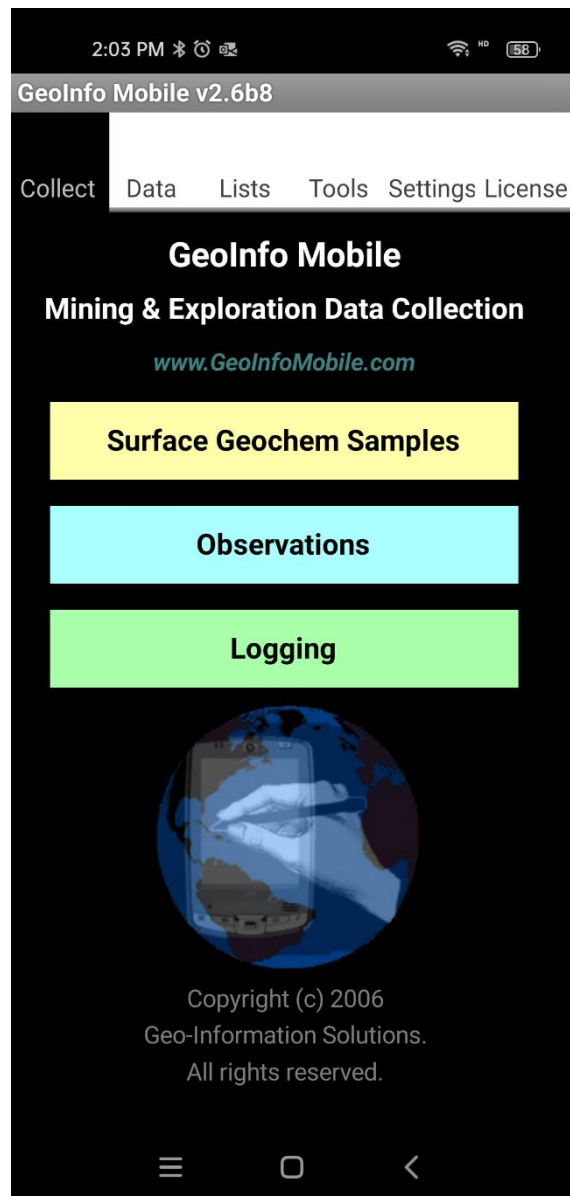


# GeoInfo Mobile v2.6 User Manual (Android Version)

[www.GeoInfoMobile.com](http://www.GeoInfoMobile.com)

August 18, 2022

Geo-Information Solutions  
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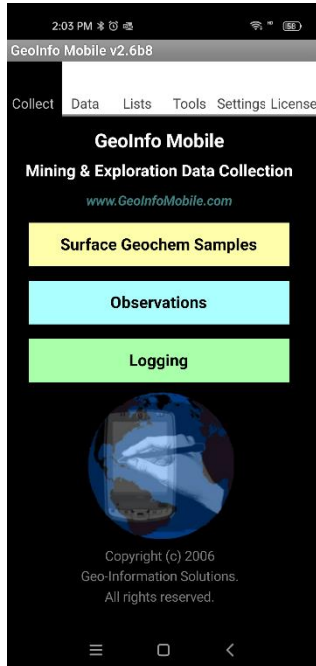
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# What is GeoInfo Mobile?

GeoInfo Mobile is a set of mining and mineral exploration database tools for field data collection of Surface Geochemistry Samples, Observations (digital field notebook) and Logging (drill hole and trench). GeoInfo Mobile v2.6 runs on Android phones or data collectors. A separate version, v3.0, runs on Windows 10 tablets and laptops.



## Key features;

- GeoInfo Mobile puts corporate data collection rules at the rock human interface!
- Most text data entry (except comment fields) is completed using lookup lists, so typing is not necessary. This provides rapid standardized data collection as users are not typing values.
- Most text data entry fields are dropdown lists that are validated against lookup lists; a value can only be entered if it exists in the lookup list. This provides standardized data collection as all users are using similar descriptive lookup lists that are field appropriate (only lithologies are listed in lithology fields not minerals!) and spelled correctly (granite is spelled Granite not Grnt or Granate!).
- Lookup list values are customizable, generally managed by GeoInfo Tools or another PC corporate database, however, lookup lists can be managed directly on your mobile device. You can choose to use real words like Vein or codes like Vn.
- Lookup lists can be password protected so users can not edit the lists. This can be used to enforce standardized corporate descriptive values.
- Comment fields are available for entering unique data not covered by the lookup list fields.

- Data and validation lookup lists can be imported and exported as comma delimited text files.
- A numeric keypad and calendar/date picker is activated for appropriate fields. Provides rapid and standardized data entry.
- Common entry fields (Project, Geologist, Country, State) that normally repeat are automatically defaulted to their previously entered value.
- Error checking looks for proper data entry; for example, a log “To” value should be greater than the “From” value, an Azimuth should be between 0 and 360.
- GPS coordinates are read directly from the devices GPS.
- Sample numbers are auto incremented and checked for uniqueness.
- Log “From” and “To” values are auto incremented, a new interval’s “From” value is automatically assigned the last “To” value.
- Formulas are auto calculated where appropriate (density, recovery, RQD, etc).
- A photo can be taken with each sample, observation or logged interval.
- Your device sensors can be used to take compass readings.
- Mag susceptibility, conductivity and gamma radiation can be collected with every surface sample or observation.

# Installation

GeoInfo Mobile is not available from the Google Play Store because of application limits imposed by Google. Users can download and install GeoInfo Mobile directly from [www.GeoInfoMobile.com](http://www.GeoInfoMobile.com).

## ***Complete or Update Installation?***

Two installation versions exist;

- **Complete Installation.** A Complete installation is required the first time you install GeoInfo Mobile as this installs the GeoInfo Tools backend database along with all the app files and folders. A Complete installation may also be required with a major GeoInfo Mobile app update where changes to the backend database format are required (users will be notified when this is needed).

A complete installation over an existing installation will replace the GeoInfo Mobile backend database with an empty database so all custom lookup lists and data will be lost ... so please export your lookup lists and data before completing a Complete installation over an existing installation.

- **Update Installation.** An Update installation can be used after an initial Complete installation when GeoInfo Mobile application updates are released. A Complete installation may be required with a major application update where changes to the database format are required (users will be notified when this is needed). Update installs do not overwrite the backend database, just the app files, so your custom pick lists and data will not be overwritten. It is not necessary to export your lookup lists and data before doing an Update install.

## ***Installation Procedure***

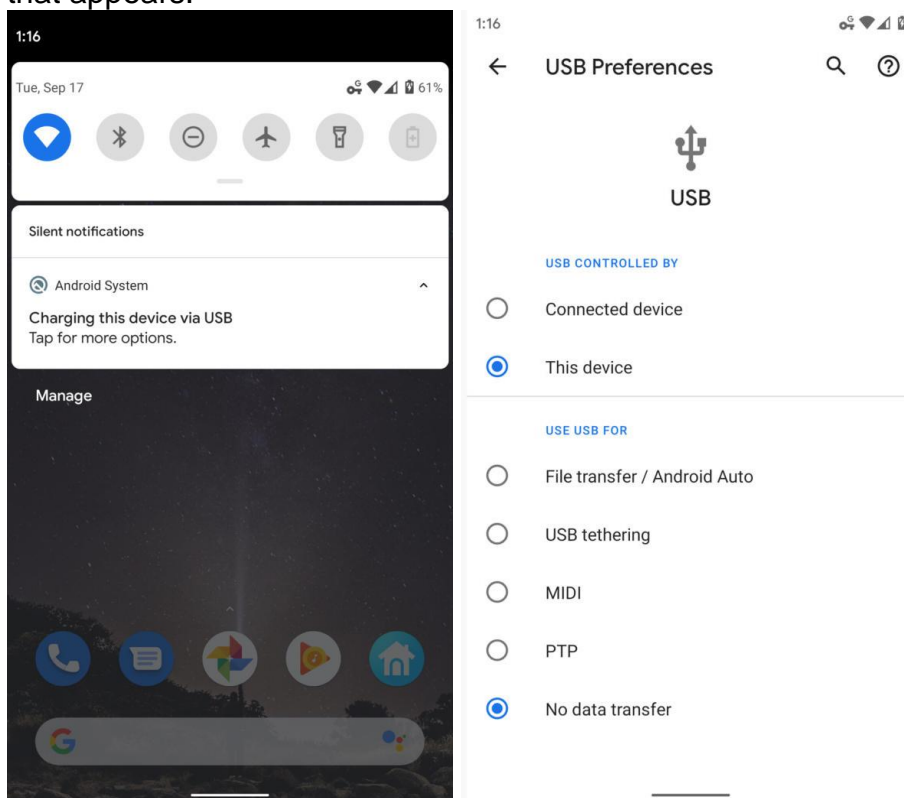
1. The installer file, like *GeoInfoMobileV2.6b3\_Complete.zip* or *GeoInfoMobileV2.6b3\_Update.zip*, are zip files that contain a folder named *GeoInfoMobile* which contains all the app files and folders. Users simply copy or unzip this *GeoInfoMobile* folder to the */DCIM* folder on their Android device, the result being the presence of a */DCIM/GeoInfoMobile* folder and files on your device internal storage. Do not delete an existing GeoInfo Mobile folder if it exists. Merge and replace the files within the GeoInfoMobile folder.
2. First time installs or major GeoInfo Mobile update installs (users will be notified when), require users to run the */DCIM/GeoInfoMobile/GeoInfoMobile.apk* Android installer on their device. Normally Files or File Manager apps have an Apps or APK category that will show all the .apk files on the device, and the *GeoInfoMobile.apk* can be installed from there (if not, just navigate to the

*DCIM/GeoInfoMobile* folder and locate the *GeoInfoMobile.apk* file and double click to install.

Copying/merging/replacing the *GeoInfoMobile* folder to the */DCIM* folder can be completed by connecting your Android device to your PC and copying the folder, or directly on the Android device by unzipping or copying the folder.

## **PC Install Method**

1. Download the proper installation file to your PC, like *GeoInfoMobileV2.6b3\_Complete.zip* or *GeoInfoMobileV2.6b3\_Update.zip*. Unzip this downloaded file to get copy-paste access to the contained *GeoInfoMobile* folder.
2. Connect your Android Device to your PC and set it for File Transfer.
  - a. Plug your phone into any open USB port on the computer, then turn on your phone's screen and unlock the device.
  - b. Swipe your finger down from the top of the screen, and you should see a notification about the current USB connection. It will probably tell you your phone is connected only for charging, if so;
  - c. Tap the notification and select "Transfer files" or "File transfer" in the menu that appears.



3. Copy/merge/replace the *GeoInfoMobile* folder from the unzipped file to the *DCIM/* folder on your Android device. **Do not delete an existing GeoInfo Mobile folder if it exists. Merge and replace the files within the GeoInfoMobile folder.** Generally, the

*/DCIM* folder location looks like this in Windows File Explorer; *This PC\Device Name\Internal shared storage\DCIM*. If the *GeoInfoMobile* folder already exists from a previous install, you will be prompted to overwrite the files and folders; respond yes to overwrite all (**make sure you understand the difference between a Complete and Update install, see above**).

4. First time installs or major GeoInfo Mobile update installs (users will be notified when needed) require users to run the */DCIM/GeoInfoMobile/GeoInfoMobile.apk* Android installer on their device.

## ***Android Device Method***

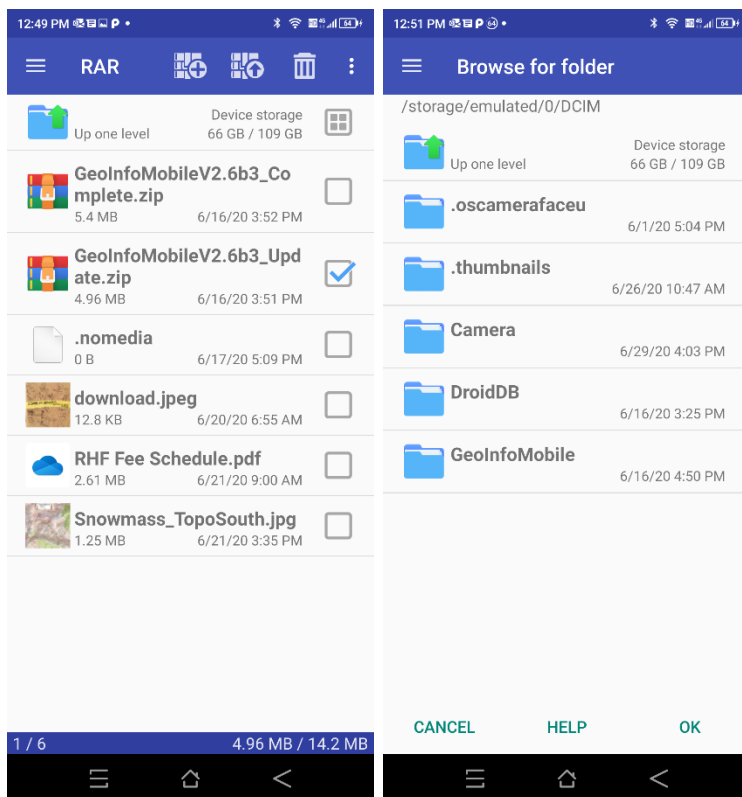
1. Download the proper installation file to your Android device, like *GeoInfoMobileV2.6b3\_Complete.zip* or *GeoInfoMobileV2.6b3\_Update.zip*.
2. Unzip the downloaded zip file and copy and paste/overwrite (if the folder already exists) the *GeoInfoMobile* folder to the devices *DCIM/* folder, generally *Internal Storage/DCIM*. **Do not delete an existing GeoInfo Mobile folder if it exists. Merge and replace the files within the GeoInfoMobile folder.** Unzipping in Android is inconsistent as this functionality is not standard in all file manager apps. If your file manager app does have unzip functionality, other possible issues are that they sometimes do not allow users to locate the unzip location, or allow overwriting of folders and files (instead they create a new folder like *GeoInfoMobile(1)*). If you know your apps, you can just copy the *GeoInfoMobile* folder to the devices */DCIM* folder. However, below are some detailed instructions using 2 different Zip apps from the Google Play Store.
3. First time installs or major GeoInfo Mobile update installs (users will be notified when needed) require users to run the */DCIM/GeoInfoMobile/GeoInfoMobile.apk* Android installer on their device (see [Installation Procedure](#) step 2 above for details).

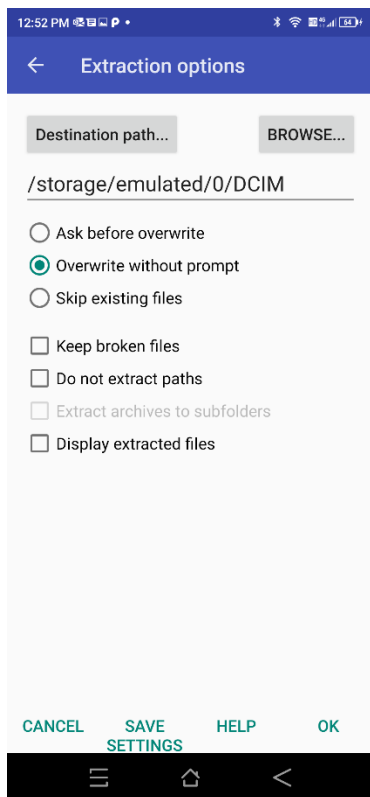


## RAR App

This is the best Zip app and the free version of the app works well, but the ads are annoying!

Install RAR from the Google Play Store. Open RAR and navigate to the folder where the GeoInfo Mobile installer is saved; commonly downloaded files on Android devices are saved to the devices internal storage **Download** folder. Check the checkbox next to the installer zip file and click the unzip button on the top menu bar (the up-arrow zip icon left of the delete trashcan icon). Click **BROWSE...** to set the destination path to the */DCIM* folder then click **OK**. Select the **Overwrite without prompt** radio button and then **OK** to unzip the *GeoInfoMobile* folder. The *GeoInfoMobile* folder is unzipped to the destination folder and the user returned to the zip file folder location.

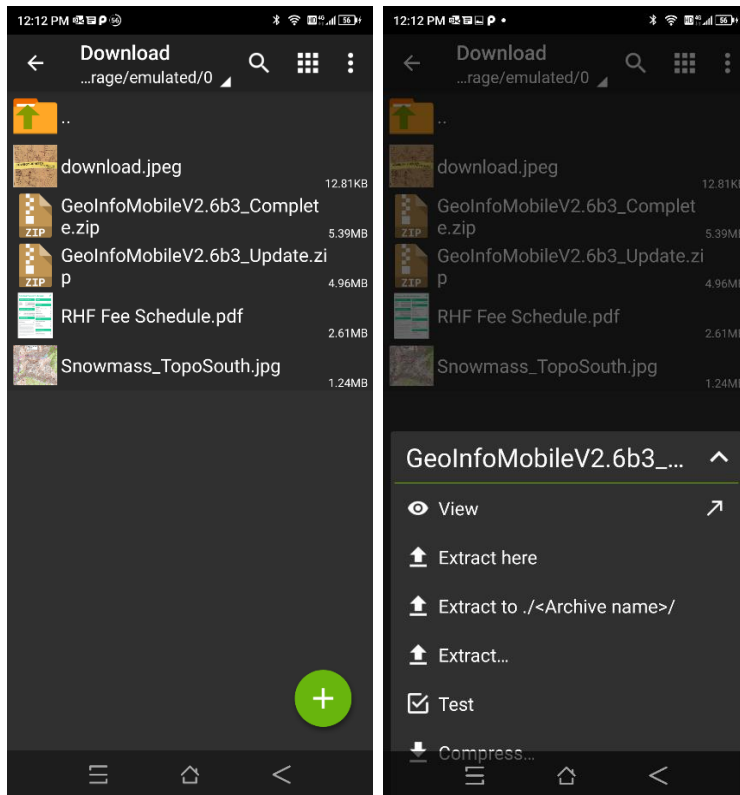




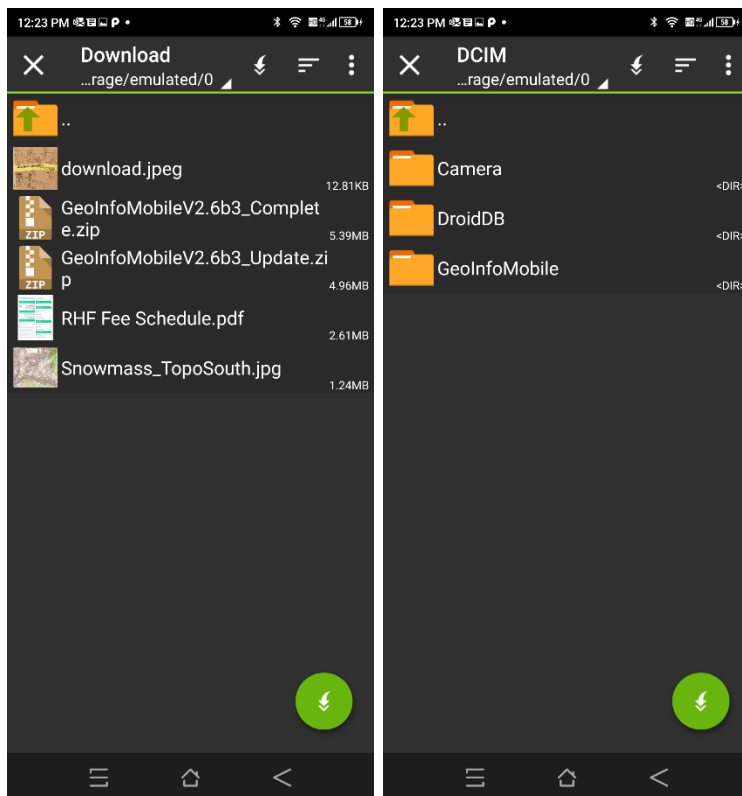
## ZArchiver App

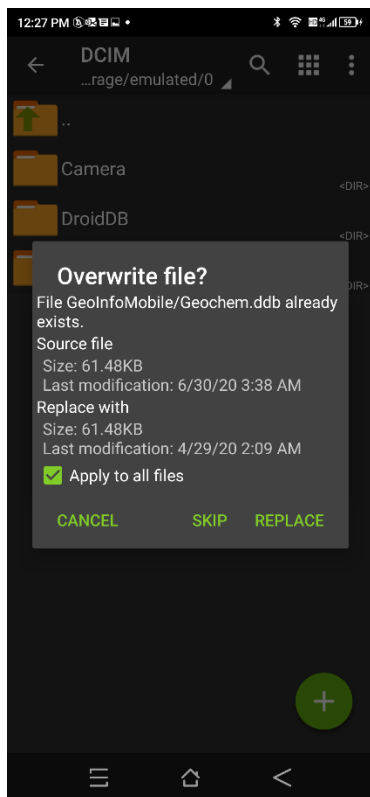
This is not the best and most functional app (RAR is the best), but the free version is free of ads!

Install ZArchiver from the Google Play Store. Open ZArchiver and navigate to the folder where the GeoInfo Mobile installer was saved; commonly downloaded files on Android devices are saved to the devices internal storage **Download** folder. Click on the installer zip file and select **Extract....**



Note the Green Dot button in the lower right corner, this extracts the zip file in the current folder, so before clicking this button to unzip, navigate to the */DCIM* folder (initially the path will be the same folder as the downloaded zip file). Click the Extract Green Dot button in the lower right corner. If the *GeoInfoMobile* folder already exists from a previous install you will be prompted to Overwrite; check the **Apply to all files** checkbox and select **Replace** to unzip the *GeoInfoMobile* folder and files.






## ***Licensing GeoInfo Mobile***


When you run GeoInfo Mobile you are prompted to license GeoInfo Mobile or run it in demo mode. Licensing requires you to send your **Device ID and GIM ID**, presented on the License tab, to [Mike.Schaefer@GeoInfoSol.com](mailto:Mike.Schaefer@GeoInfoSol.com). A license key will be provided and this key needs to be entered on the License tab to complete the licensing.

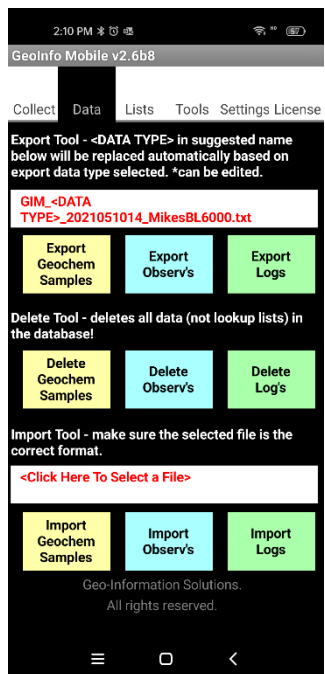
You can run GeoInfo Mobile in demo mode for evaluation. Demo mode is a full feature version of GeoInfo Mobile with the following limitations;

- a. Limited to adding 5 records to the Surface Geochem Sample and Observation databases and 2 logs to the Logger database with 3 records for each log.
- b. Editing lookup lists is disabled.
- c. Import and export of data and lookup lists is disabled.

## Quick Start

- The World Icon in the upper left corner of all the forms, , takes the user back to the GeoInfo Mobile launcher page. This facilitates a user switching back and forth from surface geochemistry samples to observations to logs.
- From the GeoInfo Mobile launcher screen, click to open one of the 3 data collection modules. Enter data in the first screen. All the required fields, labeled in red, must be filled in to proceed. Click the next tab, **GPS**, **Desc** or **Log**, or **Com** to further describe samples or observations. The **Desc** tab has different descriptive fields for each sample or observation type. The **Log** tab is different for each log type.
- From the **Samp** (Sample), **Observ** (Observation) and **Log** tabs, the **List** tab lists all the samples, observations or logs in your database. From the **Desc** tab, **List** shows only the samples or observations that match your current sample or observation type. For logs, **List** shows all the intervals logged for the current hole and log type.
- On the **GPS** tab, click the **Read GPS** button and the coordinates will be entered into the database. You can manually enter any coordinate in the easting and northing fields, but the Latitude and Longitude fields are locked and can only be entered from a GPS (a quality control feature).
- Each log includes independent “From-To” intervals or a “Depth” for each data type. Each log has independent intervals, except the **Interval Summary Log** which combines the lithology, alteration, mineralization, minerals, structure and sample logs into one logged interval. The Interval Summary Log might be useful for logging RAB or RC chips.
- To create a new sample, observation or log, click the **New Samp**, **New Observ** or **New Log** button. This creates a new sample, observation or log, and defaults much of the first sample, observation or log-collar page values since they are usually the same in a project area. The user then selects a sample, observation or log type, and edits any of the defaulted values they need.
- **New Samp** assigns the next sample number by automatically incrementing up one number.
- **New Observ** assigns a unique ID based on date; 20030810221516, 20=year, 03 = month, 08 = day, 10 = hour, 22 = minute, 15 = second, and a random number between 10 – 99 to create unique ID's for two samples collected at the same time on different devices.

- **New Log** creates a new log and makes the Hole ID field editable. Once the log name is typed the first time it is no longer editable, so take care to enter the name exactly as desired. If multiple devices are used to log the same drill hole (a geologist logging descriptive information like Lithology, Alteration, Mineralization, Minerals and Structure and a technician logging MagSus, Geotech and Samples) make sure both holes are named exactly the same so they merge together when the data is imported into GeolInfo Tools or another corporate database. Tip, the GeolInfo Tools GeolInfo Mobile importer allows users to rename a hole before data import, just in case the Hole ID is not correct.
- The Photo field is populated by clicking the **Photo** button. The photo name is built using the suggested prefix, numeric value and suffix values shown in gray edit boxes to the right of the **Photo** button. Click on any of the gray suggestion boxes to edit them. The prefix and suffix boxes are global variables that are persistent until the value is changed. The center numeric counter field, once set to a value, will automatically increment up one number each time a photo is assigned. Clicking **Photo** multiple times increments the number of the photo up one each time the button is clicked. If a unique prefix is used for each camera, then in a multiuser corporate setting, unique picture ID's will be generated. These picture ID's can then be linked in a GIS environment for easy access to field photos.
- If you have a data collector with a built in camera, you can click on the Camera icon  to the right of the Photo ID field and you will be taken to a camera page where you can take a picture and have it automatically named based on the descriptive data; sample number and type, observation ID and type, or Hole ID, From and To .
- Once all the samples, observations and logs are collected, then go to the main GeolInfo Mobile launcher form and select the **Data** tab. The data can be exported to a comma delimited text file that can be imported into GeolInfo Tools or another corporate database. Once the data is exported the database can be cleared for the next field stint using the **Clear Database** button. The idea is to collect data for a while (generally a day to a few weeks), export the data from the mobile data collector, upload this data into a corporate database, and then clear the GeolInfo Mobile database for the next field stint. The exported text files are small and can be emailed. **Exported text files are a good way to create a backup of your data.**



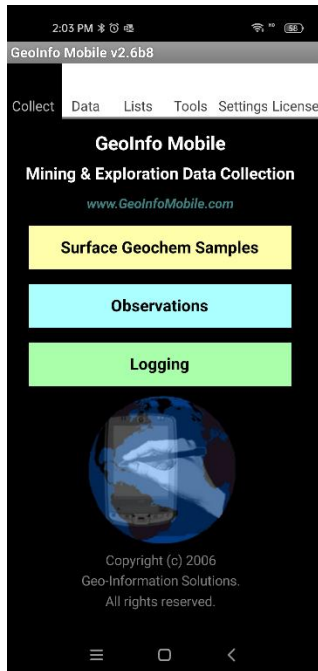
- From the main GeolInfo Mobile launcher form select the **Settings** tab. QAQC Message Intervals set up message prompts for surface geochemistry and log samples, prompting users to collect a QAQC sample. If you want QAQC messages at specific intervals, select a starting sample and interval for the QAQC types you want to collect. Warning messages can be set for Sample Log and Geotech Log intervals. This is used to catch possible data entry errors.





## GeoInfo Mobile – Collect

The GeoInfo Mobile launcher form is displayed when you start GeoInfo Mobile. From here you can collect 3 different data types; Surface Geochemistry Samples, Observations (digital field notebook), and Logs (drill hole and trench).



### ***Surface Geochemistry Samples***

The Surface Geochemistry Samples tool facilitates collecting surface geochemistry samples.

Surface geochemistry sample types include:

- Rock
- Soil
- Stream Sediment
- Pan Con
- Lag
- Vegetation
- Water
- QAQC

Sub sample types can be defined for each sample type. An example: for Rock samples subsample types can be outcrop grab, float, talus, channel chip, dump high grade, etc


...

All surface geochemistry samples share similar fields that describe location, project, sampler, comments and site physical properties (MagSus, Conductivity, Gamma Radiation) as presented in the **Samp**, **Phy**, **GPS**, and **Com** tabs. The **List** tab list all the samples and allows navigation to a sample with a *long press* (click and hold) on a different sample. A photo can be assigned or taken for each sample.

9:58 AT&T 5G 85%

GIM Surface Samples

Samp Phy GPS Desc Com List



Sample Number

10258

New Samp

Type

Rock

Date

2/7/20 9:58 AM

Sampler

MSchaefer

Project

Genex

Prospect

Area

Country

United States

State


Arizona

Photo

img\_

2080

.jpg



2 Records


\* required

\* defaulted

9:59 AT&T 5G 85%

GIM Surface Samples GPS

Samp Phy GPS Desc Com List



Sample Number

10258

Read GPS

Longitude

-110.820057

Latitude

32.299018

HDOP

Satellites

Datum

LL\_WGS84

Elev

800.27

Survey Type

GPS

Easting

Northing

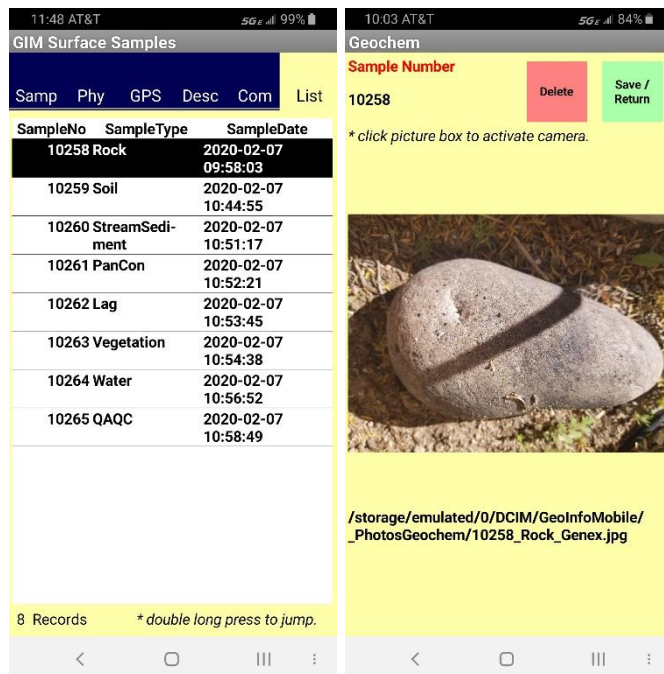
Proj/Zone

10:02 AT&T 5G 84%

GIM Rock Samples

Samp Phy GPS Desc Com List

Rock Sample Comments



Detailed sample descriptions in the **Desc** tab are different for each sample type as shown below.

### Rock Samples (\*note, same fields as a Geology Observation)

9:59 AT&T 5G 99%

**GIM Rock Samples**

Samp Phy GPS Desc Com List

**Sample Number**

10258

Lith Alt Mztn Struct

Sample Type OutcropChip

Sample Width

Color GreyDark

Color Detail

Lithology Dacite

Lith Modifier Equigranular

Lith Modifier2 Brecciated

Formation f1

Member m3

10:00 AT&T 5G 84%

**GIM Rock Samples**

Samp Phy GPS Desc Com List

**Sample Number**

10258

Lith Alt Mztn Struct

Alt Primary AdvArgillic

Intensity 3\_Moderate

Style Disseminated

Alt Sec Chloritic

Intensity 2\_Weak

Style Fracture

Alteration Minerals %

1 Actinolite 2.00

2

3

Oxidation NotOxidized

10:01 AT&T 5G 84%

10:02 AT&T 5G 84%

GIM Rock Samples

Samp

Phy

GPS

Desc

Com

List

Sample Number

10258

Lith

Alt

Mztn

Struct

Mztn Prim

PY-SP-CB

Intensity

4\_Strong

Style

Disseminated

Mztn Sec

Intensity

Style

Mineralization Minerals

%

1

Bornite

3.60

2

3

Structure1

Contact

Azm \*\*

184

Dip

78

Dip Dir

274

Decl \*

10.00

Structure2

Azm \*\*

Dip

Dip Dir

Decl \*

\* declination set on your compass, or current.

\*\* Right Hand Rule; point your right hand down the dip, palm down, your thumb points in the

## Soil Samples

10:45 5G 100%

10:46 5G 100%

GIM Soil Samples

Samp

Phy

GPS

Desc

Com

List

Sample Number

10259

Sample Type

Colluvium

Colour

Brown

Sieve Size

80 = 0.18mm

Terrain

Flat

Texture

ClaySilt

Horizon

Org\_Inorg\_Interface

Moisture

Moist

Quality

4\_Good

Vegetation

Birch

Depth

1.00

Float Lith

Dacite

OC Lith

Basalt

Alt Type

Argillic

Mineralization

None

## Stream Sediment Samples

10:52 5G 100%

GIM Stream Sediment Samples

Samp Phy GPS Desc Com List

**Sample Number**  
10260

Sample Type: B\_LowWaterLevel

Colour: Green

Sieve Size: 20 = 0.9 mm

Terrain: Steep

Texture: SandGravel

Trap Quality: 3\_Fair

Trap Type: LowEnergyDep

Stream Width: 2.00

Moisture: Dry

Float Lith: CarbonateVein

OC Lith: Dacite

Alt Type: Carbonization

Mineralized: 5.1

## Pan Con Samples

10:53 5G 100%

GIM Pan Con Samples

Samp Phy GPS Desc Com List

**Sample Number**  
10261

Color: Orange

Sieve Size: 18 = 1.0 mm

Terrain: Ridge

Texture: Sand

Trap Quality: 3\_Fair

Trap Type: HighEnergyTrans

Moisture: Wet

Float Lith: Claystone

OC Lith: Argillite

Alt Type: Carbonization

Mineralized: None

Au Count: 5

Mineral 1: Bornite

Mineral 2: Garnet

Mineral 3: Pyrite

## Lag Samples

10:54 5G 100%

GIM Lag Samples

Samp Phy GPS Desc Com List

**Sample Number**  
10262

Sample Type: DesertLag

Colour: GreyDark

Sieve Size: 25 = 0.7 mm

Terrain: Drainage

Texture: SiltSand

Horizon: Org\_Inorg\_Interface

Depth: 1.55

Chip Size: 10-100mm

Float Lith: FeldsparPorphyry

OC Lith: Argillite

Alt Type: AdvArgillic

Mineralization: None

## Vegetation Samples

10:56 5G 100%

GIM Vegetation Samples

Samp Phy GPS Desc Com List

**Sample Number**  
10263

Sample Type: Branches10-20m..

Species: Mesquite

Dominant Species (in order)

Mesquite

Acacia

Ironwood

# plants: 3 Avg Height: 12.00

Trunk Diameter: 12.00

Area sampled (diameter): 20.00

Bag Size: 10X17

Growth Sampled: 2Year

Plant Stress:

Aspect: South

Terrain: Moderate

Soil Moisture: Moist

Float Lith: Dacite

OC Lith: Basalt

Alt Type:

Mineralized: None

## Water Samples

10:58

5G

100%

GIM Water Samples

Samp

Phy

GPS

Desc

Com

List

Sample Number

10264

Sample Type

DHExploration

Site ID

Site 3

Volume

4.25

liters

Water Use

Industrial

Sample Equip

Bailer

Sample Depth

25.80

Water Table Depth

12.60

Well Depth

55.00

Colour

Colorless

Precip Color

Brown

☒ Acidified

☒ Ion Exch Resin

☐ Filtered

Temp

72.00

pH

6.60

Bailer

Menu

Sample Depth

25.80

Water Table Depth

12.60

Well Depth

55.00

Colour

Colorless

Precip Color

Brown

☒ Acidified

☒ Ion Exch Resin

☐ Filtered

Temp

72.00

pH

6.60

Conductivity

12458.00

Terrain

Steep

Float Lith

Basalt

OC Lith

Claystone

Alt Type

Potassic

Mineralized

Float

## QAQC Samples

10:59

5G

100%

GIM QAQC Samples

Samp

Phy

GPS

Desc

----

List

Sample Number

10265

QAQC Type

Standard

QAQC ID

Standard1

Select from the pick list for Blank and Standard QAQC ID.

Enter duplicate of sample number for Duplicates.

QAQC messages can be setup in the GeoInfo Mobile settings so you are prompted to collect QAQC samples on scheduled intervals.

## ***Observations (digital field notebook)***

The Observations database facilitates collecting field observations. The Observation database tool is a digital field notebook, anything you might enter into a field notebook can be entered here instead. When mapping geology, detailed descriptions can be entered, structures can be located and described, and minerals can be detailed. Multiple observations might describe a single outcrop; one observation might define a contact structure and provide an azimuth and dip, a second observation could describe the rock on one side of the contact and a third observation can describe the rock on the other side of the contact.

Observations types include:

- Claim Post
- Culture
- Drill hole
- General – any observation that does not fit in any of the other categories
- Geology – same fields a rock sample, used for detailed mapping
- Radiometrics
- Vegetation
- VLF
- Water
- Wildlife

All observations share similar fields that describe location, project, sampler, comments and site physical properties (MagSus, Conductivity, Gamma Radiation) as presented in the **Observ**, **Phy**, **GPS**, and **Com** tabs. The **List** tab list all the observations and allows navigation to an observation with a *long press* (click and hold) on a different observation. A photo can be assigned or taken for each observation. Need more photo's? Take several observations!



10:22 5G 89%

GIM Observations

Observ

Phy

GPS

Desc

Com

List

Observation ID

20020810222316

New Observ

Type

Geology

Date

2/8/20 10:22 AM

Observer

MSchaefer

Project

Genex

Prospect

GenexPros1

Area

Country

United States

State

Arizona

Photo

img\_2080.jpg

2 Records

\* required

\* defaulted

10:23 5G 89%

GIM Physical Properties

Observ

Phy

GPS

Desc

Com

List

Observation ID

20020810222316

Contamination

NotObserved

MagSus

20369.00

10-3 SI

Device

KT-9

Device ID

Unknown

Conduct

4587.00

TDS

Device

MPPEM25

Device ID

Unknown

GamRad

4570.00

cps

Device

RS 120

Device ID

Unknown

\* required

\* defaulted

10:23 5G 89%

GIM Observations GPS

Observ

Phy

GPS

Desc

Com

List

Observation ID

20020810222316

Read GPS

Longitude

-110.820150

Latitude

32.299123

HDOP

Satellites

Datum

LL\_WGS84

Elev

791.42

Survey Type

GPS

Easting

Northing

Proj/Zone

10:23 5G 89%

GIM Geology Observations

Observ

Phy

GPS

Desc

Com

List

Geology Comments

10:35 5G 86%

**GIM Observations**

| Observ          | Phy          | GPS             | Desc | Com | List |
|-----------------|--------------|-----------------|------|-----|------|
| ObservID        | ObservType   | Date            |      |     |      |
| 20020610 384653 | General      | 2/6/20 10:38 AM |      |     |      |
| 20020810 222316 | Geology      | 2/8/20 10:22 AM |      |     |      |
| 20020810 263492 | ClaimPost    | 2/8/20 10:26 AM |      |     |      |
| 20020810 280349 | Culture      | 2/8/20 10:28 AM |      |     |      |
| 20020810 291185 | DrillHole    | 2/8/20 10:29 AM |      |     |      |
| 20020810 300337 | Radiometrics | 2/8/20 10:30 AM |      |     |      |
| 20020810 311882 | Vegetation   | 2/8/20 10:31 AM |      |     |      |
| 20020810 320854 | VLF          | 2/8/20 10:32 AM |      |     |      |
| 20020810 332810 | Water        | 2/8/20 10:33 AM |      |     |      |
| 20020810 340578 | Wildlife     | 2/8/20 10:34 AM |      |     |      |

10 Records \* double long press to jump.

Detailed observation descriptions in the **Desc** tab are different for each observation type.

The **Geology** observation type has the same descriptive fields as a rock sample; lithology, alteration, mineralization, minerals and structure. Geology observations are used to support detailed descriptions while mapping.

### Geology Observations (\*note: same fields as a Rock sample)

10:24 5G 88%

**GIM Geology Observations**

Observ Phy GPS **Desc** Com List

**Observation ID**  
20020810222316

Lith Alt Mztn Struct

SubType MineTailings

Width

Color Brown

Color Detail

Lithology QuartzDiorite

Lith Modifier Equigranular

Lith Modifier2

Formation f2

Member m4

10:25 5G 88%

**GIM Geology Observations**

Observ Phy GPS **Desc** Com List

**Observation ID**  
20020810222316

Lith Alt Mztn Struct

Alt Primary Argillic

Intensity 4\_Strong

Style Fracture

Alt Sec Chloritic

Intensity 2\_Weak

Style Patchy

Alteration Minerals %

1 Calcite 2.00

2

3

Oxidation PartlyOxidized

10:25

5G 88%

GIM Geology Observations

Observ

Phy

GPS

Desc

Com

List

**Observation ID**  
20020810222316

Lith

Alt

Mztn

Struct

Mztn Prim

PY-SP-CP-GA

Intensity

2\_Weak

Style

Disseminated

Mztn Sec

Intensity

Style

Mineralization Minerals

%

1

UnkSulfide

3.50

2

3

10:26

5G 88%

GIM Geology Observations

Observ

Phy

GPS

Desc

Com

List

**Observation ID**  
20020810222316

Lith

Alt

Mztn

Struct

Structure1

Contact

Azm \*\*

296

0

Read Azm

Dip

69

0

0

Dip Dir

26

0

Read Dip

Decl \*

10.00

Structure2

Azm \*\*

Read Azm

Dip

Read Dip

Dip Dir

Decl \*

\* declination set on your compass, or current.

\*\* Right Hand Rule; point your right hand down the dip, palm down, your thumb points in the

## Claim Post Observations

10:27

5G 88%

GIM Claim Post Observations

Observ

Phy

GPS

Desc

Com

List

**Observation ID**  
20020810263492

Claim Name(s)

San Jose 234

Claimant

Geo-Information Solutions

Claim Date

2/8/14

☒ Corner
☐ EndCenter
☐ DM

Surface Material

Soil

SurfaceCondition

Rocky

Vegetation

Cacti

Color Anomaly?

## Culture Observations

10:29

5G 87%

GIM Culture Observations

Observ

Phy

GPS

Desc

Com

List

**Observation ID**  
20020810280349

Type

ArcheoHistoric

Year Constructed

Condition

Fair

Weight Class

Archeol Type

BurialSite

Significance

Intermediate

Dimensions LxWxD

12x9

A **General** observation type can be used to collect any field observation that does not fit into one of the other predefined observation types. Pick lists in the General type are built as the user types values, so after entering a value once, it is available by pick list for later similar observations.

### Drill Hole Observations

10:29 5G 87%

GIM Drill Hole Observations

Observ Phy GPS Desc Com List

**Observation ID**  
20020810291185

Drill Type Rotary

Reason Drilled Water

Drilled by

Year Drilled

Depth 256

Azimuth 0 Dip -90

### General Observations

10:30 5G 87%

GIM General Observations

Observ Phy GPS Desc Com List

**Observation ID**  
20020610384653

Type VeinsPerSqMeter

Parm1

Parm2

Parm3 Integer 12

Parm4 Decimal

*\* first dropdown on Type field are values already entered on your device, second dropdown is a list from the lookup list manager list.*

*\* parameter text pick lists are based on values you have already entered on your device, type correctly once and pick from the lists for all other similar entries.*

### Radiometric Observations Vegetation Observations

10:31 5G 87%

GIM Radiometrics Observations

Observ Phy GPS Desc Com List

**Observation ID**  
20020810300337

Instrument GeigerCounter

Total Count 1230 cps

U 52 cps

TH 42 cps

K 12 cps

10:32 5G 87%

GIM Vegetation Observations

Observ Phy GPS Desc Com List

**Observation ID**  
20020810311882

Species Ironwood

Quantity 5

Height (m) 11.00

Trunk Diameter (m) 0.20

Stress Stunted

## VLF Observations

10:33 5G 87%

GIM VLF Observations

Observ

Phy

GPS

Desc

Com

List

Observation ID

20020810320854

Trans1

TXa

Null

78

Tilt

15

InPhase

56

Quad

23

Trans2

TXb

Null

45

Tilt

15

InPhase

125

Quad

74

Device

Type1

DeviceID

DeviceID1

Line

1000

Auto Increment Value

100

Terrain

Ridge

Culture

\* defaulted

\* entry writes default values

## Water Observations

10:34 5G 86%

GIM Wildlife Observations

Observ

Phy

GPS

Desc

Com

List

Observation ID

20020810340578

Species

Bear

Quantity

3

Den or Nest Size (m)

☐ Regular Trail
 ☐ Migration
 

Size

## Wildlife Observations

10:33 5G 86%

GIM Water Observations

Observ

Phy

GPS

Desc

Com

List

Observation ID

20020810332810

Type

IndustResid

Site ID

Stream Width (m)

Dimensions LxWxD

Flow Rate (lpm)

20.60

Color

Tan

Water Use

Industrial

## **Logging**

**Logging** facilitates logging drill holes, trenches, underground workings, and blast holes. Collar information is collected including a GPS location and then a variety of logs exist for detailed logging.

Log types include:

- Alteration Log
- Density Log
- Gamma Radiation Log
- Geotech Log
- Hole Type Log – defines hole type like Diamond or RC and dates drilled.
- Lithology Log
- MagSus Log
- Mineralization Log
- Minerals Log
- Parameter Log – log any features that do not exist in any of the other logs.
- Photo Log
- Samples Log
- Structure Log
- Survey Log
- Interval Summary Log – summary of lith, alt, mztn, structure, sample.

Each log has independent “From-To” intervals or a Depth.

**Log Type** is persistent through the logs. **Log Type** separates multiple different logs for the same drill hole. The field is defaulted to the last entered value, so it need not be manually entered most of the time, however it is a required field.  
(Examples of log types is Summary, Detailed, Detailed2nd, MikesLog, etc ...)

It is not uncommon to have more than one data collector logging the same hole; a technician might log Geotech, Samples, Density, Mag Sus, etc ... and a geologist the descriptive geology. Make sure hole names are the same on different devices so the log data merges together when imported into GeoInfo Tools or another corporate database.

Logs have a **Log** View (form view) for data entry and a **List** view for reviewing or navigating your log.

**Com** comment fields are available for the collar data and each log interval. Please make sure comments are specific to the collar or log type and interval you are describing. For example, do not include alteration comments in the lithology log, as there is a place for alteration comments in the alteration log. Also, make sure you don't waste time writing comments that are described in the dropdown descriptive fields. Why type Granodiorite in the comment when you have selected that as the lithology! If

our lookup lists are defined properly, comments should not need to be used much except for exceptional unique information.

**Collar**, **GPS**, and **Com** are used to describe a drill hole or trench. Please make sure the **Com** (comment) field only describes generalities about the collar as each log has comments for each interval that can be used to further describe log data.

10:40 5G 85%

**GIM Collar Log**

Collar GPS Log Com List

Hole/Log ID ABM-005 New Log

HoleType Drillhole

Log By MSchaefer

Project Genex

Prospect GenexPros1

Area

Country United States

State Arizona

Company

Hole Depth 458.00

Water Table 122.00 2 Log(s)

Base Oxides 85.00 \* required

Top Sulfides 62.00 \* defaulted

Depth Bedrock 12.00

10:40 5G 85%

**GIM Log GPS**

Collar GPS Log Com List

Hole/Log ID ABM-005 Read GPS

Longitude -110.819988

Latitude 32.299068

HDOP Satellites

Datum LL\_WGS84 Elev 781.29

Survey Type GPS

Easting

Northing

Proj/Zone

10:40 5G 85%

**GIM Log GPS**

Collar GPS Log Com List

Collar Comment

Planned hole 2020d

22000 2020d 20 20

q w e r t y u i o p

a s d f g h j k l

z x c v b n m

SwiftKey

Detailed log descriptions in the **Log** tab are different for each log type. Switching between logs is completed by selecting the desired log from the log list dropdown (light blue highlighted field).



**Density Log** auto calculates density as measurement values are entered.

### Alteration Log

10:42 5G 84%

GIM Alteration Log

Collar GPS Log Com List

ABM-005 New Int

Alteration Log

From 0.00 To 2.60

Log Type Detailed

Alt Primary Argillic

Intensity 3\_Moderate

Style Disseminated

Alt Second AdvArgillic

Intensity 1\_Trace

Style Fracture

VeinType Sheeted

Intensity 4\_Strong

1 Interval(s) \* required

### Density Log

10:43 5G 84%

GIM Density Log

Collar GPS Log Com List

ABM-005 New Int

Density Log

Depth 2.30

DensityType DryWet

Weight Dry 8.00

Weight Wet 5.00

Calc Density

Density  $2.67 = \text{WghtDry} / (\text{WghtDry} - \text{WghtWet})$

1 Interval(s) \* required

Calculate and Retrieve Depth Tools

From To Calc Mid

| SampleNo | From | To |
|----------|------|----|
|          |      |    |
|          |      |    |
|          |      |    |
|          |      |    |
|          |      |    |

\* double long press a sample interval to assign midpoint as density depth.

**Geotech Log** auto calculates recovery and RQD as measurement values are entered.

### Gamma Radiation Log

10:43 5G 84%

GIM Gamma Radiation Log

Collar GPS Log Com List

ABM-005 New Int

GammaRad Log

From 0.00 To 4.20

Log Type Detailed

GammaRad 4589.00

Unit cps

Device RS 120

Device ID Unknown

1 Interval(s) \* required

### Geotech Log

10:44 5G 84%

GIM Geotech Log

Collar GPS Log Com List

ABM-005 New Int

Geotech Log

From 0.00 To 10.00

Log Type Detailed

Recovery Len 9.00 Recovery 90

RQD Length 8.50 RQD 0.85

Fracture Frequency 21

Rock Strength R2\_ModeratelyW..

Weathered State 4\_Highly

DiscontCondition 3\_Fair

1 Interval(s) \* required

The **Hole Type Log** is for logging the type of drill hole, maybe rotary at the top, HQ core and then NQ core, the dates of the work, and the contractor completing the work.

## Hole Type Log

The screenshot shows the 'GIM Hole Type Log' screen. At the top, there's a status bar with the time 10:45 and battery level 84%. Below the title bar, there are tabs: Collar, GPS, Log (selected), Com, and List. The main form includes a location icon, a dropdown for 'ABM-005', a 'New Int' button, and a 'HoleType Log' dropdown. The 'From' field is 0.00 and the 'To' field is 452.00. The 'Hole Type' is set to 'Diamond' and 'Hole Size' is 'HQ'. The 'Start' date is 2/3/20 10:44 AM and the 'End' date is 2/8/20 10:44 AM. There are fields for 'Drill Company' and 'Rig ID'. At the bottom, it says '1 Interval(s) \* required'.

## Lithology Log

The screenshot shows the 'GIM Lithology Log' screen. At the top, there's a status bar with the time 10:46 and battery level 84%. Below the title bar, there are tabs: Collar, GPS, Log (selected), Com, and List. The main form includes a location icon, a dropdown for 'ABM-005', a 'New Int' button, and a 'Lithology Log' dropdown. The 'From' field is 0.00 and the 'To' field is 5.60. The 'Log Type' is set to 'Detailed'. The 'Lithology' is set to 'Trachyte'. There are three 'Mod' fields: 'Mod 1' is 'Brecciated', 'Mod 2' is 'Fractured', and 'Mod 3' is empty. The 'Color' is 'White' and the 'Texture' is 'Microblastic'. The 'Log By' field is 'MSchaefer'. The 'Log Date' is 2/8/20 10:45 AM. At the bottom, it says '1 Interval(s) \* required'.

## MagSus Log

The screenshot shows the 'GIM MagSus Log' screen. At the top, there's a status bar with the time 10:46 and battery level 84%. Below the title bar, there are tabs: Collar, GPS, Log (selected), Com, and List. The main form includes a location icon, a dropdown for 'ABM-005', a 'New Int' button, and a 'MagSus Log' dropdown. The 'Depth' field is 12.00. The 'MagSus' field is .0369.00. There are three 'Unit' fields: 'Unit' is '10-3 SI', 'Device' is 'KT-9', and 'Device ID' is 'Unknown'. The 'Conductivity' field is .0145.00. There are three 'Unit' fields: 'Unit' is 'TDS', 'Device' is 'MPPEM25', and 'Device ID' is 'Unknown'. The 'HF Resp' field is empty. The 'Date' is 2/8/20 10:46 AM. At the bottom, it says '1 Interval(s) \* required \*defaulted'.

## Mineralization Log

The screenshot shows the 'GIM Mineralization Log' screen. At the top, there's a status bar with the time 10:47 and battery level 83%. Below the title bar, there are tabs: Collar, GPS, Log (selected), Com, and List. The main form includes a location icon, a dropdown for 'ABM-005', a 'New Int' button, and a 'Mineralization Log' dropdown. The 'From' field is 0.00 and the 'To' field is 8.00. The 'Log Type' is set to 'Detailed'. The 'MztnPrimary' field is 'PY-PO-CP'. The 'Intensity' field is '3\_Moderate'. The 'Style' field is 'Disseminated'. There are three 'MztnSecond' fields: 'MztnSecond' is empty, 'Intensity' is empty, and 'Style' is empty. The 'VeinType' field is empty. The 'Intensity' field is empty. At the bottom, it says '1 Interval(s) \* required'.

**Minerals Log** and **Parameter Log** offer the standard new interval option for creating new records, but also same interval, and same parameter or same mineral methods for faster data entry.

The **Parameter Log** logs characteristics that are not available in any of the other logs (i.e. Formation, Box Number, Fluorescence, Veins Per Meter, etc...).

### Minerals Log

### Parameter Log

### Photo Log

### Samples Log

**Structure Log** and **Survey Log** offer the compass tools **Read Azm** and **Read Dip**. Details on using compass features can be found here; [Compass – Read Azimuth – Read Dip](#).

A **Survey Log**, at least one measurement at 0 depth, is required to geo-reference a hole, trench or underground working.

## Structure Log

The screenshot shows the 'GIM Structure Log' app interface. At the top, there's a status bar with the time 10:51, signal strength, and battery level at 82%. Below the title bar, there are tabs: Collar, GPS, Log (selected), Com, and List. The main area displays 'ABM-005' with a 'New Int' button. A dropdown menu shows 'Structure Log'. Fields include 'Depth' (257.80), 'Rank' (1), 'Log Type' (Detailed), 'Str Type' (BrecciatedFault), and 'Str Mod' (Curved). There are input fields for 'Width' (0.50), 'From', and 'To', with a 'Calc Depth & Width from From-To' button. Below these are 'Alpha' (48), 'Beta', and 'Gamma' fields. At the bottom, there are 'Read Azm' and 'Read Dip' buttons, and a note: '1 Interval(s) \* required'. A small instruction at the bottom reads: '\* right hand rule; point your right hand down the dip, your thumb points in the strike direction.'

## Survey Log

The screenshot shows the 'GIM Survey Log' app interface. At the top, there's a status bar with the time 10:52, signal strength, and battery level at 82%. Below the title bar, there are tabs: Collar, GPS, Log (selected), Com, and List. The main area displays 'ABM-005' with a 'New Int' button. A dropdown menu shows 'Survey Log'. Fields include 'Depth' (25.90), 'Method' (Compass), 'Date' (2/8/20 10:51 AM), 'Azm TN \*\*' (56.00), 'Dip' (62.00), 'Decl \*' (10.00), 'Azm Mag', 'Roll', 'Temp', and 'Mag'. There are 'Read Azm' and 'Read Dip' buttons. At the bottom, there's a note: '1 Interval(s) \* required'. A small instruction at the bottom reads: '\* declination set on your compass, or current. \*\* right hand rule; point your right hand down the dip, your thumb points in the strike direction.'

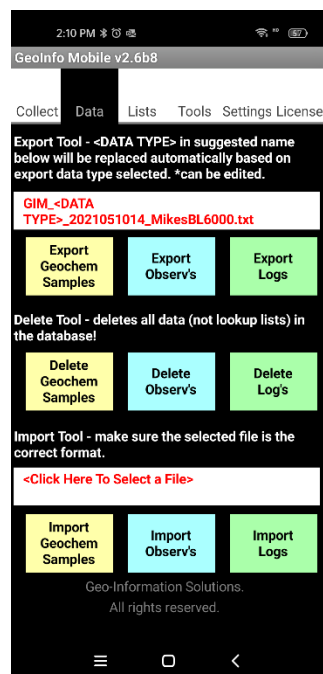
The **Interval Summary Log** is a summary log that combines the Lithology, Alteration, Mineralization, Minerals, Structure, and Sample logs into one similar interval log, commonly used for RC drilling. It saves users from repeatedly typing new "From- To" intervals, but when imported into GeolInfo Tools or another corporate database, it creates repeat intervals for similar values, so it is not the most efficient way to store and analyze your data.

## Interval Summary Log

The screenshots show the GIM Interval Summary Log mobile app interface. The top bar displays the time (10:55), signal strength (5G), and battery level (82%). The app title is "GIM Interval Summary Log". The main menu includes Collar, GPS, Log, Com, and List. The Log section is selected, showing a detailed view of the Mineral1 section. The interface is divided into two columns. The left column contains fields for Log Type (Detailed), Lithology (Basalt), Mod 1 (Chloritic), Mod 2, Mod 3, Color (GreyDark), Texture (Laminated), Alt Primary (IronStained), Intensity (4\_Strong), Style (Fracture), Alt Second, and Intensity. The right column contains fields for Alt Second, Intensity, Style, VeinType, Intensity, MztnPrimary (PY-SP-CB), Intensity (2\_Weak), Style, MztnSecond, Intensity, Style, VeinType, Intensity, and Mineral1 (Bornite). The bottom section shows the Mineral1 section with fields for Mineral1 (Bornite), MinType (Mineralization), Percent (1.00), Intensity, Style, Sequence, Mineral2, MinType, Percent, Intensity, Style, Sequence, Str Type (FaultSlicks), Str Mod (Curved), Rank (1), Depth (17.50), Width (5.00), Alpha, Beta, Gamma, Azm, Dip, Dip Dir, Sample No (929), Sampler (MSchaefer), Analyze? (checked), Shipment Batch, QAQC Type, and QAQC ID. A note at the bottom states: "\*\* QAQC ID for duplicates is defaulted to the previous sample number. From and To not required if QAQC".

## GeoInfo Mobile – Data

The GeoInfo Mobile Launcher Data tab allows exporting, deleting and importing of data. Imports and exports are comma delimited text files. The general idea is to collect data, export that data for import into a corporate database like GeoInfo Tools, then clear the data in your mobile data collector, and start over collecting new data. At times you might want to import data from other users or GeoInfo Tools and review or edit this data, however, be careful as it can be difficult to track edits as multiple copies of the data might exist in different locations.



### **Export**

An export file name is suggested in the format *GIM\_<DATA TYPE>\_YYYYMMDDHH\_DeviceID.txt*, where <DATA TYPE> is replaced with Geochem, Observ or Log based on the data type being exported. Generally, this file name works well as it describes user and date in the name, however users can edit the name to anything they want. Exports are saved in the *GeoInfoMobile/\_ExportsGeochem*, *GeoInfoMobile/\_ExportsObserv* or *GeoInfoMobile/\_ExportsLog* directory. A single file is exported for surface geochemistry samples and observations. For logs, a collar file and a separate log file is exported for each log type collected.



GIM\_Log\_2020020611\_MikesS8\_Alteration.txt  
GIM\_Log\_2020020611\_MikesS8\_Collar.txt  
GIM\_Log\_2020020611\_MikesS8\_Density.txt  
GIM\_Log\_2020020611\_MikesS8\_GammaRad.txt  
GIM\_Log\_2020020611\_MikesS8\_Geotech.txt  
GIM\_Log\_2020020611\_MikesS8\_HoleType.txt  
GIM\_Log\_2020020611\_MikesS8\_IntervalSummary.txt  
GIM\_Log\_2020020611\_MikesS8\_Lithology.txt  
GIM\_Log\_2020020611\_MikesS8\_MagSus.txt  
GIM\_Log\_2020020611\_MikesS8\_Mineralization.txt  
GIM\_Log\_2020020611\_MikesS8\_Minerals.txt  
GIM\_Log\_2020020611\_MikesS8\_Parameters.txt  
GIM\_Log\_2020020611\_MikesS8\_Photos.txt  
GIM\_Log\_2020020611\_MikesS8\_Samples.txt  
GIM\_Log\_2020020611\_MikesS8\_Structure.txt  
GIM\_Log\_2020020611\_MikesS8\_Survey.txt

## **Delete**

Deletes all the data in the GeoInfo for the specified data type. This only deletes data not the lookup list values. **Export your data before deleting it!**

You are given an option to save a date stamped GPX file of your data before the delete is completed. This can be useful if you want to overlay/display older deleted data in a mobile GIS/Mapping app. **This GPX export file is not a complete copy of your data, so export your data before deleting it!**

## **Import**

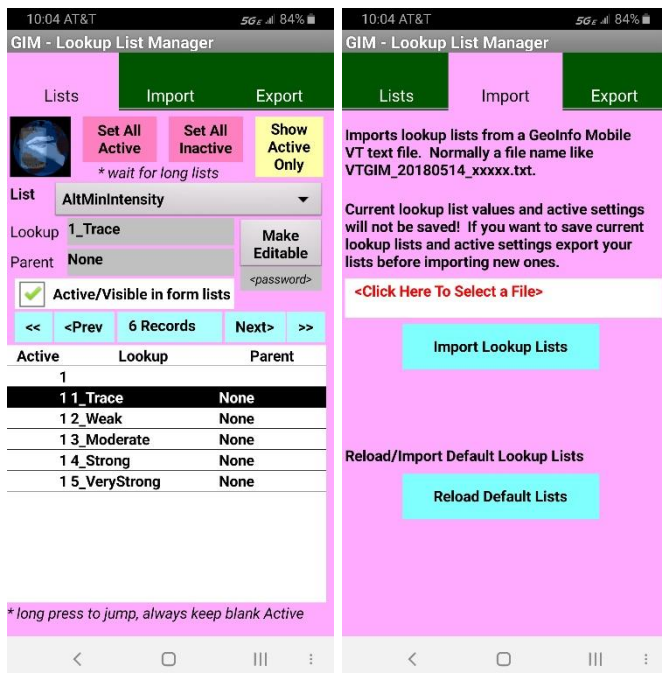
Select a file to import, then click the appropriate import button based on the data type being imported. Data exports out of GeoInfo Tools are in the proper format for import into GeoInfo Mobile. If you are using another database or software to create the import files review a data export and create it in the same comma delimited format.

# GeoInfo Mobile – Lists

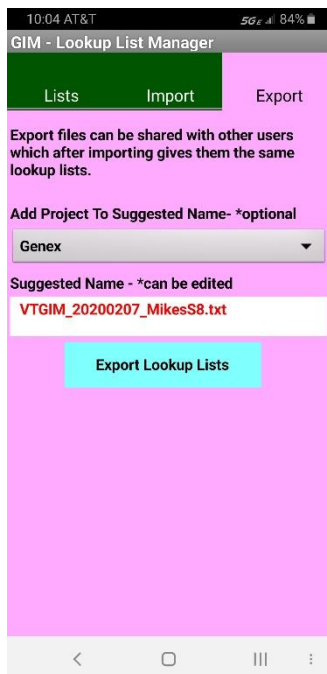
Provides access to the Lookup List Manager and updating County - State lookup lists.

## Lookup List Manager

Lookup lists and data collection validated using lookup lists offer the benefit of rapid clean standardized data entry with no spelling/data entry errors. GeoInfo Mobile puts corporate data collection rules at the rock human interface! The GeoInfo Mobile Lookup List Manager allows complete management of lookup list including editing, adding, and deleting values, as well as Import and Export of lists from corporate database lists.





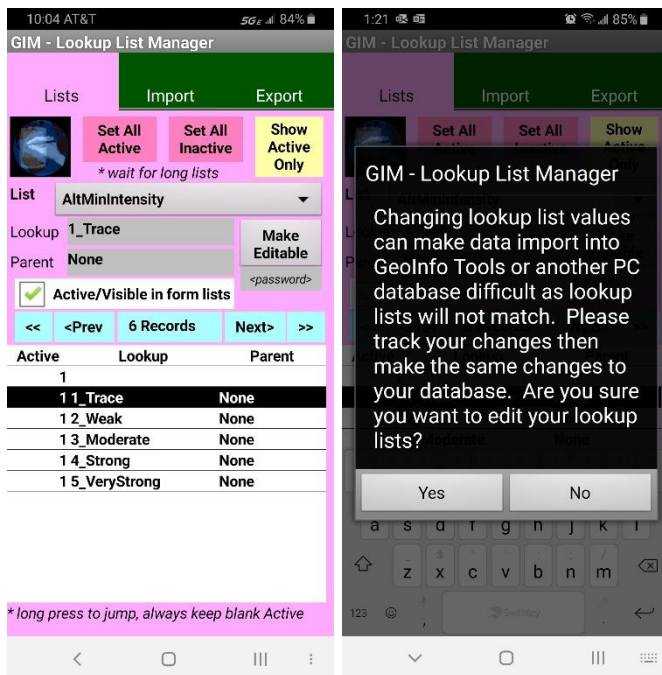


There are two levels of lookup list control in GeolInfo Mobile. The master lists are lists of all the possible values for a specific field (like lithology) and are commonly managed in GeolInfo Tools (a corporate database available from Geo-Information Solutions) or another corporate database. Most times, master lists do not need editing in GeolInfo Mobile. The second level of control for lookup lists is the active/visibility setting of a specific value in your lookup lists (what values show up when you click a field with a dropdown list), and are commonly controlled by each user based on what values they might expect or need on their specific project or field activity. The active/visibility setting is commonly edited in GeolInfo Mobile.

## Master Lists

In most cases, master lists are managed by GeoInfo Tools or another corporate database and imported into GeoInfo Mobile, for standardization of data being collected by many users on the same project or on multiple projects. This is a best practice, and as such, master list values normally are not edited in GeoInfo Mobile.

If users do want to edit the GeoInfo Mobile master lists in GeoInfo Mobile, rather than in GeoInfo Tools or another corporate database, enter the Lookup List password in the `<password>` field and click the **Make Editable** button. An important message is displayed before allowing editing of the master lists; **see and read below**. Once unlocked, 2 new edit buttons are available; **New Lookup** creates a new master lookup value so you can enter the value needed, **Delete Lookup** deletes the current lookup value. Make sure you are on the proper **List** before editing your lists, you can change **List** by selecting a new one in the **List** dropdown list.



1:22

85%

GIM - Lookup List Manager

Lists

Import

Export

Set All Active

Set All Inactive

Show Active Only

\* wait for long lists

List

AltMinIntensity

Lookup

1\_Trace

New Lookup

Parent

None

Delete Lookup

☒ Active/Visible in form lists

<<

<Prev

6 Records

Next>

>>

Active


Lookup

Parent

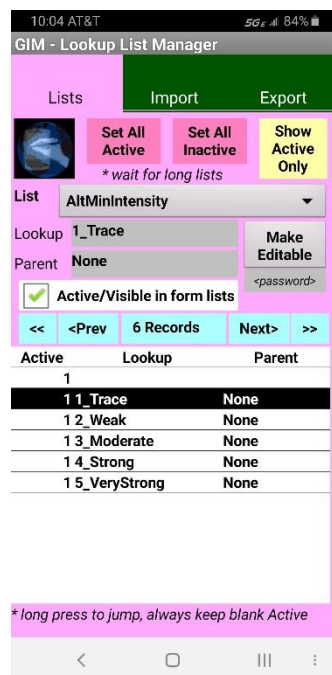
|                |      |  |
|----------------|------|--|
| 1              |      |  |
| 1 1_Trace      | None |  |
| 1 2_Weak       | None |  |
| 1 3_Moderate   | None |  |
| 1 4_Strong     | None |  |
| 1 5_VeryStrong | None |  |

\* long press to jump, always keep blank Active

## Active/Visible Level of Lookup List Control

The function behind the Active/Visible level of lookup list control is that each user or project can customize some of the lists like lithology, minerals or sampler rather than use the complete corporate master lists; this simplifies field selection of appropriate values (why would Frank want Ralph cluttering his Sampler list?, Why would Kimberlite be a lithology for a Porphyry project?). When you are collecting data, if you see the list icon, , to the right of a lookup list field then you know this list can be managed. Click on the List Icon to go to the Lookup List Manager at that specific list to edit/review the lookup list. Lookup List Manager can also be accessed from the **Lists** tab on the GeolInfo Mobile launcher form.

Users control one field in the Lookup List Manager: the **Active/Visible** field. If the Active field is checked, the value will display in the GeolInfo Mobile lookup list; if it is unchecked the user will not see the value in the GeolInfo Mobile lookup list. Several tools assist managing lookup lists.



| Active | Lookup         | Parent |
|--------|----------------|--------|
| 1      |                |        |
| 1      | 1_Trace        | None   |
| 1      | 1_2_Weak       | None   |
| 1      | 1_3_Moderate   | None   |
| 1      | 1_4_Strong     | None   |
| 1      | 1_5_VeryStrong | None   |

The **List** dropdown at the top of Lookup List Manager sets which lookup list is currently displayed.

The list box at the bottom shows all the records for the current list type. The list is a good overview of the current list's values and their active setting (0=off, 1=on), and allows users to quickly navigate to a value of interest using a *long press* (click and hold) on a different record.

**<<First**, **<Prev**, **Next>** and **Last>>** navigate the user through a list's values.

The **Show Active Only** – **Show All** toggle button toggles a filter showing all records for a list or only those that are checked Active.

**Set All Active** and **Set All Inactive** tools allow a user to quickly set all values either active or inactive. If a user has a list of 20 values in a list and only 2 need to be checked “Active”, then it would be quick for the user to “Set All Inactive”, then navigate to the two records they want set to “Active” and manually check the “Active” box for those 2 records.

## Import Lists

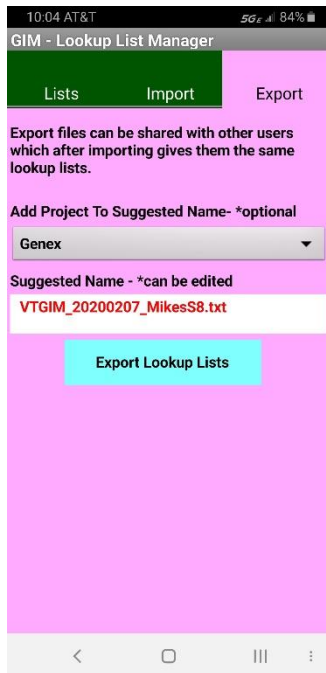
**Import Lists** allow the user to select a file to from which to import lookup list values. This file is usually generated from an export from GeoInfo Tools or another corporate database or from another GeoInfo Mobile user. A file name like *VTGIM\_20200205\_Genex\_MasterDB.txt* from GeoInfo Tools, or *VTGIM\_20080525\_ProjectName\_DeviceID.txt* from another GeoInfo Mobile user. Reload Default Lists clears your current lists and loads default lists.



\*\*\*Import clears the current list from the database and replaces it; all current Active settings are lost. If you want to save your current Active settings for later use, **Export** your lists first.

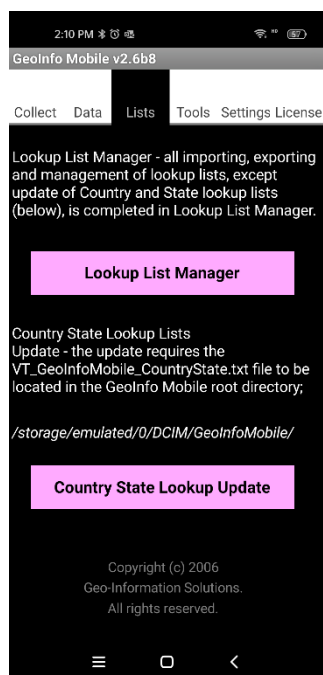
## Export Lists

**Export Lists** allows a user to export his current lookup list values with current active settings. If a user defines specific lists that are appropriate for a project, these lists can be exported and given to other users who might be working on the same project, so that all users have the same active lists visible in GeoInfo Mobile. Export suggests a name and allows users to add a project name to the file name (recommended as projects are usually different), but the name can be edited to any name. Export files are saved in the *GeoInfoMobile/\_LookupList* directory.



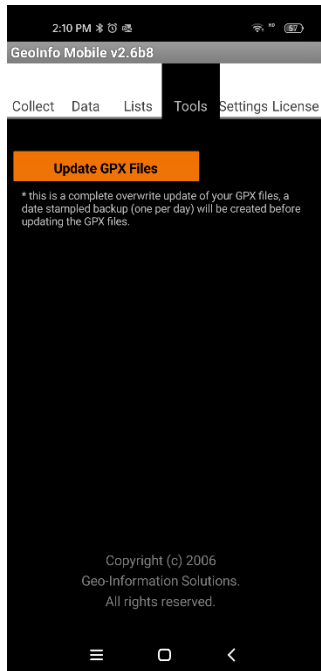
## Update Country/State/Province Lookup List

The Country/State/Province lookup list is managed separately from the lookup list manager, which manages all the other lists in GeoInfo Mobile, as it rarely needs editing and it is a long slow-to-load list. To edit this list, replace the *GeoInfoMobile/VT\_GeoInfoMobile\_CountryState.txt* file with a new updated version, then from the GeoInfo Mobile launcher form **Lists** tab click **Country State Lookup Update**



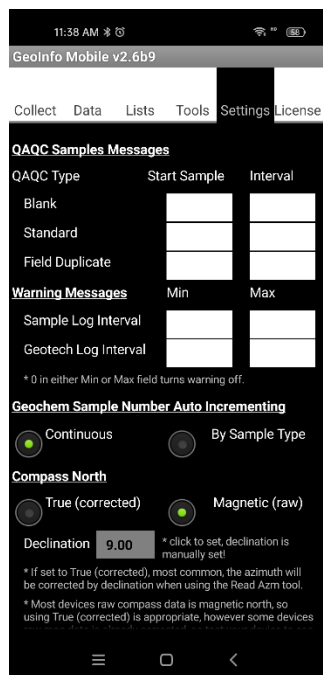
## GeoInfo Mobile – Tools

The **Update GPX Files** tool updates all the GPX files (all 3 data types). A date stamped GPX file backup is made before the active GPX files are updated. See [Appendix A - GPX File Exports - Mapping & GIS App Support](#) for GPX file details.





## GeoInfo Mobile – Settings



QAQC sample messages can be setup to notify you when it is time to collect a specific type of QAQC sample. In the example below, you will be notified it's time to collect a blank QAQC sample at sample 2, 8, 14, 20, etc..., a standard QAQC sample at 4, 10, 16, 22, etc..., and a field duplicate at 6, 12, 18, 24, etc...

Warning messages on the Sample and Geotech logs can be setup to show if the interval values are less than or greater than the Min and Max settings.

Sample number auto incrementing increments up +1 for the next new sample. Sample numbers can be edited at any time, and when edited, the auto incrementing value is updated. Geochem Sample Numbering Auto Incrementing can be set to;

- **Continuous** – Sample number series is the same for all sample types.
- **By Sample Type** – Sample number series is different for each sample type.

Compass North sets your compass reads using the Read Azm tool to either **Magnetic (raw)** or **True (corrected)**. If set to True (corrected), most common, the user entered declination will be used to correct the read azimuth. The declination of your current location can be set in Settings or in any declination field in GeoInfo Mobile. Once set the declination is saved for all future azimuth reads until the user changes it.

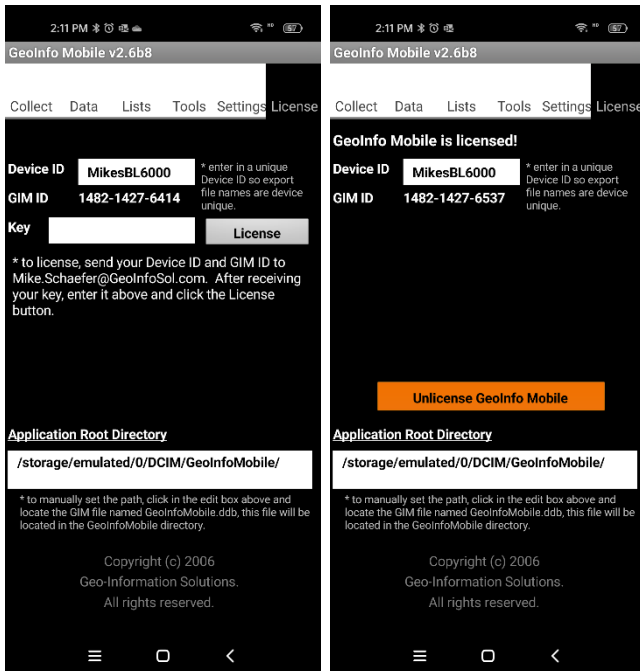
Most devices raw compass data is magnetic north, so using True (corrected) is appropriate as most users want True North, however some devices raw mag data is already corrected. If your devices raw magnetic data is already corrected (uncommon, but the BL6000Pro is) then you will want to set this to Magnetic (raw) so you will not be correcting the azimuth 2 times; your azimuth values will still be True North since your

device is doing the correction. Please test your device to see what setting works proper for your device.

## GeoInfo Mobile – License

If unlicensed, you will be presented with your GIM ID, asked to enter a unique Device ID, and asked to license GeoInfo Mobile; send your Device ID and GIM ID to [Mike.Schaefer@GeoInfoSol.com](mailto:Mike.Schaefer@GeoInfoSol.com) to receive your license key. If licensed, you will be shown your Device ID, GIM ID and an option to un-license.

The location of the GeoInfo Mobile application directory is shown. Normally this is automatically set when you install GeoInfo Mobile. However, if it is blank, you will have to set it manually or you will get an error when exporting lookup lists or data.



## General Use

### *Navigating Through Records*

Once you have created two or more records, you can navigate through the records in the table.

The quickest method to navigate records is to go to the **List** tab which shows a list of all the records and *long press* (click and hold) a different record in the list to navigate or set

active that record. Navigating this way then takes the user back to the main data entry tab for that record; Samp for surface samples, Observ for observations, Collar for logs and Log for specific log records.

The Record menu lists four navigation commands (First, Previous, Next, and Last).

## ***List Records***

To view a list of records in a data table, click the **List** tab. GeoInfo Mobile displays one line of data for each record. If the window is full, scroll to display additional records.

A *long press* (click and hold) on a different record in the list navigates or sets active that record. Navigating this way then takes the user back to the main data entry tab for that record and data type; Samp for surface samples, Observ for observations, Collar for logs and Log for specific log records.

## ***Search Records***

GeoInfo Mobile allows you to search for a specific sample number, observation ID or log ID using the Record – Search tool. Most times it is faster to navigate using the List tab and *long press* on a different record.

## ***Create Records***

To create a new sample, observation or log, click the **New Samp**, **New Observ** or **New Log** button. This creates a new sample, observation or log, and defaults much of the first sample, observation or log page values since they are usually the same in a project area. The user then selects a sample, observation or log type, and edits any of the defaulted values they need.

**New Samp** assigns the next sample number by automatically incrementing up one number. You can set auto incrementing to Continuous or By Sample Type in the GeoInfo Mobile Setting tab.

**New Observ** assigns a unique ID based on date; 20030810221516, 20=year, 03 = month, 08 = day, 10 = hour, 22 = minute, 15 = second, and a random number between 10 – 99 to create unique ID's (required by a database) for two samples collected at the same time on different device.

**New Log** creates a new log and makes the Hole ID field editable. Once the log name is typed the first time it is no longer editable, so take care to enter the name exactly as desired. If multiple devices are used to log the same drill hole (a geologist logging descriptive information like Lithology, Alteration, Mineralization, Minerals and Structure and a technician logging MagSus, Geotech and Samples) make sure both holes are named exactly the same so they merge together when the data is imported into GeoInfo Tools or another corporate database.

**New Int** for logs creates a new log interval by taking the previous “To” value and assigning it to the new “From” value and defaulting the Log Type to the previous entered value. The user then enters a new “To” value and completes the log interval description.

Mineral and Parameter logs offer a couple of other options for creating new intervals, these options facilitate quick data entry in specific cases. **New Min Same Int** defaults the new “From” and “To” to the previous values, and the user only need enter the mineral information. This allows a user to quickly log many minerals for a single interval. **Same Min New Int** defaults the new “From” as the previous “To” and defaults the mineral information to the previous information. This allows a user to quickly log mineral specific running logs.

## ***Edit Records***

GeoInfo Mobile allows you to easily edit existing records.

To change an existing field value, simply click the field and enter or select a new value.

## ***Save Records***

It is not necessary to manually save data.

GeoInfo Mobile automatically saves new records or changes to data every time you:

- Move to a new field
- Scroll to another record
- Insert a new record
- Delete a record
- List all records
- Exit the application

## ***Delete Records***

To delete a single record from a table, go to the Record menu and select Delete.

To delete all the records from a database, use delete tools in the GeoInfo Mobile launcher form **Data** tab.

**Note:** If you delete a log which has dependent records, like the various logs, then the collar and all the log data is deleted.

**Note:** If you delete data and are using linked GPX files in a GIS/Mapping app, you will want to do a complete overwrite GPX file update ([Appendix A - GPX Updates](#)).

## Read GPS

On the **GPS** tab the **Read GPS** button reads your devices GPS and automatically enters the Latitude, Longitude, Elevation, Datum (always LL\_WGS84), HDOP (horizontal measurement of position), and number of satellites.

HDOP and satellites are a guide to GPS location quality. HPOP x 5 = rough estimate of horizontal accuracy in meters. HDOP is commonly <1 for good open sky readings, 1-3 for compromised GPS visibility readings, and >3 for poor accuracy readings. The GeoInfo Mobile **Read GPS** tool scans HPOP values for up to 20 seconds looking for a good accurate reading. If the HDOP is high on your first read, wait a few seconds, and try again as the GPS might have been sleeping to save power on the first read.

*\* tip ... Android. **Settings – Location – Google Location Accuracy**; turn this feature off. Some Android users have reported that when this is active and the user is not within Wi-Fi or Mobile network coverage, that GPS coordinates can be bad. It is good in cities but not in the field!*

*\* tip ... run a Map/GIS/GPS app concurrently with GeoInfo Mobile, one that keeps the device GPS active all the time. This will always provide the most accurate GPS readings. GPS's just coming out of sleep (an Android feature to save battery life) can have poor reading until it is warmed up. Make sure your app is set to keep the GPS active all the time.*


*\* tip ... Locus GIS. Turn the **Settings – GPS & sensors – Disable when app is hidden** option off and turn the **Settings – Miscellaneous – Run Locus GIS as service** option on. These settings allow the GPS to stay active all the time. This provides Locus GIS and GeoInfo Mobile the most rapid accurate GPS locations possible. To shut down Locus GIS when running as a service click the Android device back button 2 times, then close the app using the 3 bar Menu button.*

Automatically read fields, highlighted green or yellow, are not editable for quality control reasons ... a value in any of these fields is known to have been read directly from your location. Elevation is one field read from the GPS that is editable as sometimes you can get better elevation values from a map. If you need to edit location information manually, enter coordinates in the Easting and Northing fields. Always select a Projection/Datum for all manually entered coordinates, so they have meaning.

When the Read GPS tool is run, the corresponding GPX export file is updated. See [Appendix A - GPX Updates](#) for details on how and GPX updates are completed.

2:56 PM 4G

GIM Surface Samples GPS

| Samp  | Desc                 | GPS        | Phy                      | Com | List |
|---|----------------------|------------|--------------------------|-----|------|
|  | <b>Sample Number</b> | 10268      | <a href="#">Read GPS</a> |     |      |
| Longitude   | -107.007610          |            |                          |     |      |
| Latitude  | 37.270565            |            |                          |     |      |
| HDOP  | 0.42                 | Satellites | 18                       |     |      |
| Datum   | LL_WGS84             | Elev       | 2203.00                  |     |      |
| Survey Type   | GPS                  |            |                          |     |      |
| Easting   |                      |            |                          |     |      |
| Northing  |                      |            |                          |     |      |
| Proj/Zone   |                      |            |                          |     |      |

\* Tip - run a Map/GIS/GPS app concurrently with GIM. This keeps the device GPS active all the time and provides the most accurate GPS readings.

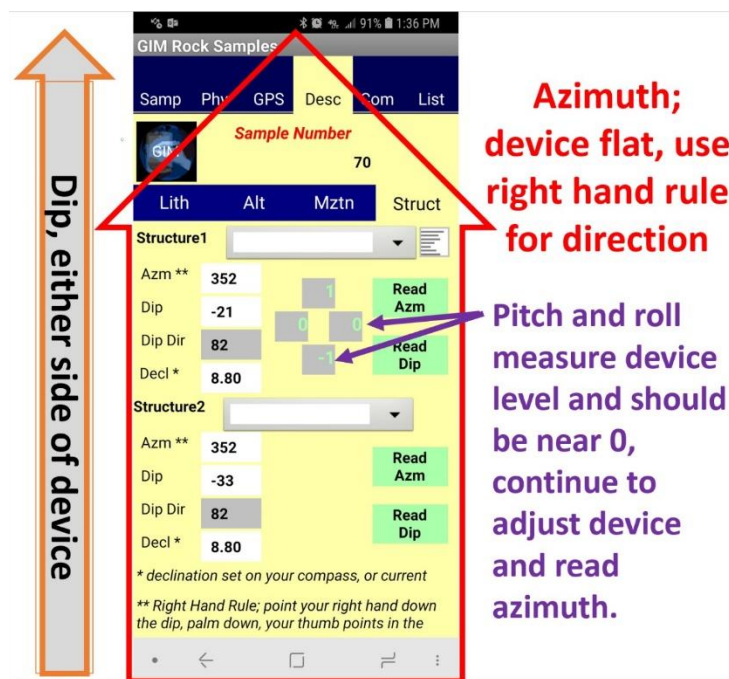
\* HDOP x 5 = estimated horizontal accuracy (m). Good open sky values are commonly <1. Compromised GPS visibility values are 1-3. Poor accuracy values are > 3. Reread GPS if needed.

## Compass – Read Azimuth – Read Dip

Android devices with proper sensors can read azimuth and dip directly from your device. Although this is not be as accurate and simple to use as a good field compass, it can be useful. Rock sample structures, geology observation structures, log structures, and log surveys have built in compass tools; **Read Azm** and **Read Dip**.

To read azimuth lay the device flat along the azimuth of the surface using the right-hand rule to determine the proper direction. Click the **Read Azm** button, and the current azimuth will be written into the azimuth field. Check the pitch and roll values as shown in the compass boxes and keep adjusting the device flatter and clicking the **Read Azm** button until the pitch and roll are close to 0. Each time you click the **Read Azm** button, a new azimuth is written. Testing shows pitch and roll less than 4 does not significantly change the azimuth.

To read dip lay either edge of your device along the dip angle and click the **Read Dip** button. The dip is written directly into the dip field.



When taking azimuth reading for a digital database it is imperative that all users follow the right-hand rule or readings can be 180 degrees wrong;

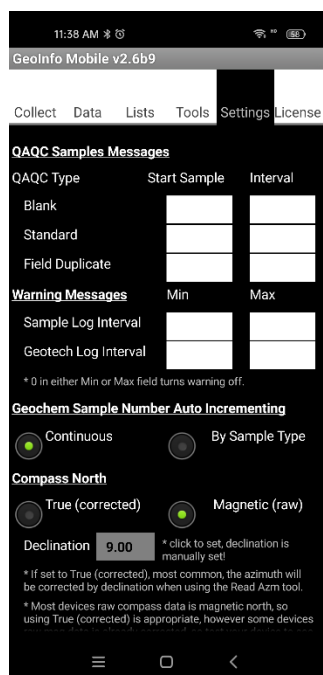
*"point your right hand down the dip, palm down, your thumb points in the azimuth/strike direction."*





The **Read Azm** tool can be set to read **True (corrected)** north or **Magnetic (raw)** north in the GeoInfo Mobile **Settings** tab. Compass North sets your compass reads (Read Azm tool) to either Magnetic (raw) or True (corrected). If set to True (corrected), most common, the user entered declination will be used to correct the azimuth. The declination of your current location can be set here in the settings or in any declination field in GeoInfo Mobile. Once set, the declination is saved for all future azimuth reads until the user changes it, so when you go to a new project, take care to set the declination the first time you read or record and new azimuth.

Most devices raw compass data is magnetic north, so using True (corrected) is appropriate as most users want True North, however some devices raw mag data is already corrected. If your devices raw magnetic data is already corrected (uncommon, but the BL6000Pro does) then you will want to set this to Magnetic (raw) so you will not be correcting the azimuth 2 times; your azimuth values will still be True North since your device is doing the correction. **Please test your device to see what setting works proper for your device.**



## Enter Null Value in a Numeric Field

When you click into a numeric field a keypad is displayed. Clicking the Clear button changes the value to 0, if you want the value to be blank (or a null) then click the Clear button a second time.

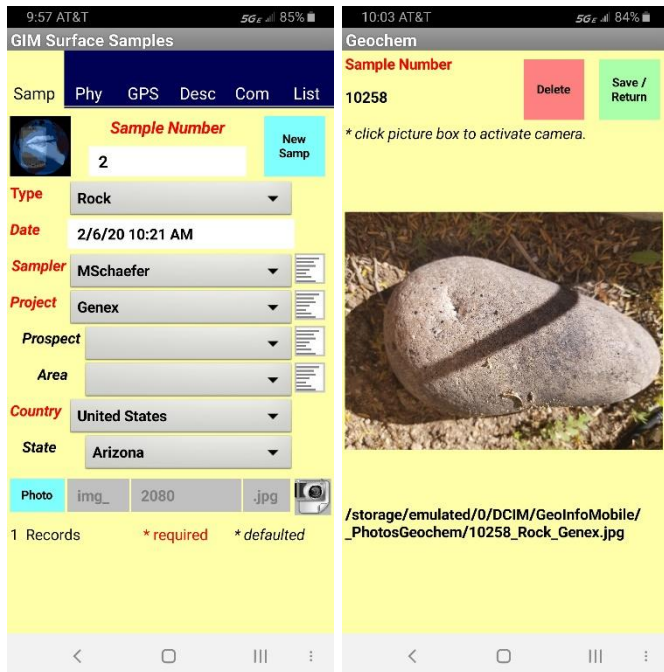
## Photo Assign Tool

The Photo ID field can be populated by clicking the **Photo** button. The photo name is built using the suggested prefix, numeric value and suffix values shown in gray edit boxes to the right of the **Photo** button. Click on any of the gray suggestion boxes to edit them. The prefix and suffix boxes are global variables that are persistent until the value is changed. The center numeric counter field, once set to a number, will automatically increment up one number each time a photo is assigned. Clicking **Photo** multiple times increments the number of the photo up one each time the button is clicked. If a unique prefix is used for each camera, then in a multiuser corporate setting unique picture ID's will be generated. These picture ID's can then be linked in a GIS environment for easy access to field photos.

The screenshot shows the 'GIM Surface Samples' mobile application interface. At the top, the status bar displays '9:57 AT&T' and '50% 85%'. Below the title bar, there is a navigation menu with tabs: 'Samp', 'Phy', 'GPS', 'Desc', 'Com', and 'List'. The 'Samp' tab is active. The main form contains several fields: 'Sample Number' (with a value of '2' and a 'New Samp' button), 'Type' (set to 'Rock'), 'Date' (set to '2/6/20 10:21 AM'), 'Sampler' (set to 'MSchaefer'), 'Project' (set to 'Genex'), 'Prospect' (empty), 'Area' (empty), 'Country' (set to 'United States'), and 'State' (set to 'Arizona'). At the bottom, there is a 'Photo' button and three gray edit boxes containing 'img\_', '2080', and '.jpg'. Below the form, it says '1 Records' and has two asterisked labels: '\* required' and '\* defaulted'. The bottom of the screen shows a standard Android navigation bar with back, home, and recent apps buttons.

## Taking Photos with Built-in Camera

The camera icon to the right of the Photo ID field activates the camera tool in GeoInfo Mobile.



Click in the picture box to activate the camera. Photo names are automatically assigned; surface samples *SampleNo\_SampleType\_Project.jpg*, observations *ObservID\_ObservType\_Project.jpg* and the photo log *HoleID\_Split\_From\_To.jpg*. Photos are saved in the *GeoInfoMobile/\_PhotosGeochem*, *GeoInfoMobile/\_PhotosObserv* and *GeoInfoMobile/\_PhotosLog* directories.

The higher the resolution your camera is set at, the slower the picture page is to load and unload. It is slow at high resolutions.

Click **Save/Return** to save the photo ID with the current record and return to data collecting.

## ***Record Menu Commands***

The Record menu displays when the Android menu button is activated; 3 vertical dots prior to Android version 10 or click and hold the back button for Android 10+).

- **First** - Displays the first record.
- **Previous** - Displays the previous record.
- **Next** - Displays the next record.
- **Last** - Displays the last record.
- **Search** - Locates a record based on the current sort/search order; Sample Number, Observation ID or Log ID.
- **Delete** - Deletes the current record. In Data Logger all data for all logs is deleted along with the collar information.
- **Close** - Minimized the application. In Android, it only minimizes the GeoInfo Mobile app, use the Android OS to completely close GeoInfo Mobile.

## ***Option Menu Commands***

The Option menu displays when the Android menu button is activated; 3 vertical dots prior to Android version 10 or click and hold the back button for Android 10+).

- **Update GPX File** –Completes an OVERWRITE update of the GPX file for the current data type. This tool only exists on the GPS tabs.
- **About** - Displays information About GeoInfo Mobile.
- **Help** – Display this User Manual

## Appendix A - GPX File Exports - Mapping & GIS App Support

GeoInfo Mobile supports mapping of Surface Geochemistry Samples, Observations and Logging collars using mapping or GIS Android apps that support GPX files. Integration with the Locus GIS app is particularly good and is discussed in [Appendix B - Locus GIS App Support](#). Data is plotted in mapping and GIS apps as points from GPX files that are automatically created and updated by GeoInfo Mobile. GPX files are updated whenever the **Read GPS** tool is used. Separate GPX files are exported for each data type, Surface Geochemistry Samples, Observations and Logging collars. Point symbols in the GPX files are different for each sample type, observation type and logging collars. A description field in the GPX file presents all the descriptive data from GeoInfo Mobile.

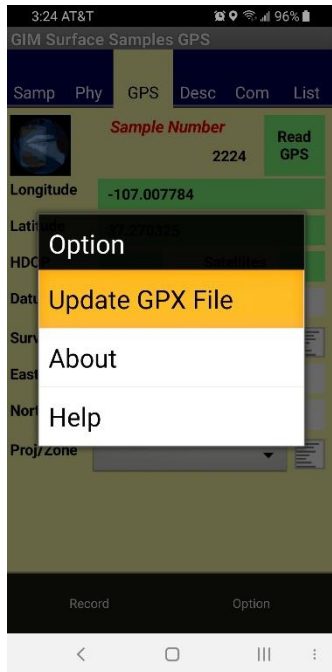
### GPX File Updates

GPX files are updated in GeoInfo Mobile in 4 ways.

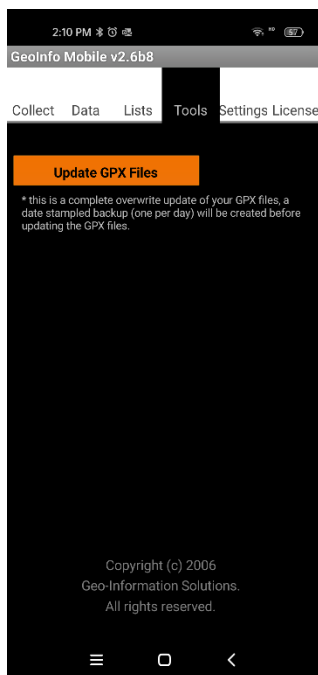
1. When a user runs the **Read GPS** tool in any of the data collection modules GPS tab, an update is automatically completed in the background. When the record does not yet have coordinates, the record is APPENDED to the proper GPX file (much faster with large data sets). When the record already has coordinates and the user is updating them, a complete OVERWRITE of the existing GPX file is required so duplicate records are not created; this update's all the current data in the GPX file so it matches the current GeoInfo Mobile database. A complete OVERWRITE is slower to process.

*\* tip; Collect all the sample or observation descriptive data before running the **Read GPS** tool. Since a record is APPENDED to the GPX file when the **Read GPS** is run, if you read the GPS after you enter the descriptive data, all the data will be included in GPX file. If you run the **Read GPS** tool before you describe a sample or observation, the later entered descriptive data will not be appended with the record until a complete OVERWRITE update is completed (either by re-reading the GPS when you already have coordinates or manually as described below).*

2. Manually run the **Update GPX File** tool on any of the GPS tabs from the Option menu (click the ... dots in the lower right corner of the display for Android versions prior to 10 and click and hold the back button for Android version 10+). This only updates the GPX file for the data type you are currently working with; like Surface Geochemistry Samples.



3. Manually run the **Update GPX Files** tool from the GeoInfo Mobile launcher screen, **Tools** tab. This updates all the GPX files (all 3 data types). However, for the most part users will not have to run this tool as GPX file updates are automatically completed every time a user runs the **Read GPS** tool in GeoInfo Mobile. A date stamped GPX backup file is created for each data type when this tool is run; this can be useful if you want to overlay older data in a mobile GIS/Mapping app.



4. A GPX file update is automatically completed when Data tools **Delete** or **Import** is completed.

## GPX Files, Folder and Format

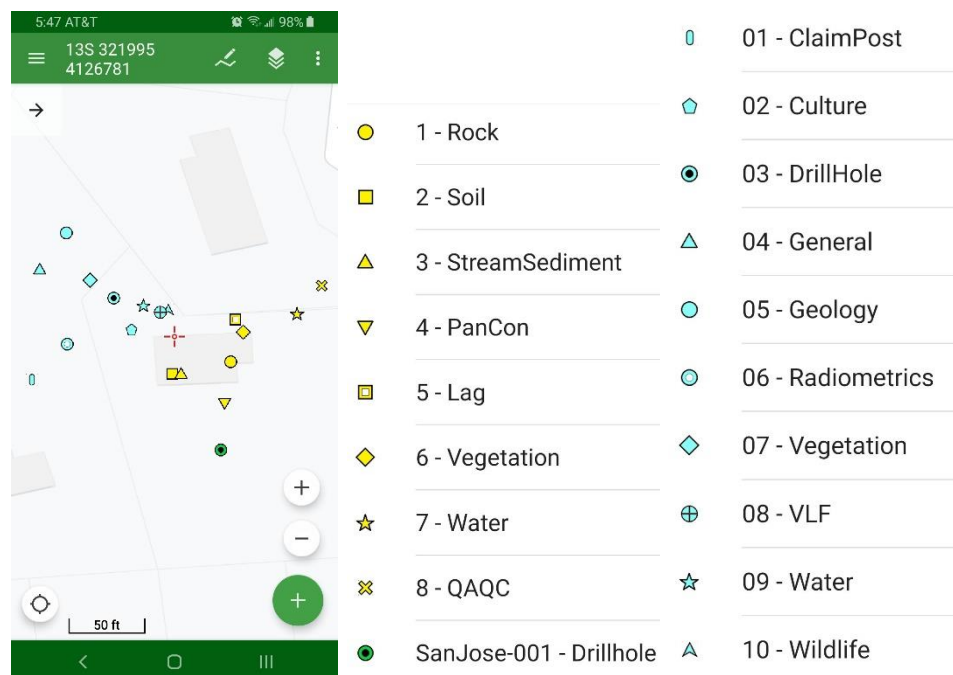
A GPX file is created for each data type in GeoInfo Mobile.

- *GIM\_Geochem.gpx*
- *GIM\_Observations.gpx*
- *GIM\_Logging.gpx*

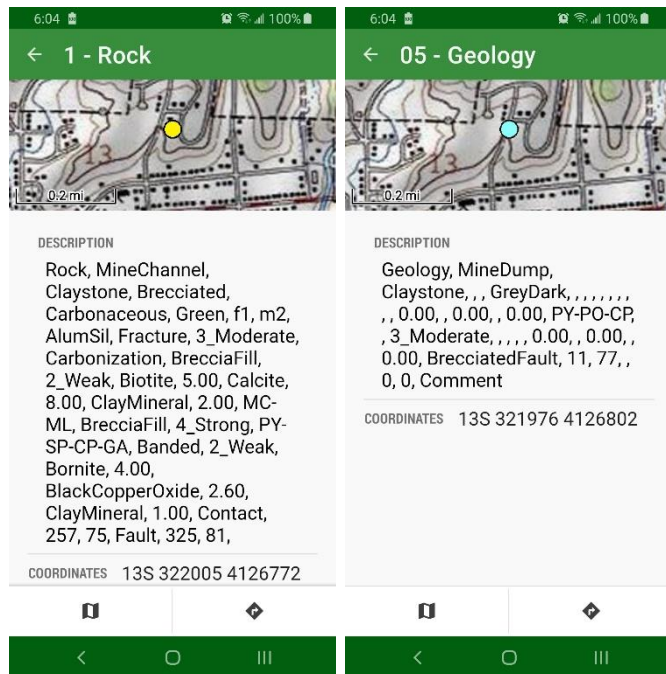
GPX files are saved in the GeoInfo Mobile directory in a subfolder named *\_GPXFiles*, generally the *Internal Storage/DCIM/GeoInfoMobile/\_GPXFiles* directory.

When you run the **Update GPX Files** tool on the **Tools** tab, or you run a **Delete** tool from the **Data** tab, an optional date stamped backup of your GPX files can be created before the update; for example, *GIM\_Geochem.gpx* would be saved as *GIM\_Geochem\_20210510.gpx*. A date stamped GPX backup can be useful if you want to overlay older data, or deleted data in a mobile GIS/Mapping app.

Symbols are different for each type of sample, observation, or drill hole.



A description field for each point contains all the descriptive data for each GeoInfo Mobile point, so selecting a point in Locus GIS shows all the descriptive data.





## Appendix B - Locus GIS App Support

GeoInfo Mobile GPX file export details are found in [Appendix A - GPX File Exports - Mapping & GIS App Support](#). Please read and understand Appendix A before continuing!

Integration with the Locus GIS app is good; <http://www.locusgis.com/> . Data is plotted as points from GPX files that are automatically created and update by GeoInfo Mobile. GPX files are updated whenever the **Read GPS** tool is used, and if these files are loaded as a layer in Locus GIS, updating of data in Locus GIS is seamless; as data is added to GeoInfo Mobile it is automatically updated in your Locus GIS map.

*\* note; updates of new points collected in GeoInfo Mobile are automatic in Locus GIS. However, when you run the **Delete** tool from the GeoInfo Mobile **Data** tab to delete all your data, the update linking in Locus GIS breaks. You need to delete/remove the GPX layer in Locus GIS and reload this layer after new data is added to GeoInfo Mobile to again start the automatic updates. Locus GIS has been contacted about this limitation.*

### Locus GIS App Installation

Do not install the Locus GIS app on your Android device from the Google Play Store. The Google Play Store version does not support other app GPX file sharing.

Manually install or update Locus GIS by downloading the latest version from here; <http://bit.ly/lgiVersions>.

*\* note; until late 2022 the last version of Locus GIS that works with external GPX files, like GeoInfo Mobile, is v1.14.1, so please install this version until Locus GIS starts supporting external GPX files again.*

1. Copy the downloaded \*.apk installer file to your device
2. On your Android device, Open the Files app, Apps section, App install files (APK's) tab, and then double click the Locus GIS APK to install or update.
3. Open Locus GIS
4. Create a project, WGS 84 EPSG 4326, UTM display (need to do 2 times, bug). You can use any projection just make sure the Datum is WGS84.
5. Set to display UTM coordinates not Locus version in map title, see [Tips](#) below.
6. Test compass to see if it your device compass is true or magnetic, set properly in *Settings-GPS & sensors-Use true bearing*.
7. *Settings - Controlling - Map Screen* Two finger measuring **on**, Tap and hold to display address **off**.
8. *Settings - Miscellaneous - Run Locus GIS as a service*, set **on**, see [Tips](#) below.
9. In Android *Settings-Apps & notifications-See all apps-Locus GIS-Permissions-Location*, set it to **Allow all the time**.

The free Basic version of Locus GIS is a full functioning version limited to 1 project, 2 base maps, and 3 data layers. The free Basic version works well within the limits imposed; however, many users will want more projects and layers than offered.

The Premium version of Locus GIS does not have a limit on number of projects, base maps, and layers. The Premium version is a subscription service, either monthly or annually, and costs about \$80-100/year.

Since you are installing Locus GIS outside the Google Play Store you will need to use the [Custom Licensing without Google Play](#) method for a Premium license.

Geo-Information Solutions offers a 3-year Premium Locus GIS licenses for \$240, contact [Mike.Schaefer@GeolInfoSol.com](mailto:Mike.Schaefer@GeolInfoSol.com). The license is transferable to new devices within the 3-year term, and new licenses can be purchased as needed in the future. Alternately, Locus GIS offers a custom licensing method if you subscribe to 3 or more devices.

## ***Projections and Datums***

Locus GIS allows many options for projections, like Latitude/Longitude, UTM, etc ... and many different datums like WGS84, NAD27, NAD84, SAD69, etc ...

GeolInfo Mobile reads raw GPS coordinates which are Latitude/Longitude WGS84, **so in Locus GIS you will want to set your projects coordinate reference system to use the WGS84 datum so your GeolInfo Mobile points plot correctly** (NAD83 and some other datums are so close to WGS84 that you will not see any difference given the accuracy of a handheld GPS).

Your Locus GIS projects, maps and layers (including imported Shapefiles) can use any Locus GIS supported projection. For Latitude/Longitude WGS84 set your project projection to WGS 84 EPSG: 4326. For UTM projections use WGS84 and your locations proper UTM Zone projection.

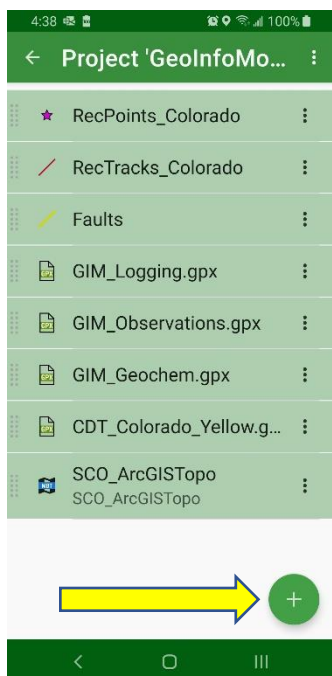
Locus GIS projects data on the fly so base maps and layers can be in any projection that is supported by Locus GIS. Base map and layer projections can be different for different maps and layers in the same project as long as they are properly defined from the source; so you can have one map in Latitude/Longitude and another in UTM and they will align to your Locus GIS projects set projection. It is recommended to use a similar coordinate reference system for all your project data, but it is not required.

## GeolInfo Mobile Layers – GPX File Layers

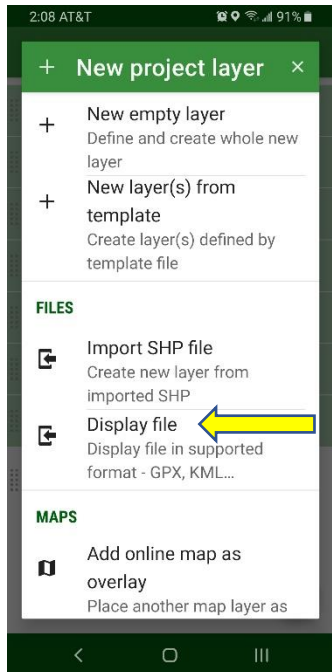
### Adding a GeolInfo Mobile GPX Data Layer in Locus GIS

To add a GPX data layer;

1. Open the Locus GIS project of interest.
2. Open the Layers Dialog in one of several ways;
  - a. Menu – Layers
  - b. Click the Layers Icon on the top panel (the Layers icon can be added to the Top panel if it does not currently show)
  - c. Click the white Layers arrow in the top left corner of the map window, then click the Layers icon in the upper right corner of this view.
3. Click the Add Layer button (green circle with + symbol) in the lower right corner.



4. Under **Files**, select **Display file** and browse to the location of the exported GeolInfo Mobile GPX files, generally */Internal Storage/DCIM/GeolInfoMobile/\_GPXFiles*, and select the GPX file of interest; either *GIM\_Geochem.gpx*, *GIM\_Observations.gpx* or *GIM\_Logging.gpx*. You can sort this list by Creation Date Reversed which should show your current GPX files near the top (older date stamped copies will be below).

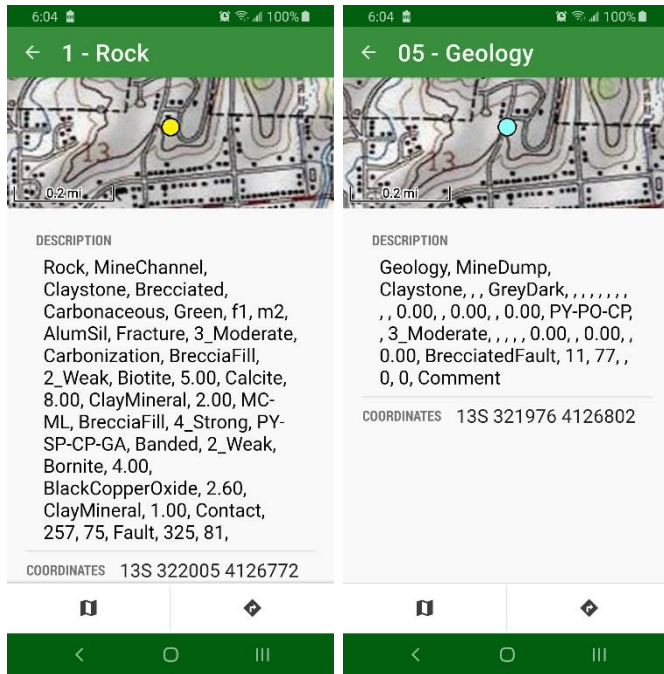


## Updating GeoInfo Mobile Map Points

GeoInfo Mobile automatically updates your GPX file data when you run the **Read GPS** tool, and updates of new points collected in GeoInfo Mobile are automatic in Locus GIS. However, there is a limitation in Locus GIS. When you run the **Delete** tool from the GeoInfo Mobile **Data** tab to delete all your data; the update linking in Locus GIS breaks. You need to delete/remove the GPX layer in Locus GIS and reload this layer after new data is added to GeoInfo Mobile to again start the automatic updates. Locus GIS has been contacted about this limitation.

## Displaying GeoInfo Mobile Descriptive/Attribute Data

Click on a point to select it and open the information view for that point. If more than one point is selected a list is provide so you can choose one point. The Description in Locus GIS contains all the description data that was collected in GeoInfo Mobile. A coordinate for the point is also shown in the projection that you set for your project. This is a great way to see UTM coordinates for your GeoInfo Mobile data!



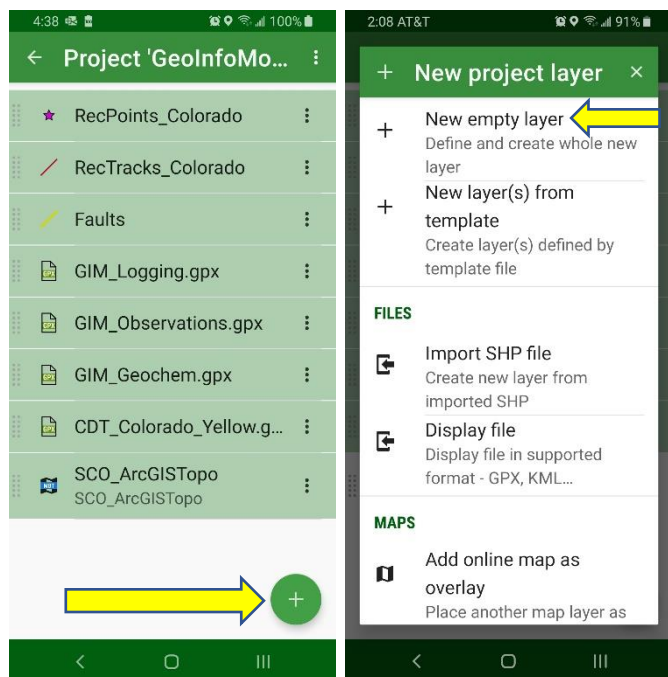
## Layers

Locus GIS can display GPX and KML files as layers, like GeoInfo Mobile GPX files as described above. These layers are not editable and can only be viewed on your maps. These layers are referenced directly from the GPX or KML files and are opened from the **New Project Layer** dialog **Files – Display file** option.

Other layers can be imported from Shapefiles or directly created in Locus GIS. These layers are editable, and are stored in the projects SQLite database; *Storage\LocusGIS\projects\<Project Name>\<Project Name>.db*. These are the layers you will create to store mapped geology, roads, tracks, routes, etc...

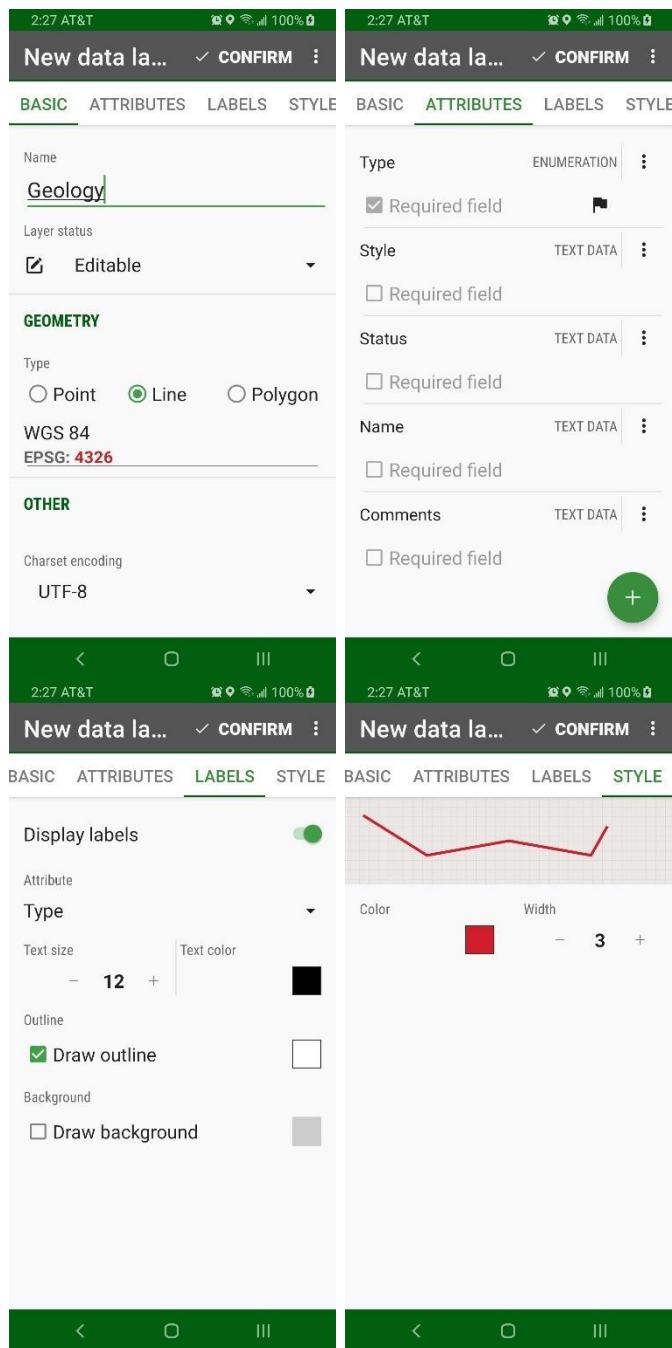
### Create New Layer

In the **New Project Layer** dialog select **New empty layer** to create a new layer.



In the **Layer** dialog you can set the layer type as point, line or polygon. Generally, GeoInfo Mobile users will not need point layers as point data is better collect in GeoInfo Mobile and displayed as a GPX file layer.

The **Layer** dialog allows you to set the layer name, object type, projection, attribute fields, label fields, and map style.



These settings are standard GIS concepts and easily understood. However, there are a few important options worth noting;

1. Any attribute field can be set as the title field, the field that displays when a feature is selected on the map. The black flag icon next to a field flags the title field. To set a layer as the title field, click the 3-dot menu and select **Use as title**.
2. An enumeration attribute type is a text field that allows users to build pick lists for the field data entry. Useful for quick standardized data entry.

## Shapefiles

Shapefiles are imported as a layer using the **New Project Layer – Files – Import SHP file** option. Shapefiles are imported as a new layer in the projects SQLite database; *Internal Storage\LocusGIS\projects\<Project Name>\<Project Name>.db*.

Because Shapefiles are not used directly in Locus GIS, user will want to import their Shapefiles, edit and create new features in the new layer, then export the layer as a Shapefile to transfer the data back for use with a PC GIS software. **Export as SHP** is an option in the Layers dialog under the 3-dot menu.

## Base Maps

Locus GIS uses, Online, Offline, and Web Maps Service (WMS) servers for base maps.

Some online map content (either built in Online maps or WMS maps) can be added directly in Locus GIS, however for many users these maps are too general and do not provide useful content. Also, since they are not available offline, they do not always work in the field.

Most users will want to create their own offline maps, either from online map servers or their own PC GIS maps. Offline maps are stored in a single file *.mbtiles* format. Maps can be stored in the *Internal Storage\LocusGIS\maps\* folder or any other folder on the device, and used with any project.

Offline maps can be added as a layer using the **New Project Layer – Maps – Add offline map as overlay** option.

## Offline Maps Created from Online Map Servers

Mobile Atlas Creator (MOBAC), <https://mobac.sourceforge.io/>, is a free software that builds offline maps from many different online map servers.

Several online map sources are built into MOBAC and custom sources can be added. Custom map sources are added by creating a *.xml* definition file for the source and putting this file in the *Mobile Atlas Creator 2.1.3\mapsources* folder.

Below are a few useful custom map sources. Copy the italicized example text below into a text editor (Notepad works well) and then save this file with a name like *ArcGIS USA Topo.xml* or *Google Maps.xml*. The file extension must be *.xml*.



### ArcGIS USA Topo.xml Example;

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<customMapSource>
<name>ArcGIS_USA_Topo_Maps</name>
<minZoom>0</minZoom>
<maxZoom>15</maxZoom>
<tileType>PNG</tileType>
<tileUpdate>None</tileUpdate>
<url>http://server.arcgisonline.com/ArcGIS/rest/services/USA_Topo_Maps/MapServer/tile/{z}/{y}/{x}></url>
</customMapSource>
```

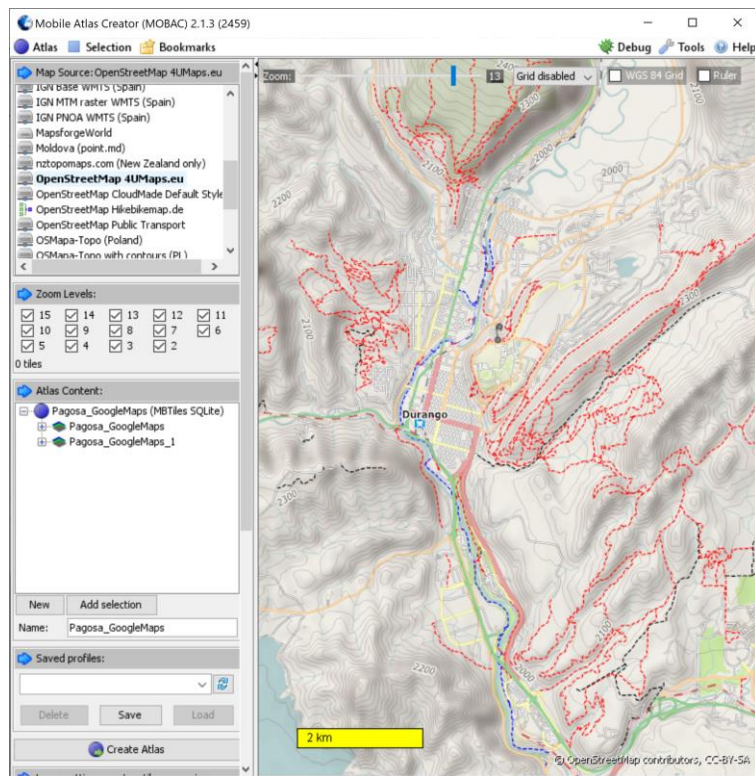
### Google Maps.xml Example;

```
<customMapSource>
<name>Google Maps</name>
<minZoom>0</minZoom>
<maxZoom>20</maxZoom>
<tileType>PNG</tileType>
<tileUpdate>IfNoneMatch</tileUpdate>
<url>http://mt{serverpart}.google.com/vt/lyrs=m@176103410&hl=pt-BR&x={x}&y={y}&z={z}&s=Galileo&scale=1</url>
<serverParts>0 1 2 3</serverParts>
</customMapSource>
```

\*note; when pasting these xml examples make sure there are no extra spaces at the line breaks in the pdf. Like *USA\_Topo\_Maps/MapServer/tile/* should be *USA\_Topo\_Maps/MapServer/tile/*

Create a map atlas for offline use;

1. The map atlas format used by Locus GIS is *.mbtiles*. You will want to select this atlas type when you create a new map; **Atlas** menu – **New Atlas**.
2. Select a **Map Source** – located in left panel.
3. Select **Zoom Levels**, generally all available, 1 through 15-20 – located in left panel.
4. Draw a selection area on the map, you can set **Selection Mode** in the **Selection** menu, then draw an area on the map.
5. Add selection to the Atlas - type a name for the selection area and click **Add selection** – located in left panel.
6. Create the atlas; **Atlas** menu – **Create Atlas**.



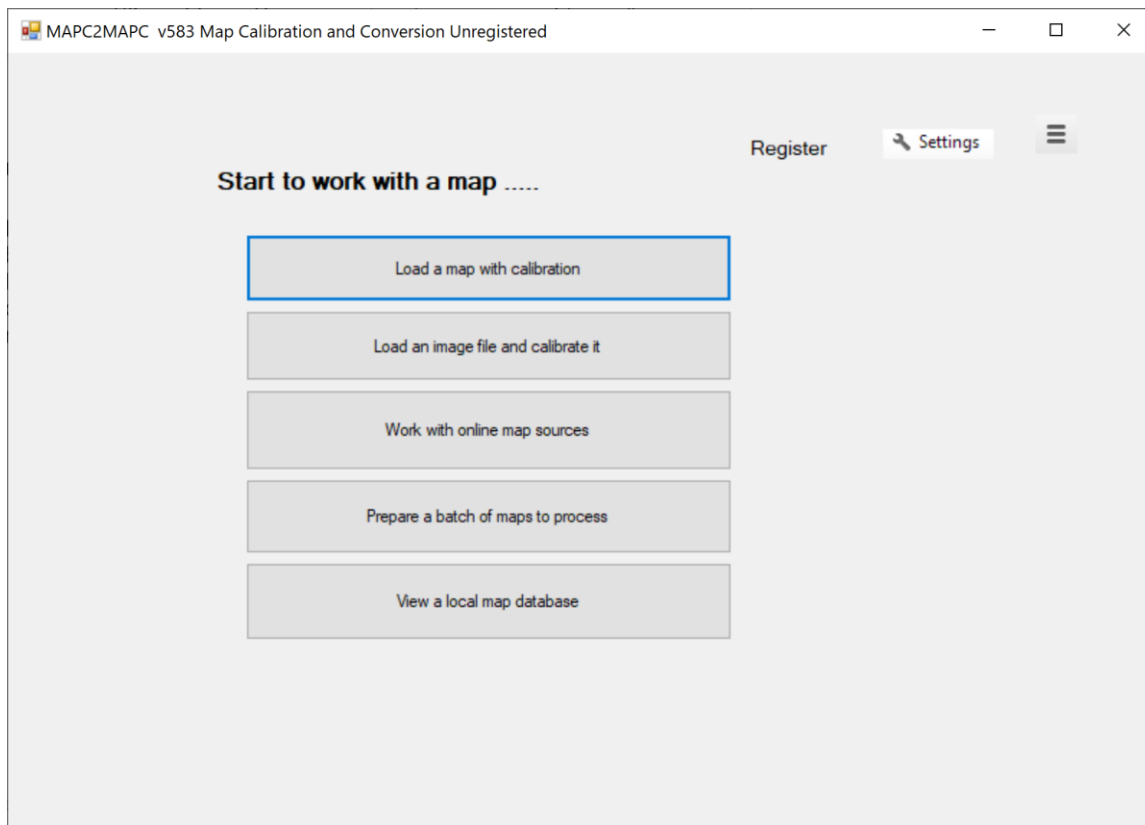
## Offline Maps Created from PC GIS Map Exports

MAPC2MAPC, <https://www.the-thorns.org.uk/mapping/>, is a \$25 software that builds offline maps from exported PC GIS maps. Maps exported from a PC GIS software like Simple GIS, ArcGIS or MapInfo in a .jpg, .tif or .png with world header files, or GEOTIFF, ECW, or MRSID format can be converted to the *.mbtiles* format used by Locus GIS.

If you create a *.mbtiles* base map that does not allow you to zoom in to the detail you need in Locus GIS, then you will need to export your base map image from your PC GIS software at a higher dots per inch (dpi). The higher the exported image dpi, the more you can zoom-in in Locus GIS.

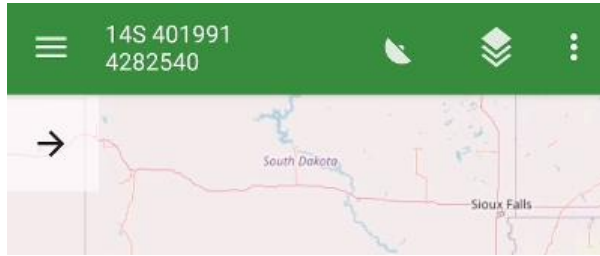
Create a map atlas for offline use;

1. Click **Load a map with calibration**, and selected a PC exported georeferenced map. Then select the projection of the exported map.
2. Click **Save the map for a mobile application**, then select MBTiles as the Target Application (choose MBTiles rather than Locus). The map atlas will be created.
3. Copy the map atlas, \*.mbtiles file, to the *Internal Storage\LocusGIS\maps\* folder on your device.



## Tips

- **Display UTM Coordinates in map title.**
  - Open Menu - Projects - Settings for your project - Type of coordinates - select UTM
  - Return to map screen - tap on the top panel on 'Locus GIS 1.14.1' title and select coordinates.



- **Layer Transparency.**
  - Open the layers dialog, specifically and only from the upper left layers arrow.
  - Click the 3-dot menu for a base map layer, and select Settings
  - Set the base map layer transparency.
- **Track Recording Panel Options**
  - Click the wrench icon in the track recording panel or go to Settings – Recording and select the number of track monitoring parameters to display.
  - When in the Track Recording panel click and hold any parameter box to set what information you would like to display, many options are available.
  - When recording a track, you can display Track Recording parameters in the Title bar, where you set to display UTM coordinates as described above.
- **Tap and hold to display address.** This tool annoyingly pops up address location information when panning the display, and when not connected to Wi-Fi or cellular data the useless message “loading ...” pops up. Starting in version 1.12.2 there is a new option to turn this feature off (the default is on). *Settings – Controlling – Map screen - Tap and hold to display address.*
- **Project Datum.** Set your projects coordinate reference system to use the WGS 84 datum so your WGS 84 GeoInfo Mobile data plots properly. You can use any projection you want so long as the datum is WGS84.
- Turn the **Settings – GPS & sensors – Disable when app is hidden** option off and turn the **Settings – Miscellaneous – Run Locus GIS as service** option on. These settings allow the GPS to stay active all the time. This provides Locus GIS and GeoInfo Mobile the most rapid accurate GPS locations possible. To shut down Locus GIS when running as a service click the Android device back button 2 times, then close the app using the 3 bar Menu button.

## **Appendix C – Using Prior Version GeoInfo Mobile Lookup List Exports**

If you have lookup lists from a prior version of GeoInfo Mobile, up to v2.5 (Windows Mobile OS), you will need to edit the lookup list prior to importing it into this new version of GeoInfo Mobile. Null or blank values in older versions of GeoInfo Mobile used a space ' ', while this new Android version uses a null or blank. Edit your older lookup list export files in a text editor like Notepad replacing all ' ' with ''.