

Field Scout

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Introduction

Field Scout is a file based program for the Pocket PC. It is designed for collecting and managing point records in the field. These records may be, for example, proposed well sites, potential well sites or existing well sites. In addition any other points of interest can be collected.

Each set of points is collected and stored in a user specified file. You can create and use as many files as you need.

File Format and Contents.

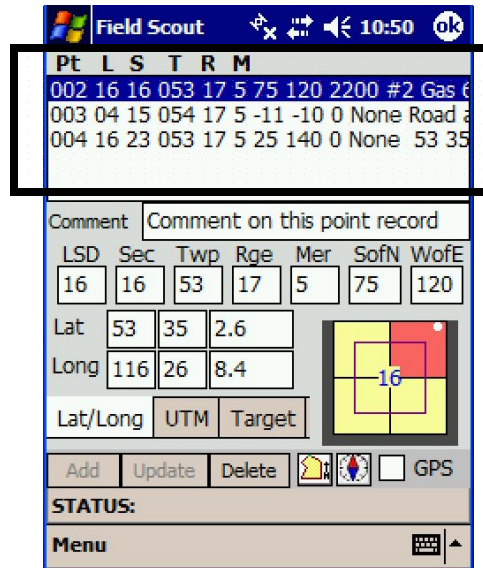
The file format for Field Scout is very simple. It is a comma delimited file saved in a text format with a .CSV extension. Each line of the file represents one point record. Each record contains the following information:

- Ptnum (A point number automatically assigned to each record)
- LSD (Legal Subdivision)
- Sec (Section Number)
- Twp (Township Number)
- Rge (Range Number)
- Mer (Meridian Number)
- NS (Offset from outside section line in North/South direction), *See diagram on page 5.*
- EW (Offset from outside section line in East/West direction), *See diagram on page 5.*
- Depth (Depth of the well in metres)
- Target (Target drilling area and acreage)
- Comment (A comment associated with the point)
- LatDeg (Degrees of Latitude)
- LatMin (Minutes of Latitude)
- LatSec (Seconds of Latitude to one decimal place)
- LonDeg (Degrees of Longitude)
- LonMin (Minutes of Longitude)
- LonSec (Seconds of Longitude to one decimal place)
- UTMX (Easting of point in NAD83 metres)
- UTMY (Northing of point in NAD83 metres)

Program Overview

POINT LIST

All point records from the current file are displayed in the highlighted scrolling list box. To select a record, **tap** on it. If it is not visible, **scroll** down the list until it is visible and then **tap** on it. It then becomes the active record.

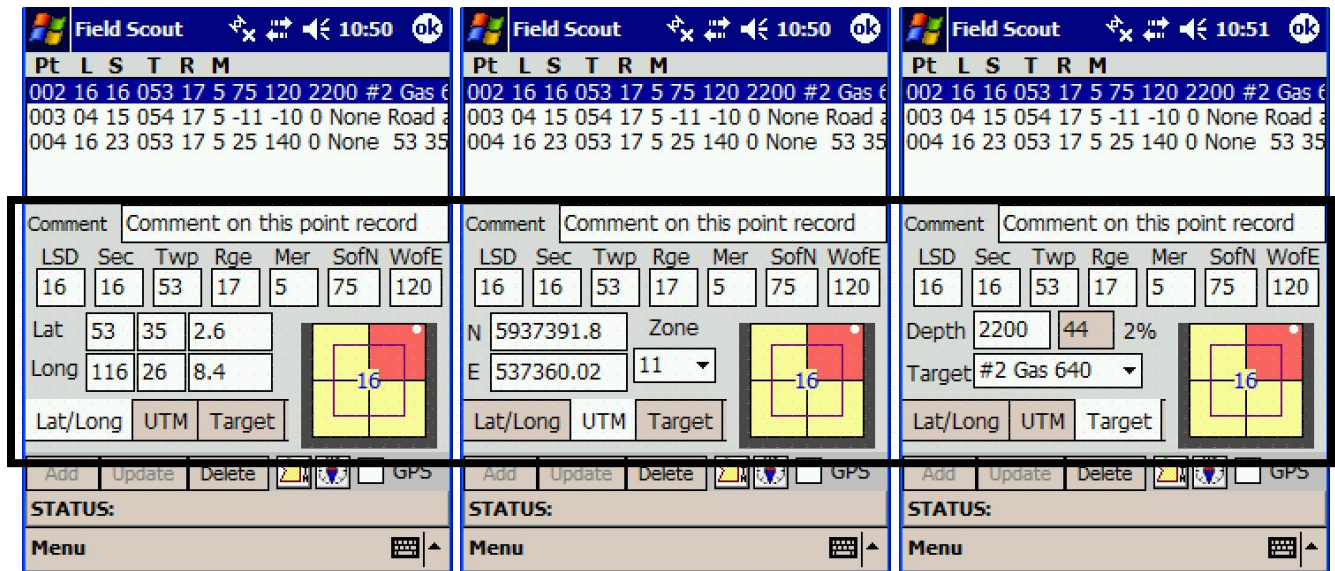


Point List Screen

POINT RECORD DETAIL

When a Point Record is selected in the Point List, the details of that record are displayed in the middle part of the form, as marked in the diagram below. This is divided into three areas.

1. The first area shows the legal description for the selected record.
2. The second area shows a schematic view of a section. Displayed on the diagram are:
 - a. Section Number
 - b. Quarter section that the selected point falls in. (Red Square)
 - c. Drilling target lines if a target has been selected for the record.
 - d. The currently selected point relative to the section lines. (White Dot)
3. The third area is organized by tabs. Tap on any of the three tabs to see the following details for the selected record: Lat/Long, UTM-X and UTM-Y, or the target and depth information.

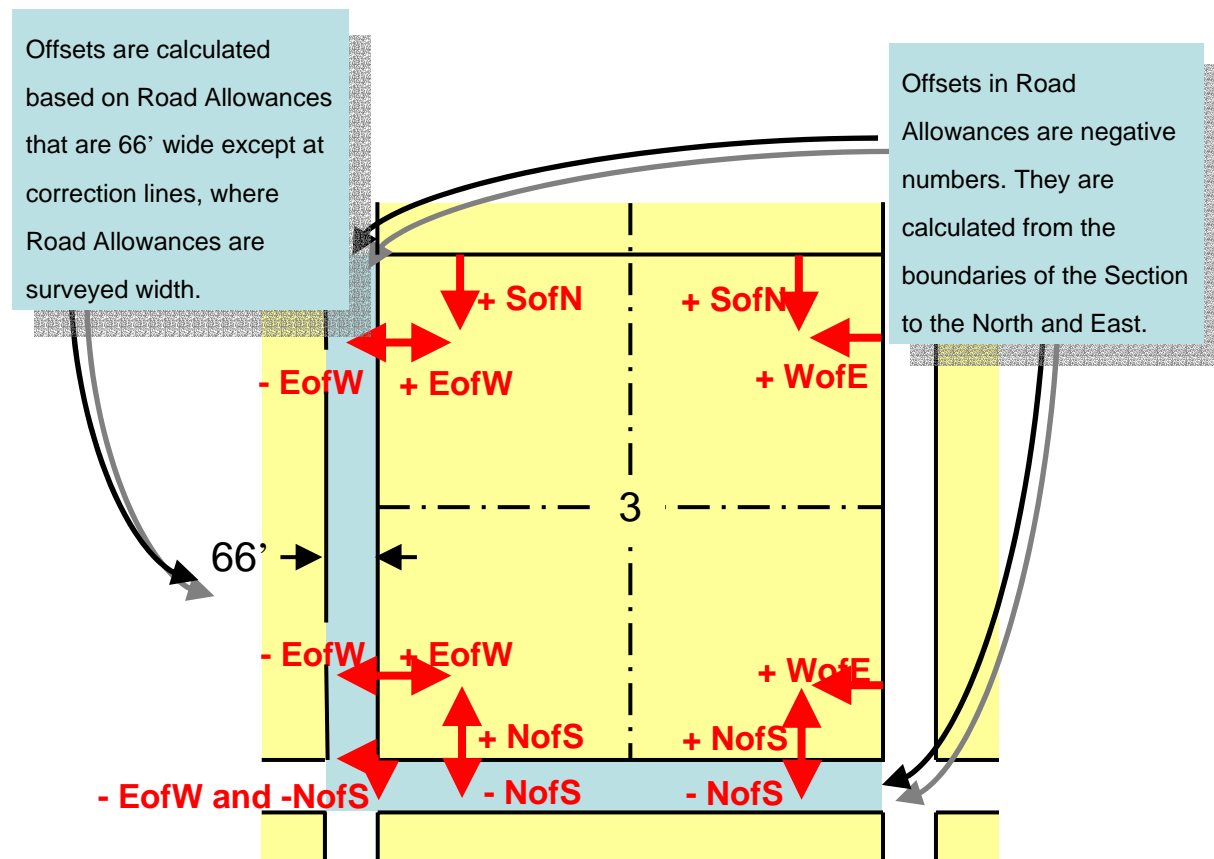


Point Record Detail Screens

If you wish to add new records or edit existing records, it is in this part of the screen that you enter the information. Editing any of the text box values will cause the program to enter *Editing* mode.

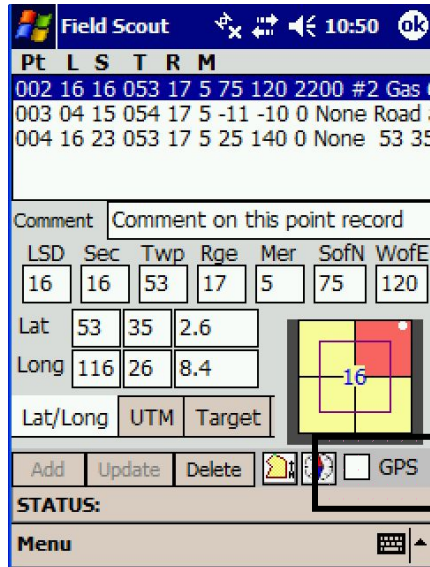
SECTION OFFSETS DIAGRAM

The following diagram shows how the NofS and EofW offsets are displayed and interpreted.



GPS TOGGLE

Tap on the checkbox to turn **GPS** mode on or off. When the box is checked, GPS mode is started. When it is un-checked GPS mode is stopped. Checking or un-checking the box will automatically detect, start or stop the GPS receiver. When GPS mode is active, coordinate location descriptions are provided and updated automatically by the GPS. The section diagram includes: text label, red quarter section highlight, road allowance in grey and the white positional dot. They all change to reflect your current location as reported by the GPS. *Do not try to manually edit records while in GPS mode.*





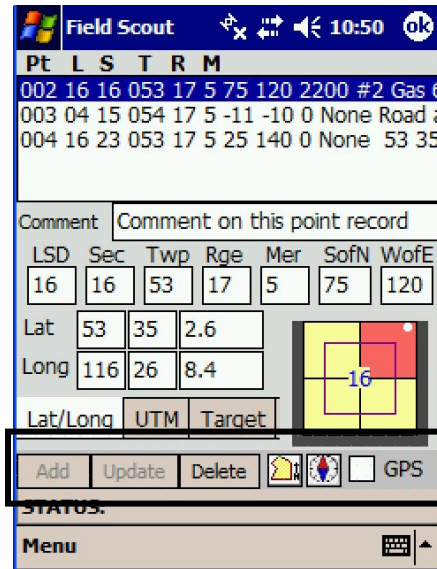
GPS Toggle

COMMAND BUTTONS

The first three buttons, **Add**, **Delete** and **Update**, relate to managing point records. They are available to the user only when appropriate. For example, the **Update** button is available only when an existing record is highlighted *and* a change has been made to one of its values. Their functions are documented in more detail later in this manual.

When a record is added or updated in the point list, it is automatically written to the data file.

The second set of buttons are; the **Map** button  and the **Compass** button . The **About** button displays an information screen, the **Map** button loads a separate mapping window and the **Compass** button displays a screen with a satellite viewer, compass and GPS accuracy information, as well as an input field for setting minimum accuracy.

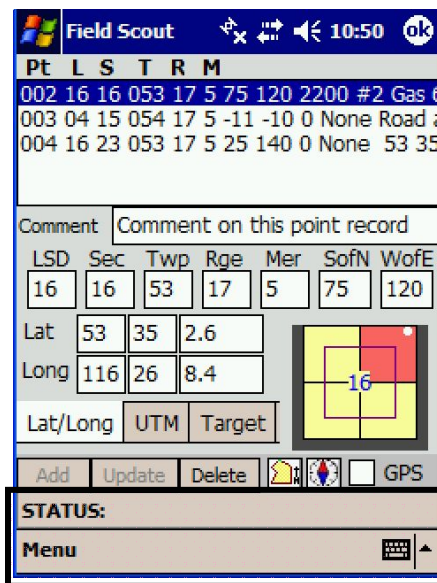


Buttons

STATUS BAR AND MENU

The Status Bar displays messages to the user. For example, you will see messages from the GPS regarding automatic connection, disconnections, Fix events etc.

The Menu bar provides a series of Field Scout menu selections on the left and the keyboard and input menus and tools on the right.



Status Bar and Menu

FIELD SCOUT MENUS

The Field Scout Menu provides two major functions

1. File management.

- a. New Data file

This menu option allows you to create a new data file for point storage. When you create a new data file, any previously opened file is closed and the new data file becomes the current file.

- b. Open Points File

This menu option allows you to select and open an existing data file.

- c. Save Data Files As

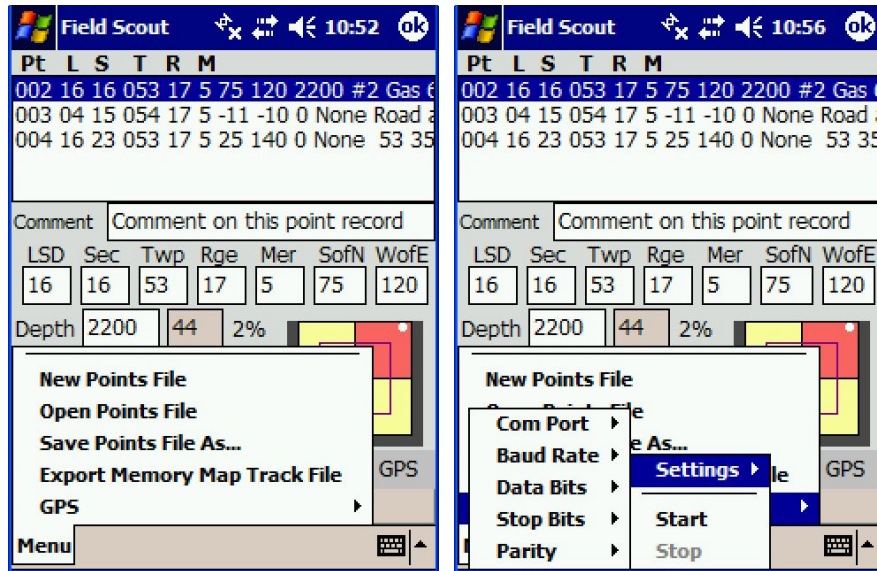
This menu option creates a copy of the existing file with a new name. After choosing this option the new file will be the currently loaded file and your original file will be saved on the device.

Field Scout opens the most recently used data file each time the program is started. If you start the program and no points are displayed, either you have deleted the last opened file from the hand-held device or you have not yet created a file. In this case, when you try to add a record you will be prompted to save the point to a new data file. Anytime a record is added or updated in the point list, it is automatically written to the current data file.

2. GPS Control.

This menu allows for the setting of all GPS communication parameters. These parameters have default settings that should work well with most if not all GPS devices. *You should only adjust these parameters if you are knowledgeable in their use and meanings.*

The **Start** and **Stop** selections are used to start and stop GPS operations. *GPS operations are started and stopped automatically using the **GPS** button. You should only use the menu selections if you are having trouble with the **GPS** toggle.*

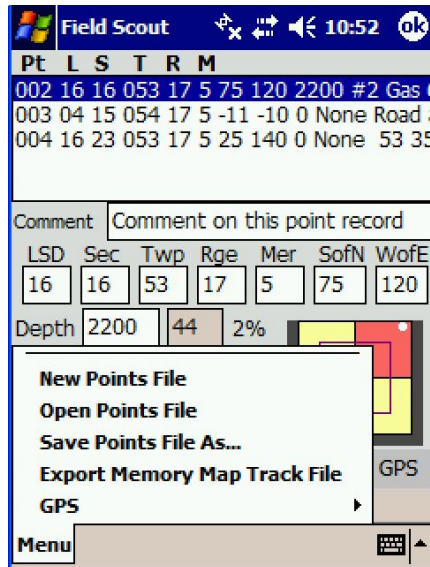


Field Scout Menus

Operating Field Scout

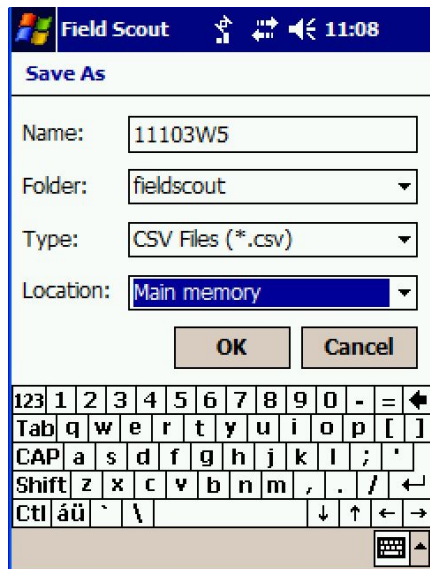
CREATE A NEW DATA FILE.

1. Choose **Menu** on the Field Scout Menu/Keyboard Panel.



Field Scout Menu

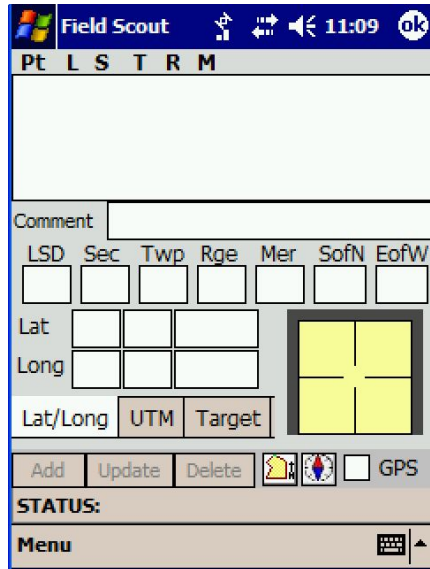
2. Choose **New Points File**.



File dialog

3. Enter a new file name where prompted.

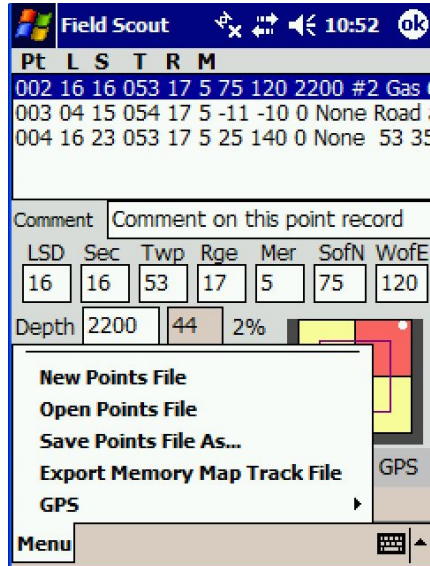
4. A new file, with no records, will be created and displayed.



New File

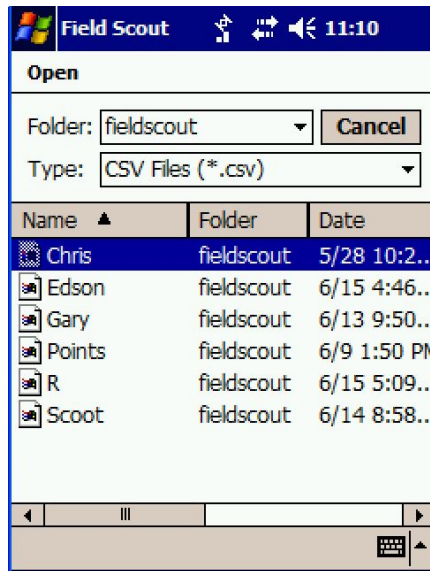
OPEN AN EXISTING DATA FILE

1. Choose **Menu** on the Field Scout Menu/Keyboard Panel.



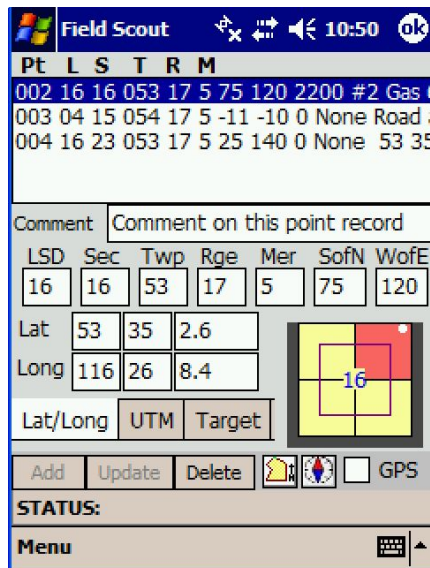
Field Scout Menu

2. Choose **Open Points File** from the menu.



File Open Dialog

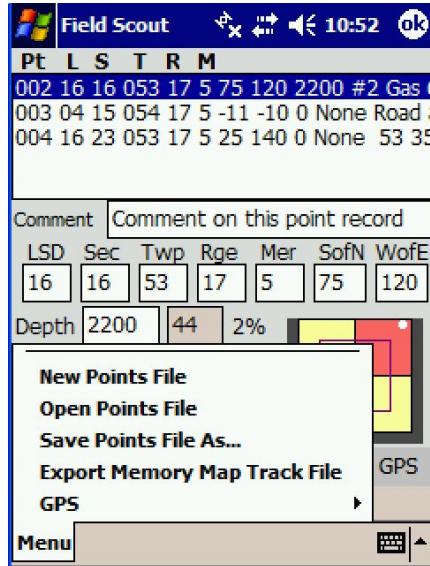
3. Select an existing file from the list of files presented in the dialog.
4. The selected file will be opened.



Opened File

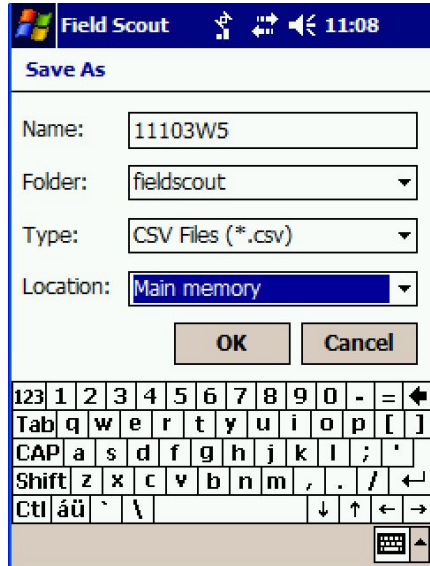
SAVING YOUR EXISTING DATA FILE TO A NEW NAME

1. Choose **Menu** on the Field Scout Menu/Keyboard Panel.



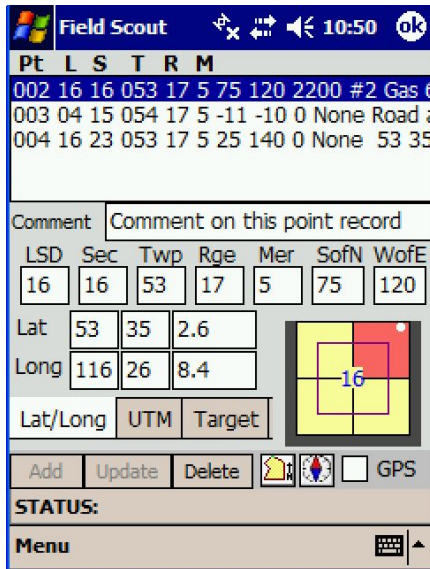
Field Scout Menu

2. Choose **Save Points File As**.



Save As dialog

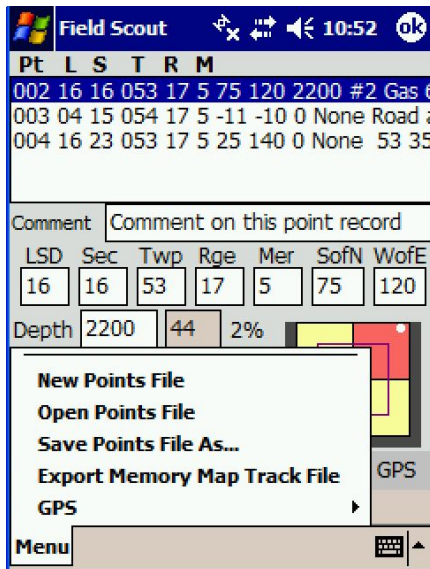
3. Enter a new file name where prompted.
4. A new file with the same records as your previous file will be created and displayed.



File, Saved As

EXPORT MEMORY MAP TRACK FILE

1. Choose **Menu** on the Field Scout Menu/Keyboard Panel.



Field Scout Menu

2. Choose **Export Memory Map Track File**.

A Memory Map Track File will be created on the Hand-held device. The file is called “mmtrackXXXXX.csv”, where XXXXX is the name of your current point record file. For example, if you are collecting points in a file called TEST, then the exported track file will be called: mmtracktest.csv. Transfer this file to your desktop computer using “Activesync”. This file may be imported into Memory Map and plotted as a track.

Do not use Field Scout to try and open an mmtrack file. It will not work!

CREATING POINT RECORDS

Point records can be created for Field Scout using any tool that creates CSV files. However it is important that the contents of the file be formatted in a very specific way to ensure that the data is accurate and complete. For this reason we have provided two methods for creating point files.

1. A spreadsheet is provided, in Excel format, which will assist you in creating data files on a desktop or laptop PC.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Pt	LSD	SEC	TWP	RGE	MER	NS	EW	Depth	Target	Comment	Save CSV File	
2	1	1	1	1	1	4	100	100	1000	Area 1 Gas 640			
3													
4													
5													

Excel Spreadsheet Template

A record must contain at least a legal description including offsets. To create records in Excel, follow the steps below.

- a) Open the PTTEMPLATE.XLS file.
 - b) Point Numbers will be automatically assigned to each record as you create them.
 - c) Select an LSD, Section, Township, Range and Meridian from the drop down lists. The spreadsheet will check for valid values. I.E. LSD 1 through 16 only.
 - d) Enter a North/South and an East/West offset. (If they are left blank they will be set to zero)
 - e) Depth, Target and Comment can be entered or left blank.
 - f) Save the file as a CSV file using the **Save CSV File** button on the upper right hand side of the spreadsheet.
2. You can also create point records, on the Pocket PC, using Field Scout. *See the following section on adding new records.*

ADDING NEW POINT RECORDS

To enter new records in the program window, follow these steps.

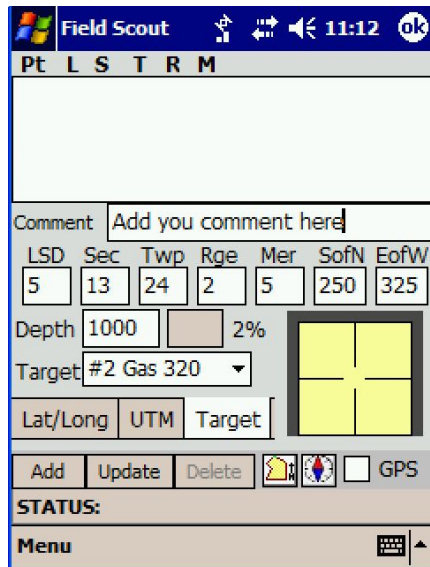
1. Enter one of the three coordinate location descriptions listed below:
 - a. A complete legal description including offsets or,
 - b. Latitude and Longitude or,
 - c. UTM-X and UTM-Y. (*Be sure to choose a zone from the drop down list*)

Only one of the above listed coordinate location descriptions, need be entered in order to create a new point record. It is not necessary to select a UTM zone when entering a Legal or Lat/Long coordinate description. The program will automatically determine the correct zone.

2. Set a drilling target, on the **Target** tab, if appropriate.
3. Enter a depth, on the **Target** tab, if appropriate.
4. Add a comment if desired. The comment may be longer than the displayed area. Keeping typing and the text will scroll as you type.

The **Add** and **Update** buttons are now active. Tap the **Add** button to add a new record to the list of points. Answer **Yes** to the prompt “Are you sure you want to add a new record”. Any missing coordinate values will be calculated and the record will be added to the list.

When a record is added or updated in the point list, it is automatically written to the current data file.



Add new record by legal description and offset.

EDITING POINT RECORDS

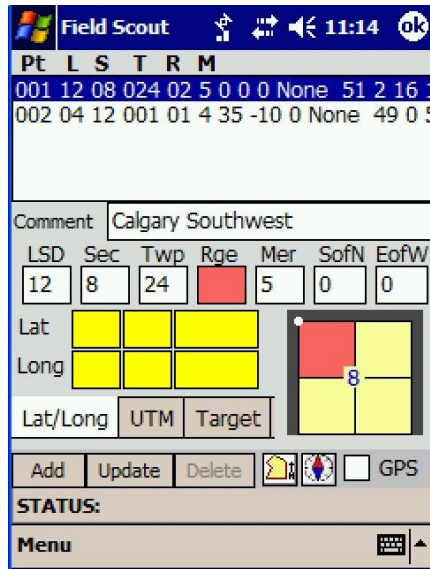
To edit a point record, follow these steps:

1. Select a record in the points list by tapping on the desired line.
2. Edit any one of the data fields. *The diagram below illustrates editing the range field (red highlight). The Lat and Long fields go blank (yellow highlight), indicating that a new coordinate will be calculated.*

The **Add** and **Update** buttons are now active.

1. Tap the **Update** button to update the currently selected record. Any missing coordinate values will be calculated and the record will be updated in the list.
2. Tap the **Add** button to insert the new values into the list as a new record.
3. Answer **Yes** to the prompt “Are you sure you want to add/update record”.

When a record is added or updated in the point list, it is automatically written to the current data file.




Edit record by legal description.

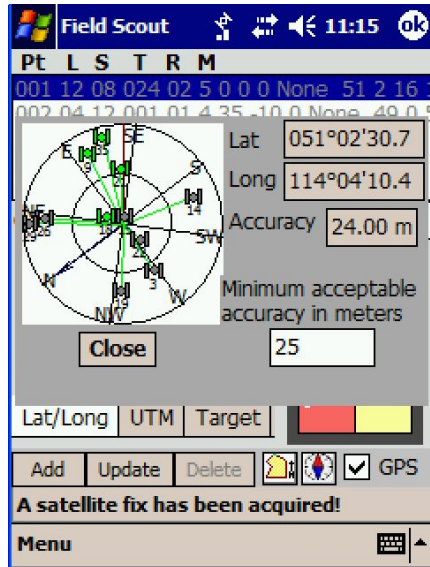
ADDING AND UPDATING RECORDS BY GPS (GPS MODE)

To enter this mode

1. Select a point in the list. If you tap the **Update** button, this is the point that will be updated. *Once GPS mode is active, you cannot select a new point in the list unless you first turn off GPS.*
2. Now tap the **GPS** toggle. The point selection list will be disabled.
3. Field Scout will attempt to start the GPS receiver. If it cannot find a receiver it will return an error message. *You may use the GPS menu to turn off automatic detection and set your GPS communications parameters manually.*
4. It will then attempt to obtain a satellite lock. The status bar will update with messages received from the GPS receiver. *If you cannot obtain a satellite lock a message will display on the status bar. The program will retry a certain number of times then stop. At this time you must try to restart the GPS by deselecting and reselecting the GPS toggle.*

While GPS detection and satellite lock are obtained other program functions are suspended.

5. Tap the compass  button if you want to see additional information on location, signal strength and positional accuracy. *Edit the “Minimum acceptable accuracy in meters” field to set a limit for accepting or rejecting points.*

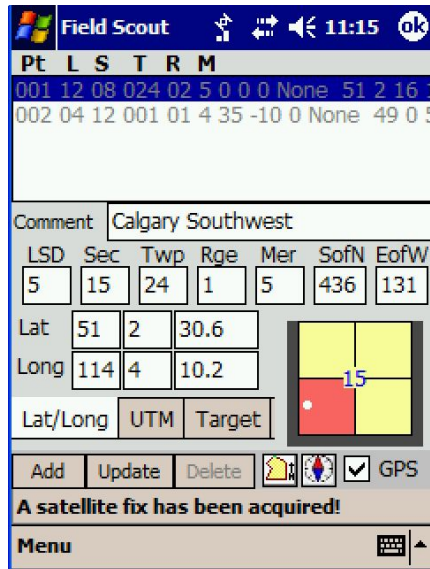


Compass Control

When you have obtained a satellite lock, the data on the main program form will be updated on a continual basis. Legal Description and offsets, Lat/Long, UTM-X and UTM-Y, along with the section diagram, will all be continuously refreshed. Data is obtained from the GPS receiver every 3 seconds. *In this operating mode it is not necessary to type in any coordinate location descriptions. You may still add comments and enter depths or specify drilling targets.*

6. When you are satisfied with the record tap the **Add** or **Update** buttons. If you tap the **Update** button the currently selected list item is updated with the new information. If you tap the **Add** button a new record will be added to the list and will become the currently selected list item.

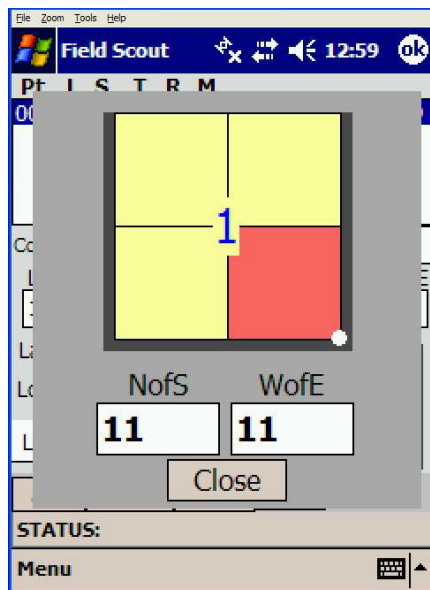
While in GPS mode, if you try to add or update a point that is outside the specified accuracy you will receive an error message. The point is rejected. You may wait for better accuracy or you may use the compass control and edit the “minimum accuracy” setting.



GPS Mode

SECTION SCHEMATIC ENLARGED VIEW


To enhance visibility and safety, an enlarged view of the section schematic is provided. To see the enlarged view, tap on the section schematic diagram. The following screen will appear.

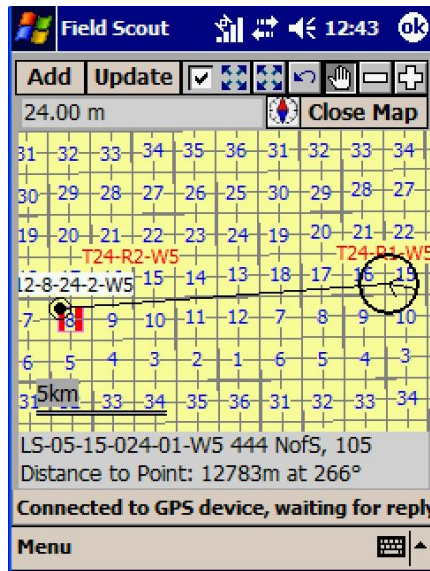


Enlarged view, Section Schematic

MAP AND NAVIGATION MODE


1. Select a point in the list. This will be your “Target Point” while in Map Mode.
2. Select the **GPS** toggle. *It is not necessary to be in GPS mode in order to use the map. However, if you are not in GPS mode the map will only display the location of the currently selected list point and not your location.*


3. Tap the map  button to open the map window.










Map Display Mode – Zoomed to Extents

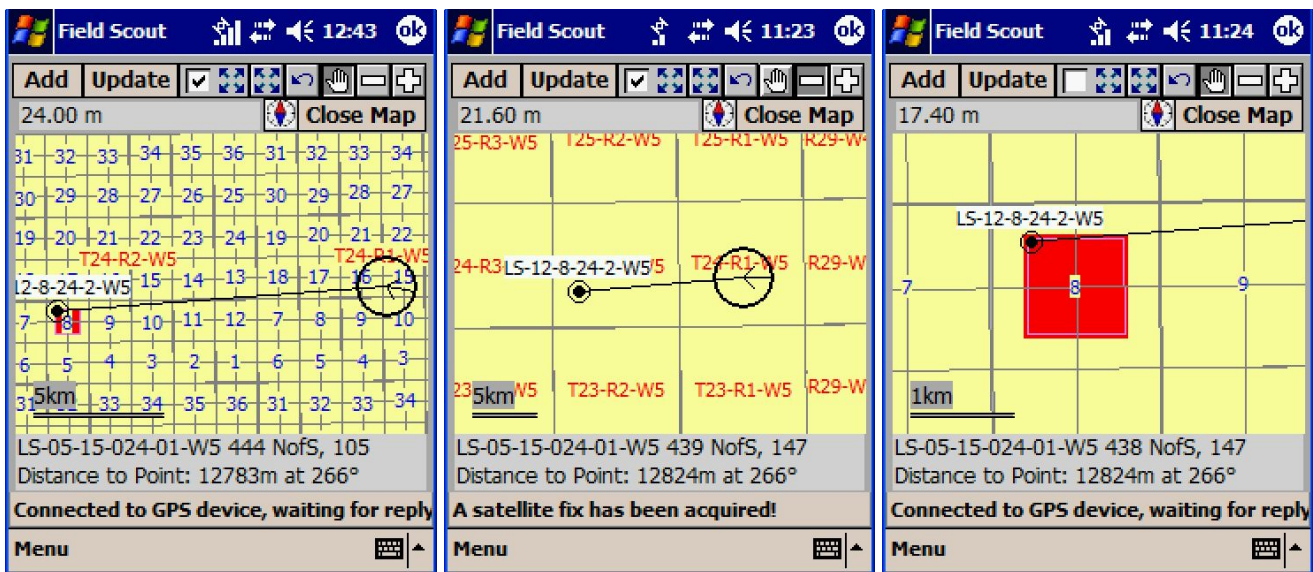
4. The map window displays a large amount of information.
 - a. The Toolbar buttons at the top.
 - b. The Alberta Township System lines with text labels
 - c. Drilling target for the selected point including the 2% margin. (red box for gas targets, green box for oil targets and interior grey line for 2% margin on either target.)
 - d. The target point selected from the list in the main program window complete with legal description. (small black circles)
 - e. Your location as reported by the GPS. (large black circle and arrow)
 - f. A line connecting the two points.
 - g. A text display boxing showing
 - i. Legal description and offsets of your location as reported by the GPS. Please see the diagram on page 5 for an explanation of offset values.
 - ii. Distance and Azimuth to point.

5. As you move this map display will update as follows
 - a. If Auto-Zoom is on,  the view will zoom out when the target point and your location are too close. The view will also zoom in when your location, as reported by the GPS, moves off of the screen display.
 - i. Map details will increase as you get closer.
 - ii. The arrow in the circle will point in the direction of your travel. When you are walking directly towards the target point, the arrow will point straight down the line. Use this arrow movement to assist in navigating to your target point.

- b. If Auto-Zoom is off  then every time the map updates with a new GPS location, the screen will be redrawn with your location moving closer to the target point. Eventually the two points will overlap.
- Map details stay the same as you get closer.
 - The arrow in the circle will point in the direction of your travel. When you are walking directly towards the target point then the arrow will point straight down the line. Use this arrow movement to assist in navigating to your target point.

6. Additional map functionality is detailed in the table below.

Add	Adds a point record while in map mode.
Update	Updates the target point while in map mode.
Auto-Zoom 	Toggles Auto-Zoom mode on or off.
Zoom Extents 	Zooms to the extents of target point and your location.
Zoom Previous 	Zooms to previous map view. (10 previous viewed stored)
Pan 	Tapping a point on the map re-centers on that point.
Zoom Out 	Zooms out 50% of display.
Zoom In 	Zooms in 50% of display.
GPS Accuracy	Displays estimated GPS accuracy as reported by GPS.
Compass 	Opens the Compass display panel.
Close Map	Closes the map window.



Map window at three different zoom levels.