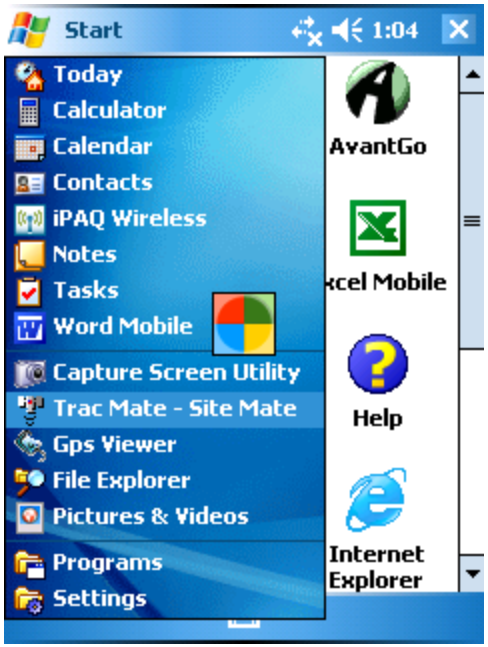
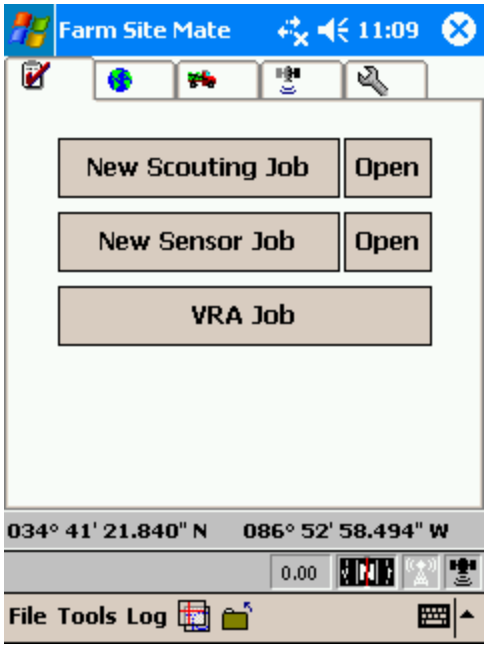
SiteMate for Precision Agriculture

Shannon Huber Norwood
Multi-County Extension Agent
Precision Agriculture
hubersr@auburn.edu

ALABAMA COOPERATIVE Extension SYSTEM
Alabama A&M and Auburn Universities

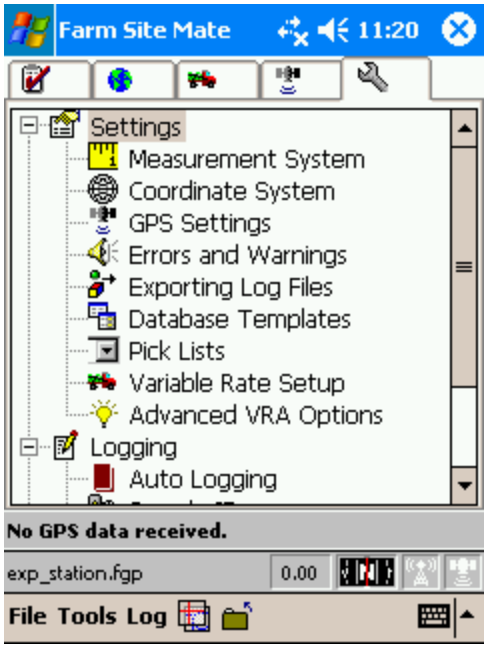


1. Open Site Mate by clicking on the iPAQ's Start button and selecting TracMate - SiteMate from the drop down menu. (You can also select 'Programs' from the Start Menu and then select Trac Mate - SiteMate).

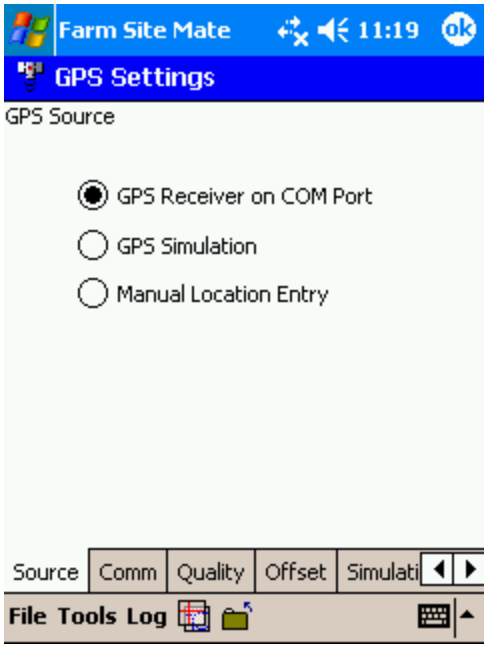


2 This is the first screen you should see when you open SiteMate. Before any data is collected, review GPS settings to ensure everything is properly set-up. *SiteMate with Variable Rate was used in this example, all tabs may not be visible on your iPAQ.*

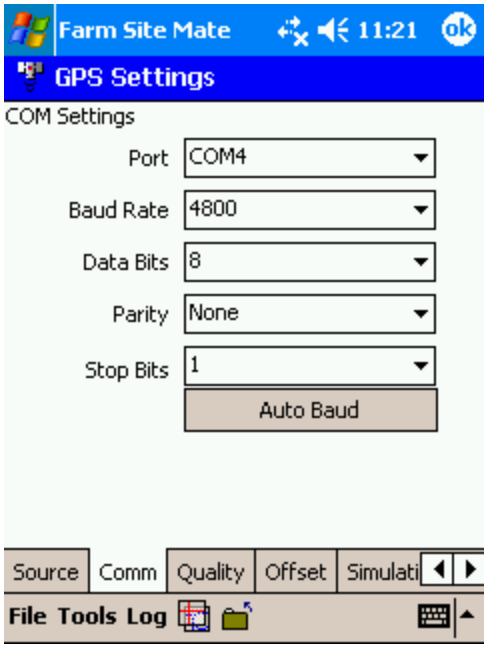
3a. Tap the 'wrench' tab on the far right.
3b. Then tap the '+' to the left of 'Settings.'



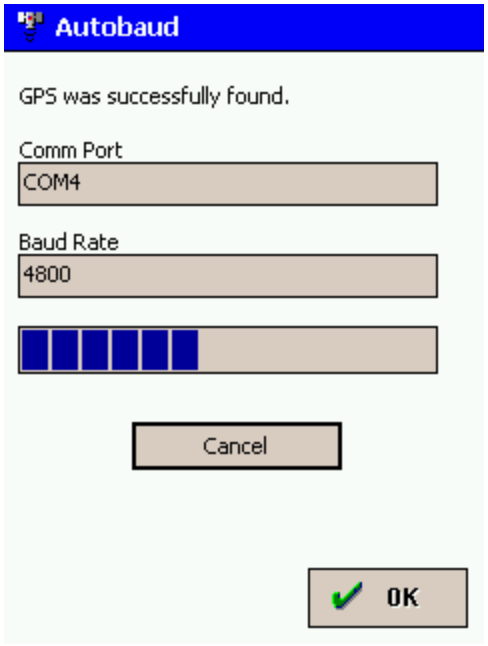
4. Tap 'GPS Settings.'



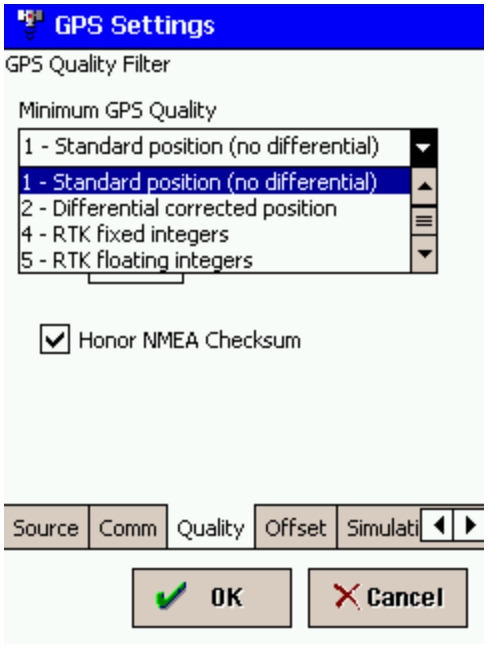
5 'GPS Receiver on COM Port' should be selected. Then tap the 'Comm' tab at bottom of screen (second from left).



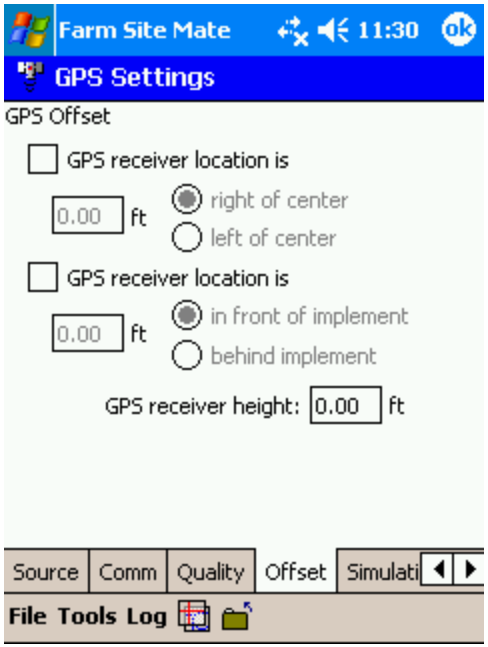
6. If you know the GPS Settings, select them here. If you do not know the settings, tap AutoBaud.'



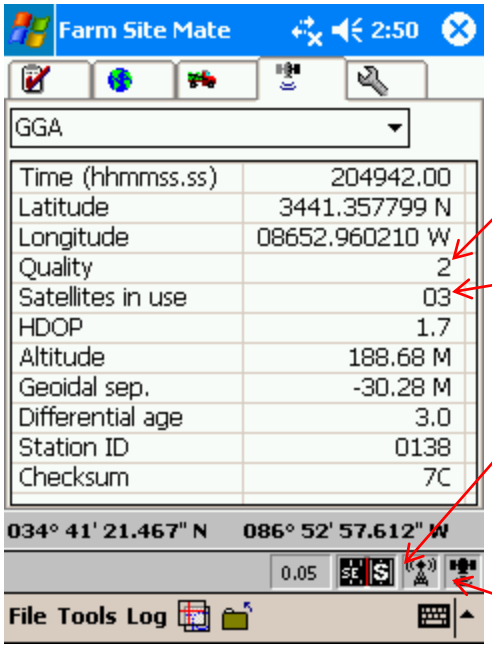
7. This is what the 'AutoBaud' screen will look like. When the blue line stops progressing across the bottom, and 'GPS was successfully found' appears, tap 'OK' at the bottom of the screen.



8 Tap the 'Quality' tab. For soil sampling, you can select 'minimum GPS Quality' to be '1-Standard Position.' Max HDOP should be 25.



9. Tap the 'Offset' tab. If your GPS receiver is mounted (on an ATV, for example), you might need to put an offset in. This would also be important if the iPAQ was serving as a controller for a variable rate application or sensor based application. Tap 'OK' on the bottom of your screen (not shown in screen capture on left).



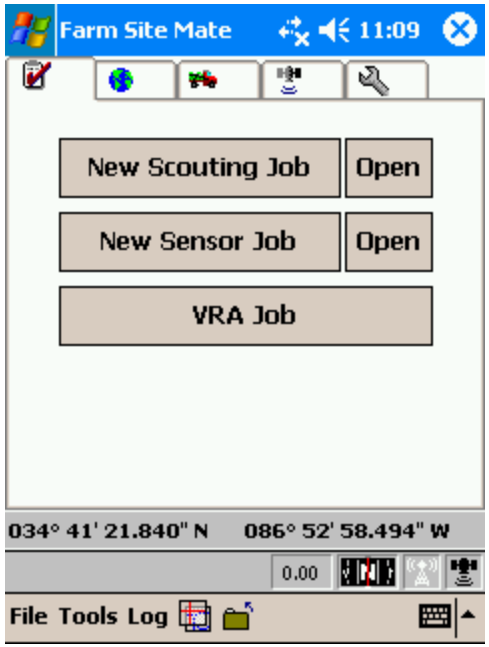
10. Tap the 'Satellite' icon .

'2' indicates a differential correction.

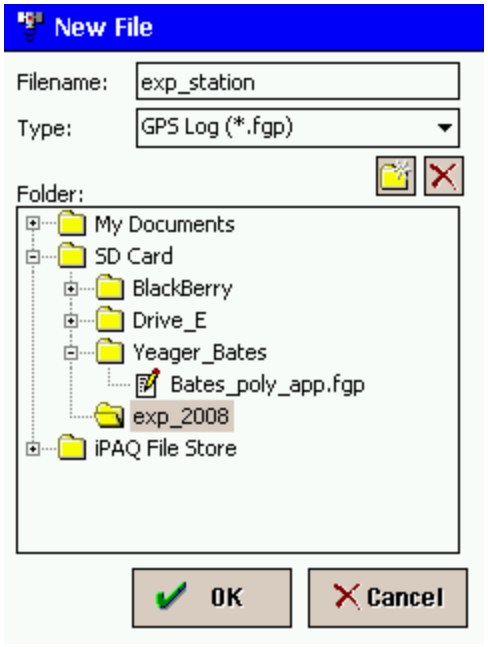
'3' is the minimum number of satellites.

Indicates differential correction is being received (appears white when no diff. is available).

'3' is the minimum number of satellites.

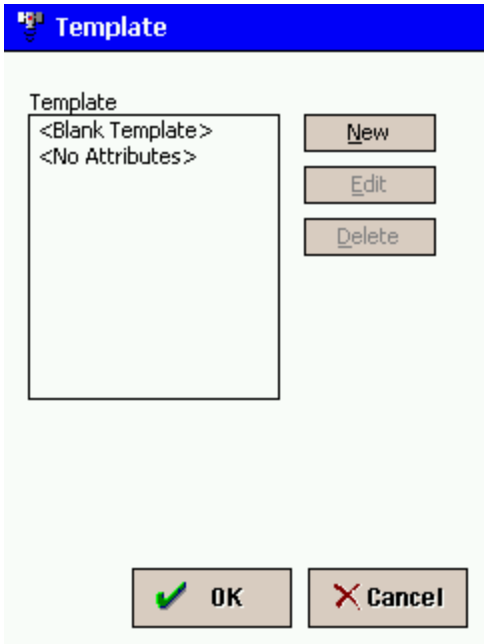


11. To begin data collection, tap the 'clipboard/checkmark' icon on the far left. To create a new boundary file (or point file, etc), tap 'New Scouting Job.'

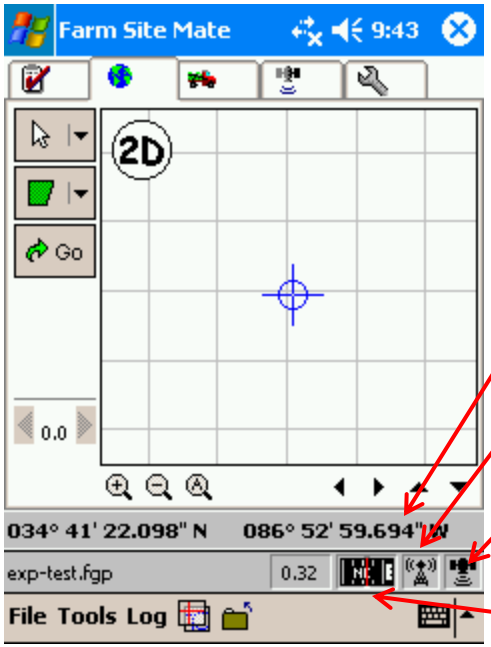


12a. First you will want to select a location to save the file. The recommended location is the SD card.
12b. Next, tap the box next to 'Filename.' When you do this a keyboard will appear.
12c. Once filename is entered, tap 'OK' at bottom of screen.

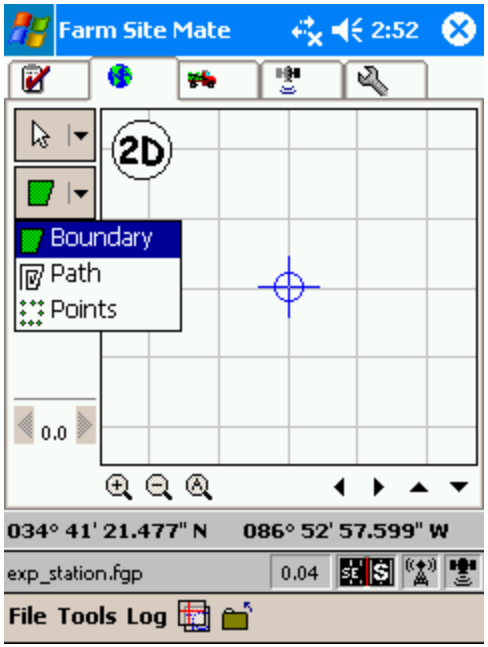
13. This is the keyboard screen that appears, as described in step 11b. Enter the name and tap 'OK' to go back to screen shown in step 11.



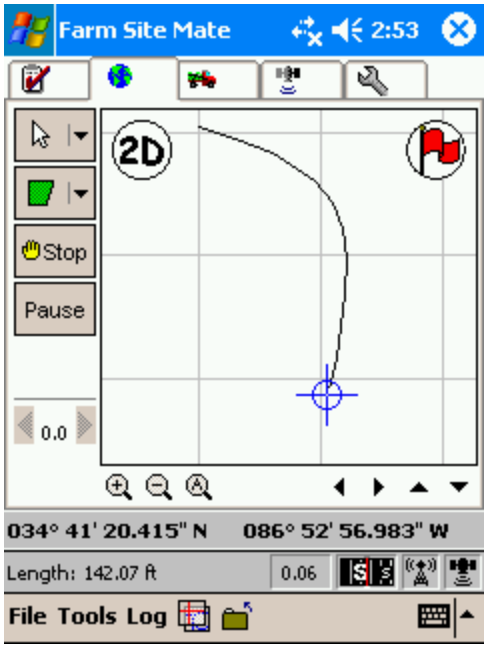
14. This window allows you to customize SiteMate for a specific application. Examples are scouting templates, variable rate application set-ups and sensor (such as Greenseeker) collection. For this exercise, just click 'OK' at the bottom of the screen.



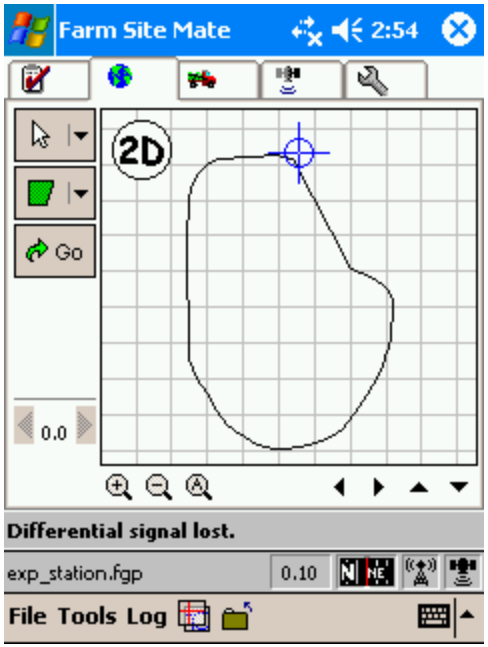
15. This screen should now be visible.



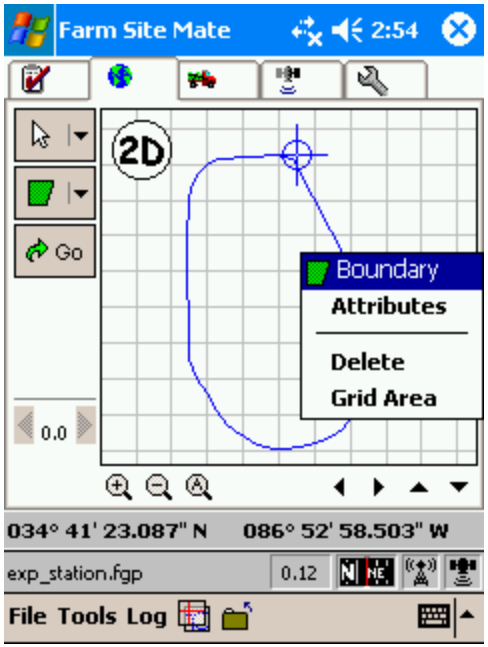
16. To run a field boundary, select the 'boundary' option from the drop down box.



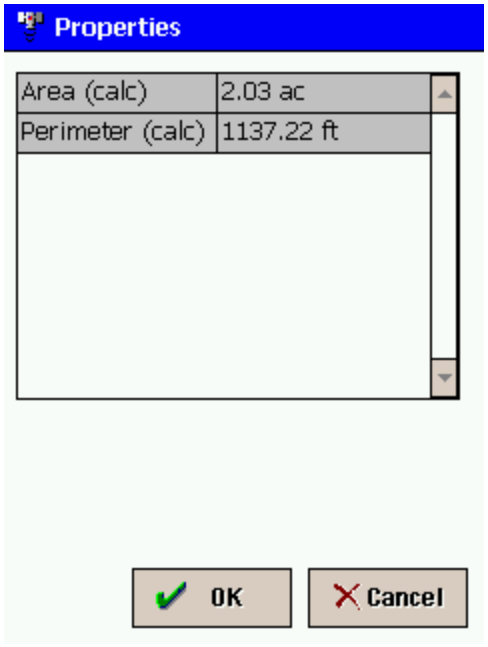
17. When you are ready to begin mapping the boundary, 'tap 'Go.' As soon as 'Go' is tapped, the button changes to read 'Stop.' 'Once you tap 'go', and start moving, a line should appear on the screen to indicate the path you have taken. 'Pause' can be used if you have to go around something, such as a mudhole.



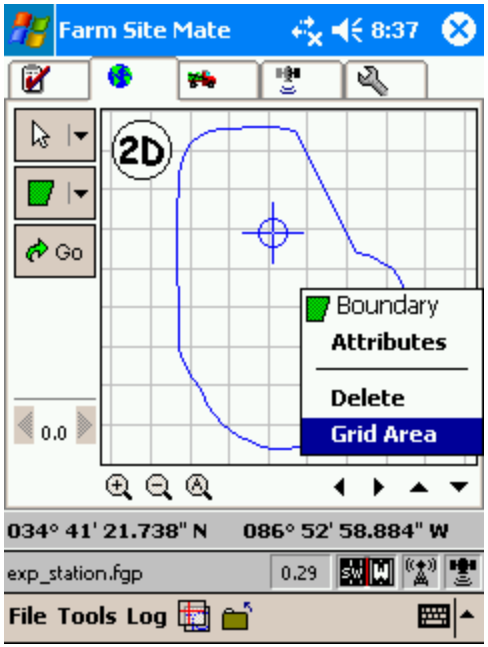
18. Tap 'Stop' when you get back to your starting point. If you are not exactly at the starting point, SiteMate will use a straight line to connect the start and end points.



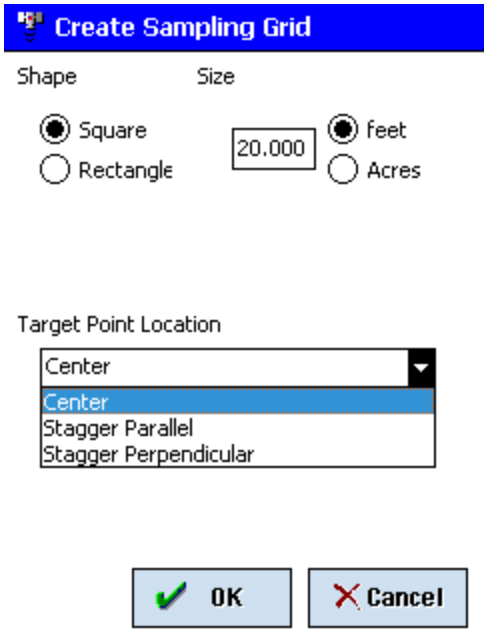
19. Tap anywhere on the boundary you just created, and a menu will pop up. Tap 'Attributes' to see the field acreage.



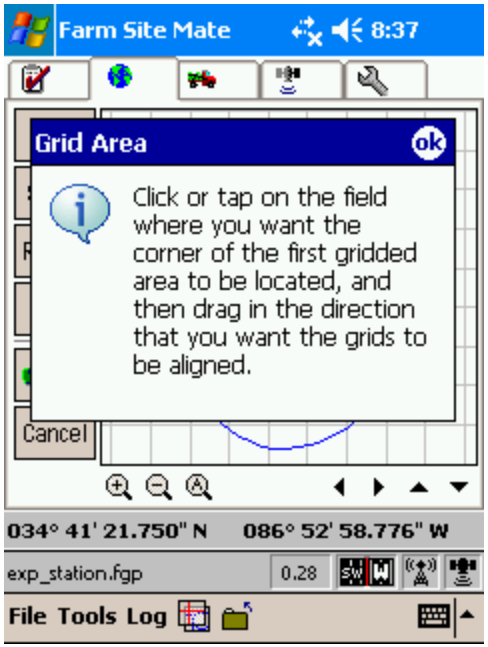
20. Field acreage and perimeter length will be displayed. Tap 'OK.'



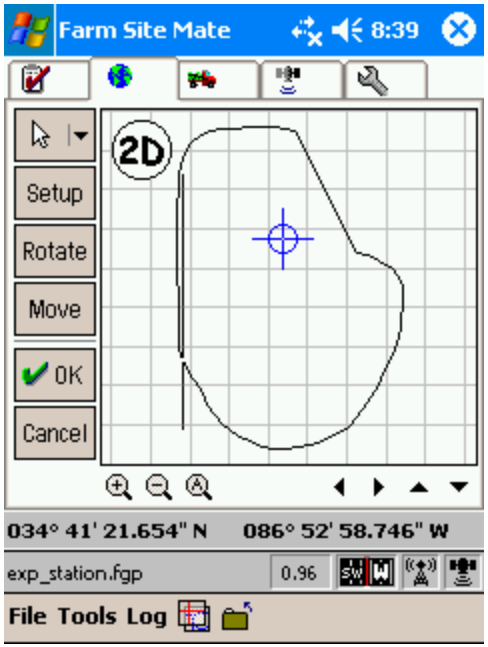
21. To create a grid, tap the boundary Tap 'Grid Area.'



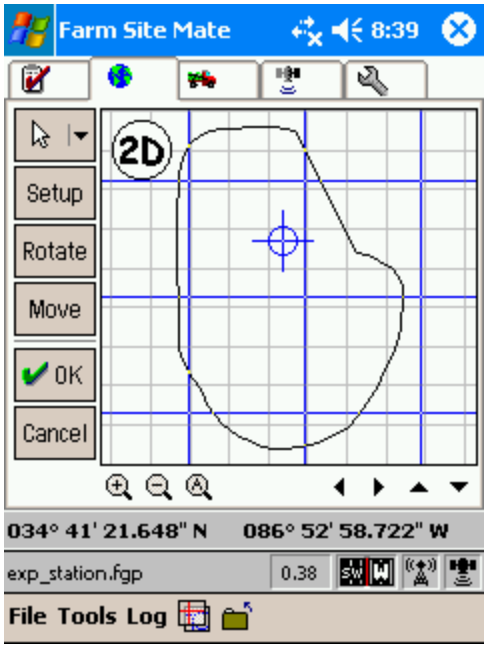
22. Select the shape, size and location of the sampling point location and tap 'OK.'



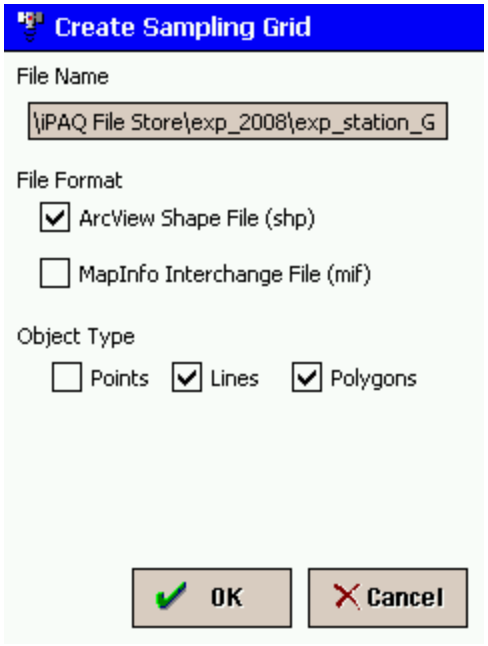
23. Follow the instructions on the screen.



24. A line will appear on the screen as you tap and drag (as described in previous step).

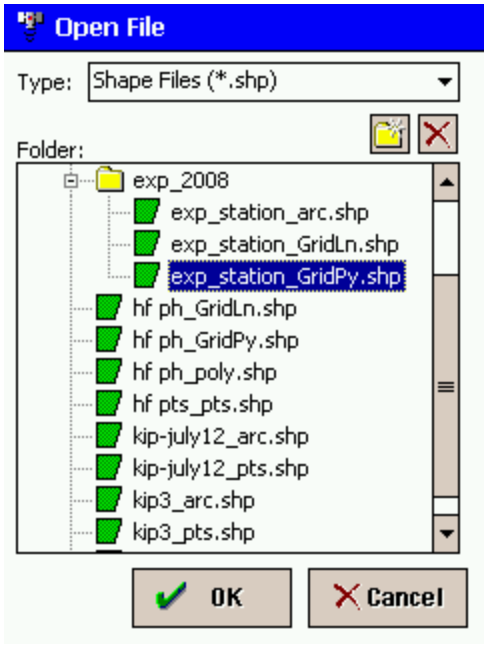


25. SiteMate places the grid. Use the tools on the left to change grid size and rotate or move the grid placement. Click OK when finished.

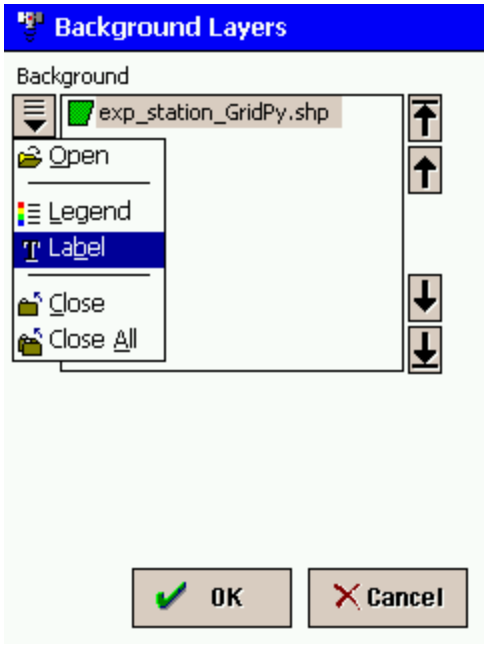


26. Select ArcView Shape field and Polygons . Click OK. It is always good to check and make sure the file is being saved to the location you want.

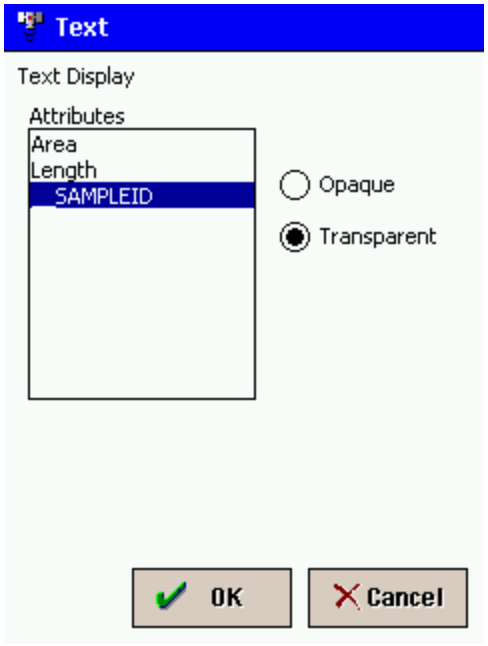
27. To open a grid (or any shape file), tap 'file,' then 'Layers'



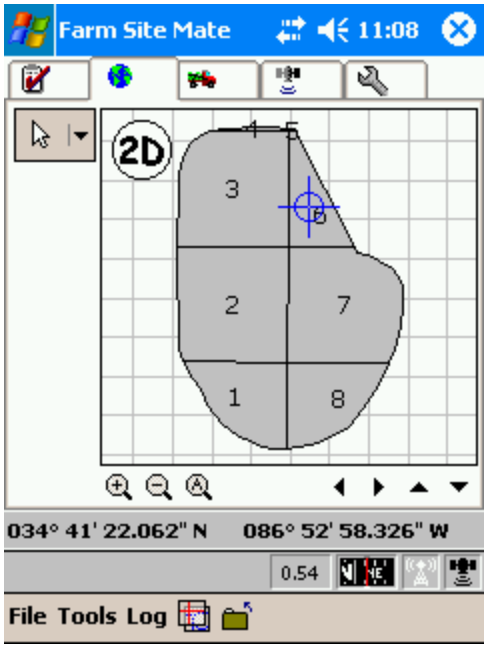
28. Select the appropriate file by tapping.



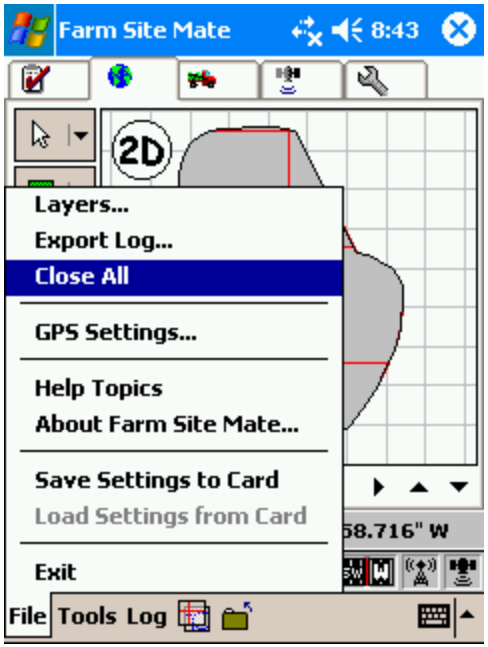
29. Tap the down arrow to the left of the filename. Tap 'Label.'



30. Tap the Attribute that you wish to display. In this case, it is 'SAMPLEID.'

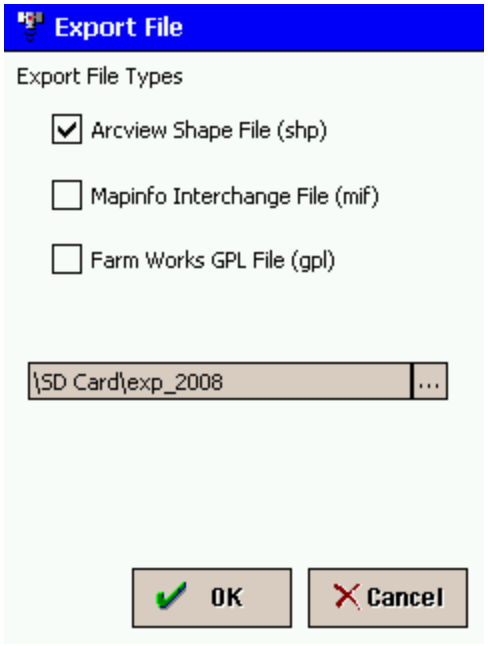


31. The grid numbers are now displayed on the screen. If you are collecting soil samples, these are the numbers that you would use to label your boxes.

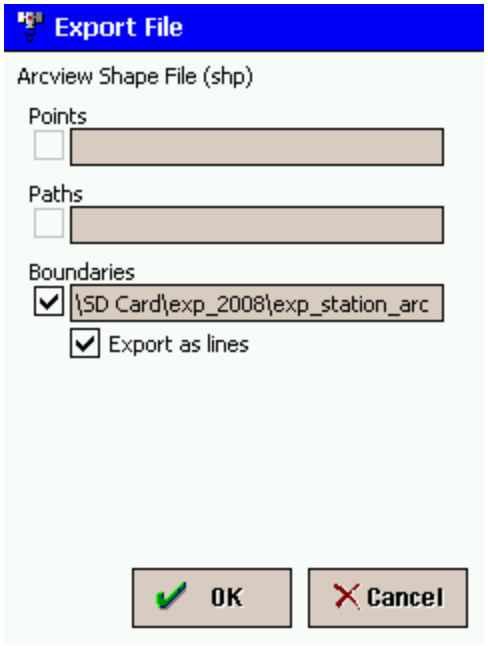


32. Tap 'File' and then 'close all'

33. The following screen will appear. Be sure that 'yes' is selected under 'Do you wish to export the log?'



34. This depends on your software . Generally, I export as a shape file since most software will import a shape file.



35. Check the box in front of the file type that you wish to export. Tap 'OK'.

Once the file has been exported, it is saved in a shape format in the location you designated. In the example below, the file was saved in the 'iPAQ File Store' folder. Connect the iPAQ to the computer. (make sure that ActiveSync detects the iPAQ) To move the file from the iPAQ to a desktop computer, you can go to "My Computer" and double-click on "Mobile Device." Double-click "My Windows Based Mobile Device," then double-click "iPAQ File Store" (the location we saved the file in the example). There will be multiple files listed with the field name. One file is *.gpl (or *.fgp depending on your version of SiteMate). The other three files are *.shp, *.shx, and *. Dbf. To import a shape file into a Geographical Information System (GIS) , for example: FarmWorks, SMS Basic/Advanced, MapShots, etc., you must copy the *.shp, *.shx, and *. Dbf. Some GIS packages will now directly import fgp files.