GOVERNMENT OF ANDHRA PRADESH
DEPARTMENT OF MINES AND GEOLOGY

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

To
M/s Chettinad Morimura
Semiconductor Material Pvt.Ltd.,
37, Old Mahabalipuram Road
Kazhipattur Village,
Chengalpet District - 603103,
Tamil Nadu State.

Letter No. 210/MP/Quartz&Feldspar/NLR/2021, dated: 10-03-2022

Sir,

Sub:- Mines & Minerals – Mining Plan for Quarry Lease applied area of M/s Chettinad Morimura Semiconductor Material Pvt.Ltd., for Quartz & Feldspar over an extent of 4.410 Hects including 0.66 Hects safety buffer zone area and 0.30 Hects Road area in Sy.No.357/P of Chaganam Village Comp.No.125, Chaganm R.F, Sudapuram Mandal, SPSR Nellore District - Approved – Regarding.

Ref:- 1. Proceeding No.28594/P.RQP/01, dated 13.05.2016 of the Director of Mines and Geology, Ibrahimpatnam.
2. Circular Memo No.3861432/P/2020, dated 16.07.2021 of the Director of Mines and Geology, Ibrahimpatnam.
3. Draft Mining Plan submitted on 07.02.2022 filed by M/s Chettinad Morimura Semiconductor Material Pvt.Ltd.,
4. Ref.No.EFS02-15029/57/2018-FCA SEC-PCCF/FCA-3(ii), dt:26.12.2021, from DFO, Nellore.
5. Inspection Report of this office Technical Staff.
6. This office Letter No.210/MP/Quartz&Feldspar/NLR/2021, dt:26.02.2022.
7. Letter dated 09.03.2022 along with 5 sets of fair Mining Plan from the Applicant / RQP.

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In exercise of the powers conferred by the Director of Mines and Geology, Ibrahimpatnam through the reference 1st cited and keeping in view of the instructions issued by the Director of Mines and Geology vide reference 2nd cited for processing of Mineral Concession applications falling in the forest area , I hereby approve the Mining Plan, in respect of Quarry Lease applied area of M/s Chettinad Morimura Semiconductor Material Pvt.Ltd., for Quartz & Feldspar over an extent of 4.410 Hects including 0.66 Hects safety buffer zone area and 0.30 Hects Road area in Sy.No.357/P of Chaganam Village Comp.No.125, Chaganm R.F, Sudapuram Mandal, SPSR Nellore District under Rule 12(5)(C) of Andhra Pradesh Minor Mineral Concession Rules, 1966 read with G.O.Ms.No.56, Industries & Commerce (Mines-II) Department, dated:30.04.2016. This approval is subject to the following conditions.

Contd...2

1. The proposals contained in the approved mining plan for the period of five years shall be applicable from the date of execution of the lease deed and for the mining activities to be carried out within the lease hold area as per the approved mining plan only.
2. This Mining Plan is approved without prejudice to any other laws applicable to the Quarry Lease area from time to time whether made by the Central Government, State Government or any other authority.
3. Approval of the Mining Plan does not in any way imply the approval of the Government in terms of any other provisions of the Mines and Minerals (Development and Regulation) Act, 1957 and amended act 2015 and the Mineral Concession Rules 1960 (Amended Rules 2016) and any other laws including the Forest Conservation Act, 1980.
4. The Mining Plan is approved subject to strictly adhering to the Relevant Regulations of MMR 1961 and obtaining prior permission from Director General Mines Safety whenever and where ever it is required.
5. The approval authority does not owe the responsibility with regard to Assessment of the reserves, erroneous certification made by the R.Q.P. if any and approval is tentative, subject to Modification on new findings at a later date as per the provisions of (23 B & 23 D) of MCDR, 1988, since the evaluation is done on random basis.
6. The applicant/ lessee shall safeguard the structures, public buildings, roads, railway line, electric line and water bodies exists if any as per regulations 109 & 127 of MMR, 1961.

Encl: Approved Mining Plan.

Yours faithfully,

B. Gagarin

Deputy Director of Mines & Geology
Nellore. 10/31/2022

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

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

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

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

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

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

MINING PLAN FOR QUARTZ AND FELDSPAR
IN
COMPARTMENT NO: 122, CHAGANAM BEAT & RF, VENKATAGIRI RANGE, NELLORE DIVISION

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

EXTENT : 4.41.0 Ha. (3.450 Mining area, 0.66 Ha. Safety buffer Zone area, 0.30 Ha. Road area)

CATEGORY : FOREST LAND

S. No	:	**553/PART.**
VILLAGE	:	**CHAGANAM**
MANDAL	:	**SYDAPURAM**
DISTRICT	:	**SPSR NELLORE**
STATE	:	**ANDHRA PRADESH**

MINING PLAN PREPARED AS PER GUIDELINES IN FORM-T

(Amended Rule 12(5) (C) of APMMC Rule 1966 (G.O. Ms. No.56, dated 30.04.2016) and Progressive Mine Closure Plan under Rule 23 (B) of MCDR 1988)

PREPARED BY:

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

APPLICANT

M/S. CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL PVT. LTD.,
37, OLD MAHABALIPURAM ROAD
KAZHIPATTUR VILLAGE, PADUR POST
CHENGALPET DISTRICT – 603103
TAMIL NADU STATE

CONSENT LETTER FROM APPLICANT

The Mining Plan including Progressive Mine Closure Plan in respect of Quartz & Feldspar deposit over an extent of 4.41 Hectares (including 3.450 Ha. Mining area, 0.66 Ha. Safety Zone area and 0.30 Ha. Road area) in S .Nos. 553 / P of Chaganam Village, Sydapuram Mandal, SPSR Nellore District, has been prepared by Mr. P. Viswam Recognized Qualified Person. RQP/BNG/346/2015/A

We request the Deputy Director of Mines and Geology, Nellore to make further correspondence regarding the Mining plan including Progressive Mine Closure Plan with the said Qualified Person in his following address:

Mr. P. Viswam
Anoosri Mining Solutions,
Near Sivalayam
Sydapuram (PO) & (M)
SPSR Nellore District, A.P.

We hereby undertake that all the modifications so made in the Mining Plan including Progressive Mine Closure Plan by the qualified person may be deemed to have been made with our knowledge and consent and shall be accepted to us and binding on us in all respects.

For Chettinad Morimura Semiconductor Material Pvt. Ltd.,

S.ANANTHAKRISHNAN
ASSISTANT VICE PRESIDENT

Place: Kazhipattur
Date: 03.03.2022

DECLARATION

We Chettinad Morimura Semiconductor Material Pvt. Ltd., hereby declare that the Mining Plan including Progressive Mine Closure Plan in respect of Quartz & Feldspar deposit over an extent of 4.41.0 Hectares (including 3.450 Ha. Mining area, 0.66 Ha. Safety Zone area and 0.30 Ha. Road area) in SY. No. 553/P of Chaganam Village and RF, Sydapuram Mandal, SPSR Nellore District, Andhra Pradesh State has been prepared by Mr. P. Viswam (RQP/BNG/346/2015/A) in full consultation with us and we understand its contents and agree to implement the same in accordance with the provisions of Act and Rules.

For Chettinad Morimura Semiconductor Material Pvt. Ltd.,

S.ANANTHAKRISHNAN
ASSISTANT VICE PRESIDENT

Place: Kazhipattur
Date: 03.03.2022

CERTIFICATE

It is certified that the Mining Plan including progressive Mine Closure Plan in respect of Quartz & Feldspar deposit over an extent of 4.41.0 Hectares (including 3.450 Ha. Mining area, 0.66 Ha. Safety Zone area and 0.30 Ha. Road area) in Sy. Nos. 553/P of Chaganam Village and RF, Sydapuram Mandal, SPSR Nellore District, Andhra Pradesh State has been prepared under amended Rule 12(5) (C) of APMMC Rule 1966 (G.O. Ms. No.56, dated 30.04.2016). Whenever any specific permission is required, the concerned authorities will be approached.

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

For Chettinad Morimura Semiconductor Material Pvt. Ltd.,

S.ANANTHAKRISHNAN
ASSISTANT VICE PRESIDENT

Place: Kazhipattur
Date: 03.03.2022

CERTIFICATE

Certified that the Provisions of Mines Act 1952, Mines Rules 1955 and Regulations 1961, made there under have been observed in the preparation of this Mining Plan for Quartz & Feldspar over an extent of 4.41 Hectares (including 3.45 hectare Mining area, 0.66 safety buffer zone area and 0.30 hectare Road area) in Sy. No 553 / Part of Chaganam Village & RF, Sydapuram Mandal, SPSR Nellore District of Andhra Pradesh State in favour of M/s. Chettinad Morimura Semiconductor Material Pvt. Ltd., and whenever specific permissions are required, the applicant will approach Director General of Mines Safety.

It is certified that the information furnished in the mining plan are true and correct to the best of my knowledge.

Place: Sydapuram
Date ; 05.03.2022

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

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03.	Copy of letter No EFS 02 – 15029 / 57 / 2018 – FCA SEC – PCCF / FCA – 3 (ii) Dt 26.12.2021 issued by PCCF regarding submission of Approved Mining Plan	3
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Deputy Director of Mines & Geology
Government of A.P. Nellore

The mining plan is Approved Subject to the conditions stipulations indicated in the Mining plan Approval Letter No. 210/MP/Quartz & Feldspar/SPSR/2021 Date 03/2022

MINING PLAN INCLUDING PROGRESSIVE MINE CLOSURE PLAN FOR QUARTZ AND FELDSPAR DEPOSIT OVER AN EXTENT OF 4.41.0 HECTARES (3.450 Ha. MINING AREA, 0.66 Ha. SAFETY ZONE AREA & 0.30 Ha. ROAD AREA) IN S. No – 553/PART OF CHAGANAM VILLAGE & RF (COMPARTMENT NO 122, SYDAPURAM MANDAL, SPSR NELLORE DISTRICT

PREPARED AS PER THE GUIDELINES IN FORM- T

(Amended Rule 12 (5) (C) of APMMC Rule '1966 and Progressive Mine Closure Plan Under Rule 23(B) OF MCDR 1988)

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

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Introduction:

Chettinad Morimura Semiconductor Material Pvt Ltd (applicant), having their registered office at 37, Old Mahabalipuram Road, Kazhipattur Village, Chengalpattu District is a 100 % Export oriented unit manufacturing high purity silica powder for semi conductor & Engineered Stone application. It is a collaboration unit of Chettinad group and Morimura Brothers Inc., Japan. The applicant company is having 3 processing units at

1. NH-5 Road, A.Ravivalasa Village, Bhogapuram Mandal, Vizianagaram District of Andhra Pradesh for manufacturing grits and filler products for engineered stone application.
2. 37, Old Mahabalipuram Road, Kazhipattur Village, Chengalpet District of Tamil Nadu for manufacturing high purity silica powder for semiconductor applications, Grits and filler products for engineered stone applications.
3. Sy.No 526 & 540 Elikatta Village, Farooq Nagar Mandal, RR District of Telangana for manufacturing grits and filler products for engineered stone application.

Quartz is the raw material for all the plants. The applicant company is having own Quartz Mines in Tamil Nadu and Andhra Pradesh. To meet out the Raw Material requirements applicant M/s. Chettinad Morimura Semiconductor Material Pvt. Ltd., has submitted Quarry lease application at ADMG office Nellore for this subject area. This proposal was forwarded by Director of Mines & Geology, Ibrahimpatnam to Prl. Chief Conservator of Forests, Guntur vide letter No 16715/R3-1/2017 Dt.15.06.2017 (enclosed as Annexure -1)

Through the **Circular Memo No: 3861432/P/2020 dated 16/07/2021**, issued by Government of Andhra Pradesh Department of Mines and Geology Ibrahimpatnam, instructions has already been issued to all the ADM&Gs and DDM&Gs to submit the proposals on applications with regard to Forest area along with AMP as per the procedure intimated by the Principal Chief Conservator of Forests, Guntur. (Copy enclosed as Annexure 2). Prl. Chief Conservator of Forests & Head of Forest Force Guntur Vide letter No EFS02-15029/57/2018-FCA SEC-PCCF/FCA-3(ii), Dt.26.12.2021 also insisted the user agency to submit AMP at DFO office Nellore (Copy of the letter is enclosed as Annexure 3)

Approved

B. Jagannadha Rao 10/3/2022

B. JAGANNADHA RAO

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

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

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

M/s. Chettinad Morimura Semiconductor Material Pvt. Ltd., has approached Anoosri Mining Solutions Sri P. Viswam, Mining Engineer & RQP, and (enclosed copy of certificate as Annexure. 4) for preparation of mining Plan for the above applied area.

Accordingly this Mining Plan is prepared as per the guidelines of FORM – T, under G.O.Ms.56, I&C(Mines-II), DT: 30/04/2016 of AP for obtaining the Environmental Clearance (EC) from State Environmental Impact Assessment authority (SEIAA) & annual production Plan under semi mechanized Open cast method of mining Under Rule 12 (5) (C) of APMMC Rule 1966.

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

I.GENERAL

1. Name and Address of the applicant:

Chettinad Morimura Semiconductor Material Pvt Ltd.,
No, 37 Old Mahabalipuram Road, Kazhipattur Village,
Padur Post, Chengalpattu District, Tamil Nadu, Pin - 603 103.
Phone No. 044- 47406700, Cell No. 89852 63406

2. Status of the applicant

Private Limited Company registered under companies Act

3. Minerals(s) which are included in the letter of intent:

Quartz & Feldspar

4. Name and Details of person employed for preparing Mining Plan:

P.Viswam,
(RQP/BNG/346/2015/A),
Anoosri Mining Solutions,
Near Sivalayam, Sydapuram (PO) & (M)
SPSR Nellore District, A.P.

II. Location and Accessibility

1. Applied area Details

1. Survey No.	:	553 / Part
2. Extent	:	4.41.0Ha. (Including 3.450 Ha. Mining area, 0.66Ha. Safety Zone area & 0.30Ha. Road area)
3. Village	:	Chaganam
4. Mandal	:	Sydapuram
5. District	:	SPSR Nellore
6. State	:	Andhra Pradesh
7. Ownership of Occupancy	:	Forest land

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

8. Geo Co-ordinates

S.No	PILLAR NO NAME	LATITUDE	LONGITUDE
1	M-1	14°13'54.56"N	79°41'22.87"E
2	M-2	14°14'0.72"N	79°41'20.89"E
3	M-3	14°14'5.99"N	79°41'19.06"E
4	M-5	14°14'7.10"N	79°41'22.73"E
5	M-5a	14°14'2.16"N	79°41'24.33"E
6	M-6	14°13'56.01"N	79°41'26.42"E
7	S-1	14°13'54.84"N	79°41'23.01"E
8	S-2	14°14'0.89"N	79°41'21.06"E
9	S-3	14°14'5.88"N	79°41'19.41"E
10	S-4a	14°14'6.79"N	79°41'22.60"E
11	S-5	14°14'2.10"N	79°41'24.06"E
12	S-6	14°13'56.17"N	79°41'26.12"E
13	I-1	14°13'47.91"N	79°41'22.56"E
14	I-2	14°13'46.91"N	79°41'23.52"E
15	I-3	14°13'45.41"N	79°41'24.43"E
16	R-4a :	14°13'44.53"N	79°41'25.56"E
17	I-5	14°13'41.65"N	79°41'26.86"E
18	I-6	14°13'40.66"N	79°41'26.88"E
19	I-7	14°13'39.76"N	79°41'27.46"E
20	I-8	14°13'39.05"N	79°41'28.62"E
21	I-9	14°13'39.20"N	79°41'29.57"E
22	I-10	14°13'38.62"N	79°41'30.86"E
23	I-11	14°13'38.23"N	79°41'32.88"E
24	I-12	14°13'37.83"N	79°41'33.13"E
25	I-13	14°13'50.04"N	79°41'22.43"E
26	I-14	14°13'52.72"N	79°41'21.58"E
27	I-15	14°13'53.13"N	79°41'23.54"E
28	I-16	14°13'54.74"N	79°41'23.13"E
29	R-1	14°13'47.84"N	79°41'22.44"E
30	R-2	14°13'46.82"N	79°41'23.41"E
31	R-3	14°13'45.32"N	79°41'24.32"E
32	R-4	14°13'44.43"N	79°41'25.47"E
33	R-5	14°13'41.60"N	79°41'26.74"E
34	R-6	14°13'40.60"N	79°41'26.76"E
35	R-7 :	14°13'39.66"N	79°41'27.38"E
36	R-8	14°13'38.92"N	79°41'28.60"E
37	R-9	14°13'39.06"N	79°41'29.59"E
38	R-10	14°13'38.50"N	79°41'30.80"E
39	R-11	14°13'38.16"N	79°41'32.72"E
40	R-12	14°13'37.26"N	79°41'32.96"E
41	R-13	14°13'50.16"N	79°41'22.57"E
42	R-14	14°13'52.62"N	79°41'21.74"E
43	R-15	14°13'53.23"N	79°41'23.38"E
44	R-16	14°13'54.68"N	79°41'23.02"E

9. Location of the area & approach:

This applied area is in Sy. No 553 / P, Compartment No 122 of Chaganam Beat and RF, Sydapuram Mandal, SPSR Nellore District. This applied area is 3 Kms North of Chaganam Village. Chaganam village is in Gudur – Rapur State high way Road. Mining lease applied area could be accessed by a Village road branching off at Chaganam to Rajupalem village. A cart track branching off at Rajupalem leads to the mining lease applied area. Rajupalem is about 2 Kms south of this applied area. Gulimcherla Village is about 1.5 Kms west of this applied area. Perumalapadu is about 2.5 Kms East of this applied area.

Infrastructure and Communications

a. Availability of Water : Water table is reached at a depth of 35 M in rainy season and at 40 M in summer season.

b. Availability of Electricity : All villages near the applied area like Chaganam, Gulimcherla, Rajupalem, Perumalapadu etc., have electricity facilities

c. Communication network : Telecommunication network is available at Chaganam and all nearby villages

d. Road Network : State transport bus services are available to Gudur and Rapur from Chaganam

e. Nearest Rail head : Gudur is nearest Railway station and is 25 Kms from applied area

f. Port facility : Krishnapatnam port is about 60 Kms from applied area

h. School : Primary school education is available at Chaganam, Gulimcherla, Higher education is available at Sydapuram, Gudur & Nellore

i. Medical Facility : Government hospital is available at Sydapuram, Gudur and Nellore have good medical facilities

Boundaries:

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

2. Location map showing area and access routes:

Key cum Location plan is enclosed as Plate No.1

III. Details of Approved Mining Plan, if any:

Not applicable

PART – A

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

1	**Topography**	The applied area for mine falls under the survey of India Topo sheet No. 57 N/12 at the intersection of North Latitude 14° 14' 7.10" to 14°13' 54.56" and East Longitude 79° 41' 22.73" to 79° 41' 22.87". The Key plan prepared using Topo sheet on 1: 50000 scale. The key plan cum location map is enclosed as Plate No-1. • The applied area having 11 occurrences of Quartz. • Top Soil in this applied area varies from 0.5 Mts to 1 Mts the ore body is hard in nature. • The entire applied area is strewn with floats of Quartz. Undulating elevated with very gentle slope towards South East. The applied area having a topo relief of 82 mts with highest and 70 Mts as lowest contours. • The general trend of the drainage pattern is towards South east direction and the general drainage pattern is dendritic to sub-dendritic in nature. • The topographic plan has been prepared with 1.00 m contour. Its highest contour is 82 m MSL and lowest contour is 70 m MSL. Bench mark is located at South Western pillar (m1 Boundary Pillar) in the applied area and marked as BM 81.969 m MSL. Topography of the applied area is shown on Surface Geological Plan enclosed as Plate No. 3 & 4.
2	**Drainage**	There are no major rivers / Nalla / Lake / other water bodies near the area. Only during rainy season water may be accumulated in the mined out pits due to percolation / seepage. It will be pumped out regularly by adoption of 1 unit of water pump of 10HP capacity.
3	**Vegetation**	The applied area falls in forest area. The entire area is covered with bushes and open scrub.
4	**Climate**	The mean daily maximum temperature in the district is about 38^{0}C in May and the mean daily minimum temperature is about 20^{0}C in December/January. Temperature in the district begins to rise from the middle of February till June. With the onset of southwest monsoon in June, the temperature decreases to about 20^{0}C and is more or less uniform during the monsoon period. The relative humidity ranges from 60 to 80% in the mornings, whereas in the evenings it varies from about 45 to more than 70%.
5	**Rainfall**	The annual normal rainfall of the district is 1084mm. The peculiarity of this district is that contribution of SW monsoon is far less than the contribution of NE monsoon rainfall. About 70% of the annual rainfall is contributed by the east about 700 to 800 mm in the district.

2. GEOLOGY AND EXPLORATION

a. REGIONAL GEOLOGY:

The rock units exposed in this area belongs to Archane age and consist of highly weathered Hornblende mica schist and granite gneiss.

Period of Diastrophism

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

These earlier rock types have been intruded by later intrusive like pegmatites. Pegmatites in this area are hydrothermal in origin. They occupy the sheer zones, pre-existing cracks etc., and other week zones, hence Quartz bearing pegmatite vein in this area are highly irregular in nature. Pegmatite veins in the applied area was dominated by Quartz, quantity of feldspar is very meager. Entire area is strewn with floats of Quartz.

b. GEOLOGY OF THE APPLIED AREA:

Entire area is strewn with floats of Quartz and is almost a flat terrain. In the applied area Quartz occurs as shallow lenticular vein with characteristic pinching and swelling nature. Strike of the deposit is in NS direction and dip is almost vertical. 11 occurrence of quartz was noticed in the applied area. Nature of the Quartz is granular. Quartz in the surface area is highly weathered. Colour of the quartz varies from white, honey colour, pink and brown. Ferruginous intrusions are common in the quartz exposed in surface, this intrusion level decreases in subsurface level. Feldspar is white in colour (Soda Feldspar) and occurs in traces at the contact zone of pegmatite and country rock. Ratio of Quartz: Feldspar is taken as 95:5. The Geological plan was prepared in the scale of 1:2000 and enclosed as plate No-4 similarly geological sections are prepared in the scale of 1:1000 and enclosed as Plate No-5.

c. DETAILS OF PROSPECTING LICENSE HOLDER / USER AGENCY:

Chettinad Morimura Semiconductor Material Pvt Ltd.,
No, 37 Old Mahabalipuram Road, Kazhipattur Village,
Padur Post, Chengalpattu District,
Tamil Nadu, Pin - 603 103. Phone No. 08624 250718, Cell No. 89852 63406

d. DETAILS OF PROSPECTING CARRIED OUT:

Quartz deposit in applied area is shallow and lenticular, the exposures of Quartz observed in the QL applied area is sufficient to demark the mineralization zone. Western side adjoining area is the old Mines of the applicant. Knowledge gained by the applicant through the past mining experience in the adjoining mines is sufficient for reserve estimation and mineral demarcation.

e. SURFACE PLAN AREA ON 1:1,000 OR 2,000 SCALE:

The surface plan is prepared in the scale of 1:2,000 and is enclosed as plate - 3.

f. GEOLOGICAL PLAN PREPARED ON THE SCALE 1:1,000 OR 1:2,000:

The Geological Plan is prepared in the scale of 1:2,000 (Plate No – 4)

g. GEOLOGICAL SECTIONS ON NATURAL SCALE AT SUITABLE INTERVAL ACROSS THE LEASE AREA:

Geological sections are prepared in 1:1000 scale across the occurrences and enclosed as Plate-No-5.

h. BROADLY INDICATE THE FUTURE PROBLEM OF EXPLORATION WITH DUE JUSTIFICATION TAKING INTO CONSIDERATION THE FUTURE TENTATIVE EXCAVATION PROGRAMME PLANNED IN NEXT FIVE YEARS

Year	No. of boreholes (Core/RC/DTH)	Grid interval	Total Meterage	No. of Test Pits Dimensions	No. of Trenches Dimensions
1st Year				5 test pits 1M X 1M X 2M	3 Trench 10 M X 1M X 2 M
2nd Year	6 (9 Mts each)		54	5 test pits 1M X 1M X 2M	2 Trench 10 M X 1M X 2 M-
3rd Year	5 (9 Mts each)	-	45	-	-
4th Year	-	-	-	-	-
5th Year	-	-	-	-	-

GEOLOGICAL RESERVE

Reserve Estimation For Quartz & Feldspar Occurence

S No	Occurence	length in (m)	Width in (m)	Depth in (m)	Volume Reserve In (MT)	Bulk Density	Total Reserve In (MT)
1	Occurrence-1	50	6	10	3000	2.6	7800
2	Occurrence-2	50	6	10	3000	2.6	7800
3	Occurrence-3	40	5	5	1000	2.6	2600
4	Occurrence-4	40	5	5	1000	2.6	2600
5	Occurrence-5	50	6	10	3000	2.6	7800
6	Occurrence-6	50	6	10	3000	2.6	7800
7	Occurrence-7	50	6	10	3000	2.6	7800
8	Occurrence-8	30	5	5	750	2.6	1950
9	Occurrence-9	40	5	5	1000	2.6	2600
10	Occurrence-10	40	5	5	1000	2.6	2600
11	Occurrence-11	34	5	5	850	2.6	2210
				TOTAL			53560

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

GEOLOGICAL RESERVE = 53560 MT

RECOVERY OF SALEABLE QUARTZ & FELDSPAR IS 80%

i.e., 53560 X 80% = 42848 MT

SALEABLE QUARTZ - 42848 X 95% = **40706 MT**

SALEABLE FELDSPAR - 42848 X 05% = **2142 MT**

j. Feasibility report along with financial analysis for economic viability of the deposit.

GEOLOGICAL AXIS (G1)

Geological parameters considered for proved category

Geological Survey:

Mapping:

The applicant has undertaken surface Geological Survey and prepared surface Plan and all plans in 1:2000 scale. The Plan was prepared with reference Benchmark 81.969 m MSL fixed by GPS N 14 13' 54.56" E 79 41' 22.87" at pillar No M1 of the applied area. The mining lease area is represented in Survey of India Topo Sheet 57 N / 12.

Reserves /Resources Estimation for Open Cast:

Estimation of reserves are made by using cross sectional method. 11 outcrops of Quartz is noticed in this applied area. Geological plan is prepared in 1:2000 scale to demark all occurrences and enclosed as Plate -4. To evaluate the reserves Geological sections are prepared in 1: 1000 scale and enclosed as Plate – 5. A conceptual Mining Plan has been drawn to indicate ultimate pit limits. Please refer plate No.8.

S No	Occurence	length in (m)	Width in (m)	Depth in (m)	Volume Reserve In (MT)	Bulk Density	Total Reserve In (MT)
1	Occurrence-1	50	6	10	3000	2.6	7800
2	Occurrence-2	50	6	10	3000	2.6	7800
3	Occurrence-3	40	5	5	1000	2.6	2600
4	Occurrence-4	40	5	5	1000	2.6	2600
5	Occurrence-5	50	6	10	3000	2.6	7800
6	Occurrence-6	50	6	10	3000	2.6	7800
7	Occurrence-7	50	6	10	3000	2.6	7800
8	Occurrence-8	30	5	5	750	2.6	1950
9	Occurrence-9	40	5	5	1000	2.6	2600
10	Occurrence-10	40	5	5	1000	2.6	2600
11	Occurrence-11	34	5	5	850	2.6	2210
TOTAL							53560

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

GEOLOGICAL RESERVE (ROM) = 53560 MT

RECOVERY OF SALEABLE QUARTZ & FELDSPAR IS 80% : 53560 X 80% = 42848 MT

SALEABLE QUARTZ - 42848 X 95% = **40706 MT**

SALEABLE FELDSPAR - 42848 X 05% = **2142 MT**

UNFC Classification of Estimated Reserves and Resources

Classification	UNFC Code	ROM from Pegmatite (MT)	Clean Ore @ 80% (MT)
A. Mineral Reserve			
(1) Proved Mineral Reserve	111	53560	42848
(2) Probable Mineral Reserve	121+122	--	--
B. Remaining Resources			
(1) Feasibility Mineral Resource	211	--	--
(2) Pre-feasibility Mineral Resource	221 & 222	--	--
(3) Measured Mineral Resource	331	--	--
(4) Indicated Mineral Resource	332	--	--
(5) Inferred Mineral Resource	333	--	--
(6) Reconnaissance Mineral Resource		--	--
Total Mineral Resources (A+B)		53560	42848

FEASIBILITY AXIS (F1):
(Feasibility report along with financial analysis per economic viability of the deposit.):

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

1. Geology:
Entire area is strewn with floats of Quartz and is almost a flat terrain. In the applied area Quartz occurs as shallow lenticular vein with characteristic pinching and swelling nature. Strike of the deposit is in NS direction and dip is almost vertical. 11 occurrence of quartz was noticed in the applied area. Nature of the Quartz is granular. Quartz in the surface area is highly weathered. Colour of the quartz varies from white, honey colour, pink and brown. Ferruginous intrusions are common in the quartz exposed in surface, this intrusion level decreases in subsurface level. Feldspar is white in colour (Soda Feldspar) and occurs in traces at the contact zone of pegmatite and country rock. Ratio of Quartz: Feldspar is taken as 95:5. The Geological plan was prepared in the scale of 1:2000 and enclosed as plate No-4 similarly geological sections are prepared in the scale of 1:1000 and enclosed as Plate No-5.

Mineralogy of the mine:
In the pegmatite observed in the applied area Quartz is dominant and feldspar is very meager and there is no trace of mica and other minerals.

Quartz: Colour of Quartz in pegmatite varies from white, light grey, yellow and pink. Nature of the material is semi glassy with granular appearance. Luster of Quartz is vitreous and have concoidal fracture. In the pegmatite, the recovery of Quartz is found to be about 95%.

Feldspar: Quantity of Feldspar is meager. colour of feldspar is dull white and have greasy luster. It is having multiple joints and even fracture. In pegmatite, the recovery of Feldspar is found to be about 5% from open cast.

Detailed exploration:
The applicant has undertaken surface Geological Survey and prepared surface Plan and all plans in 1:2000 scale. The Plan was prepared with reference Benchmark 81.969 m MSL fixed by GPS N 14 13' 54.56" E 79 41' 22.87" at pillar No M1 of the applied area. The mining lease area is represented in Survey of India Topo Sheet 57 N / 12.

2. Mining:

The applicant propose to adopt operate by Open cast method of mining.

Opencast Mining:

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

3. Environmental:

A. Environmental baseline data:

(i) <u>Present Land Use Pattern</u>:

The applied area falls in Chaganam Reserved Forest. Small discontinuous occurrence of Quartz is noticed in 11 places. The entire area except approach road is covered with bushes and open scrub.

(ii) <u>Water regime</u>:

It is a dry area. Water table is reached at a depth of 35 M in rainy season, i.e. During North – East monsoon and at 40 M in summer months. Maximum depth of the mine will be 10.5 M (economic depth of mining), so ground water will not get affected due to mining, also discharge of mine water will be utilized for afforestation carried out by the applicant.

(iii) <u>Flora and Fauna</u>:

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

(iv) <u>Quality of air, ambient noise level and water</u>:

The quality of air and water is good. The area is not having noise making units. The drilling and blasting are rarely used; hence it is free from noise. The water is potable.

(v) <u>Climatic Condition</u>:

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

(vi) **Human Settlement:**

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

Details of the nearest villages and their details:

Name of the village	Population	Distance	Direction
Rajupalem	667	2.0 Km	South
Gulimcherla	722	1.5 Km	West
Uttukur	2067	2.5 KM	East
Chaganam	3284	3.0 KM	South

(vii) **Public Buildings, Places and Monuments:**

No Public Places and Monuments are situated within a distance of 2 Kms.

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

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

B. **Environmental Impact Assessment:**

(i) **Land Scape:**

The applied area is being used for mining, Pitting etc., therefore the landscape will be altered.

(ii) **Air quality:**

Since this mining operation will be in a very small scale with manual mining Method, it will not have any adverse effect on quality of air. Wet drilling will be carried out, haul roads will be sprayed with water periodically to control dust at source itself. Hence, dust problem does not arise.

(iii) **Water quality:**

It is a dry area. Water table is reached at a depth of 35 M in rainy season, i.e. During North – East monsoon and at 40 M in summer months. Maximum depth of the mine will be 10.5 M (economic depth of mining), so ground water will not get affected due to mining, also discharge of mine water will be utilized for afforestation carried out by the applicant.

iv) Noise levels

During the mining activity in order to loosen the minable material planned to use jack hammer drilling & blasting. Drilling & Blasting are not in continuous processes and are done based on need only. The noise level due to this activity will be within permissible limits.

V). Vibration level (due to blasting)

Drilling & Blasting are not continuous processes in Quartz Mining and are done based on only. For drilling 32 mm dia holes Jack hammer drilling method is adopted. Vibration will be minimum in drilling holes using Jackhammer. This vibration will no way affect the habitations near the mine area.

Vi). Water regime

It is a dry area. Water table is reached at a depth of 35 M in rainy season, i.e. During North – East monsoon and at 40 M in summer months. Maximum depth of the mine will be 10.5 M (economic depth of mining), so ground water will not get affected due to mining, also discharge of mine water will be utilized for afforestation carried out by the applicant. No toxic substance will be dissolved in the water collected from the mined out area, so adjacent areas will not get affected due to the discharge of this waters. The average annual rainfall is very less. There is no water bodies like lake or reservoir near the area.

Vii) Socio economics

The inhabitancies of the surroundings village are mainly depending on agriculture. Proposed mining activity will fetch employment to the local villagers which will improve the socio-economic condition of the surrounding villages.

Viii) Historical monuments

There are no historical monuments within 2 KMs radius.

C. Environmental Management Plan:

Temporary storage and utilization of top soil:

Thickness of top Soil in this applied area is 0.5 M to 1.0 M. 3163 MT of top soil will be generated during this 5 years plan period. It will be dumped separately as shown in Year wise Development and Production plan plate No 6. This top soil accumulated will be used for plantation whenever required.

Year wise proposal for reclamation:

No reclamation is proposed in this 5 years plan period since mines will be active. It is proposed to undertake semi mechanized opencast method of mining. During production in 5 years period a little quantity of waste material will be generated and will be dumped separately as proposed in plate No – 6.

Afforestation:
The applicant proposed to take up plantation in the safety zone (0.66 ha area) or will deposit the required amount in the CAMPA account so as to carry out plantation in the safety zone area by the Forest Dept as the case may be.

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

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

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

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

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

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

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

4. **Processing:**
In this mine the applicant / user agency will use major quantity of the minerals excavated for captive consumption and supply some quantity to other consumers without processing. Therefore, mineral processing is not being done in this mine.

5. **Infrastructure and services and construction activities:**
Temporary sheds will be provided for office, first aid etc., as shown in Plate No -10. Applicant will provide drinking water supplied by village water tank, First aid facilities to their workers from private medical practitioner.

6. **Costing:**
As the quarry is proposed to work in the open cast by semi mechanized method quarry, it may cost about Rs. 15,00,000/- as capital investment required for purchasing mine equipment and advances to labour. The estimated cost of production of Quartz is Rs.850/- per ton and Feldspar is Rs.550/- per ton.

Detailed exploration:
The detailed exploration such as Topographical Survey etc. is done in this quarry. The applicant has undertaken surface Geological Survey and prepared surface Plan and all plans in 1:2000 scale. The Plan was prepared with reference Benchmark 81.969 m MSL fixed by GPS N 14 13' 54.56" E 79 41' 22.87" at pillar No M1 of the applied area. The mining lease area is represented in Survey of India Topo Sheet 57 N / 12.

7. **Specific knowledge of forest / Non-Forest& other land use data:**
The applied area is a Forest land. The applied area is being used for opencast. The details of the land Survey No, extent etc, are given in following Table.

Details of the applied area

State & District	Mandal	Village	Sy. No.	Area in Ha	Ownership of occupancy
A.P. & SPSR Nellore	Sydapuram	Chaganam Vg. & RF	553/P	4.41.0 Ha Including 3.45 Ha Mining area 0.66 Ha. Safety buffer zone area and 0.30Ha Road area	Forest land

The applied area for mine falls under the survey of India Topo sheet No. 57 N/12 at the intersection of North Latitude 14° 14' 7.10" to 14°13' 54.56" and East Longitude 79° 41' 22.73" to 79° 41' 22.87". The Key plan prepared using Topo sheet on 1: 50000 scale. The key plan cum location map is enclosed as Plate No-1.

ECONOMIC AXIS: E 1

1. **Marketing:** The applicant is having good market for Quartz and Feldspar.

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

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

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

4. **Mineral Reserves**

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

It is proposed to carryout mining operations by manual opencast mining. The exploration done so far has proved the mineable reserves of 54422 MT of pegmatite ROM (clean ore @ 80% is 42848 MT the reserves will be increasing as the pegmatite is worked deeper.

Pegmatite ore body:

Quartz:

Colour of Quartz in pegmatite varies from white, light grey, yellow and pink. Nature of the material is semi glassy with granular appearance. Luster of Quartz is vitreous and have concoidal fracture. In the pegmatite, recovery of Quartz is found to be 95%. Analysis Report of Quartz is enclosed as Annexure 7

Feldspar:

Quantity of Feldspar is meager. colour of feldspar is dull white and have greasy luster. It is having multiple joints and even fracture. In pegmatite, the recovery of Feldspar is found to be about 5% from open cast. Analysis Report of Feldspar is enclosed as Annexure 8

GEOLOGICAL RESERVE (ROM)	:	53560 MT
MINERAL BLOCKED UNDER BENCHES & SLOPES	:	NIL
MINERAL BLOCKED UNDER SAFETY BUFFER ZONE	:	NIL
TOTAL RESERVE (PROVED + PROBABLE)	:	53560 MT
RECOVERY OF SALEABLE QUARTZ & FELDSPAR	:	53560 X 80% = 42848 MT
SALEABLE QUARTZ 42848 X 95%	:	40706 MT
SALEABLE FELDSPAR 42848 X 05%	:	2142 MT

(ii) Mineable reserves and anticipated life of mine
Details of mineable reserve estimation is enclosed as Annexure - 5

Total mineable reserves from pegmatite	:	53560	MT of ROM
Maximum production per annum during the plan period	:	2613	MT of ROM
Anticipated life of the mine	:	20.5	Say 21 years

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

(iii) Conceptual Mining Plan :
Total Geological resources estimated in this applied area are around 53560 MT of pegmatite ROM. Benches are formed in hard country rock itself and no ore is blocked in safety buffer zone. Entire quantity of 53560 MT of ROM is mineable.

The anticipated life of the mine is 21 years for open cast method of working. However, the life of the mine may change based on the further exploration during the course of mining.

3. MINING :

(a) Open cast Mining:

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

It is proposed to operate the mine by semi mechanized method (OTFM) of open cast mining with systematic & scientific method of mining in Western part of the applied area. There will be 2 benches in the pits, Slope of benches will be maintained at 60^0. The applicant proposes to produce Quartz and Feldspar by drilling and blasting for progressing benches and for handling of ore/waste material. However, Drilling & blasting techniques will be used for hard formations only. The ore body is blasted and loaded by small size excavator in to tippers of 10 ton capacity and transported to the end users and dump yards. The proposed Development Plan for the plan period shown in Plate 4.

The mining (open cast method) of pegmatite will be carried out in sections X1Y1 – CD, X2Y2 – CD, X4-Y4 - CD during this plan period. Work will start from surface level towards bottom. The proposed mining area is located in the Western side of the applied area and away from village and tank. The area also proved under G1 scale of exploration.

As the formation is semi hard in nature, the mining will be carried-out with jack hammer drilling and blasting etc. The drilling and blasting will be used for breaking the material. The drilling will be done to a depth of 1.5mts depth (Each slice) bench height will be maintained at 3.0 m with two slices of 1.5mts with the help of 32mm jack hammer drill. Bench width will be maintained more than bench height the loading will be by a suitable excavator.

The Quartz and Feldspar produced will be transported directly to the consumer.
It is a dry area. Water table is reached at a depth of 35 M in rainy season, i.e. During North – East monsoon and at 40 M in summer months. Maximum depth of the mine will be 10.5 M (economic depth of mining), so ground water will not get affected due to mining, also discharge of mine water will be utilized for afforestation carried out by the applicant. No toxic substance will be dissolved in the water collected from the mined out area, so adjacent areas will not get affected due to the discharge of this water. The average annual rainfall is very less. There is no water bodies like lake or reservoir near the area. Water table will not get affected due to mining.

ii) Indicate year wise tentative excavation in cubic meters indicating development, ROM, Pit wise as in table

Year	Occ No.	Total Tentative Excavation of Ore & Waste (MT)	Top Soil (MT)	OB/SB / IB (MT)	ROM from Mineralized Zone			Ore Waste Ratio
					Clean Ore (MT)	Sub Grade Ore (MT)	Mineral Reject (MT)	
1st Year	4	2600	612	182	2080	Nil	520	1:0.63
2nd Year	5	2613	1316	2106	2090	Nil	523	1:1.88
3rd Year	5	2613	728	2132	2091	Nil	522	1:1.61
4th Year	5	2574		26	2059	Nil	515	1:0.26
5th Year	6	2613	507	26	2090	Nil	523	1:0.50
Total		**13013**	**3163**	**4472**	**10410**	**Nil**	**2603**	**1:0.98**

Year wise production and development plan is enclosed as Annexure – 6

I st Year:
Mining will be done in Occ-4 with 2 bench cuttings. In this year 2600 MT of ROM will be excavated from top to bottom. Please refer Plate No – 6 Section along X1Y1 – CD. Total quantity of ore excavated will be 2080 MT and waste generated during this period is 1314 MT

2nd Year:
Mining will be done in Occ-5 with 2 bench cuttings. In this year 2613 MT of ROM will be excavated from top to bottom. Please refer Plate No – 6 Section along X2Y2 – CD. Total quantity of ore excavated will be 2090 MT and waste generated during this period is 3945 MT

3rd Year:
Mining will be done in Occ-5 with 2 bench cuttings. In this year 2613 MT of ROM will be excavated from top to bottom. Please refer Plate No – 6 Section along X2Y2 – CD. Total quantity of ore excavated will be 2091 MT and waste generated during this period is 3382 MT

4th Year:
Mining will be done in Occ-5 with 2 bench cuttings. In this year 2574 MT of ROM will be excavated from top to bottom. Please refer Plate No – 6 Section along X2Y2 – CD. Total quantity of ore excavated will be 2059 MT and waste generated during this period is 541 MT

5th Year:
Mining will be done in Occ-6 with 2 bench cuttings. In this year 2613 MT of ROM will be excavated from top to bottom. Please refer Plate No – 6 Section along X4Y4 – CD. Total quantity of ore excavated will be 2090 MT and waste generated during this period is 1056 MT

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

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

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

Blasting will be done to break the pegmatite rock in respect of open cast mining. The total development (ROM) for the 5 years plan period in open cast is 13013 MT; i.e. 10410 MT of Production per year.

Average working days per year 290 days

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

Average production per annum	average quantity	2603	MT
working days per year		290	days
Production per day	Average production/working days per year	8.97	MT
Spacing		0.8	mts
Burden		0.8	mts
Depth of hole		1.5	mts
Yielded of the each hole	spacing x burden x depth of hole	0.96	Cu.M
Yield per hole in MT	Yielded of the each hole*BD	2.4	MT
Yield per 1 meter hole :	Yield per hole in MT/ depth of hole	1.6	MT
No of holes required /day	average day production/yield per hole	5.60	Nos
	i.e.,	6	Nos
Change per hole		0.125	Kgs
Powder factor	yield per hole/charge per hole	12.8	Cu.M/kg
Total explosive required/day	no of holes per day x charge per hole	0.5	Kgs
Motive power of a jack hammer		18	mts /hour
total meterage required per day	no. of holes x depth of hole in mts	9	mts
therefore time required for drilling for one day required production	total meterage/ motive power of a jack hammer	0.5	hrs

Therefore drilling & blasting is not required every day and jack hammer drills shall be engaged whenever required.to achieve the targeted production.

Blasting:

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

The blast hole of 3 m will be drilled with the help of 32 mm drill rod, Jack Hammer and Air Compressor of 250 cfm capacity. It is proposed to drill 6 m deep shot hole with 2 m spacing and 2 m burden. The details of Fuse Wire and Detonators deployed for blasting and burden calculations are as below:

Average production per annum	average quantity	2603	MT
working days per year		290	days
Production per day	Average production/w.days per year	8.97	MT
Spacing		0.8	mts
Burden		0.8	mts
Depth of hole		1.5	mts
Yielded of the each hole	spacing x burden x depth of hole	0.96	Cu.M
Yield per hole in MT (quantity of ROM Blasted per hole)	Yielded of the each hole*BD	2.4	MT
explosive used per hole (Charge per hole)		0.125	kg
Powder Factor	yield per hole/charge per hole	12.8	MT/kg
no of holes required per day	production per day/ yield per hole	5.6	holes
	i.e.,	6	Nos
no.of shot holes per annum	w.days x holes per day	1740	holes
explosive required per annum	holes per annum* charge per hole	218	kg

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

Blast holes will be drilled up to a depth of 1.5 m with a spacing of 1.8 m and a burden of 0.8 meters. Drill holes are drilled in staggered pattern; each blast hole will be charged with class II Slurry explosives (super dyne, power tel etc.,) of 0.125 kg and blasted with ele.delay detonators.

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

Deployment of mining machinery:

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

Machinery for	Type	Nos. required	Capacity	Motive power/ HP	Make
Drilling	Holman Jack hammer	1	32 mm dia	18 m / h	2020
Loading & excavating	L & T PC 130	1	0.9 Cu. M	150 HP	2020
Transportation	Tippers (Ashok Leyland)	2	10 MT truck	100 HP	2008

Adequacy of machineries/ mine equipment Plan:

1. Effective working days : 290 days per year,
2. No. of Shifts : One shift per day
3. Working hours per shift : 7 effective hrs
4. Availability of machinery : Hitachi 200 LC

Calculations for excavator timings and excavator required are given below:

Total production for this plan /scheme period		13013	MT
Proposed years		5	
Average Annual production	Total production / proposed years	2603	MT
Working days per year		290	Days
Production Per day	Annual production/working days	8.97	MT
Machine (Excavator) proposed	L & T PC 130.		
Bucket capacity (BC)		0.6	m^3 of ROM
Fill factor (FF)		0.8	
Swelling factor (SF)		1.3	
One bucket Loading capacity in Cu.M	BCXFFXSF	0.624	Cu .M
One bucket Loading capacity in MT	Cu. Mx 2.5	1.56	MT
No. of Buckets required for one tripper or truck of 4.0 Cu.M	4.0 Cu .M/Loading capacity	6.4	Buckets
No. of Buckets required for one tripper or truck of 10 MT Cu.M	10.0 MT/Loading capacity	6.4	Buckets
Time Calculation :			
Time taken for one bucket loading		60	sec
Time taken for one tipper or truck	N0. of buckets * one bucket time	650	sec
No. of tippers or trucks loading per hour with 90 percent efficiency	(60 min/time taken for 1 tipper)*0.9	5.0	tippers
total quantity loaded per hour	10 MT*tippers per hour	50	MT
Time taken for handling of daily production by proposed excavator and tipper combination	Day production/ quantity loaded per hour	0.18	Hrs

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

In the remaining time it is used for leveling, OB removal and other works. In this area, secondary blasting is not required.

Dump management

There is adequate space available for dumping mineral waste in non-mineral bearing area. Separate Dumps for Top soil, Side burden and Mineral reject are proposed on the Eastern side as shown in plate Nos 6, 8 & 10. No toxic or hazardous substance is produced. Dumping of waste, will be done is steps to avoid sliding. Earthen bund will be constructed around the dumping yard to avoid flow of material from the dump to adjacent areas. In the first five years, nearly 11466 MT of waste will be generated. The dumping details for first five years is furnished below:

	Top Soil	Side burden	Mineral Reject
Length (m)	40	55	40
Width (m)	16	20	16
Height (m)	2.6	2.48	2.13

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

(i) Layout of mine workings, pits, roads etc., Production proposed for the next five years

It is proposed to produce 13013 MT of ROM (Quartz, Feldspar and Mineral reject) during the next five years plan period with an average annual production of 2603 MT The bench height is planned to make 3 m height with 60 to 65^0 slopes and 1 in 16 gradient hauling roads. The slice is 1.5 m because manual drilling by using jack hammers with 1.5 m drill rod (two slices per bench). The blasting is being conducted to loosen the strata and with the help of excavator the Pegmatite will be excavated.

(ii) Under Ground Mining:

Not applicable

4 MINE DRAINAGE

(a) Minimum and Maximum depth of water table:
During summer Water table Depth ranges from 35 to 40 m.

(b) Indicate maximum and minimum depth of workings
The Quarry goes up to 10 mts depth in pegmatite by open cast method of working from the surface level.

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

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

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

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

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

There is adequate space available for dumping mineral waste in non-mineral bearing area. Dump for Top soil, Side burden and Mineral reject are proposed on the Eastern side as shown in plate Nos 6,8 &10. No toxic or hazardous substance is produced. Dumping of waste, will be done is steps to avoid sliding. Earthen bund will be constructed around the dumping yard to avoid flow of material from the dump to adjacent areas. In the first five years, nearly 10238 MT of waste will be generated

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

6. USE OF MINERAL

QUARTZ

Depending upon the physical nature and Chemical suitability Quartz has been used in various industries.

1) High purity silica powder manufactured from Quartz is used for semiconductor applications.
2) Quartz with semi glassy to glassy appearance is used for manufacturing engineered stone.
3) Low grade varieties of Quartz is used in Ceramic industries.
4) Quartz is also used in glass industries.
5) Depending upon the iron content, Quartz is used for manufacturing Ferro-Silica / Ferro-Alloy.
6) Metal silica industries also use Quartz.
7) Now a days Mineral reject of Quartz is made into small pebbles / grains and used as water filtration beds and for decorating fish tanks
8) Quartz is also used as abrassives.

FELDSPAR

1) Feldspar is widely used in ceramic industries, manufacture of tiles, porcelian etc.,
2) Due to the presence of alkali and alumina content feldspar are widely used as fillers in manufacturing paints
3) In enamel glazes, feldspar helps to increase the aesthetics of the final products.

7. PROCESSING OF ROM AND MINERAL REJECT:

Mined out material (ROM) from working pit will be shifted to processing yard. Quartz in the processing yard will be graded manually and stacked separately. This graded Quartz will be transported periodically. 13013 MT of ROM will be handled during this plan period. 10410 MT of Quartz & Feldspar will be produced during this plan period (on an avg. of 2082 MT / Year).

2603 MT of Mineral rejects 4472 MT of Side Burden, 3163 MT of Top soil will be generated during this plan period. Separate dumps will be maintained for Topsoil, Side burden and Mineral rejects. Please refer Plate Nos – 6, 8 & 10 for position of dumps.
Top soil dumped is mixed with floats of Quartz, It will be used for afforestation and road forming if required in future.

8. OTHERS

a). Site services

Site services are shown in Mine Lay out, land use & afforestation plan in plate No.10.

b). Employment potential

1.	Mine Manager	: 1 Number
2.	Mine Mate	: 1 Number
3.	Clerk	: 1 Number
4.	Operator	: 1 Number
5.	Driver	: 2 Numbers
6.	Watch man	: 1 Number
7.	Un skilled workers	: 12 Numbers
	TOTAL	**: 19 Numbers**

PART – B

PROGRESSIVE MINE CLOSURE PLAN

1.0 ENVIRONMENT BASE LINE INFORMATION

i	**Exiting land use pattern**	Area	Hectares
		Area under mining (old pits)	0.000
		Infrastructure	0.000
		Green Belt	0.000
		Dumps (Existing)/Stack yards	0.000
		Roads	0.300
		Mineral stacking	0.000
		Magazine	0.000
		TOTAL AREA UTILISED	**0.300**
		TOTAL MINE APPLIED AREA	**4.410**
ii	**Water Regime**	The water table is about 40m below the general ground level. As such water regime is not disturbed. During summer season ground water further goes down.	
iii	**Human Settlement**	The area is surrounded by few small villages and towns. The main occupation of the local people is business, agriculture, sheep rearing.	
iv	**Public Buildings, Places &monuments**	No Public Places and Monuments are situated within a distance of 2.00 Km	
v	**Sanctuaries**	No Bird or animal sanctuaries Places are situated within a distance of 10.00 Km	
vi	**Eco-Sensitive Areas**	No Eco-Sensitive areas are situated within a distance of 10.00 Km	

2.0 ENVIRONMENTAL IMPACT ASSESSMENT

a. Land area:

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

Sl No	Land area Under different head	Existing land use Area in ha (Within 4.41.0 ha Forest Area proposed for Diversion)	Proposed land use Area in next 5 years in ha		Proposed land use Area in entire 20 years lease period in ha		Remarks
01	Mining area		Open cast	0.32.0 ha	Open cast (Including proposed, waste dumps, OB dumps and mineral stacking)	1.40.0 ha	Out of 4.41.0 ha proposed for mining, effective area under mining will be 2.598 ha including proposed waste and OB dumps prior to enactment of FCA, 1980. Out of 4.41.0 ha 0.32.0 ha will be open cast mining in the next 5 years.
			Existing	nil			
			Total	0.32.0 ha			
02	Safety zone / Green belt	0	0.66 ha Total safety zone proposed 0.66 ha (7.5 mts all along the mining area)		0.66 ha		In addition to the safety zone, plantation will be carried out wherever possible on the surface.
03	Waste & OB Dump	0	0.23.8Ha		0.23.8 Ha		-
04	Infrastructure	0	0.				No permanent building / infrastructure.is proposed. Only temporary office sheds are proposed. Afforestation will be done on that area also.
05	Screening plant	0	0		0		No screening plant was proposed within the applied area
06	Roads	0.30 ha	0		0.30 ha		An approach road is required to reach mining area through forest area at South side of the applied area.
07	Mineral staking	0	0.05ha		0		Mineral staking will be done in an area of 0.05.0 ha in the applied area
08	Magazine	0	0		Nil		
Total		0.30 ha.	0.710 ha.		2.598 ha		4.41 ha proposed for diversion

a. Air Quality:
During drilling and blasting dust emissions are negligible and for a short time only.
Drilling area shall be covered by tarpaulin or wet gunny.
Since the material is mostly stony, with very little dust, dust emissions are negligible. Haul roads do not contain any loose soil. They have hard rocky top are covered with broken rock, hence dust emissions during transport are very slight. The air is not critically polluted and the additionality due to the proposed mining is negligible.
Dust suppression by water spraying during dry period.

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

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

d. Vibration Levels
Blasting is an important and vital aspect of mining. It is essential to assess the impact of this activity on the surrounding area, especially on the near-by structures and dwelling houses.

The quantity of charge used in the mine at any point is very small. Further except for the essentials like rest shelter, canteen, mines office, no other infrastructure is within the mining area.

Further, the area is located at 2.0 km away from the nearest village; and as the proposals are in belowground, the vibrations will not propagate up to the village. Hence, the impact due to blasting is negligible. However control blasting will be adopted to control the vibrations and sound.

e. Water Environment

The chemical analysis of Quartz and Feldspar does not show any hazardous parameters. Hence, the rain water passing through the mine workings does not affect. However, during monsoon there is every possibility of transportation of the silt and sedimentation into the surrounding area, which may cause pollution to the natural drainage system.

During mining activity a part of the dust generated by the vehicular movement get mixed with the rain water and carried as solid suspension along with it, causing siltation in the seasonal nallah.
The ground water table is about 40 m below the general ground level. Hence, the ground water will not be affected.

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

g. Surface Subsidence : Not applicable

h. Socio economies

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

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

j. Bio-Diversity
No impact will happen to the Mankind, flora and fauna by the mining operations, excepting minor vibrations due to blasting, sound pollution and dust which will be under control and within the permissible limits.

3.0 PROGRESSIVE RECLAMATION PLAN:

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

The ore bearing area will be semi mechanically mined-out up to the ultimate pit limit maintaining required bench height and width with due consideration for slope stability. No part / whole of the pit area is proposed for reclamation / backfilling as entire area will be active in mining operation up to the end of this plan period.

In this 5 years plan period plantation proposed in the safety zone (7.5 Mts buffer Safety Zone Area) is shown in plate No - 10. It is proposed to undertake semi mechanized opencast method of mining. During production in 5 years period a little quantity of waste material will be generated from the workings and will be stacked separately. Top soil generated during this mining plan period will be stacked separately and will be used for afforestation purpose whenever required.

Since the mine is active no reclamation is proposed in this plan period, however after complete extraction of ore, the mined out pits will be back filled with the available over burden / side burden waste.

Afforestation:

The applicant proposed to take up plantation in the safety zone (0.66 ha area) or will deposit the required amount in the CAMPA account so as to carry out plantation in the safety zone area by the Forest Department as the case may be. Top soil dumped separately will be used for afforestation purpose.

4.0 MINED- OUT LAND

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

Sl No	Land area Under different head	Existing land use Area in ha (Within 4 41.0 ha Forest Area proposed for Diversion)	Proposed land use Area in next 5 years in ha		Proposed land use Area in entire 20 years lease period in ha		Remarks
01	Mining area		Open cast Existing Total	0.32.0 ha nil 0.32.0 ha	Open cast (Including proposed, waste dumps, OB dumps and mineral stacking)	1.40.0 ha	Out of 4.41.0 ha proposed for mining, effective area under mining will be 2.598 ha including proposed waste and OB dumps prior to enactment of FCA, 1980. Out of 4.41.0 ha 0.32.0 ha will be open cast mining in the next 5 years.
02	Safety zone / Green belt	0	0.66 ha Total safety zone proposed: 0.66 ha (7.5 mts all along the mining area)		0.66 ha		In addition to the safety zone, plantation will be carried out wherever possible on the surface.
03	Waste & OB Dump	0	0.23.8Ha		0.23.8 ha		-
04	Infrastructure	0	0.		0		No permanent building / infrastructure.is proposed. Only temporary office sheds are proposed. Afforestation will be done on that area also.
05	Screening plant	0	0		0		No screening plant was proposed within the applied area
06	Roads	0.30 ha	0		0.30 ha		An approach road is required to reach mining area through forest area at South side of the applied area.
07	Mineral staking	0	0.05ha		0		Mineral staking will be done in an area of 0.05.0 ha in the applied area
08	Magazine	0	0		Nil		
Total		0.30 ha.	0.710 ha.		2.598 ha		4.41 ha proposed for diversion

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

5.0 TOP SOIL MANAGEMENT:

Red Morum is the top Soil In this applied area up to 0.5 mts. A quantity of 3163 MT of top soil will be generated during this plan period. It will be used for plantation.

6.0 TAILING DAM MANAGEMENT:

Not applicable

7.0 DISASTER MANAGEMENT AND RISK ASSESSMENT:

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

Key Person:

S. Ananthakrishnan
Assistant Vice President
Chettinad Morimura Semiconductor Material Pvt. Ltd.,
No 60, Gandhinagar 3rd Cross,
Chinnandankoil Road,
KARUR – 639 001 :
Tamil Nadu
Contact Number – 9443394438

8.0 CARE AND MAINTENANCE DURING TEMPORARY DISCOUNTENANCE:

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

The following specific measures are taken,

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

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

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

9.0 FINANCIAL ASSURANCE

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

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

All units are in Hectares

Sl. No	Type of land use	During the Plan period	The area considered during end of life of mine	Net area considered for calculation
A	B	C	D	E=C+D
1	Area under Mining	0.32.0	1.08.0	1.40.0
2	Infrastructure	0	0	0
3	Storage for top-soil	0.06.4	0	0.06.4
4	OB Dump	0.11.0	0	0.11.0
5	Waste dump	0.06.4	0	0.06.4
6	Mineral storage	0	0	0
7	Road area	0.30.0	0	0.30.0
8	Railway	0	0	0
9	Green belt (7.5m safety zone area)	0.66.0	0	0.66.0
10	Tailing pond	0	0	0
11	Screening & washing plant	0	0	0
12	Magazine	0	0	0
13	Township Area	0	0	0
14	Sub-grade storage	0	0	0
Total		**1.51.8**	**1.08.0**	**2.598**

Area considered for calculation of Financial Assurance : 2.59.8 Ha.

The Financial Assurance required is minimum @ Rs.50000.00 for below 5 Hectares as per the amended Rule 7 and Rule 12(5) (C) of Mineral Concession Rules-1966, G.O.Ms. No.53 Dated: 27.02.2019, Hence the financial assurance of Rs.50000.00 in the form of Bank Guarantee will be submitted to the Assistant Director, Department of Mines and Geology, Nellore

PLANS AND SECTIONS :

Plans and sections are enclosed.

For Chettinad Morimura Semiconductor Material Pvt. Ltd.,

S.ANANTHAKRISHNAN
ASSISTANT VICE PRESIDENT

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

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

This Mining Plan is Approved Subject to the conditions stipulations indicated in the Mining plan Approval Letter No.....210/MP/Quartz & Feldspar/NLR/2021 Date 03/2022

Approved

B. Jagannadha Rao 10/3/2022

B. JAGANNADHA RAO
(Approving Authority of Nellore District)
Deputy Director of Mines & Geology
SPSR Nellore District

Annexure-I

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

Letter No.16715/R3-1/2017

Dated:15.06.2017.

From
B.Sreedhar, I.A.S.,
Director of Mines and Geology (FAC),
Sri Anjaneya Towers, D.No.7-104,
5th & 7th Floors, B-Block,
Ibrahimpatnam,
Krishna District – 521456.

To
Prl. Chief Conservator of Forests,
Aranya Bhavan,
Sankurathri Residency,
Agathavarappadu, Mahatma Gandhi
Inner Ring Road,
Peda kakani Mandal,
Guntur – 522 509, A.P.

Sir,

Sub:- Mines and Quarries – Application for grant of Quarry Lease for Quartz & Feldspar over an extent of 4.400 Hectares in Sy.No.553/Part of Chaganam RF, Chaganam Village, Sydapuram Mandal, SPSR Nellore District filed by M/s. Chetinadu Morimura Semiconductor Material Pvt. Limited - Statutory proformae forwarded – Regarding.

Ref:- 1. Quarry Lease application dt.08.07.2016 filed by M/s. Chetinadu Morimura Semiconductor Material Private Limited.

2. ADM&G, Nellore, LR.No.4264/Q/2016, dated: 11.05.2017.

-oOQOo-

I invite kind attention to the subject and references cited. Through the reference 1st cited, M/s. Chetinadu Morimura Semiconductor Material Private Limited filed an application for grant of Quarry Lease for Quartz & Feldspar over an extent of 4.400 Hectares in Sy.No.553/Part of Chaganam RF, Chaganam Village, Sydapuram Mandal, SPSR Nellore District. The said application was received by the Assistant Director of Mines and Geology, Nellore on 08.07.2016.

Through the reference 2nd cited, the Assistant Director of Mines and Geology, Nellore furnished Statutory Proformae and requested to forward the same to the Principal Chief Conservator of Forests, Hyderabad keeping in view of Circular Memo No.45921/FCA-4, dt.15.06.2015 for issue of Forest Clearance as required under Section 2 of Forest Conservation Act, 1980.

In view of the above circumstances, I am herewith forwarding Statutory Proformae received from the Assistant Director of Mines and Geology, Nellore in the reference 2nd cited for diversion of Forest Land for quarrying purpose under Section 2 of Forest Conservation Act, 1980.

Yours faithfully
Sd/- B. SREEDHAR
DIRECTOR OF MINES AND GEOLOGY (FAC)

Encl:-(As above)

// ATTESTED //

for DIRECTOR OF MINES AND GEOLOGY

Copy to the Assistant Director of Mines and Geology, Nellore.

Copy to M/s. Chettinad Morimura
Semiconductor Material,
No.37, Old Mahabalipuram Road,
Kazhipattur Village, Chengalpattu Taluk,
Kancheepuram District,
Tamil Nadu – 603 103 for information.

Annexure-2

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

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

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

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

*****

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

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

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

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

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

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

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

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

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

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

Encl: References as stated above

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

//Attested//

G. Samuel Babu.
Assistant Director of Mines &Geology

File No.EFS02-15029/57/2018-FCA SEC-PCCF Annexure-3

GOVERNMENT OF ANDHRA PRADESH
FOREST DEPARTMENT

From
Sri N. Prateep Kumar, IFS.,
Prl. Chief Conservator of Forests &
Head of Forest Force, Andhra Pradesh,
Guntur – 522 004.

To
The Director of Mines & Geology,
5th floor, Sri Anjaneya Towers,
Ibrahimpatnam, Krishna District,
Andhra Pradesh.

Ref.no.EFS02-15029/57/2018-FCA SEC-PCCF/FCA-3(ii), dated:26/12/2021

Sub: APFD – F(C) Act, 1980 – Diversion of 4.41 ha of forest land for extraction of Quartz and Feldspar in compartment no.125, Chaganam RF Venkatagiri Range, Nellore Division in favour of M/s. Chettinad Morimura Semiconductor Material (Pvt.) Ltd. – Request to furnish approved mining plan- Reg.

Ref:-
1. DMG, Ibrahimpatnam, Krishna letter no.16715/R3-1/2017, dated: 15.06.2017.
2. MoEF & CC, IRO Vijayawada, F.No. 4-APC092/2018-CHN/46 Date 29.07.2021 communicating the Minutes of the meeting held on 08.07.2021

Kind attention is invited to the references 1st and 2nd cited. As per the instructions issued by the GoI, MoEF&CC, IRO, Vijayawada in the reference 2nd cited, Approved Mining Plan is required at the initial stage of processing the mining proposal.

In this context, 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 subject proposal is sent herewith. Necessary instructions are being issued to the above User Agency to furnish the Draft Mining Plan based on the above precise forest area arrived after conducting DGPS survey to the Director of Mines and Geology, Andhra Pradesh, Ibrahimpatnam for necessary action. The DMG, A.P, Ibrahimpatnam / the representative authorized by him, may approach the District Forest Officer, SPSR Nellore Division for entry into Forests to inspect the precise forest area proposed for mining purpose and **furnish the approved mining plan** to District Forest Officer, SPSR Nellore Division under intimation to this office. **The approved mining plan should contain the details of mine reclamation / rehabilitation plan.**

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

Encl:- As above

Copy to the Assistant Vice President, M/s. Chettinad Morimura Semiconductor

Material (Pvt) Ltd., NO.37,OLD Mahabalipuram Road, Kazhipattur (V), Padur Post, Kanchipuram District for information and necessary action. It is requested to furnish the Draft Mining Plan to the Director of Mines and Geology, A.P, Ibrahimpatnam for taking further necessary action as per rules under Forest (Conservation) Rules, 2003 and under the provisions of guidelines on Forest (Conservation) Act, 1980.

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

Copy to the District Forest Officer, SPSR Nellore Division for information and necessary action. He may allow the officials of mining department to inspect the proposed forest area duly following all the rules, so as to enable the mining department to take decision to approve the draft mining plan furnished by the above user agency.

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

Signed by N Prateep Kumar
IFS
Date: 26-12-2021 15:42:10
Reason: Approved

ANNEXURE No. 4

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

प्रमाण पत्र

CERTIFICATE OF RECOGNITION AS QUALIFIED PERSON TOPREPARE MINING PLAN

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

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

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

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

उनका पंजीकरण क्रमांक His Registration Number is

आरक्यू.पी./बेंग/346/2015/ए	RQP/BNG/346/2015/A

यह मान्यता दस वर्ष की अवधि के लिए 30.3.2015 से 29.03.2025 को समाप्त होगी।

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

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

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

आरक्यू. पी. के हस्ताक्षर / Signature of RQP

स्थान/Place: बैंगलोर/Bangalore

दिनांक/Date: 30.03.2015

30/03/15

क्षेत्रीय खान नियंत्रक/

Regional Controller Of Mines

Annexure-5

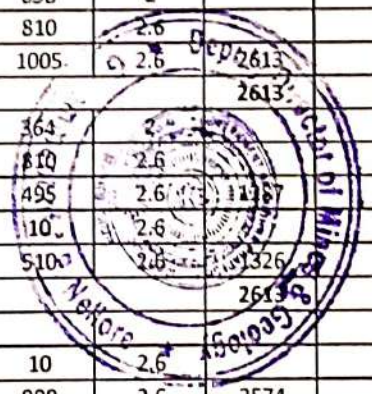
MINEABLE RESERVES

Sectionalong	Bench	length in (m)	Width in (m)	Depth in (m)	Volume Reserve In (MT)	Bulk density	Total Reserve In (MT)	Mineral Waste 20% (T)	Mineral Recovery 80% (T)	Quartz 95% (T)	Feldspar 5% (T)	Top soil (T)	Side Burden (T)	Total Waste (T)
												612		612
X1Y1-CD	I	47	13	0.5	306	2							182	182
OCC-4	II	2	7	5	70	2.6								520
	II	40	5	5	1000	2.6	2600	520	2080	1976	104	612	182	1314
TOTAL							2600	520	2080	1976	104	2044		2044
	I	73	28	0.5	1022	2							5616	5616
	II	18	24	5	2160	2.6							208	208
X1Y1-EF	III	2	8	5	80	2.6								780
OCC-7	II	50	6	5	1500	2.6	3900	780	3120	2964	156			780
	III	50	6	5	1500	2.6	3900	780	3120	2964	156			
TOTAL							7800	1560	6240	5928	312	2044	5824	9428
	I	37	13	0.5	241	2						482		482
X1Y1-GH	II	2	7	5	70	2.6							182	182
OCC-8	II	30	5	5	750	2.6	1950	390	1560	1482	78			390
TOTAL							1950	390	1560	1482	78	482	182	1054
	I	47	12	0.5	282	2						564		564
X2Y2-AB	II	2	7	5	70	2.6							182	182
occ-3	II	40	5	5	1000	2.6	2600	520	2080	1976	104			520
TOTAL							2600	520	2080	1976	104	564	182	1266
	I	73	28	0.5	1022	2						2044		2044
	II	18	24	5	2160	2.6							5616	5616
X2Y2-CD	III	2	8	5	80	2.6							208	208
occ-5	II	50	6	5	1500	2.6	3900	780	3120	2964	156			780
	III	50	6	5	1500	2.6	3900	780	3120	2964	156			780
TOTAL							7800	1560	6240	5928	312	2044	5824	9428
	I	47	12	0.5	282	2						564		564
X2Y2-GH	II	2	7	5	70	2.6							182	182
occ-10	II	40	5	5	1000	2.6	2600	520	2080	1976	104			520
TOTAL							2600	520	2080	1976	104	564	182	1266
	I	47	12	0.5	282	2						564		564
X3Y3-EF	II	2	7	5	70	2.6							182	182
occ-9	II	40	5	5	1000	2.6	2600	520	2080	1976	104			520
TOTAL							2600	520	2080	1976	104	564	182	1266
	I	73	28	0.5	1022	2						2044		2044
	II	18	24	5	2160	2.6							5616	5616
X4Y4-AB	III	2	8	5	80	2.6							208	208
occ-1	II	50	6	5	1500	2.6	3900	780	3120	2964	156			780
	III	50	6	5	1500	2.6	3900	780	3120	2964	156			780
TOTAL							7800	1560	6240	5928	312	2044	5824	9428
	I	73	28	0.5	1022	2						2044		2044
	II	18	24	5	2160	2.6							5616	5616
X4Y4-CD	III	2	8	5	80	2.6							208	208
occ-6	II	50	6	5	1500	2.6	3900	780	3120	2964	156			780
	III	50	6	5	1500	2.6	3900	780	3120	2964	156			780
TOTAL							7800	1560	6240	5928	312	2044	5824	9428
	I	41	12	0.5	246	2						492		492
X4Y4-GH	II	2	7	5	70	2.6							182	182
occ-11	II	34	5	5	850	2.6	2210	442	1768	1680	88			442
TOTAL							2210	442	1768	1680	88	492	182	1116
	I	73	28	0.5	1022	2						2044		2044
	II	18	24	5	2160	2.6							5616	5616
X5Y5-AB	III	2	8	5	80	2.6							208	208
occ-2	II	50	6	5	1500	2.6	3900	780	3120	2964	156			780
	III	50	6	5	1500	2.6	3900	780	3120	2964	156			780
TOTAL							7800	1560	6240	5928	312	2044	5824	9428
GRAND TOTAL							53560	10712	42848	40706	2142	13498	30212	54422

ANNEXURE - 6

YEARWISE DEVELOPMENT & PRODUCTION

YEAR	Sectionalong	Bench	length in (m)	Width in (m)	Depth in (m)	Volume Reserve In (MT)	Bulk density	Total Reserve In (MT)	Mineral Waste 20% (T)	Mineral Recovery 80% (T)	Quartz 95% (T)	Feldspar 5% (T)	Top soil (T)	Side Burden (T)	Total Waste (T)
I-Year	X1Y1-CD OCC-4	I	47	13	0.5	306	2						612		612
		II	2	7	5	70	2.6							182	182
		II	40	5	5	1000	2.6	2600	520	2080	1976	104			520
	TOTAL							2600	520	2080	1976	104	612	182	1314
II-Year	X2Y2-CD	I	47	28	0.5	658	2						1316		1316
		II	9	18	5	810	2.6							2106	2106
		II	33.5	6	5	1005	2.6	2613	523	2090	1986	104			523
	TOTAL							2613	523	2090	1986	104	1316	2106	3945
III-Year	X2Y2-CD	I	26	28	0.5	364	2						728		728
		II	9	18	5	810	2.6							2106	2106
		II	16.5	6	5	495	2.6	1187	257	1030	978	52			257
	X2Y2-CD	III	1	2	5	10	2.6							26	26
		III	17	6	5	5103	2.6	1326	265	1061	1008	53			265
	TOTAL							2513	522	2091	1986	105	728	2132	3382
IV-Year	X2Y2-CD														
		III	1	2	5	10	2.6							26	26
		III	33	6	5	990	2.6	2574	515	2059	1956	103			515
	TOTAL							2574	515	2059	1956	103		26	541
V-Year	X4Y4-CD	I	39	13	0.5	254	2						507		507
		II	1	2	5	10	2.6							26	26
		II	33.5	6	5	1005	2.6	2613	523	2090	1986	104			523
	TOTAL							2613	523	2090	1986	104	507	26	1056
GRAND TOTAL								13013	2603	10410	9890	520	3163	4472	10238



Annexure – 7

Chettinad Morimura Semiconductor Material Pvt. Ltd.,
CIN : U24246TN1991PTC020235
Registered Office: No.37, Old Mahabalipuram Road, Kazhipattur Village, Padur Post, Chengalpattu Dist - 603 103, Tamil Nadu, India
T +91(0) 44 47406700 F + 91 (0) 44 47406777 / E-mail:silica@chettinad.com / Website: www.chettinad.com

Chettinad Chemsem

CHEMICAL ANALYSIS REPORT OF QUARTZ SAMPLE

Mine Area: CHAGANAM

Survey No.: 553/P

S.No.	Constituents	UNITS	Value expressed in Percentage by weight.
1	SiO_2	%	99.95
2	Al_2O_3	%	0.015
3	Fe_2O_3	%	0.003
4	CaO	%	0.002
5	MgO	%	0.003
6	Na_2O	%	0.002
7	K_2O	%	0.002
8	Loss on Ignition	%	0.02
9	EC	µS/cm	8.8
10	pH	-	7.2

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

For CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL PVT.LTD.

Quality Assurance Head

Date: 04.02.2022

Annexure – 8

Chettinad Morimura Semiconductor Material Pvt. Ltd.,
CIN : U24246TN1991PTC020235
Registered Office: No.17, Old Mahabalipuram Road, Kazhipattur Village, Padur Post, Chengalpattu Dist - 603 103, Tamil Nadu, India
T - 91 (0) 44 47406700 F - 91 (0) 44 47406777 / E-mail:silica@chettinad.com / Website: www.chettinad.com

Chettinad Chemisem

CHEMICAL ANALYSIS OF FELDSPAR SAMPLE

Mine Area: CHAGANAM

Survey No.: 553/P

S.No.	Constituents	UNITS	Value expressed in Percentage by weight.
1	SiO_2	%	64.66
2	Al_2O_3	%	17.09
3	Fe_2O_3	%	1.42
4	K_2O	%	10.22
5	Na_2O	%	6.53
6	Loss on Ignition	%	0.08
7	Total	%	100.0

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

For CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL PVT.LTD.

Quality Assurance Head

Date: 04.02.2022

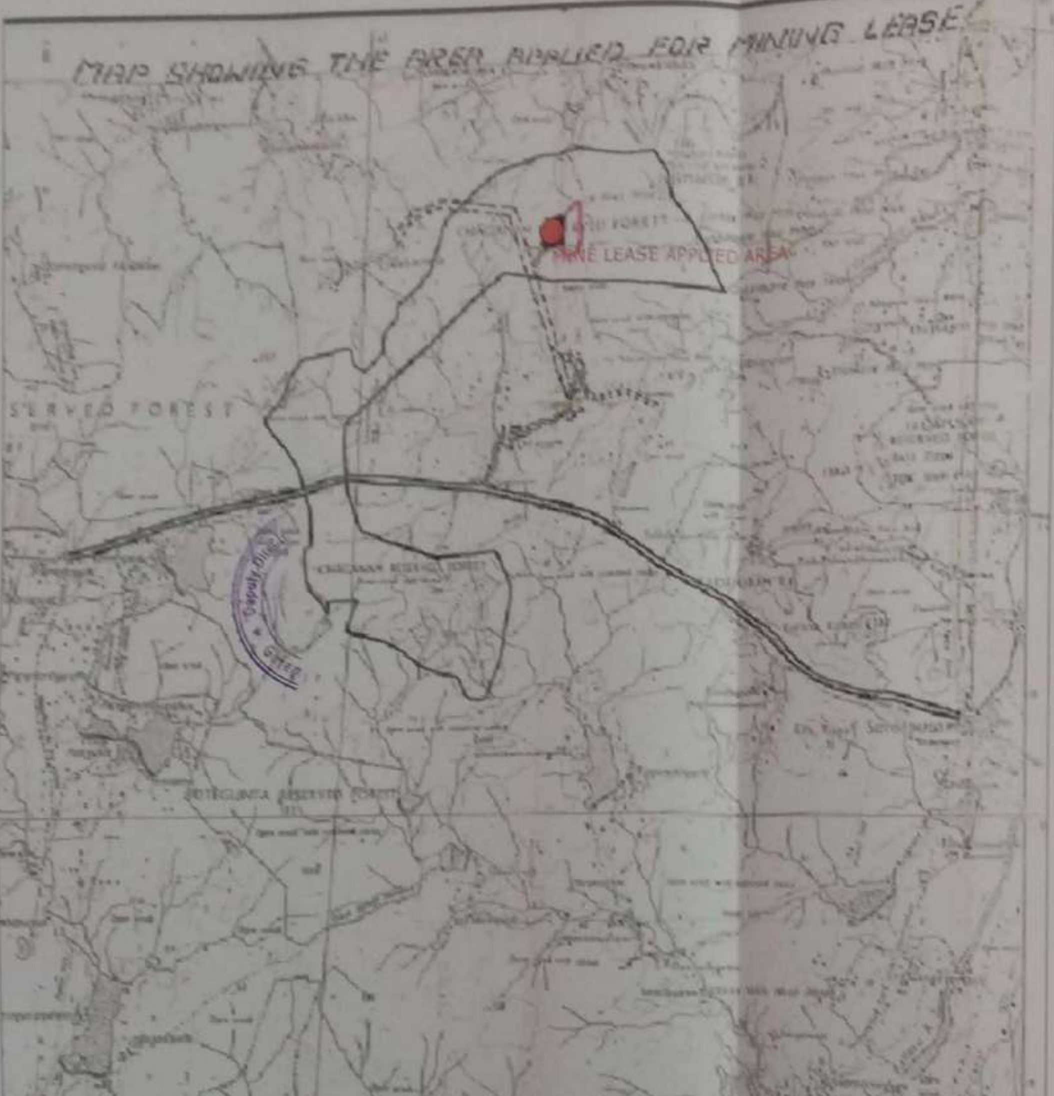


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PLATE NO. 1

NAME AND ADDRESS OF THE APPLICANT:

CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL (P) LTD.
NO.17 OLD MAHABALIPURAM ROAD,
KAZHIPATTUR VILLAGE, CHENGALPET DISTRICT

CHAGANAM- 553(PART) QUARTZ & FELDSPAR DEPOSIT

INDEX

MINE LEASE APPLIED AREA : ●

TOPO SHEET NO. : 57-N/12

LATITUDE : 14°14'7.10"N to 14°13'54.56"N

LONGITUDE : 79°41'22.73"E to 79°41'22.87"E

DETAILS OF THE MINE

EXTENT	:	4.41.0 HECTARES
S.Y.No.	:	553(PART)
VILLAGE	:	CHAGANAM, S.F.
MANDAL	:	SYDAPURAM.
DISTRICT	:	SPSR NELLORE.

For CHETTINAD MORIMURA-SEMICONDUCTOR MATERIAL(P)LTD.

[S.ANANTHAKRISHNAN]
ASSISTANT VICE PRESIDENT

PREPARED BY:

P. VISWAM

KEY CUM LOCATION PLAN (TOPO SHEET)

SCALE- 1:50,000

DATE OF SURVEY-03.01.2022

S.No	PILLAR NO NAME	LATITUDE	LONGITUDE
1	M-1	[illegible]	[illegible]
2	M-2	[illegible]	[illegible]
3	M-3	[illegible]	[illegible]
4	M-5	[illegible]	[illegible]
5	M-5a	[illegible]	[illegible]
6	M-6	[illegible]	[illegible]
7	S-1	[illegible]	[illegible]
8	S-2	[illegible]	[illegible]
9	S-3	[illegible]	[illegible]
10	S-3a	[illegible]	[illegible]
11	S-5	[illegible]	[illegible]
12	S-6	[illegible]	[illegible]
13	1-1	[illegible]	[illegible]
14	1-2	[illegible]	[illegible]
15	1-3	[illegible]	[illegible]
16	R-4a	[illegible]	[illegible]
17	1-5	[illegible]	[illegible]
18	1-6	[illegible]	[illegible]
19	1-7	[illegible]	[illegible]
20	1-8	[illegible]	[illegible]
21	1-9	[illegible]	[illegible]
22	1-10	[illegible]	[illegible]
23	1-11	[illegible]	[illegible]
24	1-12	[illegible]	[illegible]
25	1-13	[illegible]	[illegible]
26	1-14	[illegible]	[illegible]
27	1-15	[illegible]	[illegible]
28	1-16	[illegible]	[illegible]
29	R-1	[illegible]	[illegible]
30	R-2	[illegible]	[illegible]
31	R-3	[illegible]	[illegible]
32	R-4	[illegible]	[illegible]
33	R-5	[illegible]	[illegible]
34	R-6	[illegible]	[illegible]
35	R-7	[illegible]	[illegible]
36	R-8	[illegible]	[illegible]
37	R-9	[illegible]	[illegible]
38	R-10	[illegible]	[illegible]
39	R-11	[illegible]	[illegible]
40	R-12	[illegible]	[illegible]
41	R-13	[illegible]	[illegible]
42	R-14	[illegible]	[illegible]
43	R-15	[illegible]	[illegible]
44	R-16	[illegible]	[illegible]

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EXTENT

MINING AREA	- 3.45.0 Ha
SAFETY BUFFER ZONE AREA	- 0.66.0 Ha
ROAD AREA	- 0.30.0 Ha
TOTAL EXTENT	- 4.41.0 Ha.

NAME AND ADDRESS OF THE APPLICANT

CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL (P) LTD
KADIRPATTUR VILLAGE

CHAGANAM- 553(PART) QUARTZ & FELDSPAR DEPOSIT

INDEX

MINE LEASE AREA

DETAILS OF THE MINE

S.Y.No. : 553(PART)
VILLAGE : CHAGANAM, R.F
MANDAL : SYDAPURAM,
DISTRICT : SPSR NELLORE.

PREPARED BY:

THE PLANS AND SECTIONS ARE PREPARED BASED ON THE MAP AUTHENTICATED BY FOREST DEPARTMENT

For CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL (P) LTD.,

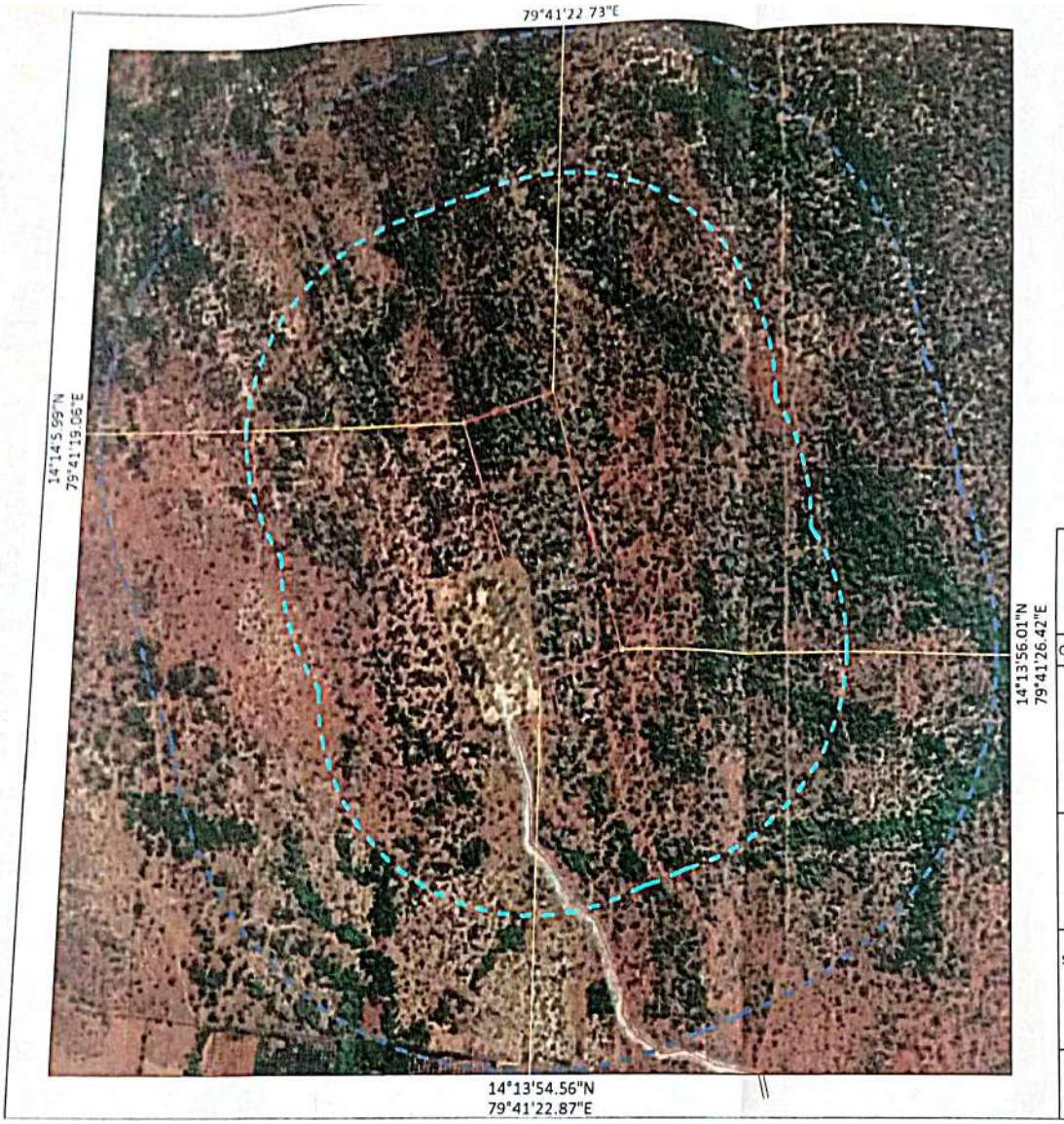
(S.ANANTHAKRISHNAN)
ASSISTANT VICE PRESIDENT

P.VISWAM
RQP/BNG/346/2013/A

SATELLITE IMAGE
(LEASE AREA)

SCALE 1:5000

DATE OF SURVEY-03.01.2022



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EXTENT	
MINING AREA	- 3.45.0 Ha
SAFETY BUFFER ZONE AREA	- 0.66.0 Ha
ROAD AREA	- 0.30.0 Ha
TOTAL EXTENT	- 4.41.0 Ha

PLATE NO: 1B

NAME AND ADDRESS OF THE APPLICANT

CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL (P) LTD.,
NO 37, OLD MAHABALIPURAM ROAD,
KAZHIPATTUR VILLAGE, CHENGALPET DISTRICT 603 103

CHAGANAM - 553(PART) QUARTZ & FELDSPAR DEPOSIT

INDEX

MINE LEASE AREA
500M RADIUS
300M RADIUS

DETAILS OF THE MINE

S.Y.No : 553(PART)
VILLAGE : CHAGANAM,R.F.
MANDAL : SYDAPURAM,
DISTRICT : SPSR NELLORE

PREPARED BY:

THE PLANS AND SECTIONS ARE PREPARED BASED ON THE MAP AUTHENTICATED BY FOREST DEPARTMENT

For CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL(P)LTD.,

(S.ANANTHAKRISHNAN)
ASSISTANT VICE PRESIDENT

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

SATELLITE IMAGE
(500m RADIUS)

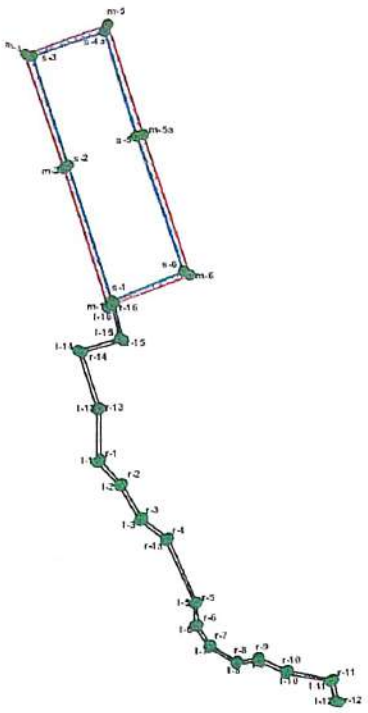
SCALE 1:5000

DATE OF SURVEY-03.01.2022

PLATE No 2

Map Showing the DGPS Surveyed Area Applied for Quarry Lease by M/s.Chettinadu Morimura Semiconductor Material Pvt Ltd in Comp.No.125,Chaganam RF,Chanagam Beat in Venkatagiri Range,Nellore Division.

S.no	Name	Easting	Northing	Elevation	Latitude	Longitude
1	m-1	358339.884590	1573684.021830	81.969	14.23182256	79.68968584
2	m-2	358181.320667	1573873.491750	82.482	14.23353258	79.68913650
3	m-3	358127.799168	1574035.917150	75.991	14.23499806	79.68862695
4	m-4	358237.665012	1574069.464050	74.518	14.23530691	79.68964797
5	m-5a	358281.765210	1573917.183910	78.290	14.23393278	79.69009741
6	m-6	358346.785940	1573728.057610	77.062	14.23227628	79.69067235
7	s-1	358231.983045	1573692.464390	81.460	14.23189939	79.68972616
8	s-2	358186.513038	1573878.228480	82.444	14.23358018	79.68918388
9	s-3	358137.764714	1574032.488020	76.039	14.23496759	79.68872411
10	s-4a	358233.641332	1574059.863820	74.803	14.23521993	79.68961118
11	s-5	358276.544305	1573915.353500	78.481	14.23391562	79.69001630
12	s-6	358337.348258	1573737.936070	77.391	14.23226997	79.69058927
13	t-1	358279.240632	1573479.837630	76.196	14.22997481	79.68960064
14	t-2	358257.732581	1573448.645160	75.750	14.22969611	79.68986638
15	t-3	358284.863529	1573402.580630	75.297	14.22928109	79.69012010
16	t-4a	358318.415844	1573375.373380	74.933	14.22903686	79.69043744
17	t-5	358336.957354	1573286.381870	74.009	14.22823529	79.69079423
18	t-6	358357.329158	1573256.104020	73.911	14.22796071	79.69079925
19	t-7	358374.759072	1573228.376970	73.364	14.22771096	79.69096222
20	t-8	358409.414064	1573206.470860	72.697	14.22751470	79.69128450
21	t-9	358437.831050	1573210.789800	72.437	14.22755518	79.69154760
22	t-10	358476.377740	1573192.858350	70.833	14.22739505	79.69190574
23	t-11	358536.733068	1573180.446820	69.764	14.22728591	79.69246568
24	t-12	358544.105241	1573149.715510	69.609	14.22700850	79.69253560
25	t-13	358225.781886	1573548.191280	76.221	14.23059432	79.68956502
26	t-14	358200.480318	1573677.674410	78.757	14.23131106	79.68932641
27	t-15	358259.309494	1573640.042910	77.396	14.23142631	79.68987093
28	t-16	358247.531889	1573689.582260	78.491	14.23187351	79.68975920
29	r-1	358225.442343	1573477.498090	76.217	14.22995528	79.68956555
30	r-2	358254.551815	1573446.171670	75.711	14.22967358	79.68983694
31	r-3	358281.527523	1573399.738980	75.250	14.22925523	79.69008934
32	r-4	358315.827478	1573372.324430	74.785	14.22900916	79.69040862
33	r-5	358353.402610	1573285.175550	73.960	14.22822785	79.69076136
34	r-6	358353.651961	1573284.187100	73.960	14.22794315	79.69076528
35	r-7	358372.164278	1573225.417920	73.501	14.22768408	79.69093832
36	r-8	358408.578264	1573202.380210	72.803	14.22742768	79.69127650
37	r-9	358438.333969	1573206.798210	72.376	14.22751551	79.69155249
38	r-10	358474.633285	1573188.968800	70.953	14.22735980	79.69188978
39	r-11	358532.027137	1573178.197560	69.893	14.22726534	79.69242219
40	r-12	358539.089693	1573150.747570	69.669	14.22701757	79.69248907
41	r-13	358229.960982	1573548.653880	76.145	14.23059873	79.68960372
42	r-14	358205.553764	1573623.495670	78.576	14.23128304	79.68937359
43	r-15	358254.705631	1573642.939280	77.395	14.23145225	79.68982811
44	r-16	358243.986869	1573657.619860	78.718	14.23185559	79.68972645



1:5000

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

S no	Name	Area(Ha)
1	Mining Ore Area	3.45
2	Saftey Zone Area	0.66
3	Road Area	0.30
Total Area		4.41

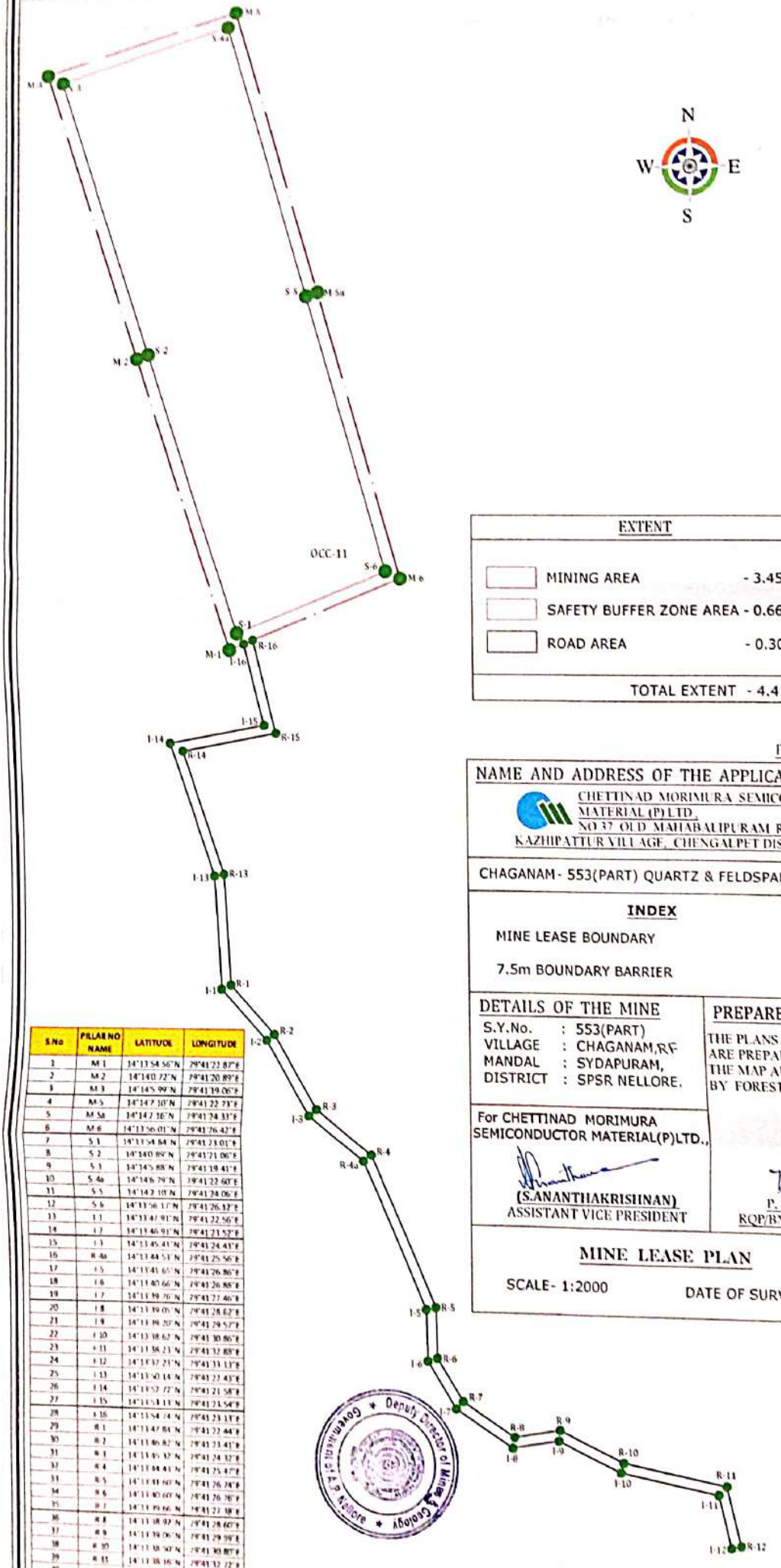
Legend

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

District Forest Officer SPSR NELLORE

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

0 125 250 500 750 1,000 Meters



S.No	PILLAR NO NAME	LATITUDE	LONGITUDE
1	M-1	14°13'54.56"N	79°41'22.87"E
2	M-2	14°14'0.72"N	79°41'20.89"E
3	M-3	14°14'5.99"N	79°41'19.06"E
4	M-5	14°14'7.10"N	79°41'22.73"E
5	M-5a	14°14'2.16"N	79°41'24.33"E
6	M-6	14°13'56.01"N	79°41'26.42"E
7	S-1	14°13'54.84"N	79°41'23.01"E
8	S-2	14°14'0.89"N	79°41'21.06"E
9	S-3	14°14'5.88"N	79°41'19.41"E
10	S-4a	14°14'6.79"N	79°41'22.60"E
11	S-5	14°14'2.10"N	79°41'24.06"E
12	S-6	14°13'56.13"N	79°41'26.32"E
13	I-1	14°13'47.91"N	79°41'22.56"E
14	I-2	14°13'46.91"N	79°41'23.52"E
15	I-3	14°13'45.41"N	79°41'24.43"E
16	R-4a	14°13'44.51"N	79°41'25.56"E
17	I-5	14°13'41.65"N	79°41'26.86"E
18	I-6	14°13'40.66"N	79°41'26.88"E
19	I-7	14°13'39.76"N	79°41'27.46"E
20	I-8	14°13'39.05"N	79°41'28.62"E
21	I-9	14°13'39.20"N	79°41'29.52"E
22	I-10	14°13'38.62"N	79°41'30.86"E
23	I-11	14°13'38.23"N	79°41'32.88"E
24	I-12	14°13'37.23"N	79°41'33.13"E
25	I-13	14°13'50.14"N	79°41'22.43"E
26	I-14	14°13'52.72"N	79°41'21.58"E
27	I-15	14°13'53.11"N	79°41'23.54"E
28	I-16	14°13'54.74"N	79°41'23.13"E
29	R-1	14°13'47.84"N	79°41'22.44"E
30	R-2	14°13'46.82"N	79°41'23.41"E
31	R-3	14°13'45.32"N	79°41'24.32"E
32	R-4	14°13'44.41"N	79°41'25.47"E
33	R-5	14°13'41.60"N	79°41'26.74"E
34	R-6	14°13'40.60"N	79°41'26.76"E
35	R-7	14°13'39.66"N	79°41'27.18"E
36	R-8	14°13'38.92"N	79°41'28.60"E
37	R-9	14°13'39.06"N	79°41'29.59"E
38	R-10	14°13'38.60"N	79°41'30.80"E
39	R-11	14°13'38.16"N	79°41'32.72"E
40	R-12	14°13'37.26"N	79°41'32.96"E
41	R-13	14°13'50.16"N	79°41'22.52"E
42	R-14	14°13'52.62"N	79°41'21.74"E
43	R-15	14°13'53.23"N	79°41'23.38"E
44	R-16	14°13'54.68"N	79°41'23.02"E

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W E

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EXTENT	
MINING AREA	- 3.45.0 Ha
SAFETY BUFFER ZONE AREA	- 0.66.0 Ha
ROAD AREA	- 0.30.0 Ha
TOTAL EXTENT	- 4.41.0 Ha.

PLATE NO: 2

NAME AND ADDRESS OF THE APPLICANT:

CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL (P) LTD.,
NO 37, OLD MAHABALIPURAM ROAD,
KAZHIPATTUR VILLAGE, CHENGALPET DISTRICT -603 103

CHAGANAM - 553(PART) QUARTZ & FELDSPAR DEPOSIT

INDEX

MINE LEASE BOUNDARY

7.5m BOUNDARY BARRIER

DETAILS OF THE MINE

S.Y.No. : 553(PART)
VILLAGE : CHAGANAM,RF
MANDAL : SYDAPURAM,
DISTRICT : SPSR NELLORE.

PREPARED BY:

THE PLANS AND SECTIONS ARE PREPARED BASED ON THE MAP AUTHENTICATED BY FOREST DEPARTMENT

For CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL(P)LTD.,

(S.ANANTHAKRISHNAN)
ASSISTANT VICE PRESIDENT

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

MINE LEASE PLAN

SCALE- 1:2000

DATE OF SURVEY-03.01.2022

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

PLATE NO: 2A

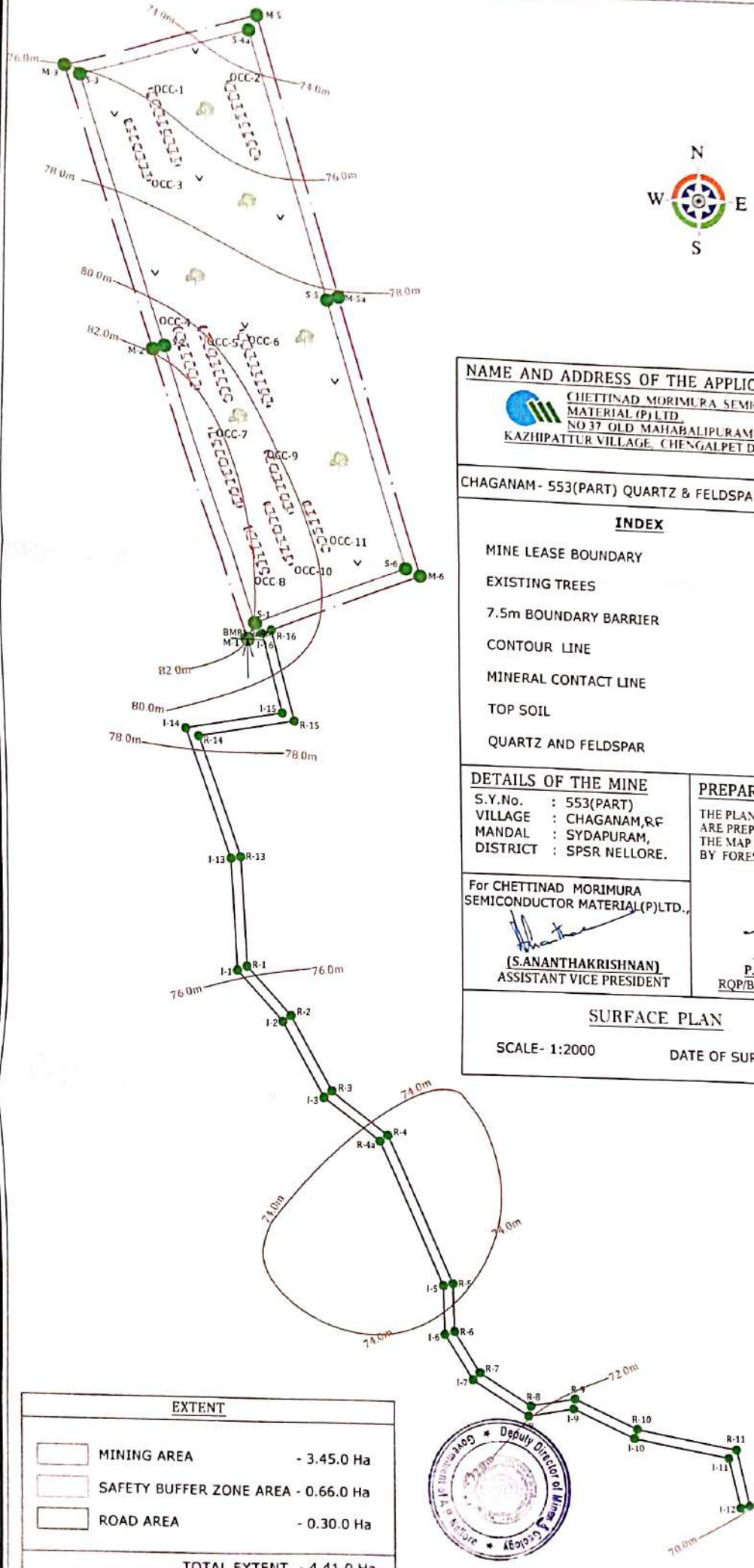


PLATE NO: 3

NAME AND ADDRESS OF THE APPLICANT:

CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL (P) LTD.
NO 37 OLD MAHABALIPURAM ROAD
KAZHIPATTUR VILLAGE, CHENGALPET DISTRICT 603 103

CHAGANAM- 553(PART) QUARTZ & FELDSPAR DEPOSIT

INDEX

- MINE LEASE BOUNDARY
- EXISTING TREES
- 7.5m BOUNDARY BARRIER
- CONTOUR LINE
- MINERAL CONTACT LINE
- TOP SOIL
- QUARTZ AND FELDSPAR

DETAILS OF THE MINE

S.Y.No. : 553(PART)
VILLAGE : CHAGANAM,RF
MANDAL : SYDAPURAM,
DISTRICT : SPSR NELLORE.

PREPARED BY:

THE PLANS AND SECTIONS ARE PREPARED BASED ON THE MAP AUTHENTICATED BY FOREST DEPARTMENT

For CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL(P)LTD.,

(S.ANANTHAKRISHNAN)
ASSISTANT VICE PRESIDENT

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

SURFACE PLAN

SCALE- 1:2000

DATE OF SURVEY-03.01.2022

EXTENT

MINING AREA	- 3.45.0 Ha
SAFETY BUFFER ZONE AREA	- 0.66.0 Ha
ROAD AREA	- 0.30.0 Ha
TOTAL EXTENT	- 4.41.0 Ha.

Deputy Director of Mines Geology & Mining

PLATE NO: 3

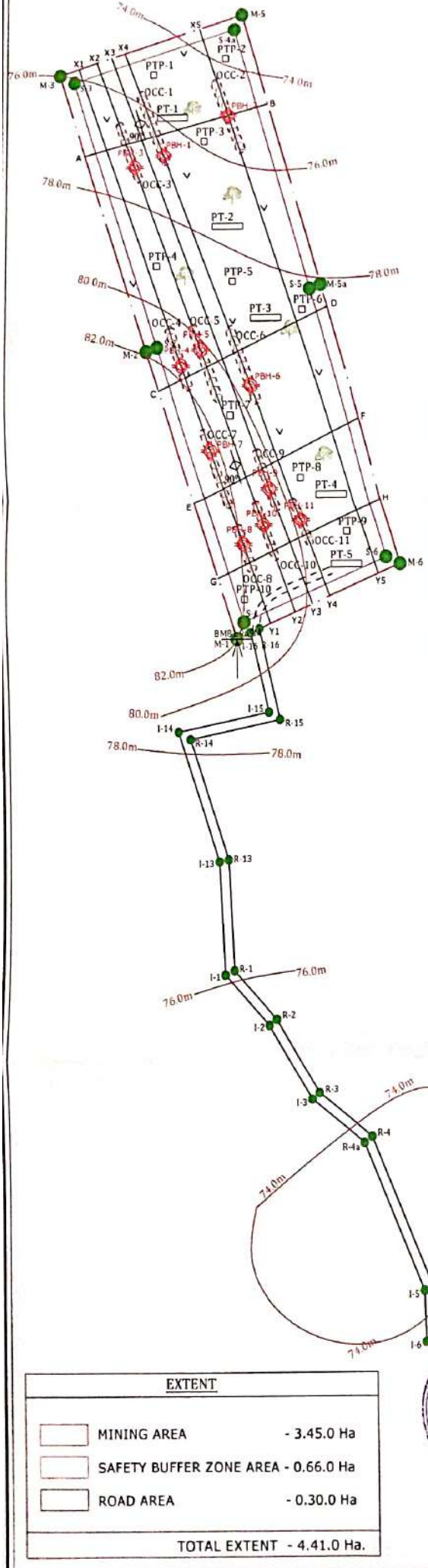


PLATE NO: 4

NAME AND ADDRESS OF THE APPLICANT:

CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL (P) LTD.,
NO 37 OLD MAHABALIPURAM ROAD,
KAZHIPATTUR VILLAGE, CHENGALPET DISTRICT -603 103

CHAGANAM- 553(PART) QUARTZ & FELDSPAR DEPOSIT

INDEX

- MINE LEASE BOUNDARY
- MINE ROAD
- EXISTING TREES
- 7.5m BOUNDARY BARRIER
- CONTOUR LINE
- MINERAL CONTACT LINE
- STRIKE AND DIP
- TOP SOIL
- QUARTZ AND FELDSPAR
- PROPOSED TEST PIT (1mx1mx2m(d) — PTP 10
- PROPOSED TRENCHES (10mx1mx2m(d) — PT-5
- PROPOSED BORE HOLES (9M DEPTH)

DETAILS OF THE MINE

S.Y.No. : 553(PART)
VILLAGE : CHAGANAM,RF
MANDAL : SYDAPURAM,
DISTRICT : SPSR NELLORE.

PREPARED BY:

THE PLANS AND SECTIONS ARE PREPARED BASED ON THE MAP AUTHENTICATED BY FOREST DEPARTMENT

For CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL(P)LTD.,

(S.ANANTHAKRISHNAN)
ASSISTANT VICE PRESIDENT

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

GEOLOGICAL PLAN

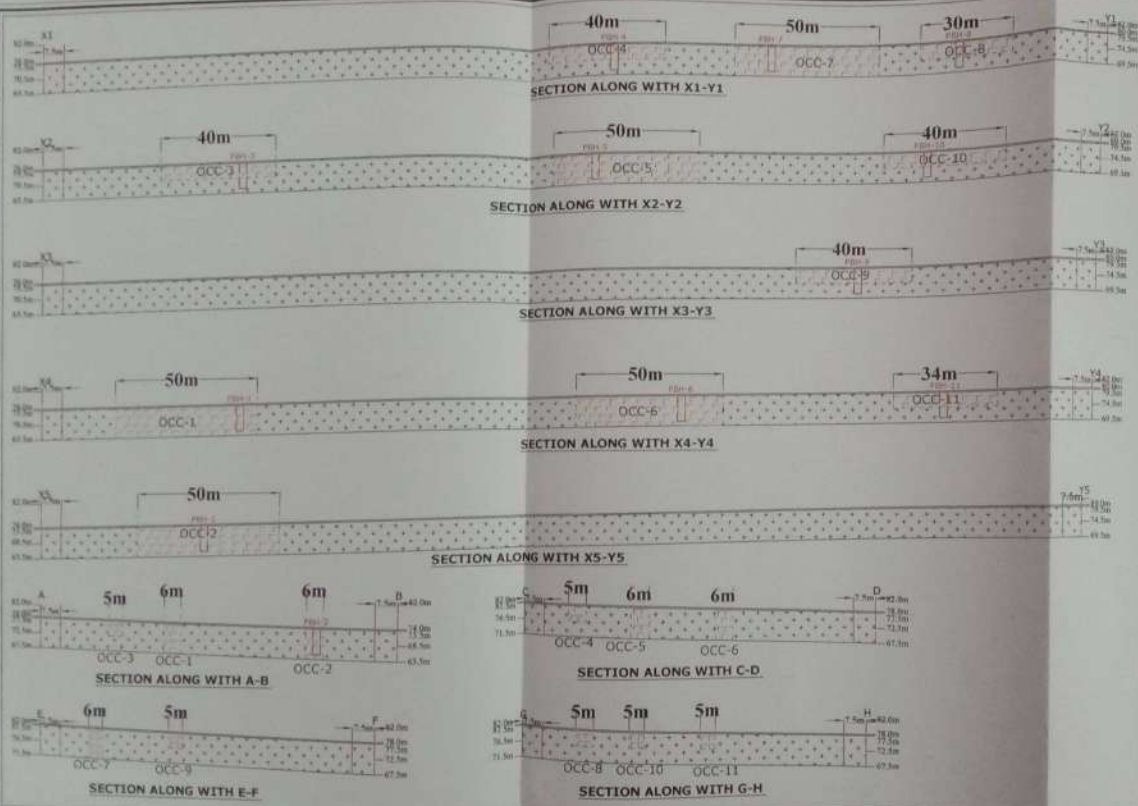
SCALE- 1:2000 DATE OF SURVEY-03.01.2022

EXTENT

MINING AREA	- 3.45.0 Ha
SAFETY BUFFER ZONE AREA	- 0.66.0 Ha
ROAD AREA	- 0.30.0 Ha
TOTAL EXTENT	- 4.41.0 Ha.

Deputy Director of Mines & Geology * Vellore *

PLATE NO.4



EXTENT	
MINING AREA	- 3.45.0 Ha
SAFETY BUFFER ZONE AREA	- 0.66.0 Ha
ROAD AREA	- 0.30.0 Ha
TOTAL EXTENT	- 4.41.0 Ha.

PLATE NO: 5

NAME AND ADDRESS OF THE APPLICANT:

CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL (P) LTD.,
NO 37 OLD MAHABALIPURAM ROAD,
KAZHIPATTUR VILLAGE, CHENGALPET DISTRICT -603 103

CHAGANAM - 553(PART) QUARTZ & FELDSPAR DEPOSIT

INDEX

- MINE LEASE BOUNDARY
- 7.5m BOUNDARY BARRIER
- MINERAL CONTACT LINE
- TOP SOIL
- QUARTZ AND FELDSPAR
- GRANITE GNEISS
- PROPOSED BORE HOLES (9M DEPTH)

DETAILS OF THE MINE

S.Y.No. : 553(PART)
VILLAGE : CHAGANAM, ¶.F
MANDAL : SYDAPURAM,
DISTRICT : SPSR NELLORE.

PREPARED BY:

THE PLANS AND SECTIONS ARE PREPARED BASED ON THE MAP AUTHENTICATED BY FOREST DEPARTMENT

For CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL(P)LTD.,

[S.ANANTHAKRISHNAN]
ASSISTANT VICE PRESIDENT

P. VISWAM
RQP/BNG/146/2015/A

GEOLOGICAL SECTIONS

SCALE- 1:1000

DATE OF SURVEY-03.01.2022

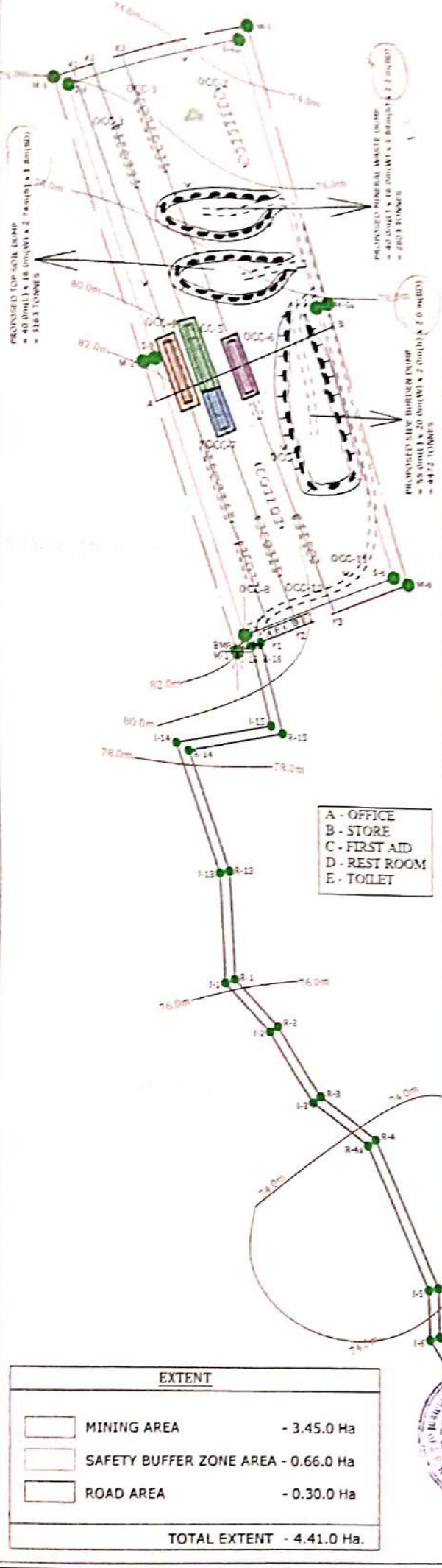


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PLATE NO.4

NAME AND ADDRESS OF THE APPLICANT:

CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL (P) LTD.
NO.17, OLD MAHABALIPURAM ROAD,
KAZHIPATTUR VILLAGE, CHENGALPET DISTRICT-603 111

CHAGANAM- 553(PART) QUARTZ & FELDSPAR DEPOSIT

INDEX

MINE LEASE BOUNDARY	
MINE ROAD	
EXISTING TREES	
7.5m BOUNDARY BARRIER	
CONTOUR LINE	
MINERAL CONTACT LINE	
TOP SOIL	
QUARTZ AND FELDSPAR	
PROPOSED DUMP	
I - Year PROPOSED EXCAVATION AREA	
II - Year PROPOSED EXCAVATION AREA	
III - Year PROPOSED EXCAVATION AREA	
IV - Year PROPOSED EXCAVATION AREA	
V - Year PROPOSED EXCAVATION AREA	

DETAILS OF THE MINE

S.Y.No. : 553(PART)
VILLAGE : CHAGANAM, R.C
MANDAL : SYDAPURAM,
DISTRICT : SPSR NELLORE.

PREPARED BY:

THE PLANS AND SECTIONS ARE PREPARED BASED ON THE MAP AUTHENTICATED BY FOREST DEPARTMENT

For CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL(P)LTD.,

(S.ANANTHAKRISHNAN)
ASSISTANT VICE PRESIDENT

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

YEARWISE DEVELOPMENT & PRODUCTION PLAN

SCALE- 1:2000

DATE OF SURVEY-03.01.2022

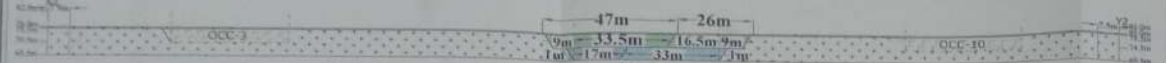
EXTENT

MINING AREA	- 3.45.0 Ha
SAFETY BUFFER ZONE AREA	- 0.66.0 Ha
ROAD AREA	- 0.30.0 Ha
TOTAL EXTENT	- 4.41.0 Ha.

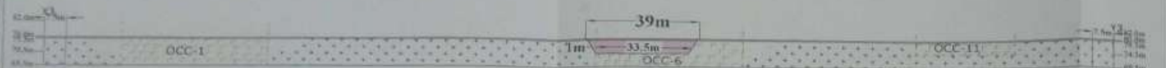
PLATE NO. 6

PLATE NO: 7

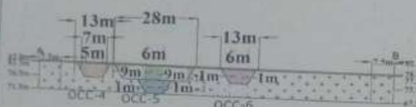
SECTION ALONG WITH X1-Y1



SECTION ALONG WITH X2-Y2



SECTION ALONG WITH X4-Y4



SECTION ALONG WITH C-D

EXTENT	
MINING AREA	- 3.45.0 Ha
SAFETY BUFFER ZONE AREA	- 0.66.0 Ha
ROAD AREA	- 0.30.0 Ha
TOTAL EXTENT	- 4.41.0 Ha.

YEARWISE DEVELOPMENT & PRODUCTION

YEAR	Sectionalong	Bench	length in (m)	Width in (m)	Depth in (m)	Volume Reserve in (MT)	Bulk density	Total Reserve in (MT)	Mineral Waste 20% (T)	Mineral Recovery 80% (T)	Quartz 95% (T)	Feldspar 5% (T)	Top soil (T)	Side Burden (T)	Total Waste (T)
I-Year	X1Y1-CD OCC-4	I	47	13	0.5	306	2						612		612
		II	2	2	5	20	2.6							182	182
		III	40	5	5	1000	2.6	2600	520	2080	1976	104			520
TOTAL								2600	520	2080	1976	104	612	182	1314
II-Year	X2Y2-CD	I	47	28	0.5	658	2						1316		1316
		II	4	28	5	810	2.6							2106	2106
		III	33.5	6	5	1005	2.6	2613	523	2090	1986	104			523
TOTAL								2613	523	2090	1986	104	1316	2106	3945
III-Year	[illegible]	I	34	29	0.5	364	2						728		728
		II	9	18	5	810	2.6							2106	2106
		III	26.5	4	5	495	2.6	1287	257	1030	978	52			257
	[illegible]	II	1	2	5	10	2.6							26	26
		III	17	6	5	510	2.6	1326	265	1061	1008	53			265
TOTAL								2613	522	2091	1986	105	728	2132	3382
IV-Year	[illegible]	II	1	2	5	10	2.6							26	26
		III	33	6	5	990	2.6	2574	515	2059	1956	103			515
TOTAL								2574	515	2059	1956	103		26	541
V-Year	X4Y4-CD	I	39	13	0.5	254	2						507		507
		II	1	2	5	10	2.6							26	26
		III	33.5	6	5	1005	2.6	2613	523	2090	1986	104			523
TOTAL								2613	523	2090	1986	104	507	26	1056
GRAND TOTAL								13013	2603	10410	9890	520	3163	4472	10238

NAME AND ADDRESS OF THE APPLICANT:

CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL (P) LTD.
NO 17 OLD MAHABALIPURAM ROAD
KAZHIPATTUR VILLAGE, CHENGALPET DISTRICT-603 103

CHAGANAM - 553(PART) QUARTZ & FELDSPAR DEPOSIT

INDEX

- MINE LEASE BOUNDARY
- 7.5m BOUNDARY BARRIER
- MINERAL CONTACT LINE
- TOP SOIL
- QUARTZ AND FELDSPAR
- GRANITE GNEISS
- I - Year PROPOSED EXCAVATION AREA
- II - Year PROPOSED EXCAVATION AREA
- III - Year PROPOSED EXCAVATION AREA
- IV - Year PROPOSED EXCAVATION AREA
- V - Year PROPOSED EXCAVATION AREA

DETAILS OF THE MINE

S.Y.No. : 553(PART)
VILLAGE : CHAGANAM,RF
MANDAL : SYDAPURAM,
DISTRICT : SPSR NELLORE.

For CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL(P)LTD.

(S.ANANTHAKRISHNAN)
ASSISTANT VICE PRESIDENT

PREPARED BY:

THE PLANS AND SECTIONS ARE PREPARED BASED ON THE MAP AUTHENTICATED BY FOREST DEPARTMENT

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

YEAR WISE DEVELOPMENT & PRODUCTION SECTIONS

SCALE- 1:1000

DATE OF SURVEY-03.01.2022

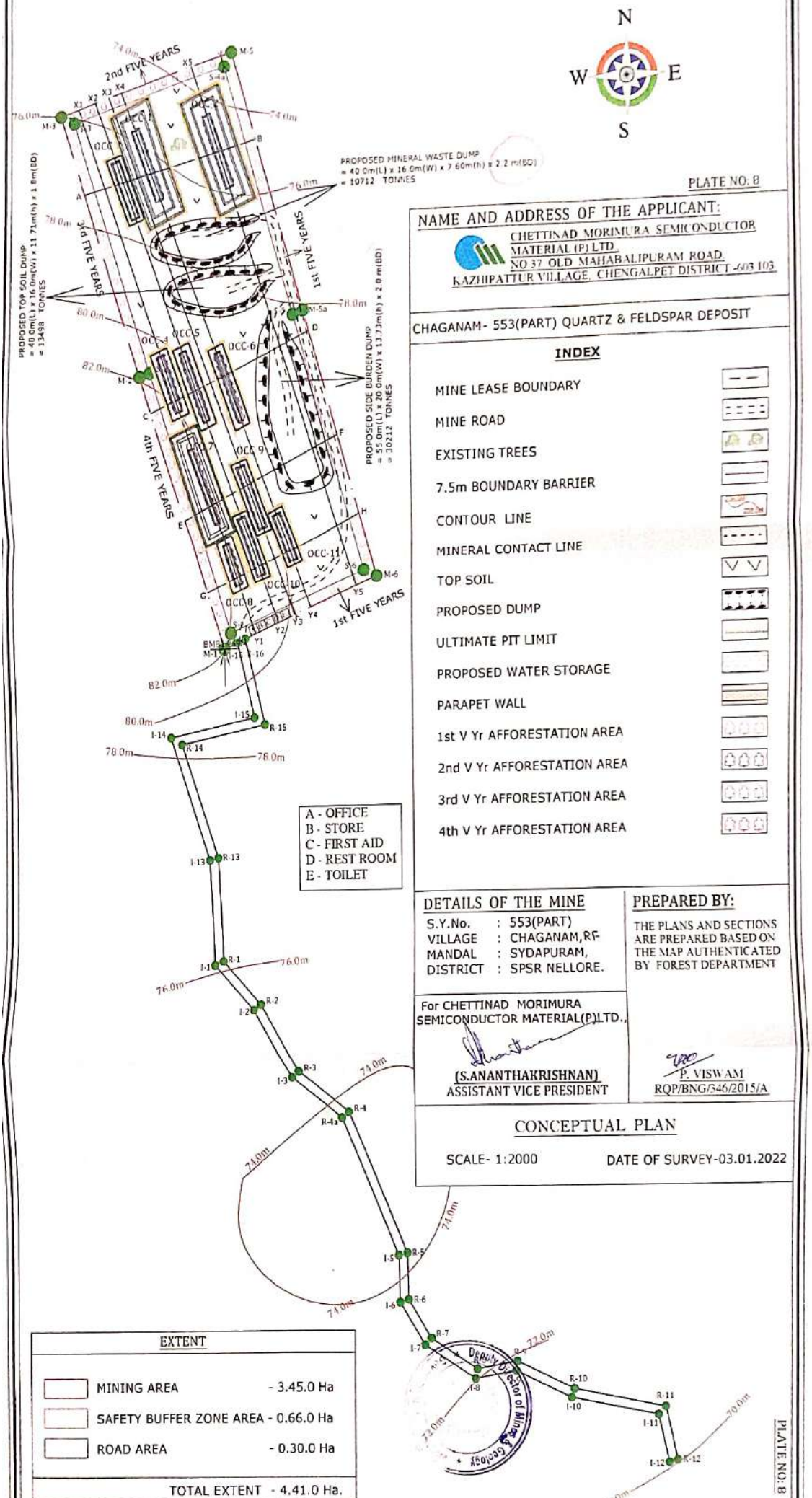

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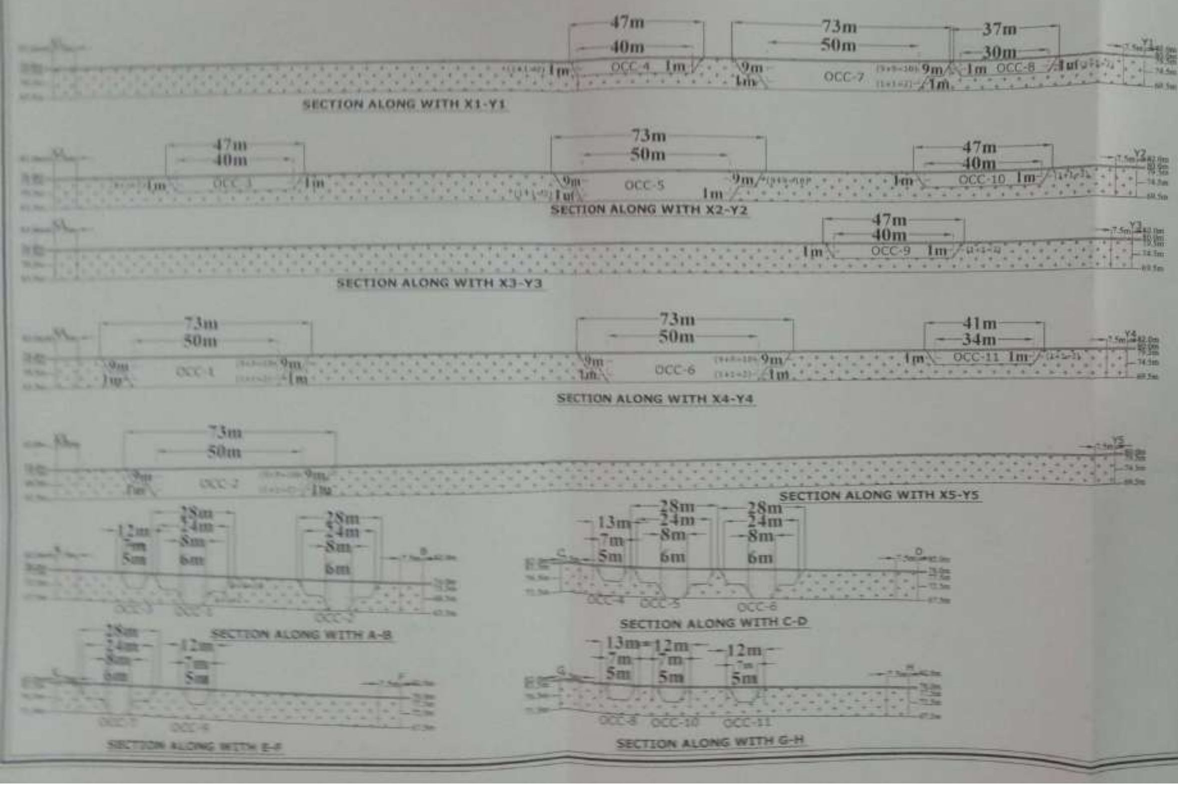
PLATE NO: 8
NAME AND ADDRESS OF THE APPLICANT:
CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL (P) LTD.
NO 37 OLD MAHABALIPURAM ROAD
KAZHIPATTUR VILLAGE, CHENGALPET DISTRICT 603 103
CHAGANAM- 553(PART) QUARTZ & FELDSPAR DEPOSIT
INDEX
MINE LEASE BOUNDARY
MINE ROAD
EXISTING TREES
7.5m BOUNDARY BARRIER
CONTOUR LINE
MINERAL CONTACT LINE
TOP SOIL
PROPOSED DUMP
ULTIMATE PIT LIMIT
PROPOSED WATER STORAGE
PARAPET WALL
1st V Yr AFFORESTATION AREA
2nd V Yr AFFORESTATION AREA
3rd V Yr AFFORESTATION AREA
4th V Yr AFFORESTATION AREA
PROPOSED MINERAL WASTE DUMP
= 40.0m(L) x 16.0m(W) x 7.60m(h) x 2.2 m(BD)
= 10712 TONNES
PROPOSED TOP SOIL DUMP
= 40.0m(L) x 16.0m(W) x 11.71m(h) x 1.8m(BD)
= 13498 TONNES
PROPOSED SIDE BURDEN DUMP
= 55.0m(L) x 20.0m(W) x 13.73m(h) x 2.0 m(BD)
= 30212 TONNES
2nd FIVE YEARS
3rd FIVE YEARS
1st FIVE YEARS
4th FIVE YEARS
1st FIVE YEARS
A - OFFICE
B - STORE
C - FIRST AID
D - REST ROOM
E - TOILET
DETAILS OF THE MINE
S.Y.No. : 553(PART)
VILLAGE : CHAGANAM,RF
MANDAL : SYDAPURAM,
DISTRICT : SPSR NELLORE.
PREPARED BY:
THE PLANS AND SECTIONS ARE PREPARED BASED ON THE MAP AUTHENTICATED BY FOREST DEPARTMENT
For CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL(P)LTD.,
(S.ANANTHAKRISHNAN)
ASSISTANT VICE PRESIDENT
P. VISWAM
RQP/BNG/346/2015/A
CONCEPTUAL PLAN
SCALE- 1:2000
DATE OF SURVEY-03.01.2022
EXTENT
MINING AREA - 3.45.0 Ha
SAFETY BUFFER ZONE AREA - 0.66.0 Ha
ROAD AREA - 0.30.0 Ha
TOTAL EXTENT - 4.41.0 Ha.
Deputy Director of Mines & Geology
PLATE NO: 8



EXTENT	
MINING AREA	- 3.45.0 Ha
SAFETY BUFFER ZONE AREA	- 0.66.0 Ha
ROAD AREA	- 0.30.0 Ha
TOTAL EXTENT	- 4.41.0 Ha.

PLATE NO. 9

NAME AND ADDRESS OF THE APPLICANT:

CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL (P) LTD.,
NO.37 OLD MAHABALIPURAM ROAD,
KAZHIPATTUR VILLAGE, CHENGALPET DISTRICT-603 103

CHAGANAM - 553(PART) QUARTZ & FELDSPAR DEPOSIT

INDEX

MINE LEASE BOUNDARY
7.5m BOUNDARY BARRIER
MINERAL CONTACT LINE
TOP SOIL
GRANITE GNEISS

DETAILS OF THE MINE

S.Y.No. : 553(PART)
VILLAGE : CHAGANAM, 9F
MANDAL : SYDAPURAM,
DISTRICT : SPSR NELLORE.

PREPARED BY:

THE PLANS AND SECTIONS ARE PREPARED BASED ON THE MAP AUTHENTICATED BY FOREST DEPARTMENT

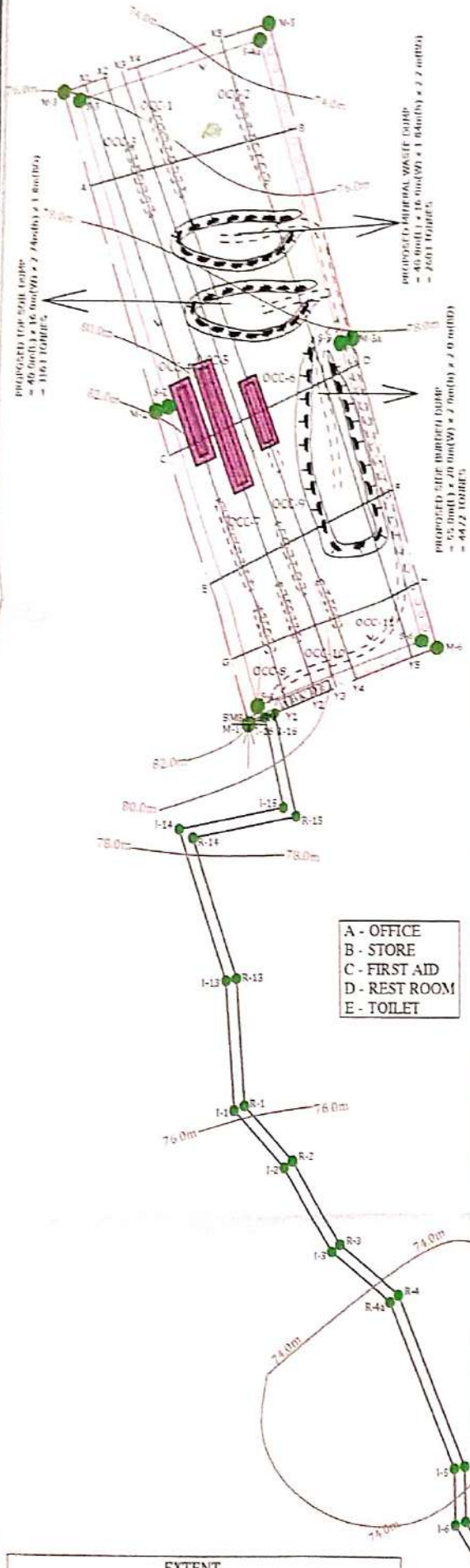
For CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL(P)LTD.

(S.ANANTHAKRISHNAN)
ASSISTANT VICE PRESIDENT

P. VISWAM

CONCEPTUAL SECTIONS

SCALE- 1:1000 DATE OF SURVEY-03.01.2022



S.No	DESCRIPTION	PRESENT AREA Ha.	AREA AT THE END OF PRESENT SCP PERIOD Ha.	AREA AT THE END OF LIFE OF PERIOD (Ha)	COLOR INDEX
1	MINING (QUARRY)	NIL			
2	BARTH DUMP	NIL			
3	OFFICE& INFRA STRUCTURE	NIL			
4	SEPARATE MINERAL ST. YARD	NIL	NIL	NIL	
5	MINE ROAD				
6	AREA UNDER PLANTATION				
7	UN UTILIZED AREA				
	TOTAL				

N

W E

S

PLATE NO: 10

NAME AND ADDRESS OF THE APPLICANT:

CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL (P) LTD.
NO 37, OLD MAHABALIPURAM ROAD,
KAZHIPATTUR VILLAGE, CHENGALPET DISTRICT -603 105

CHAGANAM- 553(PART) QUARTZ & FELDSPAR DEPOSIT

INDEX

- MINE LEASE BOUNDARY
- MINE ROAD
- EXISTING TREES
- 7.5m BOUNDARY BARRIER
- CONTOUR LINE
- MINERAL CONTACT LINE
- TOP SOIL
- QUARTZ AND FELDSPAR
- PROPOSED DUMP
- MINE LAYOUT
- I - Year PROPOSED PLANTATION AREA
- II - Year PROPOSED PLANTATION AREA
- III - Year PROPOSED PLANTATION AREA
- IV - Year PROPOSED PLANTATION AREA
- V - Year PROPOSED PLANTATION AREA

DETAILS OF THE MINE

S.Y.No. : 553(PART)
VILLAGE : CHAGANAM,RF
MANDAL : SYDAPURAM,
DISTRICT : SPSR NELLORE.

PREPARED BY:

THE PLANS AND SECTIONS ARE PREPARED BASED ON THE MAP AUTHENTICATED BY FOREST DEPARTMENT

For CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL(P)LTD.,

(S.ANANTHAKRISHNAN)
ASSISTANT VICE PRESIDENT

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

MINE LAYOUT LANDUSE AND AFFORESTATION PLAN

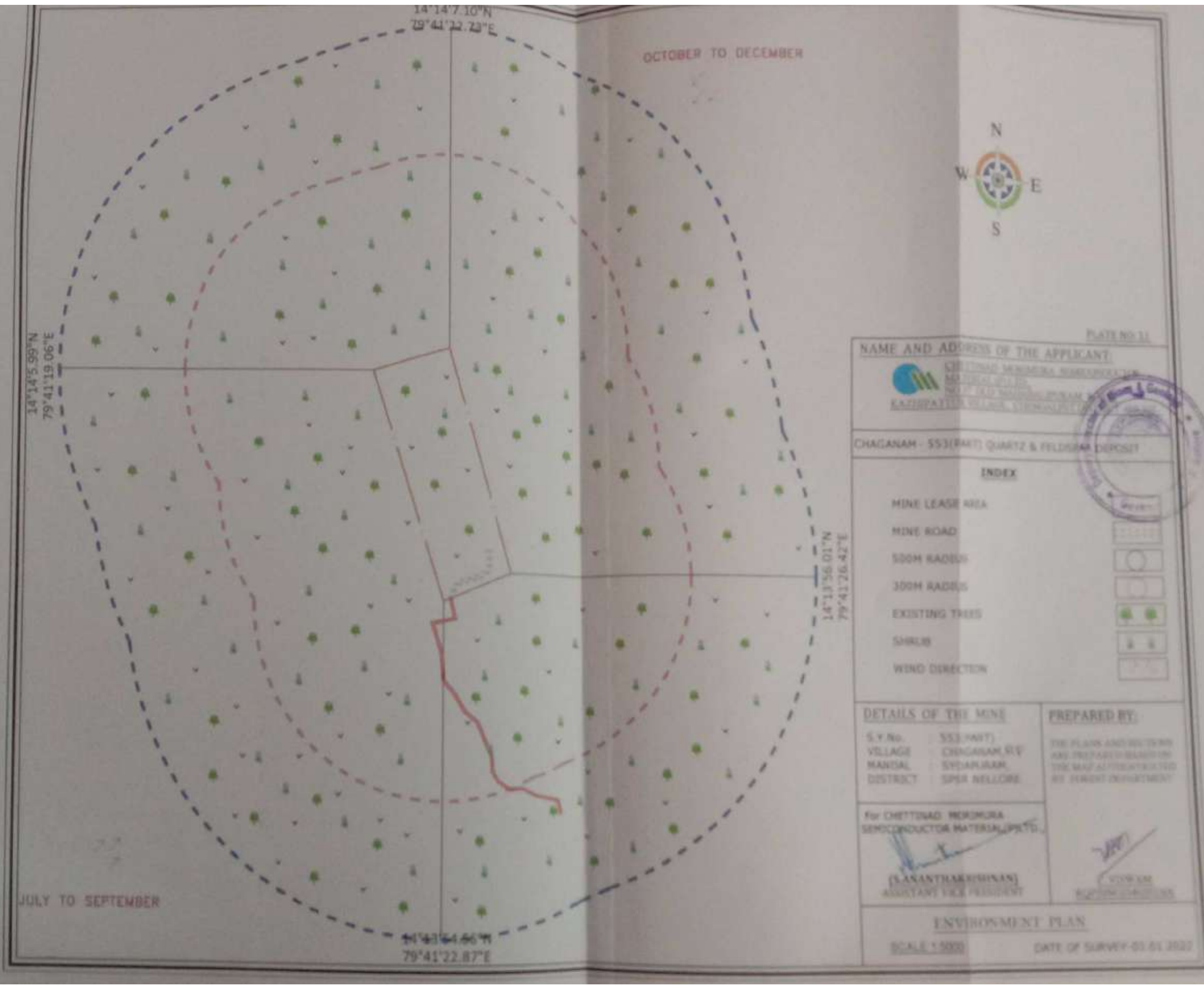
SCALE- 1:2000 DATE OF SURVEY-03.01.2022

EXTENT

MINING AREA	- 3.45.0 Ha
SAFETY BUFFER ZONE AREA	- 0.66.0 Ha
ROAD AREA	- 0.30.0 Ha
TOTAL EXTENT	- 4.41.0 Ha.

Deputy Director of Mines Nellore Andhra

PLATE NO: 10



14°14'7.10"N
79°41'22.73"E
OCTOBER TO DECEMBER
N
W
E
S
14°14'5.99"N
79°41'19.06"E
14°13'56.01"N
79°41'26.42"E
JULY TO SEPTEMBER
79°41'22.87"E
PLATE NO: 11
NAME AND ADDRESS OF THE APPLICANT:
CHAGANAM - 553(PART) QUARTZ & FELDSPAR DEPOSIT
INDEX
MINE LEASE AREA
MINE ROAD
500M RADIUS
300M RADIUS
EXISTING TREES
SHRUB
WIND DIRECTION
DETAILS OF THE MINE
S.Y.No. : 553(PART)
VILLAGE : CHAGANAM,R.V
MANDAL : SYDAPURAM
DISTRICT : SPSR NELLORE
PREPARED BY:
For CHETTINAD MORIMURA SEMICONDUCTOR MATERIAL(P)LTD.,
(S.ANANTHAKRISHNAN)
ASSISTANT VICE PRESIDENT
ENVIRONMENT PLAN
SCALE 1:5000
DATE OF SURVEY-03.01.2022