

Blackbelt Scouting
6-14 October 2019 Dr. Michael I. Biggerstaff

General Guide:

Used Google Earth to select potential points of interest. Tried to keep spacing between potential sites between 25-45 km. Based on site visit, roughly determined azimuths affected by blockage and how badly. Noted nearby potential scattering objects. Also noted logistics to and at site, if needed. Graded from great to poor: green, blue, yellow, orange, and red.

Green: No or a few isolated azimuths with blockage generally less than one degree elevation. Most are less than 0.5 degrees. Could be a single area of blockage that cab of radar truck could be pointed at to mitigate impact. Might also have one somewhat near scatterer (tower, metal silo, roof barn). Site suitable for mobile radar with reasonable logistical issues.

Blue: One small (less than 5 degrees) to medium (5-15 degrees) sector blocked less than 1.5 degrees elevation with a few isolated azimuths also blocked to generally less than 2 degrees. Could also be a few isolated azimuths with blockage 2-3 degrees. Better than or comparable to most northern AL sites. May have more than one metal object or one that is near the site. Likely possible to point truck cab at worst blockage. Good site logistics.

Yellow: More than one small sector blocked, or a single sector larger than 15 degrees in azimuth with blockage greater than one degree elevation. Could also be several areas with blockage more than 1.5 degrees. Either have to pick which area to point cab at or not able to orient truck due to site restrictions. Could have a metal object very close to site. May be blue, depending on sector of interest.

Orange: Several areas of blockage greater than 1.5 degrees or more than one medium sector, or one large sector blocked above one degree. Generally not able to compensate with truck orientation. Could also be challenging logistically. Likely not favorable for deployment unless exceptional target of opportunity and no other site available.

Red: Very difficult site logically or several azimuths blocked to greater than 2 degrees. Not suitable for radar.

Miss-1: 34.118776° -88.754718°

Steep gravel and dirt field access on south side of E-W County Road 300 (or 245) west of Shannon and west of Hwy 45. There is very little room at this site. The support vehicle would need to drive down the dirt road while the radar parked parallel to the CR and would likely partially block traffic on this busy road. Despite the hills in the distance, this stretch of road is on a small hill itself and offers good view except for a 15 deg az sector roughly centered towards the northeast.

Otherwise, blockage appears to be less than 1 degree. It will be up to 3 degrees in the NE sector. Not possible to park the cab facing that direction. **This is a green site.** Also examined LMA and saw significant noise at the 55-58 Hz region. Looked to be ok in the 60-66 Hz band. Later, we determined the noise was due to proximity of the van to the sensor.



Blackbelt-radar-1 site (Mississippi 1). Left panel is north. Right panel is east.



Blackbelt-radar-1 site (Mississippi 1). Left panel is south. Right panel is west.

Miss-2: 33.840127° -88.710345°

This is an overpass at the intersection of US 45 Alt and Hwy 8 to the north of West Point, MS. There are two spots: on the south side of the east-bound lane and on the north side of the west bound lane. **This is an excellent green site.** On the east bound spot, very little blockage in any direction; maybe up to 0.5 degrees in a couple of spots. However, there is a nearby cell tower to the west that could redirect energy and cause a sampling problem. Also, a few small roadway signs on the west side of the bridge. On the east side of the bridge, you start to get some blockage (up to 1-1.5 degrees in the NE sector). But you can point the cab at the cell tower. The little sign on that side of the bridge is leaning and could be coaxed to

lean more. Test LMA and there was considerable noise at the low end, getting close to 60 MHz. Probably one of the noisier sites. The noise was later determined to be mostly from proximity to the van. The space is not as wide as some overpasses. But can get a SMART radar in there ok. Pics and video taken. Four bars AT&T coverage.

Also saw a really open area about 5.3 miles west of this site down Hwy 8. Would be good (blue instead of green) site for radar due to some small hills that were wooded. Probably great sites for other instruments.



Blackbelt-radar-2 site (Mississippi 2). Left panel is north. Right panel is east.



Blackbelt—radar-2 site (Mississippi 2). Left panel is south. Right panel is west.

Miss-3: 34.473714° -88.662631°

Small paved pad on west side of US 45. Not a good site (**red site**). It is a bit of a valley with numerous tall trees nearby. Did not document further.

Miss-4: 33.606525° -88.544722°

This is a gravel road (Windmill Road) on the south side of Hwy 50 to the east of West Point, MS. The road is deep gravel base and should not be a problem for

radars even after rain. This road has a gate, but appears not to have any locks. The road looks to be a public road. There is a very large cattle barn about 0.5 miles down the road. The radar can turn around easily in the cattle barn parking lot. You want the radar to face to the north because there is a narrow stand of tall trees on the north side of the road. Just point the truck cab in that direction and there is very little blockage in any other direction (about 0.5 degrees in spots). The metal roof of the cattle barn is visible, but far enough away to not be a serious problem. The site is on a small hill and has good views in all directions, except north. There is plenty of space along the edges of the cattle barn parking lot for any other instrumentation. Checked LMA noise and there was just the usual intense signal at 50-55 MHz, otherwise it looked good. **This is a green site.** Three bars AT&T signal. Pics and video taken.



Blackbelt-radar-4 site (Mississippi 4). Left panel is north. Right panel is east.



Blackbelt-radar-4 site (Mississippi 4). Left panel is south. Right panel is west.

Miss-5: 33.221750° -88.571389°

This is at the intersection of US 45 proper and Dale Road. Dale road is a somewhat narrow but well maintained gravel road. The radar would need to pull forward a bit to get away from the intersection and the power lines. The cab would

be facing west. This is a fair radar site, but not the best. **This is blue to yellow site.** Trees on the western sector are close enough to block to 1 degree for a good 20 deg az sector. Also some blockage to the north with nearby cell tower and metal Dollar Store about 0.6 miles away. View to east and south are excellent. Four bars of AT&T coverage. Pics and video taken.



Blackbelt-radar-5 site (Mississippi 5). Left panel is north. Right panel is east.



Blackbelt-radar-5 site (Mississippi 5). Left panel is south. Right panel is west.

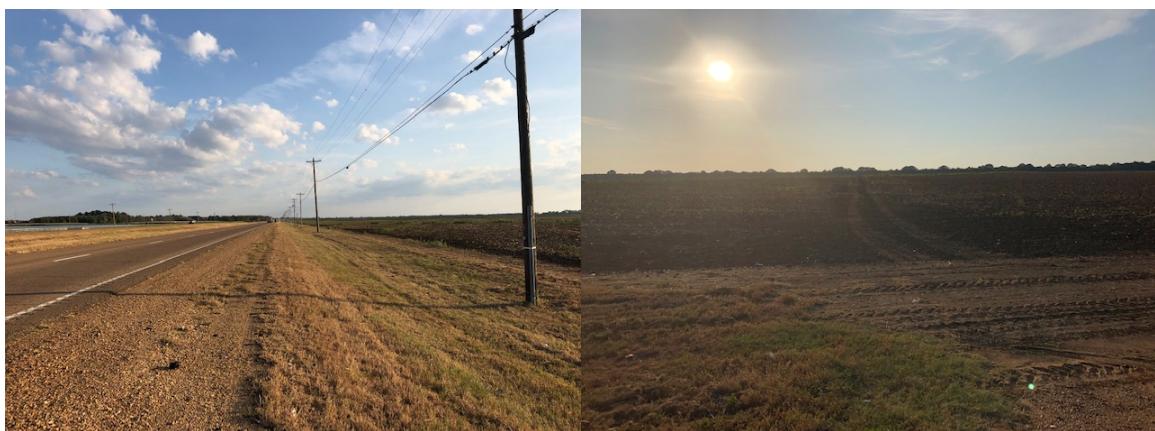
Miss-5-Beta-BB: 33.213984 -88.570587

This is the gravel and small paved patch shoulder on the west side of southbound US 45 proper. It is about a mile south of the Miss-5 site. There are power lines on this side of the road. The advantage of this site is that it is at the top of the hill and greatly reduces the blockage to the north and to the west. Now it would be no worse than 0.5 degrees. The radar cab would point south. The main blockage here is a 20 deg az sector \pm 10 degrees from east. Blockage due to nearby farm house trees are likely up to 2 deg. There is also a metal building to the ESE that could scatter the main beam. Looking south and west, the view is excellent. Four bars AT&T coverage. Pics and video taken. **This is a blue to yellow site.**

USE MISS-5 if wanting an eastern and southern view. Use Miss-5-beta-BB if wanting west and north and south views (some blockage to the east).



Blackbelt-radar-5-beta site (Mississippi 5-beta). Left panel is north. Right panel is east.



Blackbelt-radar-5-beta site (Mississippi 5-beta). Left panel is south. Right panel is west.

Miss-6: 33.047083° -88.344900°

This is a gravel road intersection of CR 32 and 14. The gravel N-S road is Jack Spann Road. It intersects gravel Binion Road about 0.1 mile from the paved CRs. **This is an excellent green radar site.** Other than a single isolated tree to the NE, which would block 2-3 deg in az up to 4 deg elevation, the rest of the view has spots of blockage no worse than 0.3 degrees. Recommend that radar cab point NE if the network design allows. Enough room at the intersection of the two paved roads and the dirt road to maneuver the radar. Also good site for LMA (some noise around 50 MHz, otherwise quiet), StickNet and disdrometer. Two bars AT&T LTE signal. Pics and video taken. This is a green site. There are several fields with open gates in the general area as well.



Blackbelt-radar-6 site (Mississippi 6). Left panel is north. Right panel is east.



Blackbelt-radar-6 site (Mississippi 6). Left panel is south. Right panel is west.

Miss-7: 33.058382° -88.295569°

Bad site. No good pull off on the narrow CR1 (Ziegler Road). Properties are fences and there are too many tall trees scattered for radar. No good spot to unload other equipment. No pics taken. **Red site.**

Miss-8: 32.811870° -88.273813°

This is a paved and gravel driveway to a gate that leads to a pasture. Gate is locked and area is fenced. Could park the radar on the gravel road, which faces north. That's unfortunate because the north view is open. Not really possible to orientate the truck in other directions due to the narrow driveway and steep shoulders and deep ditch. View to NE is blocked up to 3 deg for 20 deg due to farm house. Big, wide-diameter wooden power pole nest to site to the east would block 2 deg in that direction. View to the SE has blockage up to 2 degrees in spots. View to S through W is good. But a stand of tall trees to the west then blocks 20 deg in az up to 4-5 deg. After that, the view gets good again back to the farm house. Would be

better is the truck could angle to the west. But this is too steeply slope to maneuver the truck very well. No AT&T service. No Sprint service. **Would be orange for blockage. But red for lack of cell coverage.**



Blackbelt-radar-8 site (Mississippi 8). Left panel is north. Right panel is east.



Blackbelt-radar-8 site (Mississippi 8). Left panel is south. Right panel is west.

Miss-9: 32.702567° -88.177383°

This is a double-wide gravel entrance to a field on the north side of CR 20 to the west of the CR20 and CR 39 intersection. It is up on a small hill. It would be best for the truck cab to face to the NE due to tall trees in that direction. View from N to NE is good. But about 30 deg sector in the ESE direction would be blocked to 4-5 degrees. Need to point the cab in that direction, which would be best if the radar came to the site from the west and overshot the site and then backed up caddy-corner into the gravel area. Would be challenging to park for an approach from the east. Other than the blockage to the ESE, there are some tall isolated trees to the SSW that would block up to 3-4 deg for 1-2 az. Then, the blockage would be more

0.5 – 0.7 deg in spots. Good view from WSW through NNE. **This is a yellow to blue site. Blue rating if not interested in the ESE and can park the cab facing that direction.** Pics and video taken. Two bars AT&T coverage.



Blackbelt-radar-9 site (Mississippi 9). Left panel is north. Right panel is east.



Blackbelt-radar-9 site (Mississippi 9). Left panel is south. Right panel is west.

Miss-9-beta: 32.708561° -88.167212°

This is a gravel and grass driveway off CR 39 to the west of US 59. There is a pasture on the NW side that is fenced by no gate. Talked with owner who gave permission to walk into the pasture and set up instruments for short duration observations. Would be as good disdrometer, StickNet, or LMA (low noise). Radar is more problematic. First, you would have to angle the truck cab to the NE, which would partially block their drive, with the rear of the truck on the grass, which would likely leave divots. View to the north is good, with an isolated tree about 350° in az that would provide 1-deg elevation of blockage. The main problem is the row of trees to the NE, about 20-50 deg in az that would block up to 7 degrees. That's why you would want the cab in that direction. Additional trees, smaller, due east. But they line up with the driveway and would only cover a deg in az with blockage to 2-3 deg. Additional isolated trees to SE with blockage up to 1.5 deg

sporadically in az. Good view south. But a small wooded hill to the SW would again block up to 0.7 degrees. **This is an orange site.** Would be yellow except for the NE view and difficulty and potential damage in setting up the radar here. Two bars AT&T signal. Pics and video taken. There is a Colonial Pipeline facility to the west where the radar could turn around. However, make sure you are not radiating as they have signs noting explosive hazard for any sparks.



Blackbelt-radar-9-beta site (Mississippi 9-beta). Left panel is north. Right panel is east.



Blackbelt-radar-9-beta site (Mississippi 9-beta). Left panel is south. Right panel is west.

Miss-10: 32.507341° -87.731220°

This is a gravel driveway up to a mansion on a place called Dove Field. The road is US 80 and we are east of Demopolis, AL. **Not a good site for radar, red site.** But other instruments could go up the driveway and then walk out to the grass field on the right, away from the power lines. It's up high and would be good for disdrometer or StickNet. Pics and Video taken. Three bars AT&T coverage.



Blackbelt-radar-10 site (Mississippi 10). Left panel is north. Right panel is east.



Blackbelt-radar-10 site (Mississippi 10). Left panel is south. Right panel is west.

Miss-11: 32.539117° -87.769382°

This is a paved intersection where CR 62 turns to the west next to a small cattle feedlot that is NE of Demopolis, AL. There is an open field on the south side of the road where a dissrometer, Sticknet or LMA station would be able to be deployed. There is a pivot sprinkler. LMA noise levels very quiet. **As for radar, this is an orange site.** The view to the north, towards the feedlot is good with no real blockage of consequence. By starting due east and going to SE (45 degrees) the trees along the N-S part of CR 62 are very tall and very close. That E-SE sector would be blocked up to ~10 degrees for true east and down to 3 degrees by SE. After that sector, the view opens with minimal blockage. There are two large grain storage silos about 0.3 miles south that are visible and would cause some blockage of a degree of azimuth. But otherwise, the view is good above 0.5 degrees. It's really just the E through SE that makes this site orange. **If this site is paired with Miss-13, then it would be a blue classification** as the baseline would cover most of the blocked areas. Pics and video taken.



Blackbelt-radar-11 site (Mississippi 11). Left panel is north. Right panel is east.



Blackbelt-radar-11 site (Mississippi 11). Left panel is south. Right panel is west.

Miss-12: 32.438872° -87.358101°

This is on a bridge across US 80 at the intersection with CR 5 to the east of Union City, AL. The spot is on the southeast side of the bridge. The radar cab would point to the north. Four bars of AT&T coverage. **This site would be classified as yellow to orange.** The main area of blockage is a 15 deg az sector just east of north, with blockage up to 3 degrees due to close tall trees. The truck cab probably could be angled to lessen the impact of that sector. But still would get 10 degrees of additional blockage on the east side of that 15 deg sector. Then the view opens up nicely to the ENE through ESE, with only a couple of farm house trees giving a little blockage up to 0.7 degrees. Problems arise again \pm 10 degrees from due south as we point back down CR 5 with trees close by the site. Blockage up to 3 degrees in places. Outside of that area, to the SW through NNW, the view is very good. **If not for the nearby cell tower and blockage near north and south directions, this would be a green site.** Tested LMA noise and there was nothing noticeable from the cell tower or the traffic on US 80. While the parking area is tight, the slope on

the other side of the guardrail would accommodate LMA or Sticknet. Not good for disdrometer due to road spray contamination concerns. Pics and video taken.



Blackbelt-radar-12 site (Mississippi 12). Left panel is north. Right panel is east.



Blackbelt-radar-12 site (Mississippi 12). Left panel is south. Right panel is west.

Miss-13: 32.445035° -87.414717°

This is a well maintained gravel road off US 80 on the east side of Union City, AL. The gravel road goes up about 5 feet from the highway to a catfish pond. Suggest the radar park facing west on the rim road around the pond. Truck can back out and then turn down the gravel driveway to exit for US 80 after operations. **This is a yellow to blue classification site.** View to the north is good with blockage under one degree. View to the east is also good, with blockage less than a degree in most azimuths. The tree line to the south is on the other side of the same fish pond. Some tall trees there than would produce frequent azimuths with blockage to 1.5-2.0 degrees. This becomes more solidly blocked to about 1-1.5 degrees to the southwest. On the west side, the trees are 300 yds away and very tall. Hence, it would be best to point the cab in that direction. Otherwise, there will be blockage up to 4 degrees in a few spots. Overall, this is a useable radar site with easy access. Views to the north and east are better than south and west, though only

the tall trees to the west are seriously in the way. Two short grain storage silos to the NE, but they appear to be pretty low. Good site for disdrometer, Sticknet, or LMA (quiet noise levels). Two bars AT&T coverage. Pics and video taken.



Blackbelt-radar-13 site (Mississippi 13). Left panel is north. Right panel is east.



Blackbelt-radar-13 site (Mississippi 13). Left panel is south. Right panel is west.

Miss-14: 34.919839° -88.629210°

Terrible red site. There is a hill to the south with old growth trees. No shoulders on the road. The pull-out is strongly sloped with power lines overhead. Not good for radars. Not good for LMA due to the hill. There was a gravel road to the east of the paved road that ran across the open field. Could put a disdrometer or StickNet out there. But since there would be no radar coverage, we did not further document the site.

Miss-15: 34.509176° -88.660187°

Intersection of US Hwy 45 with Bethany Road (Hwy 370) on the overpass shoulder on the northeast side. Could also work on the northwest shoulder. Four bars of AT&T coverage. The shoulder is wide enough for a radar truck with no

problems. However, the rolling, wooded terrain generally produces blockage at 0.5 deg throughout the full PPI. View to the SE through SW is best, with blockage likely not far above 0.5 degrees. View to the NNW through NNE is the worst, with blockage up to 3 degrees in spots. **I would mark this site as yellow.** It is acceptable, depending on the geometry of the lobes, which would be mainly east and west. Better for western lobe than eastern lobe. Pics and video taken. Also ran LMA test. Noisy around 50 MHz, but looks to be ok in the 60-66 range. The west side of the bridge is better.



Blackbelt-radar-15 site (Mississippi 15). Left panel is north. Right panel is east.



Blackbelt-radar-15 site (Mississippi 15). Left panel is south. Right panel is west.

Craig Field Airport: 32.353980 -86.988830

John W. Jones, Jr. Terminal Bldg on Craig Field Airport. The airport itself is not longer in service. Looks to have been an old AF base. **VERY large paved area that would be great for radar and other instrumentation.** Called Gentry Smith, airport manager (334-850-1013) to discuss access. To get to the terminal building, enter on 5th Street off US 80 and head to Ave C and then to 1st street. Follow airport signs. Video taken from inside the gate next to the terminal. Two bars AT&T coverage.



Miss-16: This site was skipped due to being outside the region. Better to include as part of northern AL.

Miss-17: This site was skipped due to being outside the region. Better to include as part of northern AL.

Miss-18: 32.299673° -86.815221°

This would have been a gravel road (mapped as Curtis Quarter road) on south side of US 80. The gravel road is private and gated. Owners are across the road. Ranch hand thought we could get permission to access the grassy pasture. But there is enough room along the fence line to place Sticknet or disdrometer. Not a radar or LMA site due to the tall hills in the moderate distance. Also many tall trees. Took pics and video. Three bars AT&T signal. **This site is red for radar.**



Blackbelt-radar-18 site (Mississippi 18). Left panel is north. Right panel is east.



Blackbelt-radar-18 site (Mississippi 18). Left panel is south. Right panel is west.

Miss-19: 32.375797° -86.928983°

This site would have been a very small grassy field access entrance off CR 140 outside of Selma, AL. However, everything here is fenced off and there are tall trees in all directions, especially NW to N. **This is a terrible red site period.** Did not document further.

Miss-20: 32.272933° -86.099801°

This is a gravel and dirt pull off on the east side of the intersection of CR 85 and CR 101 next to Barlett Airport (a private grass air strip). There is plenty of room on the side of this busy road for a mobile radar. View to the north is great with just the telephone pole in the direction of where the cab should be facing when parked (depending on network configuration). View through east to south is also very good. Spots of blockage up to 0.5 degree. The main issue is that to the SW there is a stand of moderately tall trees that will block up to 1.5 degrees for about a 20 deg az sector. To the west are the airport buildings, though they would likely not interfere. Just about 300-500 yds south on CR 85 (Pike Road) the east side of the fence line had a sign stating that the field was State Property. Probably could get access for disdrometer or sticknets if desired. Checked LMA noise level and it was good. **This is a green site.** Pics and video taken.



Blackbelt-radar-20 site (Mississippi 20). Left panel is north. Right panel is east.



Blackbelt-radar-20 site (Mississippi 20). Left panel is south. Right panel is west.

Miss-21: 32.271777° -86.739617°

Intersection of US 80 and Mary J. Jackson road. There is a dirt road access to the field beside the road on the northwest side of the intersection. Good spot for disdrometer and StickNet. However, two pivot sprinklers were on next to the dirt spot (they did not hot the dirt spot). Probably not a good site for LMA due to the topography. **Poor red site for radar** due to topography, buildings, trees, and sprinklers. Pics and video taken. Two bars AT&T signal.



Blackbelt-radar-21 site (Mississippi 21). Left panel is north. Right panel is east.



Blackbelt-radar-21 site (Mississippi 21). Left panel is south. Right panel is west.

Miss-22: 32.269239° -86.545276°

This is a paved private driveway next to US 80 leading into Budock Farms. There is a keypad by the gate. Entrance is narrow. Tall tree on other side of gate. so would prefer radar aimed cab at the gate, but with 2 wheels in the grass to leave room for traffic getting into and out of gate. Probably would leave a divot, so maybe not a great spot. Could instead park parallel to US 80 eastbound side. Since this spot is on a tall hill, there is less blockage than other spots recently checked. Still, this is a **yellow to orange site** due to 1-2 degrees elevation blockage to NW, spots of up to 2 deg to the NE, up to 2-3 degrees to the SE due to buildings and up to 7-8 degrees for the two tall trees (south and SW). Would have to consider network geometry relative to Craig Field airport. Good LMA site (relatively low noise). Good StickNet. Probably not a good disdrometer site unless you had permission to enter the gate, as there are power lines on both side of US 80.



Blackbelt-radar-22 site (Mississippi 22). Left panel is north. Right panel is east.



Blackbelt-radar-22 site (Mississippi 22). Left panel is south. Right panel is west.

Miss-23: 33.996152° -88.626568°

Bridge on US 278 over Hwy 41. Four bars AT&T. The north side of the bridge and the south side of the bridge both have broad shoulders next to guard rail that a mobile radar could fit in. The main problem is that there would be a lot of blockage on the western lobe, up to 4-5 degrees in elevation to the NW due to tall trees on a nearby hill. While the southern side of the bridge alleviates that concern, there is a large metal sign that would be behind the radar on that side of the bridge. **This would be a yellow site for the eastern lobe and red for the western lobe.** Took pics and two videos. Did not test LMA as we are losing sunlight and still wanted to scout another disdrometer site in this general area.



Blackbelt-radar-23 site (Mississippi 23). Left panel is north. Right panel is east.



Blackbelt-radar-23 site (Mississippi 23). Left panel is south. Right panel is west.

Miss-24: 32.730322° -87.906044°

This would have been a gravel driveway off US Hwy 43. But the area is fenced and the driveway too narrow for any instrumentation. Checked another driveway nearby. Same story. Radar blockage would be bad at this site. Did not document. **Bad red site for everybody.**

Miss-25: 32.811040 -87.946279

This is a well-maintained gravel road next to some catfish ponds off US 11/CR 7 (also signed as Boligee St) outside Eutaw, AL. The site is elevated. Suggest radar pull into gravel road, go right and then back up on the original gravel road to orientate the truck cab towards the sw. There are modest hills in the far distance in many directions that will cause some ground clutter. But the main clutter is a tree line next to the paved road (CR 7). The other issue is a small radio tower (10 m) that might cause some scattering since it will be close to the radar. Otherwise, there are 2-3 places that are 2-4 deg in az that will block up to 1.5 degrees. Other than SW, this is a good site. **Would classify as yellow to blue.** Great spot for

disdrometers, Sticknets, LMA (quiet noise levels). Three bars AT&T coverage. Was told this is Paul Bryant Jr.'s property.

Should note that the short cut through town is NOT radar friendly. Many very low power lines. Sign says no truck. There is an alternate route that would take about 15 more minutes. Definitely need to follow it for the radars. Pics and video taken.



Blackbelt-radar-25 site (Mississippi 25). Left panel is north. Right panel is east.



Blackbelt-radar-25 site (Mississippi 25). Left panel is south. Right panel is west.

Miss-26: 33.719439° -88.673280°

This is a bridge overpass at the intersection of US 45 Alt and CR or Hwy 25. The spot of interest is on the west side of the south-bound lane. There is an exit lane beside the shoulder and guard rail that provides a little more cushion from traffic than the Miss-2 site. This site has several small sectors with blockage up to 2-3 degrees due to isolated tall trees at the nearby farm houses. **Otherwise, this is a good site (yellow to blue).** Very few road signs. Cell tower to the NE is not as close as the Miss-2 site. Could be used in a pinch, though Miss-2 has less blockage overall and it is only 8.5 miles north of this site. Pics and video taken. Four bars AT&T coverage.



Blackbelt-radar-26 site (Mississippi 26). Left panel is north. Right panel is east.



Blackbelt-radar-26 site (Mississippi 26). Left panel is south. Right panel is west.

Miss-27: 32.889129 -88.347559

This is the south side of a gently sloped grassy shoulder in a small dip on a small hill off CR 32 out of Geiger, MS. Terrain to the east is lower than the site and to the west higher than the site. Excellent views in all directions. **This is a green site.** The only blockage would be a 2-3 deg az sector to the west and up to 1.5 to 2 deg. Took pics and video. Video called it BB-radar-1. Pivot sprinkler in the field, far from the road. But up on a slight hill, could be problematic. Green site. Also, since the field is open, would make for a good disdrometer, Sticknet or LMA (low noise) site. The only draw back is that the radar would have to park on the grassy shoulder and hope not to get stuck. Definitely would require some duradeck prep to avoid being stuck after rain. Two bars AT&T 4G signal (yikes!). All other notes are LTE unless specified. Later, sitting in the van at the site, I had 1-2 bars of LTE.



Blackbelt-radar-27 site (Mississippi 27). Left panel is north. Right panel is east.



Blackbelt-radar-27 site (Mississippi 27). Left panel is south. Right panel is west.

DISDROMETER

Disd-1-BB: 34.730200° -88.562786°

On west side of US Hwy 45 at intersection of Hwy 145. There is a small paved pad with a grass/dirt road going out to an open grassy field. Looks well trampled. **Site is good for a disdrometer and maybe StickNet.** But hills and trees make it unsuitable for radar. Three bars of AT&T cell signal.



Blackbelt-disdrometer-1 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-1 site. Left panel is south. Right panel is west.

Disd-2-BB: 34.698691° -88.708030°

Gravel pull off just before a bridge on the west side of Jumpertown along Hwy 4. The gravel shoulder is wide. The grassy area slopes strongly down to the open field. Could put a disdrometer or Sticknet out here with some effort going up and down the slope. **This is an ok disdrometer site.** Large hills to the west made this a poor radar or lma site. Four bars AT&T coverage.



Blackbelt-disdrometer-2 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-2 site. Left panel is south. Right panel is west.

Disd-3-BB: 34.450818° -88.706593°

West of US 45 on Hwy 348 about 1.8 miles. There is a gravel pull-out next to a bridge over a creek. Small hill to the west. Open cotton field next to road with flat grassy area and then short steep drop to the field. The grassy area is wide enough to put the disdrometer or Sticknet far enough from the road to be ok without having to get into the field. **Good disdrometer, StickNet and LMS site.** Power lines are about 15 feet into the field. LMA test conducted. Quiet all the way across the frequency window. Only 1-2 bars of AT&T coverage. One bar Sprint coverage. Took pics and video.



Blackbelt-disdrometer-3 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-3 site. Left panel is south. Right panel is west.

Disd-4-BB: 34.451135° -88.744541°

North side of road before a bridge off Hwy 348 just west of intersection with 503, a place called Blair. Two bars AT&T coverage. The gravel area on the north side of the E-W road is as broad as Disd-3-BB site. This site might be easier to deploy at since there is a gently sloped path to the field and the power lines are on the southern side of the road. **Good for disdrometer and Sticknet.** Did not check LMA since it was only 2 miles from Disd-3-BB. Took pics and video. Local stopped and told us we were in tornado country.



Blackbelt-disdrometer-4 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-4 site. Left panel is south. Right panel is west.

Disd-5-BB: 34.579718° -88.618743°

Poor spot. Steep gravel pull out next to Hwy 5031. Field is too low to the road to even suggest sticknet or disdrometer. No further documentation.

Booneville-Baldwyn Airport: 34.593252 -88.648266

County airport near terminal buildings. Manager is Terry Lee Roberts (662-728-7552). He lives two miles down the road and would be willing to meet at airport to let people set up instruments. **Good spot for LMA, disdrometer, and Sticknets.** Tested LMA and quiet in 60-66 MHz band. No pictures taken.

Disd-6-BB: 34.002415° -88.880567°

Off Hwy CR 32 west of US 45 and Alt 45. This is a gravel and grass pull off before a bridge, actually between two bridges. The area is large enough for two support vehicles. There is a moderately sloped pathway down into the field on the north side of the road. Power lines start at the edge of the field. Probably good spot for StickNet and LMA (tested using spectrum analyzer and saw typical 50-55 MHz noise, but quiet in the 60-66 mHz band). Disdrometer might want to be out in the field, depending on issues with road spray. This shoulder area is not as wide as some we have seen. **Still a good site for non-radar instruments.** Took pics and video.



Blackbelt-disdrometer-6 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-6 site. Left panel is south. Right panel is west.

Disd-7-BB: 33.263162° -88.442731°

This is a gravel road off CR 792 (Old Macon Road) in an open field. There is a dirt pad next to the high-pressure gas line facility. There is a gate on the gravel road, but no fence around the gate. Just pull on the gravel and place instrument on the dirt pad. Will be far enough from obstructions to get good data. Pics and video taken. One bar AT&T signal. **Good site for disdrometer and perhaps StickNet.** Did not test LMA. Pics and video taken.



Blackbelt-disdrometer-7 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-7 site. Left panel is south. Right panel is west.

Disd-8-BB: 33.193848° -88.464548°

This is a gravel and grass field access area off Deerbrooke Road. Large cotton gin to the north of this site. Good paved road. There is a flat area between the two fields at this spot. Can easily pull a vehicle in and set up instruments without having to get out into the crops. No obstructions. Power lines on other side of road. **Great non-radar site.** Pics and Video taken.



Blackbelt-disdrometer-8 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-8 site. Left panel is south. Right panel is west.

Disd-9-BB: 33.183886° -88.464726°

This is at the intersection of DeerBrooke road and Gillispie Road (Google says it is Mt. Zion Road). There is not a lot of room to set up at this spot. But the best access is on the southeast corner of the intersection. There is a small grassy area JUST south of the intersection that is a field access area. Could walk instruments out into the field. Immediate area is flat. Power lines run N-S on the west side of the road and then T-off to run to the east along the north side of Gillispie Road. The SE corner access area is power line free. **Good disdrometer, StickNet and LMA site.** Some power bursts around 50-55 MHz. This time the truck is far enough away to not be the source.



Blackbelt-disdrometer-9 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-9 site. Left panel is south. Right panel is west.

Disd-10-BB: 33.687722° -88.802961°

This is a semi-circle gravel driveway next to busy CR 47 to the northwest of West Point, MS. There is an open field on the north side of the road that would be **suitable for disdrometer, StickNet, and LMA**. Single line power pole at edge of field next to road. Not a big problem. There is a grassy path from the gravel to the field. Indeed, the LMA noise was low at this site. Appears that the house with the red roof owns the field of interest. Did not talk with owners. But I doubt there would be any issues deploying briefly on their property. Most of this area is pasture land with fencing. So open fields are a bit scarce. Two bars AT&T coverage. Pics and video taken.



Blackbelt-disdrometer-10 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-10 site. Left panel is south. Right panel is west.

disd-11-BB: 32.701078° -88.141668°

This is a gravel pad (old construction dump site) at the intersection of US 59 and CR 20 (exit 23 in Alabama). The pad is on the northeast side of the intersection. Originally thought the bridge would be good. But not enough flat area up on it. The pad would be **fine for disdrometer and maybe StickNet** if you don't mind being lower than the surrounding area. Pics and Video taken from bridge. Three bars AT&T signal.



Blackbelt-disdrometer-11 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-11 site. Left panel is south. Right panel is west.

Disd-12-BB: 33.723819° -88.642091°

This is a small gravel pull out off Sykes Road about 12.5 km southwest of Muldon. The road is initially paved, then a patch of gravel and then paved again. The site is next to a paved section with open fields on either side of the road. No power lines. Three bars AT&T coverage. Easy access to the open field to the south of the E-W road. There is very little traffic on the road, through a large truck did precede us down the road. **Good site for everything, even radar** (though you would have to block the road a bit). Field is open and would be able to accept disdrometer, StickNet and LMA stations. Quiet LMA site except near 55 MHz. The radar view is really good. **A green site.** The spot is on high ground but still in a small shallow valley. Trees are distinct and relatively short with the exception being to the west and northwest. The trees in that sector are closer and would produce about 1 deg of blockage over a good 30-deg az sector. There is also grain elevators and silos in that sector in the distance that would scatter radar energy and might produce some additional sidelobing. Still, they are far enough away to only affect a 1-2 deg az sector. Finally, there are a few distant radio towers that would help align the orientation. There is a wide dirt/gravel field road farther down Skyes that would be good for turning the radar trucks around so we could exit. Just need to keep the back wheel on the pavement. Pics and video taken.



Blackbelt-disdrometer-12 site. Could be a radar site (green classification). Left panel is north. Right panel is east.



Blackbelt-disdrometer-12 site. Could be a radar site (green classification). Left panel is south. Right panel is west.

Disd-13-BB: 33.761204° -88.451085°

This site is off US 45 proper at the intersection with Old US 45 road. There is a small paved patch of road on the east side of the northbound road. Strongly sloped shoulder to the field. But there is a gently sloped grassy path that is car width. Also some area on the edge of the field that has not been tilled. **An okay site for disdrometer if you can get out in the field.** There are other fields nearby as well that are not fenced. The field is low and not sure StickNet would want to be here. Noisy LMA site (up to 60- MHz) and difficult to find a level place unless it was also down next to the field. Might not be good for LMA. Pics and video taken. Three bars AT&T coverage.

On drive to Miss-4, passed a very open, flat area that was about 4 miles down the road (southbound on US 45 proper) from this site. Probably better for disdrometer and StickNet. That site is near 33.702741° ; -88.445437° .



Blackbelt-disdrometer-13 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-13 site. Left panel is south. Right panel is west.

Disd-14-BB: 33.423937° -88.622820°

This is a well-maintained gravel road that runs N-S off Artesia Road to the east of US 45 Alt. There is an active train track parallel to Artesia Road and a grain silo storage next to the intersection. Pull in down the gravel road about 0.3 miles. Drive out to this site said "no truck" due to low-ish wires. **No radars. But other instruments would be fine.** Probably could bob & weave even the radars during daylight. This is an open field area that is flat and would be easy to deploy disdrometers or StickNets. Checked LMA noise and saw it was more intense in the 50-55 MHz band than normal. Train was not moving during the LMA test. Locomotive was likely still on. Two bars AT&T coverage.



Blackbelt-disdrometer-14 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-14 site. Left panel is south. Right panel is west.

Disd-15-BB: 33.417545° -88.514230°

This is a small paved and soft gravel pull off of US 45 proper just south of Kyle Road. There is a gently sloped road that goes down and around the field providing **easy access for instruments, especially disdrometers**. Not sure about Sticknet as the field is lower than the road. Tested the LMA spectrum and this was the noisiest site thus far, with some power getting close to the 60 MHz window. A small radio tower across the road could have been the source. Regardless this site is ok for disdrometer as are other sites in the immediate area.



Blackbelt-disdrometer-15 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-15 site. Left panel is south. Right panel is west.

disd-16-BB: 33.093792 -88.396344°

This is a double lane well-maintained gravel road (Greenbrair Road) off CR 14. The shoulders are grass and gently sloped. The fields are open. Any instrumentation would be fine to set up out here. **Great disdrometer, StickNet or LMA site (low noise). Also a very good radar site.** The gravel road runs N-S. Would be best if you could angle the truck cab to the SE, though that would require blocking a considerable part of the roadway. Views to the north are very good, with up to 0.5 deg blockage just west of north. Views from N through SE are excellent. But from SE and clockwise 25-30 deg in az, there is a tall stand of nearby trees that would block up to 4 deg in elevation. That's why it would be best to point the cab in that direction. Looking south, there are trees in the distance that would block up to 0.5 deg. Continuing to the SW through W, the tree line would provide places with up to 2 deg in blockage, but mostly 1 deg. From W back to N, the view is good. **This would be a green site if not for the large sector to the SE. That sector makes it blue** to yellow. If that sector is not important, then this would be a good radar spot. Pics and video taken. Four bars LTE AT&T signal. Pivot sprinklers down the road that cover this field as well. They were out of sight at the spot.



Blackbelt-disdrometer-16 site. Could be a radar site (blue classification). Left panel is north. Right panel is east.



Blackbelt-disdrometer-16 site. Could be a radar site (blue classification). Left panel is south. Right panel is west.

disd-17-BB: 33.144132° -88.349590°

This is a gravel road (Kohen Road) that runs N-S on the south side of off the paved Prairie Point Road. The road is wide and the fields are open. **Great site for disdrometer, StickNet, or LMA (low noise). Possible radar site as well**, with the exceptions noted below. The view to the north is excellent. There is a farm house with tall trees to the NE that would create 5-deg az blockage up to 2-3 degrees. Then there is a 15 deg az open sector before getting into a set of metal storage bins that would block up to about 0.8 degrees (but could be a scattering problem). Then the view to the east is wide open through SSW. At SSW there is another farm house with less dense tall trees that would create spots of blockage up to 2 deg in a 5-8 deg sector. After that farm house, the view is good, with blockage under 0.5 deg all the way through NW. In the NW direction, there is another set of metal storage bins that would block 4-5 degree sector up to 1-1.5 degrees and would be a scattering source. There is also pivot sprinklers in these fields, though they are far from the road. Overall excellent spot for non-radar instruments and a good (blue) site for radar as it would be possible to point the radar cab at either farm house to mitigate blockage. Pics and video taken. 1-2 bars AT&T LTE signal.



Disdrometer site 17, Blackbelt. Could be a radar site (blue classification). Left panel is north. Right panel is east.



Disdrometer site 17, Blackbelt. Could be a radar site (blue classification). Left panel is south. Right panel is west.

Disd-19-BB: 32.248736° -86.186443°

This is an open gravel driveway to two houses next to a small private pond and golf course off Trottman Road. Just driving in and quickly setting up instruments on the tall grass side of the golf cart path. **Good StickNet or disdrometer site.** Did not check LMA due to us blocking the drive to the houses. Pics and video taken.



Blackbelt-disdrometer-18 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-18 site. Left panel is south. Right panel is west.

Disd-19-beta-BB: 32.262229° -86.160862°

This is an open field at the intersection of US 231 and Trottman Road. Field is on the northwest side. **Large enough field to get StickNet or disdrometer away from any contamination.** Drove past and did not stop.

disd-20-BB: 32.211716° -86.292144°

This is on the right shoulder of the southbound lane of US 331 next to a cemetery. There is an exit lane and small paved shoulder next to it. Easy to pull off and deploy instruments. **Well-maintained grass field for disdrometers, StickNets, or LMA.** Pics and video taken. Three bars AT&T signal.



Blackbelt-disdrometer-20 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-20 site. Left panel is south. Right panel is west.

disd-21-BB: 32.295626° -86.402529°

This is a grass field with well-trodden dirt road off Tower Road that goes to the FAA control tower at the airport on the southwest side of Montgomery. The large grass field is open and **would be easy to deploy disdrometers or sticknets**. A bit of noise in the LMA, mainly on the low end of the band of interest. But some low-power spikes in the band. Pics and video taken. Two bars AT&T coverage.



Blackbelt-disdrometer-21 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-21 site. Left panel is south. Right panel is west.

disd-22-B: 32.198003° -86.559415°

This is an open grassy field off CR 21 that is off US 80 to the west of Montgomery. The field is next to a large Baptist church. There is a grass road on the NE side of the parking lot leading to a farm behind the church. The road goes under high power tension lines. But you can go down the road and walk a short distance to an open area to set up the disdrometer, Sticknet, or LMA (low noise). **This is a good non-radar site.** Pics and video taken. One bar AT&T LTE signal.



Blackbelt-disdrometer-22 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-22 site. Left panel is south. Right panel is west.

disd-23-BB: 32.333098° -86.634471°

This is a dirt and grass field access road off CR 40 on the north side of US 80 west of Montgomery. There are large grass fields on the south and north sides of the E-W CR 40 roadway. Both access areas are gated. But the little chains have no locks. Would be easy to pull in a little bit and set up an instrument. The north side has a single small tree, so easier to deploy on that side. Google Earth shows a better

road on the south side. But its not there. **Good site for disdrometer, StickNet or LMA (low noise).** Pics and video taken. One bar AT&T LTE signal.



Blackbelt-disdrometer-23 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-23 site. Left panel is south. Right panel is west.

disd-24-BB: 32.205032° -88.140763°

Could not get to site due to bridge being out 0.3 miles before the site. Detour was across rough terrain and dirt roads. **Not a good site.** Red flag.

disd-25-BB: 33.840349° -88.808848°

This is the grassy shoulder on the SW side of the intersection between CR 8 and CR 185 just west of US 45 Alt. All the fields out in this area are unfenced. So, it would be possible to stop short of this site and deploy in a field off CR8. The grassy shoulder slopes moderately down. But it's wide enough to pull a vehicle off this well travelled roadway. **Good site for disdrometer, StickNet, and LMA (low noise).** Pics and video taken. One bar AT&T LTE signal.



Disdrometer site 25, BB. Left panel is north. Right panel is east.



Disdrometer site 25, BB. Left panel is south. Right panel is west.

DISD-26-BB : 32.251246° -86.598832°

This is an open dirt E-W road off CR 97 south of US 80 into large, flat fields. **Would be able to get disdrometer or sticknet in there, no problem.** Possible LMS site, though we did not stop to investigate... just drove past.

disd-27-BB: 32.830322° -88.382201°

This is a gravel driveway on the south side of CR 16. The property is owned by the Kemper County Emergency Manager, Ben Dudley (601-527-2393; kemperma.ms@gmail.com). He is interested in real time data access and would like an opportunity to host a weather station at the local schools for an extended period of time. He was willing to provide access to the property at this site for LMA, StickNets, and disdrometer. **Good site for all non-radar instruments, since we can get on the hill in the field.**



Blackbelt-disdrometer-27 site. Left panel is north. Right panel is east.



Blackbelt-disdrometer-27 site. Left panel is south. Right panel is west.

disd-28-BB: 33.960353° -88.610567°

This is a gravel and grass shoulder that is nearly flat next to US 45 proper on the northeast side (northbound). There is a gravel road leading to two large houses with a large grassy open field next to the highway. Would be easy to pull in and deploy instruments there or just stop along the shoulder of the highway. Once you are past the power lines, there are no other obstacles. **Good site for disdrometer, StickNet, and LMA (low noise).** Pics and video taken. Two bars AT&T LTE signal.



Disdrometer site 28, Blackbelt. Left panel is north. Right panel is east.



Disdrometer site 28, Blackbelt. Left panel is south. Right panel is west.