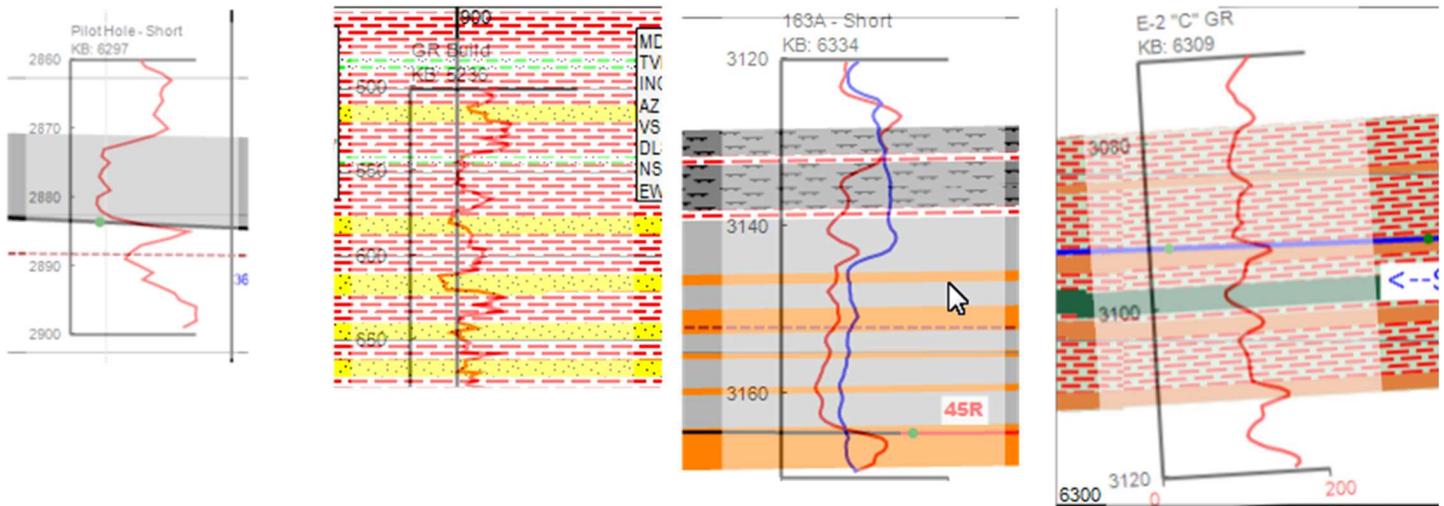


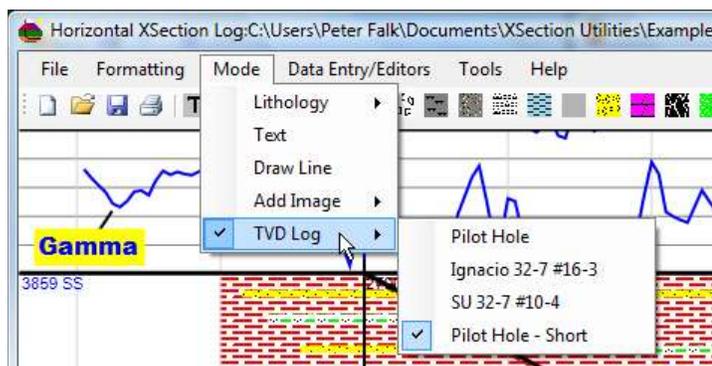
## TVD Logs

The Horizontal XSection Log program allows the user to add logs (usually gamma, but can be any log type) to the cross-section, to be used as a correlation tool. These logs can be offset logs, the pilot hole log, or the LWD log (corrected for TVD), from the build section of the lateral. There is no limit to the number of TVD logs that can be added to your log. Each TVD log can hold one or two curves, and can be rotated on the log to match apparent dip. Moreover, the log can be made semi-transparent (called opacity), so that the other features of the log can be seen underneath the TVD Log.

*Examples of TVD logs set to 50% opacity (opacity is the opposite of transparency)*



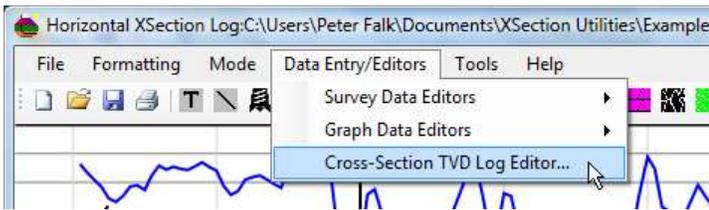
There are two steps involved in the process of adding a log curve to your cross-section. The first step is to upload the log, or logs to memory. When a log has been uploaded, it will be displayed as a menu item under "TVD Log" in the "Mode Menu" (Mode->TVD Log ->'list of logs').



The above example shows four logs that are in memory. Once a log is in memory, it will be saved with the file when the file is saved. The second step is to select a log from the menu, and then add the selected log to the cross-section track.

## Loading a Log

The process of loading a log is simple, and similar to loading curves into the graph tracks. The first step is to open the "Cross-Section TVD Log Editor..." by selecting this option from the "Data Entry/Editors" menu.



This will open the log editing window (see below). This window will display the list of loaded logs on the right and the corresponding information for each log on the left, on the far right will be a graphical display of the loaded log.

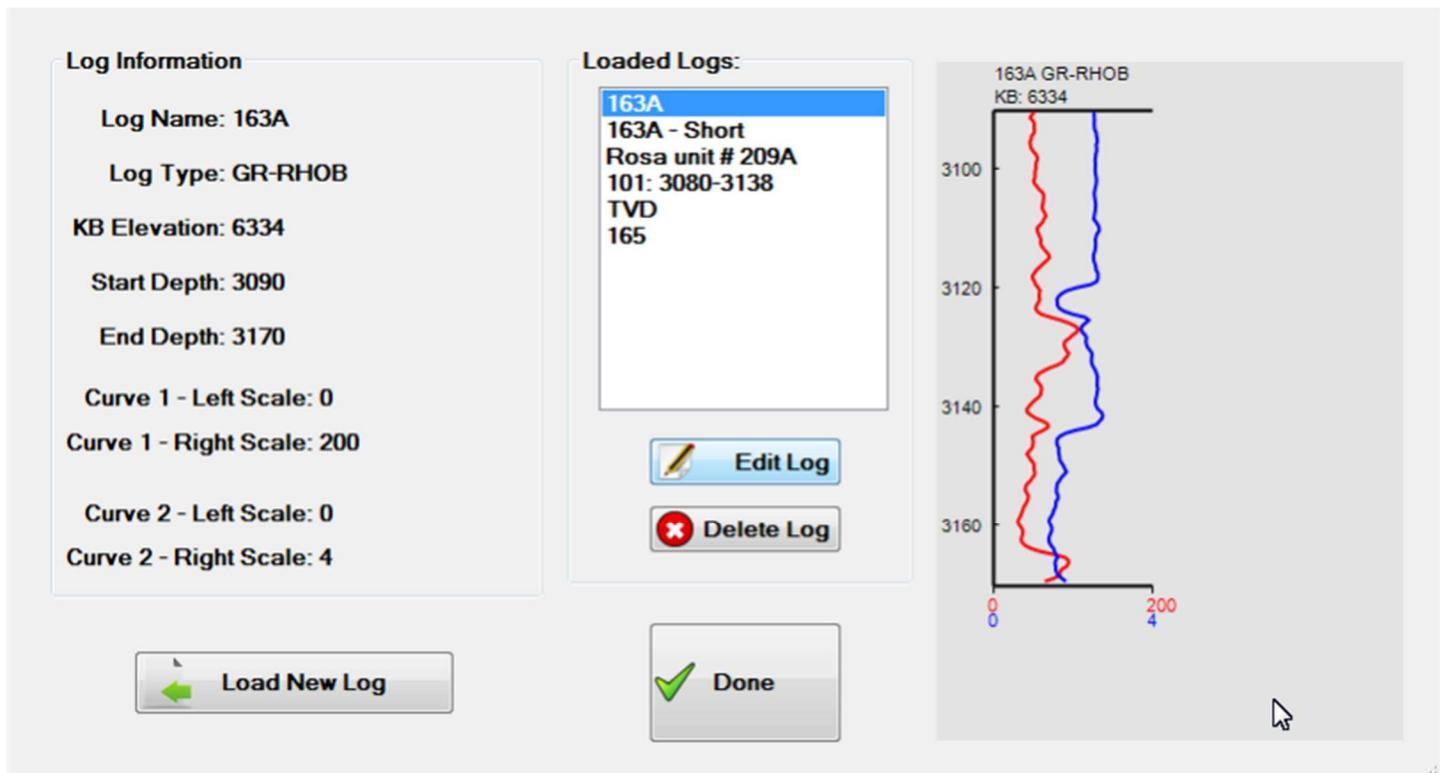
**Note, the log when added to the cross-section may look different than in the "Log Editing Window" because it will automatically be scaled to the Cross-Section Track's TVD Scale.**

The second step is to click the "Load New Log" button. After clicking this button the user will be prompted to select the log to be loaded. The default log file type is a text files (\*.txt), but Comma delimited files (\*.csv) as well as LAS (2.0 Standard only, no wrap) files (\*.las) can also be loaded. Once a log has been loaded, the final step is to edit the log in the "Import Log Data and Log Information" window (see below, next page, left figure). It is here that the log depths are selected, the log is given a name, the log type is entered (optional), and the KB elevation for the log is entered (optional).

**Note: the default KB value of -999, which tells the program that no KB elevation has been entered.**

The advantage of entering a KB elevation, is that it is displayed with the log. Moreover, it allows the user the ability to display the log in subsea depths rather than TVD.

### *Log Editing Window*



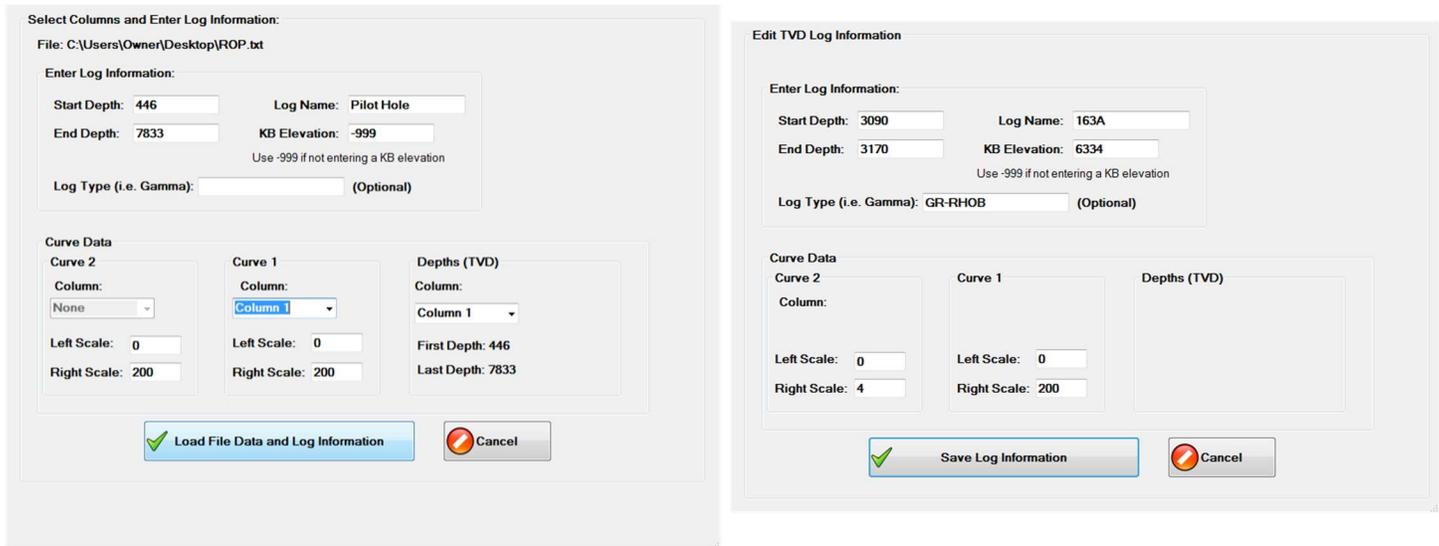
### **Deleting a Log**

To delete a log simply select the log from the list in the "Cross-Section TVD Log Editor" and click the "Delete" button.

## Editing a Log

A new feature with Horizontal XSection version 3.0+, gives the user the ability to edit logs after they have been loaded into the "Cross-Section TVD Log" editor. Simply click on the "Edit Log" button (see above figure) to open the "Edit TVD Log Information" window (see below – next page, right figure). Though actual log numeric values data cannot be added or edited, the "Edit TVD Log Information" window allows the user to edit the log name, scales, start and end depth(s), KB elevation, and log type values. When done adding, deleting or editing TVD logs, click the "Done" button to exit the "TVD Log Editor" window. The new and or edited logs are listed in the Mode->TVD Log menu at the top of the program window.

## Import Log Data and Log Information Window Edit TVD Log Information Window

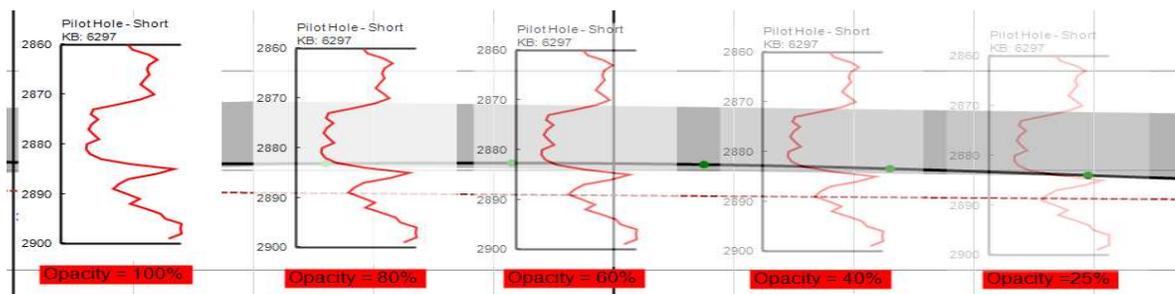


## Adding a Log to the Cross-Section

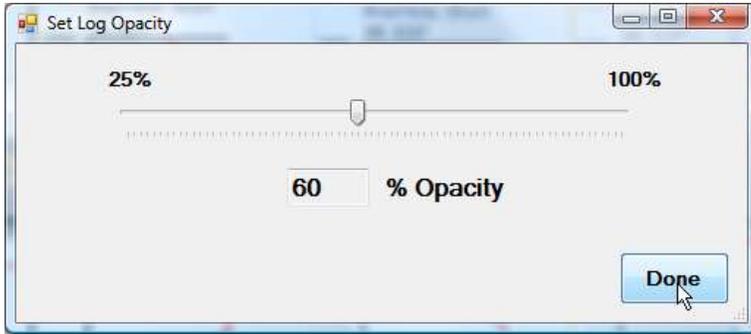
To add a log to the cross-section, the first step is to be in the "TVD Log" mode. As mentioned in previous chapters, there are presently five modes (possibly more in later versions), of which "TVD Log" is one. In this mode, logs may be added to the cross-section and / or moved, and their display edited. There are two ways to select "TVD Log" mode. The first is to select a log from the menu list (Mode->TVD Log->'Select a log') as described above. This will automatically change the program into "TVD Log" mode. The other method is to click the  icon on the toolbar. This too will switch the program into TVD Log mode. Once in log mode, click anywhere on the cross-section to place the selected log type onto the log To 'Move', 'Delete', change 'Opacity' or toggle 'Subsea' option, move the mouse over the TVD log (an orange border will appear) and right-click the mouse to open the pop-up menu.

## Setting Log Opacity

Log Opacity refers to the transparent state of the TVD Logs that have been added to the cross-section. A TVD log with an opacity value of 100% is completely opaque. Log opacity values are set by the user and range from 25% to 100%. The example below shows the same TVD log with varying opacity values.



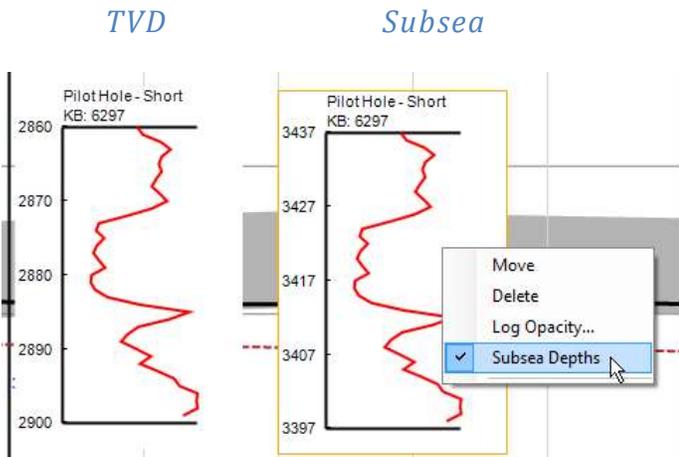
To set the opacity value simply move the mouse over the log in question until the orange bounding rectangle appears, right-click and choose the "Log Opacity..." menu item to open the "Set Log Opacity" window.



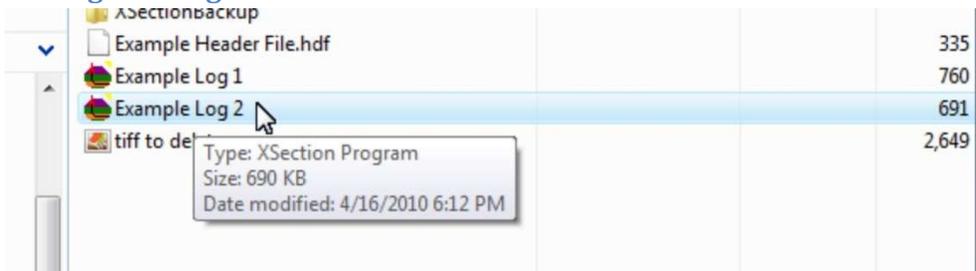
Simply set the slide to the desired value and click the "Done" button. When TVD logs are first imported the default opacity value is 100%, or completely opaque.

### Log Subsea

Just as with the cross-section track, individual TVD logs can be set to display subsea depths (instead of TVD) along the depth axis. Simply right-click and select subsea to have the log display subsea depths.



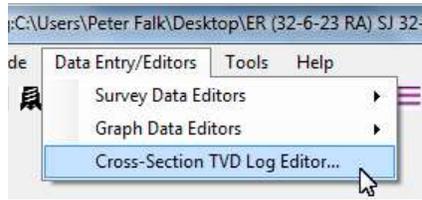
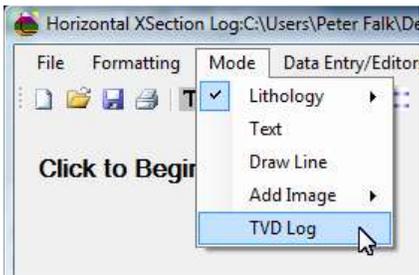
### Missing TVD Logs



If you open a file by double clicking on a log file (i.e see above), rather than using the "File->Open" menu item, you will find that the "TVD Log" list will be empty, even if the double-clicked file (\*.hxl) contains saved TVD logs.

*Empty "TVD Log" List*

*Open and Close the "Cross-Section TVD Log Editor"*



To rectify the situation, open and close the "Cross-Section TVD Log Editor" and the list will appear.