



Strater[®]5

Superior well log, borehole & cross section plotting

Quick Start Guide

Strater® Registration Information

Your **Strater** serial number is located on the CD cover or in the email download instructions, depending on how you purchased **Strater**.

Register your **Strater** serial number online at www.GoldenSoftware.com. This information will not be redistributed.

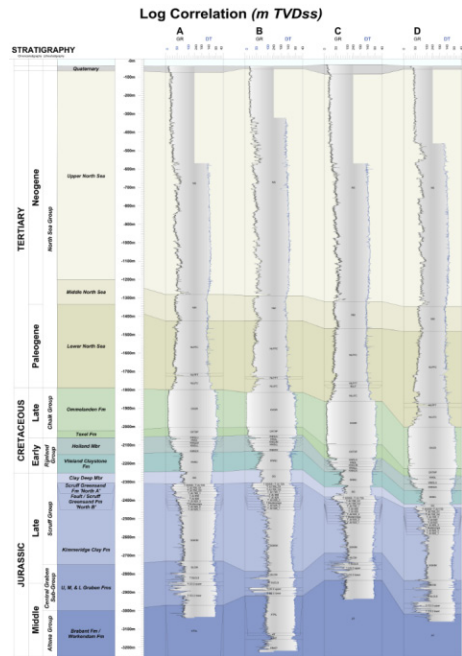
Registration entitles you to free technical support, free minor updates, and upgrade pricing on future **Strater** releases. The serial number is required when you run **Strater** the first time, contact technical support, or purchase **Strater** upgrades.

For future reference, write your serial number on the line below.

Strater®

Quick Start Guide

Superior Well Log, Borehole
& Cross Section Plotting Software



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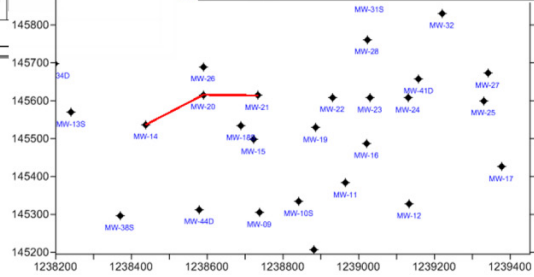
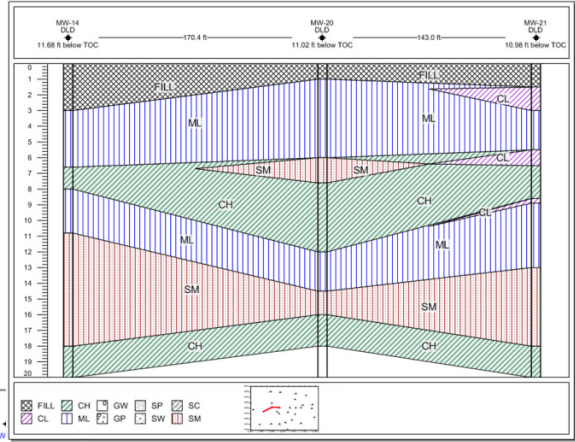
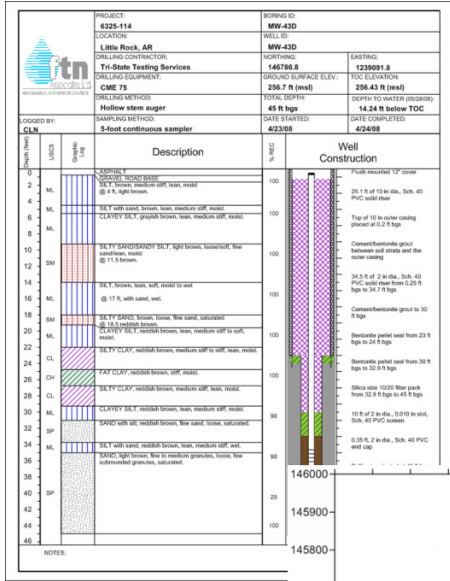
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Introduction to Strater

Welcome to **Strater**, a powerful well logging and borehole plotting software package. **Strater** creates 15 different log types: depth, line/symbol, lithology, complex text, zone bar, bar, percentage, post, classed post, graphic, well construction, raster, tadpole, crossplot, and function logs. Each log can be modified to suit a variety of needs. **Strater** creates maps to display well locations, base maps, and well selector lines and cross sections that interpolate between wells. **Strater** exports to a variety of formats, including direct export to Golden Software's **Voxler** program to create fence diagrams, filled 3D volumes, and 3D well paths. Cross sections and maps can display wells as vertical (using measured depth or true vertical depth) or as deviated.

Open data from many different sources, including ASCII text files, LAS files, and databases. **Strater's** internal data structure can contain multiple tables. Multiple boreholes can be stored in the data tables at one time.

Display multiple boreholes by specifying a different well ID for each log in a borehole view with a few simple mouse clicks. Create multiple borehole views, map views, and cross section views in a single project.

Once you design a project, you can use the design repeatedly with other data. Take advantage of templates and schemes, which can be used in different projects with different data or in the same project in different view windows. Use the **Print Multiple Logs** and **Export Multiple Logs** commands to quickly print or export the same borehole view with data from different wells. These features in **Strater** are designed to save your time and do the work for you.

Who Uses Strater?

People from many different disciplines use **Strater** to display their well data. Users in the oil and gas industry, environmental monitoring firm consultants, mudloggers, mining geoscientists, water quality experts, military personnel, and people working at utilities companies use **Strater** to best display their data. Data from well studies, LAS files, drill cores, or text files based on seismic studies and subsurface mapping can be displayed in **Strater**. Anyone wanting to visualize their subsurface data with stunning graphical outputs will benefit from **Strater's** powerful features!

New features of **Strater 5** are summarized:

- Online at: www.goldensoftware.com/products/strater#what-s-new
- In the program: click the **Home | Help | Contents** command and click on the *New Features* page in the *Introduction* book

System Requirements

The minimum system requirements for **Strater** are:

- Windows XP SP2 or higher, Vista, 7, 8 (excluding RT), 10, or higher
- 32-bit and 64-bit operating systems are supported
- 512 MB RAM minimum for simple data sets, 1 GB RAM recommended
- At least 500 MB of free disk space
- 1024 x 768 or higher monitor resolution with a minimum of 16-bit color depth

Installation Directions

Installing **Strater 5** requires logging onto the computer with an account that has Administrator rights. Golden Software does not recommend installing **Strater 5** over any previous version of **Strater**. **Strater 5** can coexist with older versions (e.g. **Strater 4**) as long as they are installed in different directories. By default, the program directories are different.

To install **Strater** from a CD:

1. Insert the **Strater** CD into the CD-ROM drive. The installation program automatically begins on most computers. If the installation does not begin automatically, double-click on the Autorun.exe file located on the **Strater** CD.
2. Click *Install* **Strater** from the **Strater Auto Setup** dialog to begin the installation.

To install **Strater** from a download:

1. Download **Strater** from your My Account page on the Golden Software website or according to the emailed directions you received.
2. Double-click on the downloaded file to begin the installation process.

Updating Strater

To update **Strater**, open the program and click the **File | Online | Check for Update** command. The Internet Update program will check Golden Software's servers for any free updates. If there is an update for your version of **Strater** (e.g. **Strater** 5.0 to **Strater** 5.1), you will be prompted to download the update.

Uninstalling Strater

Windows XP: To uninstall **Strater**, go to the Windows Control Panel and double-click *Add/Remove Programs*. Select **Strater 5** from the list of installed applications. Click the *Remove* button to uninstall **Strater 5**.

Windows Vista: To uninstall **Strater** when using the *Regular Control Panel Home*, click the *Uninstall a program* link. Select **Strater 5** from the list of installed applications. Click the *Uninstall* button to uninstall **Strater 5**.

To uninstall **Strater** when using the *Classic View Control Panel*, double-click *Programs and Features*. Select **Strater 5** from the list of installed applications. Click the *Uninstall* button to uninstall **Strater 5**.

Windows 7: To uninstall **Strater**, go to the Windows Control Panel and click the *Uninstall a program* link. Select **Strater 5** from the list of installed applications. Click the *Uninstall* button to uninstall **Strater 5**.

Windows 8: From the *Start* screen, right-click the **Strater 5** tile and click the *Uninstall* button at the bottom of the screen. Alternatively, right-click anywhere on the *Start* screen and click *All apps* at the bottom of the screen. Right-click the **Strater 5** tile and click *Uninstall* at the bottom of the screen.

Windows 10: Select *Settings* in the **Start** menu. In *Settings*, select **System | Apps & features**. Select **Strater 5**, and then click *Uninstall*. To uninstall **Strater** from the Windows Control Panel, click **Programs | Programs and Features**. Next select **Strater 5** and click *Uninstall*.

A Note about the Documentation

The **Strater** documentation includes this quick start guide and the online help. General information is included in the quick start guide. Detailed information about each command and feature of **Strater** is included in the online help. Use the **Home | Help | Contents** command in the program to open the online help. In the event the information you need cannot be located in the online help, other sources of **Strater** help include our support forum, knowledge base, FAQs, newsletter, blog, training videos, webinars, and contacting our technical support engineers.

You can also purchase a full PDF user's guide that includes all of the documentation for the program. This PDF user's guide can be printed by the user, if desired. The guide can be purchased on the Golden Software website at www.GoldenSoftware.com.

Various font styles are used throughout the **Strater** documentation. **Bold** text indicates menu and ribbon commands, dialog names, window names, and page names. *Italic* text indicates items within a manager or dialog such as group names, options, and field names. For example, the **Save As** dialog contains a *Save as type* drop-down list. Bold and italic text also may be used occasionally for emphasis.

In addition, menu and ribbon commands appear as **Log | Add | Legend**. This means, "click on the **Log** tab at the top of the **Strater** window, then click on **Legend** within the **Add** section." The first word is always the menu or ribbon tab name. Intermediate words are command groups or ribbon sections. The last word is the command name.

Three-Minute Tour

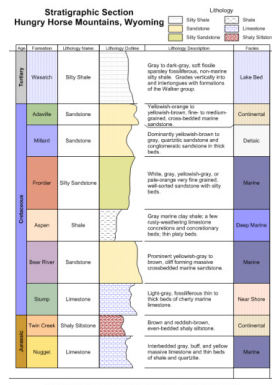
We have included several example files with **Strater** so that you can quickly see some of **Strater's** capabilities. Only a few example files are discussed here, and these examples do not include all of **Strater's** many log types and features. The **Table Manager**, **View Manager**, and **Object Manager** are good sources of information as to what is included in each file.

Example Strater Files

To view the example **Strater** files:

1. Open **Strater**.
2. Change the *Files type* to *Sample Files* in the **Welcome to Strater** dialog.
3. Click on an .SDG file located in *Files* list.
4. Click *Open* and the file opens.

Boreholes views, map views, and cross section views display logs, well and base maps, and cross sections of the selected data when the tab is selected. When a data table tab is selected its data appears in the workspace.



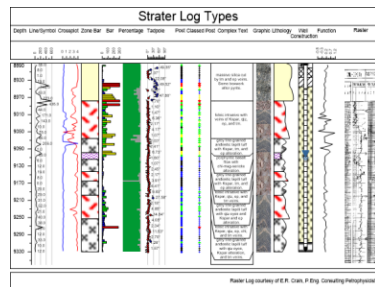
The Lith Section-1.sdg file contains several zone bar logs and a lithology log.

Lith Section-1

The Lith Section-1.sdg sample file contains a sample lithology log column. Age, formation, lithology type, and lithology description appear in the borehole view. Three tables are included in the .SDG file and include the information being displayed in the borehole view.

Example Logs

The Example Logs.sdg sample file contains every type of log that **Strater** can create. Click on a log and the **Property Manager** updates to show only that log's properties. Experiment with the properties for the logs to see how the log changes. Click on the map and cross section tabs to experiment with the properties



The Example Logs.sdg file contains a sample of each type of log that can be created.

for the map and cross section views. Several tables are also included, with a variety of information.

Using Strater

The general steps to progress from a data file to a borehole view are as follows.

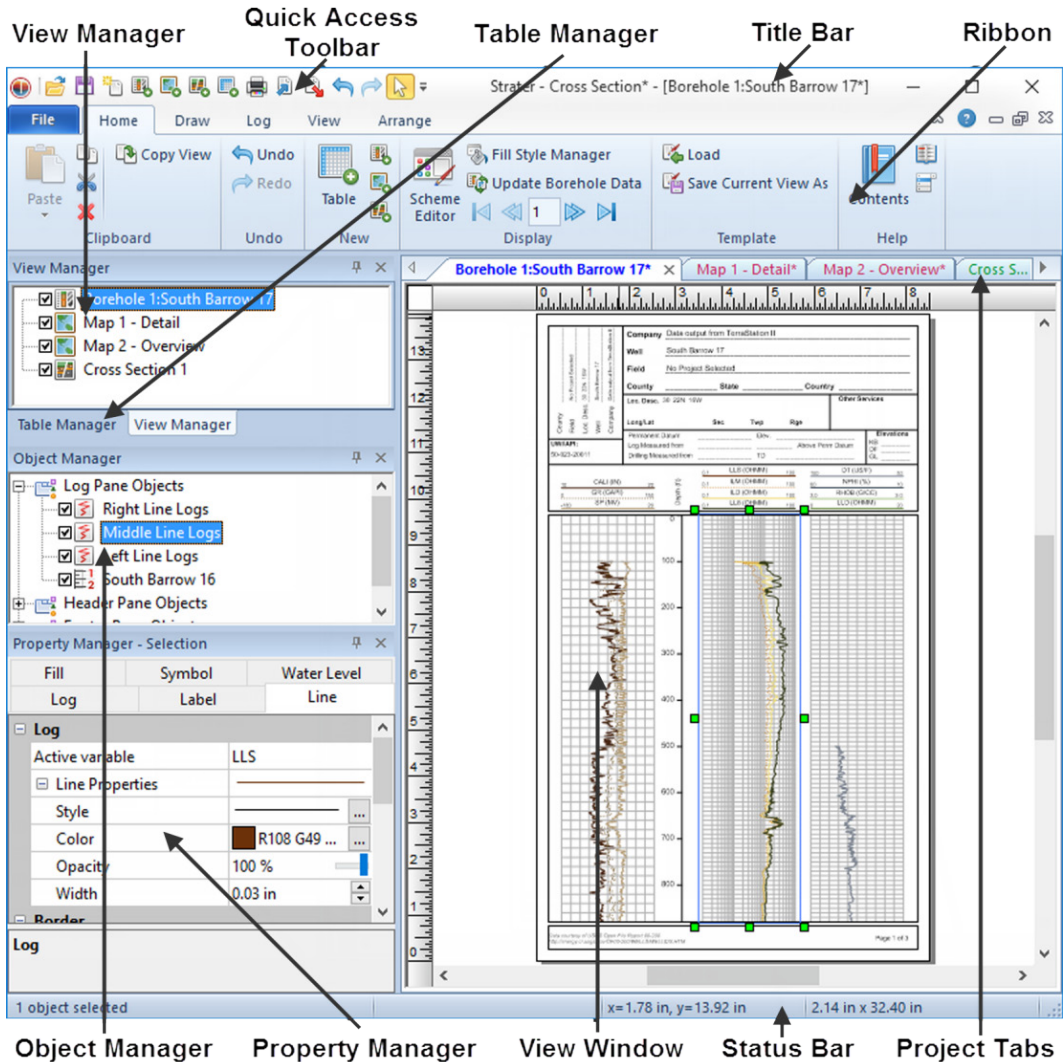
1. Open **Strater**.
2. Click *New Borehole View* in the **Welcome to Strater** dialog.
3. Click one of the **Log | Create Log** commands to create a log.
4. Click on the screen in the location where you want the log to be displayed.
5. In the **Open** dialog, select the appropriate data file for the log type, and click the *Open* button.
6. In the data import dialogs, set the rows and columns to import. The data loads into **Strater** and is displayed in a table. The log is created in the borehole view.
7. Add additional logs by repeating steps 3 - 6. To use an open table, select the table in the *Use Open Table* section of the **Open** dialog.
8. Click the **File | Save As** command. Enter a *File name* in the **Save As** dialog and click the *Save* button to save your **Strater** project.

Use the following steps to proceed from the borehole view to a map view and cross section view.

1. Click the **Home | New | Cross Section View** command.
2. Click the **Cross Section | Create/Add | Create Cross Section** command.
3. In the **Open Collars File** dialog, select and load a collars table.
4. In the data import dialogs, set the rows and columns to import. At this point, a map view is created.
5. In the **Create Well Selector** dialog, place the wells in the appropriate order for the cross section in the *Wells in selector* section and click *OK*.
6. In the **Import Cross Section Data** dialog, select the cross section log type, log tables, and data columns. A default cross section is created.

Strater User Interface

The **Strater** user interface consists of the title bar, ribbon, quick access toolbar, project tabs, view window, managers, and status bar. **Strater** contains four window types: borehole view, map view, cross section view, and tables. Borehole views display logs. Map views display well locations, well selector lines, and base maps. Cross section views display logs for multiple wells, connecting the lithology or other stratigraphic information across wells. The tables contain all of the data stored in the project.



Changing the Window Layout

The windows and managers display in a docked view by default. However, they can also be displayed as floating windows. The visibility, size, and position of each item may also be changed. Refer to the *Changing the Window Layout* topic in the online help for more information on layout options.

Docking Managers

Strater has a docking mechanism feature that allows for easy docking of managers. Left-click the title bar of a manager and drag it to a new location while holding down the left mouse button. The docking mechanism displays arrow indicators as you move the manager around the screen. When the cursor touches one of the docking indicators in the docking mechanism, a blue rectangle shows the window docking position. Release the left mouse button to allow the manager to be docked in the specified location.





The docking mechanism has docking indicators.

Displaying Managers

Click the appropriate **View | Managers** command to display the various managers. A check mark indicates the manager is visible. No check mark indicates the manager is hidden.

Auto-Hiding Managers

You can increase the view window space by minimizing the managers. To hide the manager, click the  button in the upper right corner of the manager when the manager is docked. When the manager is hidden, place the cursor directly over the tab to display the manager again. Click the  button to return the manager to a docked position.

Title Bar

The title bar lists the program name, the saved **Strater** .SDG file name, and the current view window name. An asterisk (*) after the file name indicates the file has been modified since it was last saved.

Ribbon

The **File** menu and the ribbon tabs contain commands that allow you to add, edit, and control the objects in the view windows. Use the **File | Customize Ribbon** command to modify the ribbon. See the *Data Tables* and *Borehole, Cross Section, and Map View Commands* help books in the online help for details about the available commands.

Quick Access Toolbar

The quick access toolbar displays buttons that represent commands for easier access. Command buttons can be added, removed, and rearranged. Use the **File | Customize Ribbon** command to modify the quick access toolbar. Hold the cursor over any tool button on the quick access toolbar to display the function of the button as a screen tip.

Project Tabs

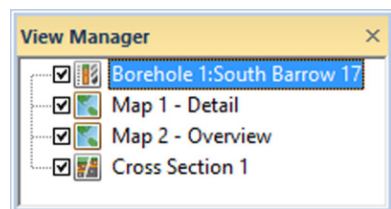
Table, borehole view, map view, and cross section view windows are displayed as tabs. Click on the tab to display the window. Tabs display the name of the window, and different view types are displayed in a different color. Borehole views are displayed with blue text, map views are displayed with red text, cross section views are displayed with green text, and tables are displayed with black text by default. The colors representing each view type can be changed in the **File | Options** dialog in the *User Interface* section.

Status Bar

The status bar is located at the bottom of the window. Use the **View | Display | Status Bar** command to show or hide the status bar. The status bar displays information about the current command or activity in **Strater**. The status bar is divided into five sections. The left section displays help messages or the number of objects that are currently selected. The next section displays the depth on a cross section or borehole view or the XY coordinates on a map view. The middle section displays the cursor location in page units. The fourth section displays the size of the selected object or a progress gauge or estimated time remaining for long tasks. The right section displays the active pane for the selected view window.

View Manager

In **Strater** you can have multiple view window types in one project. This is useful for displaying graphics for multiple wells, different layouts for the same data, one or more maps, multiple cross sections or multiple layouts for one cross section. The **View Manager** contains a list of the various borehole views, cross section views, and map views. You can open or close views, add or delete views, and save or load template files in the **View Manager**.



The **View Manager** allows you to create new views, delete existing views, or save and load templates.

The check box to the left of a view name indicates if that view is displayed or hidden. If a view is not visible, either check the box next to the view name or click the view name. Unchecking all view check boxes in the **View Manager** closes the entire project. When the last check box is unchecked a window appears asking you to save

any unsaved work in the project. The project then closes.

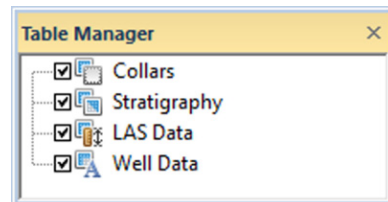
To display the view properties associated with any view in the **View Manager** window, click on the view name. The view properties are listed in the **Property Manager**.

Right-click in the **View Manager** to see options available for adding or deleting views or for loading templates.

- **New Borehole View** creates a new blank borehole view in the current project.
- **New Map View** creates a new blank map view in the current project.
- **New Cross Section View** creates a new blank cross section view in the current project.
- **Delete** deletes the selected view from the project. This operation cannot be undone, so use caution when deleting views.
- **Save Template of Current View** saves only the current borehole or cross section view window as a template .TSF file.
- **Load Template** opens a template into the existing project.
- **View Properties** displays the view properties for the selected view window in the **Property Manager**.

Table Manager

In **Strater** you can have multiple data tables in one project. This is useful in displaying graphics for multiple wells or data types. The **Table Manager** includes a list of all the tables in the project. You can open or close tables, add or delete tables, and change the table order in the Table Manager.



The **Table Manager** is used to select, add, remove, sort, and show or hide tables.

The check box to the left of a table name indicates if that table is displayed or hidden. If a table is not visible, either check the box next to the table name or click the table name.

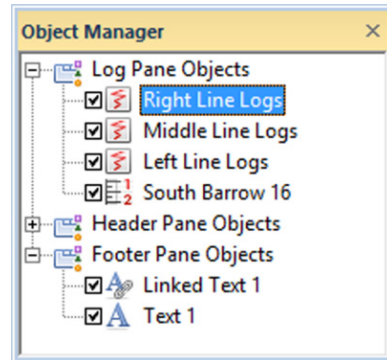
Right-click in the **Table Manager** to see options for adding, deleting, sorting, and displaying or hiding tables.

- **New** creates a new table in the current project.
- **Delete** deletes the currently selected table from the project. This operation cannot be undone, so use caution when deleting tables.
- **Show All Tables** and **Hide All Tables** change the visibility for all the tables in the project.

- **Sort Ascending** and **Sort Descending** change the order of the table document tabs and the tables in the **Table Manager**.

Object Manager

The **Object Manager** contains a hierarchical list of all objects in the borehole and cross section views separated by pane. The objects can be selected, added, arranged, edited, and renamed in the **Object Manager** or with ribbon commands. Changes made in the **Object Manager** are reflected in the view windows and vice versa. The **Object Manager** is initially docked at the left side below the **View Manager**.



The **Object Manager** lists all of the objects in the view window.

Each item in the **Object Manager** list consists of a visibility check box, an icon indicating the object type, and a text label for the object. A checked box indicates that the object is visible. An empty box indicates that the object is not visible. Click the check box to change the visibility of the object. Invisible objects do not appear in the view window and are not included in exported and printed outputs.

If an object contains sub-objects, a or button displays to the left of the object icon or visibility check box. Click on the or button to expand or collapse the list. For example, a *Map* object can contain axes, *Wells* layers, and *Base* layers. To expand the *Map* to see the axes and layers, click on the next to *Map*. To collapse the *Map*, click on the next to *Map*.

Click on an object name to select an object and display its properties in the **Property Manager**. The view window updates to show the object with a selection bounding box, and the status bar displays the name of the selected object. To select multiple objects in the **Object Manager**, hold down the CTRL key and click on each object.






To edit an object's text ID, select the object and then click again on the selected item (two slow clicks). You must allow enough time between the two clicks so it is not interpreted as a double-click. You can also select the object and then press F2. Enter the new name into the box. Alternatively, you can right-click on an object name and select **Rename Object**. Enter a new name in the **Rename Object** dialog and click **OK**.

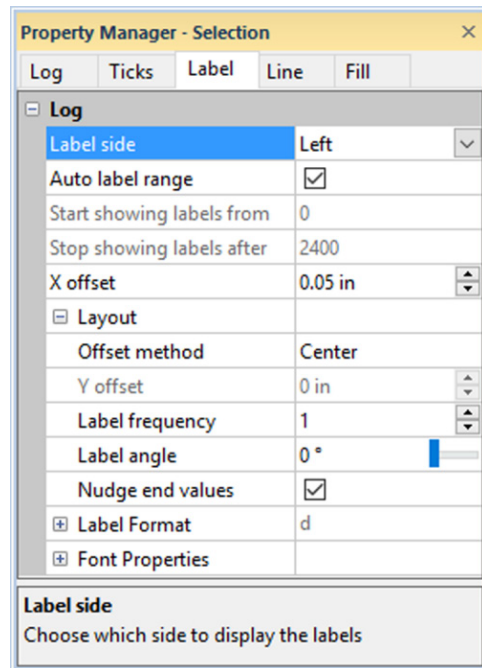
To change the display order of the objects with the mouse, select an object and drag it to a new position in the list above or below an object at the same level in the tree. The cursor changes to a black arrow if the object can be moved to the location or a red circle with a diagonal line if the object cannot be moved to the indicated location. In the borehole view for example, a log can be moved anywhere within the *Log Pane Objects* section, but not into the *Header Pane Objects* section. In addition to dragging objects in the **Object Manager**, the order can be changed with the **Arrange | Move** commands.

To delete an object, select the object and press the DELETE key on the keyboard or click the **Home | Clipboard | Delete** command.






Property Manager

The **Property Manager** allows you to edit the properties of the currently selected object. Changes made in the **Property Manager** are immediately reflected in the view window. The **Property Manager** contains a list of all properties for a selected object. Information about the object properties is located in the online help. The **Property Manager** is initially docked on the left side below the **Object Manager**.

Features with multiple options appear with a  or  button to the left of the name. Click on the  or  to expand or collapse the list. For example, click on a *Depth Log* in the **Object Manager** to select it. In the **Property Manager**, click on the **Label** tab. Click the  next to *Layout* and you see several options: *Label frequency*, *Offset method*, *Label angle*, and *Nudge end values*.



The **Property Manager** is used to change the properties of selected objects.

To change a property, click on the property's value next to the property name. Select a new property from the list, scroll to a new number using the  buttons, click and drag the  bar, open a dialog with the  button, or type a new value and press ENTER on your keyboard. How a property is changed depends on the property type. For example, a *Bar Log* has a *Bar Size* option that is changed by typing a value or clicking the  button. The *Range Scheme* option can be changed by clicking the existing scheme and selecting a new scheme from the list or by clicking the  button and selecting new options in the dialog.

Occasionally, some properties are dependent on other selections. For example, with the *Depth Log*, the *Y offset* option is not available unless the *Offset method* is set to *User defined*.


When working with the **Property Manager**, the up and down ARROW keys move up and down in the **Property Manager** list. The right ARROW key expands collapsed sections and the left ARROW key collapses expanded sections. The TAB key activates the highlighted property.

Tables


All data used to generate logs in a borehole view or cross section view or well locations in a map view must be loaded into a **Strater** project. Data can be opened from a file into a new table, imported from a file into an existing table, or manually entered into a table. Each log type requires specific setup requirements for the associated data table. Refer to the online help *Data Formatting Requirements for Logs* page in the *Log Items* book for additional information.

One important aspect of **Strater** is that data for multiple boreholes may be entered in one or several tables. There is no limit to the number of boreholes that can exist in a table or the number of tables in any **Strater** file.

Creating a New Table

To create a new table, click the **Home | New | Table** command or click the  button. In the **Create New Table** dialog, select the table type from the *Base Table Type* list and type a name in the *Table Name* field. Click *Create* and the new empty table is created with the default fields. Enter data manually or import data into the table.

Opening Data

With any window active, click the **File | Open** command or the  button to open a data file. Use the *Look In* field to locate the desired file to open. Select the data file and click *Open*. Follow the dialog prompts. The data is opened in a new data table. Click the **File | Open Multiple Data Files** command to open multiple data files into new tables at one time.

Importing Data into an Existing Table

To import data into an existing table in the project, click on that table tab to make it active. Click the **Data | Import | Import** command. Use the *Look In* field to

locate the desired file to import. Select the data file and click *Open*. Follow the dialog prompts. The data is added to the active table.

Types of Tables

Strater includes eight table types: collars, depth, interval, lithology, project settings, survey, text item, and well construction tables. Each table type has a different function in **Strater**. Each table has different default required columns. Although all default columns are created, data does not need to be stored in all of the default columns to create logs.

Collars Table

Collars tables contain location information for each borehole. The default column definitions include Hole ID, Easting, Northing, Elevation, Starting Depth, Ending Depth, Scale, Inclination (or Dip), and Azimuth. The collars table is required for placing wells in a map view and for approximating distances in a cross section view. The data in this table can also be used for header and footer linked text, to set the scaling parameters for the borehole view, or to specify the elevation of the well collar for depth logs. The Inclination (or Dip) and Azimuth columns can be used to calculate true vertical depth for deviated well log displays. Note that a project can have multiple collars tables, but each borehole should be listed in only a single collars table.

Depth Table

Depth tables are used for depth and variable information. The default column definitions include Hole ID, Depth, and a parameter column. Depth tables are used for depth, line/symbol, crossplot, bar, percentage, tadpole, post, classed post, complex text, and function logs. Depth tables are also used for storing water level and layer information.

Interval Table

Interval tables are used to show a variable that occurs over a distance interval. There are two depth columns (From and To) in an interval table. The default column definitions are Hole ID, From, To, and a parameter column. Interval tables are used for depth, line/symbol, crossplot, zone bar, bar, percentage, tadpole, post, classed post, complex text, graphic, lithology, well construction, and function logs.

Lithology Table

Lithology tables are a special type of interval table. These tables define the properties of lithology logs using keywords and schemes. The default column definitions are Hole ID, From, To, Lithology Keyword, Lithology Description, Indent Percentage, Indent Keyword, and Indent Line Scale. Although the primary purpose of a lithology table is

to create a lithology log, the lithology table can also be used for depth, line/symbol, crossplot, zone bar, bar, percentage, tadpole, post, classed post, complex text, graphic, well construction, and function logs.

Project Settings Table

Project settings tables are a special type of text item table. A project settings table is automatically created when you open a new **Strater** project file. They are used to store project information. The default column definitions include Project Name, Company Name, Location, Project Leader, Drilling Date, and Comments. This table stores data that is often used in linked text objects.

Survey Table

Survey tables are a special type of depth table used to indicate the direction and azimuth of a directional borehole as it changes down the hole. The default column definitions include Hole ID, Depth, Inclination (or Dip), and Azimuth. The survey table Inclination (or Dip) and Azimuth columns can be used for calculating the true vertical depth of deviated boreholes. Note that a project can have multiple survey tables, but each borehole should be listed in only a single survey table.

Text Item Table

Text item tables are tables designed to store attributes for particular boreholes. The default column definitions include Hole ID and Depth. If there is a Hole ID defined in the table, the data can be used for linked text.

Well Construction Table

Well construction tables are a special type of interval table used to define the geometry of specific items in a well construction log, such as casing and cap information. The default column definitions include Hole ID, From, To, Outer Diameter, Inner Diameter, Offset, and Item information. Well construction logs use keywords and schemes to define the properties for each item in the well construction table. Although the primary purpose of a well construction table is to create a well construction log, the well construction table can also be used to create depth, line/symbol, crossplot, zone bar, bar, percentage, tadpole, post, classed post, complex text, graphic, lithology, and function logs.

View Window Types

There are three different view window types available in a **Strater** workspace: borehole views, map views, and cross section views. There is no limit to the number of view windows that can be associated with a **Strater** project.

Adding, Opening, Closing, and Deleting View Windows

To create a new view window, click the appropriate **Home | New** command. A new blank view will appear.

To open an existing view window in the current project, click the view document tab or check the box next to the view in the **View Manager**.


To close a view window, right-click on the document tab and select **Close** or uncheck the box to the left of the view name in the **View Manager**. This does not delete the view from the project, it only closes the tab and turns off the visibility of the view.

To delete a view window, right-click on the view tab and select **Delete** or right-click on the view name in the **View Manager** and select **Delete**.

Borehole View

The primary graphical component to a document is a borehole view. A borehole view is created by default when you create a new project. A borehole view represents a collection of logs and drawing objects used to graphically display data for one or more boreholes. A borehole view may be derived from a template file or it can be created from an empty borehole view window by adding log items.

Creating a New Borehole View

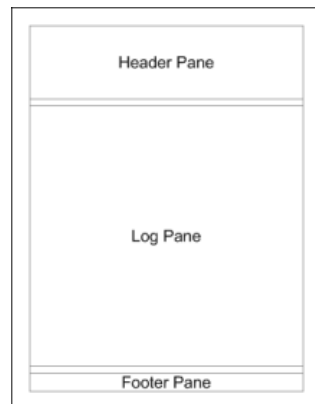
To create a new blank borehole view, click the **Home | New | Borehole View** command or click the  button on the quick access toolbar.

Opening an Existing Borehole View

Existing borehole views are opened by clicking the appropriate *Borehole* tab or clicking on the borehole name in the **View Manager**. To open an existing project, use the **File | Open** command.

Parts of the Borehole View

There are three main components of a borehole view: the log pane, header pane, and footer pane. The panes are outlined with a black line when you open a blank view. You can change the pane line properties in the **Property Manager** on the **View** tab. The size of the panes is



The top rectangle is the header pane, the middle is the log pane, and the bottom is the footer pane. Logs are created in the log pane.

changed with the **File | Page Setup** command.

The header and footer panes can contain static, unlinked information. Additionally, linked text, linked scale bars, and inserted map views can be included in these panes and change as new data are applied to the view. Horizontal scale bars can be associated with some log items or they can be created as a stand-alone, static object. When the scale bar is linked to a log item, the scale bar changes as changes are made to the log item to which it is linked. Inserted map views change as the map in the map view window changes.


The information displayed in the log pane is dependent on the selected data and columns in the tables. The information displayed in the log pane is also dependent on the minimum and maximum depth and the scaling values. The data in the tables, combined with the depth and scaling values determine the size of the logs and the number of pages.

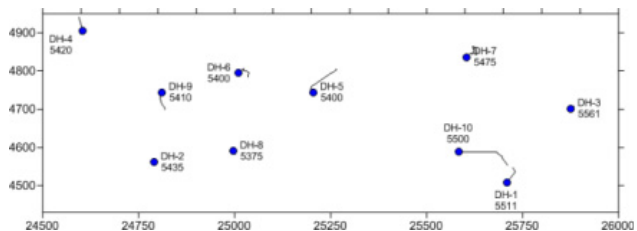
Map View

Map views can display well locations and base maps. Base maps may show field outlines or exported **Surfer** maps. Wells can display the collar location and the deviation down the well as a line with a symbol at the end of the well. Individual map layers are positioned according to the map layer's coordinate system. Each layer can have a separate coordinate system. All layers are reprojected into the *Map* coordinate system. Refer to the *Coordinate Systems* section on page 19 for additional information about coordinate systems.

Drawing objects and labels can be added to a map view. A well selector line can be added to a map view to select wells for a cross section. Once a map view is created, it can be inserted into a borehole view or cross section view as a reference image.

Creating a New Map View

To create a new blank map view, click the **File | New | Map View** command or click the  button on the quick access toolbar. Only one *Map* object can be created in each map view, but each *Map* can have multiple well layers, base layers, and well selector lines.



The wells are displayed in the map view. The deviations for the wells are displayed as a line extending from the well collar location. Well names and elevation are displayed around the well symbol.

Opening an Existing Map View

Existing map views are opened by clicking the appropriate *Map* tab or clicking on the map name in the **View Manager**.

Editing Map Properties

The map properties can be edited by clicking on the *Map* in the **Object Manager** and editing the properties in the **Property Manager**. This changes the properties for all layers in the map.

Base Maps

Base maps display geographic and political information such as roads, streams, lakes, satellite imagery, or state and county boundaries. Base map files draw objects at precise X, Y locations on a map and can contain points, polygons, polylines, text, and images. Base maps can be created from many common map formats, including .DXF, .SHP, and a variety of image formats.

In a map view, click the **Map | Create | Base Map** command to create a new base map. Select the base map file and click *Open*. The base map is created.

To add a base map to an existing map, click the **Map | Add | Base Layer** command or right-click on an existing map and choose **Add | Base Layer**.

The base layer properties can be edited by clicking on the *Base* object in the **Object Manager** and editing the properties in the **Property Manager**. When the properties are edited while the *Base* layer is selected, all of the objects in the base layer are changed to reflect the new properties.

Some base maps consist of multiple objects (i.e. polygons, polylines, text, etc.). The sub-objects can be selected individually in the **Object Manager** and edited in the **Property Manager**.

Well Maps

Wells layers graphically display well locations on a map. Map views display wells with X (Easting) and Y (Northing) locations listed in a collars table. All wells in a *Wells* layer are from the same collar table. Deviations for each well can be displayed. Deviations can be calculated from a survey table, collars table, or any other depth or interval table in the project if deviation information is present in the table. Wells can be removed individually from the *Wells* layer by turning off the well visibility to customize the appearance of the map view.

In a map view, click the **Map | Create | Well Map** command to create a new well map. If a single collars table exists, the well map automatically uses that collars table and the new map is created displaying all the wells from the collars table. If no collars table exists, you are prompted for the data file to create a collars table. If multiple collars table exist, you are prompted to select one table.



To add a *Wells* layer to an existing map, click the **Map | Add | Well Layer** command or right-click on an existing map and choose **Add | Well Layer**. Creating multiple *Wells* layers allows wells from different collars tables to be displayed on the same map.

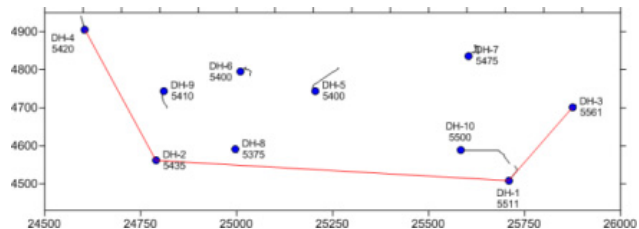
The well layer properties can be edited by clicking on the *Wells* layer in the **Object Manager** and editing the properties in the **Property Manager**. The *Wells* layer properties apply to all objects in the Wells layer.

The wells or well selector lines in the *Wells* layer can be selected individually in the **Object Manager** and edited in the **Property Manager**.

Well Selector Lines

Once a well map has been created, wells can be connected to create a cross section. Wells are selected in the order that they should appear in the cross section, from left to right, with the first selected well being displayed on the left side of the cross section. To connect wells:

1. Click the *Wells* map layer to select it.
2. Click the **Map | Add | Well Selector** command or right-click on an the map and choose **Add | Well Selector**.
3. The cursor changes to . As the cursor approaches a well, the well name appears in a floating box. This makes selecting the correct well easier. Click on the first well to select it.
4. Click on each additional well. The order the wells are selected is the order that the logs will appear in the cross section, from left to right.
5. After the last well is selected, press the ENTER key on the keyboard or double-click on the last well to end the current well selector line.
6. Press ESC, click the **Well Selector** command, or click the  button to end well-selection mode.



The well selector appears as a line connecting the selected wells in the map view.

The well selector is displayed on the map as a line. In the **Object Manager**, the line name is the names of the selected wells in the order the wells were selected.

To edit the well selector, click on the *Well Selector* object in the **Object Manager**. The line properties for the well selector are located on the **Line** page in the **Property Manager**. The wells displayed on the line can also be edited. To add wells, delete wells, or modify the order of wells in the well selector, click on the **Well Selector** tab in the **Property Manager** and click the *Edit* button.

- To delete wells, click on the well to be removed in the *Wells in selector* list. Click the *Remove* button and the selected well is removed from the list.
- To add wells, select the desired well to add in the *Available wells* list. Click the *Add* button. The well is added to the bottom of the *Wells in selector* list.
- To modify the order the wells are connected, click on the well to move, hold down the left mouse button, and drag the well to the desired location in the *Wells in selector* list.

Click *OK* when all of the wells are in the proper order in the *Wells in selector* list. The well selector line updates to show the new well order.

Coordinate Systems

A coordinate system is a method of defining how a file's point locations display on a map. Different types of coordinate systems exist that control how the coordinates are shown in the map view. In **Strater**, a map can be in local coordinates, in a geographic latitude and longitude system, or in projected coordinate system. Refer to the online help *Map Projections* book for additional information on the various types of projections, coordinate systems, and datums available in **Strater**.

In **Strater**, map layers and maps can have different coordinate systems. All coordinate systems defined for the map layers are converted "on the fly" to the map's target coordinate system. This allows maps with different coordinate systems to be easily combined in **Strater**.

It is not necessary to define coordinate systems if all your data are in the same coordinate system and you do not need to convert between coordinate systems.

Using Coordinate Systems with Multiple Map Layers

The steps for creating a map in a specific coordinate system are:

1. Click the **Map | Create | Well Map** or **Map | Create | Base Map** command.
2. Click on the *Wells* or *Base* map layer to select it.

3. In the **Property Manager**, click on the **Coordinate System** tab.
4. If the *Coordinate System* is not correct, click the *Set* button next to *Coordinate System*. The **Assign Coordinate System** dialog opens.
5. Set the coordinate system in the dialog. This is the coordinate system for the map layer's source data. Namely, this is the coordinate system for the X and Y coordinates in the Collars table or the coordinate system for a georeferenced image or vector file. When finished making changes, click *OK*.
6. Click on the *Map* object in the **Object Manager** to select the entire map.
7. To change the coordinate system for the entire map, click on the **Coordinate System** tab in the **Property Manager**.
8. If the *Coordinate System* is not the desired output system, click the *Change* button next to *Coordinate System*.
9. Change the desired target coordinate system in the **Assign Coordinate System** dialog. When finished, click *OK*.

All of the map layers are converted on-the-fly to the target coordinate system. The entire map is now displayed in the desired target system.

Strater does not require that a map projection be defined. As long as all layers have the same X and Y ranges, coordinate systems do not need to be specified. If you do not specify a source coordinate system for each map layer, do not change the target coordinate system for the map. Changes to the target coordinate system for the map can cause the unreferenced map layers to appear incorrectly or to disappear altogether.

Georeferencing Images

Image files can be georeferenced before being added to a map view using a georeferencing file, such as a .GSR2 or .TFW file. When the image file is imported, the image is automatically georeferenced and located in the correct location on the map.

When an image is imported that is not georeferenced, the lower left corner of the image will appear at the X,Y position of (0,0). To georeference the image, click on the *Image* in the **Object Manager**. In the **Property Manager**, set the minimum and maximum coordinates in the *Spatial Extents* section. Set the coordinate system for the image by clicking on the *Base* layer in the **Object Manager**.


Cross Section View

Cross section views display multiple wells on a page. Cross sections can be created with zone bar, lithology, depth-registered raster, or line/symbol log types. Other log types can be added to the display, similar to a borehole view, but these logs are not

included in the automatic cross section connections.

Wells can be automatically connected to display layers, zones, or lithologies defined in a table. Alternatively, wells can be displayed without connections or with manual connections, connecting the wells where you select. Wells can be displayed vertically or with deviations calculated from Inclination (or Dip) and Azimuth from a table. Well spacing and well top heights can be altered to give you the look you need to display your data. Drawing objects, labels, and other logs can be added to a cross section view. Data can be exported from the cross section view to a data file for use in **Surfer** or exported to a **Voxler** 3D display to create a fence diagram.

Creating a New Cross Section View

To create a new blank cross section view, click the **Home | New | Cross Section View** command or click the  button in the quick access toolbar.

Opening an Existing Cross Section View

Existing cross section views are opened by clicking the appropriate *Cross Section* tab or clicking on the cross section name in the **View Manager**.

Creating a Cross Section

Click the **Cross Section | Create/Add | Create Cross Section** command or right-click an existing well selector and select **Create | Cross Section** to create a cross section. See the *Using Strater* section on page 5 for more information on how to create a cross section. For lithology or zone bar log cross sections, layers are automatically created and assigned a separate color based on the data in the lithology or interval table. Layers can be added to line/symbol and depth-registered raster log cross sections during creation with the **Import Layer Marks** dialog. If layer marks are not imported, only the logs are displayed. For any type of cross section, layers can be added manually with the **Cross Section | Create/Add | Connect Logs with Layers, Cross Section | Layer Marks | Import**, or the **Cross Section | Layer Marks | Create/Edit** commands.

Editing Cross Section Logs

To remove wells displayed in the cross section, click on the well name in the *Logs* section of the **Object Manager**. Once a well is selected, press the DELETE key on the keyboard to delete the well.

To change the order that wells are displayed in the cross section, click on the well name in the *Logs* section of the **Object Manager**. Hold down the left mouse button and drag the well to a new location. The order that the wells are drawn is the bottom-

most well in the **Object Manager** is displayed on the left side of the cross section and the top-most well in the **Object Manager** is displayed on the right side of the cross section. After making any well order changes, a dialog appears prompting the user to recreate the cross section. Click Yes in the dialog to automatically recreate the cross section.

Wells can be added to the cross section, removed from the cross section, and rearranged in the cross section by changing the well selector associated with the cross section. See the *Well Selector Lines* section on page 18 for information on creating a new well selector or editing an existing well selector. To change which well selector is associated with the cross section, click the *Cross Section* object in the **Object Manager**, and then select the well selector in the *Well selectors* list in the **Property Manager**. After making any well order changes, a dialog appears prompting the user to recreate the cross section. Click Yes in the dialog to automatically recreate the cross section.

Editing Cross Section Layers

To change the layer properties, click on the *Layers* object in the **Object Manager**. In the **Property Manager**, set the keyword scheme for all of the layers. Or, uncheck the box next to *Use scheme for line/fill*. Then, click on an individual layer in the **Object Manager** and set the properties for only that layer in the **Property Manager**.

To create layers from a table of tops or bottoms for each depth-registered raster or line/symbol log, click on the *Cross Section, Layers, or Logs* object in the **Object Manager**. Click the **Cross Section | Layer Marks | Import** command. Select the table that contains the layer marks in the **Import Layer Marks** dialog and click *OK*. Select the column that contains the top or bottom mark depth in the **Select Layer Mark Column** dialog and click *OK*. The marks are imported and the layer lines and/or polygons are created.

To create layers by defining the top or bottom of each layer, click on the *Cross Section, Layers, or Logs* object in the **Object Manager** for a line/symbol or raster log cross section. Click the **Cross Section | Layer Marks | Create/Edit** command. Click on the log at the desired top or bottom of a layer. In the **Name The Layer** dialog, select a layer name from the list or type a layer name for the marker and click *OK*. Repeat the clicking and naming until all marks have been made. Press ENTER on the keyboard to save the marks. If you wish to save the layer marks to a table, check the *Save layer marks to table* check box and set the *Table name* in the **Layer Marks Table** dialog. A table is created with the marker locations.

To create layers manually, click on the *Cross Section, Layers, or Logs* object in the **Object Manager**. Click the **Cross Section | Create/Add | Connect Logs with**

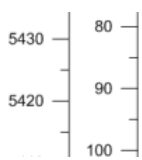
Layers command to draw a new layer. In the **Select Or Enter Layer Name** dialog, select the layer name from the list or type a new layer name and click *OK*. Click on the screen near one of the wells to start drawing the new layer. Continue clicking to create the new layer polygon. Hold down the SHIFT key on the keyboard and click to create points that are between logs. Press ENTER on the keyboard when the layer is finished.

Click on the *Layers* object in the **Object Manager** to select the layer properties. In the **Property Manager**, on the **Layers** tab, check the *Fill between layer lines* check box to create filled polygons for each layer.

To change the shape of the layer lines that create the layers for automatic or manual layers, click on the layer that you want to change. Click the **Draw | Tools | Reshape** command. Make any changes by clicking and dragging the vertices that define the layer, add vertices by holding CTRL and clicking, or remove vertices by clicking the vertex and pressing DELETE. Press ESC on the keyboard when all changes are complete. Refer to the *Reshape* page in the *Drawing Objects* book in the online help for additional information.

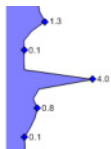
Log Types

Both borehole views and cross section views display logs. Several different log types can be created in **Strater**. To create a log, click a **Log | Create Log** command, click in the log or cross section pane, and select the data file or table.



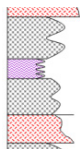
Depth Logs

Depth logs are used as a vertical scale bar to display the measured depth or elevation of the data in the log or cross section pane. Alternatively, true vertical depth can be displayed on a depth log if azimuth and inclination(or dip) are available for the wells.



Line/Symbol Logs

Line/symbol logs are used to display data as symbols and/or lines. Line/symbol logs are useful for displaying assay values, geophysical parameters, moisture content, wireline log measurements, etc.



Lithology Logs

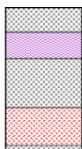
Lithology logs show the various stratigraphic layers in the borehole. The display can be as simple as a filled block, or the display can be more elaborate showing weathering patterns and various line types.

Complex Text Logs



Complex text logs show text at a specific depth or in depth intervals. This type of log is generally used for rock descriptions, alteration descriptions, or any general descriptive text. Long text blocks are wrapped to fit within the log width. Separator styles can be used to separate text in long descriptions. You can also merge the contents of two or more consecutive intervals that contain the same displayed text.

Zone Bar Logs



Zone bar logs display intervals for a wide variety of logging data. For instance, zone bars can represent sample intervals, alteration zones, lithology, contamination layers, etc.

Bar Logs



There are two types of bar logs: standard bars and polarity bars. Standard bar logs plot a bar from the data minimum value to the row's data value. Polarity bar logs plot data from a base of zero, so there can be bars on both sides of the zero baseline if there is a mix of negative and positive values.

Percentage Logs



Percentage logs are similar to bar logs, but the values at each depth/interval are normalized to sum to 100%. This log is often used to show the different percentages of items in a sample, such as alterations, chemicals, or various rock types, such as sand, clay, gravel, silt, etc.



Post Logs

Post logs are used to display a symbol and/or text at a given depth. The symbols can represent sample locations or the depth to water level, contamination, etc. as in the case of monitoring wells



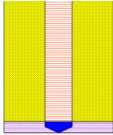
Classed Post Logs

Classed post logs are similar to the post logs, except classed post logs use range schemes and numerical values to determine the symbol properties.



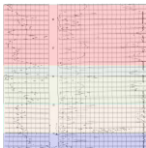
Graphic Logs

Graphic logs allow you to specify image file names and display the image as the fill for the intervals. This is useful in displaying photos of core, rock type, alteration, etc.



Well Construction Logs

Well construction logs are a visual representation of the well. This log type shows items such as screen interval, packing material, end caps, and covers.



Raster Logs

Raster logs are used to display an electronic log or a scanned image of a paper log. Registered raster logs are image files accompanied by a depth-registration file. Unregistered raster logs do not have a depth-registration file but can be easily depth-registered in **Strater**.



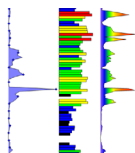
Tadpole Logs

Tadpole logs plot symbols representing dip and dip direction as a function of depth. This gives an indication of strike and dip of the bedding planes, fractures, or any other structure along the depth of the borehole.



Crossplot Logs

Crossplot logs are used to display intersections of two data curves on a graph. Crossplot logs can be used to characterize properties such as porosity, water saturation, or clay content by comparing where two logs intersect.



Function Logs

Function logs combine multiple log variables into a single log using a mathematical equation or apply a mathematical function to a single log. The log variables being combined can contain different depth spacings and be from different tables. A new table is created with the output data.

Drawing Objects

You can draw text, polygons, polylines, points, rectangles, rounded rectangles, ellipses, and unconformities in **Strater**. In addition to these drawing objects you can import graphics, link text to a data table, add scale bars for log items or cross sections, and add legends for scheme data. In borehole views and cross section views, you can also insert a map view for reference. A drawing object is any drawing item that can be added to a borehole view, map view, or cross section view. To draw an object in the view window:

1. Click the **Draw | Shape** command for the shape you wish to draw.
2. Move the cursor to the view window and click in the location where you want the object to appear.
3. Draw the item. For most items, this involves clicking on the screen in multiple locations or clicking and dragging the mouse on the screen to size the item appropriately. Refer to the online help for each drawing object type for the specific instructions on drawing that object type.
4. Press the ESC key on the keyboard to end drawing mode.

There is no limit to the number of drawing objects that can appear in a view window.

Import Object

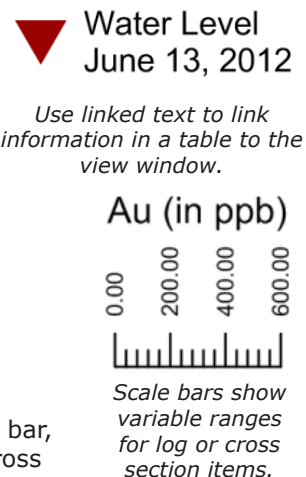
Imported objects are generally used to display information such as company logos or other graphic images. You can import images, metafiles, and vector files in any view window. To import an object, click the **File | Import** command. Select the file in the **Import** dialog and click *Open*. The item appears in the view window.

Linked Text

Linked text is used to show information such as location, depth, driller name, etc. Linked text is derived from text, collars, or project settings tables or page settings. Linked text is added to the view window by clicking the **Draw | Shape | Linked Text** command. The linked text object updates when changes are made to the contents in the linked table or property. Use the **Property Manager** to change the linked text properties.

Scale Bar

A scale bar is used for variables in log items or distances in cross sections. Scale bars are linked to line/symbol, crossplot, bar, tadpole, and function logs or to the horizontal distance on a cross



section. You can also create a scale bar that is not associated with any object. Scale bars can be automatically created when a log is created or can be manually created with the **Log | Add | Scale Bar** command.

Legends

You can easily create legends that describe the contents of logs, map symbols, or cross section patterns when a scheme is used. Legends display user-defined colors, symbols, numerical ranges, and keywords to help readers understand the visual content of a log. Click the **Log | Add | Legend** command to add a legend to any view window.

Inserted Map Views

To insert a map view into a borehole view or cross section view, create the map view exactly as you want it to appear. In the borehole view or cross section view:

Legend Title											
		GW			SM			CH			OH
		GP			SC			PEAT			ROOTMATTER
		GM			ML			FILL			BASALT
		GC			CL						
		SW			OL						
		SP			MH						

Legends are directly related to a scheme. You can modify all the contents of a legend.

1. Click the **Log | Add | Map View** command.
2. If multiple map views exist, select the desired map view from the list and click **OK**.

The map is added to the view window. The map appears exactly as it appears in the map view. To edit the inserted map, click on the map view tab and make adjustments. The adjustments are automatically displayed in the borehole view or cross section view. To resize the inserted map, click on the map. Hold down the left mouse button and drag the bounding box handles to the appropriate size. Click and drag the map to any location on the borehole view or cross section view to move the inserted map.

Schemes and the Scheme Editor

Data table values, schemes, and log properties are all related in the process of creating a log in the borehole view or cross section view.

The data contains borehole names, depth or interval information, and the data to be displayed on the log. Schemes contain property information that is linked to data and is based on ranges or keywords. When scheme information is found in the data, the graphical borehole log displays the properties of the scheme. The **Property Manager** is where the data table and column used to create the log are specified, the scheme to use (if any), and properties such as the color and location.

Scheme Requirements


Some log items are dependent on schemes for display. For example, lithology and well construction logs require schemes. Other logs, such as bar logs, can optionally use schemes. The scheme keywords can be case-sensitive, so it is easiest to have **Strater** automatically create the schemes using column data in the **New Scheme** dialog. To do this, click on the table. Highlight the column that contains the scheme data or keywords and click the **Table | Table | Create Scheme** command.


Data and Schemes

Since schemes are linked to the data, be sure to understand the data requirements for the type of log being created and the column requirements for the associated scheme type. For example, to use schemes with lithology logs, you must have specific keywords defined in specific columns. Refer to the *Data Formatting Requirements for Logs* page in the *Log Items* section of the online help for additional information.

For example, you may have the word *Jasperoid* in a lithology keyword column in a lithology table. You can create a scheme containing a fill pattern, line pattern, contact line pattern, and keyword label text properties for *Jasperoid*. When the scheme is assigned to a lithology log, every time the word *Jasperoid* is used in the data table column, **Strater** uses the properties assigned in the scheme in the log display.

Opening the Scheme Editor

To open the **Scheme Editor**, click the **Home | Display | Scheme Editor** command or click the  button next to scheme fields in the **Property Manager**.


The **Scheme Editor** dialog contains a list of the scheme types on the left pane. If a scheme is included in this project there is a  next to the scheme type.

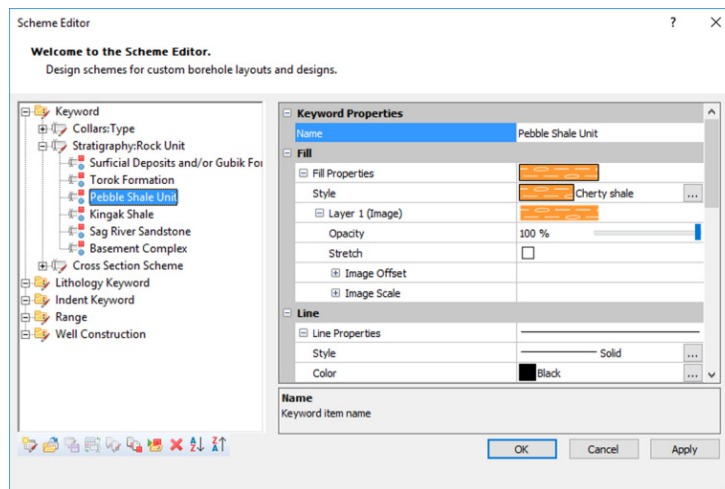
Scheme Types

There are five scheme types: keyword, lithology keyword, indent keyword, range, and well construction. The properties for each scheme item vary depending on the scheme type. Refer to the *Schemes* book in the online help file for more details on each



scheme type and the properties of a scheme item in each scheme.

Opening and Saving Schemes


To create a new scheme, click the  button at the bottom of the **Scheme Editor**. The **New Scheme** dialog opens, where you define the scheme's properties such as the type of scheme and the number of scheme items. New schemes created in this way can be based on column data by selecting *Base Scheme on Column Data*. This ensures that the data matches the text in the selected table.





Use the menu on the left to expand each scheme. In this example, the Stratigraphy: Rock Unit scheme is expanded and the item Pebble Shale Unit is highlighted. The properties of the highlighted item are displayed on the right side of the dialog.

If you would like to reuse schemes with other projects or share schemes with colleagues, save the scheme by clicking the  button at the bottom of the **Scheme Editor**. The scheme is saved as a **Strater** .SCH scheme file. Click the  button at the bottom of the **Scheme Editor** to open a **Strater** .SCH scheme file.




Copying, Converting, and Deleting Schemes



You can copy a scheme by selecting a scheme name and clicking the  button. A duplicate of the scheme appears in the scheme type list. You can edit the copy of the scheme, including the scheme name and scheme item properties. If the copy button is not available, a scheme is not currently selected.

Click the  button to convert a lithology keyword scheme to a keyword scheme or a keyword scheme to a lithology keyword scheme. This option is active only when a lithology or keyword scheme is selected. This is useful if you wish to reuse schemes for different log types without recreating them.

You can delete a scheme by clicking a scheme name and clicking the  button. If the delete option is disabled, a scheme name is not selected.

Editing Scheme Items

Select a scheme item within a scheme and click the  button to delete only that scheme item. Insert a new scheme item by clicking the  button when a scheme or scheme item is selected. If the delete or insert scheme items buttons are disabled, a scheme or scheme item is not selected. To copy scheme items, click on the scheme item that contains the properties you want to copy. Click the  button to copy the item. A new scheme item is created with all of the same properties as the original item.

To reorder scheme items, click on a scheme item name. Hold down the left mouse button and drag the scheme item to the desired location. To sort scheme items in ascending or descending order, click on the scheme name or a scheme item and click either the  or  button. This reorders the list based on the scheme item name, making it easier to find items in schemes with many items.

If you have made a change to a scheme that is already in use by a log, map, or cross section, you can click the *Apply* button to show the changes in the view window.

Templates

Once a borehole view or cross section view is designed, the design can be reused by saving the file as a template. Templates allow you to create, save, and load borehole view designs, cross section view designs, or entire projects to be used with new data or by other **Strater** users. Template files have the option of storing a single borehole view or cross section view, or the template can store all of the view windows in the project, the schemes, and the table structure without any actual data. Template .TSF files are stand-alone files from the main **Strater** project .SDG files.

Creating Templates

Templates can be created by either opening an existing project and saving it as a template, or by starting with an empty borehole view or cross section view, creating the view design and saving it as a template. When the view opens, design the borehole view or cross section view by opening data files and creating the various objects with all of the properties that should be saved. If you do not have data for the logs, you can create the view in design mode.

Saving Templates

You can save templates from either active or design mode. A saved template is stored in the exact format in which it was saved.

To save only a single borehole view or cross section view window, right-click on the view name in the **View Manager** and select **Save Template of Current View**. In the **Save Active View To Template File** dialog, type a *File name* for the view window template. Click *Save* and the file is saved to a .TSF file format with only the selected borehole view or cross section view window.

To save the entire project as a template, click the **File | Save As** command. In the **Save As** dialog, type a *File name* for the project template and set the *Save as type* to *Strater Template Files (*.tsf)*. Click *Save* and the file is saved to a .TSF file format with all view windows, schemes, and table formats.

Loading Templates

To load an existing template file, click the **File | Open** command, click the **Home | Template | Load** command, or right-click in the **View Manager** and select **Load Template**. Choose data to load for each template table in the **Import Template Data** dialog. View windows in the template are loaded into a new borehole view, map view, or cross section view. Tables are automatically created with the format of the data in the template. Once the template is loaded, edit the logs to reflect the data, and create additional objects if necessary.

Once a template has been loaded into a new **Strater** window, the appearance of the view windows remains unchanged if the original source template is changed elsewhere. In order to use any changes made to the original template you must open that template into a new view window.

Only one template can be used in each view window. However, you can open multiple templates into multiple view windows and save them all in a single .SDG project file.

Template Information

If there is a template associated with a borehole view it is listed on the **View** tab in the **Property Manager**. If the *Template name* field is blank a template is not used for the active borehole view.

Tutorial

The tutorial is designed to introduce you to some of **Strater's** basic features. After you have completed the tutorial, you should be able to begin to use **Strater** with your own data, creating and editing your own boreholes, maps, and cross sections. We strongly encourage completion of the tutorial before proceeding with **Strater**. The lessons should be completed in order; however, they do not need to be completed in one session. The tutorial should take approximately one hour to complete.

Tutorial Lesson Overview

The following is an overview of lessons included in the tutorial.

- *Lesson 1 - Opening Data* opens a data file in a new table.
- *Lesson 2 - Creating Logs* creates *Depth*, *Line/Symbol*, and *Zone Bar* logs.
- *Lesson 3 - Changing Properties* edits the log properties.
- *Lesson 4 - Creating and Editing Drawing Items* adds text and a legend.
- *Lesson 5 - Changing Boreholes* changes all of the logs to another borehole and changes an individual log to a different borehole.
- *Lesson 6 - Creating a Map View* creates a well location map and adds a well selector line to the map.
- *Lesson 7 - Creating a Cross Section View* creates and edits a cross section.
- *Lesson 8 - Saving Information* saves a project file and a template file.

Using the Tutorial with the Demo Version

If you are using the demo version of **Strater**, the save, export, print, cut, and copy features are disabled. This means that some steps, such as lesson 8, cannot be completed by users running the demo version. This is noted in the tutorial lesson.

Starting Strater

To begin a **Strater** session:


1. Navigate to the installation folder, which is C:\Program Files\Golden Software\Strater 5 by default.
2. Double-click on the Strater.exe application file.

3. The **Welcome to Strater** dialog is displayed upon start up. Click the *New Borehole View* button to open **Strater** with a new blank borehole view.

If **Strater** is already open, click the **File | New Project** command to open a new empty project before continuing with the tutorial. If this is the first time that you have opened **Strater**, you will be prompted to enter your serial number. Your serial number is located in your account in the MyAccount portal on the Golden Software website, as well as on the CD cover or in the email download instructions, depending on how you purchased **Strater**.

Lesson 1 - Opening Data

Data can be opened in **Strater** before any logs are created, while creating the logs, or after the logs have been created. In this section, the initial data is opened before any logs are created. If you prefer to create a log design first, use *Design Mode*. Design mode is discussed in the online help in the *Advanced Tutorial* book. To open an existing data file into a new table:

1. Click the **File | Open** command or click the  button on the quick access toolbar.
2. In the **Open** dialog, navigate to the **Strater** Samples folder. By default, this is located in C:\Program Files\Golden Software\Strater 5\Samples. Click on the *Tutorial 1.xls* file and click *Open*.
3. In the **XLS Import Options** dialog, select the *Depth* sheet and click *OK*.
4. In the **Specify Worksheet Column Definitions** dialog, check the box next to *Specify Column Header Row*. This tells **Strater** that the column number specified contains text indicating the column name. Click *Next*.
5. In the **Specify Data Type and Column Positions** dialog, set the *Data type* to *Depth (Single Depth)*.
6. Set the *Hole ID* and *Depth* columns to the Hole ID and Depth columns in the table. Click *Finish*.

The data is displayed in a new table named *Depth*. This table can now be used to create logs.

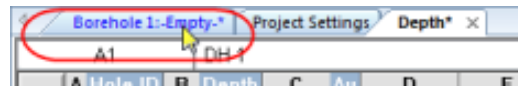
Lesson 2 - Creating Logs

The most common types of logs are depth logs and line/symbol logs. Data are immediately associated with the log when creating log items in active mode, providing an immediate image representing the log. This section will use the previously loaded data file to create a line/symbol log and depth log. Another table will be opened to create a zone bar log.

Creating a Depth Log

Depth logs display the borehole's depth or elevation information. To create a depth log:

1. To create the logs in the borehole view, click on the *Borehole 1* tab.
2. Click the **Log | Create Log | Depth** command.
3. Click on the left side of the log pane, where you want the depth log to be located.
4. In the **Open** dialog, click the *Depth* table in the *Use Open Table* list. *Depth* will be displayed in the *File name* box.
5. Click *Open*. The depth log is created with the default properties.



Click on the Borehole 1 tab to switch to the borehole view, where logs are displayed.

Creating a Line/Symbol Log

Line/symbol logs display data vertically at a depth value and horizontally at a data value. Lines, symbols, or both line and symbols can be displayed. To create a line/symbol log:

1. Click the **Log | Create Log | Line/Symbol** command.
2. Click near the center of the log pane where the line/symbol log should be located.
3. In the **Open** dialog, click the *Depth* table in the *Use Open Table* list. *Depth* will be displayed in the *File name* box.
4. Click *Open*. The line/symbol log is created with the default properties.

Note that a scale bar appears in the header pane. The default option for line/symbol logs is to always create a scale bar. The scale bar shows the range of values for the variable being displayed. To change the default behavior, click the **File | Options** command. Uncheck the box next to the *Auto create scale bar* option in the *General* section.

Creating a Zone Bar Log

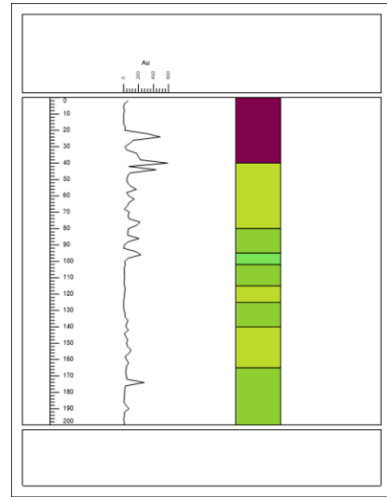
Zone bar logs display a variety of well log information, such as lithology or layer information. Zone bar logs include two columns of depth data, normally labeled as *From* and *To*. Because of this, each row contains data that represents conditions in a depth range. To create a zone bar log:

1. Click the **Log | Create Log | Zone Bar** command.
2. Click in the log pane, to the right of the line/symbol log.
3. In the **Open** dialog, select *Tutorial 1.xls* from the *Samples* folder and click *Open*.
4. In the **XLS Import Options** dialog, select the *Lithology* sheet and click *OK*.
5. In the **Specify Worksheet Column Definitions** dialog, check the box next to

Specify *Column Header Row* to use row 1 as the header row. Click *Next*.

- In the **Specify Data Type and Column Positions** dialog, verify that *Hole ID*, *From*, and *To* have the Hole ID, From, and To table columns selected. Columns that are not mapped to one of the predefined columns will be imported into the table after the predefined columns. Click *Finish*.

The zone bar log is created with the default settings. An interval table named *Lithology* is created with the data from the selected sheet.



The three logs are shown in the log pane with a scale bar in the header pane.

Lesson 3 - Changing Properties

The properties of an object are edited by clicking on the object and changing the properties in the **Property Manager**. The **Property Manager** is displayed by default on the lower left side of the **Strater** window. If the **Property Manager** is not visible, click the **View | Managers | Property Manager** command. A check mark appears next to the **Property Manager** if it is visible. When an object is selected, the properties are displayed in the **Property Manager**.

Editing Log Position and Size

The easiest way to position or size a log is to click on the log in the **Object Manager** or in the log pane and drag it to a new location or size. However, items can be more accurately positioned with menu commands and toolbars. To accurately position and size the line/symbol log:

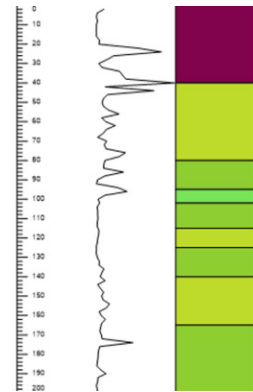
- Click on the line/symbol log in the **Object Manager** or log pane to select it.
- In the **Arrange | Position** controls, highlight the number next to *X* and type in 2.0. Press ENTER on the keyboard and the line/symbol log is moved in the borehole view so the left edge is two inches from the left edge of the paper.
- Highlight the number next to *Width* and type 1.5. Press ENTER on the keyboard and the line/symbol log is resized so that the log is one and a half inches wide.
- Click on the depth log in the **Object Manager**, hold CTRL, and then click on the zone bar log.
- Click the **Arrange | Size Objects | Specify Width** command.
- Type 1.5 in the **Width Of Multiple Objects** dialog.
- Click *OK*.

All of the logs in the log pane are now 1.5 inches wide, and the line/symbol log's horizontal position has been specified.

Spacing Objects

Log items can be positioned relative to one another with the **Arrange** tab commands. To position the depth log relative to the line/symbol log:

1. The line/symbol log should be to the right of the depth log. If the line/symbol log is to the left of the depth log, click on the depth log. Hold down the left mouse button and drag the depth log to the left of the line/symbol log.
2. Click on the depth log to select it.
3. Press the SHIFT key on the keyboard and click on the line/symbol log in the log pane. Or, press the CTRL key on the keyboard and click on the line/symbol log in the **Object Manager**.
4. Click the **Arrange | Space Objects | Left to Right** command.



*The **Right to Left** and **Left to Right** commands remove the spaces between adjacent objects to maximize the space available in the log view.*



The line/symbol log remains in the fixed location. The depth log is moved so that the right edge of the depth log bounding box is at the same location as the left edge of the line/symbol log bounding box.

The **Arrange | Space Objects | Right to Left** command can be used when selecting the line/symbol log and the zone bar log to move the zone bar log to the immediate right of the line/symbol log.

Editing Line/Symbol Log Properties





Each object has unique properties that can be changed. You can change the column that is being displayed or display more than one column in a line/symbol log. Scaling, line, fill, symbol, labels, and grid line properties are just some of the items that can be edited for line/symbol logs.

To change the line/symbol log line properties:



1. Click on the line/symbol log in either the **Object Manager** or in the log pane to select it.
2. In the **Property Manager**, click on the **Line** tab.
3. Click the  next to *Log* to open the log curve properties section.
4. Click the  next to *Line Properties* to open the line properties section.
5. To increase the line thickness, highlight the value next to *Width* and type a new

value, such as 0.02 inches. Press ENTER on the keyboard to make the change.


To change the line/symbol log fill properties:

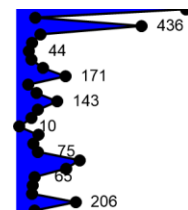
1. Click the **Fill** tab to open the log fill properties.
2. Click the  next to *Log* to open the log curve properties section.
3. To open the fill properties section, click the  next to *Log Fill*.
4. To fill the curve to the left of the line with a blue color, make sure that the *Fill log on* property is set to *Left*.
5. Click the  next to *Fill Properties* to open the fill properties section.
6. Click the current *Style* selection, *None*, to open the fill style palette.
7. Scroll to the top of the palette and select *Solid*.
8. Click the  next to *Layer 1 (Solid)* to open the layer properties section.
9. Click the *Black* selection in the *Color* field and select *Blue* from the color palette.

To change the line/symbol log symbol properties:

1. Click the **Symbol** tab to open the log symbol properties.
2. Click the  next to *Log* to open the log curve properties section.
3. Click once on the up arrow  next to *Frequency*. The frequency value changes to 1 and symbols are displayed at each point on the log curve.

To change the line/symbol log label properties:

1. To set label properties, click on the **Label** tab.
2. Change the *Show label* property to *Data* by clicking on the existing option and selecting *Data* from the list.
3. Click the  next to *Layout* to open the label layout section.
4. To reduce the number of labels, highlight the number next to *Label frequency* and type 3. Press ENTER on the keyboard and every third label is displayed.
5. Click the word *Center* next to *Offset method* and select *User defined* from the list.
6. Highlight the value next to *X offset* and type 0.250. Press ENTER on the keyboard and the labels are moved to the right side of the symbols and offset by 0.250 inches from the center of the symbol.



Display fill, symbols, and labels on the line/symbol log.

Now the line/symbol log curve has a thicker line weight, is filled on the left with a blue fill, displays points along the curve, and displays labels at every third point.

Editing Zone Bar Properties

You can change the column that is displayed, add labels, change line and fill properties, and add grid lines for zone bar logs. Normally, the fill is controlled by a scheme, which is discussed in the next section. To edit the zone bar log labels:

1. Click on the zone bar log in the **Object Manager** or in the log pane to select it.
2. Click on the **Label** tab in the **Property Manager**.
3. To display the name of the lithological layer in each zone on the zone bar, change the *Show Label* option to *Show Label With Fill*. The labels are added to the display.




Display labels and colors in the zone bar log.

Editing Schemes

Schemes are an important part of **Strater**. Schemes provide a mechanism to define drawing properties, such as line, fill, and symbol properties, from a table value. A scheme can be used in many logs and cross sections, and schemes can be used in other projects. This avoids the need to duplicate work. Schemes are not used in all log types, but they are used in several, including the zone bar log. Schemes are required for lithology, percentage, and well construction logs. Schemes are optional for bar, classed post, post, and zone bar logs. Scheme properties can be edited from any view by clicking the **Home | Display | Scheme Editor** command.

A zone bar log uses a keyword scheme to relate data table information to interval block properties, such as fill style, fill color, or fill pattern. When you created this log, **Strater** automatically created a basic, default scheme to fill the log with random colors. To edit the scheme associated with the zone bar log:

1. Click the **Home | Display | Scheme Editor** command to open the **Scheme Editor**.
2. On the left side of the **Scheme Editor**, click the  next to *Lithology: Lithology Keyword*. The five scheme items are displayed below the scheme name.
3. Click the *Jasperoid* item. The item properties are displayed on the right side of the **Scheme Editor**.
4. Set the fill properties to any desired style and color you wish. For instance, you may click next to *Sytle* and select the *BIF* image.
5. Select the *Granite* item on the left side of the dialog.
6. Set different fill properties. For instance, select the *Solid* style and click next to *Color* and set the color to a dark green. Or, select a stock Windows pattern style and click *Pattern* and select a diagonal cross fill pattern.



Change the fill properties for each item in the scheme.

7. Continue changing the properties for each of the remaining items until the fill properties for all five items have been changed.
8. Click *OK* and the **Scheme Editor** closes. The scheme properties are automatically applied to the zone bar log.

Note that the scheme item names can be case-sensitive. If you were to change *Granite* to *granite* in one cell in the table, the scheme item properties would not be displayed for that interval.

Lesson 4 - Creating and Editing Drawing Items

The header and footer panes typically contain information about the company, borehole, etc. Some of this information may be static, and some of the information can change depending on the Hole ID setting. You can create a variety of objects such as rectangles, lines, and text to display information anywhere in any view window. This lesson creates a text object and multiple linked text objects. The text blocks are then aligned and a legend is added.

Creating Text


To add text to the borehole view:

1. Click the **Draw | Shape | Text** command.
2. Move the cursor into the borehole view. Click the left mouse button when the cursor is above the depth log in the header pane.
3. The **Text Editor** opens. Type *Depth (feet)*.
4. Click *OK* and *Depth (feet)* appears in the location where the mouse was clicked.
5. Press ESC on the keyboard to end drawing mode.
6. Click on the text. A bounding box appears. You can click and drag the text to move the text to the desired location.
7. With the text selected, highlight the number next to the *Size (points)* option in the *Font Properties* section of the **Property Manager**. Type a new size value, such as 14, and press ENTER on the keyboard to make the change.

Creating Linked Text

Linked text shows information that changes with the borehole being displayed, such as location information, depth, driller name, or page number. Linked text is derived from a table or page setting. So, when the data changes, the text automatically updates.

1. Click the **Draw | Shape | Linked Text** command.
2. Near the top left of the header section, click to add linked text. The default linked text object, the hole ID, appears.

3. Click a second time below the *DH-1* text. Another *DH-1* appears.
4. Press ESC on the keyboard to end drawing mode.
5. Click on the first *DH-1* in either the **Object Manager** or in the header pane.
6. In the **Property Manager**, click on the **Label** tab.
7. Click the  next to *Label Format* to open the text format section.
8. Next to *Prefix*, type *Borehole ID:* with a space after the colon. Press ENTER on the keyboard and the text appears to the left of the borehole ID number.
9. Click on the second *DH-1* text in either the **Object Manager** or in the log pane.
10. Click on the **Linked Text** tab in the **Property Manager**.
11. Click the *Hole ID* next to the *Linked text type* option and select *Current Page* from the list. The page number is displayed.
12. Click on the **Label** tab.
13. Next to *Prefix*, type *Page:* with a space after the colon. Press ENTER on the keyboard and the contents of the linked text box updates.

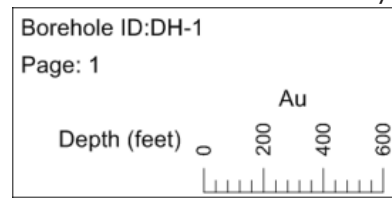
Aligning Text

There are several ways to position objects, including text boxes, in **Strater**.

- Click and drag objects to new locations.
- Click the **Arrange | Align** commands to automatically position objects relative to other objects.
- Click the **Arrange | Space Objects** command to control spacing between objects.
- Use the **Arrange | Position** controls to manually and precisely position objects.

To align the linked text objects:

1. Select the first linked text box by clicking on the *Linked Text 1* object in the **Object Manager**.
2. Press and hold the CTRL key on the keyboard.
3. In the **Object Manager**, click on *Linked Text 2*.
4. Click the **Arrange | Align | Left** command. The text blocks are now horizontally aligned along the left edge of the text.
5. Click on the *Text 1* object in the **Object Manager**.
6. Press and hold the CTRL key on the keyboard.
7. Click on the *Scale Bar - Au* object in the **Object Manager**.
8. Click the **Arrange | Align Objects | Middle**



Align text to create a more organized layout for the header.

command. The depth text and the scale bar are now vertically aligned.

Creating a Legend

Legends can be added to explain information contained in a log, such as the zone bar log. To add a legend:

1. Click on the zone bar log to select it.
2. Click the **Log | Add | Legend** command.
3. Click on the borehole view where the legend should be located. The legend can appear in any of the panes. After clicking, the legend automatically appears.
4. Press the ESC key on the keyboard to end drawing mode.



The legend can be edited in the **Property Manager** to show fill properties, symbol properties, or both. The options can appear in multiple columns and with the text on the left or right side. The online help has additional information about formatting the legend in *Lesson 9 - Editing Legends* in the *Advanced Tutorial* book.

Lesson 5 - Changing Boreholes

It is very easy to change boreholes in **Strater**. As mentioned earlier, the tables can contain data for multiple boreholes and the project can reference more than one table.

Changing All Logs to a New Borehole

In our example, the *Lithology* and *Depth* tables both contain DH-1 and DH-2 in the *Hole ID* column. You can easily change all of the items in the borehole view from DH-1 data to DH-2 data. To change the borehole:

1. Click the **View | Display | View Properties** command, click in the white space in the log pane or click on the *Borehole 1: DH-1* view name in the **View Manager**.
2. Click the **View** tab on the **Property Manager**.
3. Click *DH-1* next to *Hole ID filter* and select *DH-2* from the list. The borehole log items and linked text change to reflect the DH-2 data.

Changing One Log to a New Borehole

To change only one log to a different borehole:


1. Click on the log that should be changed, such as the zone bar log.
2. In the **Property Manager**, click on the **Log** tab.
3. Click the well name next to *Hole ID filter* and select *DH-1*. The zone bar log automatically updates to show the new borehole's data.

When changing only a single log, only the selected log changes to the new data. In this case, the depth log, line/symbol log, and linked text continue to show the DH-2 data. Only the zone bar log shows the DH-1 data. The borehole view tab and the *Hole ID filter* in the **Property Manager** show *-Multi-* to indicate that multiple logs are displayed in this borehole view.

Lesson 6 - Creating a Map View

A map view can represent each of the wells in a collars table as a symbol on a map. Each well in the collars table is displayed as a separate symbol. Wells can be edited as a group or individually. The map also contains a set of four axes, that can be edited individually. Base layers, additional well layers, and well selector lines can be added to maps.

Opening a New Map View

New map views in an existing project are created by clicking the **Home | New | Map View** command or the  button on the quick access toolbar.

Displaying the Well Locations

In the new map view, wells can be displayed based on information in the collars table. A collars table can be opened using the **File | Open** command or can be opened when creating the well map. To create the well map:

1. Click the **Map | Create | Well Map** command.
2. In the **Open Collars File** dialog, select the *Example Data.xls* file and click *Open*.
3. In the **XLS Import Options** dialog, select the *Collars* sheet and click *OK*.
4. In the **Specify Worksheet Column Definitions** dialog, make sure that *Specify Column Header Row* is checked and click *Next*.
5. In the **Specify Data Type and Column Positions** dialog, set the *Hole ID*, *Starting Depth*, *Ending Depth*, *Elevation*, *Easting*, and *Northing* columns to the columns with the same names and click *Finish*. The two wells appear on the map.

The well map is displayed with the default properties. Because only two wells are visible, the wells are located at the corners of the map.

Changing the Well Properties

All of the well properties can be edited. To make changes to the well symbol and add well labels:

1. Click on the *Wells 1* map layer in the **Object Manager**.
2. In the **Property Manager**, click on the **Label** tab.

3. Next to the *Label 1* option, click on *[None]* and select *Hole ID* from the list. By default, the label appears below the symbol.
4. Next to the *Label 2* option, click on *[None]* and select *Elevation* from the list. This displays the elevation of the well below the well name.
5. Currently a scheme is used to display wells, but all symbols can be the same. To not use the scheme, click on the **Wells** tab in the **Property Manager**. Uncheck the box next to the *Use keyword scheme for symbols* option.
6. Click on the **Symbol** tab.
7. Change the *Symbol* by clicking on the existing symbol and selecting the desired symbol from the list.


Changing the Map Properties

The map properties control the size of the map and the symbol, line, and font properties for all of the objects in the map. To change the limits and scale of the map:

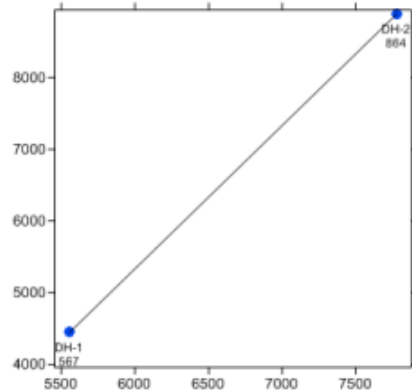
1. Click on the *Map 1* object in the **Object Manager**.
2. In the **Property Manager**, click on the **Scale** tab.
3. To use different scales in the X and Y directions, uncheck the box next to *Proportional XY scaling*.
4. Set the *Length (Page Units)* to 7 inches for both the *X Scale* and *Y Scale* by highlighting the existing value and typing 7.0. Press ENTER on the keyboard to make the change. Creating a map that fits nicely within the page boundaries is important if you insert the map view in a borehole view or cross section view because the entire map view page boundary is inserted.
5. Click on the **Limits** tab to set the map limits.
6. Check the box next to *Use data limits* to have the limits controlled exactly by the objects in the map.
7. Click the *Fit All* button to expand the limits to include all of the text associated with the wells.

Adding a Well Selector Line

A well selector line can be used to create a cross section. Wells are selected in the order that they should appear in the cross section with the furthest left well in the cross section selected first on the map. To connect wells:

1. Click the *Map 1* map object or of the layers or objects in the map.
2. Click the **Map | Add | Well Selector** command or right-click on the map and choose **Add | Well Selector**.
3. The cursor changes to . As the cursor approaches a well, the well name appears in a floating box. Click on the first well, *DH-1*, to select it.

4. Click on each additional well in the order that the logs will appear in the cross section. Click on *DH-2* next.
5. Press the ENTER key on the keyboard or double-click on the last well to end the current well selector line.
6. Press ESC on the keyboard to end well-selection mode. The wells are connected with a line.




The wells and well selector line are displayed in the map view.

Lesson 7 - Creating a Cross Section View

A cross section can be created displaying lithology, zone bar, line/symbol, or raster logs. Wells can be connected with layers, representing lithologies or zones in the data. Layers can be manually created and edited.

Opening a New Cross Section View

New cross section views in an existing project are created by clicking the **Home | New | Cross Section View** command or clicking the  button on the quick access toolbar.

Displaying Wells in the Cross Section

To add the wells to the cross section view:

1. Click the **Cross Section | Create/Add | Create Cross Section** command.
2. On the right side of the **Create Well Selector** dialog, select the order the wells should be displayed in the cross section. The *Wells in selector* should show DH-1 and then DH-2. Click *OK*.
3. To create the cross section from lithology or zone bar logs, set the *Cross section log type* to *Lithology/Zone bar log* in the **Import Cross Section Data** dialog.
4. Since the *Table* and *Data Column* are already defined for both logs, click *OK*.

The default cross section is created, displaying zone bar logs for both wells and connected lithologies.

Editing Cross Section Properties

Some options that can be controlled for the cross section include adding layer labels and adding well headers with distances displayed.

1. To add layer names, click on the *Layers* object in the **Object Manager**.
2. In the **Property Manager**, click on the **Label** tab.
3. Check the box next to *Show layer labels* and the layer names are displayed.
4. To add well headers, click the **Cross Section | Create/Add | Add Well Headers** command. The well name and symbol are added to the header pane.
5. Click the *Well Header 1* object in the **Object Manager**.
6. In the **Property Manager**, click on the **Well Header** tab.
7. To display distances between wells, check the box next to *Show distance* in the *Distance* section of the **Well Header** page.

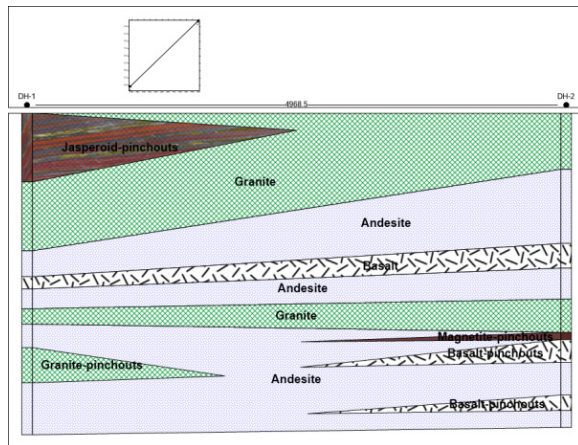
Inserting a Map View

The map view can be inserted into the cross section by clicking the **Log | Add | Map View** command. After the map view appears, you can click on it and drag it to the desired location. To edit the inserted map view, edit the original map view. The inserted map is automatically updated.

Reshaping the Cross Section Connections

The lines connecting wells in the cross section can be edited. Currently, two pinchouts are shown connecting toward the bottom of the cross section. To separate these layers:

1. Click on the layer to edit. For instance, to edit the *Granite-pinchout*, click on the granite pinchout on the left side of the cross section.
2. Click the **Draw | Reshape** command to enter redraw mode.
3. Because the *Granite* and *Basalt* pinchouts share a common central node, you can separate the two pinchouts by using the SHIFT key. Hold the SHIFT key down on the keyboard and drag the right-most node toward the left side of the cross section.
4. Click on the *Basalt-pinchout* on the right side of the cross section.
5. Hold the SHIFT key down on the keyboard and drag the left-most node for each of the two pinchouts toward the right side of the cross section.



The cross section shows the two wells and the many layers in the cross section pane. The well names, distance between the wells, and the inserted map view are in the header pane.

6. Continue editing the cross section until all of the layers have the desired shape.
7. Press ESC on the keyboard to end reshape mode and save the changes.

Refer to the *Reshape* page in the *Drawing Objects* book in the online help file for additional information on using the reshape command.


Lesson 8 - Saving Information


When you have completed the project, you can save the file to a **Strater** file or a template file. **Strater** files save the schemes, data, and all view windows to the file. Templates can save a single borehole or cross section view window or the entire project, but without the actual data. If you are using the demo version, the save command is not available. To save the file:


1. Click the **File | Save As** command.
2. Set the *Save as type* to *Strater Files (*.sdg)* or to *Strater Template Files (*.tsf)*. Saving a template in this manner saves the entire project to the template.
3. Type a *File name*.
4. Click *Save* and the file is saved.

Printing the Online Help

The online help topics may be printed. You can print a single topic, a section of the table of contents, or all topics in the table of contents. Open the online help by clicking the **Home | Help | Contents** command in the **Strater** window.

To print one topic, click the topic you want to print and click the  button. If the **Contents** page is open in the help navigation pane, the **Print Topics** dialog appears. Select *Print the selected topic* and click *OK*.

To print one book, the *Tutorial* for example, click the **Contents** tab on the left side of the help window, click on the book you want to print such as the *Tutorial*, and click the  button. In the **Print Topics** dialog, select *Print the selected heading and all subtopics* and click *OK*. All the topics included in the book are printed.

To print all of the topics in the help file, select the **Strater 5** book in the help book, and click the  button. In the **Print Topics** dialog, select *Print the selected heading and all subtopics* and click *OK*. All the topics included in the online help table of contents are printed.

WARNING: Printing the entire help file takes hundreds of letter-sized sheets of paper and is very time consuming to print. There is no table of contents or index printed with the file.


You can purchase the full PDF user's guide that includes all of the documentation for the program. This PDF user's guide can be printed by the user, if desired. The guide can be purchased on the Golden Software website at www.GoldenSoftware.com.

Getting Help

The quick start guide is a quick way to learn about the basics in **Strater**. There are also other sources of help for **Strater**.

Extensive information about **Strater** is located in the online help. Click the **Home | Help | Contents** command to access the online help. You can navigate the online help using the **Contents, Index, Search, and Favorites** tabs on the navigation pane to the left of the topic page.

Strater also contains context-sensitive help. Highlight a command, window region, or dialog and press F1 on the keyboard to display help for the highlighted item. You may also access context-sensitive help by pressing SHIFT+F1. Then, click on a command, toolbar button, or screen region to view information specific to that item.

In addition, most dialogs contain a help button. Click the  button in a dialog title bar to open the help topic for the dialog. To open help topics for the items in the **Property Manager**, click on an item in the **Property Manager** and press F1 on the keyboard.

Internet Resources

There are several internet help resources available:

- Direct links to the Golden Software home page (www.GoldenSoftware.com), the **Strater** product page, frequently asked questions, and the knowledge base are available by clicking the **File | Online** commands.
- Click the *Forums* button in the online help to post a question or comment in our public support forums.
- Click the *Knowledge Base* button in the online help to search for an answer in our frequently updated knowledge base.
- Browse newsletter articles on our website at www.GoldenSoftware.com/newsletter.
- Watch the training videos on our website at www.GoldenSoftware.com/strater#training-videos.

- Read through our blog items at <http://www.GoldenSoftware.com/blog>.

Technical Support

Golden Software's technical support is free to registered users of Golden Software products. Our technical support staff is trained to help you find answers to your questions quickly and accurately. We are happy to answer all of your questions about any of our products, both before and after your purchase. We also welcome suggestions for improvements to our software and encourage you to contact us with any ideas you may have for adding new features and capabilities to our programs.

Technical support is available Monday through Friday 8:00 AM to 5:00 PM Mountain Time, excluding major United States holidays. We respond to most technical questions within one business day. When contacting us with your question, have the following information available:

- Your **Strater** serial number (located on the CD shipping cover, in the download directions, and in the **File | About Strater** dialog)
- Your **Strater** version number, found in **File | About Strater**
- The operating system you are using (Windows XP, Vista, 7, 8, 10, or higher), and whether you are using a 32-bit or 64-bit operating system
- Whether you are using a 32-bit or 64-bit **Strater** program

If you encounter problems with **Strater**, you are welcome to send an email message to Golden Software using the **File | Feedback | Problem Report** command. This message is delivered directly to StraterSupport@GoldenSoftware.com. Report the steps you perform when the problem occurs and include the full text of any error messages that are displayed. You are welcome to attach a .ZIP file (10 MB maximum) containing the .SDG file that illustrates the problem. Please contact technical support if you have very large zipped attachments to send.

Contact Information

Telephone: 303-279-1021

Fax: 303-279-0909

Email: StraterSupport@GoldenSoftware.com

Web: www.GoldenSoftware.com (includes FAQs, knowledge base, support forum, training videos, newsletters, blog, downloads, and more!)

Mail: Golden Software, LLC, 809 14th Street, Golden, Colorado 80401-1866, USA

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Before calling, please check the following available resources as your question may already be answered.

Registration: Register online at www.goldensoftware.com or fax to the number below.
Knowledge Base: www.GoldenSoftware.com/knowledge-base or in the Strater program using the File Online Knowledge Base command.
Forums: www.goldensoftware.com/forum or in the Strater online help by clicking the <i>Forums</i> button.
Frequently Asked Questions: In the Strater program using the File Online Frequently Asked Questions command
Tutorial: Complete the tutorial section in this quick start guide or in the Strater program using the Home Help Tutorial command
Online Help: In the Strater program using the Home Help Contents command
Support Videos: www.GoldenSoftware.com/products/strater#training-videos for Strater specific training videos and webinars

Business Hours

Technical Support:

Monday through Friday, 8:00 AM - 5:00 PM, Mountain Time

Product Sales:

Online orders available 24 hours, 7 days a week

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