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Working with Multi Valued Z's in TerraStation

A *Multi Valued Z* is a map surface that appears multiple times within the same well.

Multi Values Z's are used to represent special situations where a surface may intersect a wellbore multiple times. This is most likely to happen when the wellbore is nearly horizontal, but it can also happen in faulted situations and when the bed dip angle approximates the borehole angle.

It is easy to add multiple surfaces for a given well in TerraStation. You can do so via the *Edit Z's/Tops* menu option which appears in several program locations. One of these is in the Correlation Module after right clicking on a section well. You can also access this table by using the *Edit Z's/ Tops* button in *IMAGELog* under *Map Pick Configuration* and other places.

There are two ways to add a Z multiple to your map in TerraStation. Both of these are in the *Edit Z's/Tops* table. Beginning with TerraStation version 7.86, when the table is up, you can right click on a row and use the *Create Z Multiple* option. A dialog box will appear asking for the new value, and it will be inserted directly after the Z multiple of the current row.

Alternatively, in the *Edit Z's/Tops* table, use the checkbox to *Create Z Multiple*. When this checkbox is active, any edit to a Z will leave the current Z alone and add the new value as a multiple immediately after the selected one. For example, if you have a Z value with 2 multiples, clicking into the cell for the first instance of the Z and entering a new value will insert a new multiple between the first and second one.

When you have finished entering Z multiples using this method you should uncheck the *Z Multiple* checkbox so you do not create one by accident.

To delete one of the multiples (or any Z in this table), simply right click in the cell and choose the *Delete Z Value* option. This will eliminate the selected Z multiple or primary Z.

Once you have established multiple Z values they are drawn on the cross section for that well. Pick lines are only drawn for the primary Z value. Z variable status table statistics include any Z multiples, which could lead to having more Z values than wells on the map. Multi valued Zs are included in *IMAGELog* drawings when picks are displayed. When contouring, the extra Zs are included. This means that for deviated wells multiple appearances of the surface are represented correctly. If the well is a straight hole with multi valued Zs the primary, or first Z value, will be used for contouring.

In most other cases the system will interact with the primary Z value. If you notice a program application where multiple valued Z use would be appropriate and is not present, please contact us and we will see about adding it.