

Map Layers and Shape Files in Target for ArcGIS

The Target for ArcGIS plotting tools provide two types of output, ready-to-print maps (Geosoft Map Layers) and Shape files. Geosoft Map Layers contain pre-defined annotations, legends, as well as pre-attributed plotting objects. The Shape file output includes database (DBF) files populated with attribute information related to the plotted feature.

Geosoft Map Layers

Geosoft Map Layers enable the user to pre-define colours, patterns, line-types, etc. using the tabbed dialogs. However, the Geosoft Map Layers is limited in that there is no "GIS" type interface using the "Identify" cursor, and the normal GIS attribute and labeling tools are not available for modifying the created plot. Modifications are not allowed; if changes are required the user must create a new plot.

Shape Files

The Shape file output enables the user to create Shape files (SHP) for both Plan and Section plots. Shape files are created for a variety of the plotted features, including the following:

➤ Hole Traces	➤ Bar Plots	➤ Profiles (down the holes)
➤ Collars	➤ Posted Text	➤ Structural ticks
➤ Bottoms	➤ Posted Values	➤ Section topography
➤ Crossing Points	➤ Numeric Bands	➤ Section gridded data profiles
➤ Depths	➤ Text Bands	
➤ Pierce Points	➤ Rock Code Bands	

Each of these SHP files includes database (DBF) files populated with attribute information related to the plotted feature. Some of the features noted above create more than one SHP file; for example topography is output both as a series of point features along the section line, which can be interrogated to determine the local elevation, and as a single line feature, which can be more easily attributed to user tastes for plotting.

Shape files can be loaded automatically into the current data frame, or manually input by the user using the regular import tools in ArcMap. When imported to the same data frame as the corresponding Geosoft Map Layer plan or section, the shape files overlay the Geosoft Map Layer exactly and provide an instant "GIS" style interrogation of the Geosoft Map Layer features.

 *This is not true for sections with vertical exaggerations not equal to 1 as the transformation required to apply vertical exaggeration to Geosoft Map Layers cannot be applied to Shape Files.*

Output and Frame/Layer Controls

The Target for ArcGIS plotting tools provide two types of output, ready-to-print maps (Geosoft Map Layers) and Shape files. Users can select to plot Geosoft Map Layers, Shape Files, or both at the same time (at least one must be selected). Users are also provided with the option of loading Plan maps and Section plots to a single (current) data frame or to separate data frames.

Loading to Separate Data Frames

For Plan Maps, the following frame names are created, depending on the trace type selected under the "Hole Traces" tab.

- > PlanC – Collars only
- > PlanT – Full hole traces
- > PlanRLZP – Pierce point plots at level "RL", e.g. Plan-20ZP is a pierce plot at a relative level -20
- > PlanRLZC – Collars in a horizontal slice centred at level "RL"; e.g. Plan-20C
- > PlanRLZT – Hole traces in a horizontal slice centred at level "RL"; e.g. Plan-20T

Levels are rounded to the nearest integer value.

The same names are used to create the layers, with the optional addition of the Layer Name Tag, so a collars plot with the "T1" tag would produce the following frame and layer:

-  **PlanC**
 - PlanC_T1

The following example shows the difference between selecting "Load to current data frame" and "Load to separate data frames". A series of 4 pierce-point plots are produced, at elevations from -30 to 0. The layer tag "T1" is used.

Loading to Separate Frames	Loading to an Existing Frame
<ul style="list-style-type: none"> <input type="checkbox"/>  P-30ZP <ul style="list-style-type: none"> <input checked="" type="checkbox"/> P-30ZP_T1 <input type="checkbox"/>  P-20ZP <ul style="list-style-type: none"> <input checked="" type="checkbox"/> P-20ZP_T1 <input type="checkbox"/>  P-10ZP <ul style="list-style-type: none"> <input checked="" type="checkbox"/> P-10ZP_T1 <input type="checkbox"/>  P0ZP <ul style="list-style-type: none"> <input checked="" type="checkbox"/> P0ZP_T1 	<ul style="list-style-type: none"> <input type="checkbox"/>  Pierce Plots <ul style="list-style-type: none"> <input checked="" type="checkbox"/> P0ZP_T1 <input type="checkbox"/> P-10ZP_T1 <input type="checkbox"/> P-20ZP_T1 <input type="checkbox"/> P-30ZP_T1 <p>(Note that, the frame has been manually named "Pierce Plots")</p>

Section plots are handled in an analogous manner. Section frames and layers are named based on the section reference location, at the section centre. The first letter is always "S", for Section. North-South sections are named using the local easting (e.g. S12000E, while East-West sections are named using the local northing (e.g. S9200N). Angled sections use

either the local northing or easting, depending on which is more perpendicular to the section azimuth. Locations are rounded to the nearest integer value. Layers can be created in the current frame, or in individual frames as demonstrated above for plan maps. Section layers can also include Name Tags.

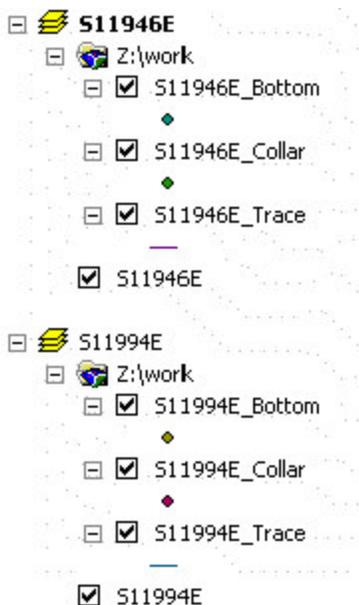
 Note that care must be taken not to load a section to an existing plan data frame, or vice-versa, because the display coordinates of a Plan Map (X, Y) are incompatible with those of a Section Map (X, Z).

Loading to a Current Data Frame

When Geosoft Map Layers are loaded to a single layer the "subsidiary" views within the map are re-projected into the "master" view. For example, if a section is created with a top plan, profiles and legend, the top plan portion, the individual data profiles and the legend are all re-projected and merged into the section view. This means that the coordinates one gets when placing the cursor over the plan portion are actually still the section coordinates, and data linking is not possible between the plan plot and data, just between the section and the data. The same can be said for the plan map plots. All subsidiary views (e.g. top section, legend) are merged into the plan view.

Loading Geosoft Map Layers and Shape Files at the Same Time

When creating multiple sections in one output that contain both Geosoft Map Layers and Shape Files, and you are loading the output into the "current data frame", shape file output for each section is automatically loaded into individual data frames according to a "one data frame per section" rule:



As you can see from the example above, in each data frame the line, symbol and pattern shape files plot on top of the corresponding Geosoft Map Layer.

Because of the nature of the frames created for Geosoft Map Layers, if you choose to Auto-load the shape files without also creating the Geosoft Map Layers, the "one frame per section" rule is not followed, and all the shape files will be placed into the same, current data frame. Therefore, if you want to get Shape files from multiple sections to go into individual data frames, you must also have the "Geosoft Map Layers" box checked.



There is no Shape file output for Stacked Section Plots, or for Strip Log plots.

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