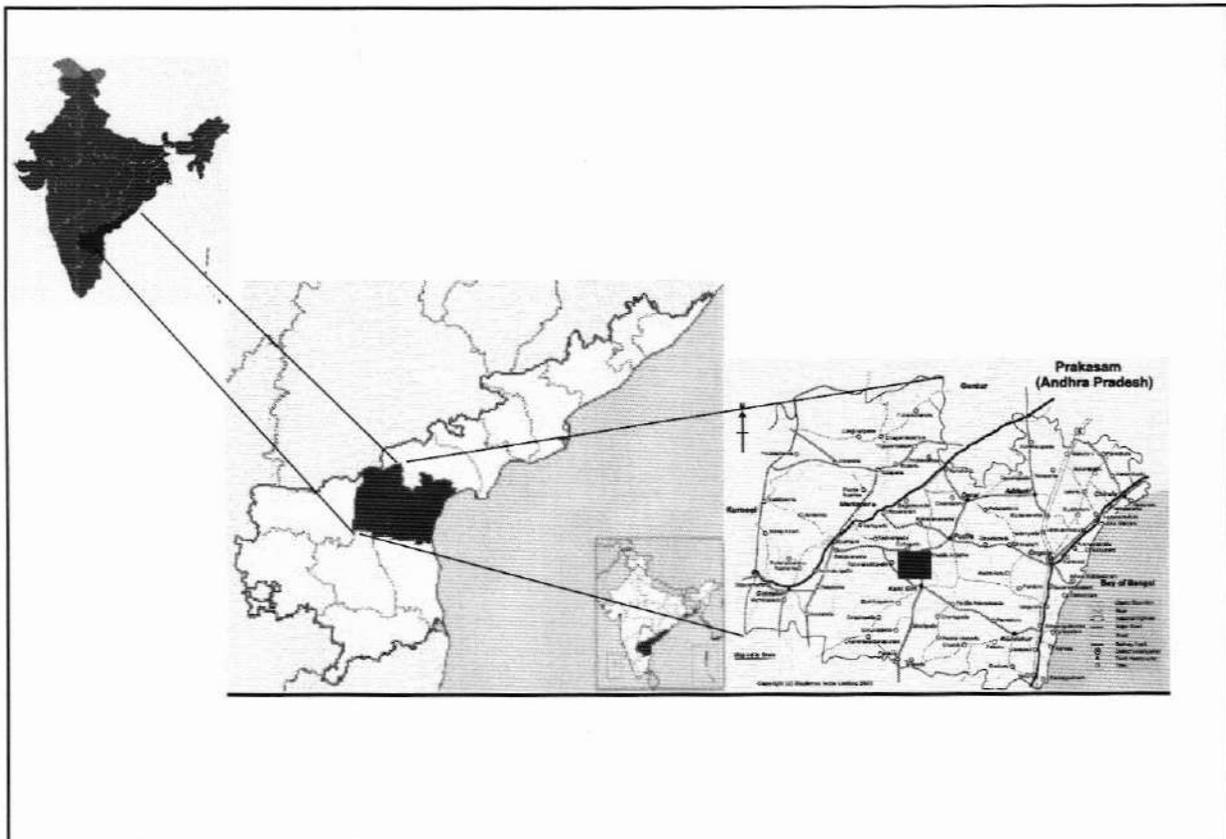
#### a) Lease Details:

The Quarry Lease Applied area for Quartz falls in Topo sheet No.57 M/3 & 57M/4 of Survey of India. The Quarry lease located in North latitudes 15.24648316 N to 15.25024307 and East Longitudes 79.22574628 to 79.22958010. The Key plan prepared on using Topo sheet on 1: 50,000 scale. The key plan cum location map is enclosed as **Plate No-1**.

**District and State** : Prakasam dist and Andhra Pradesh  
**Mandal** : C.S.Puram,  
**Village** : C.S.Puram,  
**Compartment. No.** : 475.  
**Beat** : **Mundlapadu,**  
**R.F.** : **Veligonda,**  
**Section** : **C.S.Puram,**  
**Range** : **Kanigiri,**  
**Lease Area** : **10.170Ha.**  
**Pin Code** : **523 112.**



#### Location of the QL area



**M/s. SRI SHIRIDI SAI MINERALS, MG. PTR: SRI. G. VENKATA SUBBA REDDY OVER AN EXTENT : 10.170HA**  
**The Location of the applied area also marked on the Toposheet and the Key plan is enclosed as Plate No-1.**

SY.NO	VILLAGE NAMES	DIRECTION	DISTANCE	POPULATATION
1	Ekunapuram	S	3.6KM	1100
2	Harivemula	SE	4.1KM	750
3	Boyamadugula	SW	4.5KM	368
4	Cherlapalle	SW	4.1KM	935

**b) Whether the area is recorded to be in forest (Please specify whether Protected, Reserved etc.) : -No-**

**c) Existence of public road / railway line, if any nearby and approximate Distance:**

The area can be approached from Mandal Head Quarters of Chandrasekharapuram mandal, After Starting from the Chandrasekharapuram mandal then we have to make a right turn towards Ekunampuram after 2.9 km from the Chandrasekharapuram. Then we can reach the Ekunampuram at 6.8 Km, then we have to follow Bullockcart Road Further 3.2 Km to reach the Lease area. Giddalur Railway station is the nearest Railway station which is distance of about 34.7kms from the Quarry lease area and Nearest Airport is Kadapa Airport at a distance of 95.6 kms. The nearest port is Krishnapatnam port at a distance of 146.2kmsd)

**Toposheet No. with Latitude and Longitude:**

Toposheet No. **57 M/3, 57M/4**. The Latitude and Longitude of all the Corner pillars and Ground Control Points are tabulated in the below mentioned tables:



c				
S.No	Point	North Latitude	East Longitude	RL
1	SS1	15.24855296	79.23225999	255.539
2	SS2	15.24853509	79.23088896	236.792
3	SS3	15.25114504	79.23103118	271.502
4	SS4	15.25392039	79.2313933	297.221
5	SS5	15.25535141	79.23165092	285.465
6	SS6	15.25526626	79.2328543	286.267
7	Pt7	15.25414183	79.23291867	269.146
8	Pt8	15.25355613	79.23251687	269.954
9	Pt9	15.25218892	79.23218304	262.526

e) Land Use Patten (Forest, Agricultural, Grazing, Barren etc.)

Type of Land	Area (Ha.)
Forest Land	10.170
Revenue Land	--

**III. DETAILS OF APPROVED MINING PLAN/SCHEME OF MINING (IF ANY) :**

DATE AND REFERENCE OF EARLIER APPROVED MINING PLAN /SCHEME OF MINING:

**NA.**



**PART-A**

**1. GENERAL DETAILS OF THE APPLIED AREA/MINING LEASE:**

a) BRIEF DESCRIPTION OF TOPOGRAPHY, DRAINAGE PATTERN, VEGETATION, CLIMATE, RAINFALL DATA OF THE APPLIED AREA/MINING APPLIED AREA:

TOPOGRAPHY :

The Applied area for Quartz falls in Topo sheet No. **57 M/3 & 57M/4** of Survey of India. The Quarry lease located in North latitudes N15.24853509 to N15.25535141 and East Longitudes E79.23088896 to E79.23291867

Topographically the applied area is hillock with the height of 51mts, it is oriented in NE-SW direction. The area topo map showing the location and topography of the applied area is as follows

The highest RL is 287m and lowest RL is 236m. The general, seasonal run off is towards slope and ultimately joins the nearest water course as shown in the surface geological plan. The natural vegetation are thorny bushes observed in the area. No agriculture lands are noticed in the vicinity of the QL area. The annual rainfall is 400mm–500mm & maximum temperature 42°C during summer & 18°C during winter months. Humidity is about 70% in the rainy season. The Surface & Geological plan & Cross Sections have been prepared on Scale of 1:2,000 & enclosed vide **Plate No.3 & 3A.**

**Geology & Field Observations:-**

Geologically the applied area belongs to Peninsular Gneissic Complex of archaean. Applied area is hillock, oriented in SW – NE and consisting of quartz reef which is striking in SW - NE with vertical dip, quartz exposed in the applied area is dull white in colour, showing vitreous luster, conchoidal fracture, quartz reef is falls in eastern side of the applied area. The length of the reef is 735mts and width is varies from 82 mts, big quartz boulders besides the reef on either side slopes.

**A. Relief :51Meters.**

**B. Gradient: 1in 6.**

**C. Slope Angle: 6°**

**II). Drainage pattern:**

The drainage pattern of the Quarry Applied area is sub-dendritic. No perennial streams or any other water bodies are observed within the Quarry Applied area and in its vicinity.

**III). Water bodies such as rivers, likes, nala(canal), reservoirs etc.**

No water bodies with in the 500m.

**IV). Climate and Rainfall:**

The area falls in semi-arid zone of peninsular India. The climate is tropical with temperatures ranging from 24° C to 45° C in summer and 10° C to 26° C in the winter. The normal annual rainfall is about Maximum 224.7 mm in August and minimum 40mm in July in 2017, according to

[http://hydro.imd.gov.in/hydrometweb/\(S\(prxk2w555tqarm55yad13gvp\)\)/DistrictRainfall.aspx](http://hydro.imd.gov.in/hydrometweb/(S(prxk2w555tqarm55yad13gvp))/DistrictRainfall.aspx)

**V). Land Systems:** Forest Land Covered with thorny bushes and Small trees.

**VI). Land Use Pattern:** Hill Hock.

**VII). Habitation areas and demography:**

S.NO	VILLAGE NAMES	DIRECTION	DISTANCE	POPULATION
1	Ekunapuram	S	3.949KM	1100
2	Harivemula	SE	4.448KM	750
3	Boyamadugula	SW	4.545KM	368
4	Cherlapalle	SW	4.410KM	935

**VIII). Road, Electric Lines, Telephone lines etc.:**

In the leased area there are no roads and electrical lines and telephones lines.

**IX). Religious places, Sacred, Archaeological and Heritage Sites etc.,**

Not Available.

**X). Vegetation:**

Scanty vegetation in the form of grassy bushes and thorny shrubs is observed in parts of the applied area where topsoil thickness is significant. No big trees or plants are observed over the applied area.

**XI). Forest cover with density, reserve forest, wild life sanctuaries, coastal regulation zone, eco-sensitive zones etc.**

N.A.

**XII). Flora and Fauna:**

The Subject area does not consists trees which are used as Firewood And also some thorny bushes covered the area. There is no report of existences of wild animals on the region.

**GEOLOGY AND EXPLORATION:**

(a) BREIF DESCRIPTIONS OF REGIONAL GEOLOGY WITH REFERENCE TO LOCATION OF APPLIED AREA. :

REGIONAL GEOLOGY:

The Nellore schist belt trends NNE-SSW N-S and NNW-SSE for nearly 140km from Darsi south ward through C.S Puram in prakasam district. It consists of two assemblages of rocks, the high-grade metamorphic rocks in the eastern and southern parts of the belt and low-grade green schist facies rocks with associated lower amphibolites facies (HBL-schist-amphibolite developed in the western part).

The low grade schist of green schist of the west comprises of current bedded quartzite, quartz-schist, chlorite schist, phyllite and metabasalt. They are unaltered where they are in contact with migmatite and devoid of pegmatite intrusions. The green schist assemblages are younger then the lower grade assemblages.

Geologically the area belongs to Nellore schist belt formed it northern extension in the area of Pamur, PC Palli and C.S.Puram Mandals in Prakasam District, AP. Schist folding in hill, range and trending NNW-SSE and in the northern area it has NE-SW direction.



Shale; limestone	Nandyal Shale	Kurnool Group		M I D D L E  P R O T E R O Z O I C
Limestone with shale	Koilkuntla Limestone			
Quartzite	Paniam Quartzite			
Shale	Owk Shale			
Massive Limestone; flaggy limestone	Narji Limestone			
Quartzite with conglomerate	Banganapalle Quartzite			
Shale with phyllite; dolomite/limestone; quartzite	Cumbum Formation	Nallamalai Group	C U D D A P A H	
Quartzite; slate	Bairenkonda Quartzite			
Quartzite; shale	Gandikota Quartzite	Chitravati Group	S U P E R	
Shale, tuff; dolomite / limestone; quartzite	Tadpatri Formation			
Quartzite with conglomerate	Pulivendla Quartzite		G R O U P	
Dolomite, chert, mudstone, quartzite; Basic flows; basic intrusives	Vempalle Formation	Papaghni Group		
Quartzite/arkose with conglomerate	Gulcheruvu Quartzite			
<b>EPARCHAEAN UNCONFORMITY DHARWAR SUPERGROUP PENINSULAR GNEISSIC COMPLEX</b>			Lower Proterozic to Archaean	

(b) DETAILED DESCRIPTION OF GEOLOGY OF APPLIED AREA. :

LOCAL GEOLOGY:

The quartz vein is intruded into the schist and phyllitic formations. Basic dykes are noticed towards the South Western part of the isolated quartz and quartzite patches are notice. The quartz ore is exposed 2 to 5 meters above the surface. Therefore the quartz intrusions are noticed within the schist and phyllite formations. Intermittent quartz boulders are noticed. The quartz vein is striking along NE-SW. It is observed as the quartz vein is superficial deposit which cannot be penetrated at deeper depth.

(c) DETAILS OF PROSPECTING LICENSE HOLDER:

No separate agency has been carried out the prospecting agency, the applicant himself will carry the prospecting work.

(d) DETAILS OF PROSPECTING/EXPLORATION ALREADY CARRIED OUT : NA.

(e) SURFACE PLAN AREA ON 1:1000 OR 1:2000 SCALE:

The updated Surface plan has been prepared with scale of 1:2000. with is enclosed vide **Plate No. 3** showing all the mine workings and other details, etc.

(f) GEOLOGICAL PLAN PREPARED ON SCALE OF 1:1000 OR 1:2000:

The updated Geological Plan has been prepared with scale of 1:2000. is enclosed vide **Plate No. 3** showing all the mine workings and other details, etc.

(g) GEOLOGICAL SECTIONS ON NATURAL SCALE AT SUITABLE INTERVAL ACROSS THE APPLIED AREA OR APPLIED AREA:

One Geological cross sections has been prepared with scale of 1:2,000. for an interval of 82m across the applied area from boundary to boundary and is enclosed vide **Plate No. 3A.**

(h) BROADLY INDICATE THE FUTURE PROGRAMME OF EXPLORATION WITH DUE JUSTIFICATIION TAKING INTO CONSIDERATION THE FUTURE TENTATIVE EXCAVATION PROGRAMME PLANNED IN NEXT FIVE YEARS:

Year	No of bore holes (DTH)	Grid interval in m	Total meter age	No. of pits, dimensions and volume	No. of Trenches, dimensions and volume
I	Nil	Nil		Nil	Nil
II	Nil	Nil		Nil	Nil
III	Nil	Nil		Nil	Nil
IV	Nil	Nil		Nil	Nil
V	Nil	Nil		Nil	Nil
<b>Total</b>	<b>Nil</b>	<b>Nil</b>		<b>Nil</b>	<b>Nil</b>

**(i) Reserves and Resources as per UNFC**a. Type of Deposit As Per UNFC Guidelines:

Quartz is a localized mineral available, specially utilized for Glass Industries, Steel Plant and Ferro Silica Plant purposes and other purpose depending upon the characteristics of the rock.

Parameter–Grade, Threshold Value, Sectional Area & Bulk Density:

Specific parameters are considered for the Quartz. The bulk density of Quartz is considered at 2.50 T/m<sup>3</sup> to estimate the reserves.

The Quartz available in this area is available in massive form. The streak is white color and having the conchoidal fracture and with the hardness of 7 and having the Chemical composition of SiO<sub>2</sub>.

1	* Loss on Ignition	IS:1917 (PART-1)	0.31
2	Silica as SiO <sub>2</sub>	IS-1917(part-3)-1992 (R A - 2005)	99.32
3	Ferric Oxide as Fe <sub>2</sub> O <sub>3</sub>	IS-1917(part-5)-1992 (R A - 2005)	0.02
4	Alumina as Al <sub>2</sub> O <sub>3</sub>	IS-1917(part-4)-1992 (R A - 2006)	<0.01
5	* Calcium as CaO	IS:1917 (PART-6)	0.01
6	* Magnesium as MgO	IS:1917 (PART-6)	<0.01
7	* Sodium as Na <sub>2</sub> O	IS:1917 (PART-2)	0.01
8	* Potassium as K <sub>2</sub> O	IS:1917 (PART-2)	<0.01
9	* E.C. Micro Siemens	5% Extraction Solution	10
PHYSICAL PROPERTIES			
1	COLOUR	WHITE	
2.	Specific Gravity	2.50	

b. **Status of Exploration: G1**c. **Justification for UNFC Classification****GEOLOGICAL AXIS**1. Geological Survey:

- i. Mapping: Detailed geological survey was carried out in the applied area on 1:2,000 scale with 3meters contour intervals.
- ii. Preparation of Detailed Topographical Cum Geological Map: The topographical cum Geological map including all surface Geological features, extent of deposit, structures, have been prepared on 1:2,000 scale duly marked with surface geological features, TBM etc., and presented on **Plate No-3**.

iii. Topo Grid/ Triangulation Stations: The topo grid with Geological cross- sections has been prepared on 1:2,000 scale showing litho-units.

- Geochemical Survey: The Deposit is hill deposit and sample collated at surface and get analyzed from the laboratory. The Chemical Composition of the Quartz present in the area is SiO<sub>2</sub>

1	* Loss on Ignition	IS:1917 (PART-1)	0.31
2	Silica as SiO <sub>2</sub>	IS-1917(part-3)-1992 (R A - 2005)	99.32
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6	*Magnesium as MgO	IS:1917 (PART-6)	<0.01
7	*Sodium as Na <sub>2</sub> O	IS:1917 (PART-2)	0.01
8	*Potassium as K <sub>2</sub> O	IS:1917 (PART-2)	<0.01
	*E.C. Micro Siemens	5% Extraction Solution	10

Geophysical Survey: Not carried out.

### 3. Technological Survey:

Detailed topographical and geological survey was carried out on 1:2,000 scale showing all the surface features, contours at 3m interval, the lease boundary, surface Geology & Structural features.

- The maximum thickness of Quartz 30m depth is considered for proved reserve.

**Reserves are estimated by cross sectional area method.**

### **FEASIBILITY AXIS**

- Geology: The detailed Geology of the area has been presented in Part-A.
- Mining: Quartz will be exploited through opencast other than fully mechanized mining methods. The quarrying operation will be carried out in a systematic way by forming benches of 06m height with proportionate width will be maintained. Drilling & Blasting required, because the ore is hard in nature.
- Environment: The deposit will be mined adopting conventional opencast other than fully mechanized mining methods without any adverse environmental impact. The lessee will obtain statutory clearances as soon as this Mining Plan is approved. Mining in the leasehold does not disturb any human settlements as they are far away from the applied area. On the other hand, the mining operations will create livelihood to the nearby villagers. The Lessee will develop green belt around the applied area as part of his

commitment to **environment protection & will be follow by the forest Guideline as per FC.**

d. Processing: No processing of ROM. The ROM will be directly saleable to the buyers as required with industry specification. Mining operations will be carried out by deploying the following machinery:

The list of mining machinery's will be used in the mines are given below:

S. No	Type of machine	Nos	Dia of hole in mm	Size / capacity	Motive power
1	DTH	1	110		Diesel
2	Compressor	1	-	400cfm	Diesel
3	Excavators	1	-	210MT/hr	Diesel
4	Tippers	2	-	17MT	Diesel
5	Wheel loader	1	-	3m <sup>3</sup>	Diesel
6	Water Tanker	1	-	4000lt	

e. Infrastructure:

The entire necessary infrastructure such as office, rest shelter, magazine, water tankers, power connection etc., will be provided once the mining plan is approved. All these infrastructures will be built inside of the applied area. Establishment of crusher also will be outside the applied area. The applied area is connected with all-weather asphalted roads to the mandal and district headquarters.

f.

Costing: A.P. The cost of production of Quartz works out to be approximately Rs. 550/- per ton.

g. Marketing: NA

h. Economic Viability: It is surely economic and viable.

i. Other Factors: Relevant clearances shall be obtained for continuing the mining operations in the applied area.

### **ECONOMIC AXIS**

a. Detailed Exploration:

Detailed topographic survey and Geological mapping of the applied area was subject to detailed exploration by field traverses and well inventory data. The depth of the Quartz deposit is identified by based on the exposures available in the working benches.

b. Mining Reports / Mining Plan: This is the first Mining plan being submitted.

c. Specific End-Use Grades of Reserves (Above Economic Cut-Off Grade):NA

d. Specific Knowledge of Forest/ Non-Forest and Other Land Use Data:

The entire applied area is located in Forest land.

**k. Feasibility report along with financial analysis per economic viability of the**

**deposit:** The cost of production of Quartz is arrived at INR. 550/- per ton inclusive of taxes and royalty.

**I. Reserves:**

i. Mining Method, Recovery Factor, Mining Losses, and Processing Loss etc.:

Quartz will be mined by open cast other than fully mechanized method. The quartz reef recovery factor is considered as 90% with 10% intercalated waste.

ii. Cut-off Grade, Ultimate Pit Depth Proposed: There is no cut-off grade as the ROM will be put to use for Quartz. The Ultimate Pit Limit (UPL) will be reached to 275m in Northern portion of the applied area during the end of this plan period.

iii. Mineral/Ore Blocked Due to Benches, Barriers, Pillars, Road, Railway, River, Reservoir, Electric Line and Other Statutory Barriers etc.:

No mineral will be blocked in 7.5 m safety barrier zone, Because We Place Our Benches at Soil area and digs into the mineral Vein. And no Mineral will be lost due to the road and Safety Zone.



**II) Indicate geological and recoverable reserves and grade, duly supported by standard method of estimation and calculations along with required sections (giving spilt up of various categories i.e., proved, probable, possible). Indicate cut-off grade. Availability of resources should also be indicated for the entire leasehold.**

Experience gained in this type of deposits has been utilized; the quartz reef and floating is exposed in entire area of the lease. As quartz deposit is spread widely in the applied area, Resources are calculated up to the 30. All the deposit which is exposed in all the three dimensions is considered as proved. From the field trials conducted in the sector and the information gathered, the specific gravity is found to be 2.50 t/m<sup>3</sup> and the recovery factor is found to be 90%. The Cross sectional method has been used to calculate the reserves for quartz, Cross-sections have drawn on a scale 1:2,000. The cross sectional area of deposits is multiplied by sectional interval to give volume. The volume is multiplied by the bulk density and considering 90% recovery, the reserves are computed and tabulated. The Total Geological reserves of Quartz is around **36,61,403 Tons(14,64,561Cum)**. Mineable reserves of Quartz by Excluding the Buffer Zone and Safety slopes **32,98,860Tons(13,19,544Cum)**. At the given rate of average proposed production of **1,33,024tons/annum(53,209.60Cum)**, the life of the mine is (32,98,860/1,33,024) about 24.80years (**says 25years**).

As per the UNFC the total Reserves and Resources in the Mining Applied area under grant are as follows.

Classification	Code (UNFC)	Quantity (in Tons)
1	2	3
<b>Total Mineral Resource (A+B)</b>		<b>36,61,403</b>
<b>A. Mineral Reserves.</b>		
<b>(1) Proved Mineral Reserve</b>		
<b>Quartz</b>	111	<b>32,98,860</b>
<b>(2) Probable Mineral Reserve</b>		
<b>Quartz</b>	121	<b>Nil</b>
<b>Quartz</b>	122	<b>Nil</b>
		-----
		<b>32,98,860</b>
<b>B. Total Remaining Resources</b>		-----
<b>1) Feasibility Mineral Resource</b>	211	<b>Nil</b>
<b>2) Prefeasibility Mineral Resource</b>	221 & 222	<b>3,62,543</b>
<b>3) Measured Mineral Resource</b>	331	<b>Nil</b>
<b>4) Indicated Mineral Resource</b>	332	<b>Nil</b>
<b>5) Inferred Mineral Resource</b>	333	<b>Nil</b>
<b>6) Reconnaissance Mineral Resource</b>	334	<b>Nil</b>

Total Geological Reserves = **36,61,403 Tons(14,64,561Cum).**

The reserves Blocked under

Buffer zone (7.5 m) and Bench slopes= **3,62,543 Tons(1,45,017.20Cum).**

Mineable Reserves = **32,98,860 Tons(13,19,544Cum).**

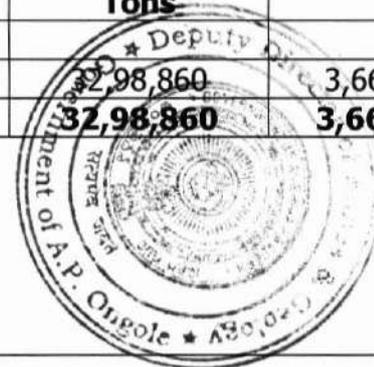
#### **Mineable reserves and Life of the Quarry**

Initially the total quantity of saleable reserves is considered as (economic) Marketable reserves. In this way a total Mineable reserves of **32,98,860 Tons** are available in this applied area. The average proposed production is **1,33,024 Tons** per year. At this rate of production, the expected life of the mine is **24.80years**. The calculations are given as below.

Saleable reserves/Annual production= **32,98,860/1,33,024= 24.80years** (say **25years**). Life of the mine has been estimated based on the available proved reserves at the time of preparation of the mining plan. **However, the life of the mine may change on the review of reserves at the end of plan period.**



<b>GEOLOGICAL RESERVES</b>						
<b>Section</b>	<b>Sectional area (Sq.m.)</b>	<b>Sectional Influence (m)</b>	<b>Volume (Cu.m.)</b>	<b>ROM @2.5t/cmt (tons)</b>	<b>Saleable Quartz 90% Tons</b>	<b>Waste 10% in Tons</b>
<b>Proved reserves</b>						
A-A'	19,845	82	16,27,290	40,68,225	36,61,403	4,06,823
<b>Grand Total</b>			<b>16,27,290</b>	<b>40,68,225</b>	<b>36,61,403</b>	<b>4,06,823</b>
<b>RESERVES BLOCKED IN 7.50M BUFFER ZONE</b>						
<b>Section</b>	<b>Sectional area (Sq.m.)</b>	<b>Sectional Influence (m)</b>	<b>Volume (Cu.m.)</b>	<b>ROM @2.5t/cmt (tons)</b>	<b>Saleable Quartz 90% Tons</b>	<b>Waste 10% in Tons</b>
<b>Proved reserves</b>						
A-A'	225	82	18,450	46,125	41,513	41,513
<b>Grand Total</b>			<b>18,450</b>	<b>46,125</b>	<b>41,513</b>	<b>41,513</b>
<b>RESERVES BLOCKED IN BENCH SLOPES</b>						
<b>Section</b>	<b>Sectional area (Sq.m.)</b>	<b>Sectional Influence (m)</b>	<b>Volume (Cu.m.)</b>	<b>ROM @2.5t/cmt (tons)</b>	<b>Saleable Quartz 90% Tons</b>	<b>Waste 10% in Tons</b>
<b>Proved reserves</b>						
A-A'	1,740	82	1,42,680	3,56,700	3,21,030	35,670
<b>Grand Total</b>			<b>1,42,680</b>	<b>3,56,700</b>	<b>3,21,030</b>	<b>35,670</b>
<b>MINEABLE RESERVES</b>						
<b>Section</b>	<b>Sectional area (Sq.m.)</b>	<b>Sectional Influence (m)</b>	<b>Volume (Cu.m.)</b>	<b>ROM @2.5t/cmt (tons)</b>	<b>Saleable Quartz 90% Tons</b>	<b>Waste 10% in Tons</b>
<b>Proved reserves</b>						
A-A'	17,880	82	14,66,160	36,65,400	32,98,860	3,66,540
<b>Grand Total</b>			<b>14,66,160</b>	<b>36,65,400</b>	<b>32,98,860</b>	<b>3,66,540</b>



2. **MINING** :

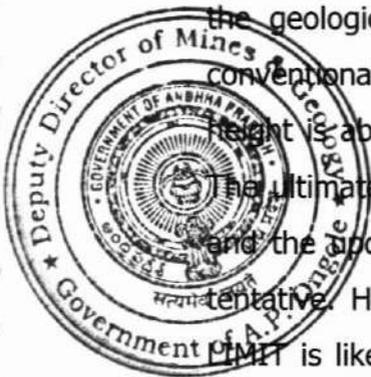
(a) OPEN CAST MINING

(i) DESCRIPTION OF EXISTING/PROPOSED METHOD FOR EXCAVATION WITH ALL DESIGN PARAMETERS INDICATING ON PLANS /SECTIONS:

Quartz in the quarry is excavated by other than fully mechanized method of open cast mining. The material in the quarry area is excavated by conventional method of open cast mining through drilling, blasting, loading and shifting through tippers before crushed. Mechanized methods of operation are proposed to be adopted during ensuing Mining plan period. This method and mode of operation is taken into account mainly for the interest of safe and scientific mining, conservation of mineral and protection of environment by consideration of all the parameters and the geological attitudes of the rock body and mine is proposed to work with conventional opencast method of mining, the mining pit is designed such that the height is about 06m and the width is more than 06m, maintaining 60° pit slope. The Ultimate Pit Limit so drawn on the basis of the field studies, exploration data and the updated geological mapping carried out so far in the area remains very tentative. However, based on the future exploration the defined, ULTIMATE PIT LIMIT is likely to change. Since there is drilling and blasting in this said mine, to excavate/exploit the road metal, initially it will be drilled and blasted. Machinery and Labours will deployed for removal/ winning/ excavation of the rock and loading the same in to tippers for transportation.

PROPOSED PARAMETERS OF THE WORKING BENCHES:

The mining will be done by Other Than Fully Mechanized open cast method. The lessee wishes to do mine by other than fully mechanized by deploying machinery and as well as drilling & blasting will be required for the extraction of quartz. The exposed portion of quartz running SW - NE will be removed. Mining is proposed from top of the hillock to bottom. This method and mode of operation is taken into account mainly by considering all the parameters and the geological attitudes of the ore body and mine is proposed to work with Mechanized method of opencast mining. Initially, the outcrops shall be excavated by slicing method and then after reaching a depth of 06 meter from ridge, there will be sufficient width for development of benches. A box cut shall be formed initially which shall be developed along the width of the reef by a trench cut. The bench height shall be maintained at 06m and a minimum width of 06m shall be maintained even in



abandoned benches. The width of the working bench shall be at least twice the height of the bench.

The slope of the working benches shall be maintained at 30°. The haulage roads shall have a gradient of 1 in 20 to enable comfortable movement of traffic of dumpers.

The mining Pit is designed such that the height is about 06 m and the width is more than 06 m, maintaining 30° pit slope.

The Ultimate Pit Limit, so drawn on the basis of the field studies, exploration data and the updated geological mapping carried out so far in the area remains very tentative. However, based on the future exploration the defined, Ultimate Pit Limit

is likely to change. The said Ultimate Pit Limit is demarcated on the Geological plan and enclosed as **Plate No. 3**. Drilling and blasting in this said mine, to excavate / exploit the ore and waste, initially, it will be drilled and blasted. Hydraulic excavators will be deployed for removal/winning/excavation of the quartz and loading the same in tipper. For transportation 17 ton tippers will be used. For using the heavy earth moving machineries necessary permission from DGMS under rule 106 (2) (b) will be obtained.

For the future development and production a systematic mine working is proposed for the First 5 years keeping the long benches and good width for the movement of the mining machineries and for transportation.

1. Method of Working: Other Than Fully Mechanized.
2. Bench Parameters: 06m Height, 06m Width and bench slopes 90° Maintained.
3. Bench height in OB/Ore: No top soil, Ore bench height is 06m.
4. Bench Width: 06m Width.
5. Bench Slop: Bench slope is maintained 90°
6. Over all pit Slope: maintained 90°
7. Bottom RL Proposed During Plan Period: 275M RL.
8. Grid reference of proposed working Location:

First Five Years	N-1686900 to N-1687400, E-310000 to E-310200
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**DRILLING EQUIPMENT:**

For drilling in the formation DTH drills with 110 mm dia holes shall be used in conjunction with 400 Cfm air compressor operating at 10.5 Kgs / Cm<sup>2</sup> air pressure. The holes shall have spacing of 2.5M and a burden of 2.0 M.

They shall be drilled in one or two rows having a staggered formation. The holes shall be inclined at 10 to 20° from the vertical. The depth of the holes shall be 06.5 M for a bench height of 6M. So as to cover the inclined distance and also provide for sub grade drilling. After blasting the above holes it is likely that we may get about 5-10% of boulders which need secondary drilling using jack hammers to drill 32 / 33 MM dia holes for this purposed or adopt plaster shooting.

**BLASTING:** It is proposed to adopt the following parameters



Burden and Spacing	:	2.5m × 2m
Depth of hole	:	Bench height 06m × 10% (sub grade drilling) =6.6 m taking 6.6m
Charge per hole	:	40 Kg / hole
Power factor as	:	7 tonnes / kg
Blasting pattern	:	Multi row blasting (2 or 3rows) with staggered pattern of drill and use of millisecond delay detonator
Maximum charge per delay	:	300 – 400 Kg

The maximum number of holes to be blasted in a round will depend upon the requirement of muck at site. Adopting a weekly blasting frequency, a blast round will comprise of 40 – 50 holes. V pattern sequence is proposed to be adopted initially for a two row blasting pattern. Necessary precautions will be adapted to safe guard against any danger likely to be for the adjoining village, roads, etc. Hoisting of red flags, posting of guard at strategic points, blowing of siren and other precautionary measures laid under MMR – 1961 and circulars issued by Director General of Mines Safety, Dhanbad will be followed.

**PRECAUTIONS TO BE OBSERVED DURING DRILLING AND BLASTING:**

**DRILLING PRECAUTIONS:**

Drilling with dust extractors. Use of sharp drill bits, delivery of compressed air at optimal pressure and proper maintenance of compressor and drilling machine.

Provision of ear plugs /ear muffs to drillers.

**Blasting:** Lessee has proposed to obtain a portable Magazine & ANFO mixing storage approval from Chief Controller of Explosives and concerned department as early as possible or we are approached licence dealers and given contract for blasting.

STORAGE OF EXPLOSIVES: At present no storage will be required. The drilling and blasting will be given for licensed agencies. In future lessee will apply for Storage, handling and use of explosives including ANFO. After getting the license the lessee will submit the license copy to concerned departments.

**Precautionary Measures to be adopted at the time of Blasting Period:**

- The employer shall permit only authorized and qualified persons to handle and use explosives.

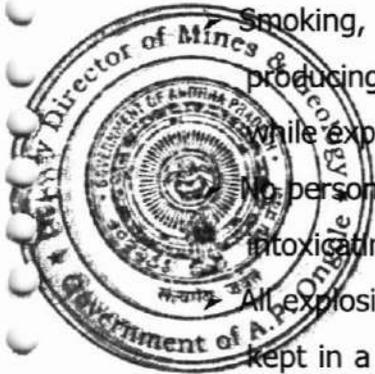
Smoking, firearms, matches, open flame lamps, and other fires, flame or heat producing devices and sparks shall be prohibited in or near explosive magazines or while explosives are being handled, transported or used.

No person shall be allowed to handle or use explosives while under the influence of intoxicating liquors, narcotics, or other dangerous drugs.

All explosives shall be accounted for at all times. Explosives not being used shall be kept in a locked magazine, unavailable to persons not authorized to handle them.

The employer shall maintain an inventory and use record of all explosives. Appropriate authorities shall be notified of any loss, theft, or unauthorized entry into a magazine.

- No explosives or blasting agents shall be abandoned.
- No fire shall be fought where the fire is in imminent danger of contact with explosives. All employees shall be removed to a safe area and the fire area guarded against intruders.
- Original containers, or Class II magazines, shall be used for taking detonators and other explosives from storage magazines to the blasting area.
- When blasting is done in congested areas or in proximity to a structure, railway, or highway, or any other installation that may be damaged, the blaster shall take special precautions in the loading, delaying, initiation, and confinement of each blast with mats or other methods so as to control the throw of fragments, and thus prevent bodily injury to employees.
- Employees authorized to prepare explosive charges or conduct blasting operations shall use every reasonable precaution including, but not limited to, visual and audible warning signals, flags, or barricades, to ensure employee safety.



- Insofar as possible, blasting operations above ground shall be conducted between sunup and sundown.
- Due precautions shall be taken to prevent accidental discharge of electric blasting caps from current induced by radar, radio transmitters, lightning, adjacent power lines, dust storms, or other sources of extraneous electricity. These precautions shall include:
  - ✓ Detonators shall be short-circuited in holes which have been primed and shunted until wired into the blasting circuit.
  - ✓ The suspension of all blasting operations and removal of persons from the blasting area during the approach and progress of an electric storm;
  - ✓ The prominent display of adequate signs, warning against the use of mobile radio transmitters, on all roads within 1,000 feet of blasting operations. Whenever adherence to the 1,000-foot distance would create an operational handicap, a competent person shall be consulted to evaluate the particular situation, and alternative provisions may be made which are adequately designed to prevent any premature firing of electric blasting caps. A description of any such alternatives shall be reduced to writing and shall be certified as meeting the purposes of this subdivision by the competent person consulted. The description shall be maintained at the construction site during the duration of the work, and shall be available for inspection by representatives of the Secretary of Labor.
  - ✓ Specimens of signs which would meet the requirements of paragraph (k)(3) of this section are the following:

**THE LIST OF MINING MACHINERY PROPOSED ALONG WITH PROJECTED OUTPUT FOR MACHINERY:**

**HYDRAULIC EXCAVATORS:** The deployment of machinery is aimed at achieving the envisaged average production of **1,47,805** tons of Quartz and waste. The calculation is as follows:

Capacity of the bucket	2.0 cum
Bucket fill capacity	80 %
Bucket Density of material	2.50t/cum
Tonnage handled per bucket	$2.0 \times 0.8 \times 2.50 = 4$
Cycle time	35 sec
Expected operating efficiency	80 %

Number of loading cycles	$60 \times 60 \times 0.8 = 82$ 35
Tonnage handled by one excavator per hour	$82 \times 4 = 328$ tons per hour say 325
Tonnage handled by one excavator per year of 300 working days in 8-hour shift a day	$325 \times 8 \times 300 = 7,80,000$
Quantity of ore and waste to be transported in a year	<b>1,47,805 Tons</b>
Number of excavators required	$1,47,805 / 7,80,000 = 0.19$ or say <b>1</b>
<b>Proposed excavator</b>	<b>One</b>

**HAULAGE AND TRANSPORT EQUIPMENT**

<b>TIPPER</b>	
Cycle time per trip for loading	6.0 min
Spotting near loader	4.0 min
Haulage	5.0 min
Turning, Dumping and return journey	5.0 min
Total time	20.0 min
Expected operating efficiency	85 %
Number of trips per tipper/hour	$(60 \times 0.85) / 20 = 2.55$
Number of trips per tipper/year of 300 working days in 8 – hour shift load of tipper	$2.55 \times 8 \times 300 = 6120$
Capacity of tipper	17 Ton
Quantity of material transported in a year by one tipper	$6120 \times 17 = 1,04,040$ t
Quantity of ore and waste to be transported in a year	<b>1,47,805 Tons</b>
Number of tippers required	$1,47,805 / 1,04,040 = 1.42$ <b>or say 2</b>

The above calculations show that 1 excavator and 02 tipper need to be deployed to achieve the envisaged production of **1,47,805 Tons** per year.

The mine is about 3.8km from Ekanampuram tar road. Movement of Quartz now lessee will develop that road by way of widen and fill the gravel for better movement the Quartz different destinations. The list of mining machinery's is proposed at mines is given below:

1	Tippers	17 Tons	02
2	Wheel Loader( if required)	0.6cum	01
3	Hydraulic Excavator/rock breaker	2.0 cum	01
4	Compressors Tractor Mounted Compressor	124 cfm	01
5	Wagon Drills BVB 25	115 mm	01
6	Water Tanker (Drinking & Dust controlling)	5000 Litters	02

**a) Year-Wise Tentative Excavation in Cubic Meters Indicating Development, ROM, Pit Wise:**

Tentative excavation proposed to be carried out for the first five years is estimated ROM of **7,39,025Tons** of Quartz, Waste and Development will be mined out by forming benches of 6.0m each. The year-wise details are presented below.

1. In-situ Tentative Excavation

Year	Pit No.	Total tentative Excavation (Ton)	Top Soil (Ton)	Side Burden (Tons)	ROM (Tons)		Mineral reject	ROM/Waste Ratio
					Ore Tons	Mineral reject Tons		
1	2	3	4	5	6	7	8	9
I	1	1,47,805	Nil	Nil	1,33,024	14,781	Nil	0.90 : 0.10
II	1	1,47,805	Nil	Nil	1,33,024	14,781	Nil	0.90 : 0.10
III	1	1,47,805	Nil	Nil	1,33,024	14,781	Nil	0.90 : 0.10
IV	1	1,47,805	Nil	Nil	1,33,024	14,781	Nil	0.90 : 0.10
V	1	1,47,805	Nil	Nil	1,33,024	14,781	Nil	0.90 : 0.10
TOTAL		7,39,025	Nil	Nil	6,65,120	73,905	Nil	0.90 : 0.10
Average		1,47,805		Nil	1,33,024	14,781		

2. Dump Re Handling (for The Purpose of Recovery of Mineral):

10% intercalated waste is generated to the quantity of **73,905Tons** will be generated which will be dump over an area of **1.329Ha** in SE side of the Quarry Lease area as depicted on **Plate No-4**. And it is used for internal roads. The generated waste will be utilized to strengthen the internal roads of the quarry

lease area.



(i) INDICATE YEAR WISE TENTIVE EXCAVATION IN CUBIC METERS INDICATING DEVELOPMENT, ROM, PIT WISE AS IN TABLE:

Systematic, Five year production & development program has been planned for Quartz Mine. The proposed Production calculation are as follows:

Section	Sectional area (Sq.m.)	Sectional Influence (m)	Volume (Cu.m.)	ROM @2.5t/cmt (tons)	Saleable Quartz 90% Tons	Waste 10% in Tons
<b>1<sup>st</sup> Year</b>						
A-A'						
RL 287M-275M	721.00	82.0	59,122	1,47,805	1,33,024	14,781
<b>2<sup>nd</sup> Year</b>						
A-A'						
RL 287M-275M	721.00	82.0	59,122	1,47,805	1,33,024	14,781
<b>3<sup>rd</sup> Year</b>						
A-A'						
RL 287M-275M	721.00	82.0	59,122	1,47,805	1,33,024	14,781
<b>4<sup>th</sup> Year</b>						
A-A'						
RL 287M-275M	721.00	82.0	59,122	1,47,805	1,33,024	14,781
<b>5<sup>th</sup> Year</b>						
A-A'						
RL 287M-275M	721.00	82.0	59,122	1,47,805	1,33,024	14,781
<b>Grand Total</b>			<b>2,95,610</b>	<b>7,39,025</b>	<b>6,65,120</b>	<b>73,905</b>
<b>Average Production</b>			<b>59,122</b>	<b>1,47,805</b>	<b>1,33,024</b>	<b>14,781</b>



**I- YEAR:**

First year Proposed Production on the top of the hill to down of the QL area, production between RL's 287 to 275 m (**N-1687200 to N-1687400, E-310000 to E-310200**) by forming a 1 benches of 6m height and 6m width. About **1,47,805 tons** of ROM will be excavated. Out of which a saleable Quartz of **1,33,024tons** and an intercalated waste of **14,781tons** will be produced. The waste generated will be dump on the SE side (**N-1686500 to N-1687000, E-310000 to E-310200**) of the QL area it is shown in **Plate no.4.**

**II- YEAR:**

Second year Proposed Production on the top of the hill to down of the QL area, production between RL's 287 to 275 m (**N-1687100 to N-1687300, E-310000 to E-310200**) by forming a 1 benches of 6m height and 6m width. About **1,47,805tons** of ROM will be excavated. Out of which a saleable Quartz of **1,33,024tons** and an intercalated waste of **14,781tons** will be produced. The waste generated will be dump on the SE side (**N-1686500 to N-1687000, E-310000 to E-310200**) of the QL area it is shown in **Plate no.4.**

**III- YEAR:**

Third year Proposed Production on the top of the hill to down of the QL area, production between RL's 287 to 275 m (**N-1687100 to N-1687200, E-310000 to E-310200**) by forming a 1 benches of 6m height and 6m width. About **1,47,805 tons** of ROM will be excavated. Out of which a saleable Quartz of **1,33,024tons** and an intercalated waste of **14,781tons** be produced. The waste generated will be dump on the SE side (**N-1686500 to N-1687000, E-310000 to E-310200**) of the QL area it is shown in **Plate no.4.**

**IV- YEAR:**

Fourth year Proposed Production on the top of the hill to down of the QL area, production between RL's 287 to 275 m (**N-1687000 to N-1687200, E-310000 to E-310200**) by forming a 1 benches of 6m height and 6m width. About **1,47,805 tons** of ROM will be excavated. Out of which a saleable Quartz of **1,33,024tons** and an intercalated waste of **14,781tons** be produced. The waste generated will be dump on the SE side (**N-1686500 to N-1687000, E-310000 to E-310200**) of the QL area it is shown in **Plate no.4.**

**V- YEAR:**

Fifth year Proposed Production on the top of the hill to down of the QL area, production between RL's 287 to 275 m (**N-1686900 to N-1687100, E-310000**

to E-310200) by forming a 1 benches of 6m height and 6m width. About **1,47,805 tons** of ROM will be excavated. Out of which a saleable Quartz of **1,33,024tons** and an intercalated waste of **14,781tons** will be produced. The waste generated will be dump on the SE side (**N-1686500 to N-1687000, E-310000 to E-310200**) of the QL area it is shown in **Plate no.4**.

(iii) DUMP MANAGEMENT:

The total waste handling in the 5 years will be about **73,905Tons** and this waste material will be used for haulage road remaining dumped at Excavated float ore area in SE corner around 1.329Ha(**N-1686500 to N-1687000, E-310000 to E-310200**). At foot of the dumps retaining walls will be constructed to avoid wash off the waste material from applied area. The same dumps will be stabilized concurrent to mining operations. Check dams and gully plugs will be constructed in the foothills of nalahs.

Sl. No	Details	Existing Land use (Ha.)	Additional requirement area during the plan period (Ha)	Land use at the end of the plan period(Ha)
1	Area under mining	0.000	2.965	2.965
2	Overburden dump	0.000	1.329	1.329
3	Mineral storage/	0.000	0.275	0.275
4	Infrastructure	0.000	0.002	0.002
5	Roads	0.000	0.052	0.052
6	Green belt	0.000	0.896	0.896
	<b>SUB- TOTAL</b>	<b>0.000</b>		<b>5.520</b>
7	Virgin Area	8.430		2.910
	<b>TOTAL</b>	<b>8.430</b>		<b>8.430</b>
8	<b>Safety Zone Area</b>	<b>1.420</b>		<b>1.420</b>
	<b>TOTAL QUARRY LEASE AREA</b>	<b>9.850</b>		<b>9.850</b>
	<b>Approach Road Area</b>	<b>0.320</b>		<b>0.320</b>
	<b>Total Area</b>	<b>10.170</b>		<b>10.170</b>

(iv) LAYOUT OF MINE WORKINGS, PITS, ROADS ETC :

Taking into consideration of geology and its structural attitudes, opencast method of mining is adopted whereas the mode of working by Other Than Fully Mechanized with hydraulic excavator. Since the mode of working is Other Than Fully Mechanized so the height of the bench is kept 06m max and the width of the bench will be kept more than the height with an overall bench slope of 90°.

The proposal for next 5 years Production programmer are clearly brought out in plans & sections enclosed vide **Plate No. 4 -4A**.

<b>First Five Years</b>	<b>N-1686900 to N-1687400</b>
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**Proposed method of working:**

- The method of working is opencast Other Than Fully Mechanized mining considering various technical parameters like surface topography, Availability of the deposit etc.
- It is proposed to work this deposit by adopting 6.0 m bench height and width of benches is maintained more than 6.0m.
- The ultimate pit slope will be maintained at 60° during the plan period and the same will be retrieved to 3.0m width during conceptual stage where the Ultimate pit slope will be increased to 93°. This will enable us for better mineral recovery from the Blocked reserves. The benches shall be 6.0m in height and the ramp gradient shall be kept minimum of 1 in 16.

Systematic mine development and winning of Quartz is planned up to average depth of **12 m in this plan Period.**

Based on the disposition and the width of the Quartz, the ultimate pit limit is arrived accordingly.

The mine is worked along the strike of Quartz in the SW- NE direction.

- Specific permission from Directorate of Mines safety will be obtained for working with heavy machinery for digging, excavation and removal of ore etc. under regulation 106.(2)(b) of Metalliferous Mines Regulation 1961.
- Mining is going to be carried out using excavators after drilling and blasting. Extraction of Quartz and the no waste generated except Mining loss and it's carried out by using drilling and blasting. Excavator is used for extraction and also for loading.

**Layout of mine workings, pit road, the layout of faces and sites for disposal of overburden/waste:**

The deposit is going to be worked by mechanized open cast mining by using Drilling and blasting associated with HEMM. Hence there is no change in the mining method. Production and Development has been explained same Chapter Refer **Plate No-4-4A**, for Year-wise production and Development Plans & sections.

**Waste disposal:**

- Sufficient care was taken while selecting the site for waste dump based on the economically feasibility and ultimate depth of mining.

- One waste dump located on the West side of the applied area will be utilized for dumping waste during the plan period.
- During the plan period West side corner of the lease will be utilized for dumping the waste generated from pit. The waste generated will be directly utilized for refilling once the ore exhausted in the pit.
- This area will not affect future mining as it is outside the ultimate pit limit.
- The waste dump area will be afforested once the dump stabilized.

(V) **CONCEPTUAL MINING PLAN:**

Total Geological resources estimated in the applied area is around **36,61,403 tons(14,64,561.20Cum)**. The saleable reserves is about **32,98,860 tons(13,19,544Cum)** are available in this applied area and the Average proposed production is **1,33,024 tons(53,209.60Cum)** per year.

PARTICULARS	PROPOSED PRODUCTION	BALANCE RESERVES
Mineable Reserves		<b>32,98,860tons (13,19,544Cum)</b>
Mining Plan Period	6,65,120Tons(2,66,048Cum)	<b>26,33,740tons (10,53,496Cum)</b>
First Scheme Period	6,65,120Tons(2,66,048Cum)	<b>19,68,620tons (7,87,448Cum)</b>
Second Scheme Period	6,65,120Tons(2,66,048Cum)	<b>13,03,500tons (5,21,400Cum)</b>
Third Scheme Period	6,65,120Tons(2,66,048Cum)	<b>6,38,380tons (2,55,352Cum)</b>

a. Give broad description identifying potential area to be covered in the given time frame.

Entire area is Potential and planned 5 five year **2.965Ha** remaining will be planned next 15 Years.

Sl. No	Details	Existing Land use (Ha.)	Additional requirement area during the plan period (Ha)	Land use at the end of the plan period(Ha)
1	Area under mining	0.000	2.965	2.965
2	Overburden dump	0.000	1.329	1.329
3	Mineral storage/	0.000	0.275	0.275
4	Infrastructure	0.000	0.002	0.002
5	Roads	0.000	0.052	0.052
6	Green belt	0.000	0.896	0.896
	<b>SUB- TOTAL</b>	<b>0.000</b>		<b>5.520</b>
7	Virgin Area	8.430		2.910
	<b>TOTAL</b>	<b>8.430</b>		<b>8.430</b>
8	<b>Safety Zone Area</b>	<b>1.420</b>		<b>1.420</b>
	<b>TOTAL QUARRY LEASE AREA</b>	<b>9.850</b>		<b>9.850</b>
	<b>Approach Road Area</b>	<b>0.320</b>		<b>0.320</b>
	<b>Total Area</b>	<b>10.170</b>		<b>10.170</b>

b. Whether site(s) for disposal of waste rock and un-saleable ores has/have been examined for adequacy of land and suitability of long term use in the event of continuation of mining activity.

✓ Quartz not required for Waste Rock & Un-saleable ore because of 30% Waste will be generate an quantity of **73,905 Tons** inter calculated waste be dumped on SE corner and used for road formation and plantation purpose.

c. Whether backfilling of pit(s) after recovery of ore/mineral up to techno economically feasible depth envisaged. If so, described broad features of the proposal.

✓ In Quartz no waste will be generated, hence we will be not planned any backfilling in this plan period.

d. Post mining land use envisaged.

Pits will be used for Rain water Storage once mineral will be existing.

The expected life of the mine is **25years**. However, **the life of the mine may change based on the further exploration during the course of mining.**

During the ensuing plan period proposal of Drilling is required because entail reserves are available as out crop.

About 1 to 3 scheme periods are expected to come across within the life of the mine. The conceptual plan and sections showing the conceptual mining plan activity of the applied area (refer **Plate No-6-6A**).

**(b) UNDERGROUND MINING:**

Not applicable as it is open cast mining.



### 3. MINE DRAINAGE:

a) MINIMUM AND MAXIMUM DEPTH OF WATER TABLE BASED ON OBSERVATION FROM NEAR BY WELL AND WATER BODIES:

The rain water is very scanty in this area so no elaborate arrangements for drainage of rain water is required. There is no chance of encountering underground sources as the underground water table is encountered at 60m depth (based on the surrounding bore well). The water occurring in the mine due to rains will be automatically flow on slope sides.

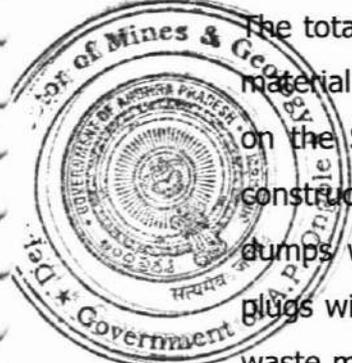
b) INDICATE MAXIMUM AND MINIMUM DEPTH OF WORKINGS:

The maximum working RL is 281m and minimum working RL is 251m. Present Plan period workings will be reached RL 275m.

c) QUANTITY AND QUALITY OF WATER LIKELY TO BE ENCOUNTERED, THE PUMPING ARRANGMENTS AND PLACES WHERE THE MINE WATER IS FINALLY PROPOSED TO BE DISCHARGED:

Not applicable as the mining area is hill, so no water will be generated.

### 4. STOCKING OF MINERAL REJECT/SUB GRADE MATERIAL AND DISPOSAL OF WASTE:



The total waste handling in the 5 years will be about **73,905Tons** and this waste material will be used for haulage roads and remains dumped in float worked out area on the SE corner around 1.329Ha. At foot of the dumps retaining walls will be constructed to avoid wash off the waste material from applied area. The same dumps will be stabilized concurrent to mining operations. Check dams and gully plugs will be constructed in the foothills of nalahs. The land chosen for disposal of waste material is shown in Land use plan enclosed vide **Plate No 5**. In my future this dumb will be used when it is economically viable.

### 5. USE OF MINERAL AND MINERAL REJECT:

The Quartz can be exported or marketed in the domestic applications as lumps. The analysis reports of the Quartz reveal SiO<sub>2</sub> as 99.2%. Now there is very good market for B grade quartz, so the lessee wishes to supply the material to various industries like Glass, Steel, Alloys and silicon carbide Industries.

Further the lessee has conducted various tests for use Quartz in infrastructure industry for the manufacture of dry mortar and has found that, it is one of the best alternatives for use as construction sand as an alternative to river sand which is very scarce in this part of the state and the neighboring state. The soiled quartz and the weathered quartz can be put to use in infrastructure industry. The fine

powder generated can be disposed for the manufacture of sodium silicate.

**6. PROCESSING OF ROM AND MINERAL REJECT:**

There is no any mechanical and chemical means of mineral beneficiation in this mine and total ROM will be sent to Plant & Other Industries.

**7. OTHERS:**

**Site Services:**

It is proposed to provide the site services like Mines office and other statutory constructions like rest shelter, first aid, work shed and drinking water as required in the applied area. Drinking water will be supplied to the workers from the bore well opened in the adjacent agriculture field.

Manager's Room

Rest Room

Toilets

First Aid - Provision is made in the Manager's Room

Drinking Water - Provision is made in the Rest Room

Site services have been depicted on relevant plates.

**a) Employment Potential:**

a.	Highly skilled -	Mines Manager and Mine Foremen	- 2
b.		Mine Supervisor	- 1
		Skilled & Semi-skilled	
		Bore Compressor Operators	- 1
		Bore Compressor Assistants	- 1
		Excavator Operator	- 1
		Excavator Backhoe Assistants	- 1
		Pick-up Drivers	- 1
		Security Guard	- 2
		Tripper Drivers and Assistants	- 2
		Total personnel in Mining Operations	- 12



**b) Safety Gears:**

- ✓ Pre-Employment Health Check-up for all New Employees.
- ✓ Periodical Health Check-up for all Employees.
- ✓ First Aid Box at Site, with trained First Aiders.
- ✓ Providing Sufficient and Fit-To-Wear PPE (like Helmets, Mask, Safety Shoes etc.) for all Employees, working in the Quarrying Activity.

**PART-B****ENVIRONMENTAL MANAGEMENT PLAN****8.1 ENVIRONMENTAL BASE LINE INFORMATION:****EXISTING LAND USE PATTERN : LOI TO BE ISSUED.**

Sl. No	Details	Existing Land use (Ha.)	Additional requirement area during the plan period (Ha)	Land use at the end of the plan period(Ha)
1	Area under mining	0.000	2.965	2.965
2	Overburden dump	0.000	1.329	1.329
3	Mineral storage/	0.000	0.275	0.275
4	Infrastructure	0.000	0.002	0.002
5	Roads	0.000	0.052	0.052
6	Green belt	0.000	0.896	0.896
	<b>SUB- TOTAL</b>	<b>0.000</b>		<b>5.520</b>
7	Virgin Area	8.430		2.910
	<b>TOTAL</b>	<b>8.430</b>		<b>8.430</b>
8	<b>Safety Zone Area</b>	<b>1.420</b>		<b>1.420</b>
	<b>TOTAL QUARRY LEASE AREA</b>	<b>9.850</b>		<b>9.850</b>
	<b>Approach Road Area</b>	<b>0.320</b>		<b>0.320</b>
	<b>Total Area</b>	<b>10.170</b>		<b>10.170</b>

**WATER REGIME:**

No perennial water source is passing through the area. From the natural slopes the rainwater drains into the stream which joins the main drainage system. Maximum water table is about 50m depth. The water table is much below the proposed working depth and the mining operations will not affect the water regime.

**HUMAN SETTLEMENTS:**

Within the QL area there are no villages or human settlements. There is no question of any evacuation or resettlement of people elsewhere. Workers come from village, which are more than 1.00 Km away. Within the 5KM buffer zone there are 4 villages and their populations are given below:

S.NO	VILLAGE NAMES	DIRECTION	DISTANCE	POPULATATION
1	Ekunapuram	S	3.949KM	1100
2	Harivemula	SE	4.448KM	750
3	Boyamadugula	SW	4.545KM	368
4	Cherlapalle	SW	4.410KM	935

**PUBLIC BUILDINGS, PLACES OF WORKSHIP AND MONUMENTS:**

There are no buildings and monuments of historic importance within the QL area.

**SANCTUARIES:** There is no sanctuary near by the lease hold area.

**ECO-SENSITIVE AREA ETC:**

There are no Eco-sensitive areas near by the lease hold area.

**8.2. IMPACT ASSESSMENT:**(a) LAND AREA:

Sl. No	Details	Existing Land use (Ha.)	Additional requirement area during the plan period (Ha)	Land use at the end of the plan period(Ha)
1	Area under mining	0.000	2.965	2.965
2	Overburden dump	0.000	1.329	1.329
3	Mineral storage/	0.000	0.275	0.275
4	Infrastructure	0.000	0.002	0.002
5	Roads	0.000	0.052	0.052
6	Green belt	0.000	0.896	0.896
	<b>SUB- TOTAL</b>	<b>0.000</b>		<b>5.520</b>
7	Virgin Area	8.430		2.910
	<b>TOTAL</b>	<b>8.430</b>		<b>8.430</b>
8	<b>Safety Zone Area</b>	<b>1.420</b>		<b>1.420</b>
	<b>TOTAL QUARRY LEASE AREA</b>	<b>9.850</b>		<b>9.850</b>
	<b>Approach Road Area</b>	<b>0.320</b>		<b>0.320</b>
	<b>Total Area</b>	<b>10.170</b>		<b>10.170</b>

(b) AIR QUALITY:

In general Mining activity contributes to pollution of air due to working of mining equipment transportation, and etc., since the mine is proposed to work by fully mechanized means, there is no pollution to the air.

(c) WATER QUALITY:

Except a seasonal watercourse in the applied area, there is no perennial river in allahs or springs are present in the area. Natural valleys drain the rainwater. As water table is at a very low depth there is no water pollution due to discharge of water during monsoon. To check the erosion and prevent silt being carried during monsoon period, a series of gully checks would constructed at regular intervals

(d) NOISE LEVELS:

Noise pollution in mining area is mainly due to noise generation from the moving of machinery. Noise is defined as any sound that can produce an undesired physiological effect in an individual. Since this mine is worked by means of Other Than Fully Mechanized the noise levels are monitored as per the norms laid down by the governing agencies.

(e) VIBRATION LEVELS (DUE TO BLASTING):

Mining activity also generates ground vibrations during the blasting. Ground vibration, fly rock, air blast, noise, dust and fumes are the deleterious effects of blasting on environment. The explosive energy sets up a seismic wave in the ground, which can cause significant damage to structures and disturbance to

human occupants. It causes major damages to the pit configuration too. By adopting controlled blasting, the above said problems were greatly minimized. The impact is also minimized by choosing proper detonating system and optimizing total charge and charge/delay.

(f) WATER REGIME:

There are no perennial surface water bodies with-in the applied area. However, seasonal nallahs existing flowing towards northern and southern direction. However lessee will construct the Check dam and gully checks outside the applied area to avoid the erosion. In this deposit, as the mineral or overburden does not contain any harmful ingredients that could leach down to the water table hence there is no pollution of ground water.

(g) ACID MINE DRAINAGE: Not applicable

(i) SURFACE SUBSIDENCE: Not applicable

(j) SOCIO-ECONOMICS:

There are 4villages falling within the buffer zone with a total population of people. They all depend upon agriculture. There will be no adverse effect on their socio-economic environment. Besides, mining gives additional income to the labourers.

(k) HISTROICAL MONUMENTS ETC:

There is no historical monument or historic importance places with in the QL area.

(l) BIO-DIVERSITY:

The Natural plantation in the QL area is only small bushes with thorny type only. Applied area is covered by Quartz float/ Quartz reef/Granite.

The item-wise compliance position and proposals for First five years Plan period are briefly discussed below;

<b>Items/Particulars</b>	<b>Proposals for the next five years Plan period</b>
<b>1</b>	<b>2</b>
Top-soil storage, preservation and utilization	Not available soil.
Land reclamation and rehabilitation	This is a fresh area and there are no any proposals of land reclamation and rehabilitation during the first five year plan period.
Waste Dump Management	During the plan period about <b>73,905 Tons</b> of intercalated waste will be generated and this will be dumped towards NW side of the applied area covering an extent of 1.329Ha.

	with 06m height.														
<p>Afforestation programme with precautions proposed for survival &amp; protection of plantation.</p> 	Proposal of afforestation for Plan period is given below:														
	<table border="1"> <thead> <tr> <th>Year</th> <th>Plants</th> <th>Area (Ha.)</th> </tr> </thead> <tbody> <tr> <td>I - YEAR</td> <td>50</td> <td rowspan="5" style="text-align: center;"><b>0.896</b></td> </tr> <tr> <td>II - YEAR</td> <td>50</td> </tr> <tr> <td>III-YEAR</td> <td>50</td> </tr> <tr> <td>IV-YEAR</td> <td>50</td> </tr> <tr> <td>V-YEAR</td> <td>50</td> </tr> </tbody> </table>	Year	Plants	Area (Ha.)	I - YEAR	50	<b>0.896</b>	II - YEAR	50	III-YEAR	50	IV-YEAR	50	V-YEAR	50
	Year	Plants	Area (Ha.)												
	I - YEAR	50	<b>0.896</b>												
	II - YEAR	50													
	III-YEAR	50													
IV-YEAR	50														
V-YEAR	50														
<p>It is proposed to plant the local species like Tamarind, Emblica, Cassia, Neem, Honne etc. on inactive slopes of the dumps. Precautions proposed for survival and protection are watering the afforested area and providing watch &amp; ward. The plants are planted at the 7.5M Buffer Zone. Survival rate is expected to be about 10-20%.</p>															
<p>Quality of air</p>	<p>It is proposed to spray water on roads, construction of well-designed haulage roads with side drains, green-belt along the lease boundary. Over loading of tippers will be avoided and ore loaded tippers will be covered with tarpaulin.</p>														
<p>Quality &amp; make of water including surface &amp; ground water</p>	<p>Additional retaining walls, filter bunds, settling pits will be made. Whenever necessary, lime will be added to allow faster precipitation of suspended solids. All water courses, settling pits will be detailed every year before onset of monsoon. Quality of water will be monitored season-wise.</p>														
<p>Noise Level-sources of noise to be identified</p>	<p>Proper lubrication, fitting of effective silencers and good maintenance of all equipment's will be carried-out to minimize noise levels. Afforestation as proposed will also act as acoustic barrier.</p>														
<p>Vibration-pattern of blast holes &amp; design of blast with details of sufficient number of experimental blasts conducted</p>	<p>It is proposed to continue same method of drilling and blasting.</p>														
<p>Treatment of mine water &amp; affluent/ toxic substances before discharge</p>	<p>Not required</p>														

### **8.3 MINED-OUT LAND:**

An effective programme of land restoration are drawn and implemented to bring back the status to as near the pre-mining conditions as possible. The salient features are as enumerated below. A green belt development area planned meticulously. It is proposed to reclaim all the worked out area by suitable soil conservation and afforestation methods. This operation carried out concurrent to mining during the next scheme period. The roads shall have avenue trees and thus a green belt developed. Land degradation will take place by dumping of waste, and the reclamation of this dumping area shall also be included in the programme. It is always necessary to keep the area under disturbance at any stage to the minimum possible. This can be achieved by ensuring reclamation of the excavated area simultaneously with mining activities by reducing the gap between reclamation and excavation to the minimum.

### **8.4 TOPSOIL MANAGEMENT :**

Wherever the topsoil is encountered is very negligible However it will be selectively removed, stacked separately. It will be used to spread over the dumps and back filled area for afforestation or shall be used during regular afforestation programme.

### **8.5. TAILINGS DAM MANAGEMENT:**

Not applicable, because in the applied area there are no tailing dams, however the lessee has proposed to construct some check dams outside the applied area.

**PART-C****PROGRESSIVE MINE CLOSURE PLAN:**

Progressive Mine closure plan is enclosed as **Plate No-7**.

**9.0 PROGRESSIVE RECLAMATION PLAN:****9.1.1 Mined-Out Land:**

The mineral reserve exist far deeper than the UPL of this plan period and mining will continue for the rest of the lease grant period.

The total area put to use for various mining and associated activities are as follows.

Sl. No	Details	Existing Land use (Ha.)	Additional requirement area during the plan period (Ha)	Land use at the end of the plan period(Ha)
1	Area under mining	0.000	2.965	2.965
2	Overburden dump	0.000	1.329	1.329
3	Mineral storage/	0.000	0.275	0.275
4	Infrastructure	0.000	0.002	0.002
5	Roads	0.000	0.052	0.052
6	Green belt	0.000	0.896	0.896
	<b>SUB- TOTAL</b>	<b>0.000</b>		<b>5.520</b>
7	Virgin Area	8.430		2.910
	<b>TOTAL</b>	<b>8.430</b>		<b>8.430</b>
8	<b>Safety Zone Area</b>	<b>1.420</b>		<b>1.420</b>
	<b>TOTAL QUARRY LEASE AREA</b>	<b>9.850</b>		<b>9.850</b>
	<b>Approach Road Area</b>	<b>0.320</b>		<b>0.320</b>
	<b>Total Area</b>	<b>10.170</b>		<b>10.170</b>

**9.1.2 Topsoil Management:**

No topsoil is present in parts of the applied area. A volume of 73,905Tons of intercalated waste is estimated to be removed in the quarry applied area during the 05 years. This will be spread along the buffer zone and SE Side of the Quarry Applied area as a barrier and supporter of plantation

**9.1.3. Water Quality Management:**

The following preventive measures were proposed for minimizing adverse effects on water regime;

Along all discharge points leaving the mining lease, into the surrounding area, suitable number of filter walls of 2m x 1.5m of sufficient length will be erected across the flow, at intervals, all along the length of flow to prevent suspended solids entering the surrounding streams/drains/water courses, to confine the discharge water quality to the permissible limits.

- Regular monitoring will be carried-out and further remedial steps as may be necessary will be taken.



- Whenever necessary, lime will be added to allow faster precipitation of suspended solids.
- All water courses, settling pits, etc., will be de-silted every year before onset of monsoon.

### **Hydrological Study:**

The workings are reached up to 287m RL and during the conceptual stage the pit depth may reach up to 251m RL. Water table in the area is about 100-120m RL hence, the proposed workings will not intersect the ground water table and Hydrological Study is not proposed.

### **9.1.4 Air Quality Management:**

The following preventive measures were planned for air quality management,

- Water spraying on roads & working places will be carried-out, at regular intervals to control the air borne dust.
- Sharp drill bits will be used and wet drilling will be practiced.
- Controlled blasting will be carried-out using ms delay detonators.

• Loading & speeding of trucks will be controlled to prevent spillage on the way.

• Ore carrying trucks will be covered with tarpaulins to prevent spillage & flying of ore fines due to wind velocity enrooted.

• Haul roads and service roads will be graded regularly to clear accumulation of any loose material.

• Monitoring of air quality regularly to take necessary steps to keep the polluting constituents within the permissible limits.

### **9.1.4(a) Waste Management:**

#### **1. Type of overburden/mineral rejects:**

Intercalated Waste is generated.

**2. Quality:** The quality of ore and waste is non-toxic.

**3. Quantity:** The ore to waste ratio during the Plan period is 1:0.10 i.e., for Avg. production of 1,33,024tons/annum about 14,781tons/annum waste shall be handled on average.

**4. Disposal practice:** Initially the waste generated will be dumped Specific area in applied area. Dump parameters & other protective measures were will be initiate.

### **9.1.5 Tailing Dam Management:**

Not applicable.

### 9.1.6 Infrastructure:

The mine is well connected to the district and taluka headquarters by metalled roads and State Highways. The approach road is good and approachable in all seasons. Mine is equipped with office, stores, first aid service, garage, canteen, weighbridge, rest shelter etc.

Their future utilization will be evaluated, before such closure is planned and measures will be taken for their physical stability and maintenance. Dismantling & disposal will be thought of & taken before final closure.

The statutory buildings will be given to the Local Panchayat, if they want to maintain, otherwise dismantled and debris will be removed and plantation will be carried-out. The approach roads also will be subjected to plantation. These works will be completed tentatively with-in one year after cessation of mining operations.

### 9.1.7 Disposal of Mining Machinery:

There is no proposal for disposal of mining machinery at present. However, if required, the machinery will be disposed-off by selling and new machineries will be purchased. The final decommission of mining machinery and their possible post mining utilization will be given in the final mine closure plan to be submitted one year before the intending date of final closure.

### 9.2 Safety & Security:

Before any closure, for any reason what so ever, arrangements will be made,

- To fence-off the access to pits & other dangerous areas/plant etc. for men & animals.
- To post watch & ward, where such effective blocking is not possible.
- Periodical inspection will be conducted to make sure of the arrangements in their proper place & their effectiveness.

The visitors will be allowed to enter the applied area only with prior permission from relevant authority. The detailed arrangements proposed during the mine abandonment and upto the site being opened for general public will be given in final mine closure plan to be given one year in advance from the date of the intended mine closure.

### 9.3 Acid Mine Drainage and Mitigation Measures:

No chemicals are involved in the extraction or processing of the ore, hence there is no danger of acid mine drainage.

### 9.4 Surface Subsidence Mitigation Measures:

The ground surface in around the applied area is covered by Granites of Archaean Basements complex the ground is

stable. Internal roads are well compacted to avoid any skidding of vehicles. The benches and ramp ways will be well built and maintained to avoid any kind of subsidence or skidding.

### 9.5 Afforestation:

Each year some part of the barrier zone will be subjected to afforestation and care will be taken to protect the saplings. The table below shows the proposed afforestation plan.

#### Programme of Afforestation

YEAR	Name of the Plant	No of Plants	Area Spacing	Area Covered In Ha
I	Eucalyptus & Neem & other local species	50	3x3 m	<b>0.896Ha</b>
II	Eucalyptus & Neem & other local species	50	3X2 m	
III	Eucalyptus & Neem Ficus bengalensis & other local species	50	3x3 m	
	Ficus bengalensis & other local species	50	3X3 m	
	Ficus bengalensis & other local species	50	3X3 m	
<b>Total</b>		<b>250</b>		<b>0.896Ha</b>

Costing of plant	:	30 Rs each
For maintains per piece	:	100Rs
<b>Total Budget</b>	:	<b>1.350 Lakhs per Year.</b>

### 9.6 DISASTER MANAGEMENT AND RISK ASSESSMENT:

Applied area is located at a distance of 3.60 Kms from Eknapuram village, a Mandal Headquarters, A primary health centre and a Police station is located at Chandrasekharapuram. Hospital at Chandrasekharapuram & Giddalur. is capable of providing first aid and providing lifesaving drugs. Further, it has the facility for safe transport of victims to Speciality Hospitals in Giddalur & Kanigiri. There is a fire station available at Chandrasekharapuram, which is at a distance of 12.80kms from the applied area.

Details	Name	Distance In KM
Nearest Village	Eknapuram	3.600
Nearest Mandal	Chandrasekharapuram	12.8
Nearest Hospital	Chandrasekharapuram	12.8
Nearest Police Station	Chandrasekharapuram	12.8
Nearest Fire Station	Chandrasekharapuram	12.8
Nearest Railway station	Giddalur	35.28
Nearest Airport	Kadapa	93.30
Nearest Sea Port	Nellore Krishnapatnam Port	146.12

**Remaining all thing Managing Partner will take care Sri. G. Venkata Subba Reddy, Cell No: +91 94402 84490.**

**RISK ASSESSMENT:**

Quartz is extracted by Other Than Fully Mechanized open cast mining method risk of disasters is discussed below.

No high risk accidents are anticipated as it is small scale other than fully mechanized mining with essential light machinery. The area is not prone for landslides, seismic activities, subsidence, floods, inundation etc. As there are no rivers and habitation in the vicinity of probable disaster from the applied area. The Granite is competent rock so no sliding or fall is anticipated.

However, in case of any eventuality, a model disaster management plan is given below.

**A MODEL DISASTER MANAGEMENT PLAN:**

The Lessee has formulated the disaster Management plan keeping all eventualities in mind

Disaster Management is the art of functioning under conditions of extreme difficulty. It is the ability to take cool rational decisions in a crisis situation filled with tension and even danger. It is the ability to function effectively when all known chains of command have been broken and when even channels of communication have failed. In short, it is the ability to function in chaos. It is in this situation that cool and clear thinking is necessary and decisions have to be taken quickly and effectively. Reflex time factor, efficient use of resources, return back to normalcy are all required and above all not to aggravate damage. It is a situation where blame game is high and tempers flare. In short a totally hostile atmosphere. In mine major accidents like Roof collapse, pillar failures. Fire inundation due to breach or heavy rainfall, breach of dam, tank bund etc. in the upper stream could turn to be a disaster.

1. OBJECTIVES:

The main objectives to be ensured

- I Save lives and alleviate suffering
- II Protect property
- III Ascertain the cause of the accident
- IV Restore normalcy
- V Install a sense of security and confidence in the minds of the affected people.

2. RESOURCES OF ALL DEPARTMENTS TO BE MADE AVAILABLE:

The Lessee will be monitoring the total execution of the disaster management plan. The resources of all departments including men and material shall be promptly made available. Every facility must be afforded to the Civil police, Medical officers.

**Sri. G. Venkata Subba Reddy,**

**Cell No: +91 94402 84490.**

**3. IMPORTANT RESPONSIBILITIES OF OFFICIALS PRESENT AT SITE:**

The persons involved in the chain of action are

- I Mine Foreman & Mine Mate.
- II Mine Manager
- III Mine Agent/owner.

**Mine Foreman:**

The mine Foreman who is the In-charge at site, on observation/hearing the news of any disaster in his jurisdiction shall inform the mine manager immediately. He shall ensure at the site of disaster the necessary first aid to the injured. He shall withdraw the entire workman from the site by suspending all operations. Till such time relief and assistance arrive and a more senior official replaces him. He shall take charge of the situation. He shall not disturb the site of disaster except for saving the personnel.

He shall ensure that the accident has been reported properly to the Mine manager who is said to be the controller

**Mine Manager:**

On getting the information from the site in-charge (Foreman), he shall immediately pass on the information correctly to the agent / owner and shall follow the actions referred below:

- (i) collect volunteers,
- (ii) allot duties to each as best as possible under the prevailing circumstances,
- (iii) allot duties to security staff to control the situation
- (iv) Organise relief with the assistance of volunteers.

(v) Manger/Officer-in-charge present during an accident shall take note of the exact time of the accident, besides other important details connected with the accident.

(vi) The following lists shall be made available at mines (along with current telephone numbers wherever provided):

- A) List of firefighting arrangements
- B) List of ambulance services with location
- C) List of volunteer organizations
- D) Rotary Club, etc.
- E) List of Civil, Police and other authorities to be informed in case of an accident
- F) List of firefighting arrangements
- G) List of mobile crane operators (Government, Public Sector, and Private Sector).
- H) List of mines, contacts, facility available nearby
- I) List of first aiders and contacts.
- J) List of Transport bus depots.
- K) District Magistrates, District Superintendents of Police
- L) Heads of Private and Public Sector organizations located in the Division from whom assistance can be sought
- M) Road Maps of the Division.
- N) List of Officers of DGMS to be informed in case of serious accidents Concerned DGMS officers concerned is displayed at the mine head.
- O) Official in charge of accident site:

Mine manager is the official-in-charge of accident site and who is present at the site of the accident shall be the overall In charge of relief operations and all the staff shall comply with his Instructions.

Particulars to be conveyed by official at the site of accident while conveying first information:

vii) The information should be precise and clear. The Time and date of accident.

Brief description of accident/nature of accident.

Whether any injury, number of persons injured/killed.

Prima facie cause, if known:

viii) Speedy transport of injured persons to hospital:

After receiving first aid, all seriously injured persons will be transported, as speedily as possible to the hospital station as decided by the Medical Officer in charge appointed.

ix) Arrangements for reception of patients at hospitals



- A) Timely advice will be given to the civil hospital of the number of injured persons proposed to be shifted there and the time that they are expected to arrive at the hospital station.
- B) Ambulances or suitable road vehicles shall also be requisitioned from the hospital station. If adequate transport cannot be arranged for by such means, transport will be hired from Chandrasekharapuram Mandal Head-quarters which is at 12.8kms from the mine.

Examination of evidence and preservation of clues:

- x) Mine Manager, who may happen to be present at the time an accident occurs or who first arrives at the scene of accident shall carefully examine and make a note of all the evidence which may prove useful in ascertaining the cause of the accident and record the results of the examination.
- In the event of more than one Officer or senior subordinate being present at the site of the accident or arriving first at the site of the accident, the report shall be signed by all the Officers.

**Owner/Agent:**

On receipt of the information about the disasters or incident the owner or an agent is his absence shall reach the site immediately and take the control of the entire situation and perform/observe the following in a manner of sequence as given below:

**Sri. G. Venkata Subba Reddy** is the owner of the Lease, Is also considered as the owner, Depending on the gravity of the situation will establish direct contacts with civil and police authorities.

Information to Civil and police authorities: Depending on the gravity of the situation establish direct contact with Civil and Police authorities such as District Collector, District Superintendent of Police, and Superintendent of Police apart from conveying the information to the nearest Police Station.

The mine owner shall consider the following while performing his responsibility:

- i) Preservation of clues:

All clues shall be preserved with a view to enabling the reconstruction of the scene at a later date. This is essential even though the District Magistrate or the police might have inspected the scene of the accident and ascertains the cause of the accident and even though photographs might have been taken do not interfere with any clue which may be of assistance in arriving at the cause of the accident and any item of debris which may help to trace the cause of the accident unless such

interference is emergent and unavoidable and is permitted. If it is considered absolutely necessary to remove any items of debris, which may help to trace the cause of the accident, they shall be carefully preserved. Record being kept of the positions from which they were taken. Video graph and photographs of the wreckage shall be taken, as their value for purposes of evidence is very great. It may happen that parts of the wreckage will afford the only clue to the cause of an accident.

ii) RECORDING OF STATEMENTS OF STAFF CONCERNED:

Record the statements of the staff concerned and take whatever steps as may be necessary to record or preserve evidence, which subsequently might not be available.

iii) NO TAMPERING OF CLUES AND EVIDENCE:

None shall interfere with any clue which may be of assistance in arriving at the cause of the accident and any item of debris which may help to trace the cause of the accident shall not be disturbed or cleared unless such interference is emergent and unavoidable and is permitted by a responsible Officer present at the spot. If it is considered absolutely necessary to remove any items of debris, which may help to trace the cause of the accident, they shall be carefully preserved by the Officer permitting the removal, record being kept of the positions from which they were taken. Photographs and video graph of the wreckage shall be taken, as their value for purposes of evidence is very great. It may happen that parts of the wreckage will afford the only clue to the cause of an accident, the position and the state of the road etc.

iv) ARRANGING VIDEOGRAPHERS AND PHOTOGRAPHERS:

Senior officer shall make the arrangements for photographs and video graphs.

v) A SHORT NOTE ON CRISIS MANAGEMENT

Crisis leadership involves five critical tasks described below

- a) Sense making, considered as the classical situation assessment step.
- b) Decision making.
- c) Meaning making—refers to crisis management as political communication.
- d) Terminating a crisis is only possible if the public leader correctly handles the accountability question.
- e) Learning, refers to the actual learning from a crisis is limited.

vi) A crisis often opens a window of opportunity for reform for better or for worse.

vii) Examples of organizational crises

- a. Extortion
- b. Bribery
- c. Hostile Takeover
- d. Terrorist Attack
- e. Vehicular fatality
- f. Information
- g. Product tampering
- h. Workplace bombing
- i. Natural disaster that disrupts organizational office
- j. Computer tampering
- k. Natural disaster that disrupts product/service.



- l. Confidential data loss
- m. Kidnapping
- n. Product/service
- o. Boycott
- p. Work-related homicide
- q. Malicious rumour
- r. Hazardous material leak
- s. Plant explosion
- t. Personnel assault
- u. Assault of customers
- v. Product recall
- w. Counterfeiting
- x. Natural disaster that destroys corporate headquarters
- y. Natural disaster that eliminates key stakeholder

viii) Crisis Management becomes pertinent when the pre-conceived Emergency plan finds a deviation from the expected route.

ix) For such eventualities "what if" analysis is to identify and prepare plans for all the other crises that could happen as a result of the first one. Usually, this exercise is best accomplished in a group brainstorming session. It might sound something like this.

"A blast was initiated. Everything went off as planned, except for the exhaust fan was stopped due to power interruption after the blast and reverse ventilation started. Inadvertently the Mate travelling in downcast shaft got affected by the blast fumes and got suffocation. So no one thought there was a cause for alarm."

Work progressed as normal, and the power interruption has caused damage, and possible damage as a result of the power interruption. What if reverse ventilation takes place? What if the Mate collapses? What if the Mate is killed? What if friends and relatives of the affected make statements critical of our company? What if law suits are filed claiming negligence? Similarly in opencast mines particularly while doing blasting operations.

- x) All the above are referred to a 'spin-off crises', and have more detrimental effects than the initial crises. One of the many advantages to crises-management planning is to anticipate what could go wrong, so you can break the sequence of events and redirect them. If you try to complete this exercise while the crises is in progress, your thing may not be clear, your actions too late, and the outcome will be out of your control.

- xi) Crisis Impact Analysis the next step is to look at each crisis, and determine which of your audience would be affected. The word audience is defined as anyone who can have an effect on your reputation: the media, political leaders, employees and their families, community leaders, customers, banks, suppliers, shareholders, and investors.

xii) SHORT NOTE FAULT TREE ANALYSIS

- a) Fault tree analysis is a logical, structured process that can help identify potential causes of system failure before the failures actually occur. Fault trees are powerful design tools that can help ensure that product performance objectives are met.
- b) Fault Tree analysis is one of the most widely-used methods in system reliability analysis. It is a deductive procedure for determining the various combinations of failures, and human errors that could result in the occurrence of specified undesired events
- c) A fault tree analysis (FTA) is a deductive, top-down method of analysing system design and performance. It involves specifying a top event to analyse (such as a fire), followed by identifying all of the associated elements in the system that could cause that top event to occur.
- d) Fault trees provide a convenient symbolic representation of the combination of events resulting in the occurrence of the top event.
- e) FTA can be used as a valuable design tool, can identify potential accidents, and can eliminate costly design changes. It can also be used as a diagnostic tool, predicting the most likely system failure in a system breakdown.

- f) FTA is a method of analysing the causes of hazards. FTAs use Boolean logic (gates) to describe combinations of individual faults that can create a hazardous event. Each level of the tree lists the lower level events that are necessary to cause the event shown in the level above it.
- g) Often the most difficult part of creating a fault tree is the determination of the top level event. The selection of the top event is crucial since hazards in the system will not be comprehensive unless the fault trees are drawn for all significant top level events.
- h) Once the top event has been defined, the next step is to determine the events related to the top event and the logical relations between them, using logic symbols to define the relations. The most frequently used symbols for fault trees are AND and OR gates.
- i) The output of an 'AND gate' only exists if all the input events exist.
- j) The output of an 'OR gate' exists provided at least one on the input events exist.
- k) The relationships between the events shown in a fault tree are standard
- l) Logical relations and can therefore be expressed using any form of Boolean algebra of truth table. The tree format, however, seems to have the advantage in readability
- m) Fault trees can help identify scenarios leading to hazards and can suggest possibilities for hazard elimination or control.
- n) Fault tree analysis is also the tool for discovering product failure, engineering failure and the common human error causes.
- xiii) Major elements in fault tree analysis:
1. Quantification
  2. Risk ranking
  3. Selecting the "Important Few" and ignoring the "Unimportant Many"
  4. Follow the "Path of the Greatest Resistance"
  5. The importance of identifying the common cause events.
- xiv) Fault Tree Analysis in 7 Steps
- a) Select a top level event for analysis. Try to be specific, for example, "Email server down for more than 4 hours." Sources of top level events include:
    - b) Problem/Known Error Records; service outage analysis; potential failures from brainstorming; and "what-if" scenarios based on service level agreements, etc.
    - c) Identify faults that could lead to the top level event. Continuing the above

example, some possible faults leading to an outage lasting more than four hours might be "loss of power", another might be "hardware failure." List all the faults under the top level event in boxes and connect the fault boxes to the top level event box by drawing lines.

d) For each fault, list as many causes as possible in boxes below the related fault. Continuing the example above, in the case of "loss of power," some causes might be "electrical outage," "power supply failure," and so on. Connect the boxes to the appropriate fault box.

e) Draw a diagram of the "fault tree." Two logic operators - 'and' and 'or', also known as logic gates - are used to represent the sequencing of faults and causes.

For example, "Email server down for more than 4 hours" could be caused by "loss of power" or "hardware fault." Another might be "loss of building power" and "battery backup exhausted."

Update faults and causes by grouping logically related items using 'and' or 'or' between faults and events; and faults and causes. Re-draw the lines from top level event to logic gates to faults to logic gates to causes.

f) Continue identifying causes for each fault until you reach a root cause (reactive FTA), or one that you can do something about (proactive FTA). For example, the root cause of "power supply failure" might be "filter clogged;" the root cause of "battery backup exhausted" might be "battery backup too small".

g) Consider countermeasures. A root cause is one you can do something about; so now you need to think of the countermeasures you might apply to each root cause. List counter measures for each root cause in a box under the root cause. For example, for "filter clogged" a countermeasure might be "clean filter monthly." Link the countermeasure to the root cause by drawing a line.

xv) Fault tree analysis diagrams are commonly used to illustrate events that might lead to a failure so the failure can be prevented. Fault tree analysis diagrams are commonly used in Six Sigma process.

### 9.7 CARE AND MAINTENANCE DURING TEMPORARY DISCONTINUANCE:

If the mine working is discontinued temporarily for more than 120 days, notice will be given 30 days before the date of such discontinuance to the concerned authorities. Accordingly the lease will inform to the Assistant Director of Mines & Geology, Kadapa.

The lessee will take proper Care and Maintenance if any temporary discontinuance of mining operations.

Item	Details	Proposed
Dump management	Area afforested in Ha	0.896
	No of saplings	250
	Cumulative no of plants	50
	Cost including watch and care during the year	1.350Lakh
Management of worked out benches	Area available for rehabilitation Ha	Nil
	Afforestation done ha	Nil
	No of saplings plant in the year	Nil
	Cumulative no of plants	Nil
	Any other method of rehabilitation (specify)	Nil
	Cost including watch and care during the year	Nil
Reclamation and Rehabilitation by backfilling	Void available for Backfilling (Lx B x D) pit wise/stope wise	Nil
	Void filed by waste/tailings	Nil
	Afforestation on the backfilled area	Nil
	Rehabilitation by making reservoir	Nil
	Any other means (specify)	Nil
Rehabilitation of waste land within lease	Area available (Ha)	Nil
	Area rehabilitated	Nil
	Method of rehabilitation	Nil



**Emergency Plan:-**

- 1) During discontinuance period safety arrangement and fencing will be provided to avoid the entry of unauthorized persons.
- 2) On realizing anything serious will be happened anywhere in the mine immediately informs the nearest mining official by the Guard arranged at Quarry Site.
- 3) On being informed about the emergency it will be verified for the correctness of information and telephone in particular to the Manager and other part of the mine and managers of adjoining mine so that persons may be withdrawn.
- 4) On receiving information of emergency intimation will be sent to the consultative committee which is already formed. Shift in-charge will ensure that all the materials and transport system to deal with emergency situation.
- 5) First aid facilities to be ready to receive the cases.

**9.8 FINANCIAL ASSURANCE:**

**Break up of areas in the mining lease for calculation of financial assurance:**

Sl. No	Details	Existing Land use (Ha.)	Additional requirement area during the plan period (Ha)	Land use at the end of the plan period(Ha)
1	Area under mining	0.000	2.965	2.965
2	Overburden dump	0.000	1.329	1.329
3	Mineral storage/	0.000	0.275	0.275
4	Infrastructure	0.000	0.002	0.002
5	Roads	0.000	0.052	0.052
6	Green belt	0.000	0.896	0.896
	<b>SUB- TOTAL</b>	<b>0.000</b>		<b>5.520</b>
7	Virgin Area	8.430		2.910
	<b>TOTAL</b>	<b>8.430</b>		<b>8.430</b>
8	Safety Zone Area	1.420		1.420
	<b>TOTAL QUARRY LEASE AREA</b>	<b>9.850</b>		<b>9.850</b>
	Approach Road Area	0.320		0.320
	<b>Total Area</b>	<b>10.170</b>		<b>10.170</b>

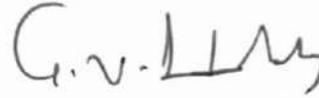
The proposed mining operations for the cost of reclamation & rehabilitation is calculated as per A.P.G.O.MS.No.53, Dated:27-02-2019, Rs.50,000/- per 5.000 hectare after that per hectare 10,000/-. Total area is 10.170Ha an amount of 1,10,000/-. The financial assurance in the form of Bank Guarantee for INR. 1,00,000/- will be submitted to the Assistant Director, Department of Mines & Geology, Ongole, Andhra Pradesh.

**Qualified Person**



**SRI. T. BRAHMAIAH,  
RQP/DMG/AP/39/2017.**

**M/s. Sri Shiridi Sai Minerals,**



**Sri. G. Venkata Subba Reddy,  
Managing partner.**

APPROVED



(B. HAVI KUMAR)

Deputy Director of Mines & Geology  
ONGOLE, A.P.

This Mining scheme is Approved Subject to  
the Conditions Stipulations Indicated  
in the Mines Scheme Approval Letter,  
No: 619/MP-052/MRKP/2022

Dated: 01/10/2022

GOVERNMENT OF ANDHRA PRADESH  
DEPARTMENT OF MINES AND GEOLOGY

From:  
B. Ashok Kumar, M.Sc.,  
Asst. Director of Mines and Geology,  
Markapur.

To:  
\*The Dy. Director of Mines & Geology,  
Ongole, Prakasam dist.

Letter.No.3630/Q/2021 Dt. 08-03-2022.

Sir,

Sub:- Mines & Quarries - Application filed for grant of Quarry Lease for Quartz over an extent of 10.170 Hectare in Cmpt. No. 475 of Mundlapadu Beat Veligonda Reserved Forest, C.S.Puram, Kanigiri Range of Giddalur Division of Prakasam dist. in favour of M/s. Sree Shirdi Sai Minerals, Mg.Ptr. Sri Venkata Subba Reddy - Draft Mining Plan - Submitted - Regarding.



1. Circular Memo.No.3861432/P/2020, dated:16-07-2021 of the Director of Mines and Geology, Ibrahimpatnam.
2. Application Dated: 03-11-2021 from M/s. Sree Shirdi Sai Minerals, Mg.Ptr. Sri Venkata Subba Reddy, in shape of form "P".

\*\*\*

I invite kind attention to the subject and references cited. Through the reference cited, the Director of Mines and Geology, Ibrahimpatnam has directed Dy. Directors of Mines and Geology to consider the AMP for approval of the Forest area applications in advance without issuing of Notice of the applicants requesting to submit AMP,EC,CFE, in case of Mineral Concession applications filed in Reserve Forests.

In this connection, I herewith forwarding the draft Mining Plan of quarry lease applicant M/s. Sree Shirdi Sai Minerals, Mg.Ptr. Sri G. Venkata Subba Reddy submitted for grant of quarry lease for Quartz over an extent of 10.170 Hectares in Compartment No. 475 of Mudalapadu Beat, C.S.Puram Section, Kanigiri Range, Giddaluru Forest Division, Prakasam District for necessary action.

Yours faithfully,

  
Asst. Director of Mines & Geology  
Markapur.

Copy submitted to the Director of Mines and Geology, Ibrahimpatnam for favor of information.

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 Leases/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 4<sup>th</sup> 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 5<sup>th</sup> cited, the Principal Chief Conservator of  
Forest & Head of Forests, Andhra Pradesh stated that during the virtual  
meeting held with GoI, MoEF & CC, New Delhi on 08.07.2021 while receiving  
the proposals of the some of applications for which this office forwarded to  
PCCF for grant of Quarry lease in forest areas, they suggested the  
authenticated DGPS surveyed sketch of proposed forest area with Geo-  
coordinates duly indicating land use plan for mining, safety zone, approach  
road in respect of the four mining proposals, and necessary instruction are  
being issued to the above user Agencies to furnish the Draft Mining plan  
based on the above precise area arrived after conducting DGPS survey, to  
the Director of Mines & Geology, Andhra Pradesh., Ibrahimpatnam for  
necessary action. Further also informed that the DM&G, AP/the  
representative authorized by him, may approach the concerned Divisional  
Forest Officers for entry into Forests to inspect the precise forest area  
proposed for mining purpose, and finally requested to submit AMP of the  
said mining proposals as stated below:

1. Grant of quarry lease over an extent of 4.78 ha. Of forest land in  
compartment no.127, Kondaveedu RF, Ameenabad beat, Perecherla (V),  
Medikondur Mandal, Guntur for Road Metal & Building Stone in favour of  
Kunambrahmananda Redd, Ongole, Prakasam District.
2. Grant of quarry lease over an extent of 4.49 ha. Of forest land in  
compartment no.127, Kondaveedu RF, Ameenabad beat, Perecherla(V),  
Medikondur Mandal, Guntur for Road Metal & Building Stone in favour of  
Sri Dar Appa Rao, West Godavari District.
3. Diversion of forest land over an extent of 4.72 ha. In compartment  
no.450 of Yerrakonda R, Tummagunta Village, Kanigiri Mandal, Prakasam  
District for excavation of Quartz in favour of M/s AhobilaNarasimha  
Minerals.

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

In this connection it is to inform that, as per the existing provisions laid down under APMMC Rules 1966 the AMP shall allowed only after issue of Notice (LOI) to the applicant. But as per the present instructions received from the PCCF vide reference 5<sup>th</sup> 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 3<sup>rd</sup> & 4<sup>th</sup> cited.

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

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

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

Encl: References as stated above

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

//Attested//

G. Sankar Babu.  
Assistant Director of Mines & Geology

Srikrishna Sai Minerva



AP16 28698017

**GOVERNMENT OF ANDHRA PRADESH  
REGISTRATION AND STAMPS DEPARTMENT  
THE REGISTRAR OF FIRMS  
PRODDATOR**

**Memorandum acknowledging receipt of documents**



[No : 15 of 2010]

The Registrar of Firms, PRODDATOR hereby acknowledges the receipt of the undermentioned documents

\* Incoming / Exiting / Replace Partner for Firms

and intimates that they have been filed in pursuance of the Indian Partnership Act, 1932



REGISTRAR OF FIRMS

PRODDATOR

Date : 12/02/2019

To,

MURALIDHAR

3/75/ Rayavaram/ Kolhapalli Gp Proddatur/ Proddatur/ Kadapa/ Andhra Pradesh/ India/

Signature valid

Digitally signed  
by DAMODHAR  
RASIREDDI  
Date: 2019.02.12  
09:55:38 IST

FORM V

(Maintained Under Section 63 of the Indian Partnership Act, 1932)

1. Serial Number of Firm :	[No : 15 of 2010]
2. Name of the Firm	Sree Shiridi Sai Minerals
3. Duration of Firm	At Will
4. Address :	3/848-6 Ymr. Colony Proddatur.

Principal place of business:

3/848-6 Ymr. Colony Proddatur.

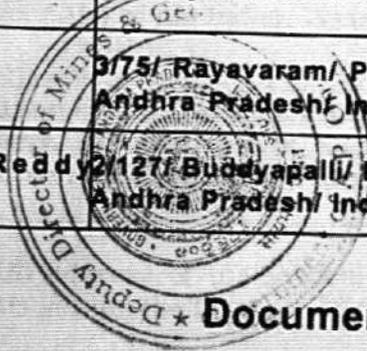
Partner Details for the Firm

Name	Address	Joining Date
G. Venkata Subba Reddy	3/848-6 Ymr. Colony Proddatur Kadapa Dist, 516360.	21/01/2010
Muralidhar Mallela	3/75/ Rayavaram/ Proddatur/ Proddatur/ Kadapa/ Andhra Pradesh/ India/	05/09/2018
Venkata Subba Reddy Dr Lingareddy	435/A Road No-20/ Jublee Hills/ Hyderabad/ Proddatur/ Kadapa/ Dno 435/A Road No-20 Jublee Hills Hyderabad Telangana 500036/ India/	05/09/2018

*[Signature]*  
 VENKATA SUBBA REDDY  
 435/A ROAD NO-20  
 JUBLEE HILLS, HYDERABAD  
 TELANGANA 500036

Balaji Minerals

Pammi	435/A Road No-20/ Jublee Hills/ Hyderabad/ Dno-435/a Road No-20 Jublee Hills Hyderabad Telangana 500034/ India/	05/09/2018
Venkata Subhash Singareddy	465/A Road No-20/ Jublee Hills/ Hyderabad/ Dno-465/A Road No-20 Jublee Hills Hyderabad Telangana 500034/ India/	05/09/2018
Venkata Suni Singareddy	435/A Road No-20/ Jublee Hills/ Hyderabad/ Proddatur/ Kadapa/ Dno 435/A Road No-20 Jublee Hills Hyderabad Telangana 500034/ India/	05/09/2018
Juma Rajoli	3175/ Rayavaram/ Proddatur/ Proddatur/ Kadapa/ Andhra Pradesh/ India/	05/09/2018
Munisekhar Reddy Panyam	2/127/ Buddayapalli/ Proddatur/ Proddatur/ Kadapa/ Andhra Pradesh/ India/	05/09/2018



**Document Details**

Document Type	Document Name
FORM-V	FormVofSreeShirdiSaiMineralsOutgoingAnd

*[Handwritten signature]*  
MUNISEKHAR REDDY  
3175/ RAYAVARAM  
PRODDATUR, KADAPA  
ANDHRA PRADESH  
500034

**FORM NO. V**  
**(See Rule4)**  
**THE INDIAN PARTNERSHIP ACT, 1932**

Notice of change in the constitution of the firm Presented or forwarded to the Registrar of firms filling by **M/S SREE SHIRDI SAI MINERALS**

Under Section 63(1) of the Indian Partnership Act, 1932, notice is hereby given that:-

The Constitution of the firm **M/S SREE SHIRDI SAI MINERALS**, D.No.3/848-6, YMR Colony, Proddatur, YSR Kadapa Dist., Andhra Pradesh under the provisions of the Partnership Deed has been altered as follows:-

Name and full address of the incoming partner and date of his joining the firm	Name and full address of the outgoing partner and date of ceasing to be partner
<p>① <b>Dr. LINGAREDDY VENKATA SUBBA REDDY,</b> Son of Late Sri L. SUBBA REDDY, D.No. 435/A, Road No. 20, Jubilee Hills, Hyderabad - 34</p> <p><b>DOJ: 05-09-2018</b></p>	<p>① <b>SYED MASTAN BASHA -</b> <b>S/o PEERU MOHAMMAD</b> <b>6-52, CURRENT OFFICE</b> <b>ROAD</b> <b>PAMUR VILLAGE</b> <b>PRAKASAM DIST</b></p> <p><b>DOC: 05-09-2018</b></p>
<p>② <b>MALLELA MURALIDHAR,</b> Son of Sri M VENKATA RAMANA REDDY, D.No.3/75, Rayavaram, Proddatur, Kadapa Dist.,</p> <p><b>DOJ: 05-09-2018</b></p>	<p>② <b>BEERAM CHANDRA</b> <b>SEKHAR REDDY</b> <b>S/o SUBBA REDDY</b> <b>2/37-3,</b> <b>JOGIREDDYGARIPALLI (V)</b> <b>BADVEL (M)</b></p> <p><b>DOC: 05-09-2018</b></p>

Name and full address of the incoming partner and date of his joining the firm	Name and full address of the outgoing partner and date of ceasing to be partner
<p>③ <b>Dr. PAMMI GARGI,</b> <b>W/O LINGAREDDY VENKATA SUBBA REDDY,</b> <b>D.No. 435/A, Road No. 20, Jublee Hills,</b> <b>Hyderabad - 34,</b></p> <p><b>DOJ: 05-09-2018</b></p>	
<p>④ <b>LINGAREDDY VENKATA SUBHASH,</b> <b>S/O LINGAREDDY VENKATA SUBBA REDDY,</b> <b>D.No. 435/A, Road No. 20, Jublee Hills,</b> <b>Hyderabad - 34,</b></p> <p><b>DOJ: 05-09-2018</b></p>	
<p>⑤ <b>LINGAREDDY VENKATA SUNIL,</b> <b>S/o LINGAREDDY VENKATA SUBBA REDDY,</b> <b>D.No. 435/A, Road No. 20, Jublee Hills,</b> <b>Hyderabad - 34,</b></p> <p><b>DOJ: 05-09-2018</b></p>	
<p>⑥ <b>RAJOLI UMA</b> <b>W/o Sri. MALLELA MURALIDHAR,</b> <b>D.No.3/75, Rayavaram, Proddatur,</b> <b>Kadapa Dist.,</b></p> <p><b>DOJ: 05-09-2018</b></p>	



Name and full address of the incoming partner and date of his joining the firm	Name and full address of the outgoing partner and date of ceasing to be partner
<p>⑦ PANYAM MUNI SEKHAR REDDY, S/o PEDDA MUNI REDDY, D.No. 2/127, Buddayapalli, Proddatur, Kadapa Dist,  DOJ: 05-09-2018</p>	



Station : Proddatur  
Date : 05-09-2018

Signature of the incoming partners  
or his specially authorised agent.

① J. J. J.

② M. Z. Z.

③ P. G. G.

④ Z. S. S.

⑤ > D. D.

⑥ R. U. U.

⑦ P. M. M.

RD

① S. M. M.

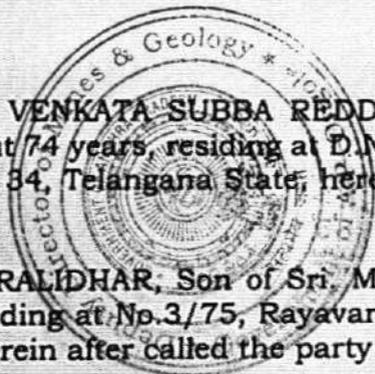
② B. C. C.



### PARTNERSHIP DEED

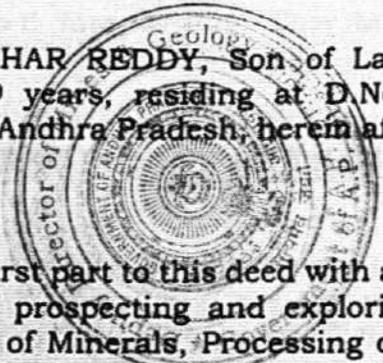
This RECONSTITUTION DEED OF PARTNERSHIP entered into at Proddatur, this the 05<sup>th</sup> day of September, 2018 by and between:

1. Sri. GUNDRU VENKATA SUBBA REDDY, Son of Sri. G. RAMA SUBBA REDDY, aged 50 years, residing at No.3/848-6, YMR Colony, Proddatur, Kadapa Dist., Andhra Pradesh., herein after called the party of the FIRST PART.
2. Dr. LINGAREDDY VENKATA SUBBA REDDY, Son of Late Sri L. SUBBA REDDY, aged about 74 years, residing at D.No. 435/A, Road No. 20, Jublee Hills, Hyderabad - 34, Telangana State, herein after called the party of the SECOND PART.
3. Sri. MALLELA MURALIDHAR, Son of Sri. M. VENKATA RAMANA REDDY, aged 50 years, residing at No.3/75, Rayavaram, Proddatur, Kadapa Dist., Adnhra Pradesh herein after called the party of the THIRD PART.
4. Dr. PAMMI GARGI, Wife of Dr. LINGAREDDY VENKATA SUBBA REDDY, aged 68 years, residing at D.No. 435/A, Road No. 20, Jublee Hills, Hyderabad - 34, Telangana State, herein after called the party of the FOURTH PART.
5. Sri. LINGAREDDY VENKATA SUBHASH, Son of Dr. LINGAREDDY VENKATA SUBBA REDDY, aged 47 years, residing at D.No. 435/A, Road No. 20, Jublee Hills, Hyderabad - 34, Telangana State, herein after called the party of the FIFTH PART.



① G. V. Subba Reddy      ② Lingareddy Venkata Subba Reddy      ③ M. Muralidhar  
④ P. Gargi      ⑤ Subhash      ⑥ Pammi Gargi  
⑦ R. Lingareddy      ⑧ P. M. Subhash  
⑨ S. Masthanappa      ⑩ R. Chandra et al.

6. Sri. LINGAREDDY VENKATA SUNIL, Son of Dr. LINGAREDDY VENKATA SUBBA REDDY, aged 44 years, residing at D.No. 435/A, Road No. 20, Jubilee Hills, Hyderabad - 34, Telangana State, herein after called the party of the SIXTH PART.
7. Smt. RAJOLI UMA Wife of Sri. MALLELA MURALIDHAR, aged 43 years, residing at No.3/75, Rayavaram, Proddatur, Kadapa Dist., Andhra Pradesh, herein after called the party of the SEVENTH PART.
8. Sri. PANYAM MUNISEKHAR REDDY, Son of Late Sri P. PEDDA MUNI REDDY, aged about 49 years, residing at D.No. 2/127, Buddayapalli, Proddatur, Kadapa Dist, Andhra Pradesh, herein after called the party of the EIGHTH PART.



Whereas the parties of the First part to this deed with another two partners had carried on the business of prospecting and exploring of Minerals, Mining, Trading, Import and Export of Minerals, Processing of all kinds of major and minor Minerals, take up Works Contracts, Mining works, establish value added Industries related to all kinds of Minerals and any other related business that may be carried with the mutual consent of all the partners. under the name and style of "M/s SREE SHIRDI SAI MINERALS" at D.No.3/848-6, YMR Colony, Proddatur under the provisions of the Partnership Deed Dated: 05-02-2010 as 15 of 2010 with Registrar of Firms, Proddatur. Where as from 05<sup>th</sup> September 2018 the parties of the Second Part to the original deed Sri Syed Masthan Basha and Third Part to the original deed Sri Beeram Chandra Sekhar Reddy wants to retire from the business due to their personal reasons, the party of the Second Part to Eighth Part of this deed is being taken into Partnership and also to carry on the Business of prospecting and exploring of Minerals, Mining, Trading, Import and

① G.V. L.M.      ② J. J.      ③ M. Z. Subash

④ P. S. S.      ⑤ Z. V. Subash      ⑥ S. S. S.

⑦ R. U.      ⑧ P. M. S. S.

⑨ S. M. B.      ⑩ R. C. S.

Export of Minerals, Processing of all kinds of major and minor Minerals, take up Works Contracts, Mining works, establish value added Industries related to all kinds of Minerals and any other related business that may be carried with the mutual consent of all the partners under the name and style of "M/s SREE SHIRDI SAI MINERALS" at D.No. 3/848-6, YMR Colony, Proddatur, Kadapa District, Andhra Pradesh., Whereas the Parties of the First part to Eighth Part hereto have desired that the terms and conditions under which the business is to be carried on be reduced into writing. This instrument of Partnership witnesseth as under:

**NOW THIS DEED OF PARTNERSHIP WITNESSESS AS FOLLOWS**

- 1. FIRM NAME:** The parties hereto hereby have agreed to and remain, as partners in the partnership business and the partnership business shall be carried on under the name and style of "M/s SREE SHIRDI SAI MINERALS".
- 2. NATURE OF BUSINESS:** The business of Partnership Firm shall be that of business of prospecting and exploring of Minerals, Mining, Trading, Import and Export of Minerals, Processing of all kinds of major and minor Minerals, take up Works Contracts, Mining works, establish value added Industries related to all kinds of Minerals and any other related business that may be carried with the mutual consent of all the partners from time to time.
- 3. PLACE OF BUSINESS:** The Partnership business shall be carried on at D.No. 3/848-6, YMR Colony, Proddatur, Kadapa Dist., Andhra Pradesh, as its Head Office. The firm may also carry on the business at such other place or places as the Partners may determine from time to time.
- 4. CAPITAL:** The funds required for the purpose of the Partnership business shall be contributed or arranged by the partners in such manner as may be mutually agreed upon; and that interest to Capital account and/or Current account or Loan Account shall be charged at the rate of 12% per annum.

① G. V. L. M. Y.      ② J. V.      ③ M. V.      ④ P. G.      ⑤ Z. S.      ⑥ D.      ⑦ R.      ⑧ P.      ⑨ P.      ⑩ P.

Sd. M. S. S. S. S. S.

B. Ch. S. S. S. S.

**5. REMUNERATION TO THE WORKING PARTNERS:**

All the partners are working partners of the firm, and entitled to the remuneration of Rs.30,000/- pm. The remuneration may be increased or decreased by writing a corrigendum

PROVIDED always that the remuneration payable to the partners shall not exceed the maximum permissible limit U/S 40(b) (v) the Indian Income tax Act, 1961 and other related provisions

**6. PROFIT AND LOSS SHARING RATIO:** The Net Profit after remuneration to working partners as per clause 5 shall be divided amongst the partners in following Ratio

S.No.	NAME OF THE PARTNER	%
1	GUNDRU VENKATA SUBBA REDDY	16
2	DR. LINGAREDDY VENKATA SUBBA REDDY	10
3	MALLELA MURALIDHAR	20
4	DR. PAMMI GARGI	05
5	LINGAREDDY VENKATA SUBHASH	10
6	LINGAREDDY VENKATA SUNIL	10
7	RAJOLI UMA	15
8	PANYAM MUNI SEKHAR REDDY	14
	TOTAL	100

**7. BANK ACCOUNT:** An Account or Accounts shall be operated with any Bank or Banks in the name of the Firm as may be agreeable among the partners from time to time. The Bank Account(s) of the Firm shall be operated by the parties of Second Part Dr. Lingareddy Venkata Subba Reddy, Third Part Sri. Mallela Muralidhar, and Eighth part Sri. Panyam Muni Sekhar Reddy of the Deed Individually.

- ① G. V. L. M.                      ② J. M.                      ③ M. Muralidhar
- ④ P. Gaen                      ⑤ S. Subash                      ⑥ S. Sunil
- ⑦ R. Uma                      ⑧ P. M. Sekhar Reddy
- ① Sd. Mathan Babu                      ② B. Chandra Reddy

8. **ACCOUNTS:** Books of Accounts shall be kept as are usually maintained in the business of similar nature and the Partners hereto shall have access to the same and that no books of account or papers shall be removed from the business premises without the mutual consent of all the partners.

9. **ACCOUNTING PERIOD:** The Accounts of the firm shall be closed every year on the 31<sup>st</sup> day of march and Profit and Loss Account and general statement of Assets and Liabilities shall be prepared so soon after the end of the year as is practicable.

10. **BORROWINGS:** The Firm shall have the power to borrow or raise any loans from the Financial Institutions, Banks, Companies, Firms and Individuals or from whatever sources for the purpose of Partnership business. All the Partners are here by authourised to exercise the above said borrowing powers on behalf of the Firm.

11. **ADMISSION OF PARTNER OR PARTNERS:** The Partners of the Firm may admit one or more Partners to the business of Partnership on such terms and conditions as may be mutually agreed to between them, when the situation so warranted.

12. **RETIREMENT OF PARTNER:** If during the continuance of the Partnership, any partner is desirous of retiring from the Partnership, he shall be at liberty to do so by giving a notice of one month in writing to the other partners conveying his intention of retiring from the partnership business. The amount standing to the credit of the retiring partner including the share of profit or loss upto the date of retirement shall be settled by the other partners within a reasonable time. If it is found that there is a debit balance in the account of the retiring partner; the retiring partner will settle the same within a reasonable time. Such retiring partner shall not be entitled to any share in the GOODWILL if any, of the Firm.

① G. V. L. M. Y.

② J. M. Y.

③ M. Z. Nalodhar

④ P. G. a. y. n.

⑤ Z. Subash

⑥ d. d. d. d.

⑦ L. M. Y. n. y.

⑧ P. M. a. n. c. o. l. l. e.

① S. d. m. e. s. t. h. e. n. B. e. t. t. a.

② B. - C. h. e. n. u. r. y.



सत्यमेव जयते  
भारत सरकार



आधार

భారత విశిష్ట గుర్తింపు ప్రాధికార సంస్థ

భారత ప్రభుత్వం

Unique Identification Authority of India  
Government of India

నమోదు సంఖ్య / Enrolment No.: 205231869/00370

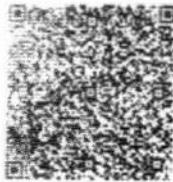
To:  
గుండ్ల వెంకట సుబ్బారెడ్డి  
Gundra Venkata Subbareddy  
S/O Late Gundra Ramasubbareddy  
3/848-6  
maruthi nagar  
y m r colony  
Proddatur  
Proddatur Cuddapah  
Andhra Pradesh 515360  
9440284490

02/03/2012

Ref: 1335 / 290 / 226361 / 225546 / 7



SBS027



మీ ఆధార్ సంఖ్య / Your Aadhaar No. :

**2209 7989 2554**

నా ఆధార్, నా గుర్తింపు

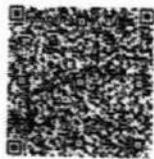


భారత ప్రభుత్వం

Government of India



గుండ్ల వెంకట సుబ్బారెడ్డి  
Gundra Venkata Subbareddy  
పుట్టిన తేదీ / DOB : 21/04/1968  
పురుషుడు / Male



**2209 7989 2554**

నా ఆధార్, నా గుర్తింపు

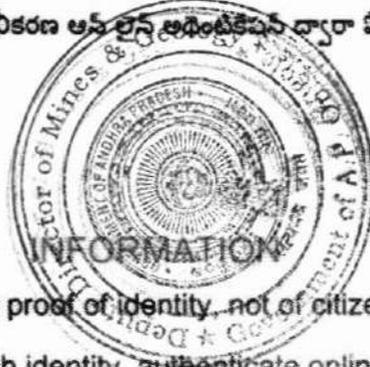


Government of India



### సమాచారం

- ఆధార్ గుర్తింపుకు ధృవీకరణ, పౌరసత్వానికి కాదు .
- గుర్తింపుకు ధృవీకరణ ఆన్ లైన్ ఆధారితమైన ద్వారా పొందవచ్చు .



- Aadhaar is proof of identity, not of citizenship .
- To establish identity, authenticate online .

290 / 226361

- ఆధార్ దేశమంతటా ఆమోదించబడుతుంది .
- ఆధార్ భవిష్యత్తులో ప్రభుత్వ మరియు ప్రభుత్వేతర సేవలు అందచేయడంలో సహాయ పడుతుంది .
- Aadhaar is valid throughout the country .
- Aadhaar will be helpful in availing Government and Non-Government services in future .



ఆధార్

భారత విశిష్ట గుర్తింపు ప్రాధికార సంస్థ

Unique Identification Authority of India

చిరునామా: S/O లేట్ గుండ్రా రామసుబ్బారెడ్డి, 3/848-6, మారుతి నగర్, ధై యం ఆర్ కాలనీ, ప్రొద్దుటూరు, ప్రొద్దుటూరు, కడప, ఆంధ్రప్రదేశ్, 516360

Address: S/O Late Gundra Ramasubbareddy, 3/848-6, maruthi nagar, y m r colony, Proddatur, Proddatur, Cuddapah, Andhra Pradesh, 516380

2209 7989 2554



1947



help@uidai.gov.in



www.uidai.gov.in

  
  
**GOVERNMENT OF ANDHRA PRADESH**  
**DEPARTMENT OF MINES AND GEOLOGY**  
**CERTIFICATE OF REGISTRATION**  
**AS QUALIFIED PERSON TO PREPARE MINING PLAN**



*[Under Rule 14(2) of Granite Conservation and Development Rules 1999]*

\* \* \* \* \*

*Sri T. Bramhaiah, S/o. Sri T. Veeraiah R/o 1/17, Kuppalapalli (V&P) Vempalli Mandal, YSR Kadapa District, Andhra Pradesh whose photograph is affixed herein above, having given evidence of his qualification and experience is hereby granted recognition under rule 14(3) of Granite Conservation & Development Rules, 1999 as Qualified Person to prepare Mining Plans/ Schemes.*

Registration Number is :

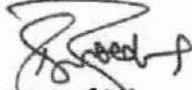
**RQP/DMG/AP/39/2017**

*This Recognition is valid for a period of 10 years with effect from 15 .05.2017 valid upto 14 .05.2027.*

*This certificate will liable to be withdrawn/cancelled in the event of furnishing the wrong information /documents in the Mining Plan submitted by him.*

Place: Ibrahimpatnam

Date: 15 .05.2017.

  
**Director of Mines and Geology**  
**Director of Mines and Geology**  
**Department of Mines and Geology**  
**Govt. of A.P., Ibrahimpatnam**  
**Krishna District**

**NATURAL RESOURCES DEVELOPMENT CO-OPERATIVE SOCIETY LTD.,**

Natural Resources Development Co-Operative Society Limited undertakes the testing / analysis of Sample (s), Subject to the following terms and conditions.

In the absence of specific request from the customer NRDCS has the freedom to adopt any National / International standard specifications test method for conducting the tests. In the absence/non-accessibility of a standard specifications. NRDCS may suggest a test specification and adopt the some in confirmation from the customer.

In the rare event any deviation from the specified analysis or test method becomes necessary for whatever reason the customer shall be informed in writing of such deviation; the reasons for it and its adverse effect if any on the result.

Samples are not drawn by NRDCS unless otherwise mentioned. The results are applicable only to the submitted sample. Endorsement of the product is neither inferred nor implied.

Perishable sample will be destroyed after testing, others after one month from the date of issue of the report, unless otherwise mentioned by the customer as required by the ACL.

The test report in full or part shall not be used for promotional or publicity purpose without the written consent by NRDCS.

The laboratory normally will not offers any opinion / advice or recommendation with respect to the suitability or otherwise of the sample for any application or use conformities to a specification or Act will be mentioned as required by the Act / specifications.

Under no circumstances NRDCS accepts any liability or loss or damage caused by use or misuse of the test report liability is limited to the testing fee charged, in case of proven negligence by the laboratory.

Samples drawn under special circumstances like insurance coverage or medico-legal cases shall be declared by the customer at the time of registrations.

In case of cancellation of registration for any reason, refund of the test charges will be made after adjusting the incidental expense if any.

Unspent sample or samples not accepted for testing, for any reason (s) will be returned to the customer on a written request at his own cost.

NRDCS shall not assume any responsibilities for variations characteristics of samples taken up for analysis after holding up for want of clarifications of the customer.



PVSL Prasad  
Secretary



TC-6712

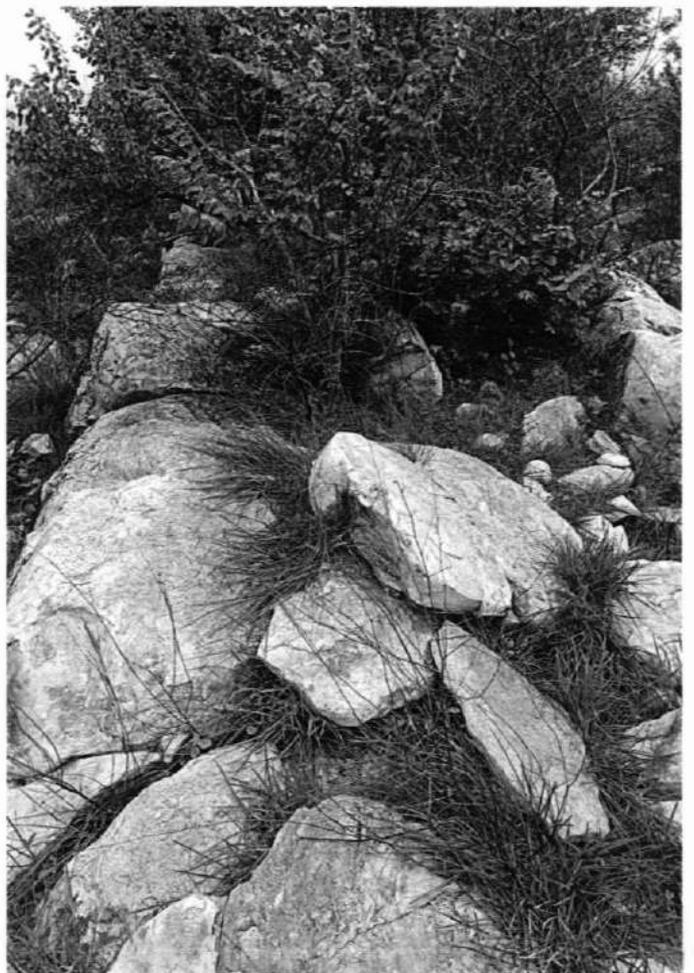
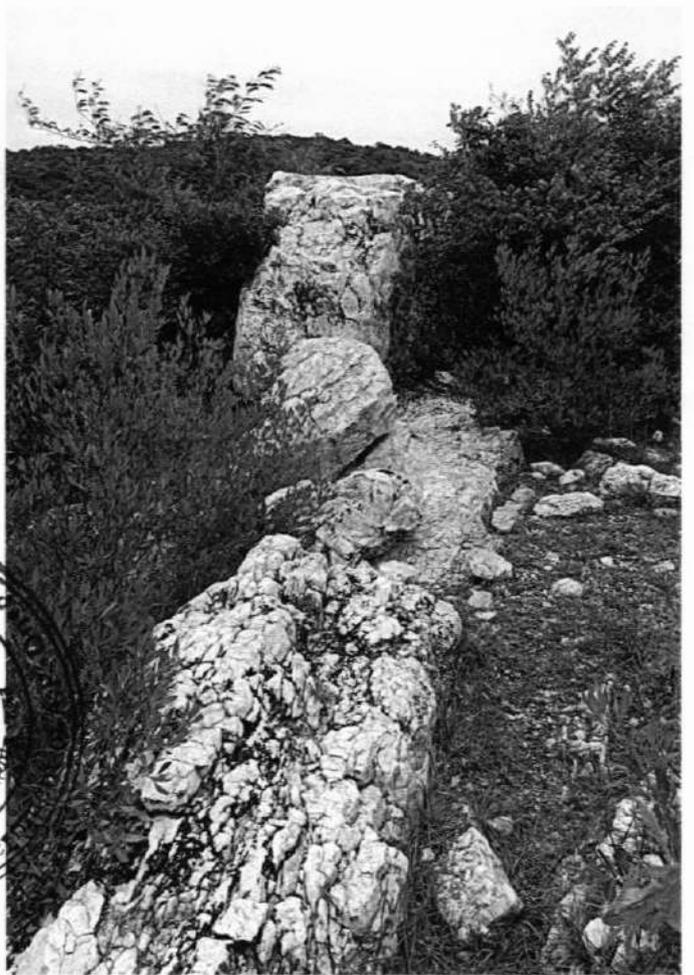
Test Report No: NRDCS /CAD / 20-21 / 11941			
Name & Address of the Customer: M/s. Shiridi Sai Minerals, G.Venkata Subba Reddy, Managing Partner. Compartment No. 475 of Mudlapadu bEat, C.S. Puram Section , kanigiri range, prakasham district		Issue Date : 17-03-2021 Your Ref Ref SR 4804	
Sample Particulars : Quartz		Date of Registration : 12-03-2021	
Location : C.S.Puram.		Date of Commencement of test : 12-03-2021	
Qty : 1 X 250 grms.		Date of Completion of testing : 16-03-2021	
Test Required : LOI, Fe <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> ,CaO,MgO ,K <sub>2</sub> O,Na <sub>2</sub> O, E C		Sample condition when received : OK	
Sampling Method: Sample collected and submitted by the customer		Sample tested as received	
			Page : 1 of 1
Sl. No.	Tests	Test Method	Results obtained % by mass
LAB CODE			17726
1	* Loss on Ignition	IS:1917 (PART-1)	0.31
2	Silica as SiO <sub>2</sub>	IS-1917(part-3)-1992 (R A - 2005)	99.70
3	Ferric Oxide as Fe <sub>2</sub> O <sub>3</sub>	IS-1917(part-5)-1992 (R A - 2005)	0.01
4	Alumina as Al <sub>2</sub> O <sub>3</sub>	IS-1917(part-4)-1992 (R A - 2006)	<0.01
5	*Calcium as CaO	IS:1917 (PART-6)	0.01
6	*Magnesium as MgO	IS:1917 (PART-6)	<0.01
7	*Sodium as Na <sub>2</sub> O	IS:1917 (PART-2)	0.01
8	*Potassium as K <sub>2</sub> O	IS:1917 (PART-2)	<0.01
9	*E.C. Micro Siemens	5% Extraction Solution	10

\* Out of NABL Scope

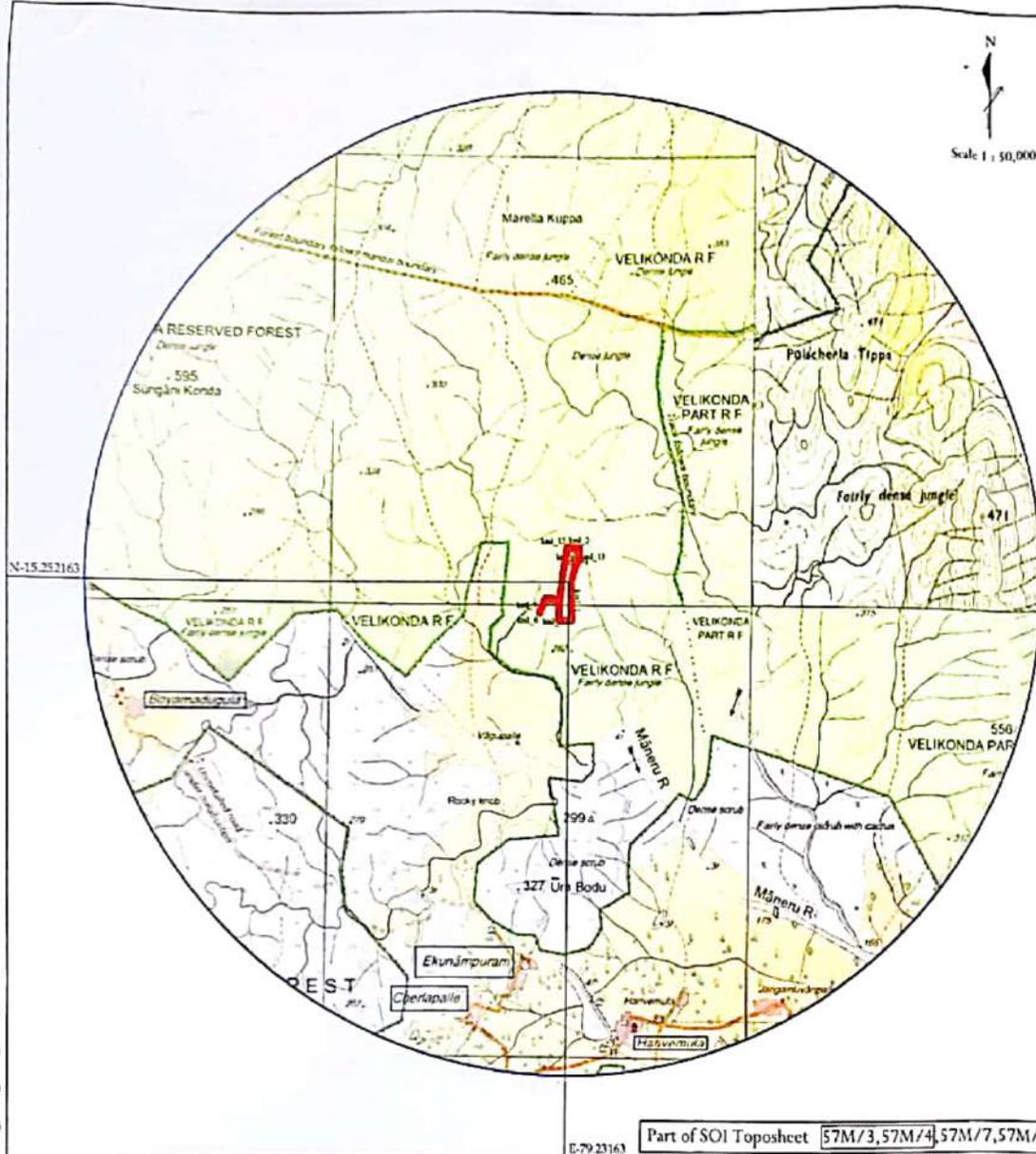
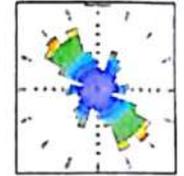
Remarks:

The test results relates only to the sample tested.

M. Ravindar  
(M. Ravindar)



WIND DIAGRAM



S.NO	VILLAGE NAMES	DIRECTION	DISTANCE	POPULATION
1	Ekunapuram	S	3.949KM	1100
2	Harivemula	SE	4.448KM	750
3	Boyamadugula	SW	4.545KM	368
4	Chertlapalle	SW	4.410KM	935

S.NO	Point	Latitude	Longitude	Elevation
1	SS1	15.24855296	79.23225999	255.539
2	SS2	15.24853509	79.23088896	236.792
3	SS3	15.25114504	79.23103118	271.502
4	SS4	15.25392039	79.2313933	297.221
5	SS5	15.25535141	79.23165092	285.465
6	SS6	15.25526626	79.2328543	286.267
7	Pt7	15.25414183	79.23291867	269.146
8	Pt8	15.25355613	79.23251687	269.954
9	Pt9	15.25218892	79.23218304	262.526



PLATE No.1

**Mining Plan for QUARTZ**

Sy.No : 475/Part of C.S. Puram Village, Kanigiri Mandal, Prakasam District, A.P.

Applicant: M/s. Sri Shirdi Sai Minerals,  
Managing Partner: Sri. G. Venkata Subba Reddy.

Title: KEY PLAN

Scale :- 1 : 50,000 R.F.

Extent :- 10.170 Hectares

G.V. L.M.  
Applicant

Dr. Brahmaiah.T  
RQP/DMG/AP/39/2017

**LEGEND**

- STREAM
- VILLAGE
- ROAD
- FOREST BOUNDARY
- QL AREA
- 5 Km RADIUS
- TANK

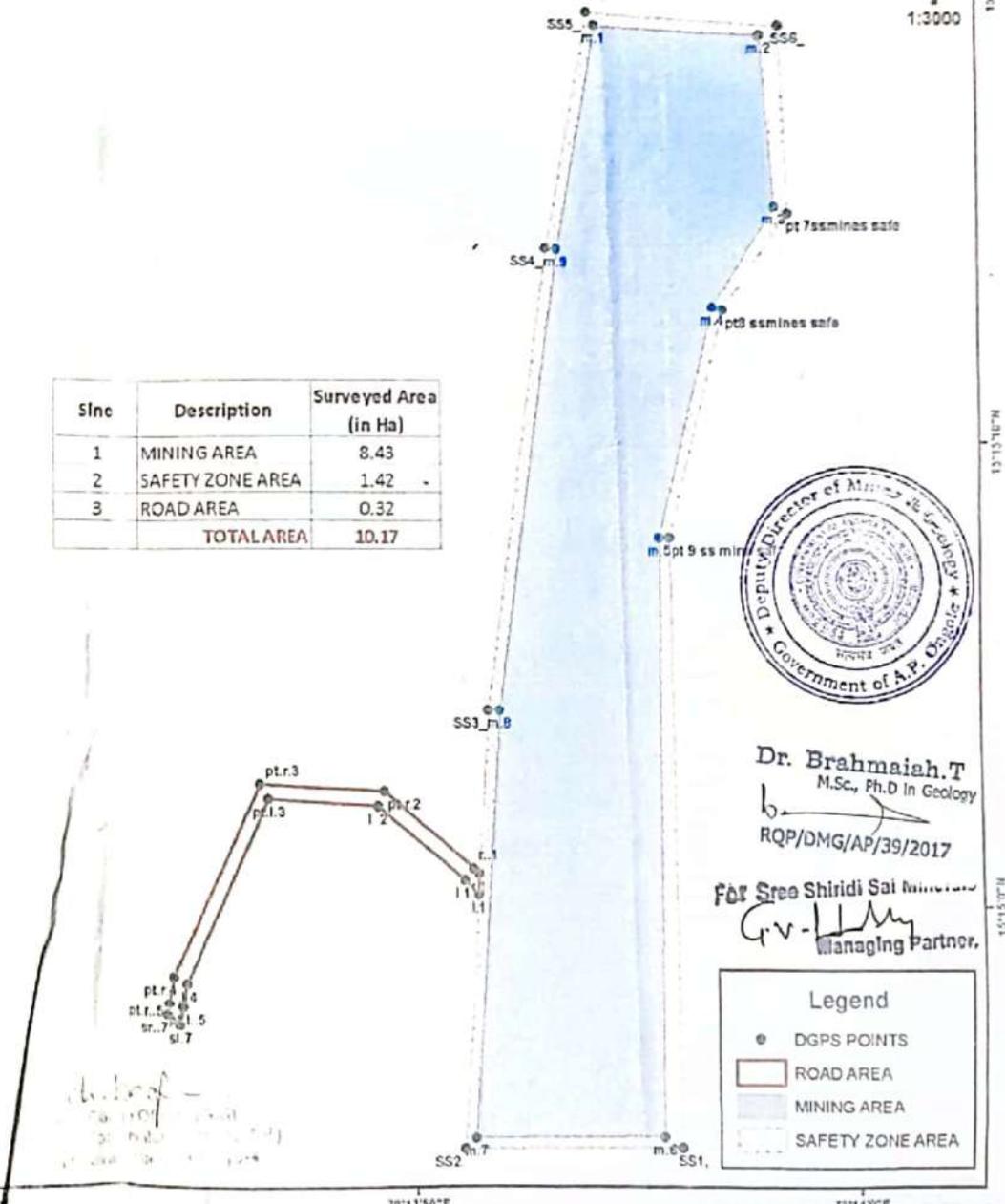
Part of SOI Toposheet 57M/3, 57M/4, 57M/7, 57M/8

# DGPS Survey & Mapping of Mining Safety Zone Area in Compartment No.475 by M/s. Sri Shirdi Sai Minerals of Mundlapadu Beat, C.S.Puram Section, Kanigiri Range, Prakasam Dist, in Andhara Pradesh State.



Name	Easting	Northing	Elevation	GlobalLat	GlobalLong
SS6	310219.794201	1687330.128870	286.267	15.255266	79.232854
SS5	310090.595848	1687340.600390	285.465	15.255351	79.231651
SS4	310061.639283	1687182.478930	297.221	15.253920	79.231393
SS3	310020.243665	1686875.695290	271.502	15.251145	79.231031
SS2	310002.616553	1686587.022310	236.792	15.248535	79.230889
SS1	310149.093143	1686587.802810	255.539	15.248553	79.232252
pt 9 ss mine saf	310144.919886	1686990.198290	262.526	15.252189	79.232183
pt8 ssmine safe	310182.010370	1687141.192460	269.954	15.253556	79.232517
pt 7ssmine safe	310225.698562	1687205.651310	269.146	15.254142	79.232919
pt.r..5	309804.763630	1686681.777700	223.825	15.249377	79.229040
pt.l..5	309814.209034	1686679.370060	223.438	15.249356	79.229128
pt.r.4	309808.010618	1686698.597800	225.157	15.249529	79.229069
l.4	309816.867402	1686694.557790	225.054	15.249493	79.229152
pt.r.3	309865.578782	1686826.504080	237.006	15.250689	79.229595
pt.l.3	309871.261897	1686816.776540	237.194	15.250602	79.229649
pt.r.2	309948.792688	1686822.399950	244.351	15.250658	79.230370
l 2	309944.490726	1686812.182200	242.517	15.250566	79.230331
r..1	310009.693004	1686771.280370	245.833	15.250201	79.230941
l 1	310003.442542	1686763.574410	244.630	15.250131	79.230883
sr..7	309803.711689	1686673.842930	227.134	15.249305	79.229031
sl.7	309812.139475	1686667.219710	226.305	15.249246	79.229110
l.1	310013.030275	1686753.869170	244.136	15.250044	79.230973
r.1	310013.500797	1686767.716530	247.110	15.250169	79.230977
m.7	310010.251048	1686594.150980	230.378	15.248600	79.230959
m.8	310027.834024	1686875.426990	263.941	15.251143	79.231102
m.9	310069.115009	1687181.766140	290.269	15.253914	79.231463
m.1	310096.045811	1687331.502070	277.840	15.255270	79.231702
m.2	310207.440110	1687323.945770	278.278	15.255209	79.232740
m.3	310216.733758	1687210.072540	273.036	15.254181	79.232835
m.4	310175.445156	1687143.210030	273.100	15.253574	79.232456
m.5	310137.941612	1686990.253530	266.453	15.252189	79.232118
m.6	310137.348063	1686594.779520	246.126	15.248615	79.232142

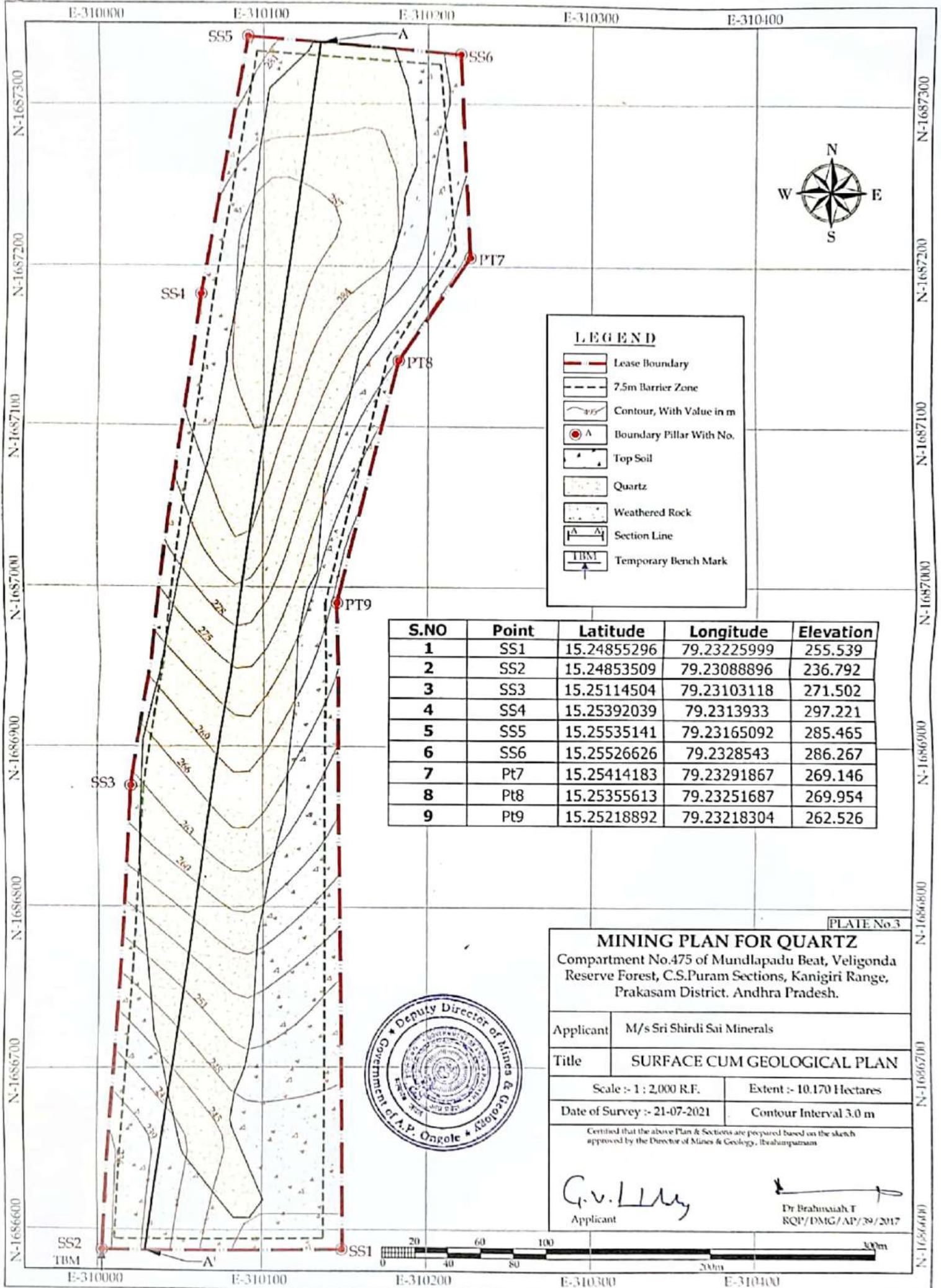
S/nc	Description	Surveyed Area (in Ha)
1	MINING AREA	8.43
2	SAFETY ZONE AREA	1.42
3	ROAD AREA	0.32
<b>TOTAL AREA</b>		<b>10.17</b>



Dr. Brahmaiah.T  
M.Sc., Ph.D In Geology  
RQP/DMG/AP/39/2017

For Sri Shirdi Sai Minerals  
G.V. [Signature]  
Managing Partner.

Legend	
●	DGPS POINTS
—	ROAD AREA
■	MINING AREA
- - -	SAFETY ZONE AREA



**LEGEND**

- Lease Boundary
- 7.5m Barrier Zone
- Contour, With Value in m
- Boundary Pillar With No.
- Top Soil
- Quartz
- Weathered Rock
- Section Line
- Temporary Bench Mark

S.NO	Point	Latitude	Longitude	Elevation
1	SS1	15.24855296	79.23225999	255.539
2	SS2	15.24853509	79.23088896	236.792
3	SS3	15.25114504	79.23103118	271.502
4	SS4	15.25392039	79.2313933	297.221
5	SS5	15.25535141	79.23165092	285.465
6	SS6	15.25526626	79.2328543	286.267
7	Pt7	15.25414183	79.23291867	269.146
8	Pt8	15.25355613	79.23251687	269.954
9	Pt9	15.25218892	79.23218304	262.526

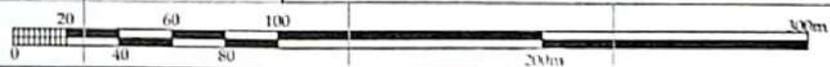
[PLATE No.3]

**MINING PLAN FOR QUARTZ**  
 Compartment No.475 of Mundlapadu Beat, Veligonda Reserve Forest, C.S.Puram Sections, Kanigiri Range, Prakasam District. Andhra Pradesh.

Applicant	M/s Sri Shirdi Sai Minerals
Title	SURFACE CUM GEOLOGICAL PLAN
Scale :- 1 : 2,000 R.F.	Extent :- 10.170 Hectares
Date of Survey :- 21-07-2021	Contour Interval 3.0 m

Certified that the above Plan & Sections are prepared based on the sketch approved by the Director of Mines & Geology, Ibrahimpuram

Applicant
 
  
 Dr Brahmansh T  
 RQP/DMG/AP/39/2017



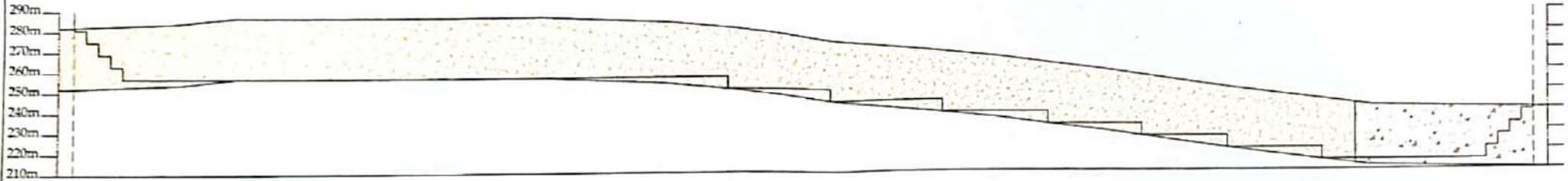


PLATE No. 3A

**LEGEND**

- Lease Boundary
- 7.5m Barrier Zone
- Weathered Rocks
- Quartz
- UPL

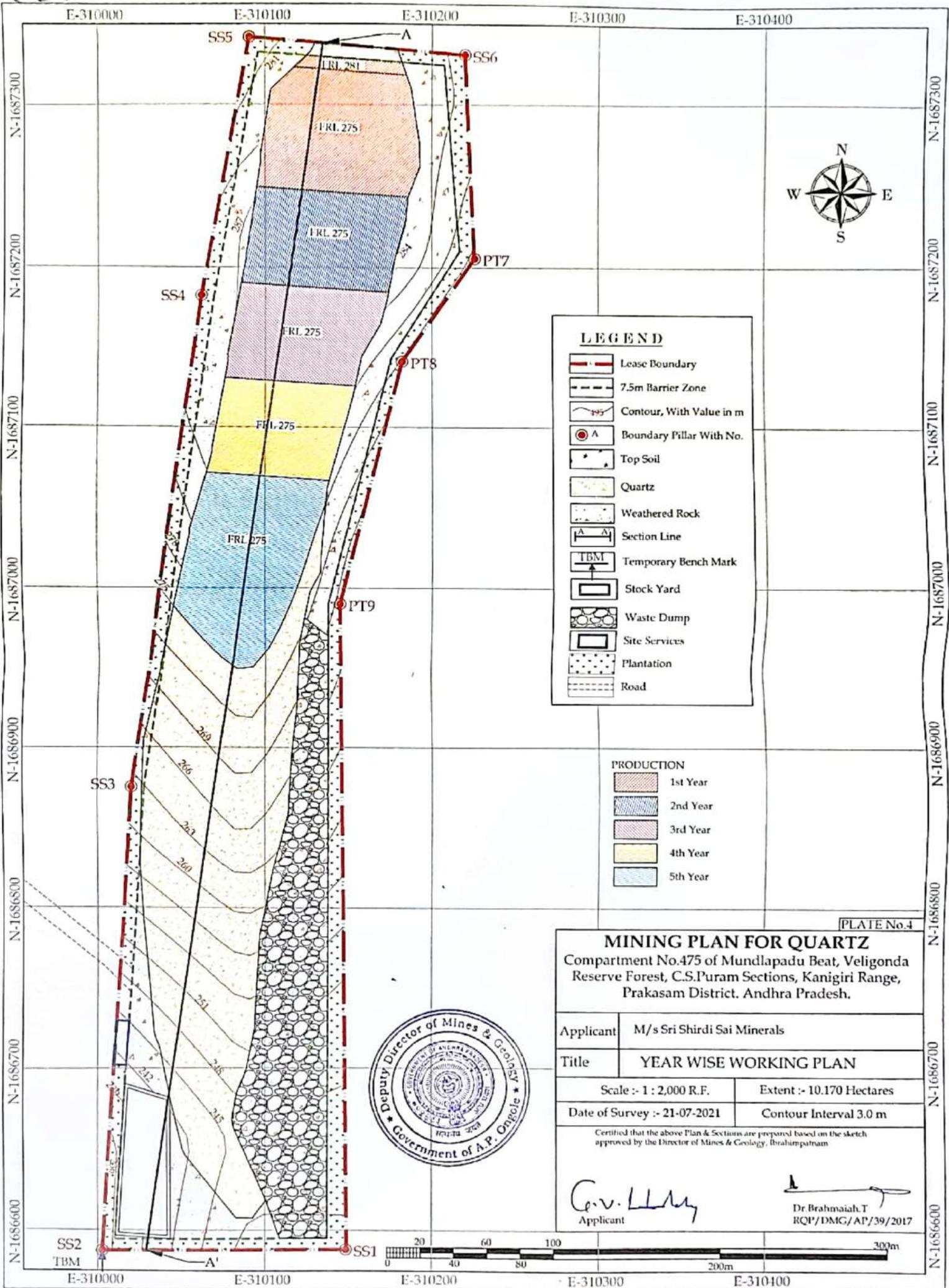
**MINING PLAN FOR QUARTZ**  
 Compartment No.475 of Mundlapadu Beat, Veligonda Reserve Forest, C.S.Puram Sections, Kanigiri Range, Prakasam District. Andhra Pradesh.

Applicant	M/s Sri Shirdi Sai Minerals	
Title	GEOLOGICAL CROSS SECTIONS	
Scale :-	1 : 2,000 R.F.	Extent :- 10.170 Hectares
Date of Survey :-	21-07-2021	Contour Interval 3.0 m

Certified that the above Plan & Sections are prepared based on the sketch approved by the Director of Mines & Geology, Ibrahimpatnam

*G.V. Dny*  
 Applicant

*[Signature]*  
 Dr. Brahmaiah.T  
 RQP/DMG/AP/39/2017



**LEGEND**

- Lease Boundary
- 7.5m Barrier Zone
- Contour, With Value in m
- Boundary Pillar With No.
- Top Soil
- Quartz
- Weathered Rock
- Section Line
- Temporary Bench Mark
- Stock Yard
- Waste Dump
- Site Services
- Plantation
- Road

**PRODUCTION**

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

[PLATE No.4]

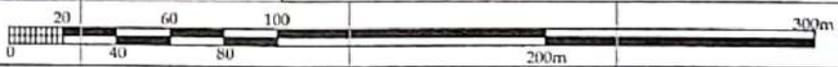
**MINING PLAN FOR QUARTZ**  
 Compartment No.475 of Mundlapadu Beat, Veligonda Reserve Forest, C.S.Puram Sections, Kanigiri Range, Prakasam District. Andhra Pradesh.

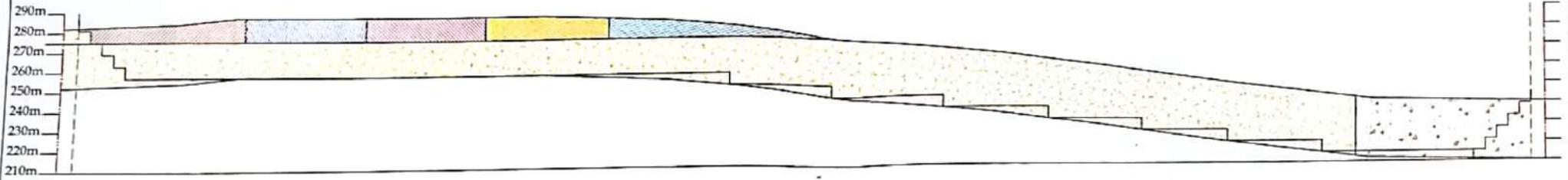
Applicant	M/s Sri Shirdi Sai Minerals	
Title	YEAR WISE WORKING PLAN	
Scale :-	1 : 2,000 R.F.	Extent :- 10.170 Hectares
Date of Survey :-	21-07-2021	Contour Interval 3.0 m

Certified that the above Plan & Sections are prepared based on the sketch approved by the Director of Mines & Geology, Ibrahimpatnam

*G.V. Lilly*  
Applicant

*Dr. Brahmaiah.T*  
RQP/DMG/AP/39/2017





**PRODUCTION**

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

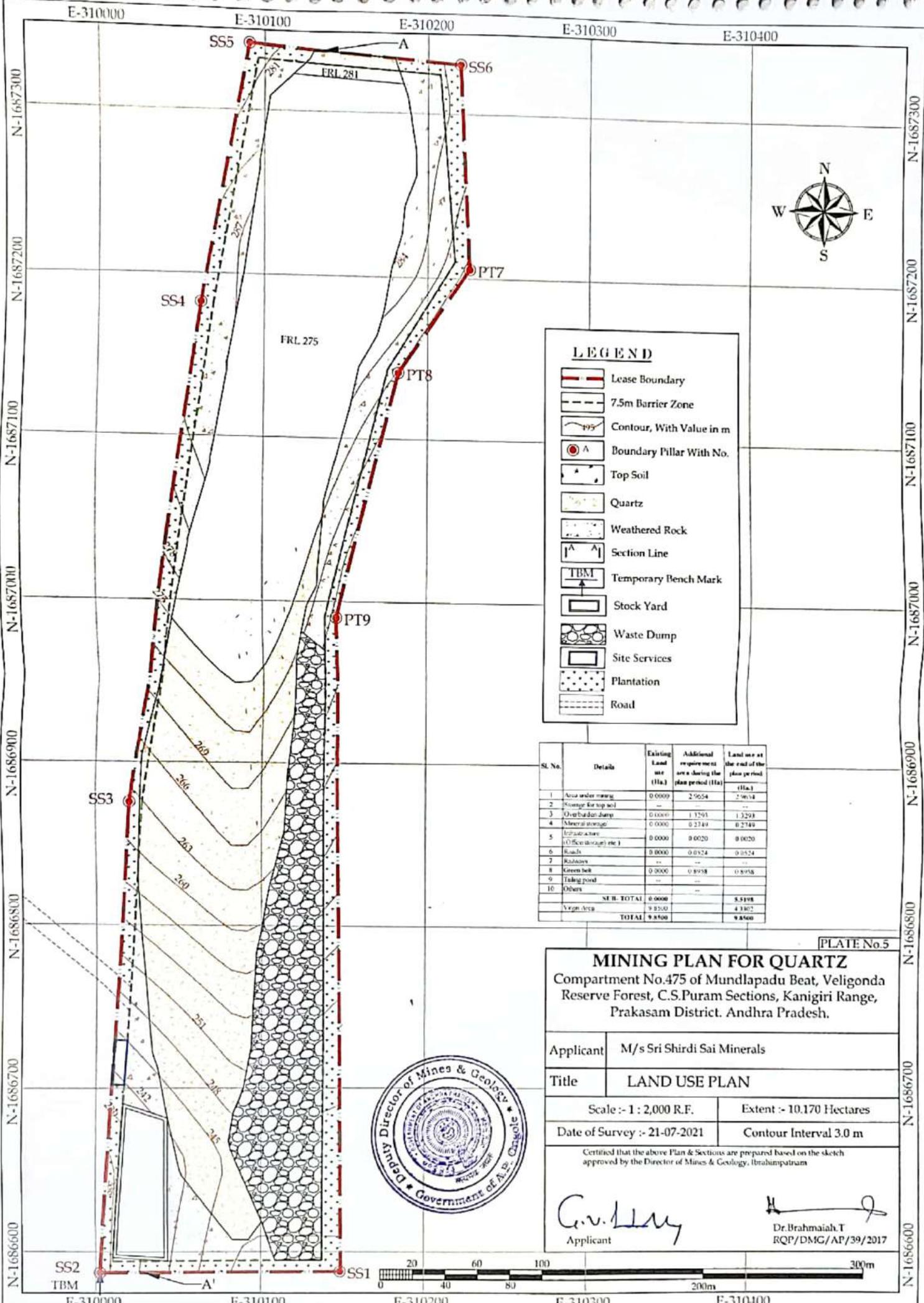
**LEGEND**

- Lease Boundary
- 7.5m Barrier Zone
- Weathered Rocks
- Quartz
- UPL



PLATE No.4A

<b>MINING PLAN FOR QUARTZ</b>	
Compartment No.475 of Mundlapadu Beat, Veligonda Reserve Forest, C.S.Puram Sections, Kanigiri Range, Prakasam District. Andhra Pradesh.	
Applicant	M/s Sri Shirdi Sai Minerals
Title	YEAR WISE WORKING SECTIONS
Scale :- 1 : 2,000 R.F.	Extent :- 10.170 Hectares
Date of Survey :- 21-07-2021	Contour Interval 3.0 m
Certified that the above Plan & Sections are prepared based on the sketch approved by the Director of Mines & Geology, Ibrahimpatnam	
 Applicant	 Dr. Brahmaiah T. RQP/DMG/AP/39/2017



**LEGEND**

- Lease Boundary
- 7.5m Barrier Zone
- Contour, With Value in m
- Boundary Pillar With No.
- Top Soil
- Quartz
- Weathered Rock
- Section Line
- Temporary Bench Mark
- Stock Yard
- Waste Dump
- Site Services
- Plantation
- Road

Sl. No.	Details	Existing Land use (Ha.)	Additional requirements are during the plan period (Ha.)	Land use at the end of the plan period (Ha.)
1	Area under mining	0.0000	2.9654	2.9654
2	Storage for top soil	---	---	---
3	Overburden dump	0.0000	1.3293	1.3293
4	Material storage	0.0000	0.2749	0.2749
5	Infrastructure (Office storage) etc.)	0.0000	0.0020	0.0020
6	Beach	0.0000	0.0324	0.0324
7	Roadways	---	---	---
8	Green belt	0.0000	0.8958	0.8958
9	Taking pond	---	---	---
10	Others	---	---	---
NET TOTAL		0.0000	---	5.5198
Virgin Area		9.8500	---	4.3302
TOTAL		9.8500	---	9.8500

PLATE No 5

**MINING PLAN FOR QUARTZ**  
 Compartment No.475 of Mundlapadu Beat, Veligonda Reserve Forest, C.S.Puram Sections, Kanigiri Range, Prakasam District, Andhra Pradesh.

Applicant: M/s Sri Shirdi Sai Minerals

Title: LAND USE PLAN

Scale :- 1 : 2,000 R.F.      Extent :- 10.170 Hectares

Date of Survey :- 21-07-2021      Contour Interval 3.0 m

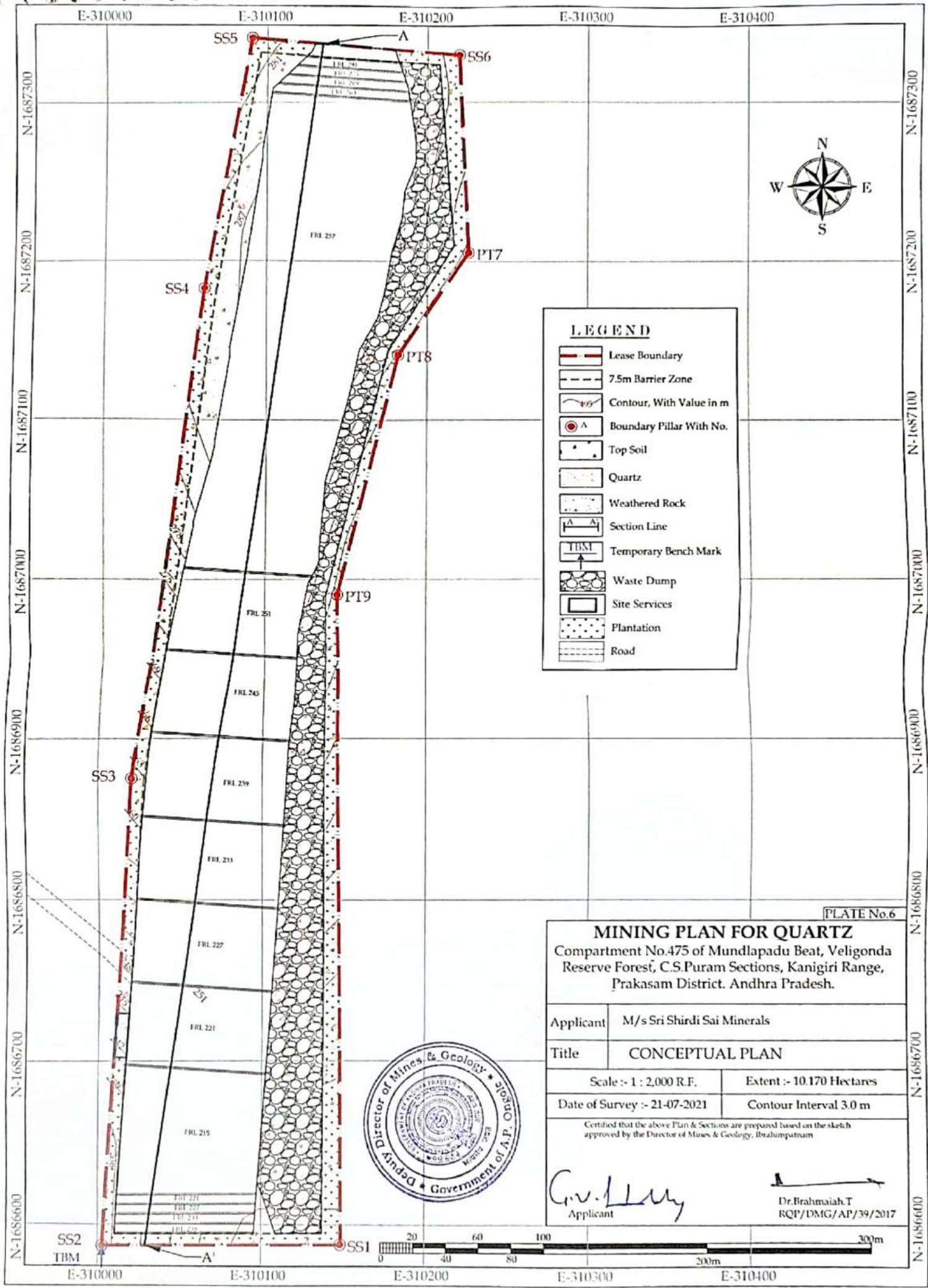


Certified that the above Plan & Sections are prepared based on the sketch approved by the Director of Mines & Geology, Ibrahimpatnam

*C.V. Reddy*  
Applicant

*Dr. Brahmaiah T*  
RQP/DMG/AP/39/2017





**LEGEND**

- Lease Boundary
- 7.5m Barrier Zone
- Contour, With Value in m
- Boundary Pillar With No.
- Top Soil
- Quartz
- Weathered Rock
- Section Line
- Temporary Bench Mark
- Waste Dump
- Site Services
- Plantation
- Road

PLATE No.6

**MINING PLAN FOR QUARTZ**  
 Compartment No.475 of Mundlapadu Beat, Veligonda Reserve Forest, C.S.Puram Sections, Kanigiri Range, Prakasam District. Andhra Pradesh.

Applicant	M/s Sri Shirdi Sai Minerals		
Title	CONCEPTUAL PLAN		
Scale :- 1 : 2,000 R.F.	Extent :- 10.170 Hectares		
Date of Survey :- 21-07-2021	Contour Interval 3.0 m		

Certified that the above Plan & Sections are prepared based on the sketch approved by the Director of Mines & Geology, Ibrahampatnam



*G.V. Luvu*  
Applicant

*Dr. Brahmaiah.T*  
RQP/DMG/AP/39/2017



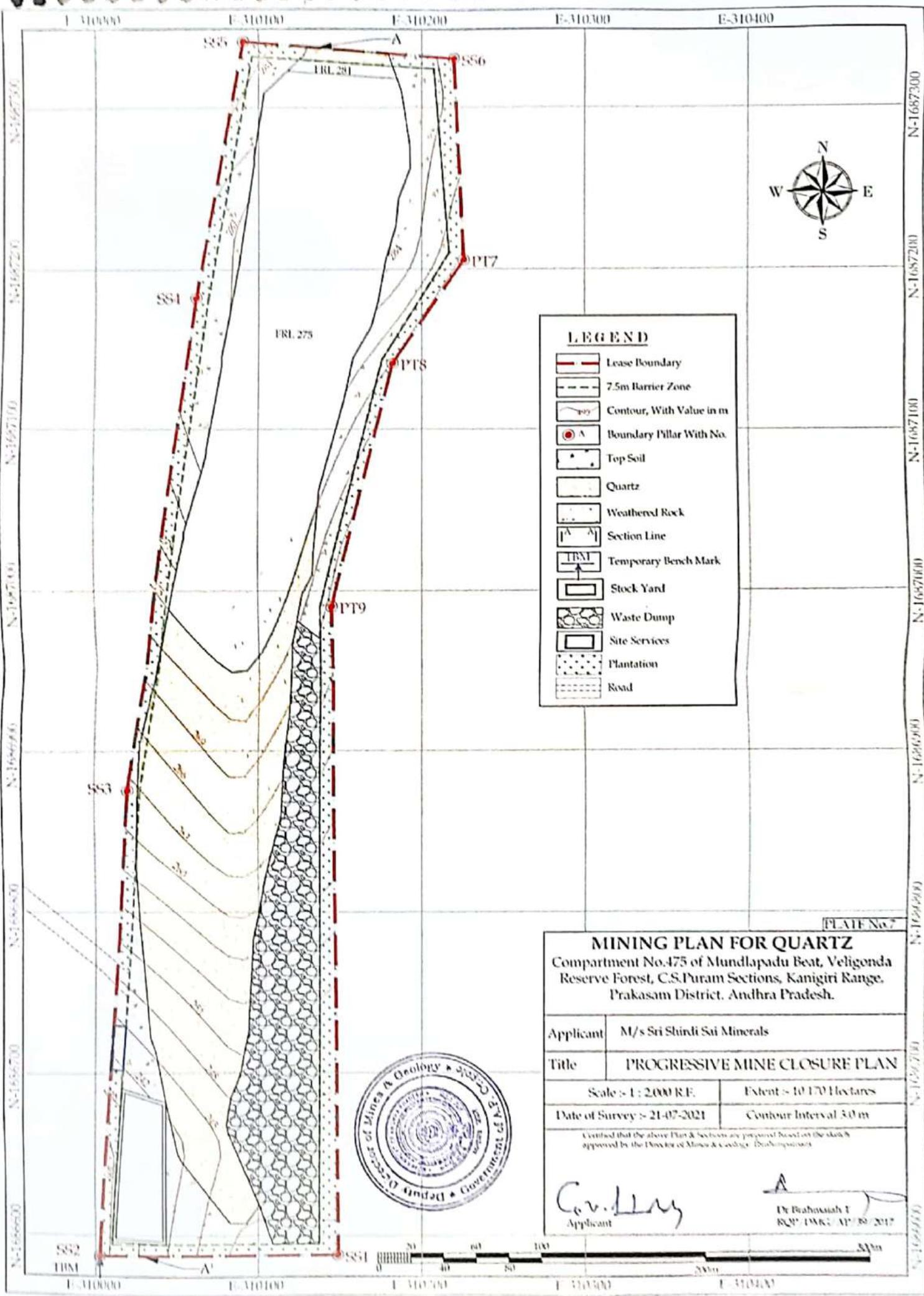


PLATE No.6A

**LEGEND**

- Lease Boundary
- 7.5m Barrier Zone
- Weathered Rocks
- Quartz
- LPL

<b>MINING PLAN FOR QUARTZ</b>	
Compartment No.475 of Mundlapadu Beat, Veligonda Reserve Forest, C.S.Puram Sections, Kanigiri Range, Prakasam District. Andhra Pradesh.	
Applicant	M/s Sri Shirdi Sai Minerals
Title	CONCEPTUAL SECTIONS
Scale :- 1 : 2,000 R.F.	Extent :- 10.170 Hectares
Date of Survey :- 21-07-2021	Contour Interval 3.0 m
<small>Certified that the above Plan &amp; Sections are prepared based on the sketch approved by the Director of Mines &amp; Geology, Ibrahimpatnam</small>	
 Applicant	 Dr. Brahmaiah T RQP/DMG/AP/39/2017



**LEGEND**

	Lease Boundary
	7.5m Barrier Zone
	Contour, With Value in m
	Boundary Pillar With No.
	Top Soil
	Quartz
	Weathered Rock
	Section Line
	Temporary Bench Mark
	Stock Yard
	Waste Dump
	Site Services
	Plantation
	Road

[PLATE No. 7]

**MINING PLAN FOR QUARTZ**  
 Compartment No.475 of Mundlapadu Beat, Veligonda Reserve Forest, C.S.Puram Sections, Kanigiri Range, Prakasam District, Andhra Pradesh.

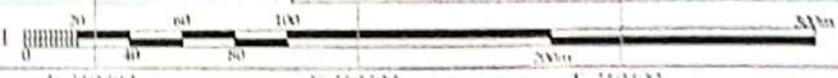
Applicant	M/s Sri Shirdi Sai Minerals
Title	PROGRESSIVE MINE CLOSURE PLAN
Scale	1 : 2000 R.F.
Extent	10.170 Hectares
Date of Survey	21-07-2021
Contour Interval	3.0 m

Certified that the above Plan & sections are prepared based on the sketch approved by the Director of Mines & Geology, Hyderabad.



*Gov. Dey*  
Applicant

*A*  
Dr Brahannaiah I  
RQ/DMG/AP/89/2017



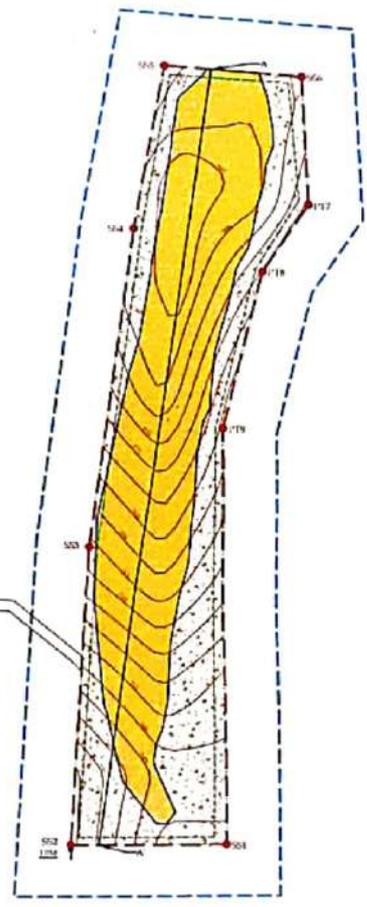


Veligonda Reserve Forest

Veligonda Reserve Forest

Veligonda Reserve Forest

Veligonda Reserve Forest



**LEGEND**

- Lease Boundary
- 7.5m Barrier Zone
- 495 Contour, With Value in m
- Boundary Pillar With No.
- Temporary Bench Mark
- Road
- Soil Cover
- Weathered Rocks
- Quartz
- 500M Line
- 60M Line



PLATE No. 8

**MINING PLAN FOR QUARTZ**  
 Compartment No.475 of Mundlapadu Beat, Veligonda Reserve Forest, C.S.Puram Sections, Kanigiri Range, Prakasam District, Andhra Pradesh.

Applicant: M/s Sri Shirdi Sai Minerals

Title: ENVIRONMENTAL PLAN

Scale -> 1 : 5,000 R.F.      Extent -> 10.1701 Hectares

Date of Survey -> 21-07-2021      Contour Interval 3.0 m

*Certified that the above Plan & Sections are prepared based on the data approved by the Director of Mines & Geology, Hyderabad.*

Applicant:      D.V. Brahmannaiah, T  
 RQP/DMG/AP/W/2017