GOVERNMENT OF ANDHRA PRADESH
DEPARTMENT OF MINES AND GEOLOGY

From
Sri K.L.V Prasad, M.Sc., A.Tech.,
Deputy Director of Mines & Geology,
CHITTOOR.

To
M/s.Sweety Granites,
Prop:Sri D.James,
D.No.28/1195, Balaji Colony,
Chittoor District.

Lr.No.3096/MMP/BG/CTR/2022, dt: 12-10-2022

Sir,

Sub: Mines & Minerals – Modified Mining Plan for application filed by M/s.Sweety Granites, Prop:Sri D.James for Black Granite over an extent of 4.980 Hectares in Compartment No.460 of Pachigunta R.F., Pachigunta Beat, Chittoor Range, Chittoor East Division, G.D.Nellore Mandal in Chittoor District - Approved - Regarding.

Ref: 1. Procg.No.3855/D13-1/2019, dated:09.08.2021 of the Director of Mines and Geology, Ibrahimpatnam.
2. Draft Modified Mining Plan submitted on 10.10.2022 filed by M/s.Sweety Granites, Prop:Sri D.James.
3. This Office Letter No.3096/MMP/BG/CTR/2022, dt:10.10.2022.
4. Letter dated:12.10.2022 along with 5 sets of fair Modified Mining Plan from the Applicant/RQP.

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In exercise of the powers conferred by the Government of Andhra Pradesh, through the reference 1st cited and in view of proceedings issued by the Director of Mines & Geology, Ibrahimpatnam. I hereby approve the Modified Mining Plan for the period of Five (05) years in respect of precise area for Black Granite over an extent of 4.980 Hectares in Compartment No.460 of Pachigunta R.F., Pachigunta Beat, Chittoor Range, Chittoor East Division, G.D.Nellore Mandal in Chittoor District filed by M/s.Sweety Granites, Prop:Sri D.James under Rule 16 (3) of Granite Conservation Development Rules, 1999.

This approval is subject to the following conditions.

1. This Modified Mining Plan is approved without prejudice to any other laws applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.
2. It is clarified that this approval of the Modified 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) Amendment Act, 2015 and any other laws including the Forest Conservation Act, 1980 and APMMC Rules, 1966.
3. *It is further clarified that the approval of the modified mining plan is subject to the provisions of the Forest Conservation Act, 1980 and Forest conservation rules, 2003 and other relevant statues, orders and guidelines as may be applicable to the lease area from time to time.*
4. *This office has not undertaken verification of the quarry lease boundary on the ground and does not undertake any responsibility regarding correctness of the boundaries of the lease hold should on the ground with reference to the lease map and other plans furnished by the applicant.*

Cont..2

5. *The Q.L. area is as shown on the statutory plans by the applicant is certified by the competent authority with GPS readings of the boundary points of the lease and this office has not under taken the ground truth verification of the quarry lease boundary and pillars on the ground.*

6. *The approval authority does not owe responsibility with regard to recovery factor of* **Black Granite** *and assessment of reserves, any erroneous certification made by the R.Q.P. if any, since the evaluation is done on random basis.*

7. *The Modified Mining Plan is approved subject to strictly adhering to the relevant Regulations of MMR, 1961 and obtaining prior permission from the Director General Mines Safety whenever and wherever it is required.*

8. *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.*

9. *The approval authority does not owe responsibility with regard to erroneous certification made by the R.Q.P if any and approval is tentative subject to modification of new findings at a later date as per the provisions of Rules inforce, since the evaluation is done on random basis.*

10. *The proposals contained in the approved Modified Mining Plan shall be applicable from the date of execution of the lease and for the mining activities to be carried out within the lease hold area as per the approved mining plan only.*

If anything is found to be concealed as required by the Mines Act in the contents of the approved Mining Plan and the proposal for rectification has not been made or if at later stage the information furnished in the document to be incorrect or misrepresentation of facts, the approval shall be revoked with immediate effect.

NB: This approval become null and void if it found grossly inequitable, made under a mistake of fact, owing to the mis-representation, fraud or in excess of authority. The applicant is not liable to claim any lease held rights till the execution of the lease deed.

Yours faithfully,

Encl: (2 copies of A.M.M.P.)

Deputy Director of Mines & Geology,
CHITTOOR.

Copy submitted to :

1) The Director of Mines & Geology, Ibrahimpatnam for favour of kind information.
2) The Regional Controller of Mines, IBM, Sultan Bazar, Hyderabad for information.
3) The Director of Mines Safety, Hyderabad for favour of kind information.

Copy to the Asst. Director of Mines & Geology, Chittoor along with A.M.M.P and if any variations noticed in the A.M.M.P the same shall be brought to the notice of the Undersigned immediately for taking further necessary action.

MODIFIED MINING PLAN

INCLUDING PROGRESSIVE MINE CLOSURE PLAN FOR BLACK GRANITE OVER A TOTAL EXTENT OF 4.980 HA INCLUDING MINING AREA 3.730 HA, SAFETY ZONE AREA 0.920 HA, AND ROAD AREA 0.330 HA IN COMPARTMENT NO. 360 OF PACHIGUNTA R.F, PACHIGUNTA BEAT, CHITTOOR RANGE, IN CHITTOOR EAST DIVISION AND A.P.

This Modified Mining plan is prepared as per guidelines in FORM – T ,
Under Amended Rules 16 (3) of GCDR 1999.

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

FOREST LAND

MODIFIED MINING PLAN PERIOD:
Five years from the date of execution of the quarry lease.

for total proposed production quantity of
Black Granite blocks of **22614 Cu.M**, at an average of **4523 Cu.M** /Annum

APPLICANT

M/s Sweety Granites,
Prop: Sri D.James,
D. No.2-1251/4 SA,
Nalanda Nagar B.V.Reddy Colony,
Chittoor District A.P.
Contact No: 91777 40331
email Id: saisonugranites@yahoo.com

PREPARED BY

ANOOSRI MINING SOLUTIONS,
P.VISWAM, (RQP/BNG/346/2015/A),
Near Sivalayam,
Sydapuram (V), (PO) & (M)-524407,
SPSR Nellore Dist. A.P.
Contact No.: 98661 01801
e-mail ID : anoosrims@gmail.com

CERTIFICATE

This is to certify that the **Modified Mining Plan** of the Quarry area, which is for extraction of **Black Granite** over a total extent of **4.980 Ha** including mining area 3.730 Ha, safety zone area 0.920 Ha, and road area 0.330 Ha in Compartment No. 460 of Pachigunta R.F, Pachigunta Beat, Chittoor Range, in Chittoor East Division and A.P. in favour of **M/s Sweety Granites, Prop: Sri D. James** has been prepared by Sri P.Viswam, RQP (RQP/BNG/346/2015/A) in full consultation with me. I have understood its contents and agreed to implement the same in accordance with all the Statutory Provisions of the Rules.

Place: Chittoor
Date:

Signature of the applicant

CERTIFICATE

This is to certify that the Modified Mining plan has been prepared as per the Andhra Pradesh Minor Mineral Concession Rules, 1966. Whenever specific permission is required for any deviation, the applicant will approach the Authorities of the Department of Mines & Geology.

The provisions of Mines Act, Rules and Regulations made there under have been observed in preparation of this **"Modified Mining plan"** for Extraction of **Black Granite**. The granted Quarry area is **Forest Land** over a total extent of **4.980 Ha** including mining area 3.730 Ha, safety zone area 0.920 Ha, and road area 0.330 Ha in Compartment No. 460 of Pachigunta R.F, Pachigunta Beat, Chittoor Range, in Chittoor East Division and A.P. in favour of **M/s Sweety Granites, Prop: Sri D. James** has been agreed to implement the Modified Mining plan in full and whenever specific permission is required, the applicant will approach the Director General of Mines Safety. The information furnished in the Modified Mining plan is true and correct to the best of my knowledge.

Place: Sydapuram
Date:

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

This is to certify that, the provisions of Mines Act, Rules and Regulations made there under have been observed in this **"Modified Mining Plan"** including mine closure plan for extraction of **Black Granite** over a total extent of **4.980 Ha** including mining area 3.730 Ha, safety zone area 0.920 Ha, and road area 0.330 Ha in Compartment No. 460 of Pachigunta R.F, Pachigunta Beat, Chittoor Range, in Chittoor East Division and A.P. in favour of **M/s Sweety Granites, Prop: Sri D. James** and wherever specific permission required the applicant will approach the Director General of Mines Safety.

'The information furnished in the above Modified Mining Plan is true and correct to the best of our knowledge.'

Signature of the applicant

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

Place : Sydapuram
Date :

This is to certify that, the provisions of **Black Granite** Conservation & Development Rules 1999 made there under have been observed in this **"Modified Mining Plan"** for extraction of Black Granite over a total extent of **4.980 Ha** including mining area 3.730 Ha, safety zone area 0.920 Ha, and road area 0.330 Ha in Compartment No. 460 of Pachigunta R.F, Pachigunta Beat, Chittoor Range, in Chittoor East Division and A.P. in favour of **M/s Sweety Granites, Prop: Sri D. James** and wherever specific permissions required like appointment of statutory persons etc the applicant will appoint the persons by approaching the respective departments.

Signature of the applicant

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

Place : Sydapuram
Date :

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LIST OF ANNEXURES

S. NO	NAME	ANNEXURE NO.
1	RQP CERTIFICATE	I
2	CIRCULAR MEMO FROM THE D.M.G. BRAHMPATNAM	II
3	A COPY OF APPROVED MINING PLAN	III

DEPUTY DIRECTOR OF MINES & GEOLOGY
CHITTOOR

LIST OF PLATES

PLATE. NO	NAME OF PLATE	SCALE
1	KEY CUM LOCATION PLAN (TOPO SHEET)	1:50000
2	MINING LEASE SKETCH	1:5000
3	SURFACE PLAN CUM SURFACE GEOLOGICAL PLAN	1:1000
3 A	SURFACE GEOLOGICAL CROSS SECTIONS	1:2000
4	MINE LAYOUT PLAN	1:2000
4 A	MINE LAYOUT SECTIONS	1:2000
5	ENVIRONMENT PLAN	1:5000
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MODIFIED MINING PLAN
INCLUDING PROGRESSIVE MINE CLOSURE PLAN FOR BLACK GRANITE OVER A TOTAL EXTENT OF 4.980 HA INCLUDING MINING AREA 3.730 HA, SAFETY ZONE AREA 0.920 HA, AND ROAD AREA 0.330 HA IN COMPARTMENT NO. 460 OF PACHIGUNTA R.F, PACHIGUNTA BEAT, CHITTOOR RANGE, IN CHITTOOR EAST DIVISION AND A.P.

This Modified Mining plan is prepared as per guidelines in FORM – T,
Under Amended Rules 16 (3) of GCDR 1999.

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

INTRODUCTION:

M/s Sweety Granites, Prop: Sri D. James has filed an application for grant of Quarry Lease for **Black Granite** over a total extent of **4.980 Ha** including mining area 3.730 Ha, safety zone area 0.920 Ha, and road area 0.330 Ha in Compartment No. 460 of Pachigunta R.F, Pachigunta Beat, Chittoor Range, in Chittoor East Division and A.P. The said quarry lease application was received by the Asst. Director of Mines &Geology; Chittoor on 27.10.2008, the same was received on 27.10.2018.

The Pri. Chief conservator of Forests & Head of Forest, Andhra Pradesh, Guntur was authenticated in connection with diversion of Forest land for grant of quarry lease for Black Granite in Compartment No. 460 of Pachigunta R.F, Pachigunta Beat, Chittoor Range, in Chittoor East Division and A.P. File by **M/s Sweety Granites, Prop: Sri D.James** vide Ref.No.EFS02-15029/38/2019-FCA SEC-PCCF/FCA-1, dated 01.08.2021. Copy enclosed as Annexure – III.

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

The Mining Plan / Schems is Approved subject to the conditions & stipulations indicated in the Plan / Scheme Approved letter.
No: 3096/mmp/BG/C TR/2022
Date: 12/10/2022

APPROVED
Deputy Director of Mines & Geology
Chittoor

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

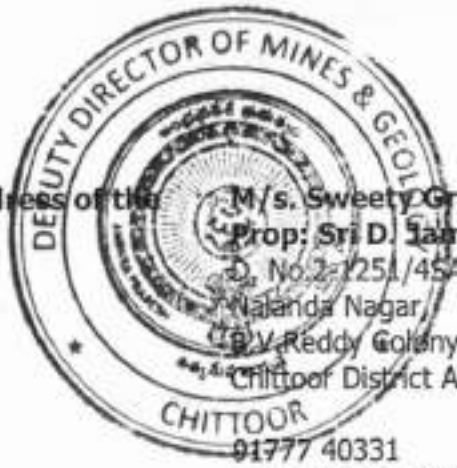
The approved mining plan shall also reflect the restrictions to be adopted by the applicant while conducting quarry operations due to existence of any structures, railway line, roads, water bodies such as river, lake etc., and the stipulated distances as per the various regulations prescribed under M.M.R.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

M/s Sweety Granites, Prop: Sri D. James has approached Anoosri Mining Solutions Sri P.Viswam, Mining Engineer & RQP, (enclosed copy of certificate as Annexure. I) for preparation of the mining Plan for the above applied area.

The mining plan was approved by the Deputy Director of Mines & Geology, Chittoor, vide letter No: 2456/MP/CG/CTR/2021, dated: 29.09.2021 and valid for 5 years. copy enclosed as Annexure – III.

Accordingly this Modified 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 (OTFM)Open cast method of mining Under Amended Rule 12(c) of GCDR 1999.

Now the proposals are made for 5 years Modified Mining Plan period and submitted to the Deputy Director of Mines & Geology, Chittoor for approval.



I. GENERAL:

1.0	**Name and Address of the applicant**	:	**M/s. Sweety Granites,** **Prop: Sri D. James,** D. No.2-125/1/45A, Nalanda Nagar, B.V.Reddy Colony, Chittoor District A.P.
	Contact No.		91777 40331
	E mail ID		saisonugranites@yahoo.com
2.0	**Status of applicant**	:	Proprietor Firm
	Location of applied area	:	Compt.No.460 of Pachigunta R.F, Pachigunta Beat, Chittoor Range, Chittoor East Division and A.P.
3.0	**Mineral Which is the applicant intends to mine**	:	Black Granite
	Period for which the Mining lease granted/ proposed to be applied	:	20 years from the date of Execution
4.0	**Name and Address of Recognition as Qualified person to preparing Modified Mining Plan**	:	P.VISWAM, RQP, Address: Anoosri Mining Solutions, Near Sivalayam, Sydapuram (V), (PO) & (M)-524407 SPSR Nellore Dist. A.P. Mobile No. : 98661 01801 E mail ID : anoosrims@gmail.com Registration No.:RQP/BNG/346/2015/A Date of Grant/ renewal :30.03.2015 (Grant) Valid upto :29.03.2025 Certificate of RQP, enclosed as Annexure- I.

1.0 LEASE AREA / APPLIED AREA DETAILS

1	**Village**	Pachiguntla RF, Pachiguntla Beat
2	**Mandal**	G.D.Nellore
3	**District**	Chittoor District
4	**State**	Andhra Pradesh
5	**Survey No**	Compartment No - 460
6	**Extent**	Total extent of **4.980 Ha** including mining area 3.730 Ha, safety zone area 0.920 Ha, and road area 0.330 Ha
7	**Ownership of occupancy**	Forest Land
8	**Geo Co-ordinates :**	

The applied area falls under the survey of India Topo sheet No. **57 O/8** at the intersection of North Latitude 13.23021861 to 13.22582357 and East Longitude 79.28630845 to 79.28384820.The Key plan prepared using Topo sheet on 1: 50000 scale. The key plan cum location map is enclosed as Plate No.1.

Geo-coordinates of the Boundary pillars are tabulated below:

Sl.No	Point Name	N-Latitude	E-Longitude
1	M-1	13.22582950	79.28394596
2	SZ-1	13.22575168	79.28384820
3	M-2	13.22650306	79.28417961
4	SZ-2	13.22653640	79.28411987
5	SZ-3	13.22716322	79.28461756
6	M-3	13.22712148	79.28467032
7	M-4	13.22796202	79.28505164
8	SZ-4	13.22791576	79.28495328
9	SZ-5	13.22799782	79.28466815
10	M-5	13.22803757	79.28477394
11	SZ-6	13.22839379	79.28492353
12	M-6	13.22835703	79.28497983
13	M-7	13.22943258	79.28508631
14	SZ-7	13.22943982	79.28501958
15	M-8	13.23015248	79.28517782
16	SZ-8	13.23021861	79.28511875
17	SZ-R6	13.23016350	79.28580428
18	M-9	13.23016977	79.28621724
19	SZ-9	13.23023898	79.28630845
20	M-10	13.22988787	79.28613294
21	SZ-10	13.22986702	79.28619744
22	M-11	13.22921279	79.28589843
23	SZ-11	13.22919091	79.28596201
24	SZ-12	13.22840124	79.28572566
25	M-12	13.22841802	79.28566078
26	M-13	13.22716523	79.28532632
27	SZ-13	13.22713771	79.28538876

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28	SZ-14	13.22664984	79.28507776
29	M-1	13.22668615	79.28502077
30	M-2	13.22588730	79.28450892
31	SZ-15	13.22582357	79.28454853
32	R-1	13.23528249	79.28553335
33	R-1a	13.23522996	79.28554739
34	R-2	13.23525284	79.28580563
35	R-2a	13.23520680	79.28576930
36	R-3	13.23403022	79.28585392
37	R-3a	13.23402963	79.28579867
38	R-4	13.23252763	79.28592732
39	R-4a	13.23253087	79.28587203
40	R-5	13.23105970	79.28594997
41	R-5a	13.23106901	79.28589530
42	R-6	13.23023079	79.28581285
43	R-6A	13.23022964	79.28575755

The Survey sketch (Lease sketch) of the applied area is enclosed as Plate No-2.

9 Location of the area and approach:

The applied area can be approached by travelling from Chittoor – G.D.Nellore – Balija Kandriga Road up to Kalepalle Cross thereby taking right diversion via Kalepalli upto Pichireddipalli and thereby cart track leads to the applied area. The applied area is 1.3 km NW of Pachigunta Village and 2 kms ESE of Kalepalli (Vg).

The location of the area is indicated in Key – Cum - Location Map. The Key plan prepared using Topo sheet on 1: 50000 scale and enclosed as Plate No.1.

10 Infrastructure & Communications

Existence public road/railway line, if nearby and approximate distance from applied area/ lease area by road way:

Description	Village /Place	Distance
Nearest road	Chittoor - Pallipattu	7.8 km
Nearest Railway station	Chittoor	25.0 km
Nearest Airport	Tirupati (Renigunta)	81.0 km
Nearest port	Chennai	129.0 km
Nearest Fire Station	Chittoor	24.0 km

Availability of Water	The ground water is available 60-100 M BGL. The agricultural fields around the applied area are irrigated by ground water.
Availability of Electricity	Electricity connections are available within 1.5kms from the applied area. Primary school, High school and colleges and Primary Health Centre, Hospitals are available at Chittoor.
Communication network	Tele Communications are available at the nearest villages.

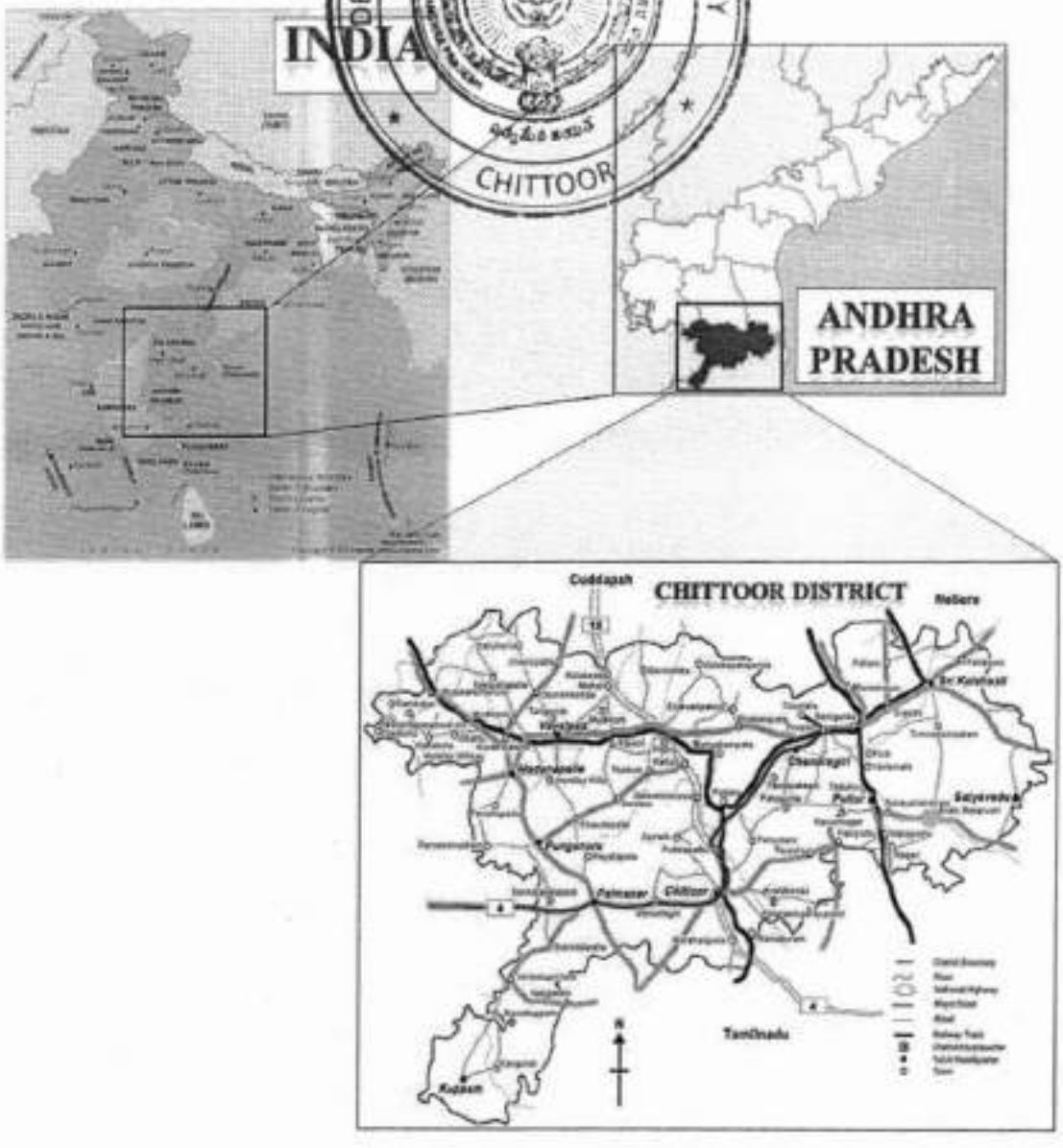
	Road Network	State Transport Bus Services from Chittoor, G.D.Nellore are available on this road network.
	Nearest Rail Head	Chittoor Railway Station is 25 Km from the ML area.
	Port Facility	Chennai Port is about 129 Km from the ML area.
	School	Primary School Education is available Pachigunta and G.D.Nellore Villages. Higher Education is available at Chittoor and Tirupati Towns.
	Medical Facility	Govt. Hospital is available at G.D. Nellore, Chittoor and Tirupati Towns are well placed for Doctors, Nursing Homes & Hospitals.
	Office and rest room	The applicant will be construct office and rest room etc., at the time of Commencement of mining operations.
11	**Boundaries**	
	North	Forest Land
	East	Forest Land
	South	Forest Land
	West	Forest Land

DEPUTY DIRECTOR OF MINES CHITTOOR

II. ATTACH A GENERAL LOCATION MAP SHOWING AREA AND ACCESS ROUTES:

Key cum Location Map enclosed as Plate No: 1

Route map:



III. DETAILS OF APPROVED MINING PLAN/ SCHEME OF MINING

- The mining plan was approved by the Deputy Director of Mines & Geology, Chittoor, vide letter No: 2456/MP/CG/CTR/2021, dated: 29.09.2021 and valid for 5 years.

(i) Review of important chapters of mining plan
Production and achieved/ dispatch particulars:

Not applicable

(ii) Year wise Development plan as per the Approved Mining Plan.

Not applicable

PART-A

1.0 GENERAL DETAILS OF THE APPLIED AREA / MINING LEASE:

(a) Brief description of Topography, drainage pattern, vegetation, climate, rain fall data of the applied area / mining lease area :

Topography:	The applied area falls under the survey of India Topo sheet No. 57 O/8 at the intersection of North Latitude 13.23021861 to 13.22582357 and East Longitude 79.28630845 to 79.28384820.The Key plan prepared using Topo sheet on 1: 50000 scale. The key plan cum location map is enclosed as Plate No-1. The Quarry applied area is a fresh area. (a) The Quarry applied area is a hillock. (a) No Top Soil in this applied area and the ore body is hard in nature. (b) The applied area having a topo relief of 70 mts with highest and lowest contours of 350 and 280 mts. (c) The mound contains a gradient of 1 in 4 along the strike lines drawn in North - South direction. (d) The applied area having Steep slope towards NW and SE. The applied area is a **forest land.** There are no prominent natural drainage channels in the applied area. The topographical features are depicted in the surface Geological plan, which is enclosed as Plate No-4.
Drainage pattern:	The drainage pattern of the applied area is dendritic to sub dendritic in nature. No perennial streams observed over the applied area.
Vegetation:	The applied area is occupied by grazing grass with small shrubs and thorny bushes.
Climate & rainfall :	The area falls in semi and zone of peninsular India. The aridity is characterised by low annual precipitation of 600 to 650 mm. Wind velocity is 19 km per hour. Temperature fluctuations are seasonal vary from 28^0 C to 44^0 C. Chittoor district receives an annual rainfall of 918. The southwest monsoon and north east monsoon arethe major sources of rainfall for the district.
Water bodies :	There are no water bodies or any canals in the applied area.
Land system	The quarry applied area is a hillock and fresh area.
Land use pattern	The quarry applied area is a fresh area.

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Habitation areas and demography	Distance, direction from the applied area and population of the nearby villages of the applied area are given below. The main profession of the people is agriculture, rearing sheep and goats and other small business and labour on daily wages.

Sl.No	Village	Distance	Direction	Population
1	Pachigunta	1.3 km	NW	700
2	Kalapalli	2.0 km	West	1000
3	Vinijam	3.6 km	NW	800
4	Pullur	4.7 km	East	300

Road, electricity and telephone line	The nearest road is Chittoor - Pallipattu is located at a distance of 7.8 Km south of applied area. Electricity connections and telephone are available within 1.0kms at Pachigunta village from the applied area. Tele-communications are available at nearest villages.
Religious places, etc	There are no religious, sacred, Archaeological and heritage sites within the 500 mts of the applied area.
Vegetation	Sparse with thorny bushes in the interstices of joints where soil is existed, areas around the hill are cultivation lands.
Forest cover	Forest Land
Flora and fauna	The soil existing in the area is partially fertile. Therefore, few trees are grown with small bushes and thorny trees. No wild animals are witnessed in the vicinity of the area since 50 years as reported by local people.

2.0 GEOLOGY AND EXPLORATION:

a. Brief description of Regional Geology with reference to location of lease/applied area:

Regional Geology

The Archean rock are represented by granite dolerites, granetiferous dolerite, Schist with staurolite and kyanite Hornblende dolerite gabbro with anothosite associated with the metapelites and hornblend dolerite are the sheets and lensoid bodies of meta ultramatices, Acid intrusive are represented by granite ,pegmatite and quartz veins. Minerlogically, they consist of dolerite microcline, plagioclase perthite, biotite, muscovite and magnetite. At places hornblende and garnet are present in this region. The rock units, exposed in this region of the subject area belongs to rock of the Archeans age hornblende schist country rock with enclaves of older metamorphic and with emplacements of muscovite, pegmatites and quartz vein.

The Archaean schist and dolerite show foliation varying from NE-SW to NW-SE with moderate to step dips on either side. The general disposition of the plutonic bodies is concordant with the adjacent quartzo – feldspathic. Associated with the metapelite and hornable dolerite. The rock is exposed in the form of cluster of boulders and occasionally sheets.

Major parts of the Chittoor District mainly represent Archaean granite green stone terrain of the eastern block of Dharwar Craton. In the southeastern part of Chittoor district, charnockite rocks of southern granulite terrain are exposed. Proterozoic sediments of Kadapa basin exposed in the eastern parts of the Ananatapuram district continues in to North-eastern parts of Chittoor district through Kadapa district. The Gondwana sediments occur as small outliers in the eastern part of Chittoor district. The schistose rocks of Dharwar Super group occur in synformal folded structures and are referred to as Veligallu and Kolar schist belts.

Statigraphy of the Quarry applied Area:	
Geological Age	**Lithology**
Recent	• Alluvium
Pliestocene	• Laterite
---Unconformity---	
Peninsular gneissic complex (Migmatite group)	• Younger intrusive, epidote veins, quartz veins and reefs • Pegmatites veins of alkali feldspar Granite and syenite • Dolerite/Gabbro/Basalt dykes Leuco Granite • Nebulitic to homophonous biotite granite
Archeans	• Nebulitic to homophonous • Hornblende Granite and Leuco Hornblend Granite • Biotite Granite Gneiss, • Hornblende Granite Gneiss, • Porphyritic Hornblende Granite

b. Detailed description of Geology of applied area

Quarry applied area represents Hillock of Black Granite trending in NE-SE direction. The Black Granite variety occurring in the Quarry applied area is Whitish in colour with medium to coarse grained and exhibits Hypidiomorphic texture. The rock is mainly composed of Quartz, Plagioclase, Hornblende, Biotite, etc. The mineral grains can be clearly noticed with un-aided eye and the distribution of mineral grains is uniform. This Black Granite occurring as discontinuous lenticoid body within them igmatite /gneissic complex; the rock is hard and compact in nature. No major structural deformations such as faults, folds, etc have been noticed within the applied area.

The quarry applied area is a fresh area. In the applied area shows a Black Granite presence in good quality. The country rocks comprise of hornblende schist. The granite formed over a length of more than 550m with average width of 100m in the applied area. The granite is exposed between the RLS of 350m and 280 m RLs in the applied area. No other structural features like fold and lineament etc within area are observed.

Description of the Litho Units:

The Black Granite deposit of the quarry area characterized with medium to coarse grained, Hypidiomorphic texture with uniform distribution of mineral assemblages.The old pits and the working pits, located side by side shows an average recovery of the Black Granite i.e., about **12%** after cutting blocks. Geological features of the area are shown on geological plan and the same is enclosed as plate No.3.

Aesthetic Appeal:

The granitic rock occurring in the applied area is fresh-looking and as such, does not show any effects of weathering. The mottling is consistent and the mineral grains distributed uniformly which adding unique appearance. The rock can take very good polish with uniform mosaic display which can be preferably used as dimensional stone.

Hardness:

The rock is hard in nature; possess the hardness of 6.5 to 7.0

c. Details of Prospecting License holder:

M/s. Sweety Granites,
Prop: Sri D. James,
D. No.2-1251/4SA,
Nalanda Nagar,
B.V.Reddy Colony,
Chittoor District, and A.P.

d. Details of Prospecting/ Exploration already carried out:

The quarry applied area is a Hillock. The applied area is a fresh area. The applied area is a forest land.

The applied area is already exposed by Black Granite extended both lateral and vertical directions in the entire applied area. Further, the exposures observed in entire applied area prove the presence of Black Granite. The applied area is a fresh area. It also confirms the presence of Black Granite in the applied area. In addition, sufficient information gathered and careful observation of samples collected during the site visit has aided in determination of the presence of reserves in the applied area. Hence, specific exploration is not required. Later topographical survey of the area was carried out. The Bench Mark (BM 285 m MSL) is located in North West side in the applied area. Based on topographical survey and geological features, collected from the surface data, the surface geological plan is prepared on 1:1000 scale with 5.0 m contour interval and enclosed as **Plate No–3**.

e. The Surface plan area on 1:1000 or 1:2000 scale:

The surface cum Surface Geological plan of the applied area is prepared on 1:1000 scale with 5.0 m contour interval and is enclosed as **Plate No– 3**.

f. Geological plan prepared on 1:1000 or 1:2000 scale:

The surface cum Surface Geological plan of the applied area is prepared on 1:1000 scale with 5.0 m contour interval and is enclosed as **Plate No– 3**.

The key plan (Topo map) of the area is prepared on a scale of 1:50,000 with 5 kms radius line of the applied area showing predominant, water bodies, Topo features along with extremities of the applied area. Further, the surrounding villages with distance and population are tabulated in the legend area of the map enclosed as **Plate No– 1**.

g. Geological Sections on natural scale at suitable intervals across the lease area or applied area.

9 numbers of Geological cross sections A-A' to I-I' were drawn at an average interval of 50 m on 1:1000 scale and enclosed as **Plate No- 3 A**.

h. Broadly indicate the Future Programme of Exploration with due justification taking in to consideration the future tentative excavation programme planned in next five years Modified Mining Plan period.

The deposit is well exposed within the total applied area surface, Hence no future programme of exploration is required.

Year	No. of Boreholes (Core/RC/DTH)	Grid Interval	Total Meterage	No. of Pits, Dimensions and Volume	No. of Trenches, Dimensions and Volume
I Year	---	---	---	---	---
II Year	---	---	---	---	---
III Year	---	---	---	---	---
IV Year	---	---	---	---	---
V Year	---	---	---	---	---

i. Reserves and Resources as per UNFC

Based on the data obtained from the Surface exposure in the applied area, the proved category reserves of Black Granite are estimated to a depth of **65m above the Datum and 15 M below the Datum (Datum285 m MSL).**The quality of mineral is likely to be the same as exposed in entire applied area. The reserves are estimated by Cross sectional method which as consists of multiplying the cross sectional area with the zone of influence if arrive at the volume. For the purpose of reserves estimation,9 Geological sections A-A' to I-I' are drawn at an interval of 50 m each. The reserves are computed on the basis of the above consideration and given in following table.

Category wise insitu Geological reserves of Black Granite:

Reserves are estimated by cross sectional method. Area of cross section was taken including 7.5 m buffer zone and bench slopes.

Hence the geological reserves are tabulated below:

TOTAL GEOLOGICAL RESERVES OF BLACK GRANITE					
Section Line	Sectional area Sq. M.	C/S influence Mts.	Volume Cu. M.	Recovery 12% Cu. M.	Waste 88% Cu. M.
A-A'	2352	55.0	129360	15523	113837
B-B'	3523	50.0	176150	21138	155012
C-C'	4763	50.0	238150	28578	209572
D-D'	3359	50.0	167950	20154	147796
E-E'	4344	50.0	217200	26064	191136
F-F'	2575	50.0	128750	15450	113300
G-G'	3140	50.0	157000	18840	138160
H-H'	3952	50.0	197600	23712	173888
I-I'	2891	65.0	187915	22550	165365
TOTAL			**1600075**	**192009**	**1408066**

j. Feasibility report along with financial analysis per economic viability of the deposit(JUSTIFICATION FOR UNFC CLASSIFICATION)

Geological Axis (G1)

1. Geological Survey:
   i. Mapping: Detailed geological survey was carried out in the applied area on 1:1,000 scale with **5.0 m** contour intervals.
   ii. Preparation of Detailed Topographical Cum Geological Map: The topographical cum Geological map including all surface Geological features, extent of deposit, structures, have been prepared on 1:1,000 scale duly marked with surface geological features, BM etc., and presented as **Plate No-3.**
   iii. Topo Grid/ Triangulation Stations: The Topo grid with Geological cross-sections has been prepared on 1:1,000 scale showing litho-units.
2. Geochemical Survey: Not carried out.
3. Geophysical Survey: Not carried out.
4. Technological Survey:
   - Detailed topographical and geological survey was carried out on 1:1,000 scale showing all the surface features, contours at **5.0 m** interval, the lease boundary, surface Geology & Structural features.
   - **The maximum thickness of Black Granite above the existing ground level is estimated to be 65m above and 15 m below the lowest level which are considered to be proved reserves.**
   - Reserves are estimated by cross sectional area method.

Feasibility Axis (F1)

a. Geology: The detailed Geology of the applied area has been presented in Part-A.

b. Mining: Black Granite will be exploited through opencast Method of Mining other than fully mechanized with line drilling with vertical mounted drills. The quarrying operation will be carried out in a systematic way by forming blocks Excavator will be used for removal of ROM in the applied area.

c. Environment: The deposit will exposed within the total applied area will be mined adopting conventional opencast semi- mechanized mining methods without any adverse environmental impact. The applicant will obtain statutory clearances as soon as this Modified Mining Plan is approved. Mining in the leasehold does not disturb any human settlements as they are far away from the applied area. On the other hand, the mining operations will create livelihood to the villagers nearby. The applicant will develop green belt around the applied area as part of his commitment to environment protection.

d. Processing: Black Granite blocks are sold directly to the consumer

e. Infrastructure: The entire necessary infrastructure such as office, rest shelter, power connection etc., will be provided once the modified mining plan is approved. The applied area is a Forest land. The applicant can use this land for the establishment office room and various other amenities like road, rest area for the site workers etc. which is depicted on Environmental plan. The applied area is connected with well-built asphalt roads to the Mandal and district Headquarters.

f. Costing: The cost of production of Black Granite works out to be approximately Rs. 6,000.00Per Cu.M.

g. Marketing: ROM generated from this quarry will be market for the use in various construction projects in the nearby areas.

h. Economic Viability: As the proposed applied area is in the near vicinity and sold to consumers it is surely economic and viable.

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

DEPUTY DIRECTOR OF MINES & GEOLOGY CHITTOOR

Economic Axis (E1)

a. Detailed Exploration: Detailed topographic survey and Geological mapping of the applied area was subject to detailed exploration by field traverses and well inventory data. The depth of sheet rock is assessed by the Litho-log observed in the boreholes of agricultural lands.

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

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

d. Specific Knowledge of Forest/ Non-Forest and Other Land Use Data: The entire applied area is a forest land.

The cost of production of Black Granite is arrived at INR. 6,000.00 Per Cu.M inclusive of taxes and royalty. Sized blocks are supplied to the different consumers for cutting and polishing as such it is surely economic and profitable.

k. Mineral Reserves :

i. Mining Method, Recovery Factor, Mining Losses, Processing Loss etc.: Black Granite will be mined by open cast other than fully mechanized method with vertical mounted drills. The recovery factor is considered as **12% with 88%** intercalated waste. There will not be any mining losses except waste blocks.

ii. Cut-off Grade, Ultimate Pit Depth Proposed: There is no cut-off grade as the ROM will be put to use for Black Granite as aggregates. The Ultimate Pit Limit (UPL) will be reached to 325m RL in middle portion in the applied area during the end of fifth year of this modified mining plan period.

iii. Mineral/Ore Blocked Due to Benches, Barriers, Pillars, Road, Railway, River, Nalla, Reservoir, Electric Line and Other Statutory Barriers etc.: The mineral will be blocked in 7.5 m safety barrier zone, roads and benches which is computed separately tabulated below in the succeeding sections.

iv. Total Mineral Reserves: The reserves are estimated basing on field traverses, and the information gathered during the field reconnaissance of the area and cross sections drawn. The area of the influence and the cross sections were taken at average 25 m on either side of the cross sections A-A' to I-I' the influence was taken at 50 m.

The occurrence of the Black Granite is probably more than 65m above the datum and 15M below the Datum (Datum is 280 m MSL). Based on the field traverses, the estimated reserves are considered as Proved Reserves. 9 cross-sections A-A' to I-I' are considered for computation of reserves. The present area, which is above the existing ground surface is considered for computation of reserves.

Reserves are estimated by cross sectional method. Area of cross section was taken by excluding 7.5 m buffer zone at both sides. Thus the area of cross section will be minable only.

Proved total Geological Reserves of Black Granite:

Section Line	Sec. area (Sq. M)	C/S Influence (Mts)	Volume (Cu. M)	Recovery 12 % (Cu.M)	Waste 88 % (Cu.M)
A-A'	2352	55.0	129360	15523	113837
B-B'	3523	50.0	176150	21138	155012
C-C'	4763	50.0	238150	28578	209572
D-D'	3359	50.0	167950	20154	147796
E-E'	4344	50.0	217200	26064	191136
F-F'	2575	50.0	128750	15450	113300
G-G'	3140	50.0	157000	18840	138160
H-H'	3952	50.0	197600	23712	173888
I-I'	2891	65.0	187915	22550	165365
Total			**1600075**	**192009**	**1408066**

Blocked Reserves:

Under 7.5 m buffer area:

Section	Sec Area (Sq.M)	Influence (M)	Volume (Cu.M)	Recovery 12 % (Cu.M)	Waste 88 % (Cu.M)
A-A'	218	55.0	11990	1439	10551
B-B'	404	50.0	20200	2424	17776
C-C'	667	50.0	33350	4002	29348
D-D'	531	50.0	26550	3186	23364
E-E'	690	50.0	34500	4140	30360
F-F'	525	50.0	26250	3150	23100
G-G'	560	50.0	28000	3360	24640
H-H'	722	50.0	36100	4332	31768
I-I'	517	65.0	33605	4033	29572
Total			**250545**	**30065**	**220480**

Under Pit Slopes:

Section	Sec Area	Influence Zone	Volume	Recovery 12 %	Waste 88 %
	(Sq.M)	(M)	(Cu.M)	(Cu.M)	(Cu.M)
A-A'	193	55.0	10615	1274	9341
B-B'	702	50.0	35100	4212	30888
C-C'	1782	50.0	89100	10692	78408
D-D'	1080	50.0	54000	6480	47520
E-E'	1548	50.0	77400	9288	68112
F-F'	972	50.0	48600	5832	42768
G-G'	1224	50.0	61200	7344	53856
H-H'	1548	50.0	77400	9288	68112
I-I'	826	65.0	53690	6443	47247
Total			**507105**	**60853**	**446252**

Total Non-Mineable Resources of ROM

= 7.5 buffer zone + final pit slope

= 250545 + 507105

= **757650 Cu.M**

Category of reserves		ROM		Black Granite blocks (12%)	Units
Total Geological reserves			**1600075**	**192009**	Cu.M
Mineral blocked under	7.5m buffer area	250545	757650	90918	Cu.M
	Pit slope	507105			Cu.M
	Others if any	0			
Total Mineable reserves			**842425**	**101091**	**Cu.M**

UNFC Classification of Estimated Reserves and Resources

Classification	Code	Quantity of ROM Cu.M	Blocks Recovery @12% Cu.M
A. Mineral Reserve			
(1) Proved Mineral Reserve G1 Category	111	**842425**	**101091**
(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)		**842425**	**101091**

Mineable reserves and Life of the Quarry:

Total Geological resources estimated in this applied area are around **1600075 Cu.M** of Black Granite ROM (i.e., 12% recovery @2009 Cu.M). The mineable reserves are calculated as **842425 Cu.M of ROM (101091 Cu.M of 12% saleable Blocks),** These mineable reserves are calculated by deducting the reserves blocked under 7.5 mts buffer zone and bench slopes/UPL (**842425 Cu.M of ROM**), with the proposed average annual production of **37690 Cu.M** of Black Granite ROM **4523 Cu.M of 12% saleable Blocks),** the expected life of the mine is **22.35 years i.e., 23 years.** The calculations are as given below.

Life of the quarry:

Saleable reserves/Annual production = **101091/4523=22.35 say 23 years.**

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

Year	Black Granite		Intercalated Waste (88 %)
	Volume	Saleable Mineral (12 %)	
	Cu.M	Cu.M	Cu.M
I Year	36806	4417	32389
II Year	37316	4478	32838
III Year	36628	4395	32233
IV Year	37310	4477	32833
V Year	40390	4847	35543
Total	**188450**	**22614**	**165836**
Average	**37690**	**4523**	**33167**

3.0 MINING

a. Open Cast Mining

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

Working of the **M/s Sweety Granites, Prop: Sri D. James** Black Granite quarry by adopting Semi Mechanized (OTFM) open cast method of quarrying shall be continued in the present 5 years quarry during the modified mining plan period. Applicant is capable for deploying adequate machinery and technical manpower to undertake the quarrying operations in safe, scientific and technical manner. Considering the technical parameters like surface topography, stability, rock quality, geotechnical aspects, required rate of production, available resources etc., This deposit is being worked by adopting bench method of opencast quarrying. In the advancement process of workings an open pit shall be formed with multiple benches of 6mts height and width of the benches shall be maintained as per standard norms.

To make the quarrying operations highly feasible, granite blocks being separated by adopting wire saw cutting in the sheet rock zone. Implementation of wire saw cutting will yield more production and reduce the waste. In this quarry, sub-division of blocks is not expected as the blocks being produced are of medium size and not the larger ones. However, infrequently the primary block size of around 6mX4mX2m may dislodge from the host rock. Such primary block will be observed carefully on all six faces for defects, shape and size and later it will be cut in to secondary blocks with help of jackhammer drilling and wedge cutting into various sizes of 3mX2mX2m to l.6mXl.2mX0.6m depending on market requirements and size of primary blocks. While cutting primary block into secondary sizes some under sized blocks or defective material or shapeless blocks will be generated. This type of unmarketable material will be treated as waste and discarded in the dump yard deploying the tipper trucks. Secondary blocks will be shifted to stock yard, which further dressed to perfect sizes before transporting to the market. All the corners of the blocks will be dressed by hammer and chisel. The bulges and visible flaws will be removed. Common defects may found in the dimensional blocks includes pegmatite /quartz enclaves and micro- fractures.

Due care will be taken in bench designing by straightening and advancing the benches for optimizing quarry operations in technical and scientific manner. Drainage inside the pit does not pose any problem as the groundwater table is much deeper than the ultimate pit depth and the rain fall in the monsoon is not very high.

(ii) Proposed Year wise proposed production for the modified mining plan period:

It is proposed to produce **Black Granite blocks** of **22614 Cu.M** aggregates during the five years modified mining plan period with an average annual production of **Black Granite blocks** of **4523 Cu.M** from an area of **12641 M^2.**The applicant proposed to take up quarrying operations middle of the quarry in the applied area.

1st Year:

During this year, it is proposed to develop mine in the D-D' and E-E' sections in the applied area to extract a total recovery quantity of **4417 Cu.M** of Black Granite blocks. The applicant proposed to take up quarrying operations from north side of the quarry to south side in the applied area.

Section	Sec Area(Sq.m)	Influence (M)	Volume (Cu.M)	Recovery 12% (Cu.M)	Waste 88% (Cu.M)
D-D'	579	50.0	28950	3474	25476
E-E'	982	8.0	7856	943	6913
Total			**36806**	**4417**	**32389**

2nd Year:

During this year, it is proposed to develop mine in the E-E' section in the applied area to extract a total recovery quantity of **4478 Cu.M** of Black Granite blocks. The applicant proposed to take up quarrying operations from north side of the quarry to south side in the applied area.

Section	Sec Area(Sq.m)	Influence (M)	Volume (Cu.M)	Recovery 12 % (Cu.M)	Waste 88 % (Cu.M)
E-E'	982	38.0	37316	4478	32838
Total			**37316**	**4478**	**32838**

3rd Year:

During this year, it is proposed to develop mine in the E-E', F-F' and G-G' sections in the applied area to extract a total recovery quantity of **4395 Cu.M** of Black Granite blocks. The applicant proposed to take up quarrying operations from north side of the quarry to south side in the applied area.

Section	Sec Area(Sq.m)	Influence (M)	Volume (Cu.M)	Recovery 12 % (Cu.M)	Waste 88 % (Cu.M)
E-E'	982	4.0	3928	471	3457
F-F'	285	50.0	14250	1710	12540
G-G'	89	50.0	4450	534	3916
G-G'	280	50.0	14000	1680	12320
Total			**36628**	**4395**	**32233**

4th Year:

During this year, it is proposed to develop mine in the F-F' and E-E' sections in the applied area to extract a total recovery quantity of **4477 Cu.M** of Black Granite blocks. The applicant proposed to take up quarrying operations from south side of the quarry to north side in the applied area.

Section	Sec Area(Sq.m)	Influence (M)	Volume (Cu.M)	Recovery 12 % (Cu.M)	Waste 88 % (Cu.M)
F-F'	406	50.0	20300	2436	17864
E-E'	567	30.0	17010	2041	14969
Total			**37310**	**4477**	**32833**

5thYear:

During this year, it is proposed to develop mine in the E-E' and D-D' sections in the applied area to extract a total recovery quantity of **4847Cu.M** of Black Granite blocks. The applicant proposed to take up quarrying operations from south side of the quarry to north side in the applied area.

Section	Sec Area(Sq.m)	Influence (M)	Volume (Cu.M)	Recovery 12 % (Cu.M)	Waste 88 % (Cu.M)
E-E'	567	20.0	11340	1361	9979
D-D'	581	50.0	29050	3486	25564
Total			**40390**	**4847**	**35543**

Production and Development Calculation During this five years operations:

Year	Section	Sectional Area	C/S Influence	Volume of ROM	Black Granite blocks (12%)	Intercalated Waste (88%)
		Sq. Mts	Mts	Cu.M	Cu.M	Cu.M
1st Year	D-D'	579	50.0	28950	3474	25476
	E-E'	982	8.0	7856	943	6913
	Total			**36806**	**4417**	**32389**
2nd Year	E-E'	982	38.0	37316	4478	32838
	Total			**37316**	**4478**	**32838**
3rd Year	E-E'	982	4.0	3928	471	3457
	F-F'	285	50.0	14250	1710	12540
	G-G'	89	50.0	4450	534	3916
	G-G'	280	50.0	14000	1680	12320
	Total			**36628**	**4395**	**32233**
4th Year	F-F'	406	50.0	20300	2436	17864
	E-E'	567	30.0	17010	2041	14969
	Total			**37310**	**4477**	**32833**
5th Year	E-E'	567	20.0	11340	1361	9979
	D-D'	581	50.0	29050	3486	25564
	Total			**40390**	**4847**	**35543**
Grand Total				**188450**	**22614**	**165836**
Average				**37690**	**4523**	**33167**

(ii) Indicate year wise tentative excavation in cubic meters indicating development, ROM

It is proposed to raise the in-situ mineral **Black Granite** of **188450 Cu.M (@12% of blocks 22614 Cu.M)** for five years modified mining plan period from the applied area. The workings will be carried out by semi mechanized open cast method with the help of vertical mounted drilling. The ROM will be graded and cutting in to required size of blocks. The granite blocks will be directly sent to the consumer. During this modified mining plan period, the workings will be carried out by Semi Mechanized (OTFM) open cast method.

(iii) Describe briefly giving salient features of the proposed method of working indicating Category of mine:

It is a small Black Granite Quarry falls under Category 'B' and proposed to operate by adopting semi-mechanized opencast quarrying method (OTFM).

Briefly describe the method of working involved in:
The following operations shall be conducted during Black Granite quarrying:

Drilling and Drill hole & Diameter:

To open up the working face line drilling with vertical mounted drills will be executed Standard pneumatic jack hammer drills shall be used with drill rod dia of 28mm/32mm for drilling to dislodge the blocks from mother rock and the length of the holes shall kept up to 3m long.

Depth and inclination of drill holes:

The holes are generally drilled vertically. In case of primary cuts horizontal holes shall also drilled to dislodge the blocks from mother rock. But sometimes, inclined holes will also be drilled along the planes of weakness for effective operations and optimized yield.

Spacing and burden:

The spacing shall be about 20cm from hole to hole and the burden goes up to 1.6m to 2.0 m for the splitting of rock.

Blasting: Blasting operations will be occasionally carry out using mild explosives within waste rock/ development area after obtaining necessary permissions.

Removal /Excavation of O.B. and other quarry waste:

The O.B. consists of small quantity of soil, weathered/ defective granite rock and under sized blocks. These shall be discarded in to the proposed dump yard situated at adjacent to the south part of the applied area. Location of the dumping site depicted in the Environment Plan enclosed as **Plate Nos.:5.**

Separation of Primary Blocks from Mother Rock:

Vertical and horizontal holes at 6 inch to 1 feet distance shall be drilled using jackhammer drills and the primary blocks will be wedged out. Once working face opened, wire saw cutting machine shall be used for separation of primary blocks from mother rock. It is estimated that to produce marketable blocks.

Sub division of large primary blocks in to secondary blocks:

The same method shall be used as described in the previous paragraph. Once the primary blocks are dislodged from host rock the secondary blocks will be cut keeping in view of the market conditions and handling capacity of the equipment.

Production of Commercial Block:
The main idea is to bring the blocks to proper dimension after chipping the rough corners. It is done manually using hand held wedges. Flaws like white lines, fractures and penetrative cracks shall be taken care off at this stage of forming marketable blocks.

Magazine, type and capacity:
Blasting operations are very infrequent and same shall be outsourced to an authorized agency after obtaining all necessary permission. Hence, no proposal made for the magazine within the quarry area.

(iv) Conceptual Mining plan

Total Geological resources estimated in this applied area are around **1600075 Cu.M** of Black Granite ROM (i.e., 12% recovery 192009 Cu.M). The mineable reserves are calculated as **842425 Cu.M of ROM (101091 Cu.M of 12% saleable Blocks),** These mineable reserves are calculated by deducting the reserves blocked under 7.5 mts buffer zone and bench slopes/UPL (**842425 Cu.M of ROM**), with this proposed average annual production of **37690 Cu.M** of Black Granite ROM**4523 Cu.M of 12% saleable Blocks)**, the expected life of the mine is **22.35 years i.e., 23 years.**

The year wise workings and the production, going to be achieved for five years is detailed below.

Year	Total tentative Exaction (ROM) (Cu.M)	OB/SB/IB in (Cu.M)	ROM from Mineralized Zone (Cu.M)				ROM waste ratio
			Clean blocks	Sub grade ore	Mineral reject	Waste from ROM	
			12 %	-	-	88%	
1st Year	36806	-	4417	-	-	32389	1:0.88
2nd Year	37316	-	4478	-	-	32838	1:0.88
3rd Year	36628	-	4395	-	-	32233	1:0.88
4th Year	37310	-	4477	-	-	32833	1:0.88
5th Year	40390	-	4847	-	-	35543	1:0.88
Total	**188450**	**-**	**22614**	**-**	**-**	**165836**	**1:0.88**
Average	**37690**	**-**	**4523**	**-**	**-**	**33167**	**1:0.88**

(v) Dump management

In the present modified mining plan period total quantity of waste likely to be generated will be **165836 Cu.M.** The total waste will be dumped on proposed waste dump proposed in North side in the applied area. Waste mainly consists of defective rock, small blocks of Black Granite rock below that of marketable ones and minor portion of weathered material. Some of the material may found use in maintenance of haulage roads and formulation of gully plugs, garland drains, retaining walls, etc. Bulk of the waste material needs to be dumped separately to use it for backfilling of the exhausted area during quarry closure. If any soil generated during quarrying will be utilized for afforestation purpose. Drains shall be provided and the dump will be terraced. Garland drains shall be formulated all along the leading edge of the dump and plantation shall be made to arrest the wash-off during monsoon. The water flowing out draining the dump shall be made silt- free by constructing gully checks and siltation tank.

b) Underground Mining:
Nil

4.0 MINE DRAINAGE

a) Minimum and Maximum Depth of Water Table:

The applied area is a hillock with steep slope at maximum height of 70m above existing ground level. There are no water bodies existing in the applied area. Ground water table is observed to be ranging between 60 to 100m below Ground level.

b) Maximum and Minimum Depth of Workings:

Maximum depth of workings and Minimum depth of workings in the applied area is 353m RL and 325m RL during the ensuing modified mining plan period.

c) Quantity and Quality of Water Likely to be Encountered:

Proposed quarry workings confined to the elevated mound of Black Granite/Sheetrock and the general ground level is around 325 m MSL in the applied area. The anticipated depth of quarry operations during ultimate stage is 325m RL. As the depth of water table is around 60 m to 100 m below the general ground level there are no possibilities of encountering ground water in quarry workings.

d) Regional and Local Drainage Pattern:

The terrain represents dendritic to sub dendritic drainage patter, which comprised of several small rain fed runoff channels originating from the elevated areas. The area receives annual rain fall of around 934 mm. No seasonal or perennial nallahs or drains situated within the quarry area. Hence, there is no additional water flowing within the quarry area other than surface runoff. Surface runoff from quarry area carries fine silt by incorporating dust and suspended solids, to obviate this it is proposed to formulate garland drains, gully checks and siltation tank in the appropriate.

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

The dumps will have to design in such that it will have slopes equal to angle of repose of such material. Drains will be provided and the dump terraced. Garland drains have to be sunk along around the leading edge of the dump and trees have to be grown to arrest the run off rain water. The generated waste will be dumped on the North side of the quarry applied area covering an area of **0.440 Hectares** with 45° slope angle. Estimated waste quantity that will be generated during this modified mining plan period will be **165836 Cu.M.**

Dumping shall be carried out in terrace pattern for better stabilization.

6.0 USE OF MINERAL AND MINERAL REJECT

Use of mineral: The Black Granite varieties of proposed Quarry applied area possess good demand in domestic & export markets. The proponent is intended to trade the Black Granite in local and export markets based on the market conditions such as price, demand, etc. the applicant is capable of maintain schedule in meeting the export demand.

Mineral reject: No Mineral rejects are anticipated.

7.0 PROCESSING OF ROM AND MINERAL REJECT

A total of **188450 Cu.M** of Rock Mass will be excavated during next five years to retrieve **22614 Cu.M** of Market Grade Rough Blocks, there by generating **165836 Cu.M** of Rock Waste.

Rule 22 of GCDR – 1999 as mentioned separate stacking of non-saleable granite:

1. The non-saleable granite rejects at quarry bottom should regularly be collected and transported to the surface and the quarry floor kept reasonably clear of debris.

2. Small granite blocks from such non-saleable granite suitable for possible use in manufacture of blocks as well as flooring or wall tiles by small scale industries sector shall not be used as road metal or stone aggregate and such material shall be segregated from the dumps of granite rejects and stored separately for future use as far as possible whenever such dumps are worked for recovery of stone aggregate or used as quarry backfill.

165836 Cu.M of the waste is estimated to be generated during the five years modified mining plan period. It is observed that about 50% can be sorted out and used for making tiles by the local units and used as building stone & road metal as per rule 22 (2) of GCDR – 1999 and about 10% may be the quarrying loss. For using or selling 50% of the waste generated for tiles and building stone/road metal the applicant will seek necessary permissions and permits from the concerned authorities. The remaining 40% will be treated as waste. It will be dumped in the proposed waste dump. The tentative estimation of production of sub grade and waste for the 5years modified mining plan period is mentioned below.

Waste generated in Cu.M for next 5 yrs	Building Stone/Road Metal and tiles @ 50% in Cu.M	Quarrying Loss @ 10% in Cu.M	Waste @ 40% in Cu.M
165836	**82918**	**16583**	**66334**

The market for tiles is good at the moment and will offer a better substitute for marble in terms of price and quality. Some rejected and unsorted material may be used in the civil engineering projects in the vicinity of the area. The applicant may also establish a crusher in the vicinity of the quarry so that the waste material can also be used for captive consumption. The waste and sub grade generated during the five years may be dumped separately in the respective yard within the area. The dump will be designed in such that it will have slopes equal to the angle of repose of such material. Drains will be provided and the dump terraced. Garland drains have to be sunk along around the leading edge of the dump as per Rule 22 (1) of GCDR-1999.

8.0 OTHERS

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

DIRECTOR OF MINES & GEOLOGY CHITTOOR

Infra-structure:

Manager's Room
Rest Room
Toilets
First Aid - Provision is made in the Manager's Room
Drinking Water - Provision is made in the Rest Room
Site services have been depicted on relevant plates.

b) **Employment Potential:**

a.	Highly skilled	Mines Manager	1
		Mining Mate	1
b.	Skilled & Semi-skilled	Excavator operator	1
		Operators (wire saw etc)	4
		Workers	4
	Total personnel in Mining Operations		11

c. Safety Gears:

- ✓ Pre-Employment Health Check-up for all New Employees.
- ✓ Periodical Health Check-up for all Employees.
- ✓ First Aid Box at Site, with trained First Aiders.
- ✓ Providing Sufficient and Fit-To-Wear PPE (like helmets, mask, and safety shoes etc) for all employees, working in the quarrying activity.
- ✓ **Providing rest shelter and toilet facilities for all employees.**
- ✓ **Providing Initial training for all employees from VTC/ GVTC.**

d. Extent of Mechanisation

Since it is proposed to undertake semi-mechanized mining operations, the below mentioned mine machinery will be deployed.

S.No	Machinery	Capacity	No's
1	Compressor	200	3
2	Drilling Machines	200 cfm	3
3	Jack Hammers	33 mm	6
4	Drill Roads for Diamond wire saw cutting	74 mm	4
5	Excavators	1.2 Cu.M	2
6	Tippers	40 T	3
7	Tractor with Water Tanker	5,000 L	1
8	Jeep	-	1
9	Diamond wire saw Machines (Mortar Driven)	15 HJ	2

PART-B

ENVIRONMENT MANAGEMENT PLAN

1.0 ENVIRONMENT BASE LINE INFORMATION:

Existing Land Use Pattern:

The Quarry applied area is a Forest Land. The quarry applied area is a fresh area. The applied Quarry applied area is a barren land and surrounding lands are also barren. Environmental Plan on a scale of 1:5000 is enclosed.

Sl. No.	Details	Existing Land use	Additional requirement area during the plan period	Land use at the end of the plan period	Land use at the end of conceptual period
		(Ha.)	(Ha.)	(Ha.)	(Ha.)
1	Area under mining	0.000	1.264	1.264	-
2	Storage for top soil	0.000	0.000	0.000	-
3	Proposed Waste dump	0.000	0.440	0.440	-
4	Overburden dump	0.000	0.000	0.000	-
5	Mineral storage	0.000	0.240	0.240	-
6	Infrastructure/ crusher	0.000	0.020	0.020	-
7	Roads	0.000	0.330	0.330	-
8	Railways	0.000	0.000	0.000	-
9	Green belt(in 7.5 buffer zone)	0.000	0.920	0.920	-
10	Tailing pond	0.000	0.000	0.000	-
11	Others:	0.000	0.000	0.000	-
	Sub- total	**0.000**	**3.214**	**3.214**	-
	Virgin area	0.000	1.766	1.766	-
	Total	**4.980**	**4.980**	**4.980**	-

Land use details are depicted on the Land use plan which is enclosed.

Human Settlements:

Distance, direction and population of the nearby villages of the applied area are given below. The main profession of the people is agriculture, rearing sheep and cows and other small business and labour on daily wages.

Sl.No	Village	Distance in KM	Direction	Population in Nos
1	Pachigunta	1.3 km	NW	700
2	Kalepalli	2.0 km	West	1000
3	Vinijam	3.6 km	NW	800
4	Pullur	4.7 km	East	300

Public Buildings, Places of Worship and Monuments: No public buildings, places of worship or interest and monuments are present in the vicinity of applied area.

Sanctuary if any in the Vicinity of the Lease Hold: No sanctuary, zoo or parks are present in the vicinity of the applied area.

2.0 ENVIRONMENT IMPACT ASSESSMENT:

a. Land Area Degraded:

An area of about **1.264 Ha** will be degraded for the working pit during 5 yrs period.

No.	Head	Forest area required for the entire lease period (in Ha.)		Forest area required for 1st five year plan period (in Ha.)			Total area remains unutilized after 1st five years (in Ha.)	
(1)	(2)	(3)		(4)			(5= (3-4))	
1	Area under Mining (which includes small portion of area i.e. for site services like first aid etc and internal roads which will be in temporary in nature and shitted / made as per the convenient)	**2.730**	**ha**	1st Year	0.437	ha	**1.446**	ha
				2nd Year	0.274	ha		
				3rd Year	0.481	ha		
				4th Year	0.072	ha		
				5th Year	0	ha		
				Sub - Total	**1.264**	**ha**		
				Infrastructure	0.020	ha		
				Total	**1.284**	**ha**		
2	Waste Dumping (which includes mineral storage)	**1.000**	**ha**	1st Year	0.220	ha	**0.320**	**ha**
				2nd Year	0.220	ha		
				3rd Year	0	ha		
				4th Year	0	ha		
				5th Year	0	ha		
				Sub - Total	**0.440**	**ha**		
				Mineral storage	0.240	ha		
				Sub - Total	**0.680**	**ha**		
3	Approach Road	**0.330**	**ha**		**0.330**	ha	**0**	**ha**
4	Railways	0	ha		0	ha	0	ha
5	Talling Pond	0	ha		0	ha	0	ha
6	7.5 mtr safety zone along Mining area (Green belt)	**0.920**	**ha**		**0.920**	**ha**	**0**	**ha**
		4.980	**ha**		**3.214**	**ha**	**1.766**	**ha**

b. Air Quality:

Various activities involved in mining of road metal and building stone generate minimum dust to some extent dust generated will be controlled by sprinkling of water on roads. Masks, earplugs and safety goggles will be supplied to the workers on site to protect themselves from dust.

The following preventive measures were planned for air quality management:

- Water spaying on roads & working places will be carried out at regular intervals to control the air borne dust.
- Sharp drill bits will be used and wet drilling will be practiced.
- Loading and speeding of trucks will be controlled to prevent spillage on the way.
- Ore carrying trucks will be covered with tarpaulins to prevent spillage & flying of ore fines due to wind velocity.
- Haul roads and service roads will be graded regularly to clear accumulation of any loose material.
- Monitoring of air quality regularly to take necessary steps to keep the polluting constituents within the permissible limits.

Standards of air quality is shown in the table below:

Base level	Allowable level
SPM = 140 $\mu g/m^3$	360 $\mu g/m^3$
RSPM = 60 $\mu g/m^3$	120 $\mu g/m^3$
SO_2 = 40 $\mu g/m^3$	80 $\mu g/m^3$
NO_2 = 40 $\mu g/m^3$	80 $\mu g/m^3$
CO = 1.0$\mu g/m^3$	5.0 $\mu g/m^3$

c. Water Quality:

There are no water bodies like ponds, lakes or streams in the vicinity of applied area. Quarrying of Gravel generates minimal dust, which is not harmful. Hence, the quality of the water in the surrounding water bodies will not be affected by the mining activity.

d. Noise Level:

In the quarry operations the machinery like jack hammer drilling compressor and excavators will generate sound pollution. The noise levels are generally high in this case there is no effective way to control the noise levels. For this reason the persons likely to be exposed to higher levels of noises are provided earplugs. The ambient quality of standards in respect of noise for an industrial area as given by the DGMS is 80db. The applied area does not have any villages in the immediate. To limit the noise generated the applicant processes to follow the measures mentioned below:

	➢ Lubrication , maintenance and speed limitations of trucks ➢ Providing earplugs to the persons for protection. . **Duration/ day (hrs) — Sound level in dbs** 8 — 115 4 — 110 2 — 105 1 — 100 ½ — 95 ¼ — 90 ⅛ — 85 1/16 — 80
e.	**Vibration Levels due to Blasting:** Only noise of drilling & blasting was anticipated and vibrations are within limits.
f.	**Water Regime:** Mining activity proposed is over the elevated mound and the maximum level of the pit will be 325 m MSL that is the lowest elevation of the existing ground in the applied area as the Ground Water is at expected to be at a depth more than 60-100 m in the applied area Ground water will no way will be affected.
g.	**Acid Mine Drainage:** No chemicals are involved in the extraction or processing of the ore, hence there is no danger of acid mine drainage.
h.	**Surface Subsidence:** The ground surface in around the applied area is covered by Granites of Archaean Basements complex the ground is stable. Internal roads are well compacted to avoid any skidding of vehicles. The benches and ramp ways will be well built and maintained to avoid any kind of subsidence or skidding.
i.	**Socio Economics:** Mining of Black Granite will generate employment to the people of surrounding villages both skilled and unskilled. Government will get income in the form of royalty, rent etc. Raw material for the road and civil works will be generated by the mining activity that will be one of the boosting factors for the local economy.
j.	**Historical Monuments:** No historical, Archaeological or Geological monuments are present in and around the applied area.
k.	**Bio-Diversity:** The slopes and crevices of the mount have some bushes and shrubs. No wild animals are reported within these bushes.

The item - wise compliance position and proposals for next five years modified mining Plan period are briefly discussed below table.

Items / Particulars	Proposals for the next five years modified mining plan period
Top – Soil Storage, preservation and utilization	No storage proposals of Top soil in the mining applied area. The waste that would be generated is estimated as 88% of quantity **165836 Cu.M** during the first five years modified mining Plan period. The generated waste will be utilized to strengthen the internal roads of the quarry applied area periodically.
Land Reclamation and Rehabilitation	The present lease is a fresh grant. In the present modified mining plan period no reclamation or rehabilitation is planned.
Waste Dump Management	The present management is limited to scientific and systematic dumping. The stabilization of dump will be taken up during final mine closure period.
Afforestation programme with precautions proposed for survival & protection plantation	Proposal of afforestation for modified mining plan period is given below: Year: I Year, II Year, III Year, IV Year, V Year Plants/1m²: 1000 plants totally will be planted in the first year and further four years will be taken for regular watering and care. Area (Ha.): 0.920 It is proposed to plant the local species like Neem, Teak, Tamarind, Silver oake, Eucalyptus etc. in the 7.5 mts buffer area along the lease boundary, precautions proposed for survival and protection are watering the afforested area and providing watch & ward. Survival rate is expected to be about 15%.
Quality of air	Basically there will be dust generation during mining. It is proposed to sprinkle water on roads for the suppression. In addition as a contingency measure the persons working will be provided with nose masks.
Quality & make of water including surface & ground water	The area is barren. The rain levels are also very less. The water requirements will be met from local village. The project shall not draw any water from ground.
Noise Level-sources of noise to be identified	Noise is generated due to machines. Highest noise is from jackhammers. The moving machinery also produces noise. It is not possible to completely reduce the noise. Instead the persons will be provided with ear muffs.
Vibration-pattern of blast holes & design of blast with details of sufficient number of experimental blasts conducted	The type of operation proposed does not need any blasting. Any overburden encountered will be dealt with 'Gun powder'. For this reason there will not be any considerable vibration levels. The vibrations due to machinery will be reduced through correct maintenance practices.
Treatment of mine water & affluent / toxic substances before discharge.	Not required as the mining operations will not be discharging any toxic substances or effluents.

PART – C

PROGRESSIVE MINE CLOSURE PLAN

3.0 PROGRESSIVE RECLAMATION PLAN:

The present applied area is a fresh grant. 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. Some part of the about 1.000 ha pit area is proposed for reclamation / backfilling as entire area will be active in mining operation up to the end of lease period.

After developing the quarry up to 10 years the applicant will be proposed to back fill the pit with the waste.

663344 Cu.M of the waste is estimated to be generated during the 20 years lease period. It is observed that about 50% can be sorted out and used for making tiles by the local units and used as building stone & road metal as per rule 22 (2) of GCDR – 1999 and about 10% may be the quarrying loss. For using or selling 50% of the waste generated for building stone/road metal and tiles the applicant will seek necessary permissions and permits from the concerned authorities. The remaining 40% will be dumped as waste. It will be used for back filling the quarry from the 11th year. The tentative estimation of production of sub grade and waste for the lease period of 20 years is mentioned below.

Waste generated in Cu.M for next 20 yrs	Building Stone/Road Metal and tiles @ 50% in Cu.M	Quarrying Loss @ 10% in Cu.M	Waste @ 40% in Cu.M
663344	**331672**	**66334**	**265338**

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

Afforestation:

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

4.0 MINED-OUT LAND:

No mine out land will be formed during the first five years modified mining plan period. The mineral reserves exist far deeper than the UPL of this modified mining plan period and mining will continue for the rest of the lease grant period.

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

No.	Head	Forest area required for the entire lease period (in Ha.)		Forest area required for 1st five year plan period (in Ha.)			Total area remains unutilized after 1st five years (in Ha.)	
(1)	(2)	(3)		(4)			(5= (3-4))	
1	Area under Mining (which includes small portion of area i.e. for site services like first aid etc and internal roads which will be in temporary in nature and shitted / made as per the convenient)	**2.730**	**ha**	1st Year	0.437	ha	**1.446**	ha
				2nd Year	0.274	ha		
				3rd Year	0.481	ha		
				4th Year	0.072	ha		
				5th Year	0	ha		
				Sub - Total	**1.264**	**ha**		
				Infrastructure	0.020	ha		
				Total	**1.284**	**ha**		
2	Waste Dumping (which includes mineral storage)	**1.000**	**ha**	1st Year	0.220	ha	**0.320**	**ha**
				2nd Year	0.220	ha		
				3rd Year	0	ha		
				4th Year	0	ha		
				5th Year	0	ha		
				Sub - Total	**0.440**	**ha**		
				Mineral storage	0.240	ha		
				Sub - Total	**0.680**	**ha**		
3	Approach Road	**0.330**	**ha**		**0.330**	ha	**0**	**ha**
4	Railways	0	ha		0	ha	0	ha
5	Tailing Pond	0	ha		0	ha	0	ha
6	7.5 mtr safety zone along Mining area (Green belt)	**0.920**	**ha**		**0.920**	**ha**	**0**	**ha**
		4.980	**ha**		**3.214**	**ha**	**1.766**	**ha**

5.0 TOPSOIL MANAGEMENT:

There is no Top soil present in the applied area hence topsoil management does not arise.

6.0 TAILINGS DAM MANAGEMENT:

No Tailings Dam is required.

ACID MINE DRAINAGE AND MITIGATION MEASURES:

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

Surface Subsidence Mitigation Measures: The ground surface in around the applied area is covered by Granites of Archaean Basements complex the ground is stable. Internal roads are well compacted to avoid any skidding of vehicles. The benches and ramp ways will be well built and maintained to avoid any kind of subsidence or skidding.

7.0 DISASTER MANAGEMENT AND RISK ASSESSMENT:

The applied area can be approached by travelling from Chittoor – G.D.Nellore – Balija Kandriga Road up to Kalepalle Cross thereby taking right diversion via Kalepalli upto Pichireddipalli and thereby cart track leads to the applied area. The applied area is 1.3 km NW of Pachigunta Village and 2 kms ESE of Kalepalli (Vg).

The nearest road is Chittoor - Pallipattu is located at a distance of 7.8 Km south of applied area. The nearest railway station is Chittoor Railway station at a distance of 25.0 kms. Tirupati (Renigunta) airport is at a Distance of 81.0 kms from the applied area and the nearest port is Chennai port at a distance of 129.0 kms form the applied area.

RISK ASSESSMENT:

Black Granite is extracted by other than fully mechanised open cast mining method risk of disasters is discussed below.

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

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

Scales of rating for calculating disaster Consequence, Exposure and Probability:

Consequence (C)	Ranking
Several dead	5
One death	1
Significant chance of fatality	0.3
One permanent disability / least chance of fatality / serious accident	0.1
Many minor injuries / lost time injuries	0.01
One minor injury	0.001
No time loss injury	0.001
Exposure (E)	Ranking
Continuous	10
Frequent (daily happening)	5
Seldom (weekly)	3
Unusual (may be once a month)	2.5
Occasionally (yearly)	2
Very rare (once in 5 years)	1.5
Once in 10 years	0.5
Once in 100 years	0.02
Never in the world in any industry	0.01
Probability of event (P)	Ranking
May well be expected	10
Quite possible	7
Unusual but possible	3
Only remotely possible	2
Conceivable but unlikely	1
Practically impossible	0.5
Virtually impossible	0.1

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

A MODEL DISASTER MANAGEMENT PLAN:

The applicant/lessee has formulated the disaster Management plan keeping all eventualities in mind.

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

1. **Objectives**:
   The main objectives to be ensured.
   I. Save lives and alleviate suffering
   II. Protect property
   III Ascertain the cause of the accident
   IV. Restore normalcy
   V. Install a sense of security and confidence in the minds of the affected people.

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

3. **Important responsibilities of officials present at site:**
   The persons involved in the chain of action are :
   a. Mine Foreman
   b. Mine Manager
   c. Mine Agent/ Owner

a. Mine Foreman :

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

b. Mine Manager:

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

(i) Collect volunteers
(ii) Allot duties to each as best as possible under the prevailing circumstances
(iii) Allot duties to security staff to control the situation
(iv) Organise relief with the assistance of volunteers
(v) Manger/Officer-in-charge present during an accident shall take note of the exact time of the accident, besides other important details connected with the accident
(vi) The following lists shall be made available at mines (along with current telephone numbers wherever provided):
   A) List of fire-fighting arrangements.
   B) List of ambulance services with location.
   C) List of volunteer organizations.
   D) Rotary Club, etc.,
   E) List of Civil, Police and other authorities to be informed in case of an accident.
   F) List of fire fighting arrangements.
   G) List of mobile crane operators (Government, Public Sector, and Private Sector).

H) List of mines, contacts, facility available nearby.
I) List of first aiders and contacts.
J) List of Transport bus depots.
K) District Magistrates, District Superintendents of Police.
L) Heads of Private and Public Sector organizations located in the division from whom assistance can be sought.
M) Road Maps of the Division.
N) List of Officers of DGMS to be informed in case of serious accidents Concerned DGMS officers concerned is displayed at the mine head.
O) Official in charge of accident site:
Mine manager is the official-in-charge of accident site and who is present at the site of the accident shall be the overall In charge of relief operations and all the staff shall comply with his Instructions.

(vii) Particulars to be conveyed by official at the site of accident while conveying first information:
The information should be precise and clear
The Time and date of accident
Brief description of accident/nature of accident
Whether any injury, number of persons injured/killed
Prima facie cause, if known

(viii) Speedy transport of injured persons to hospital:
After receiving first aid, all seriously injured persons will be transported, as speedily as possible to the hospital station as decided by the Medical Officer in charge appointed.

(ix) Arrangements for reception of patients at hospitals
A) Timely advice will be given to the civil hospital of the number of injured persons proposed to be shifted there and the time that they are expected to arrive at the hospital station.
B) Ambulances or suitable road vehicles shall also be requisitioned from the hospital station. If adequate transport cannot be arranged for by such means, transport will be hired from **G.D. Nellore (a Mandal Head-quarter) and Chittoor (a District Head-quarter).**
Examination of evidence and prevention of clues.

(x) Mine Manager, who may happen to be present at the time an accident occurs or who first arrives at the scene of accident shall carefully examine and make a note of all the evidence which may prove useful in ascertaining the cause of the accident and record the results of the examination.

In the event of more than one Officer or senior subordinate being present at the site of the accident or arriving first at the site of the accident, the report shall be signed by all the Officers

c. Mine Agent/owner

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

Depending on the gravity of the situation **M/s Sweety Granites, Prop: Sri D.James** will establish direct contacts with civil and police authorities.

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

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

(i) **Preservation of clues:**

All clues shall be preserved with a view to enabling the reconstruction of the scene at a later date. This is essential even though the District Magistrate or the police might have inspected the scene of the accident and ascertains the cause of the accident and even though photographs might have been taken do not interfere with any clue which may be of assistance in arriving at the cause of the accident and any item of debris which may help to trace the cause of the accident unless such interference is emergent and unavoidable and is permitted. If it is considered absolutely necessary to remove any items of debris, which may help to trace the cause of the accident, they shall be carefully preserved. Record being kept of the positions from which they were taken. Video graph and photographs of the wreckage shall be taken, as their value for purposes of evidence is very great. It may happen that parts of the wreckage will afford the only clue to the cause of an accident.

(ii) **Recording of statements of staff concerned:**
Record the statements of the staff concerned and take whatever steps as may be necessary to record or preserve evidence, which subsequently might not be available

(iii) **No tampering of clues and evidence:**
None shall interfere with any clue which may be of assistance in arriving at the cause of the accident and any item of debris which may help to trace the cause of the accident shall not be disturbed or cleared unless such interference is emergent and unavoidable and is permitted by a responsible Officer present at the spot. If it is considered absolutely necessary to remove any items of debris, which may help to trace the cause of the accident, they shall be carefully preserved by the Officer permitting the removal, record being kept of the positions from which they were taken. Photographs and video graph of the wreckage shall be taken, as their value for purposes of evidence is very great. It may happen that parts of the wreckage will afford the only clue to the cause of an accident, the position and the state of the road etc.

(iv) **Arranging videographers and photographers:**
Senior officer shall make the arrangements for photographs and video graphs.

(v) **A short note on crisis management:**
Crisis leadership involves five critical tasks described below:

A) Sense making, considered as the classical situation assessment step.
B) Decision making.
C) Meaning making–refers to crisis management as political communication.

D) Terminating a crisis is only possible if the public leader correctly handles the accountability question.

E) Learning, refers to the actual learning from a crisis is limited.

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

(vii) Examples of organizational crises

A) Extortion
B) Bribery
C) Hostile Takeover
D) Terrorist Attack
E) Vehicular fatality
F) Information
G) Product tampering
H) Workplace bombing
I) Natural disaster that disrupts organizational office
J) Computer tampering
K) Natural disaster that disrupts product/service
L) Confidential data loss
M) Kidnapping
N) Product/service
O) Boycott
P) Work-related homicide
Q) Malicious rumour
R) Hazardous material leak
S) Plant explosion
T) Personnel assault
U) Assault of customers
V) Product recall
W) Counterfeiting
X) Natural disaster that destroys corporate headquarters
Y) Natural disaster that eliminates key stakeholder

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

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

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

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

mines particularly while doing blasting operations.

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

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

(xii) **Short note fault tree analysis:**

A) Fault tree analysis is a logical, structured process that can help identify potential causes of system failure before the failures actually occur. Fault trees are powerful design tools that can help ensure that product performance objectives are met.

B) Fault Tree analysis is one of the most widely-used methods in system reliability analysis. It is a deductive procedure for determining the various combinations of failures, and human errors that could result in the occurrence of specified undesired events.

C) A fault tree analysis (FTA) is a deductive, top-down method of analysing system design and performance. It involves specifying a top event to analyse (such as a fire), followed by identifying all of the associated elements in the system that could cause that top event to occur.

D) Fault trees provide a convenient symbolic representation of the combination of events resulting in the occurrence of the top event.

E) FTA can be used as a valuable design tool, can identify potential accidents, and can eliminate costly design changes. It can also be used as a diagnostic tool, predicting the most likely system failure in a system breakdown.

F) FTA is a method of analysing the causes of hazards. FTAs use Boolean logic (gates) to describe combinations of individual faults that can create a hazardous event. Each level of the tree lists the lower level events that are necessary to cause the event shown in the level above it.

G) Often the most difficult part of creating a fault tree is the determination of the top level event. The selection of the top event is crucial since hazards in the system will not be comprehensive unless the fault trees are drawn for all significant top level events.

H) Once the top event has been defined, the next step is to determine the events related to the top event and the logical relations between them, using logic symbols to define the relations. The most frequently used symbols for fault trees are AND & OR gates.

I) The output of an 'AND gate' only exists if all the input events exist.

J) The output of an 'OR gate' exists provided at least one on the input events exist.

K) The relationships between the events shown in a fault tree are standard.

L) Logical relations and can therefore be expressed using any form of Boolean algebra of truth table. The tree format, however, seems to have the advantage in readability.

M) Fault trees can help identify scenarios leading to hazards and can suggest possibilities for hazard elimination or control.

N) Fault tree analysis is also the tool for discovering product failure, engineering failure and the common human error causes.

(xiii) Major elements in fault tree analysis?

A) Quantification

B) Risk ranking

C) Selecting the "Important Few" and ignoring the "Unimportant Many"

D) Follow the "Path of the Greatest Resistance"

E) The importance of identifying the common cause events.

(xiv) Fault Tree Analysis in 7 Steps

A) Select a top level event for analysis. Try to be specific, for example, "Email server down for more than 4 hours." Sources of top level events include.

B) Problem/Known Error Records; service outage analysis; potential failures from brainstorming; and "what-if' scenarios based on service level agreements, etc.

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

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

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

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

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

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

G) Consider countermeasures. A root cause is one you can do something about; so now you need to think of the countermeasures you might apply

to each root cause. List counter measures for each root cause in a box under the root cause. For example, for "filter clogged" a countermeasure might be "clean filter monthly." Link the countermeasure to the root cause by drawing a line.

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

8.0 CARE AND MAINTENANCE DURING TEMPORARY DISCONTINUANCE:

(An emergency plan for the situation of temporary discontinuance due to court order or due to statutory requirements or any other unforeseen circumstances may indicate measures of care, maintenance and monitoring of status of discontinued mining operations expected to re-open in near future.)

During temporary discontinuation period, security personnel will be provided. Some labour will also be engaged to maintain the check dams and other risk zones.

Afforestation:

The applicant proposed to take up plantation in the safety zone 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.

In afforestation program its around 1000 samplings for 5 years will be planted, grown and Jatropa, Pongamia, Neem and local plants type of plants will be plant **along the 7.5 mts buffer zone.**

Year	Name of the samplings	No. of the samplings
1st year	Neem	1000
2nd year	Pengamia	
3rd year	Neem	
4th year	Subabul	
5th year	Local plants	

Budget estimation of plantation for the next five years:

Item	Details	Year	Area proposed in Ha	Quantity proposed (no. of Samplings)	Total expenditure in Rupees	Remarks
Rehabilitation of 7.5Mts buffer area in the lease boundary	(i) Afforestation (Green belt building)	1st Year 2nd Year 3rd Year 4th Year 5th Year	0.920	1000 plants totally will be planted in the first year and further four years will be taken for regular watering and care.	56000	Average Cost of Sampling:Rs.50 50x1000 = 50000 first year Maintenance for first 6 months 6x1000 = 6,000.00
			0.920	1000	56000	

In case of temporary discontinuance, the mining pit shall be secured with a fence. Watch and ward staff shall be arranged to see that no untoward accidents occur due to straying of cattle or persons.

9.0 FINANCIAL ASSURANCE:

Financial assurance will be submitted in any encashable from preferable a bank guarantee from a scheduled bank at the rates equallent 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. INFORMATION INDICATING BREAKUP OF AREAS IN THE MINING LEASE FOR CALCULATION OF FINANCIAL ASSURANCE:

No.	Head	Forest area required for the entire lease period (in Ha.)	Forest area required for 1st five year plan period (in Ha.)		Total area remains unutilized after 1st five years (in Ha.)
(1)	(2)	(3)	(4)		(5= (3-4))
1	Area under Mining (which includes small portion of area i.e. for site services like first aid etc and internal roads which will be in temporary in nature and shitted / made as per the convenient)	**2.730 ha**	1st Year	0.437 ha	**1.446 ha**
			2nd Year	0.274 ha	
			3rd Year	0.481 ha	
			4th Year	0.072 ha	
			5th Year	0 ha	
			Sub - Total	**1.264 ha**	
			Infrastructure	0.020 ha	
			Total	**1.284 ha**	
2	Waste Dumping (which includes mineral storage)	**1.000 ha**	1st Year	0.220 ha	**0.320 ha**
			2nd Year	0.220 ha	
			3rd Year	0 ha	
			4th Year	0 ha	
			5th Year	0 ha	
			Sub - Total	**0.440 ha**	
			Mineral storage	0.240 ha	
			Sub - Total	**0.680 ha**	
3	Approach Road	**0.330 ha**	**0.330**	ha	**0 ha**
4	Railways	0 ha	0	ha	0 ha
5	Tailing Pond	0 ha	0	ha	0 ha
6	7.5 mtr safety zone along Mining area (Green belt)	**0.920 ha**	**0.920**	**ha**	**0 ha**
		4.980 ha	**3.214**	**ha**	**1.766 ha**

Area considered for calculation of Financial Assurance : 3.214 Ha.

The proposed mining operations for the cost of reclamation and rehabilitation is calculated as per the provisions 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 minimum @ INR 50,000/- for 5.00 Ha and additional INR 10,000.00 per Hectare or part thereof.

This amount works out to be INR 50,000/- for **3.214 hectare** of area. Hence the financial assurance in the form of Bank Guarantee for the amount INR 50,000/- for the above extent will be submitted to the Assistant Director, Department of Mines and Geology, Chittoor.

Signature of the applicant

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

The Mining Plan / Scheme is Approved subject to the conditions & stipulations indicated in the Mining Plan / Scheme Approved letter No: 3096/mm2/BG1/CTR/2022
Date: 12/10/2022

APPROVED
Deputy Director of Mines & Geology
Chittoor

ANNEXURES

ANNEXURE - I

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

प्रमाण-पत्र

CERTIFICATE OF RECOGNITION AS QUALIFIED PERSON TOPREPARE MINING PLAN

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

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

श्री पूनामल्ली विश्वम पुत्र श्री पी. सुब्बा झेट्टी, निवासी - 13/2, 2nd मैन रोड, नांजामाबासागरहरा, 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 Jhetty resident of :-13/2, 2nd Main road, Nanjamabaagarhara, Chamrajpet, District- Bangalore, Bangalore- 560018, State- Karnataka whose Photograph and Signature is appended herewith having given satisfactory evidence of his qualifications & experience is hereby granted RECOGNITION under Rule 22C of the Mineral Concession Rules,1960 as a Qualified Person to prepare Mining Plan / Scheme of Mining / Progressive Mine Closure Plan / Final Mine closure plan.

उनका पंजीकरण क्रमांक/ His Registration Number is

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

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

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

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

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

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

स्थान/Place: **बैंगलोर/Bangalore**

दिनांक/Date: **30.03.2015**

30/03/15

क्षेत्रीय खान नियंत्रक/

Regional Controller Of Mines

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

ANNEXURE - II

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

Circular Memo No.3[illegible]32/P/2020 Dated:16.07.2021.

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

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

*****

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

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

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

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

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

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

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

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

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

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

Encl: References as stated above

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

//Attested//

G. Sunil Babu.
Assistant Director of Mines &Geology

GOVERNMENT OF ANDHRA PRADESH
DEPARTMENT OF MINES AND GEOLOGY

From
Sri K.L.V Prasad, M.Sc
Deputy Director of Mines & Geology
CHITTOOR.

To
M/s.Sweety Granites,
Prop:Sri D.James,
D.No.28/1195,
Balaji Colony, Chittoor.

Lr.No.2456/MP/BG/CTR/2021, dt: 29-09-2021

Sir,

Sub: Mines & Minerals - Application of Mining Plan filed by M/s.Sweety Granites, Prop:Sri D.James for Black Granite over an extent of 5.000 Hectares in Compartment No.460 of Pachigunta RF, G.D.Nellore Mandal, Chittoor East Division in Chittoor District - Approved - Regarding.

Ref:
1. Memo No.3855/D13-1/2019, dated:09.08.2021 of the Director of Mines and Geology, Ibrahimpatnam.
2. Draft Mining Plan submitted on 24.08.2021 filed by M/s.Sweety Granites, Prop:Sri D.James.
3. Inspection report submitted by this office Technical Staff.
4. This Office Letter No.2456/MP/BG/CTR/2021, dt:23.09.2021.
5. Letter dated:28.09.2021 along with 5 sets of fair Mining Plan from the applicant/RQP.

***

In exercise of the powers conferred by the Government of Andhra Pradesh, through the reference 1st cited. I hereby approve the Mining Plan for the period of five (05) years in respect of application for Black Granite over an extent of 5.000 Hectares in Compartment No.460 of Pachigunta RF, G.D.Nellore Mandal, Chittoor East Division in Chittoor District filed by M/s.Sweety Granites, Prop:Sri D.James under Rule 12 of Granite Conservation Development Rules, 1999. This approval is subject to the following conditions.

1. *This Mining Plan is approved without prejudice to any other laws applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.*

2. *It is clarified that this 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) Amendment Act, 2015 and any other laws including the Forest Conservation Act, 1980 and APMMC Rules, 1966.*

3. *It is further clarified that the approval of the mining plan is subject to the provisions of the Forest Conservation Act, 1980 and Forest conservation rules, 2003 and other relevant statues, orders and guidelines as may be applicable to the lease area from time to time.*

4. *This office has not undertaken verification of the quarry lease boundary on the ground and does not undertake any responsibility regarding correctness of the boundaries of the lease hold should on the ground with reference to the lease map and other plans furnished by the applicant.*

Cont..2

5. *The Q.L. area is as shown on the statutory plans by the applicant is certified by the competent authority with GPS readings of the boundary points of the lease and this office has not undertaken the ground truth verification of the quarry lease boundary and pillars on the ground.*

6. *The approval authority does not owe responsibility with regard to recovery factor of* **Black Granite** *and assessment of reserves, any erroneous certification made by the R.Q.P. if any, since the evaluation is done on random basis.*

7. *The Mining Plan is approved subject to strictly adhering to the relevant Regulations of MMR, 1961 and obtaining prior permission from the Director General Mines Safety whenever and wherever it is required.*

8. *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.*

9. *The approval authority does not owe responsibility with regard to erroneous certification made by the R.Q.P if any and approval is tentative subject to modification of new findings at a later date as per the provisions of Rules inforce, since the evaluation is done on random basis.*

10. *The proposals contained in the approved Mining Plan shall be applicable from the date of execution of the lease and for the mining activities to be carried out within the lease hold area as per the approved mining plan only.*

If anything is found to be concealed as required by the Mines Act in the contents of the approved Mining Plan and the proposal for rectification has not been made or if at later stage the information furnished in the document to be incorrect or misrepresentation of facts, the approval shall be revoked with immediate effect.

NB: This approval become null and void if it found grossly inequitable, made under a mistake of fact, owing to the mis-representation, fraud or in excess of authority. The applicant is not liable to claim any lease held rights till the execution of the lease deed.

Yours faithfully,

Encl: (2 copies of A.M.P.)

Deputy Director of Mines & Geology,
CHITTOOR.

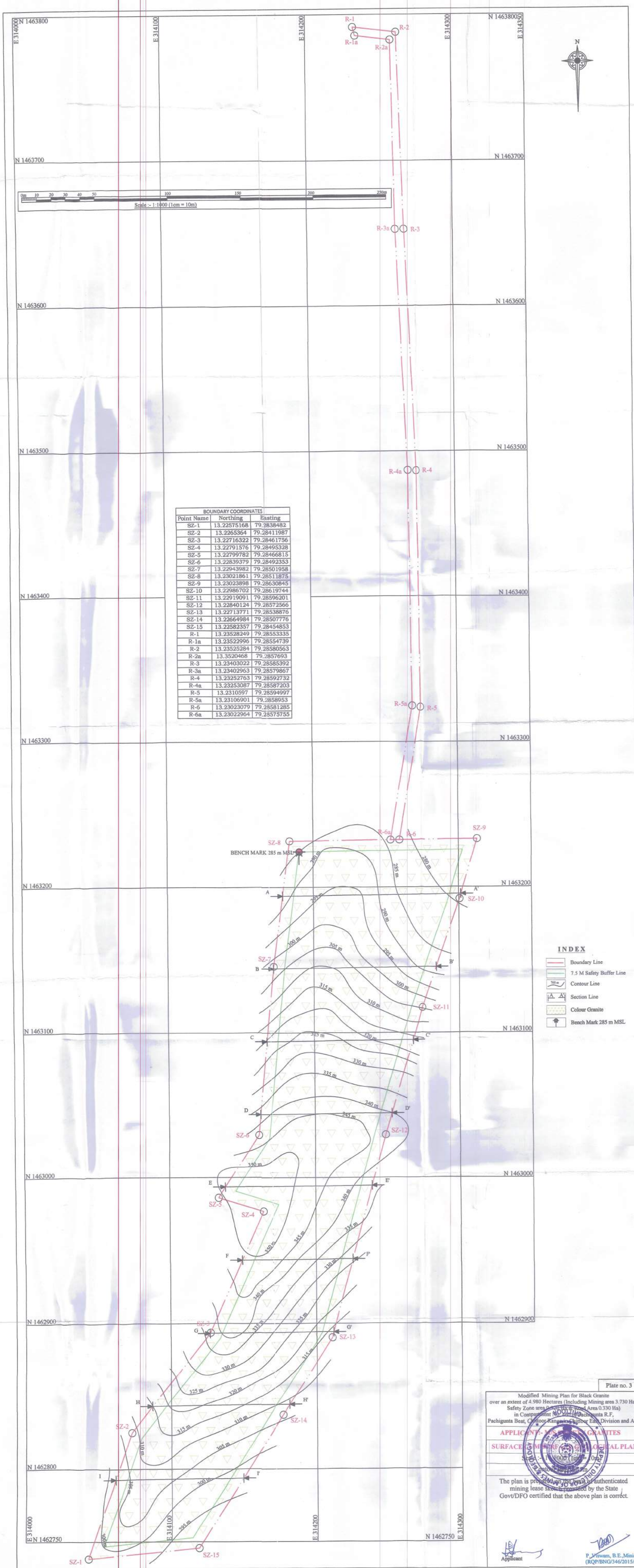
Copy submitted to :

1) The Director of Mines & Geology, Ibrahimpatnam for favour of kind information.
2) The Regional Controller of Mines, IBM, Sultan Bazar, Hyderabad for information.
3) The Director of Mines Safety, Hyderabad for favour of kind information.

Copy to the Asst. Director of Mines & Geology, Chittoor along with A.M.P and if any variations noticed in the A.M.P the same shall be brought to the notice of the Undersigned immediately for taking further necessary action.

DEPUTY DIRECTOR OF MINES & GEOLOGY
CHITTOOR

PLATES



BOUNDARY COORDINATES		
Point Name	Northing	Easting
SZ-1	13.22575168	79.2838482
SZ-2	13.2265364	79.28411987
SZ-3	13.22716322	79.28461756
SZ-4	13.22791576	79.28495328
SZ-5	13.22799782	79.28466815
SZ-6	13.22839379	79.28492353
SZ-7	13.22943982	79.28501958
SZ-8	13.23021861	79.28511875
SZ-9	13.23023898	79.28630845
SZ-10	13.22986702	79.28619744
SZ-11	13.22919091	79.28596201
SZ-12	13.22840124	79.28572566
SZ-13	13.22713771	79.28538876
SZ-14	13.22664984	79.28507776
SZ-15	13.22582357	79.28454853
R-1	13.23528249	79.28553335
R-1a	13.23522996	79.28554739
R-2	13.23525284	79.28580563
R-2a	13.3520468	79.2857693
R-3	13.23403022	79.28585392
R-3a	13.23402963	79.28579867
R-4	13.23252763	79.28592732
R-4a	13.23253087	79.28587203
R-5	13.2310597	79.28594997
R-5a	13.23106901	79.2858953
R-6	13.23023079	79.28581285
R-6a	13.23022964	79.28575755

INDEX

- Boundary Line
- 7.5 M Safety Buffer Line
- 360 m Contour Line
- A A' Section Line
- Colour Granite
- Bench Mark 285 m MSL

Plate no. 3

Modified Mining Plan for Black Granite
over an extent of 4.980 Hectares (Including Mining area 3.730 Ha , Safety Zone area 0.920 Ha & Road Area 0.330 Ha)
in Compartment No. 1631/1 Pachigunta R.F,
Pachigunta Beat, Chittoor Range in Chittoor East Division and A.P.

APPLICANT:- M/S. [illegible] GRANITES

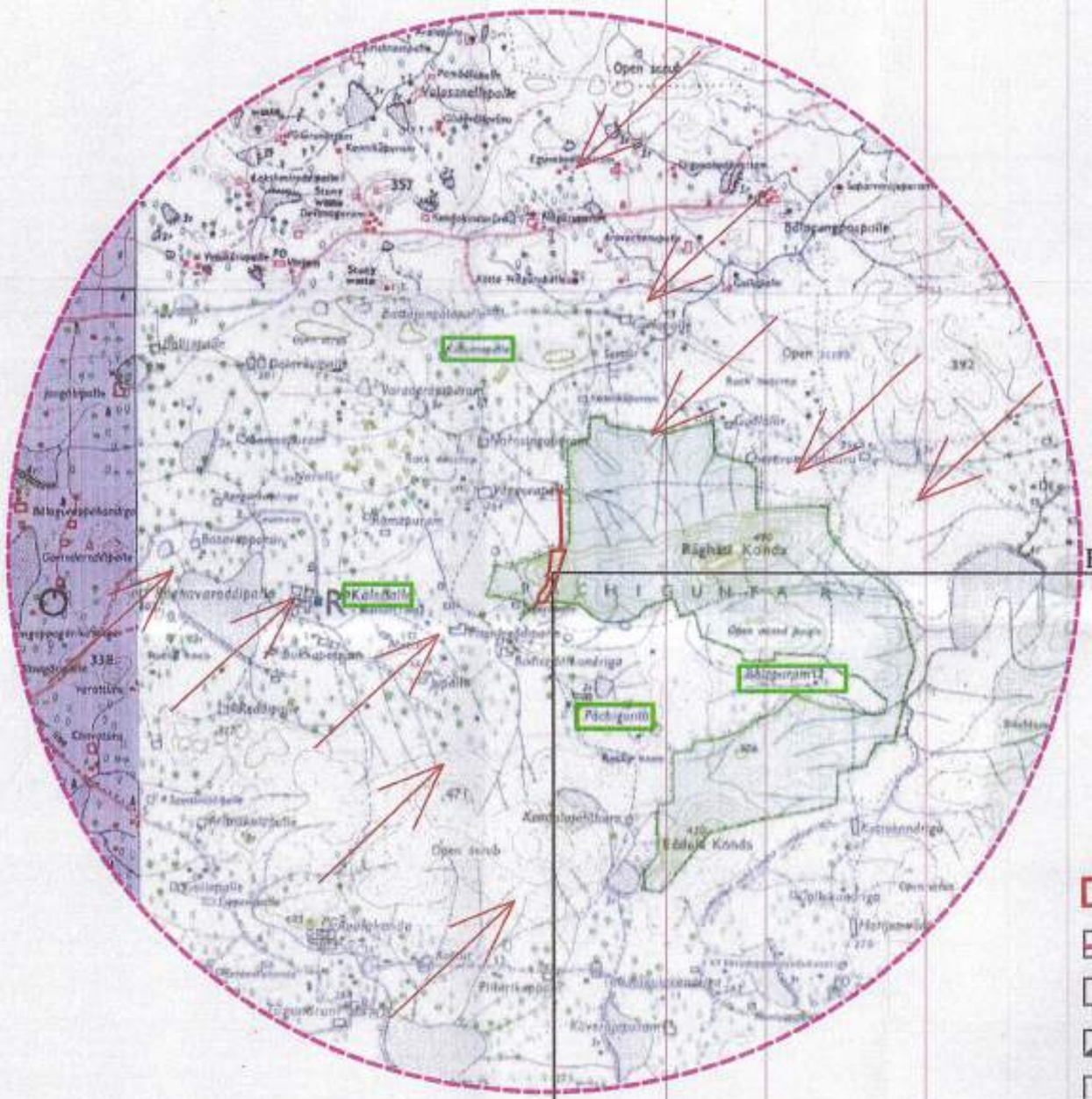
SURFACE [illegible] GEOLOGICAL PLAN

Scale 1:1000 (1cm = 10m)

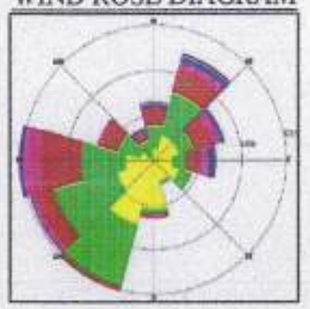
The plan is prepared on the basis of authenticated mining lease sketch provided by the State Govt/DFO certified that the above plan is correct.

Applicant

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



WIND ROSE DIAGRAM



Datum Based on WGS - 84

Geo Co-ordinates Latitude : 13.22986702
Longitude :79.28619744

Toposheet No: 57 O/8

SL no	Village	Direction	Distance in Km	Population
1	Pachigunta	NW	1.3	700
2	Kalepalli	West	2.0	1000
3	Vinjem	NW	3.6	800
4	Pulluru	East	4.7	300

0m 500 1000 1500 2000 2500 5000 7500 10000 12500m

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

Plate no. 1

Modified Mining Plan for Black Granite over an extent of 4.730 Hectares (in which Mining Lease Area 3.730 Ha , Safety Zone area 0.500 Ha & Road Area 0.500 Ha) in Compartment No. 46(P) of Pachigunta R.F, Pachigunta Beat, Chittoor Range of Chittoor East Division and A.P.

APPLICANT : M/S SWEETY GRANITES

Key cum Location Plan

Toposheet No: 57 O/8

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

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

Applicant

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

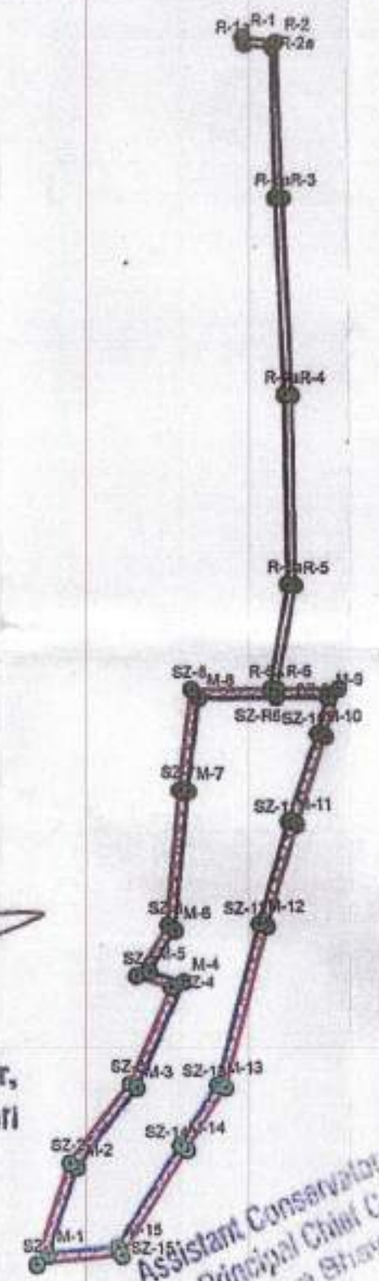
DEPUTY DIRECTOR OF MINES & GEOLOGY CHITTOOR

Map Showing the Diversion of Forest Land in Comp.No-460 of Pachigunta RF,Pachigunta Beat, Chittoor Range,Chittoor East Division.In favour of M/s.Sweety Granites.

N
W E
S
1:5000

PLATE No. 2

S no	Name	Eastings	Northing	Elevation	Latitude	Longitude
1	M-1	314053.399	1462746.808	299.725	13.22582950	79.28394596
2	SZ-1	314042.744	1462738.270	295.286	13.22575168	79.28384820
3	M-2	314079.234	1462821.152	308.385	13.22650306	79.28417961
4	SZ-2	314072.784	1462824.584	306.034	13.22653640	79.28411987
5	SZ-3	314127.203	1462893.862	335.111	13.22716322	79.28461756
6	M-3	314132.889	1462889.205	336.818	13.22712148	79.28467032
7	M-4	314174.856	1462981.913	353.486	13.22796202	79.28505164
8	SZ-4	314164.160	1462976.868	352.443	13.22791576	79.28495328
9	SZ-5	314135.322	1462986.156	348.812	13.22799782	79.28466818
10	M-5	314144.814	1462990.478	351.472	13.22803757	79.28477394
11	SZ-6	314161.298	1463029.776	337.518	13.22839379	79.28492353
12	M-6	314167.372	1463025.667	340.522	13.22835703	79.28497983
13	M-7	314179.725	1463144.579	298.929	13.22943258	79.28508631
14	SZ-7	314172.501	1463145.430	295.952	13.22943982	79.28501958
15	M-8	314190.193	1463224.156	284.653	13.23015248	79.28517782
16	SZ-8	314183.840	1463231.516	280.639	13.23021861	79.28511875
17	SZ-R5	314256.099	1463224.910	282.658	13.23016350	79.28580428
18	M-9	314302.862	1463225.297	276.279	13.23016977	79.28621724
19	SZ-9	314312.801	1463232.887	275.604	13.23023898	79.28630845
20	M-10	314293.511	1463194.172	278.315	13.22988787	79.28613294
21	SZ-10	314300.487	1463191.818	278.716	13.22986702	79.28619744
22	M-11	314267.583	1463119.661	297.545	13.22921279	79.28589843
23	SZ-11	314274.457	1463117.192	296.808	13.22919091	79.28596201
24	SZ-12	314248.243	1463030.005	342.122	13.22840124	79.28572566
25	M-12	314241.223	1463031.909	342.026	13.22841802	79.28566078
26	M-13	314204.023	1462893.558	316.846	13.22716523	79.28532632
27	SZ-13	314210.771	1462890.467	313.023	13.22713771	79.28538876
28	SZ-14	314176.693	1462836.724	306.201	13.22664984	79.28507776
29	M-14	314170.543	1462840.783	307.935	13.22668615	79.28502077
30	M-15	314114.460	1462752.784	291.143	13.22588730	79.28450892
31	SZ-15	314118.705	1462745.704	290.643	13.22582357	79.28454853
32	R-1	314232.615	1463791.440	262.610	13.23528249	79.28553335
33	R-1a	314234.097	1463785.618	261.122	13.23522996	79.28554739
34	R-2	314262.102	1463787.957	263.290	13.23525284	79.28580563
35	R-2a	314258.128	1463782.656	263.593	13.23520468	79.28576930
36	R-3	314266.410	1463652.660	266.956	13.23403022	79.28585392
37	R-3a	314260.422	1463652.635	266.888	13.23402963	79.28579867
38	R-4	314273.227	1463486.369	269.814	13.23252763	79.28592732
39	R-4a	314267.237	1463486.769	269.439	13.23253087	79.28587203
40	R-5	314274.568	1463323.952	273.436	13.23105970	79.28594997
41	R-5a	314268.651	1463325.021	273.185	13.23106901	79.28589530
42	R-6	314259.079	1463232.348	281.140	13.23023079	79.28581285
43	R-6A	314253.084	1463232.262	282.339	13.23022964	79.28575755



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

S no	Name	Area(Ha)
1	Mining Area	3.73
2	Safety Zone Area	0.92
3	Road Area	0.33
	Total Area	4.98

DEPUTY DIRECTOR OF MINES & GEOLOGY CHITTOOR

Legend

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

Divisional Forest Officer,
Chittoor East (WL) Division
Chittoor

Assistant Conservator of Forests (PMU-II)
O/o Principal Chief Conservator of Forests
Aranya Bhavan, Guntur, A.P

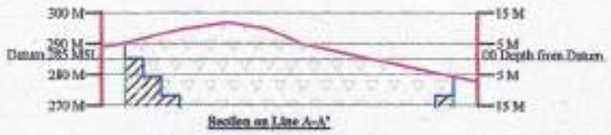
0 100 200 400 600 Meters

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

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

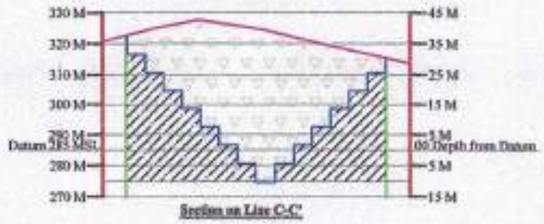
0m 20 40 60 80 100 200 300 400 500m

Scale :- 1:2000 (1cm = 20m)



Section on Line A-A'

Section on Line B-B'



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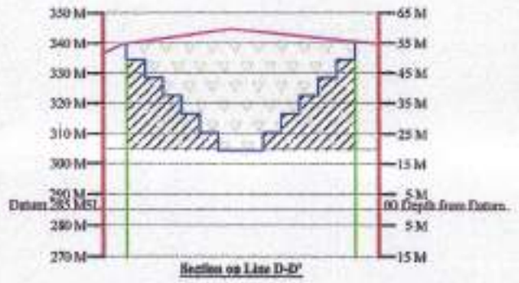
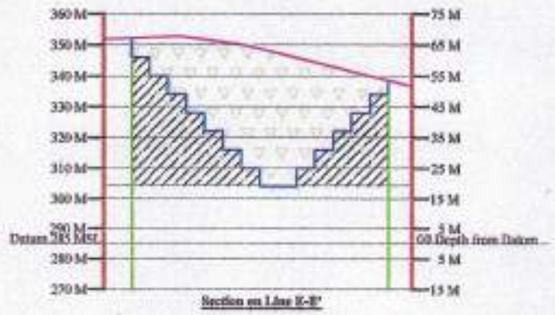


Section on Line D-D'



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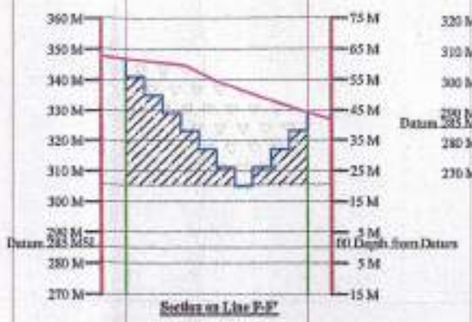

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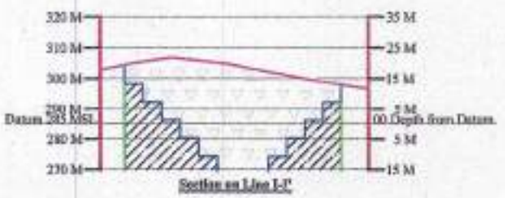


Section on Line I-I'

Section on Line G-G'

Section on Line H-H'

INDEX

- Boundary Line
- 7.5 M Buffer Line
- Profile Line
- Black Granite
- Ultimate Pit Limit
- Blocked Reserves Under UPL

Plate no. 3A

Modified Mining Plan for Black Granite
over an extent of 4.980 Hectares (including Mining area 3.730 Ha , Safety Zone area 0.920 Ha & Road Area 0.330 Ha)
in Compartment No. 460 of Pachigunta R.F,
Pachigunta Beat, Chittoor Range, Mr. Chittoor East Division and A.P.

APPLICANT: M/S SWETHA GRANITES

GEOLOGICAL CROSS SECTIONS

Scale :- 1:2000 (1cm = 20m)

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

DEPUTY DIRECTOR OF MINES & GEOLOGY CHITTOOR

Applicant

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

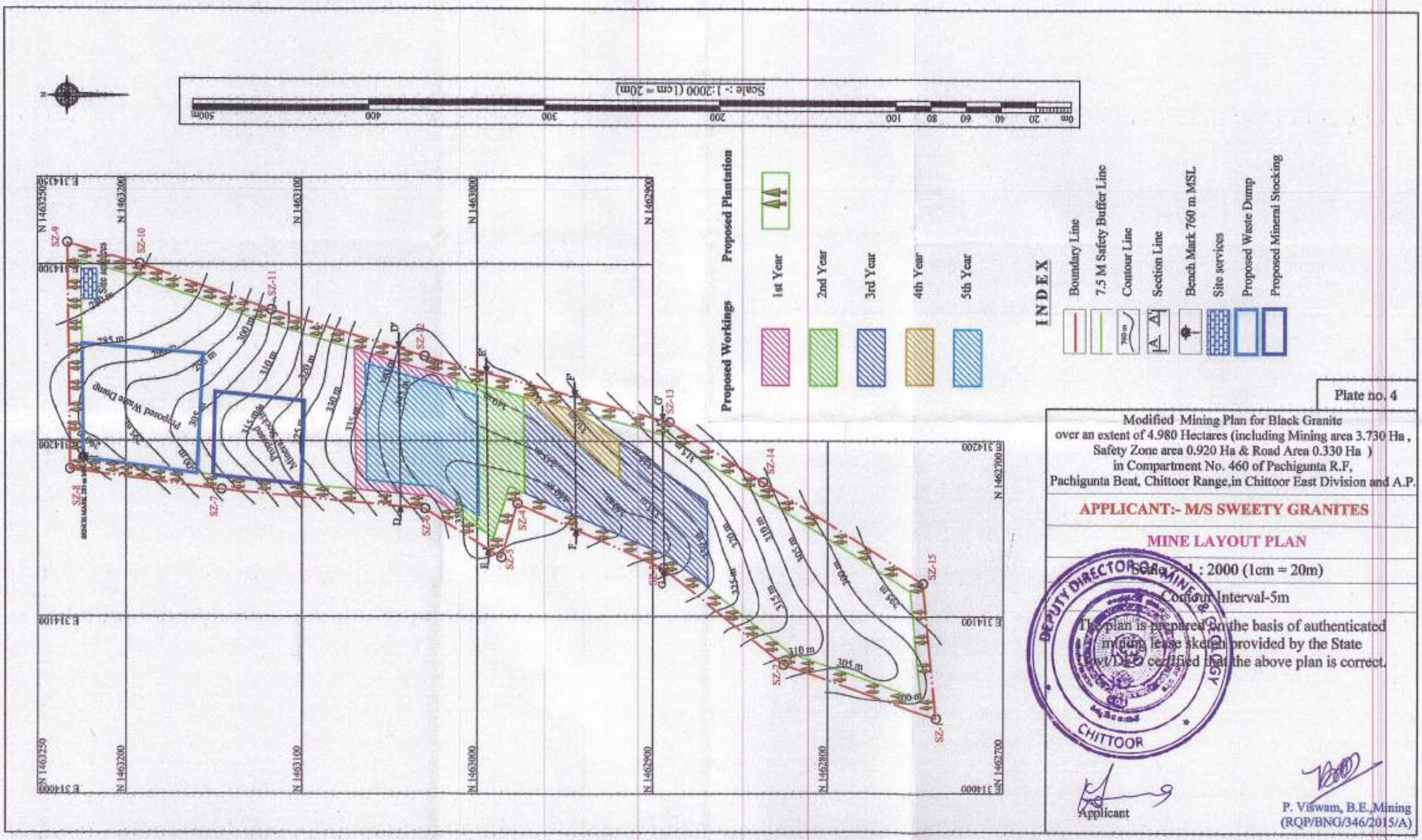


Plate no. 4

Modified Mining Plan for Black Granite
over an extent of 4.980 Hectares (including Mining area 3.730 Ha , Safety Zone area 0.920 Ha & Road Area 0.330 Ha)
in Compartment No. 460 of Pachigunta R.F,
Pachigunta Beat, Chittoor Range,in Chittoor East Division and A.P.

APPLICANT:- M/S SWEETY GRANITES

MINE LAYOUT PLAN

Scale :- 1 : 2000 (1cm = 20m)

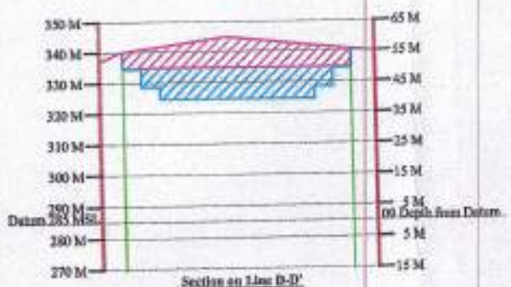
Contour Interval-5m

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

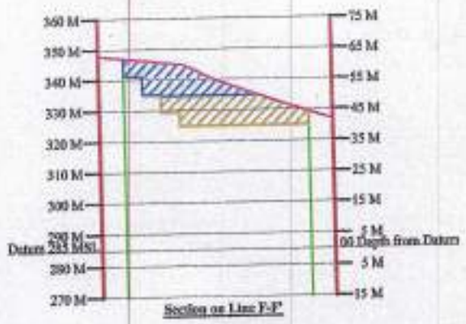
DEPUTY DIRECTOR OF MINES & GEOLOGY CHITTOOR

Applicant

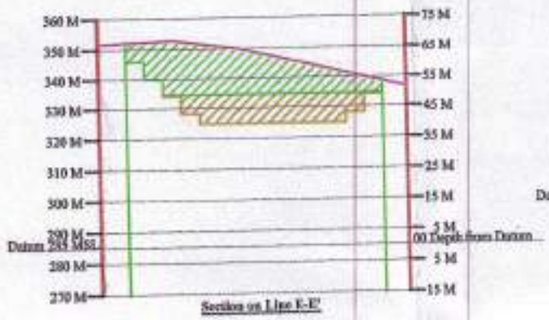
P. Viswam, B.E.,Mining
(RQP/BNG/346/2015/A)



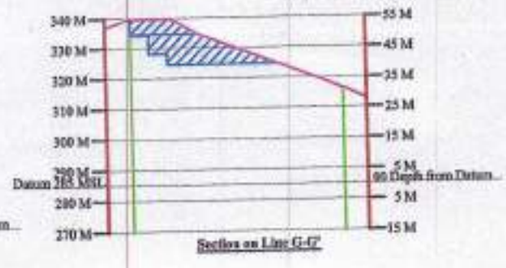
Section on Line D-D'



Section on Line F-F'



Section on Line E-E'



Section on Line G-G'

INDEX

- Boundary Line
- 7.5 M Buffer Line
- Profile Line

Proposed Workings

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

Plate no. 4A

Weighfied Mining Plan for Black Granite
over an extent of 4.980 Hectares, including Mining area 3.730 Ha ,
Safety Zone area 0.920 Ha & Road Area 0.330 Ha)
in Compartment No.460 of Pachigunta R.F,
Pachigunta Beat, Chittoor Range, Chittoor East Division and A.P.

APPLICANT:- M/S SWEETY GRANITES

MINE LAYOUT SECTIONS

Scale :- 1 : 2000 (1cm = 20m)

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

Applicant

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

Plate no. 5

Modified Mining Plan for Black Granite over an extent of 4.580 Hectares (including Mining area 3.730 Ha , Safety Zone area 0.850 Ha & Road area 0.330 Ha)

in Survey No. 500/1 Pachigunta R.F., Pachigunta Reft, Chittoor Range, Chittoor East Division and A.P.

APPLICATION FOR GRANITES

ENVIRONMENT PLAN

Scale :- 1:5000 (1cm = 50m)

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

Applicant

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

INDEX

- Boundary Line
- 7.5 M Safety Buffer Line
- Road
- 60 mts Buffer Line
- 500 mts Peripheral Line

Forest Land

Forest Land

Forest Land

Forest Land

Scale :- 1:5000 (1cm = 50m)

0m 50 100 150 200 250 500 750 1000 1250m

N

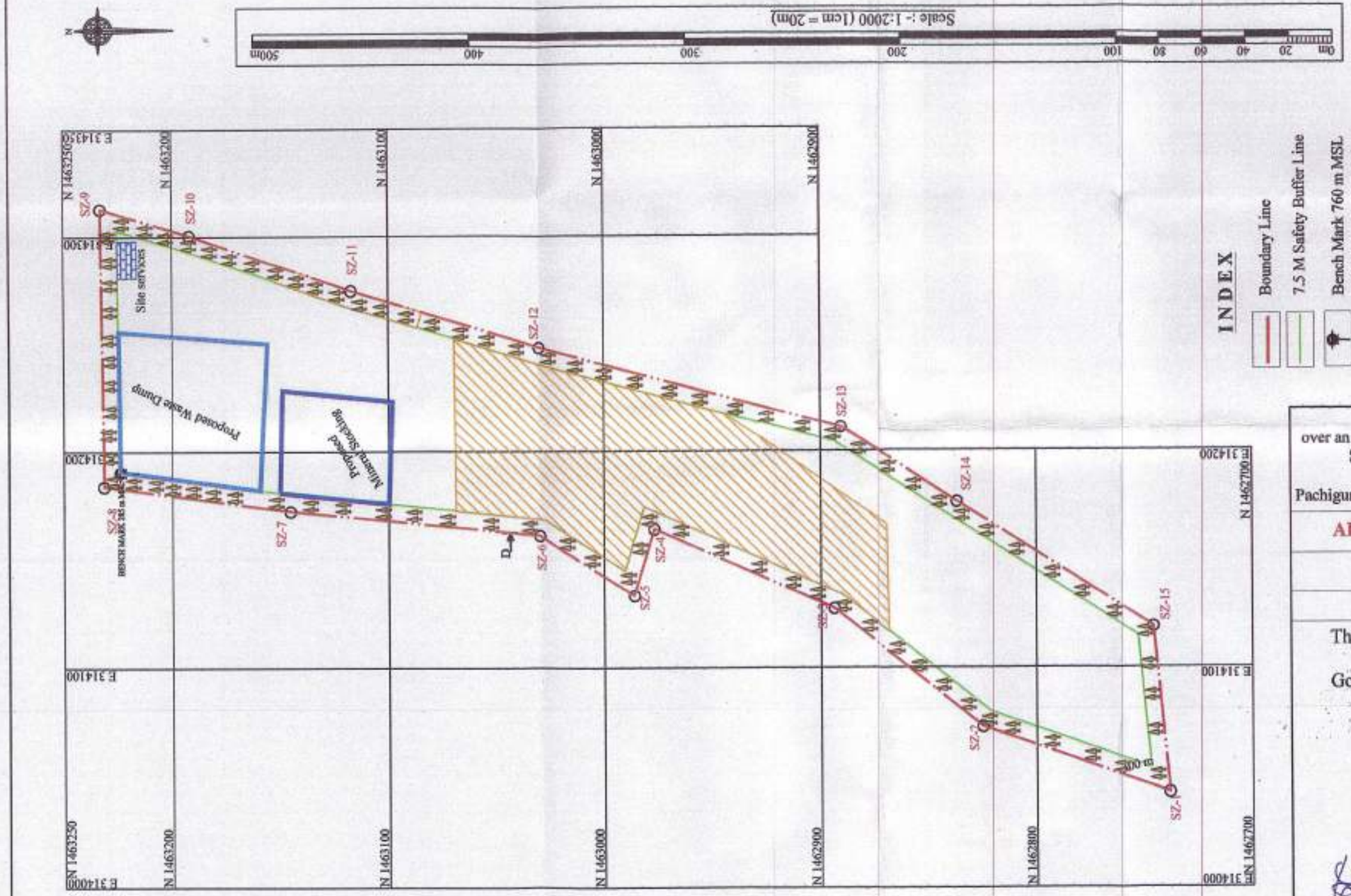


Plate no. 6

Modified Mining Plan for Black Granite
over an extent of 4.980 Hectares (including Mining area 3.730 Ha , Safety Zone area 0.920 Ha & Road Area 0.330 Ha)
in Compartment No. 460 of Pachigunta R.F,
Pachigunta Beat, Chittoor Range,in Chittoor East Division and A.P.

APPLICANT:- M/S.SWEETY GRANITES

FINANCIAL ASSURANCE PLAN

Scale :- 1:2000 (1cm = 20m)

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

DEPUTY DIRECTOR OF MINES & GEOLOGY CHITTOOR

Applicant

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