

MITIGATIVE MEASURES PLAN
For Protection of Forest, Located adjacent to the Proposed
Quarry Lease of Black Granite
Over an extent of 4.98 Ha, in Compartment No. 460 of Pachigunta R.F, Pachigunta Beat,
Chittoor East Range and Chittoor East (WL) Division, A.P.

Applicant

M/s Sweety Granites,
Proprietor: Sri D. James
D. No.28/1195,
Balaji Colony,
CHITTOOR,
A.P.

PREPARED BY

Y.THIMMAIAH,
Cell:9440053509
Consultant Mining Geologist
(RQP/ DMG/ AP/11/2020)
61205, Indu Fortune Fields Gardenia,
13th Phase, K.P.H.B. Colony
HYDERABAD - 500085.

Under Points 3 & 5 of CF

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Pachigunta Beat, Chittoor East Range and Chittoor East (WL) Division, A.P.
Applicant M/s Sweety Granites.

1.0 INTRODUCTION:

Sri D.James, proprietor of M/s Sweety Granites has applied for grant of quarry lease for Black Granite over an extent of 4.98 Ha i.e. 3.73 Ha for Mining, 0.92 Ha for Safety Zone and 0.33 Ha for approach road to the quarry workings in Compartment No. 460 of Pachigunta R.F, Pachigunta Beat of Chittoor East Range and Chittoor East (WL) Division, A.P. After due inspection of the proposed quarry site by the Officers of the Forest Department, the applicant is requested to submit the Mitigative Measures plan to protect the forest area, located adjacent to the proposed quarry lease. Hence this report is prepared under 3 & 5 of CF.

2.0 GENERAL:

- 2.1 Name & Address of the Applicant: M/s Sweety Granites,
Proprietor: Sri D. James
D. No.28/1195,
Balaji Colony,
CHITTOOR, A.P.
- 2.2 Status of the Applicant: Proprietary Firm
- 2.3 Minerals: Black Granite (Dolerite)
- 2.4 Name & Address of RQP: Y. Thimmaiah (RQP/DMG/ AP/11/2020),
(Registration as Qualified Person)
F. No. 61205, Indu Fortune Fields Gardenia,
13th Phase, K.P.H.B. Colony
HYDERABAD - 85, Cell: 9440053509
- 2.5 Details of the Area:
- | | |
|--------------------|--|
| 1) State | : Andhra Pradesh |
| 2) District | : Chittoor |
| 3) Division | : Chittoor East (WL) |
| 4) Range | : Chittoor East, |
| 5) Beat | : Pachigunta |
| 6) R. F. | : Pachigunta |
| 6) Compartment No. | : 460 |
| 7) Extent | : 4.98 Ha
(Mining 3.73+S Zone 0.92+Road 0.33) |
| 8) Ownership | : Forest Land |

The applied quarry lease (Q.L.) area is a fringe area of the forest, adjacent to the revenue land of Kalepalle Village, Gangadhara Nellore Mandal in Chittoor Dist, located on Indian Topo Sheet No. 57 O/8. The applied area is located between the Latitude of $13^{\circ} 13' 32.71''$ to $13^{\circ} 14' 07.02''$ and Longitude of $79^{\circ} 17' 01.85''$ to $79^{\circ} 17' 10.71''$ on Indian Topo Sheet No. 57 O/8. The applied area is also located at a distance of 3.0 km from the village of Kalepalle due East. The village Kalepalle is located at a distance of 12 km from Gangadhara Nellore, the mandal headquarters due East. Gangadhara Nellore is located at a distance of 8km from Chittoor town due east. The applied area can be approached by a B.T. road from Chittoor town up to the village Kalepalle and then a cart track of 3.0 km length is connecting to the applied from Kalepalle. About 587 m length and 5.6 m width of the Forest land (0.33 Ha) has been applied for approach road purpose from revenue land to the Quarry leased area. Kalepalle (3.0 km) is the main village located close to the Q.L. area for primary facilities like electricity, primary school, post office and Bus services. Chittoor (23 km) is the district headquarters for other facilities like Market, Higher Education, Hospitals and Railway Station. The nearest airport is located at Thirupati (108km) and the nearest seaport is located at Chennai (175km) from the applied area.

3.0 GEOLOGY :

- 3.1 Topography: The proposed quarry lease area, Safety zone and part of the approach road area belongs to hilly terrain. Quarry lease area is elevated in the center (352 m max) and sloping towards Northern & Southern sides of the area. The Northern side lowest level is 264m (MSL) and the Southern side lowest level is 292m RL. The quarry lease is gradually sloping towards North & South from centre of the area. There is a maximum relief of 88 mts within applied area. Due to Granite intrusion, the mining area is rising to a height of 88 mts from normal ground level. Even though, the applied quarry lease area and the proposed approach road belong to R.F, it does not have much vegetation except scattered trees and bushes on the slopes. There are no prominent natural drainage channels within the applied area. But the seasonal watercourses are running adjacent to the applied lease on Southern & Northern side. The surface rain water of the area will joins to the seasonal nalas and the nalas join to local tank, located at 0.5 km from the area on Southern & NW sides.
- 3.2 Regional Geology: The Chittoor District forms with part of Indian Peninsular gneiss, which has remained stable since formation of the crust. The Peninsular gneiss is exposed in the most of the district.
- 3.3 Local Geology: The area represents a peninsular gneissic complex comprising grey granites with a Dolerite dyke intrusions. The Dolerite is intruded through the gneiss as a dyke in N-S direction in the applied area along top of the hill. No shear zone or faults are noticed in this area. The Dolerite (Black Granite) dyke is well exposed, over a length of 520 m, to an average width of 25 m along the top of the hill portion to a height of 72m (max). Float material mixed with soil is covering on slopes of the applied area on either sides of the dyke formation. Dolerite (Black Granite) is fine to medium grain size. It is hard and compact and Steel grey to black in colour.

4.0 MINING:

4.1 Method of Mining: Granite Mining will be carried out by open cast method with the help of Machinery like, an excavator, tippers, Jackhammer Drilling and wire saw cutting Machines. The Excavator will be used to remove overburden consisting of small boulders and scree from surface of the quarry area and this waste will be loaded in to trucks and it will be shifted to proposed dump yard, marked on Eastern side of the applied quarry lease, over an extent of 1.1836 Ha. After removal the overburden from the surface, the sheet rock of black granite will be cut in to blocks with the help of wire saw cutting machine and these primary blocks will be cut into secondary blocks to perfect sizes with the help of jackhammer drilling and wedge cutting. These dimensional blocks will be loaded in to the trucks with the help of excavator and the same will be transported to the market or to the cutting and polishing units, located in A.P., Karnataka and Tamilnadu. It is proposed to excavate the granite in single pit, over an extent of 1.8306 Ha after leaving 7.5m width of safety zone (0.92 Ha) on four sides the lease area during the life of the quarry.

5.0 IMPACT ASSESSMENT OF MINING:

- 5.1 Soil Erosion & Float: The quarry lease area is covered by the Granite (both Black & Gray) rock. Thin pockets of soil filling are seen along the joints planes of the granite. As the mining area is sloping towards North & South, there are chances for roll down of the surface material from workings and waste dumps to outside the boundaries of Quarry Lease. Due to float material, there are chances for damage of plants & trees of adjacent forest, located around the quarry lease.
- 5.2 Dust Generation: There are chances for dust generation from quarry workings and haulage of Granite Blocks & Waste material with the help of heavy machinery. The dust generates from quarry workings will spread to adjacent forest due to windblown. This dust generates from quarry workings will hamper the growth of the plant & tree of adjacent forest.
- 5.3 Sound & Noise pollution: For Granite mining, heavy machinery like excavators, tippers/ dumpers, compressor and jackhammers will be used. There will be chances for pollution of noise, generates from mining equipment. Due to noise pollution, the fauna of the adjacent forest will be disturbed.

6.0 MITIGATIVE MEASURES TO BE TAKEN BY THE MANAGEMNT/ LEASSEE.

- 6.1 Arrest of Soil Erosion & Float Material from Quarry: It is already furnished that elevated lease area is covered by the granite rock and the thin pockets of soil and gravel is available along slopes of the applied quarry lease. Because the mining will be carried out on top of the hill, the soil erosion from the slopes of the lease area is negligible. However, the weathered rock mixed with soil will be excavated from the surface of the quarry area and same is stocked in proposed waste dump yards on Eastern side.

It is proposed to build up a retaining wall around the proposed workings and dumping areas on Northern, Southern and on part of Easter & Western sides for stabilization of dump and to arrest the float material. The retaining wall will be constructed over a length of 1120 m, to a width of 2m and to a height of 1m with the waste generates from the quarry. To stop the pollution of the surface water of the quarry area, it is proposed to cut a garland drain, on outside of the retaining wall, over a length of 1120 m, to a width of 1.0m and to a depth of 0.5 m and the excavated gravel or muck will be used for construction of retaining wall. The retaining wall and garland drain will cover an area of 0.4480 Ha. A silting tank will be dug at the end of the garland drainage on Northern & Southern sides. The silting tank will be cleaned at regular intervals. Due to retaining wall, trench cutting and silting tanks, the float material coming from quarry workings & Dumps will be arrested within the lease area and the adjacent forest will be protected from float material.

- 6.2 Suppression of Dust: The dust generates from quarry workings shall be suppressed by water spraying on mine roads at regular intervals before transportation of Granite blocks from quarry site. The dust generation shall also be suppressed by green belt development on either side of approach road, located in forest area. The plantation will be taken up on both sides of the approach road, to a width of 0.5m on either side of the road and it comes 0.0590 ha of green belt development on road sides. The safety zone, which has to be maintained around the quarry workings will be planted over an extent of 0.92Ha as per the guide lines of MOEF.
- 6.3 Control of Sound / Noise Pollution: If all the mining machineries are operated together at one place at the same time, the noise generation from mining equipments will be more than the permissible limits. So, the applicant is advised to operate the equipments at different timings at different places of the quarrying to control the noise pollution and to maintain the sound pollution within the permissible limits.

ENCLOSURES:

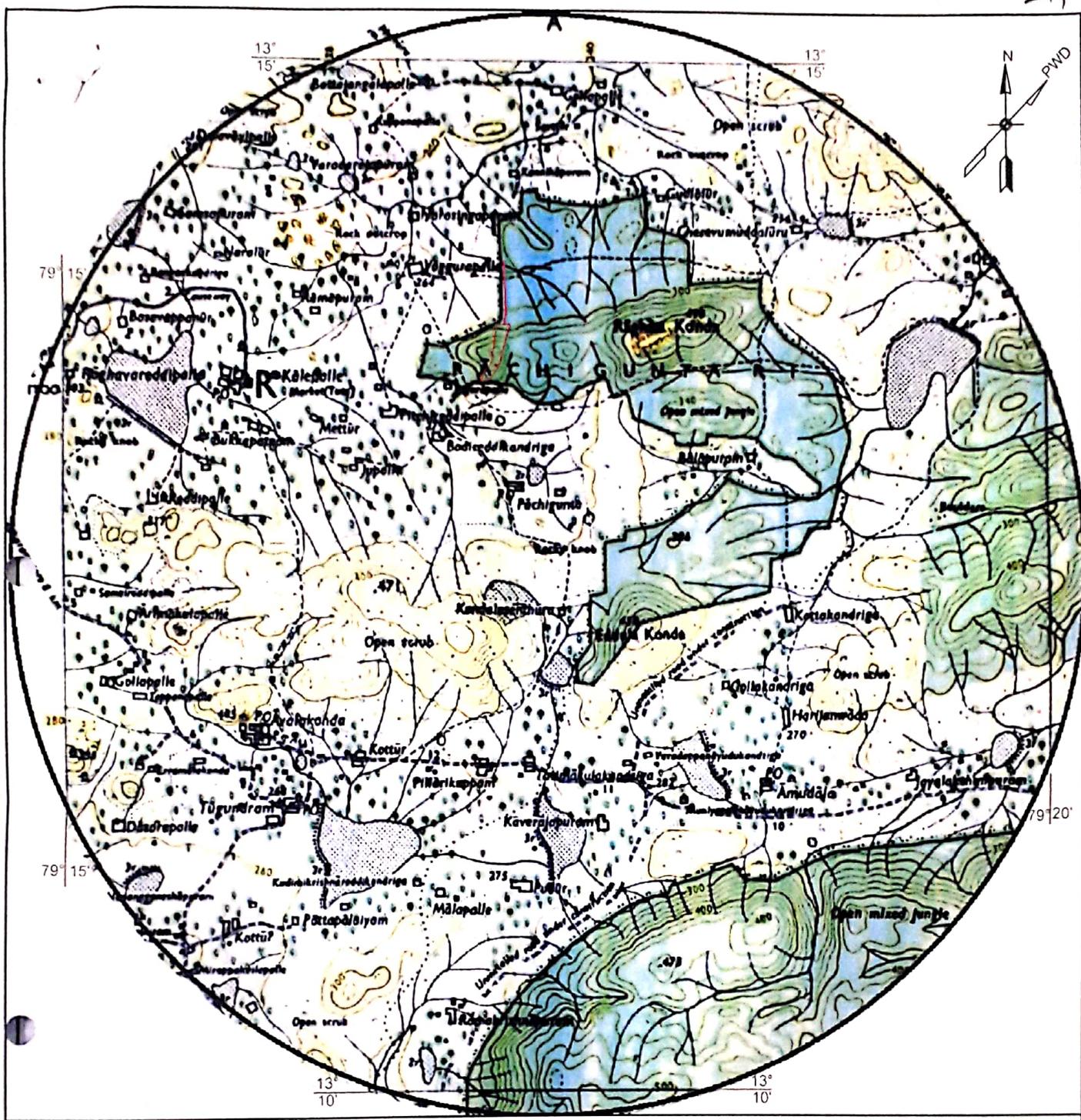
Plat-1 : Location plan (1:50,000)

Plate-2 : DGPS Survey Map for Diversion of Forest Land for Quarry Lease

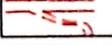
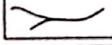
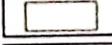
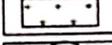
Plate-3 : Plan showing the Mitigative mitigation Measures, to protect adjacent forest from Proposed Quarry Workings (1: 2,000 Scale).



(Y. THIMMAIAH)
R.Q.P

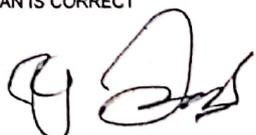


INDEX

-  APPLIED Q. L. AREA IN R.F.
-  EXISTING Q. L. AREA
-  CONTOUR LINE
-  PUBLIC ROAD
-  WATER COURSE
-  TANKS
-  VILLAGES
-  FOREST LAND
-  CULTIVATION LANDS
-  5Km RADIUS

CERTIFIED THAT THE PLAN IS CORRECT

SIGNATURE OF APPLICANT


SIGNATURE OF THE R. Q. P

MITIGATIVE MEASURES PLAN

In Compartment No.460 of Pachigunta. R.F, Pachigunta Beat
Chittoor East Range & Chittoor East (WL) Division, A.P. Extent of 4.98 Ha

LOCATION CUM KEY PLAN

Applicant : M/s Sweety Granites

SCALE : 1 : 50,000 | T.SHEET No. 57 / O / 8 | PLATE-1

78°17'07"E

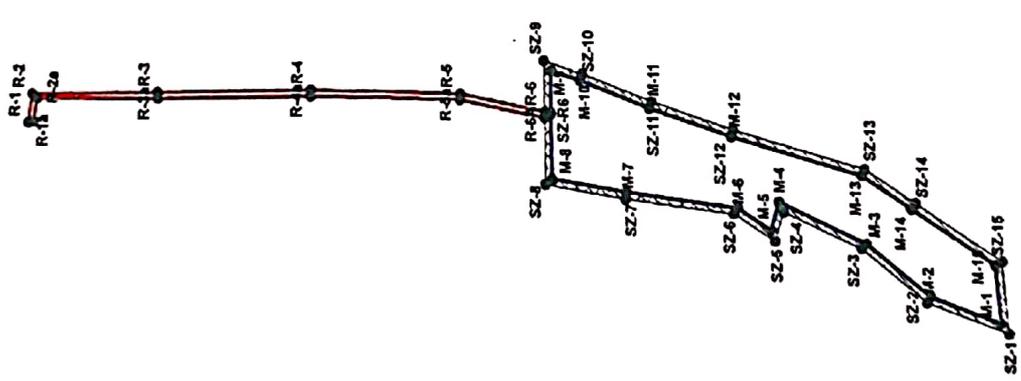
78°17'40"E

78°17'40"E

DGPS Surveyed Map Showing the Diversion of Forest Land in Compt.no.460 of Pachigunta RF, Pachigunta Beat of Chittoor East Range, Chittoor East(WL) Division, favour of Sweetsy Granites.



1:5000



For CSR Geospatial & Consultancy Services
Sivani
 Managing Partner

Description	Area in Ha
Mining	3.73
Safety zone	0.92
Road	0.33
Total	4.98

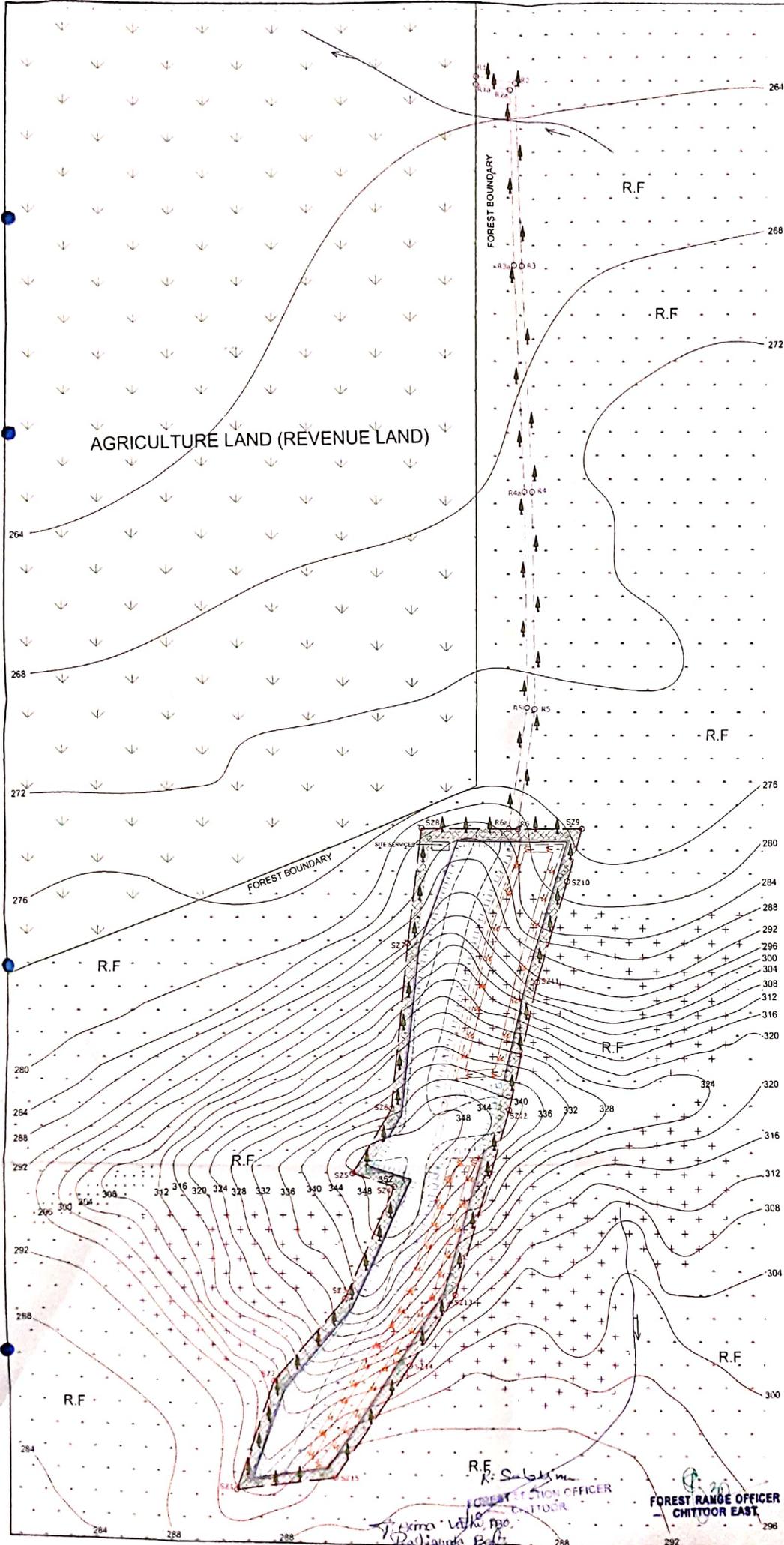
Legend

- DGPS POINTS
- MINING
- ▨ SAFETY ZONE
- ROAD

For Sweetsy Granites,
 Proprietor
 T. Firmavalle
 Pachigunta Beat,
 Chittoor East
 Forest Division, C.E.

Point Name	Northing	Easting	Elevation	Latitude	Longitude
M-1	1462746.208	314053.399	297.725	13.22582951	79.28794596
M-2	1462821.152	314079.234	308.205	13.22650206	79.28417961
M-3	1462829.205	314132.829	336.818	13.22712148	79.28467032
M-4	1462831.913	314174.856	353.426	13.22796207	79.28505164
M-5	1462990.478	314144.814	351.472	13.22803757	79.28477393
M-6	1463025.667	314167.372	340.522	13.22815703	79.28497283
M-7	1463144.579	314179.729	294.929	13.22841258	79.28502632
M-8	1463224.156	314150.193	224.653	13.23015248	79.28517783
SZ-R6	1463224.910	314028.099	222.658	13.23016350	79.28520428
M-9	1463225.297	314302.862	276.279	13.23015977	79.28621714
M-10	1463194.172	314293.511	278.315	13.22988787	79.28613293
M-11	1463119.661	314267.583	297.545	13.22921279	79.28589843
M-12	1462031.909	314241.223	342.026	13.22941802	79.28566073
M-13	1462893.558	314204.023	316.846	13.22716523	79.28531682
M-14	1462840.783	314170.543	307.935	13.22688615	79.28502077
M-15	1462752.784	314114.460	291.143	13.22588730	79.28480882
SZ-1	1462738.270	314042.744	295.286	13.22575168	79.28384920
SZ-2	1462824.884	314072.784	306.084	13.22533639	79.28411866
SZ-3	1462893.862	314127.203	335.111	13.22716322	79.28461756
SZ-4	1462976.868	314164.180	352.443	13.22791576	79.28495328
SZ-5	1462986.158	314133.322	348.812	13.22799782	79.28466818
SZ-6	1463029.776	314161.298	337.519	13.22839379	79.28492353
SZ-7	1463145.430	314172.501	295.952	13.22941982	79.28501958
SZ-8	1463231.516	314183.840	280.639	13.23021861	79.28511875
SZ-9	1463232.887	314312.801	275.604	13.23033999	79.28521875
SZ-10	1463191.818	314300.487	278.716	13.22986702	79.28619744
SZ-11	1463117.192	314274.457	296.808	13.22919090	79.28596200
SZ-12	1463030.005	314248.243	342.122	13.22840124	79.28572566
SZ-13	1462890.467	314210.771	313.023	13.22713771	79.28538877
SZ-14	1462836.724	314176.693	306.201	13.22664985	79.28507776
SZ-15	1462745.704	314118.705	290.643	13.22582357	79.28454853
R-1	1463791.440	314232.615	262.610	13.23532419	79.28533135
R-1a	1463785.618	314234.097	261.122	13.23529966	79.28534739
R-2	1463787.957	314262.107	263.290	13.23525284	79.28580562
R-2a	1463782.656	314258.128	263.593	13.23520468	79.28576929
R-3	1463652.660	314266.410	266.956	13.23400022	79.28583392
R-3a	1463496.369	314260.422	266.888	13.23402963	79.28579868
R-4	1463486.769	314273.227	269.814	13.23352763	79.28597133
R-4a	1463313.952	314274.568	273.436	13.233106971	79.28594996
R-5	1463325.021	314268.651	273.185	13.23106900	79.28589530
R-6	1463232.348	314259.079	281.140	13.23021964	79.28581285
R-6a	1463232.262	314253.084	282.139	13.23022964	79.28575753

PLATE-2
 RAP



SCALE = 1 2000

INDEX

Details of the Area Applied For Q.L.

	Safety Zone Area = 0.92 Ha
	Mining Area = 3.73 Ha
	Approach Road = 0.33 Ha
Total Applied Area = 4.98 Ha	

Proposed Land Use Pattern

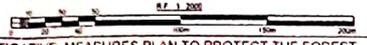
	Quarry workings = 1.8306 Ha
	Proposed W Dump = 1.1836 Ha
	Retaining Wall & Garland Drain = 0.4480 Ha
	Internal Roads = 0.1080 Ha
	Site services = 0.0100 Ha
Total Land Usage = 3.5802 Ha	

Surface Features

	Plantation
	340 Contour
	Soil With Scree
	Black Granite
	Gray Granite
	Agriculture Land
	Forest Land
	Seasonal Nala

CERTIFIED THAT THE PLAN IS CORRECT

SIGNATURE OF APPLICANT: *[Signature]*
 SIGNATURE OF THE R.O.P: *[Signature]*



MITIGATIVE MEASURES PLAN TO PROTECT THE FOREST ADJACENT TO THE PROPOSED QUARRY LEASE OF BLACK GRANITE
 In Compartment No 460 of Pachigunta R.F. Pachigunta Beat
 Chittoor East Range & Chittoor East (WL) Division, A.P. Extent of 4.98 Ha
 Applicant: M/s. Sreevathy Granites
 SCALE = 1 2000 CONTOUR INTERVAL = 4m PLATE 3

R. Subramanian
 FOREST OFFICER
 CHITTOOR
 FOREST RANGE OFFICER
 CHITTOOR EAST