

- 209 -

MITIGATIVE MEASURES PLAN
For Protection of Forest, Located adjacent to the Proposed
Quarry Lease of Black Granite
Over an extent of 3.20 Ha, in Compartment No.221 of Chithapara R.F,
Chittoor West Range and Chittoor West Division, A.P.

Applicant

M/s Anil Granites,
Prop: Sri D. Anil Kumar
D.No.20-59,-Chaitanyapuri Main Road,
Beside Santosh Apartment,
GUNTUR - 522007,

PREPARED BY

Y.THIMMAIAH,
Cell:9440053509
Consultant Mining Geologist
61205, Indu Fortune Fields Gardenia,
13th Phase, K.P.H.B. Colony
HYDERABAD - 85.

Under Points 3 & 5 of CF

211

MITIGATIVE MEASURES PLAN
For Protection of Forest, Located adjacent to the Proposed
Quarry Lease of Black Granite
Over an extent of 3.20 Ha, in Compartment No.221 of Chithapara R.F,
Chittoor West Ranga and Chittoor West Division, A.P.
Applicant: M/s Anil Granites.

1.0 INTRODUCTION:

Sri K. D. Anil Kumar, proprietor of M/s Anil Granites has applied for grant of quarry lease for Black Granite over an extent of 3.20 Ha i.e. 1.94 Ha for Mining, 0.57 Ha for Safety Zone and 0.69 Ha for approach road to the quarry workings in Compartment No. 221 of Chithapara R.F, Chittoor West Range and Chittoor West 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 Anil Granites,
Prop: Sri D. Anil Kumar
D.No.20-59,-Chaitanyapuri Main Road,
Beside Santosh Apartment,
GUNTUR - 522007
- 2.2 Status of the Applicant:** Proprietary Firm
- 2.3 Minerals:** Black Granite (Dolerite)
- 2.4 Name & Address of RQP:** Y. Thimmalah (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 West |
| 4) Range | : Chittoor West, |
| 5) R. F. | : Chithapara |
| 6) Compartment No. | : 221 |
| 7) Extent | : 3.20 Ha
(Mining: 1.94+S.Zone: 0.57+Road: 0.69) |
| 8) Ownership | : Forest Land |

The applied quarry lease (Q.L.) area is a fringe area of the forest, adjacent to the revenue land of Chithapara Village, Gudipala Mandal in Chittoor Dist, located on Indian Topo Sheet No. 57 O/4. The applied area is located between the Latitude of 13° 03' 46.5" to 13° 04' 17.5" and Longitude of 79° 05' 48.4" to 79° 06' 08.5" on Indian Topo Sheet No. 57 O/4. The applied area is also located between the villages of Chithapara and Pillarikuppam at a distance of 3 km and 2km respectively. The village Pillarikuppam is located at a distance of 5 km from Gudipala, the mandal headquarters which is located on N.H-4 at a distance of 12 km from Chittoor town towards Vellore. The applied area can be approached by a tar road of 7 km from N.H.-4 i.e. from Gudipala. About 1150 m length and 6m width of the Forest land (0.69 Ha) has been applied for approach road purpose from revenue land to the Quarry leased area. Gudipala (8km) is the nearest place to the Q.L. area for primary facilities like electricity, primary school, post office and Bus services. Chittoor (20km) is the nearest place for other facilities like Market, Higher Education, Hospitals and Railway Station. The nearest airport is located at Thirupati (105km) and the nearest seaport is located at Chennai (158km) from the applied area.

3.0 GEOLOGY :

3.1 Topography: The proposed quarry lease area, Safety zone and part of the approach road area belong to hilly terrain. Quarry lease area is elevated in the center and sloping towards NW-SE direction. The lowest level i.e. 396m MSL has on SE side. The quarry lease is gradually rising towards centre of area up to 430m MSL. There is a maximum relief of 36 mts towards SE and 26m relief towards NW from centre of the applied Q.L. area. Due to Dolerite dyke (Black Granite) intrusion, the mining area rises to a height of 26m to 36 mts. 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 two seasonal watercourses are running adjacent to the applied quarry lease on NW & SE sides. The surface rain water of the area will drain to the seasonal nala, passing adjacent to the area and the nalas join to local tanks, located at more than 1.5km from the area on NW & SE 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 gray granites with a Dolerite dyke intrusions. The Dolerite dyke is intruded through the gneiss in E - W direction of the applied area on 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 184 m, to an average width of 36m and to a height of 30 m along the top of the hill portion. Float material mixed with soil is covering on slopes of the applied area.

Dolerite (Black Granite) is fine to medium grain size. It is hard and compact and steel gray 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 Excavators 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 Northern side of the applied quarry lease, over an extent of 0.3130 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 1.30 Ha after leaving 7.5m width of safety zone (0.57 Ha) on four sides the lease area during the life of the quarry.

5.0 IMPACT ASSESSMENT OF MINING:

5.1 Soil Erosion & Float: Most of the quarry area is covered by the Granite (Dolerite) rock. Thin pockets of soil filling are seen along the joints planes of the granite. As the mining area is sloping towards NW and SE, there are chances for roll down of the surface material from workings and waste dumps to beyond the lease boundaries. Due to this float material, the plants and trees, located in adjacent forest may be damaged.

5.2 Dust Generation: There are chances for dust generation from quarry workings due to haulage of Granite Blocks and 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 noise pollution from mining machinery. Due to noise pollution, the fauna of the adjacent forest will be disturbed.

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

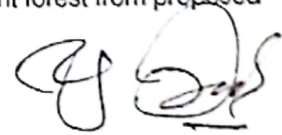
6.1 Arrest of Soil Erosion & Float Material from Quarry: It is already furnished that most of the quarry area is covered by the granite rock and the thin pockets of soil is available along the joint planes of rock formation. So, the soil erosion from this mining area is negligible. However, the weathered rock mixed with soil will be excavated from the surface of the mining area and same is stocked in proposed waste dump yard. It is proposed to build up a retaining wall around the proposed dump yard on NW, Eastern & SE sides of the workings for stabilization of dump and to arrest the float material. The retaining wall will be constructed

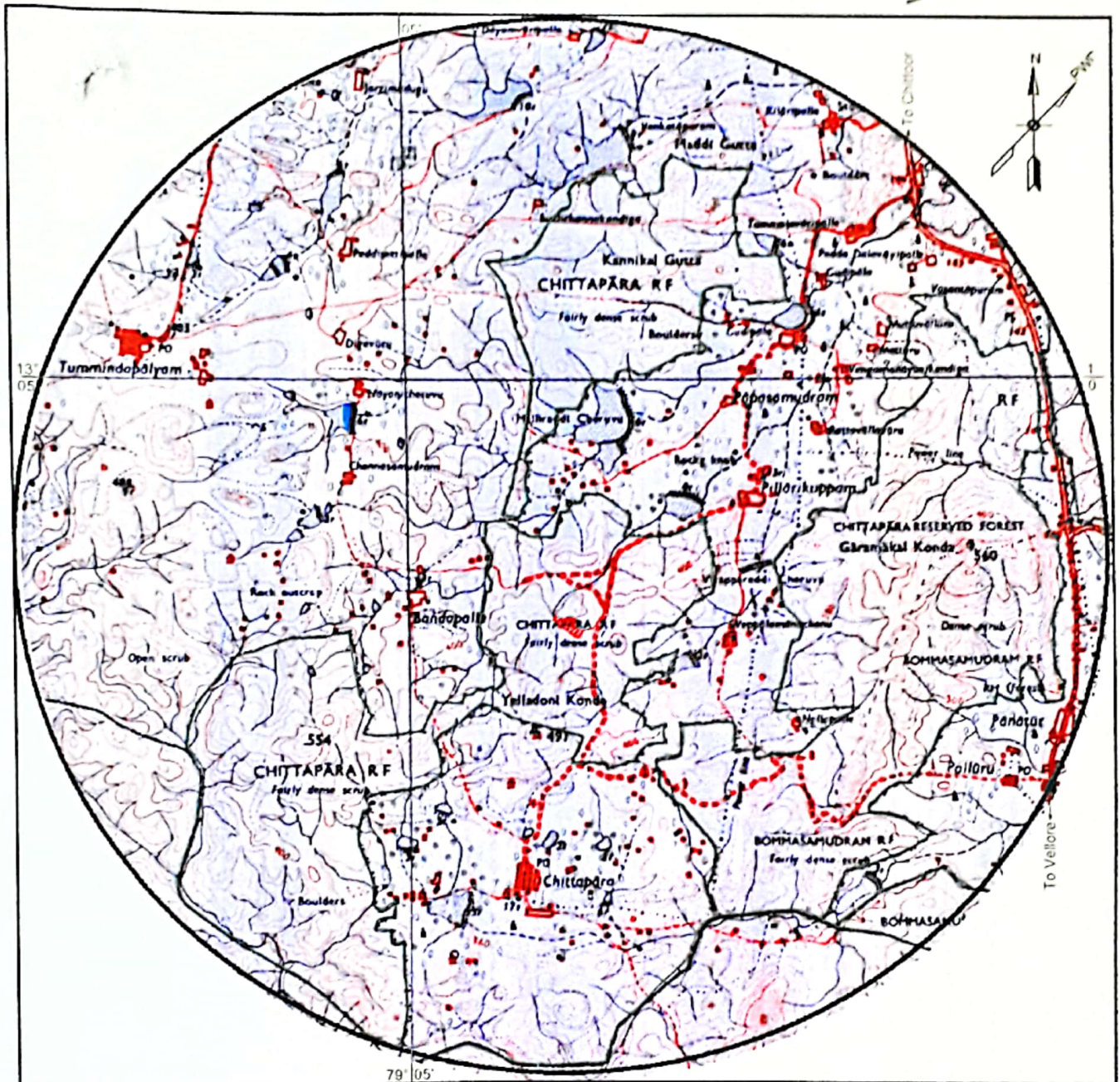
over a length of 164 m, to a width of 2m and to a height of 1m with the waste generates from the quarry. To stop the pollution of the surface water of the quarry area, it is proposed to cut a garland drain, on outside of the retaining wall, over al length of 164 m, to a width of 1.0m and to a depth of 0.5 m and the excavated muck will be used for construction of retaining wall. The retaining wall and garland drain will cover an area of 0.0492 Ha . A silt tank will be dug at the end of the garland drainage on SE side of the area. The silt tank will be cleaned at regular intervals. Due to retaining wall, trench cutting and silting tank, the float material coming from quarry workings 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 gives an area of around 0.1150 ha of green belt on road sides. The safety zone around the quarry workings will be planted over an extent of 0.57 Ha as per the guide lines of MOEF.
- 6.3 Control of Sound / Noise Pollution: All mining machinery works together at one place at the same time, the noise generation from mining equipment will be more than the permissible limits. So, the applicant is advised to operate the equipment at different timings at different places of the workings to control the noise pollution and to maintain the sound pollution within the permissible limits.

ENCLOSURES:

- Plat-1 : DGPS Survey Map for Diversion of Forest Land for Quarry Lease (1:4,000)
Plate-2 : Location plan (1:50,000)
Plate-3 : Plan showing the Meditative Measures, to protect adjacent forest from proposed Quarry Workings (1: 2,000 Scale).

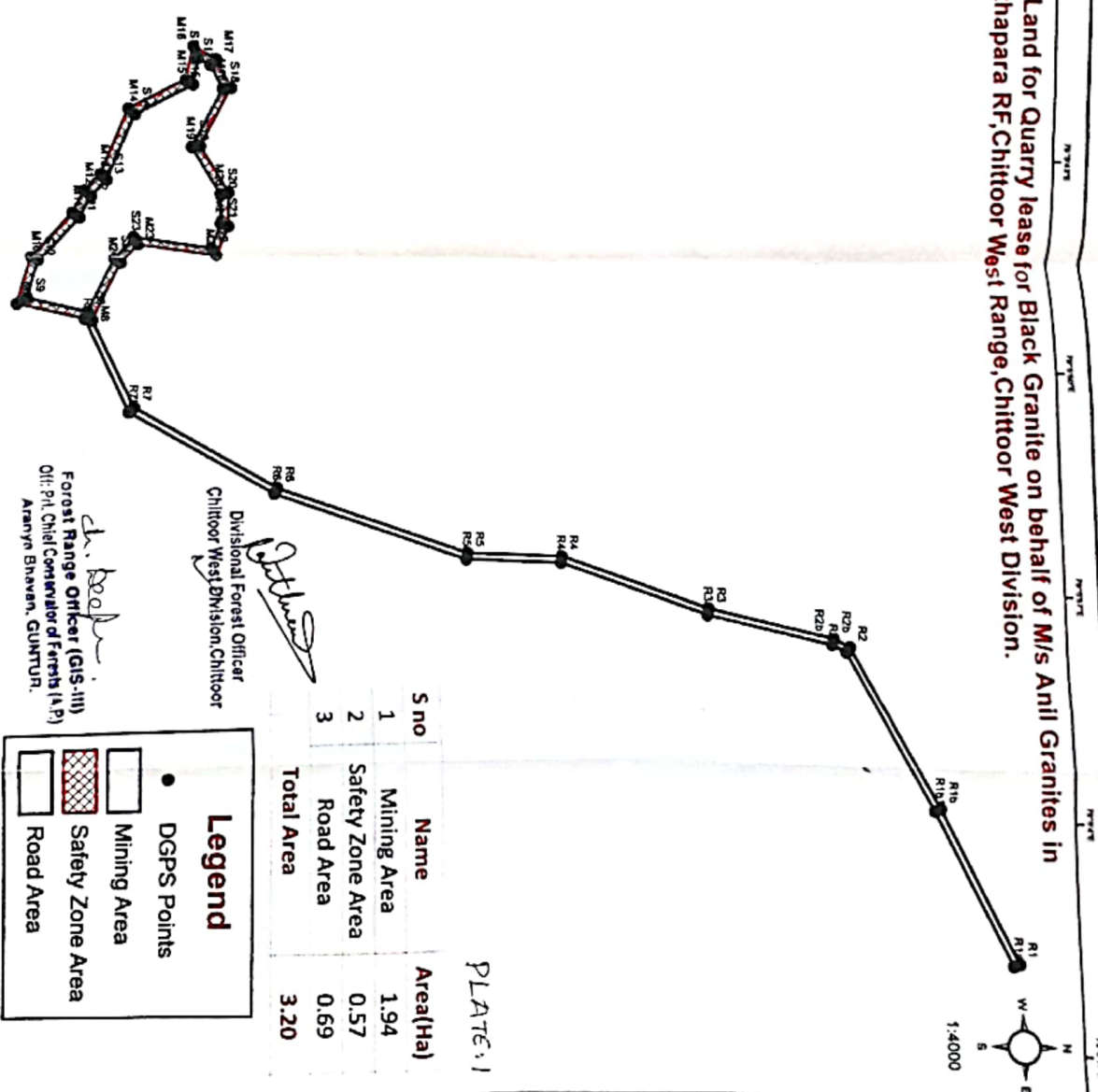

(Y. THIMMAIAH)
R.Q.P



	CERTIFIED THAT THE PLAN IS CORRECT
<p>INDEX</p> <ul style="list-style-type: none"> APPLIED Q. L. AREA IN R.F. CONTOUR LINE PUBLIC ROAD WATER COURSE TANKS VILLAGES FOREST LAND CULTIVATION LANDS 5Km RADIUS 	<p>SIGNATURE OF APPLICANT</p> <p style="font-size: 2em; margin: 10px 0;">[Handwritten Signature]</p> <p>SIGNATURE OF THE R. Q. P</p>
<p>MITIGATIVE MEASURES PLAN</p> <p>Over an extent of 3.20 Ha, in Compartment No.221 of Chittapara R.F Chittoor West Range, Chittoor West Division, A.P.</p>	
<p>LOCATION CUM KEY PLAN</p>	
<p>APPLICANT : M/s ANIL GRANITES</p>	
SCALE : 1 : 50,000	T.SHEET No. 57 / O/4
PLATE- 2	


Map Showing the Diversion of Forest Land for Quarry lease for Black Granite on behalf of M/s Anil Granites in Comp.No-221 of Chithapara RF,Chittoor West Range,Chittoor West Division.

S no	Name	Easting	Northing	Elevation	Latitude	Longitude
1	M8	293645.313222	1444936.263770	396.413	13.06153118	79.09691611
2	M9	293659.239118	1444664.970010	399.681	13.06280551	79.09677284
3	M10	293581.065577	1444876.796720	406.618	13.06298961	79.09633447
4	M11	293535.324903	1444919.004320	411.051	13.06336792	79.09570335
5	M12	293513.762774	1444911.365330	424.164	13.06347817	79.09570371
6	M13	293496.918268	1444947.639330	428.977	13.06362411	79.09554730
7	M14	293434.441172	1444975.873740	423.152	13.06387504	79.09496938
8	M15	293406.319334	1445030.951860	412.025	13.06417090	79.09470631
9	M16	293374.407580	1445038.248110	406.409	13.06439114	79.09441237
10	M17	293386.217608	1445060.538310	404.411	13.06463714	79.09453355
11	M18	293413.631116	1445074.177770	405.565	13.06476206	79.09447072
12	M19	293469.379940	1445081.207010	414.056	13.06485897	79.09529013
13	M20	293514.703591	1445089.666070	414.617	13.06472815	79.09570280
14	M21	293540.363881	1445004.069130	417.570	13.06472143	79.096601318
15	M22	293579.239439	1445095.800310	408.509	13.06460722	79.09678871
16	M23	293547.608565	1444979.866410	408.072	13.06392017	79.09619673
17	M24	293587.720206	1444982.763160	408.628	13.06376696	79.09638342
18	S8	293636.620316	1444932.167550	398.116	13.06349377	79.09681626
19	S9	293623.413506	1444874.333320	400.312	13.06297018	79.09671851
20	S10	293585.277903	1444883.555640	408.283	13.06306594	79.09636631
21	S11	293559.890700	1444935.189500	422.819	13.06342811	79.09594501
22	S12	293519.020795	1444937.087760	424.849	13.06353025	79.09575179
23	S13	293502.770718	1444982.530520	427.329	13.06364871	79.09560091
24	S14	293439.783518	1444981.414790	423.722	13.06392548	79.095101824
25	S15	293410.544269	1445037.533330	411.797	13.06443067	79.09474480
26	S16	293485.539228	1445004.100250	408.664	13.06447928	79.09451380
27	S17	293392.033997	1445064.830190	405.595	13.06458574	79.09457296
28	S18	293414.488929	1445065.876820	407.903	13.06468710	79.09477920
29	S19	293470.782154	1445035.265510	416.905	13.06441427	79.095300218
30	S20	293516.718974	1445061.689370	416.799	13.06465620	79.09572194
31	S21	293545.937669	1445061.144760	416.212	13.06465376	79.09592114
32	S22	293570.784500	1445005.122270	408.055	13.06465372	79.09622108
33	S23	293559.291553	1444976.466100	413.339	13.06388887	79.09612031
34	S24	293583.615186	1444956.558730	410.901	13.06371065	79.09634592
35	R1	294243.4354075	1445816.752040	349.543	13.07152949	79.10236928
36	R1a	294245.5219540	1445811.119500	348.956	13.07147873	79.10230891
37	R1b	294107.579883	1445748.412000	352.816	13.07090231	79.10107545
38	R1c	294107.064362	1445742.903130	352.889	13.07088569	79.10109073
39	R2	293951.773730	1445669.999440	358.611	13.07018355	79.09970901
40	R2a	293954.582385	1445666.408160	358.058	13.07015143	79.09975359
41	R2b	293946.138917	1445665.041910	358.758	13.07004786	79.09963966
42	R2c1	293951.778099	1445653.109360	358.556	13.07002078	79.09969178
43	R2c2	293920.621988	1445536.922040	366.777	13.06978860	79.09941259
44	R3a	293936.470577	1445535.329500	367.237	13.06963370	79.09946663
45	R4	293877.933340	1445394.428240	371.042	13.06748756	79.09898281
46	R4a	293878.974165	1445393.489890	371.031	13.06748744	79.09897856
47	R5	293869.712005	1445390.339820	380.123	13.06684604	79.09895955
48	R5a	293875.539283	1445390.961490	379.960	13.06681397	79.09901337
49	R6	293806.656772	1445114.650300	391.982	13.06515452	79.09831117
50	R7	293811.806418	1445111.564450	391.716	13.06512698	79.09838805
51	R7a	293778.874729	1444976.418960	393.218	13.06389996	79.09768367
52	R7b	293733.519862	1444971.558460	393.420	13.06385634	79.09777683
53	R8	293643.715988	1444929.229150	396.476	13.06346769	79.09690187



S no	Name	Area(Ha)
1	Mining Area	1.94
2	Safety Zone Area	0.57
3	Road Area	0.69
Total Area		3.20

PLATE: 1


 Divisional Forest Officer
 Chittoor West Division, Chittoor

Forest Range Officer (GIS-III)
 Off: P.I. Chief Conservator of Forests (A.P)
 Aranyam Bhavan, GUNTUR.

Legend

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

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

