Procedure
Correlator Use and Operation

Software Version 1.0.51
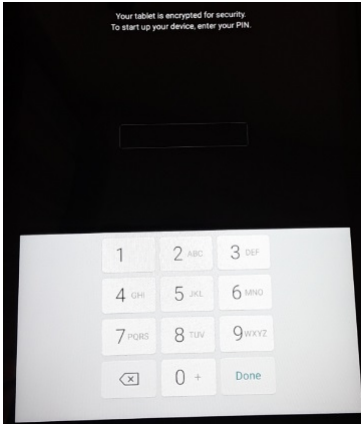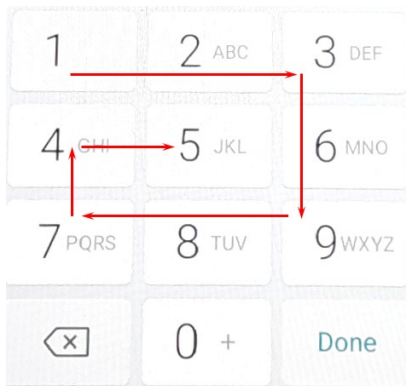
November 6, 2019

Contents

Unlocking the Tablet

All tablets require a pin on power up or waking.

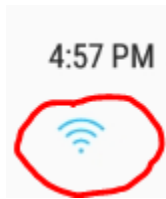All tablets use the same pin: 1 2 3 6 9 8 7 4 5

The pin forms a spiral pattern in the order shown below:

Verify Wi-Fi access

Place your finger on the Samsung logo at the top of the tablet screen and swipe down. You will see an icon indicating Wi-Fi is on or off.
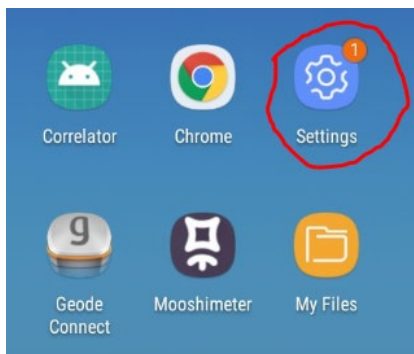
On (blue lines)   Off (gray lines)
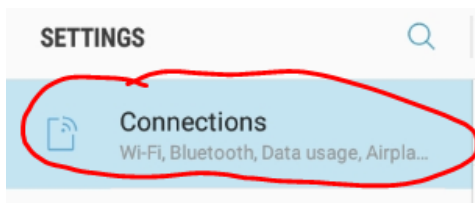
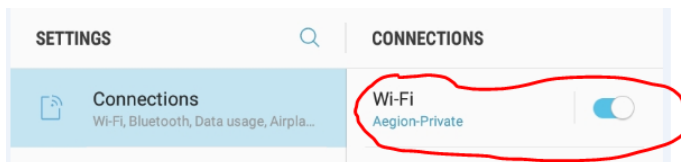If Wi-Fi is off, touch the gray line icon. It will turn blue when on.

If Wi-Fi is not working, go to settings.

Select "Connections" in the left panel.

Select "Wi-Fi" in the right panel.

Connection notes when in an Aegion office:

Do *not* use Aegion-Guest if you are in an Aegion office. It will *not* work properly.

When connecting to Aegion-Private, use these settings:

- EAP method → PEAP
- Phase 2 authentication → None
- CA certificate → Select 'don't validate'
- Identity → This will be your Aegion email without the '@aegion.com'. For example, jdoe@aegion.com, the identity would be 'jdoe'.
- Anonymous identity should be left blank
- Password is your current Aegion email password

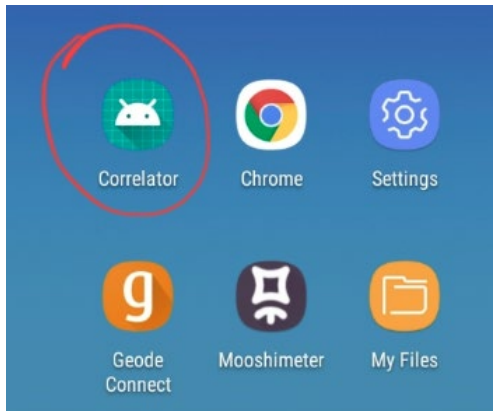If you are not in an Aegion office, select Add network and follow the instructions for your location.
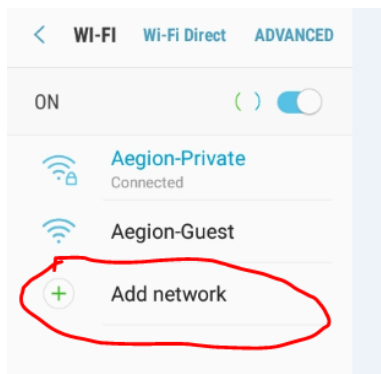
Once Wi-Fi is on, open Google Chrome and verify you have internet access by searching for "Corrpro".
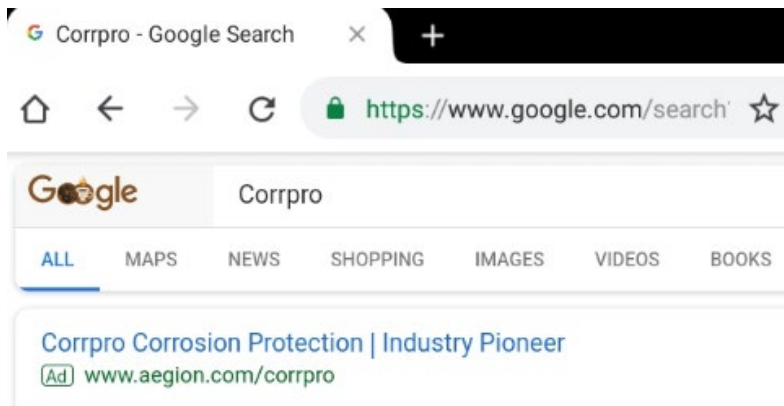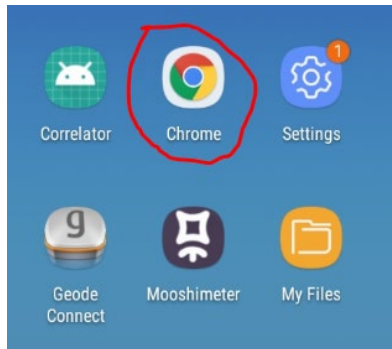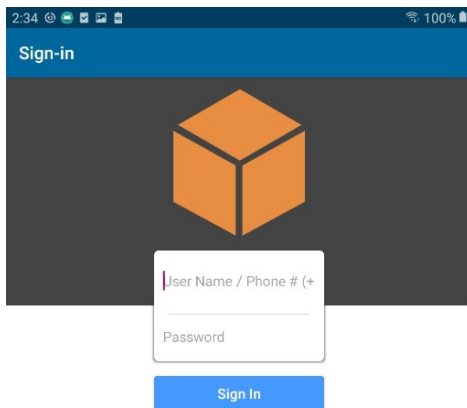
Main page - available surveys

Launch the Correlator app.

Login using your Correlator credentials created during your user setup.

Correlator will open to the main page showing surveys. The *bottom* of the page shows *surveys available for download* from the server. You will only see the surveys that are assigned to you.

The *top* of the page shows *surveys* that you have *already downloaded* to the tablet (local surveys). This section is also user dependent. If one user downloads a survey and logs out, and another user logs into the Correlator app on the same tablet, the second user will *NOT* see the surveys from the first user.
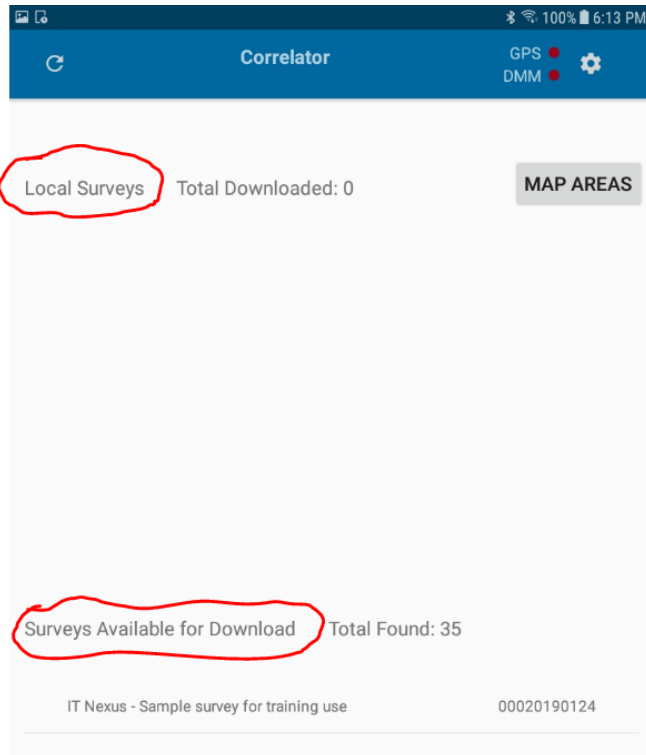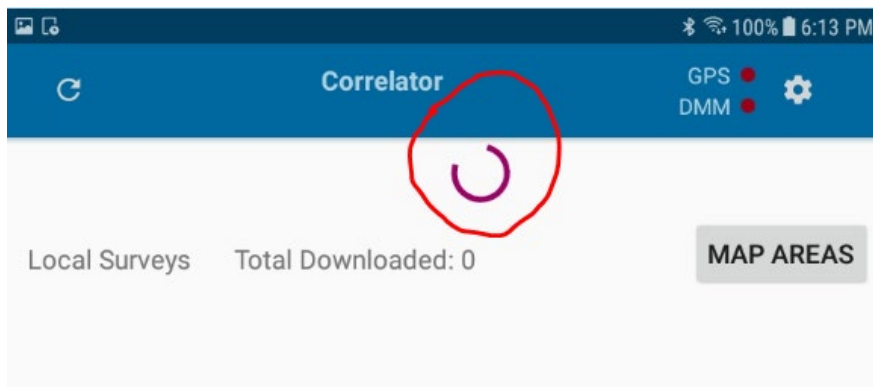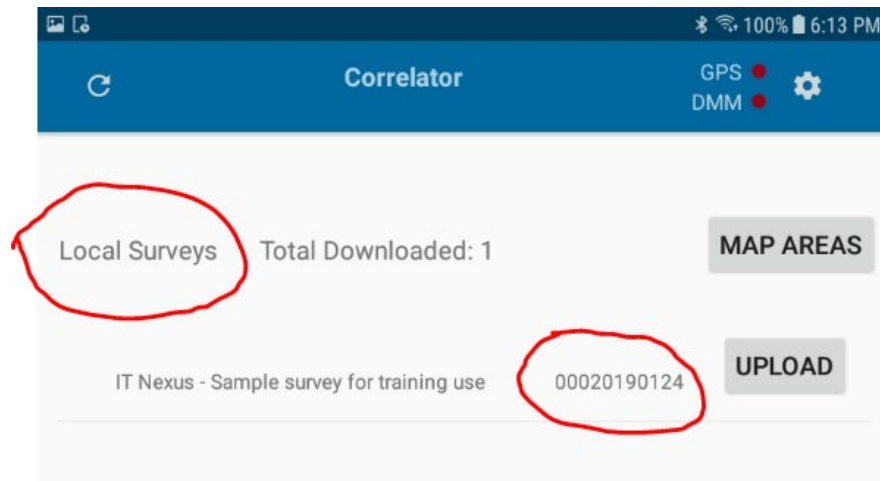
Download surveys

Select a survey from the bottom of the page.
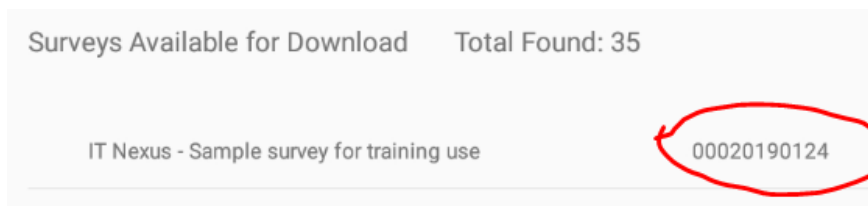
You will see a spinning wheel while the survey downloads.

Once downloaded, you will see the survey in the upper section (local surveys).
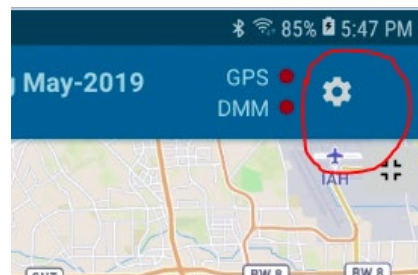

Connecting Devices - GPS

Verify Bluetooth is on. Place your finger on the Samsung logo at the top of the tablet screen and swipe down. You will see an icon indicating Bluetooth is on (blue like below) or off (gray).
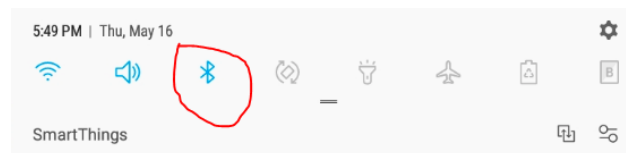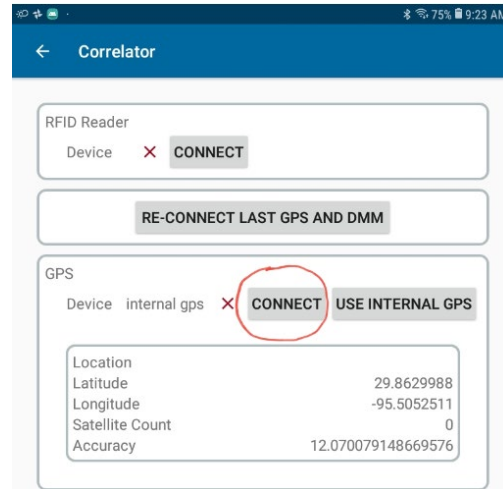

Tap anywhere below the menu shown above to close the drop-down window.

Click the "gear" icon on the top right of the screen to connect your devices.

Press the power button on the Geode. Verify the green LED lights up.

Tap on the connect button under the GPS box.

A list of available devices will show up. Make sure to connect to the correct Geode. If you are out by yourself and only have 1 GPS unit, it will be the only one to show up under this screen. But if you are at the office with multiple kits around, the Geode is named by its serial number. Check the bottom of the Geode to confirm the serial number.
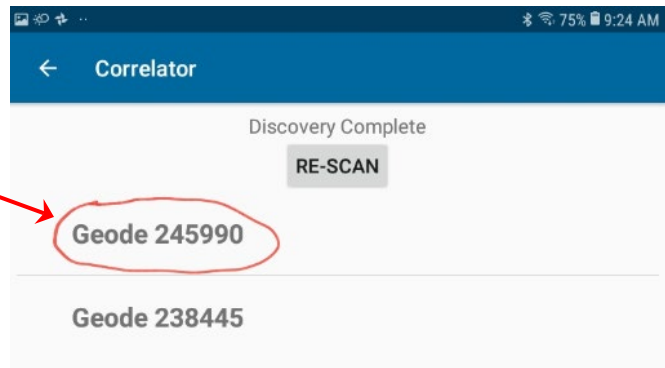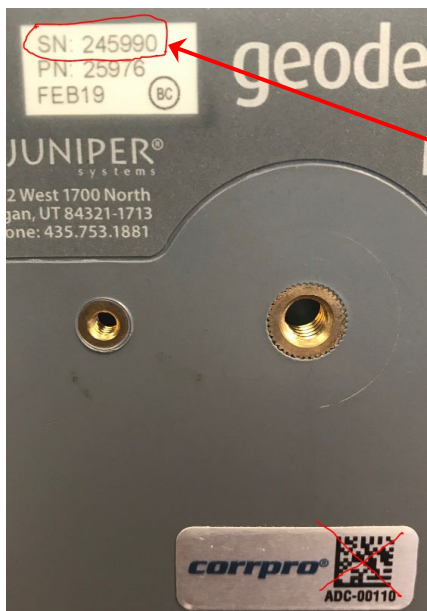
Once connected, verify the Bluetooth LED on the GPS lights up.

We also have the option of using the internal tablet GPS. This is useful for training and indoor use, but it has very poor accuracy compared to the sub-meter accurate Geode. Do *not* use 'internal' GPS for survey work unless the asset location is completely shrouded (under a dock, inside a building, etc.). If you have to use the internal GPS for a few points, make sure to type comments about the conditions in the comments field for that point. Correlator records the GPS device used to locate each test point.

## Connecting Devices - Multimeter

There are currently two supported multimeters. One is the Mooshimeter (small device with no screen), and other is the Fluke 3000 FC. Both meters connect via Bluetooth.

### *Connecting to a Mooshimeter:*

This process is similar to connecting a GPS. Open the connect page using the gear icon and select the 'Connect Mooshimeter' button in the multimeter box.
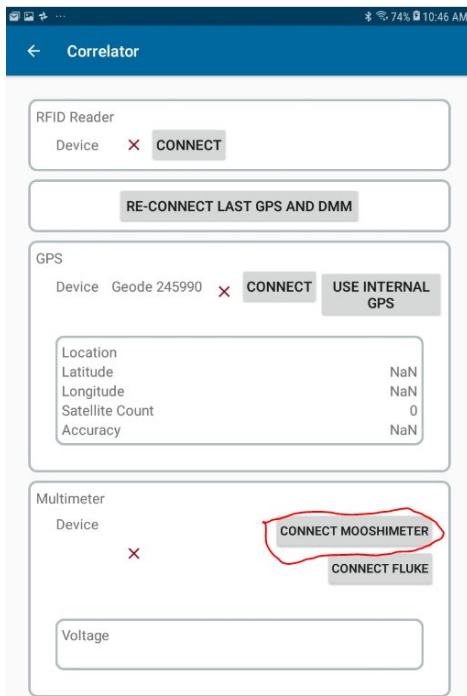
A list of meters will show up. If you are out in the field, it should only show the meter that you have for your kit. If you are in the office, it will pick up all the meters that are close. Make sure to verify the name on the voltmeter. It will be on the QR code on the front of the meter.
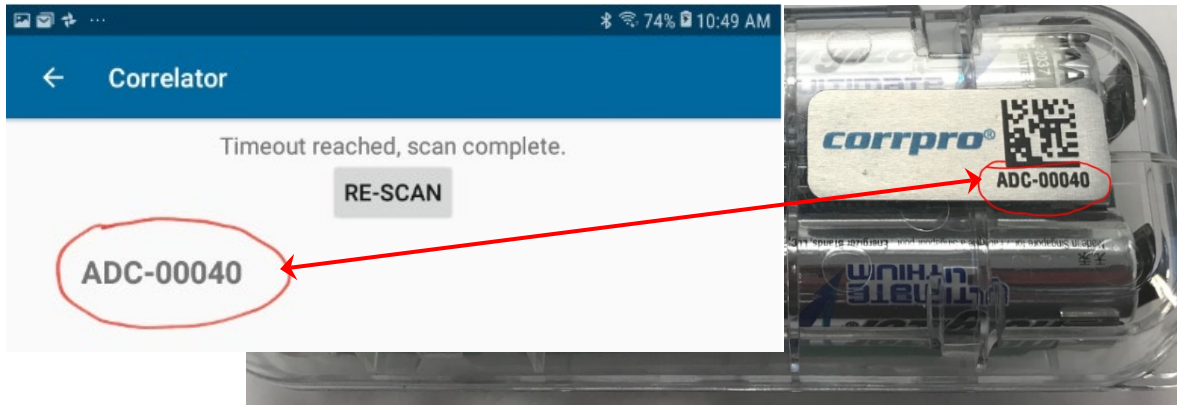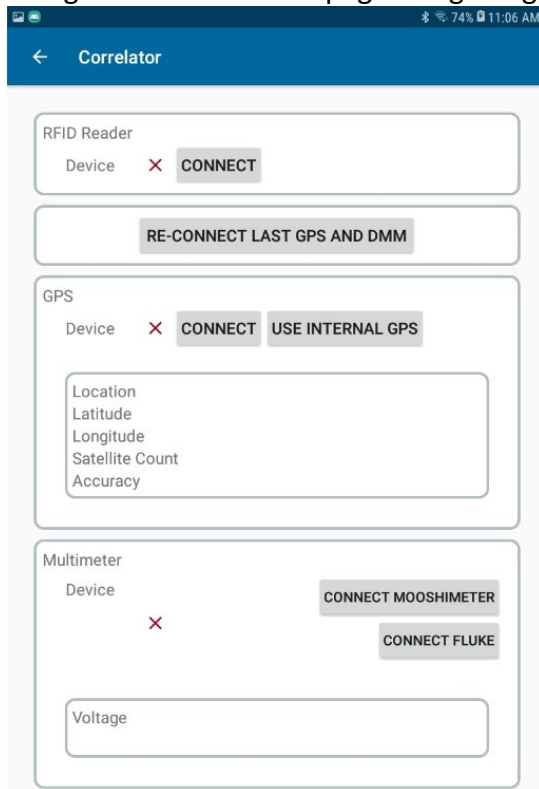

Once connected, the display will show the meter name.
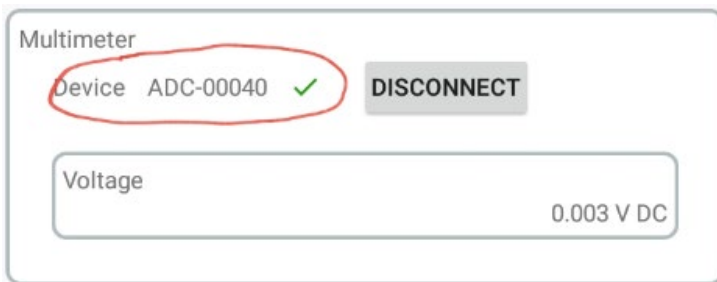
Connecting to a Fluke 3000 FC:

Navigate to the connect page using the gear icon, but <u>do not select anything yet</u>.

Rotate the Fluke knob from off to any position to turn the meter on. Press the Bluetooth button (on the right side with an 'F' and wave icon)
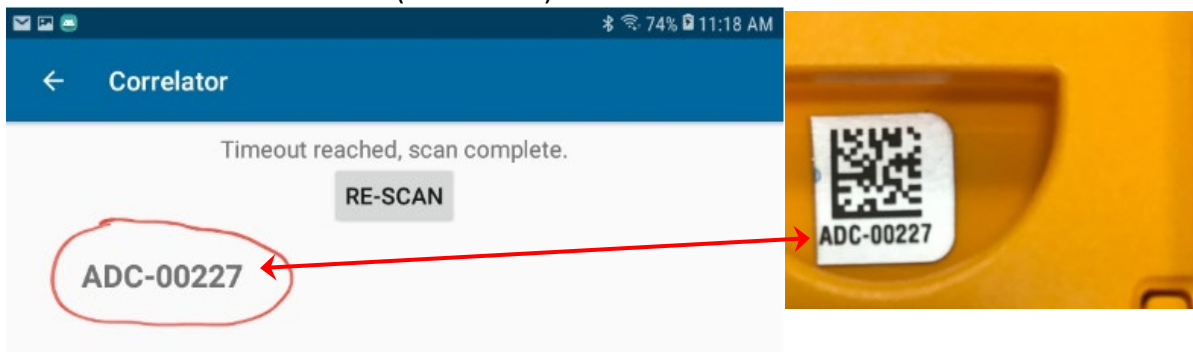
The Fluke screen will show 'Pair with', and the box next to 'App' will be solid.
Press the Fluke 'select' button (second row on meter face)

Now go to the tablet and select the 'Connect Fluke' button in the multimeter box.
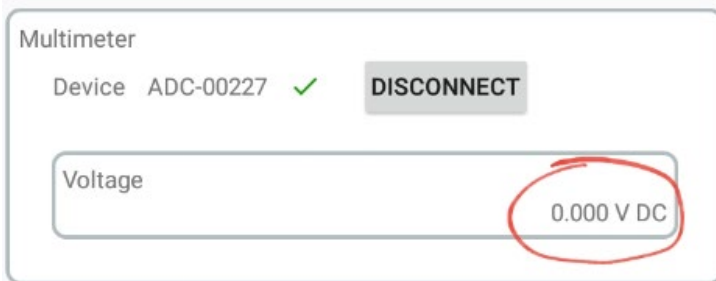

Select the meter from the list (ADC-00xxx) that matches the label on the back of the meter

Observe the Multimeter display box on the tablet and verify the units match the selected position on the Fluke (V AC, etc.)

Rotate the Fluke knob to another setting and verify the units change to the new setting.

If the above fails for any reason, turn the Fluke off again and restart the connect process.

RFID readers also connect via Bluetooth, but the process is specific to the RFID reader. Email correlatoradmin@aegion.com for additional instructions on RFID readers.

GPS and multimeter Bluetooth connection status is shown on every page with lights in the top right corner. Green is connected. Red is disconnected.


After the first-time devices were connected to the tablet, they can be quickly reconnected by tapping the 'Re-Connect Last GPS and DMM' button at the top of the connect page.
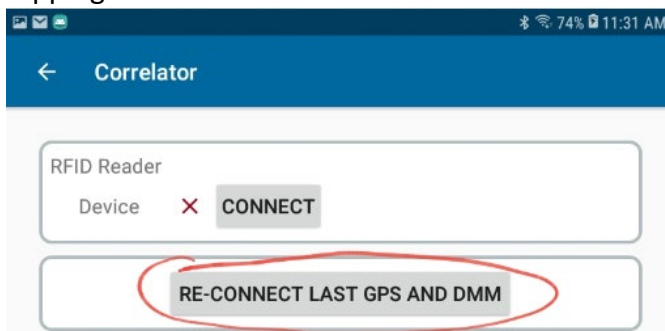
Set Map Areas

A limited map area is included in Correlator for offline use. While connected to Wi-Fi, additional map detail can be downloaded for offline use while surveying.

First verify Wi-Fi access. Then on the survey list page, select 'map areas' in the upper right corner.
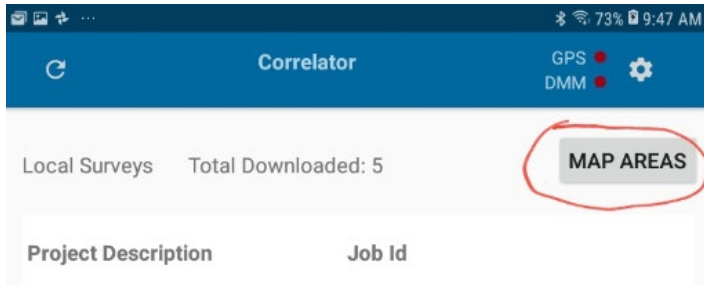
North America will be centered by default. Zoom to the area you will be working in and click the '+' in the bottom right corner. A box will be drawn around the area to be downloaded. Selecting a very large area will take much longer to download.
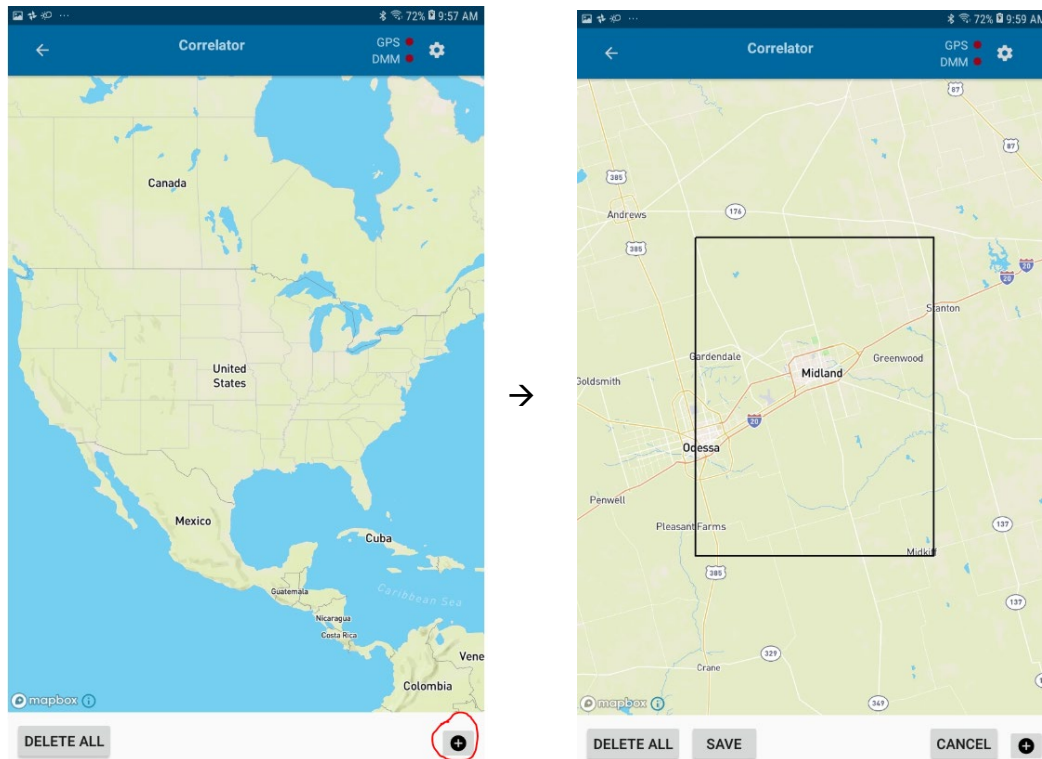
Select 'save'. The download progress bar will show how far along the process is.
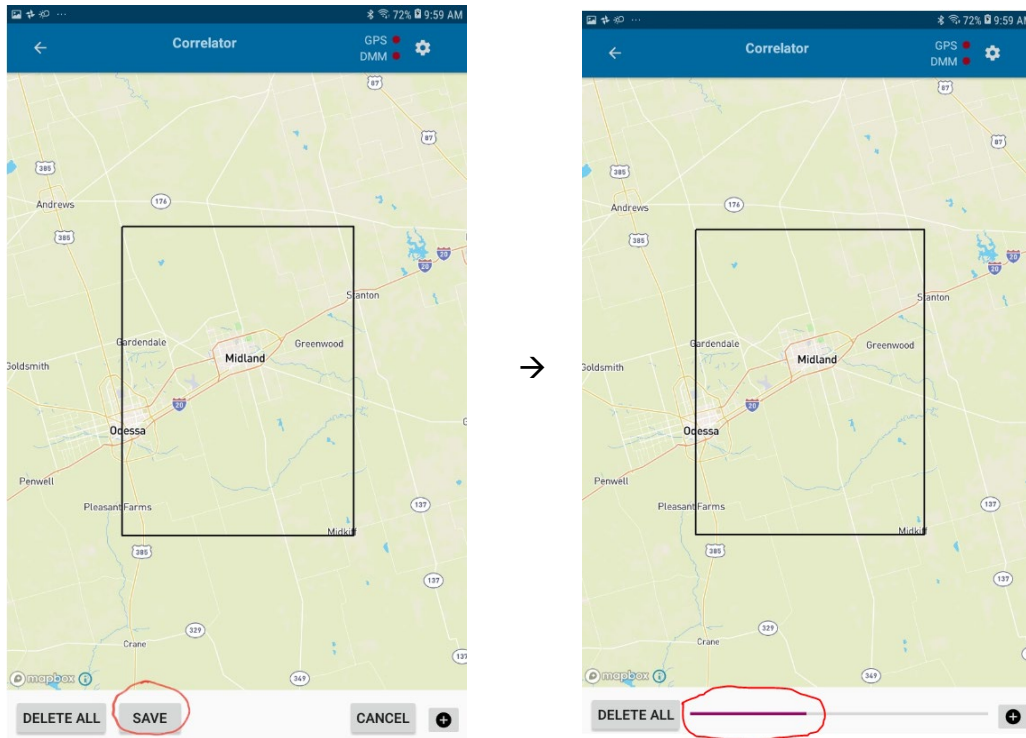
After download, the saved map area will be highlighted blue. Select the 'back' arrow in the top left corner to return to the survey list page.
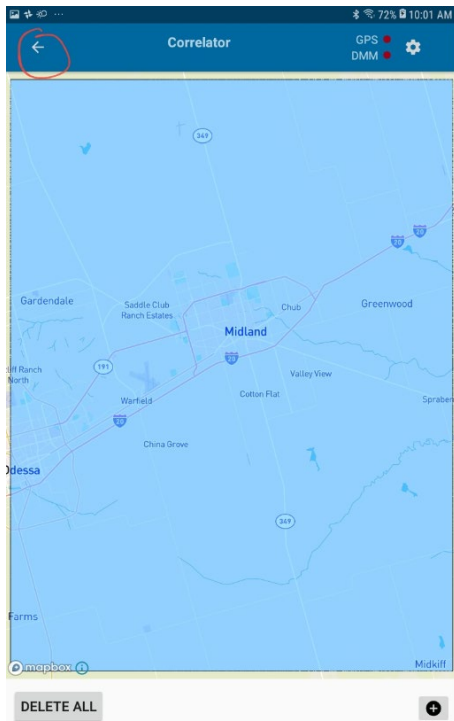
Data Collection

Once you connect the devices and have a survey downloaded, you are now ready to start collecting data. If data was preloaded into the survey, then all the points will be in the survey already. You would tap on the point that you need to read, and all the fields will be pre-populated with the required information, and you will just need to get the readings.

For data with captured or preloaded GPS points you can select anywhere in the row except 'Read', and the map will zoom to that location.

You can also click any of the column names, and that column will sort in one direction. Click again, and it will sort opposite. Click a third time, and the column will revert to unsorted. The name column below has an arrow indicating it was sorted.
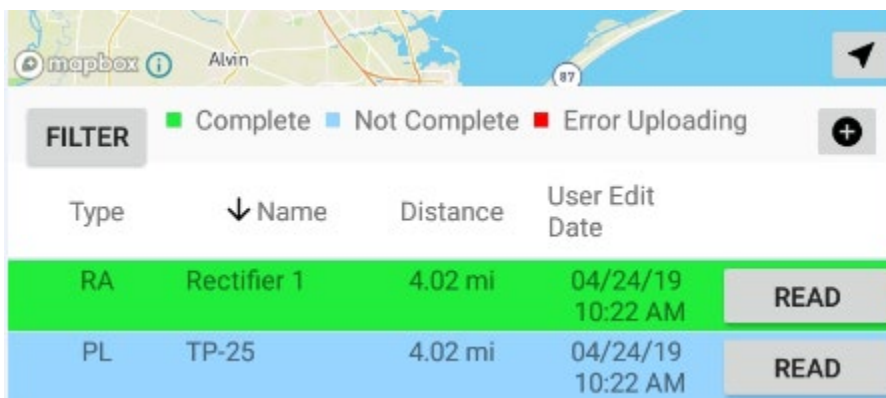

To take readings on existing points, select the 'read' button.

To add a new data point to your survey, tap the "plus" sign.

Then select the type of template that you would need. For this we used (STP) Simple Test Point.
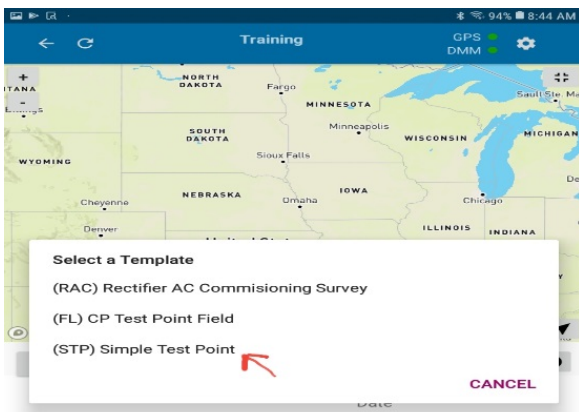
Then type in the required fields and tap the update location to capture a GPS location.
Required fields have a red asterisk next to them as shown below for Name and Geolocation.
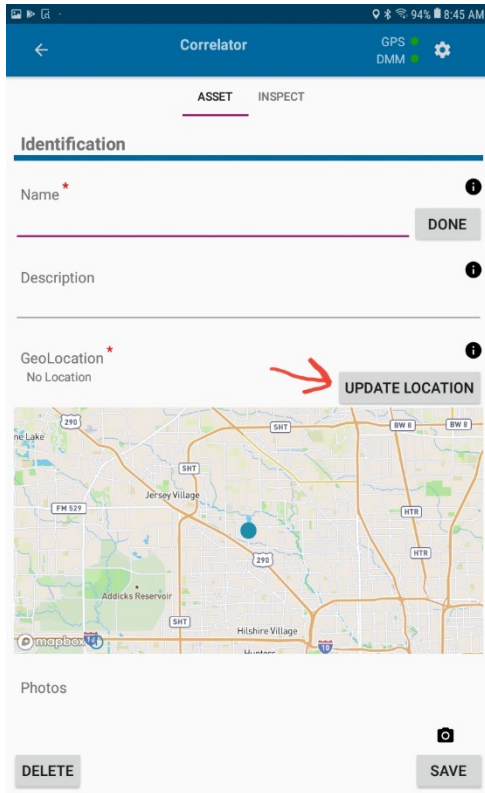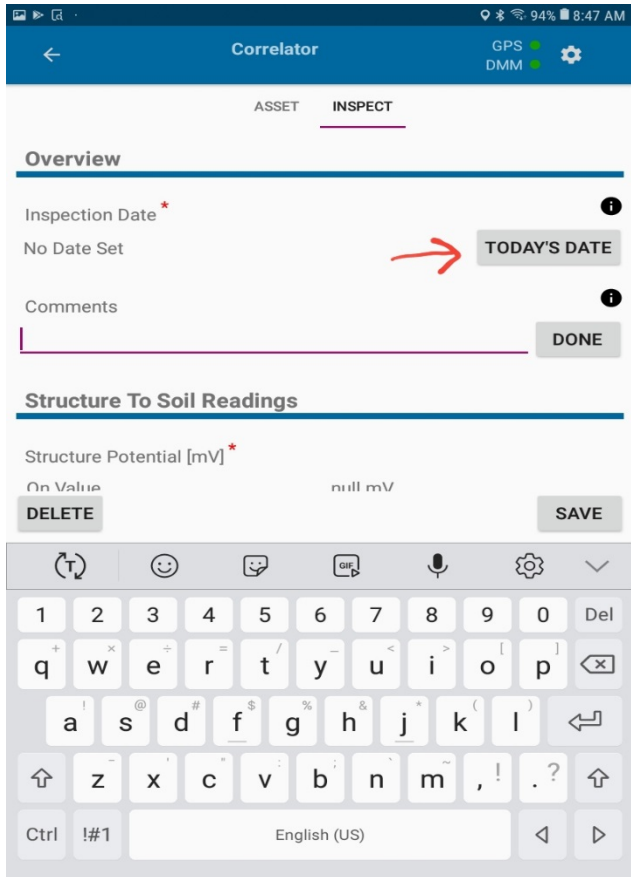

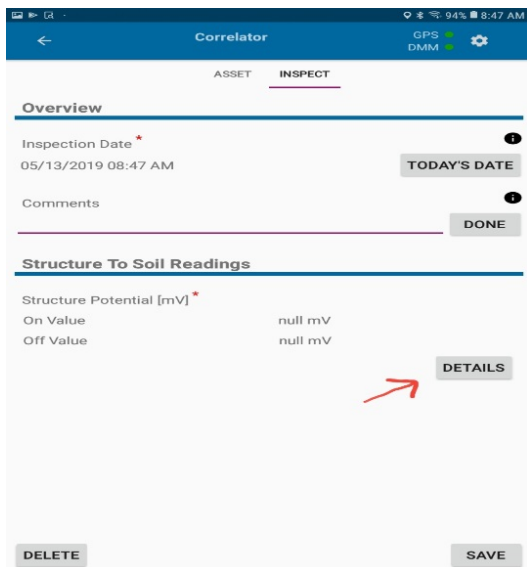To add a photo, you would tap on the camera icon. This will open the camera to take and save a photo.
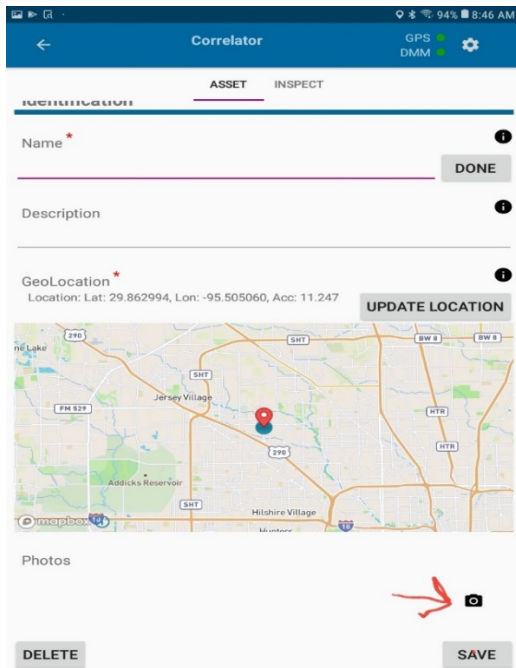
Once all 'Asset' information is entered, either tap the 'Inspect' tab at the top or just swipe the screen to the left to get to the 'Inspect' Tab.

Then tap on Today's Date to update the time and date for the reading.

To get to capture a wave form in this template tap the Details button.
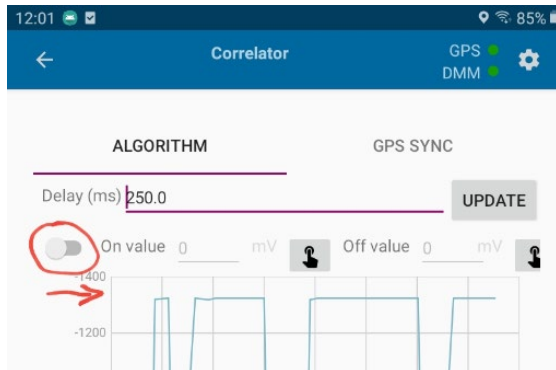
Select 'Algorithm'. GPS sync has not completed development as of this procedure release date.

Select 'Record 15 seconds' or 'Record 45 seconds' at the bottom of the page.
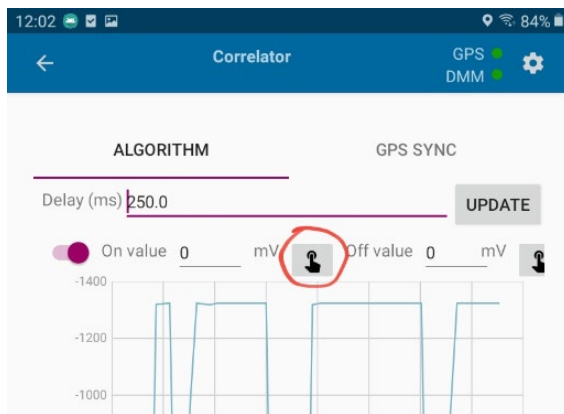
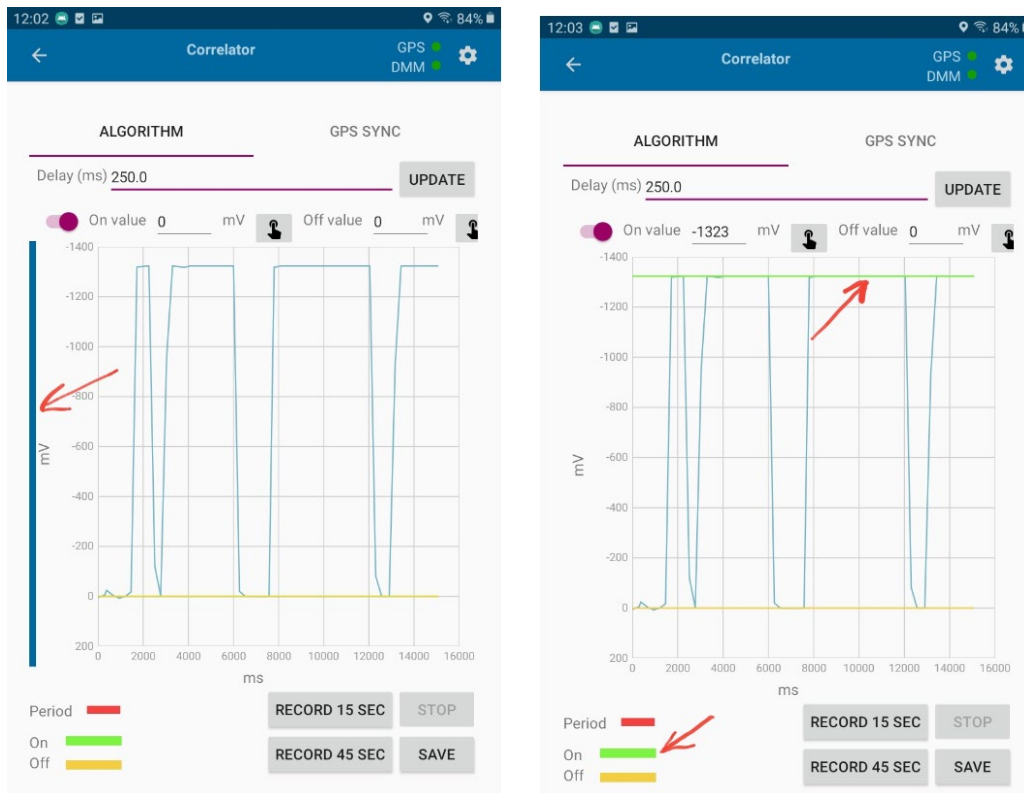After the waveform capture is complete, we will select on and off values.

Move the slider bar to the right to enable selecting a reading.

Press the finger icon for the On value.

You will see a thick blue bar on the left side of the screen. Place your finger on the bar and drag to the On location.

When you release your finger, you will be given the option of saving the value or repeating the process to make a better selection. Select 'save' if you are satisfied with the results.
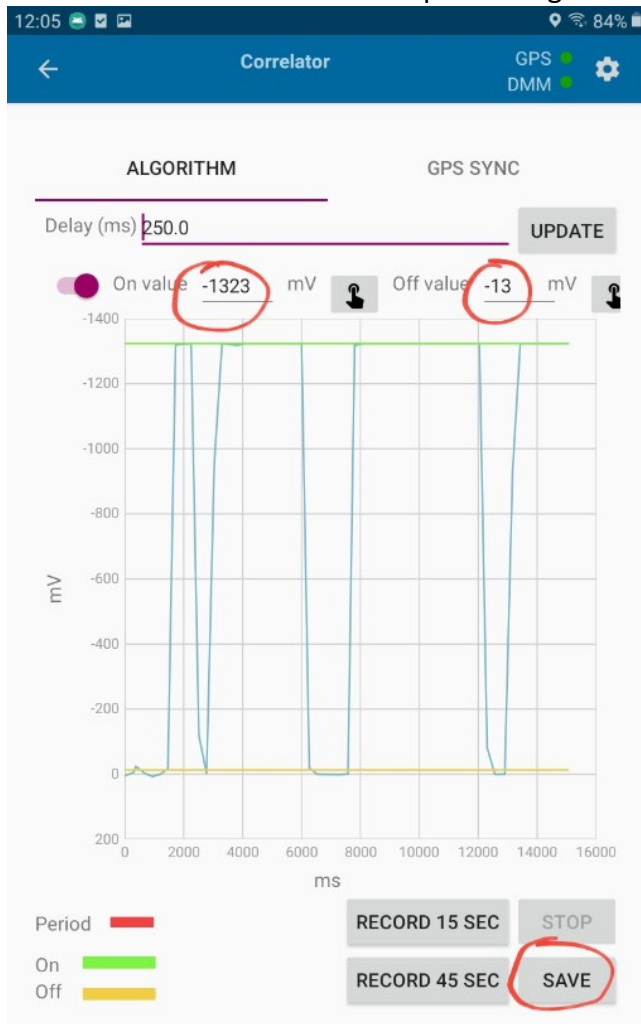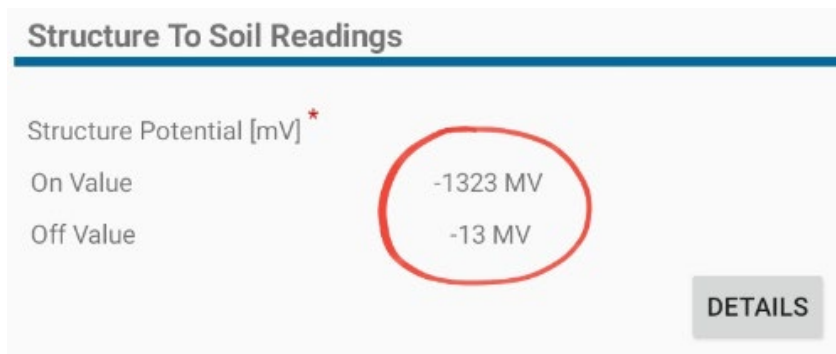
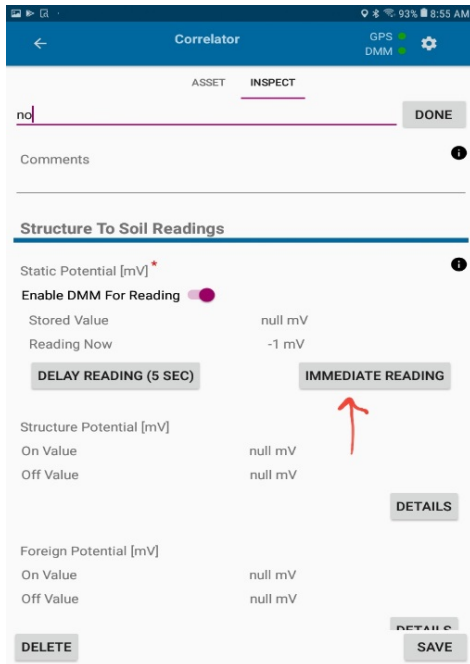Repeat this process for the OFF reading.

Note that the horizontal lines representing On and Off will auto-populate the On and Off fields.
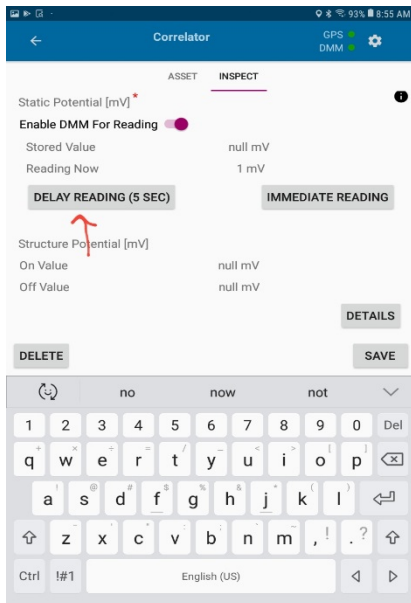

Select 'save' in the lower right corner, and the On / Off values will be carried over to the previous screen.

For Static or just ON readings you can select the Immediate button.

Or if you need to wait a few seconds to hook up your meter you can select the Delay Reading. This will count down from 5 to give you 5 seconds to connect the meter and get the reading.

After all the fields are entered and the readings are taken tap "save" to save the data point.

If all required fields have not been completed, you will get a warning indicating which fields are missing. You can still save what you collected, but the point will not show complete (green).

Download Updates to surveys

If any changes have been made to the survey or any other points added a "Download" will show up next to the survey on the main screen. Tap that to download and update the survey. You must have an internet connection for this to show up and work.
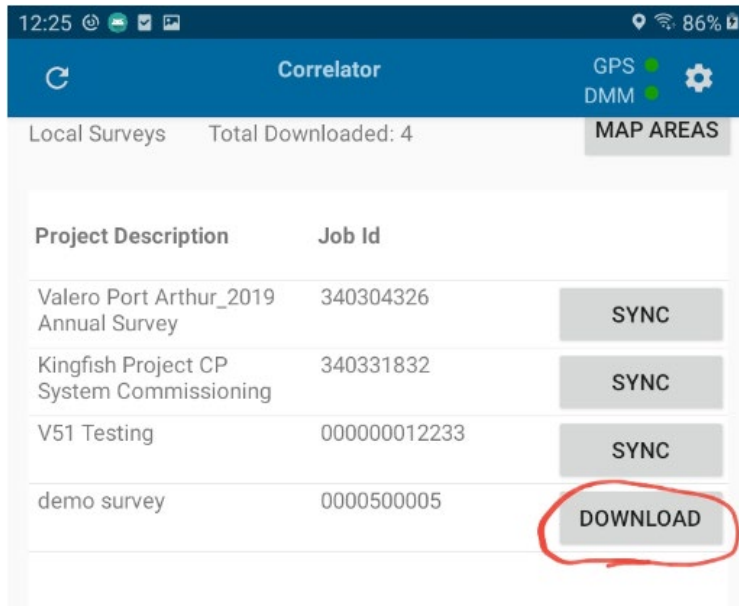
Sync and Upload Surveys

At the end of every day the technician will upload the survey. This will be done by tapping "sync" next to the survey on the main screen. You must have an internet connection to upload and sync data. If there are any errors the app will prompt you that it couldn't upload. If you go into the survey the points that didn't upload will be RED.
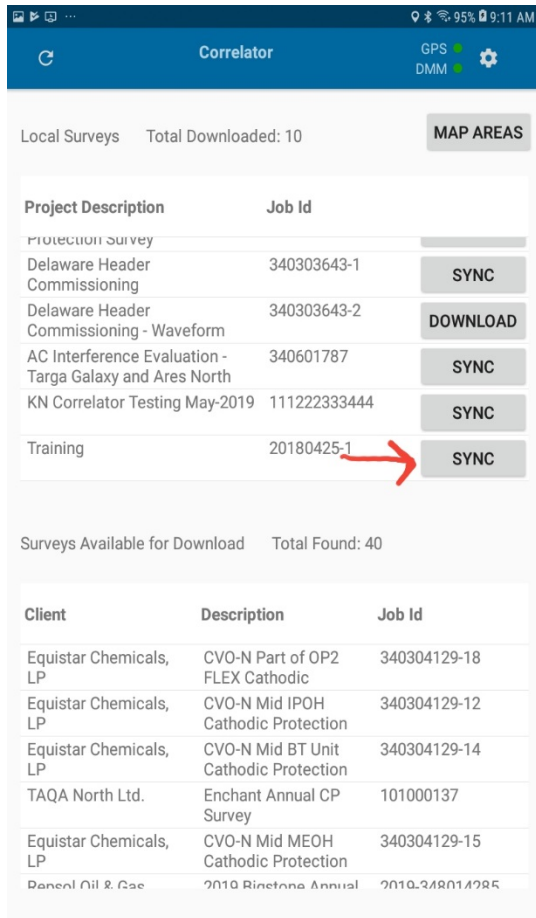
When the survey is complete and synced with the database, notify the PM or a Manager. They will verify the data and set the survey to 'closed', which will cause it to be removed from your tablet on the next refresh.

END