
# Contents

# INTRODUCTION

This document describes the new features and enhancements that make up the T7.4 release and differentiate it from the latest T7.3xx releases. T7.4 is distributed as a full release and cannot be installed over a T7.3xx or earlier installation as a patch. For a full description of the new features please refer to the relevant sections in the T7 user-manual. This document uses the term "T7" and “TrapTester” when referring to the current release version of the software.

**Important Notes**:

1) T7 license feature versions are “7.4”. T7.4 will not function with a T7.3 (or earlier) license. Please send T7.4 license requests to support@badleys.co.uk.

2) T7.4 uses FlexNet 11.19.8 for its licensing. The installation includes the 11.19.8 version of the FlexNet license manager daemon, lmgrd.

3) Once installed, T7 will need to run a database upgrade on existing projects. **Please backup you projects before using them with T7.4**. Once a project has been upgraded it will not be accessible using T7.3 or earlier.

4) After a project has been upgraded, the Volume Editor default shortcut file (defining hotkeys) will be replaced with an updated set of hotkeys and shortcuts. The original shortcut definition file will be renamed to "default.7.3xx".

# MAIN FEATURES

## *Fault Seal Uncertainty Tool*

The new T7 Fault Seal Uncertainty (FSU) Tool presents a tractable and geologically consistent stochastic framework that aids the geoscientist to make quantitative judgements of fault-seal risk. Starting with a "deterministic" set of inputs, (i.e. interpretation of a fault, it's upthrown and downthrown hydrocarbon/CO2 reservoirs and their Vshale distributions) and given plausible ranges of variation of a set of random variables, FSU provides P90, P50 and P10 cases for column heights and contact depths attributable both to juxtaposition (alone) and membrane seal.

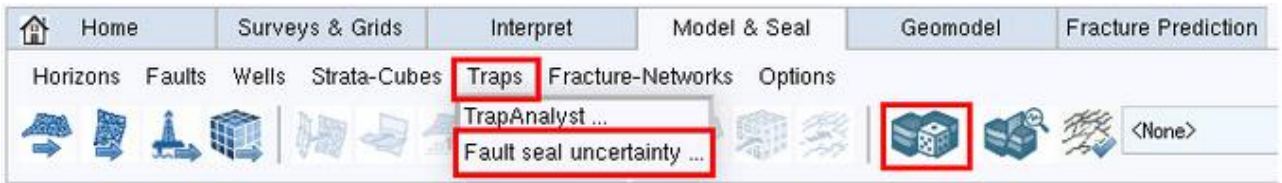
By "deterministic", we mean that the fault should be the result of the interpreter's best effort at a realistic geological representation given the fundamental uncertainties in the available data. These uncertainties are expressed as:

a) physical locations due to limitations of the reflection seismic method, depth conversion and the inherent imprecision of interpretation,
b) interval thicknesses which are interpolated from one or more wells which themselves contain ambiguities and may not tie in a simple way in three dimensions,
c) reservoir quality as refined by the shale content where the raw data is subject to calibration differences/errors between wells and may also depend on the selection and proximity of available wells,
d) parameters based on geohistory such as depth at time of faulting and the other components of the uplift/subsidence history, and
e) unknown/unmeasured physical parameters such fluid density, contact/wetting angle, interfacial tension, capillary pressure conversion factor from a lab-based mercury-air system to the actual geofluid-water system.

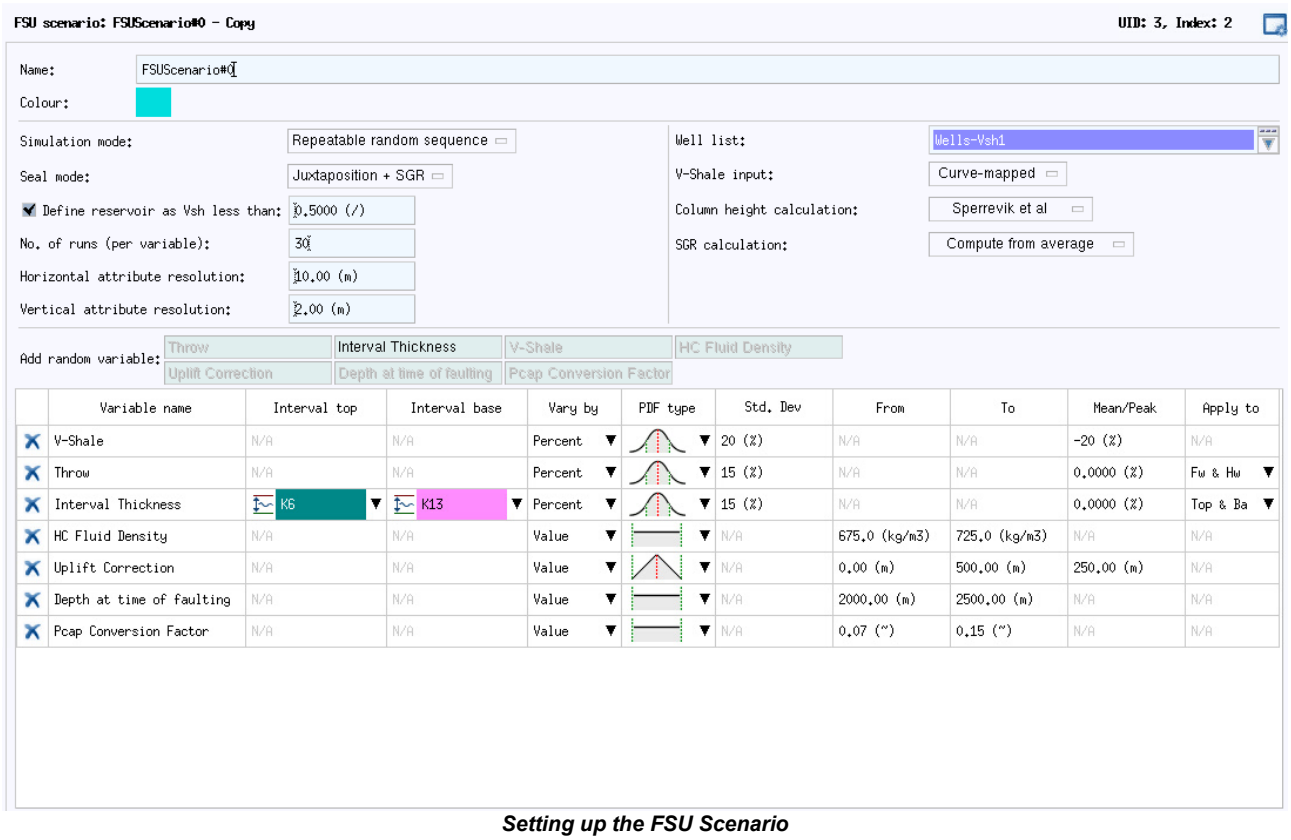
FSU permits these five sets of parameters to be varied automatically in a Monte Carlo simulation to provide the P90, P50 and P10 cases required to mitigate against financial and engineering-safety risk. In this treatment, one or more controlling parameters are defined to be random variables that change on each simulation run according to a complimentary set of user-preset rules.

In addition, when performing multi-variable simulations, the FSU Tool provides sensitivity analysis outputs that can be used to rank the influence of each of the random variables on the overall outcomes.

The FSU system in T7 is accessed primarily through the Volume Editor's Model & Seal tab (renamed from Model & Map in T7.4). Here the user can configure FSU Scenarios that hold the controls for FSU modelling including the choice of random variables.

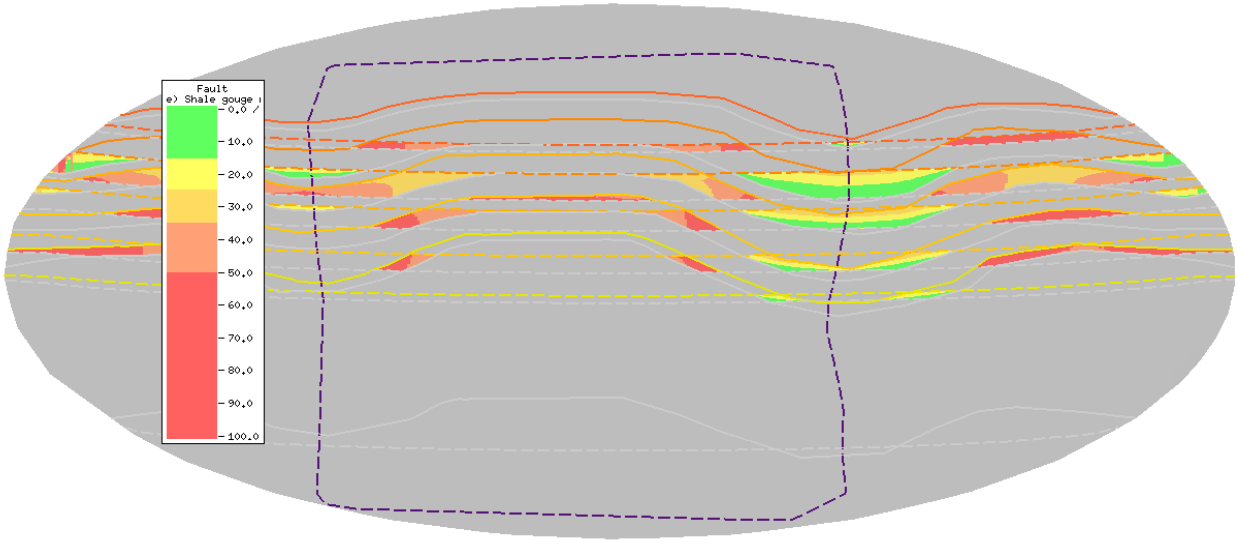



***Accessing FSU from the Volume Editor***




***Setting up the FSU Scenario***

Once a FSU Scenario has been configured, the modelling can proceed for a chosen fault (or set of faults).

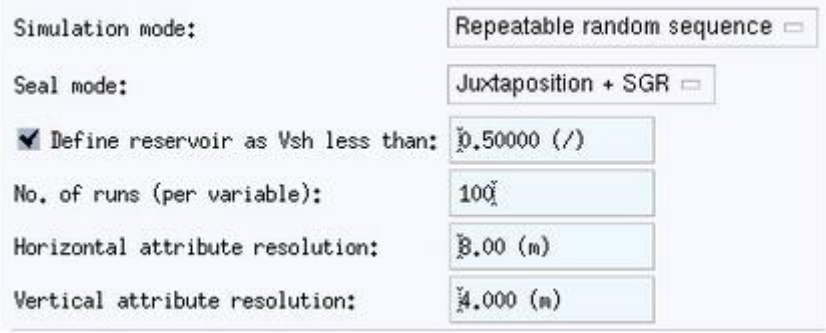



***Example fault surface showing deterministic SGR in multiple reservoir overlaps***

## FSU Modelling

FSU modelling is based on a Monte Carlo approach whereby a number of chosen parameters (random variables), that may affect the maximum achievable column height for a given reservoir in a given wall of the fault, are randomly altered over a number of independent runs. The selection of random variables and the controls for their variation are defined in the FSU Scenario.

The FSU modelling is performed for traps on both the footwall side and the hanging wall side of a fault. Target intervals are identified in the system by the assignation of "Good Reservoir Quality" (this is part of the Horizon definition in T7). It is also possible to refine the definition of what is treated as "reservoir" by using a V-shale cut-off value; anything above the cut-off being treated as non-reservoir.




***General FSU Scenario controls***

## Modelling Modes

In its simplest form the modelling can be set to operate in a juxtaposition-only mode where the effects of membrane seal are not accounted for and the column height statistics are generated based solely on the simulated geometries of juxtaposed intervals.

When operating to model the effects of membrane seal, (Juxtaposition + SGR), the user is required to select a list of wells from which V-shale data will be used and which implementation of the column height calculation is preferred i.e. Bretan, Sperrevik, Yielding or Karolyte – the latter for CO2 systems.

## Geological Consistency

For any given fault in the "deterministic" case, throw and interval thickness are mutually dependent and structurally consistent by definition. Therefore, when applying stochastic variation to throw (alone), in order to maintain structural consistency, for each simulation, the thicknesses need to be adjusted to match the new throw for that simulation. Similarly, if interval thickness has been changed stochastically, the throw map must be adjusted to be consistent with the new thicknesses for that simulation. When either or both of these properties are varied, there is also an impact on the V-Shale distribution; this too is adjusted to be structurally consistent at each simulation.

One further and very important consideration is the effect of thickness variation when applied to multiple units. In any stack of intervals there is an interdependency between the thickness of each of the constituent intervals and the thickness of the entire stack; increasing the thickness of one unit must decrease the thickness of at least some of the other units (above and below) and *vice versa*. Modifying the thickness of more than one unit at once runs the risk of generating accommodation or compatibility issues; the given units would be free to interpenetrate and the intervening units could be pinched out. FSU mitigates this issue by (1) accommodating thickness changes smoothly over all units within a geologically sensible distance of the subject interval and (2) by permitting just one interval to change thickness per simulation; by way of illustration, if two intervals (R1 and

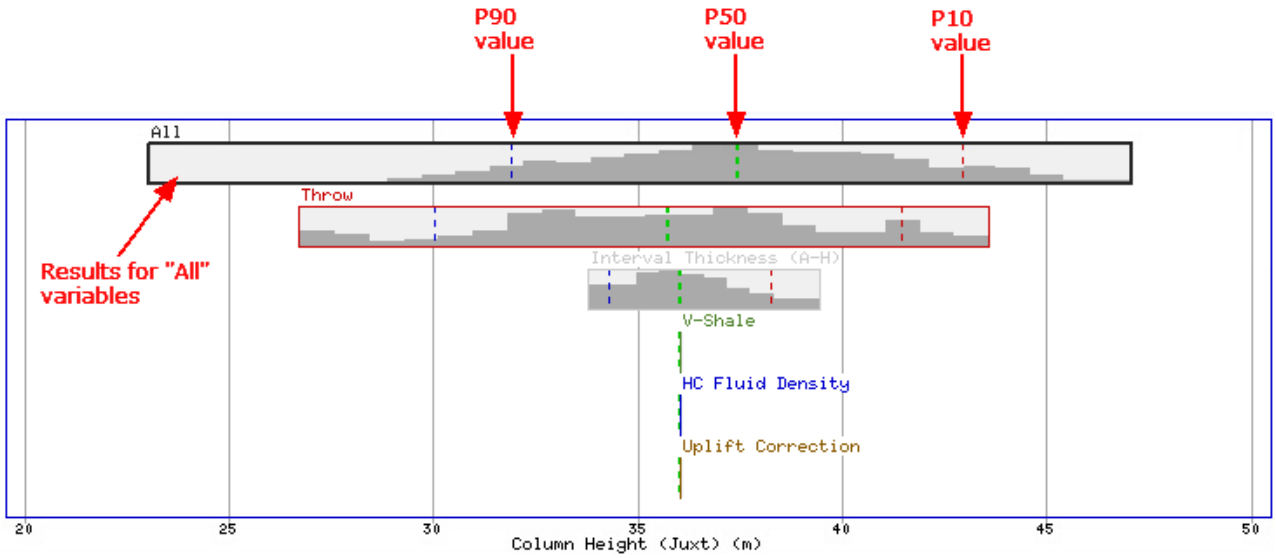
R2) are nominated to vary and there are to be one hundred simulations, the thickness of R1 would be the random variable in fifty of the simulations and the thickness at R2 would be the random variable in the other fifty simulations. This strategy ensures geologically consistency at all stages.

The importance of these consistency rules is obvious from the outset but is clearly illustrated in the case of the SGR calculation where thickness, throw and distribution of Vshale have to be correct in order to satisfy the SGR equation.

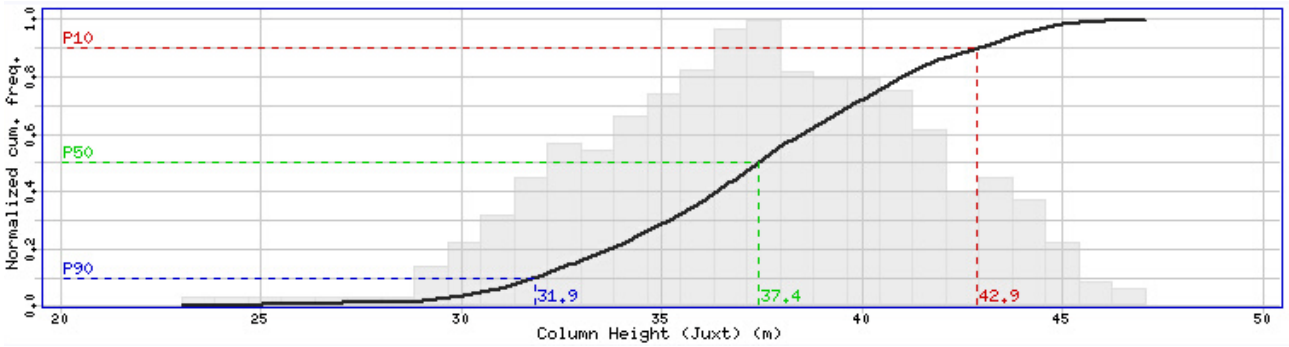
## Modelling outputs

The results of FSU modelling are presented in the form a graphs and tables as shown below. These summarise the statistics gathered from the complete set of simulations. When modelling multiple random variables, the simulations are performed so that sensitivity analysis outputs are generated. This provides the ability to quantify and compare the effects each independent random variable with regard to the original deterministic model.

**Tornado Plot**: Each rectangular box in the Tornado plot shows the range and distribution of calculation values as determined from the set of simulation runs. There is a box for each random variable defined in the Scenario and, if multiple variables are defined, an additional box indicating the simulation results where "All" variables are altered together. Each of the boxes in the Tornado Plot that represent individual variables are set with simulation results with only that variable being randomly adjusted - all other variables being kept at their deterministic values. These boxes therefore provide a quantitative measure of the sensitivity of those variables to the chosen calculation. The grey histogram inside each box shows the spread of the calculation values and the vertical dashed lines indicate the P90, P50 and P10 locations.




**Cumulative Frequency Plot:** The Cumulative Frequency Plot is presented with the same x-axis range as the Tornado Plot so that they may be compared directly. The P10, P50 and P90 locations are again shown using red, green and blue dashed lines and labelled accordingly.

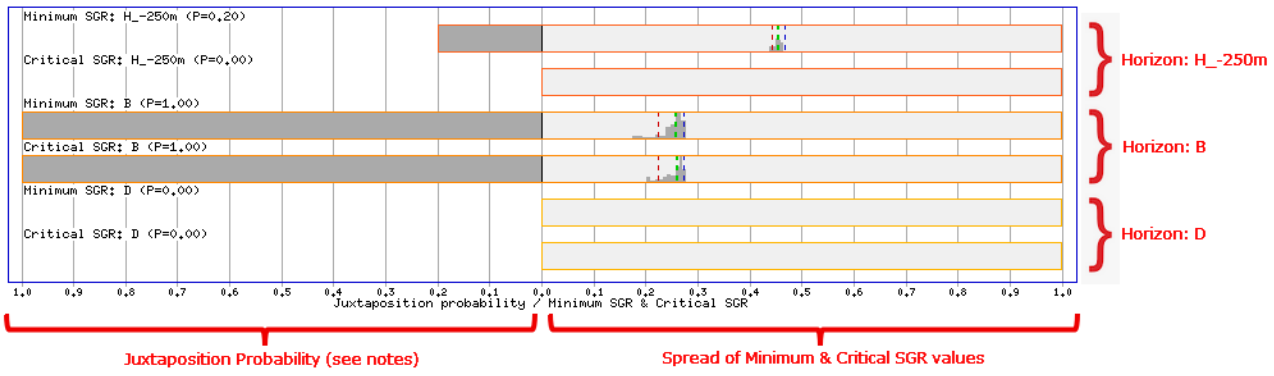



**Summary Statistics Table:** This provides a tabulated form of the statistical values for the sensitivity analysis for each of the random variables and for the "All" variables case. Data from the table can be copied to the system clipboard or saved to file.

Summary Statistics

| Variable name | Minimum | Maximum | Mean | Std. Dev | P90 | P50 | P10 | P(>v1) | P(>v2) | P(v1-v2) |
|---|---|---|---|---|---|---|---|---|---|---|
| All | 23.039 (m) | 47.079 (m) | 37.354 (m) | 4.227 (m) | 31.920 (m) | 37.434 (m) | 42.929 (m) | 100 (%) | 0 (%) | 100 (%) |
| Throw | 26.712 (m) | 43.573 (m) | 35.594 (m) | 4.195 (m) | 30.050 (m) | 35.727 (m) | 41.470 (m) | 100 (%) | 0 (%) | 100 (%) |
| V-Shale | 36.061 (m) | 36.061 (m) | 36.061 (m) | 0.000 (m) | 36.061 (m) | 36.061 (m) | 36.061 (m) | 100 (%) | 0 (%) | 100 (%) |
| HC Fluid Density | 36.061 (m) | 36.061 (m) | 36.061 (m) | 0.000 (m) | 36.061 (m) | 36.061 (m) | 36.061 (m) | 100 (%) | 0 (%) | 100 (%) |
| Uplift Correction | 36.061 (m) | 36.061 (m) | 36.061 (m) | 0.000 (m) | 36.061 (m) | 36.061 (m) | 36.061 (m) | 100 (%) | 0 (%) | 100 (%) |
| Interval Thickness (A-H) | 33.807 (m) | 39.466 (m) | 36.200 (m) | 1.442 (m) | 34.308 (m) | 36.061 (m) | 38.264 (m) | 100 (%) | 0 (%) | 100 (%) |

**Juxtaposition Summary Chart & Table:** the Juxtaposition Chart will show the distribution of the minimum and critical SGR values for that juxtaposition. (The critical SGR is that which results in the achievable column height/contact depth for that juxtaposition for a given simulation run). This information can help to ascertain which juxtapositions are controlling the reported column heights and contact depths and which are not. The picture below shows a chart for a footwall interval, "D".




Juxtaposition Summary

| Interval name | Probability | SGR Min | SGR Max | SGR Mean | SGR S.Dev | P90 | P50 | P10 |
|---|---|---|---|---|---|---|---|---|
| Minimum SGR: H_-250m | 0.2 (~) | 0.43472 (/) | 0.46373 (/) | 0.45154 (/) | 0.0091579 ( | 0.46648 (/) | 0.45609 (/) | 0.44198 (/) |
| Critical SGR: H_-250m | 0.00000 (~) | 0.00000 (/) | 0.00000 (/) | 0.00000 (/) | 0.00000 (/) | 0.00000 (/) | 0.00000 (/) | 0.00000 (/) |
| Minimum SGR: B | 1.00000 (~) | 0.17156 (/) | 0.27696 (/) | 0.25102 (/) | 0.024007 (/ | 0.27343 (/) | 0.25909 (/) | 0.22296 (/) |
| Critical SGR: B | 1.00000 (~) | 0.19934 (/) | 0.27696 (/) | 0.25297 (/) | 0.020261 (/ | 0.27343 (/) | 0.2614 (/) | 0.22415 (/) |
| Minimum SGR: D | 0.00000 (~) | 0.00000 (/) | 0.00000 (/) | 0.00000 (/) | 0.00000 (/) | 0.00000 (/) | 0.00000 (/) | 0.00000 (/) |
| Critical SGR: D | 0.00000 (~) | 0.00000 (/) | 0.00000 (/) | 0.00000 (/) | 0.00000 (/) | 0.00000 (/) | 0.00000 (/) | 0.00000 (/) |

## *Attribute Colouring for Fault Centre-lines*

Fault Polygon Centre Lines are managed through the Volume Editor's Model & Seal display styles. This new T7 release includes an option to colour the centre-lines according to a Display Method and to define how the value posted (and coloured) at the centre-line is derived.

When choosing to colour the Centre-line using a Fault Display Method the following further options are available in the Style controls:


**Display Method** - choose the required Display Method from the drop-down list. Click on the "..." button to access the Display Method Editor window.

**Post values** - set the method for determining the attribute values to post along the centre-line. Set this to one of:

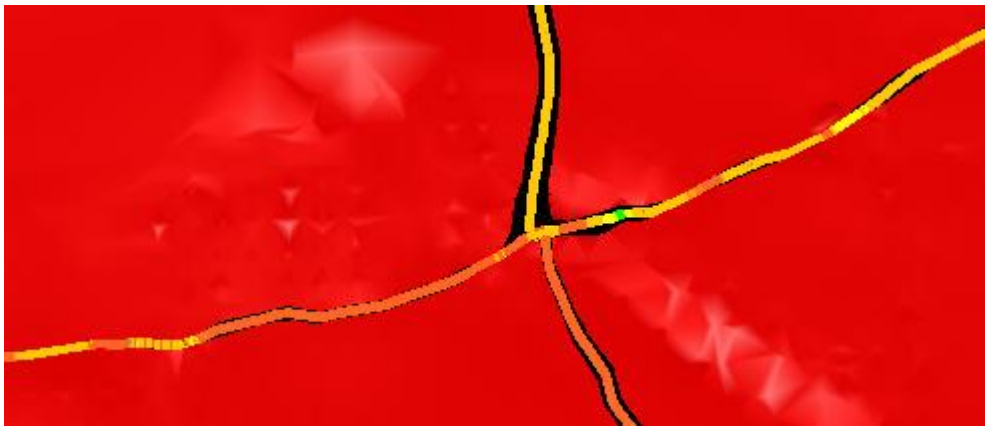
**Maximum (over separation)** - for each point on the centre-line, post the maximum value observed between the footwall and hanginwall cut-offs.

**Minimum (over separation)** - for each point on the centre-line, post the minimum value observed between the footwall and hanginwall cut-offs.

**Average (over separation)** - for each point on the centre-line, post the average value observed between the footwall and hanginwall cut-offs.

**Actual (at centre-line)** - for each point on the centre-line, post the attribute values as seen at that location.

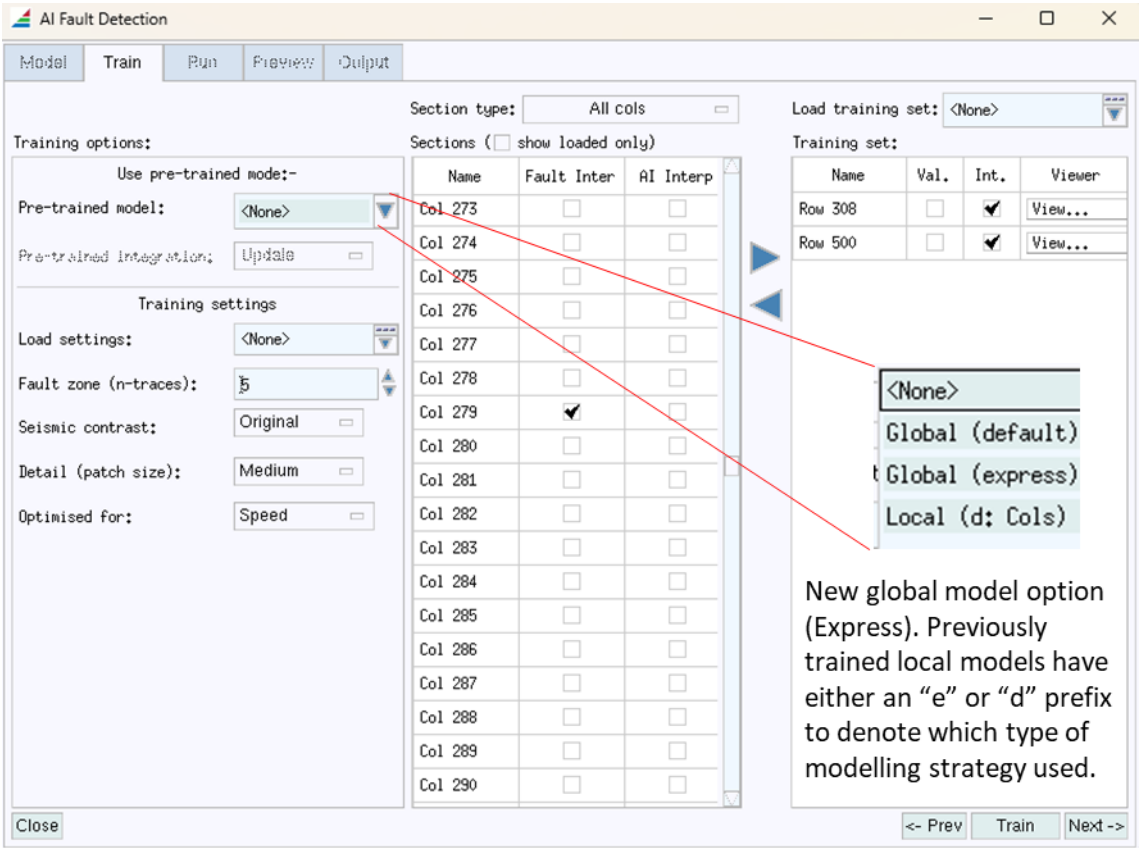
The image below shows a horizon with four Polygon Centre-lines coloured using an SGR Display Method. A line width of 4 was used to enable the colours to stand-out against the surrounding horizon surface.



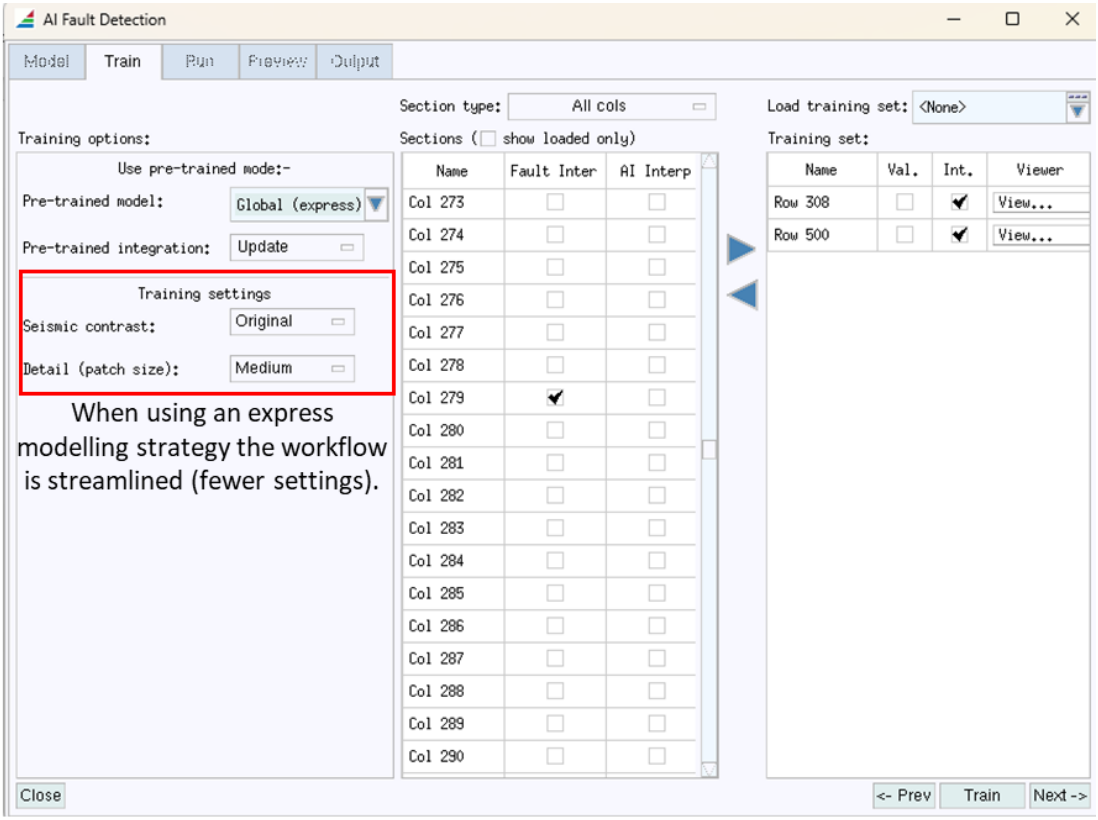
# AI Fault Detection Improvements

The fault attribute system has had a number of additional options added that affect training, inference and the output of AI models. The first and perhaps most significant of these improvements is the addition of an express modelling strategy. This new modelling strategy is based on an updated version of BGL's existing deep learning network architecture. It has the benefit of not only being quicker to train and run but also helps streamline workflows (less need for tailored workflows). The downside is that compared to the more traditional modelling strategy (what we call default) it typically produces more noise. However, this noise can be mitigated against by coding the final AI fault volume according to new attributes such as fault region size – this can be used to help remove any noise.

## Express Modelling Strategy

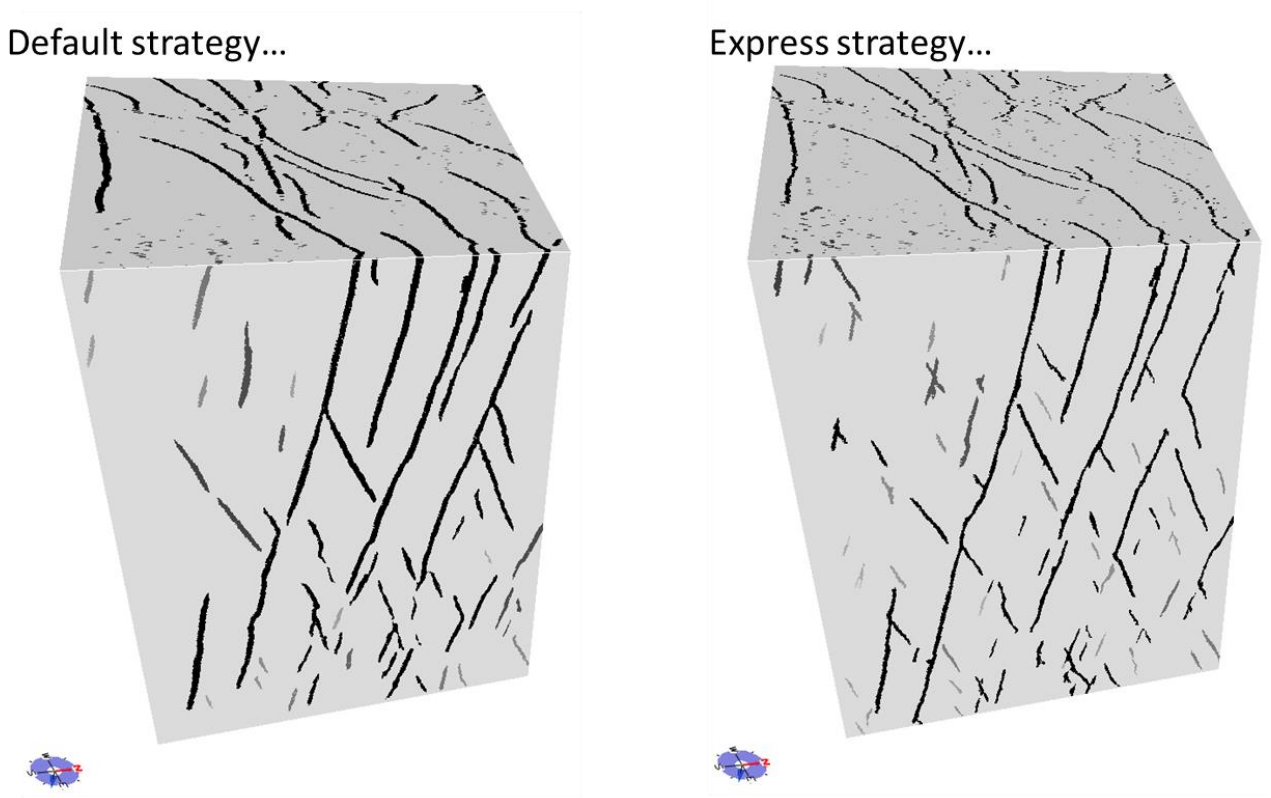



*New modelling strategy option*




*Streamlined workflow*

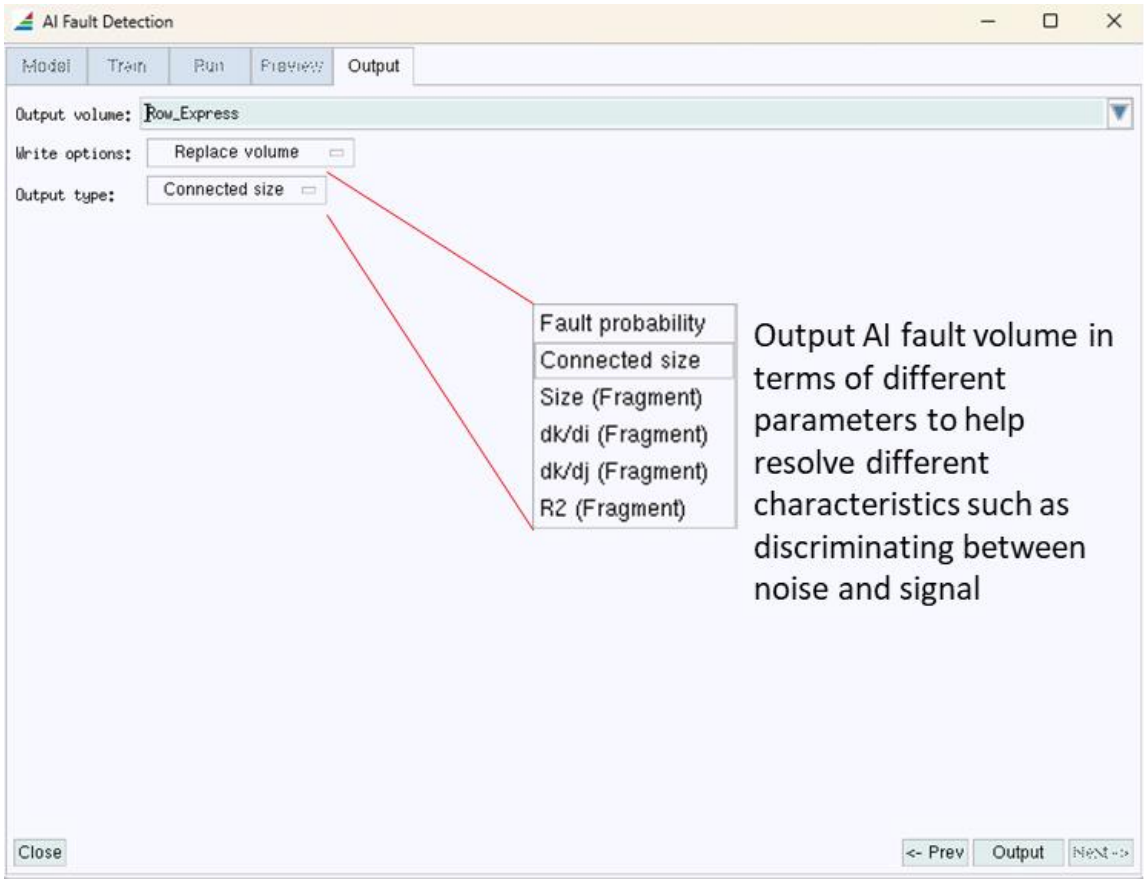
There can be a noticeable difference in the level noise between AI fault volumes produced using the different strategies (note the presence of more noise in the express model):



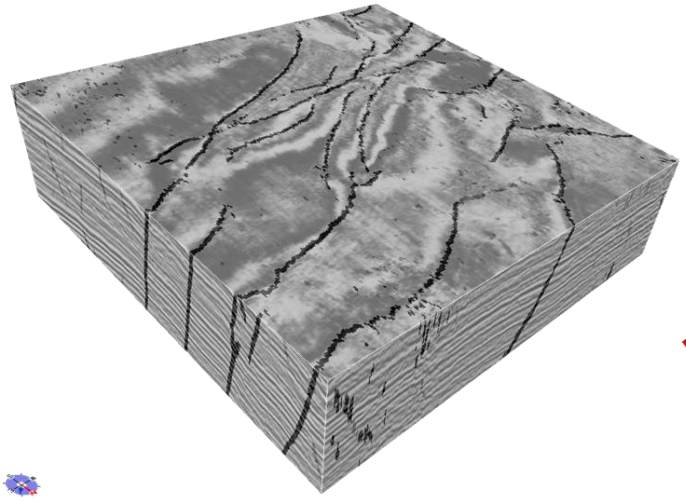

*Note both AI fault volumes are coded according to fault region size.*

***Output attribute type:***

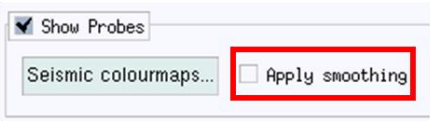
Previously the AI fault volumes could only be colour coded according to fault probability. A series of new attribute options have been added:

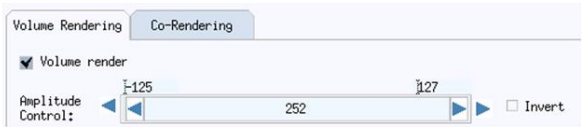


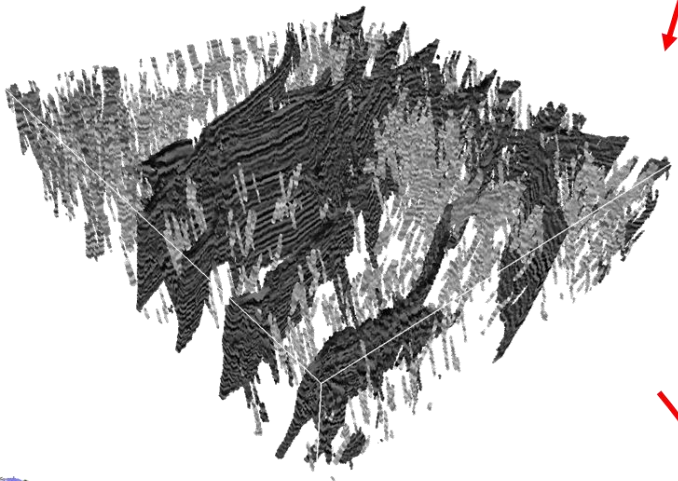

The most commonly used one is the connected size. This determines the size of discrete, continuously connected faulted regions and codes them accordingly (-128 the smallest to 127 the largest). This can help to differentiate noise from coherent structural information (faults) within a single volume. It is important to note, that when wishing to utilise these new attributes in Volume Editor (e.g. surface extraction via the probe controller) the user must ensure that the **probe smooth option is switched off** in the style editor!

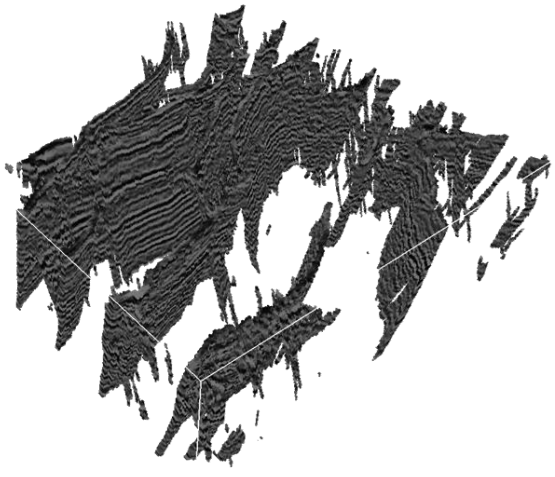


*Don't forget to disable smoothing in the probe style settings...*



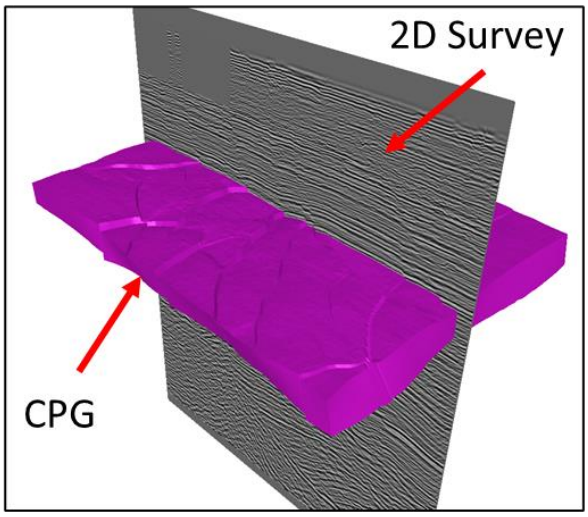



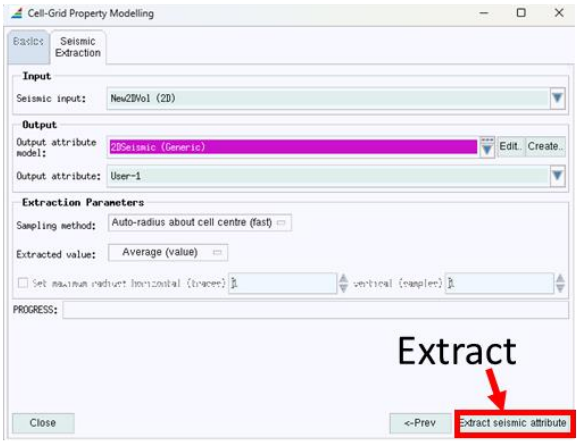
**Removing noise from an AI fault volume (coded by size) produced by the express strategy**

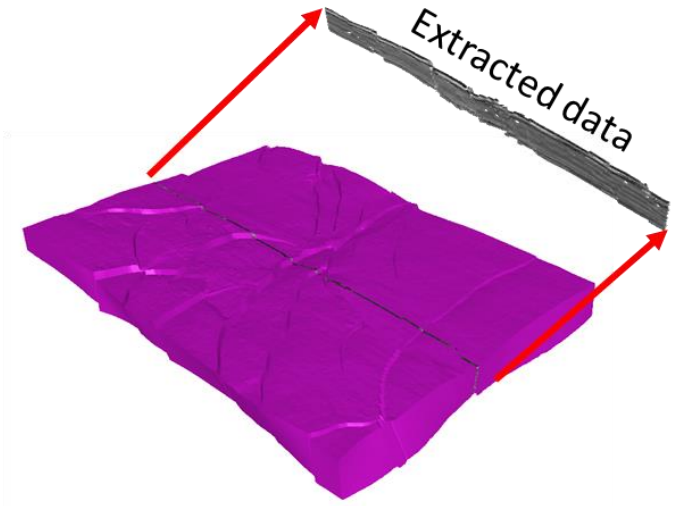
# FUNCTIONAL ENHANCEMENTS

## *Cell-Grid 2D Seismic Extraction*

The seismic extraction tool for populating corner point grids previously only worked with 3D volumes. This has now been extended to work with 2D surveys as well. This may help with refining static reservoir models where 3D seismic volumes have been used as secondary data.



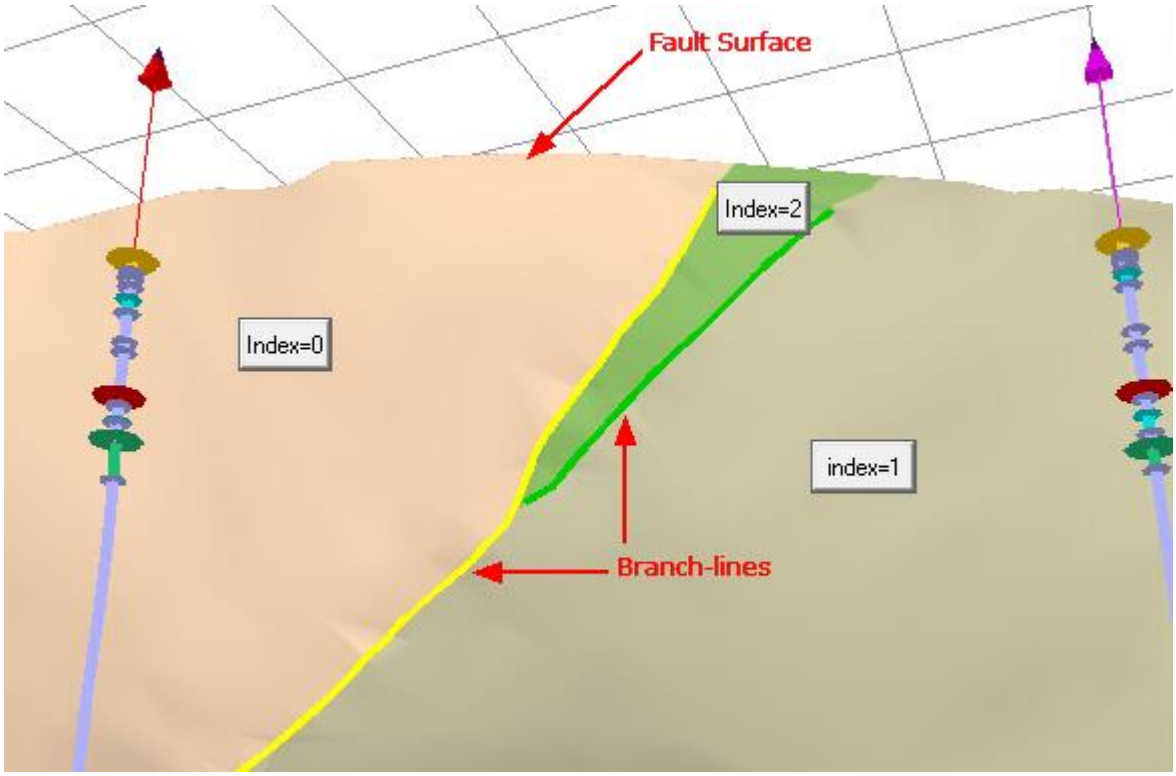



# *Fault Element Index Attributes and Display Methods*

**Element index: F-wall, Element index: H-wall**

These two attributes represent structural zones over the fault surface that are formed by branch-lines (fault/fault intersection lines) and are created each time attributes are generated for a fault as they are required in other systems such as TrapAnalyst; they are not available in Project Parameters for optional computation. If a fault possesses no branch-lines in one wall of the fault then the Element index attribute for that wall will all be zero. Where branch-lines exist, the attribute will contain a different integer value for each structural compartment.




**Basic requirements**

Model/remodel the attributes by clicking on the Fault Attribute Sync icon in the Volume Editor.

**Existing Display Methods**

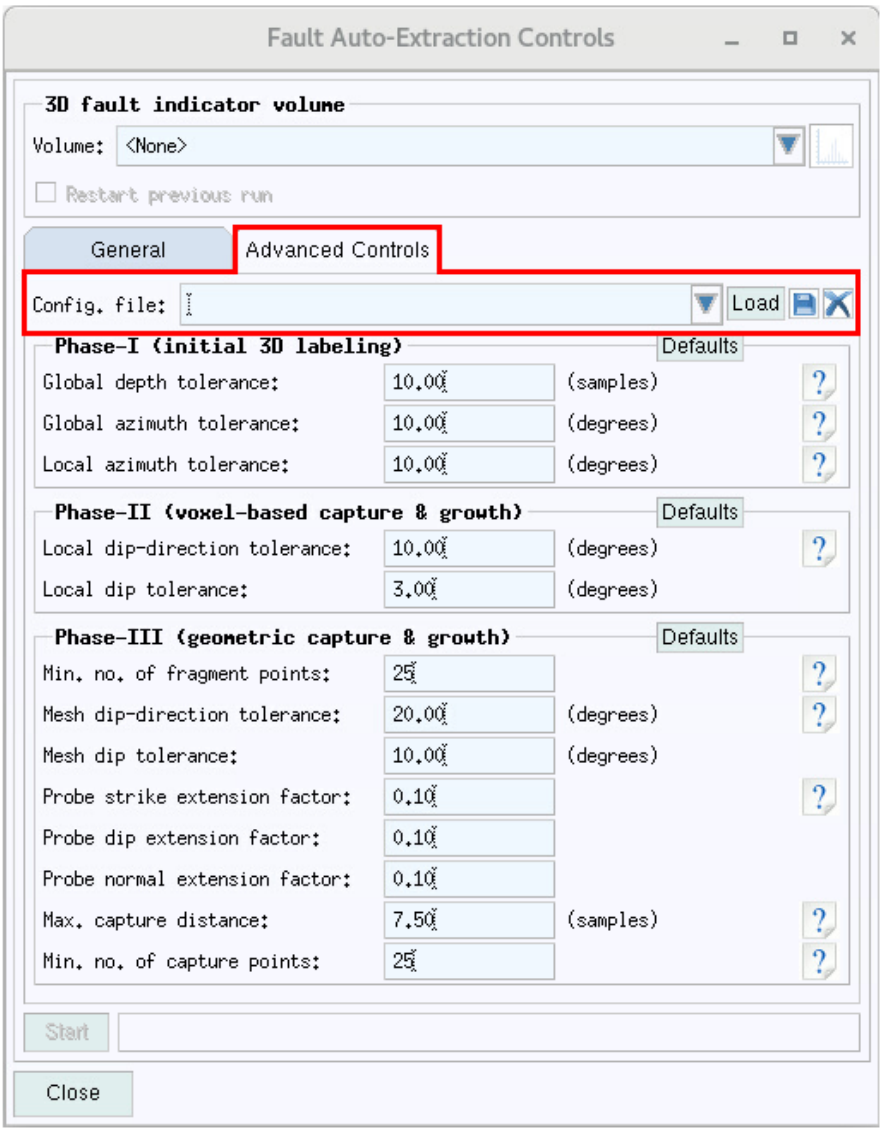
The following Fault Surface **Display Methods** are available to display these attributes:-

- Element Index F-wall,
- Element Index H-wall

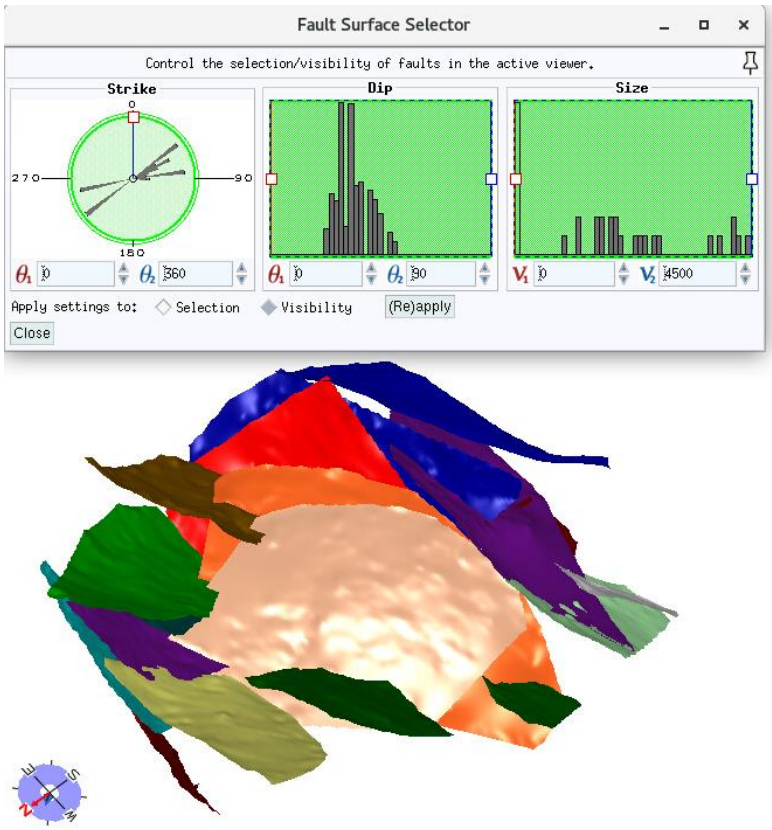
## *Auto Fault Extraction Config Files*

The Auto-Fault Extraction tool, introduced in T7.3, facilitates the creation of fault surfaces from a 3D fault indicator volume. The indicator volume itself could be one created using the T7 AI fault detection system or it could potentially originate from any other source.

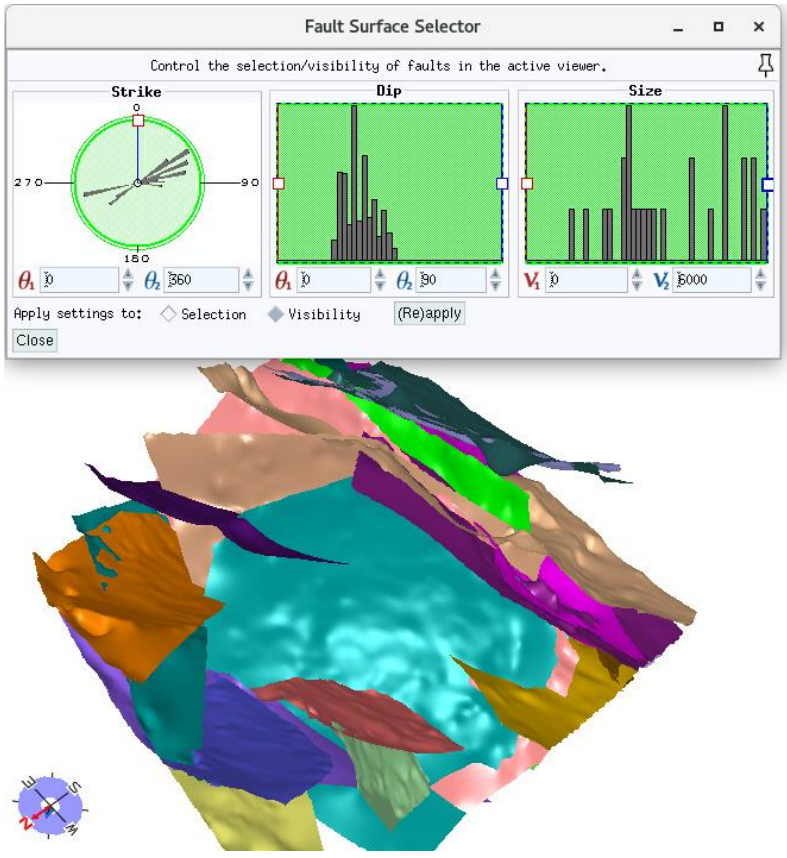
The work-flow for the Auto-Fault Extraction is relatively simple, though there are a number of advanced settings which can be tricky to optimize for a particular dataset. The correct adjustment of the Advanced Settings is a trade-off between a more complete fault extraction and the reduction of the effects of non-fault signal. This has led to the introduction of a configuration file for the advanced settings. Three configuration files are supplied with the T7.4 which allow the user to see the effect of different settings, but the user is able to create, save and load their own configuration files at any time.



The following images show the results of using the default settings and the most “relaxed” settings which allow for more smaller clusters of disparate “fault signal” to be incorporated into the faults that are created.



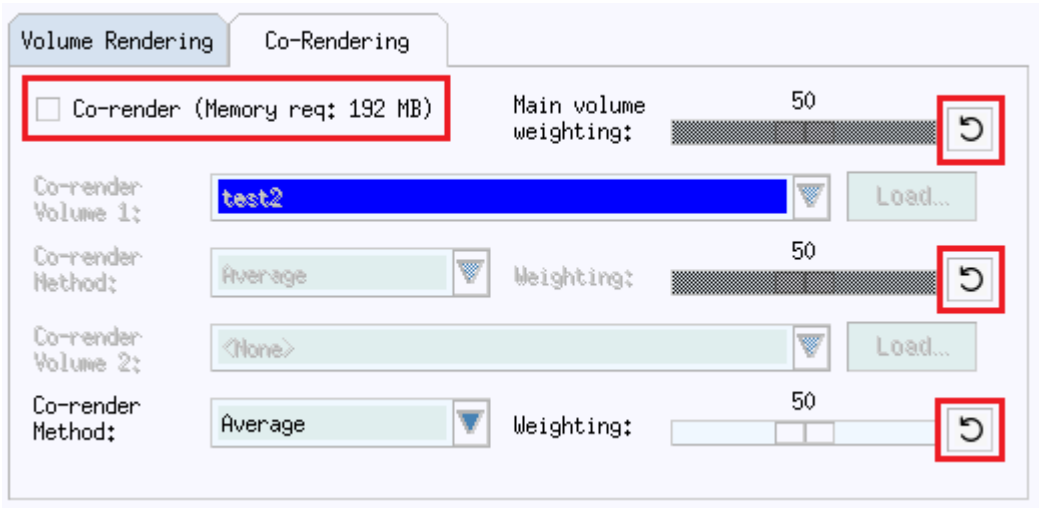

***Default*** *settings. A “tighter2 collection of fault signal with smaller clusters of data excluded from the main surfaces*




***Pase1-Phase3-Relaxed*** *settings. A much more tolerant collection of fault signal with smaller clusters of disparate data included to form the main surfaces*

# *Seismic Probe and Volume Improvements*

### Improvements to Co-Rendering

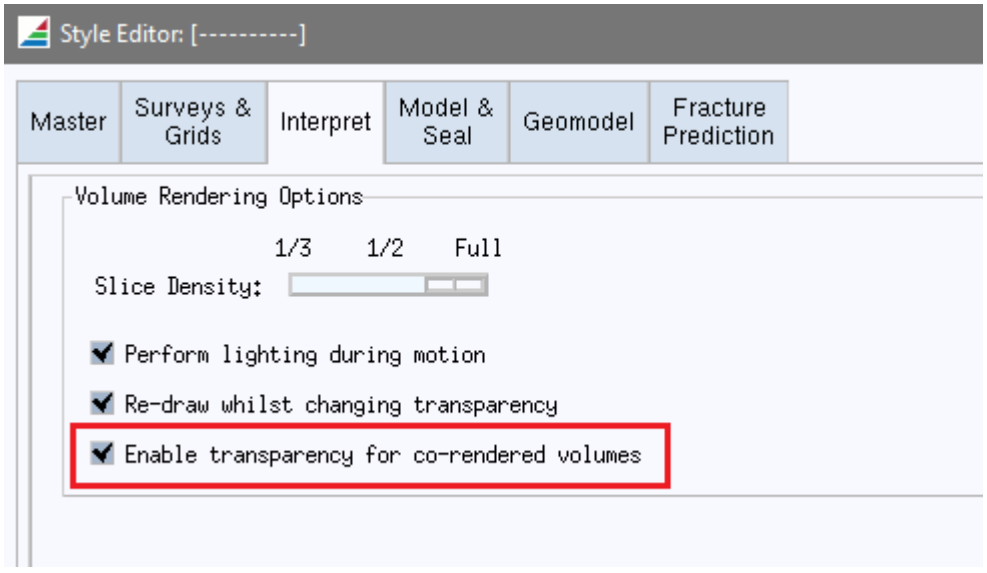



The co-rendering interface in Probe Controller now indicates the additional video memory required for co-render volumes when the probe is in volume render mode.

In addition, the reset buttons have been replaced with more streamlined icons.

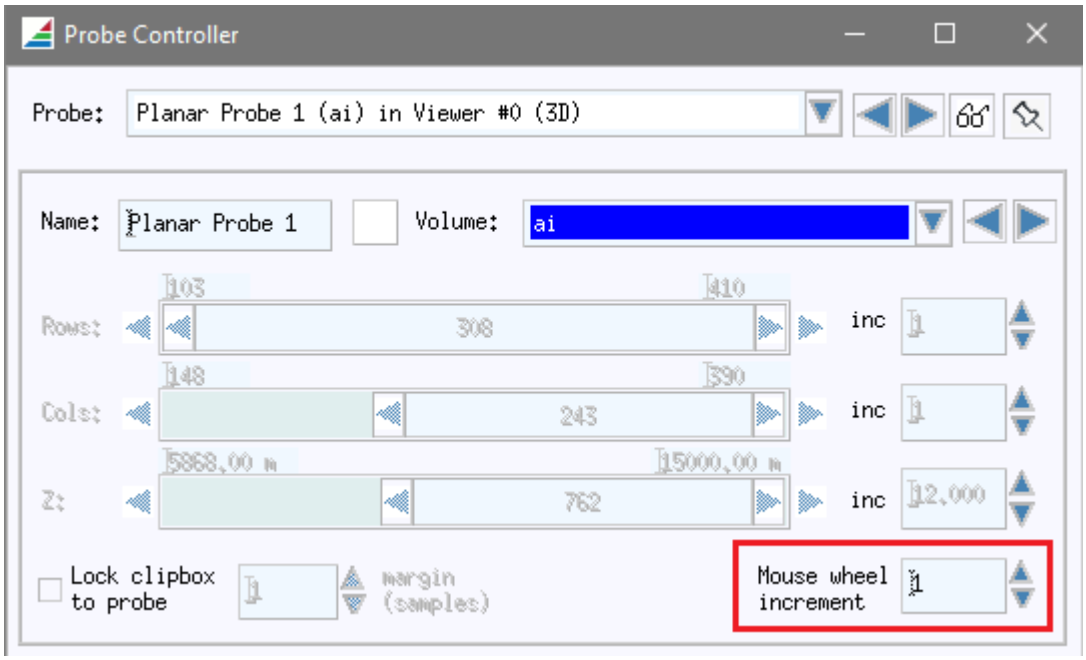
Previously, co-render volumes were required to exactly match the primary volume geometry. This requirement has now been relaxed and co-render volumes that only partially intersect the primary volume may now be used. However, both volumes must share the same underlying grid.

To ensure co-render volumes are rendered correctly, additional transparency information has been added. An option has been provided to disable this in the Style Editor:



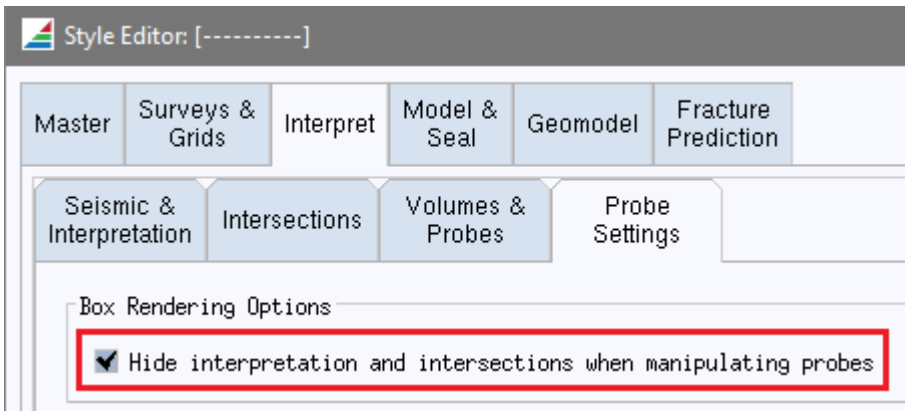

The option may be toggled off to reduce video memory usage when co-rendering large volumes. However, this may result in incorrect blending when using co-render volumes that do not fully encompass the main volume.

### Mouse wheel increment option in Probe Controller for planar probes



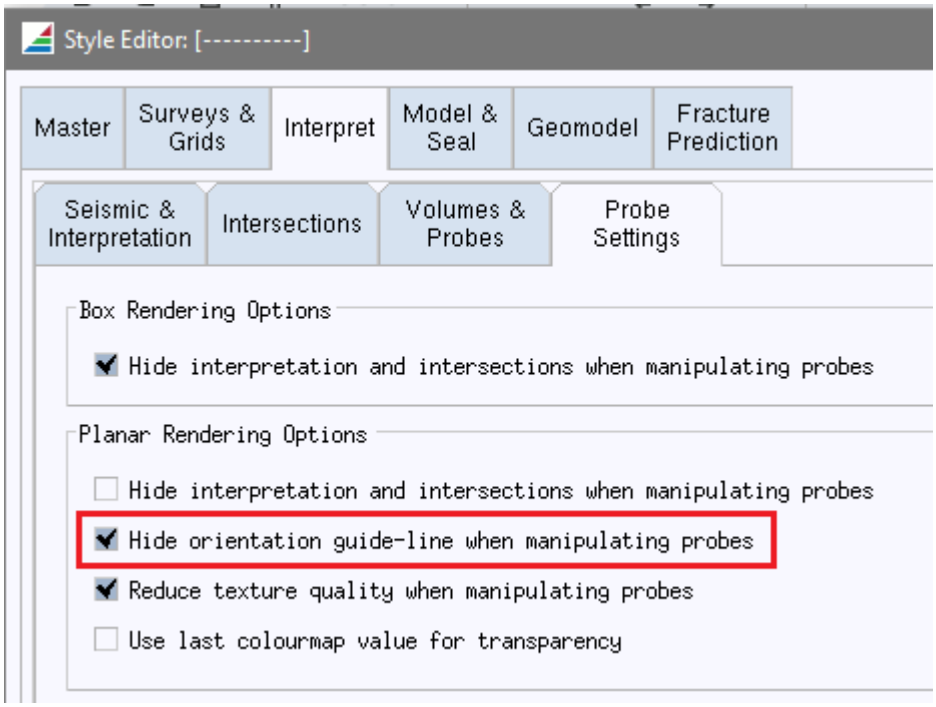

With a planar probe selected in the Probe Controller, a new **Mouse Wheel increment** option is available. This specifies the increment when moving a planar probe in the viewer by using 'K' and scrolling the mouse wheel.

### Display interpretation and intersections on box probes during motion

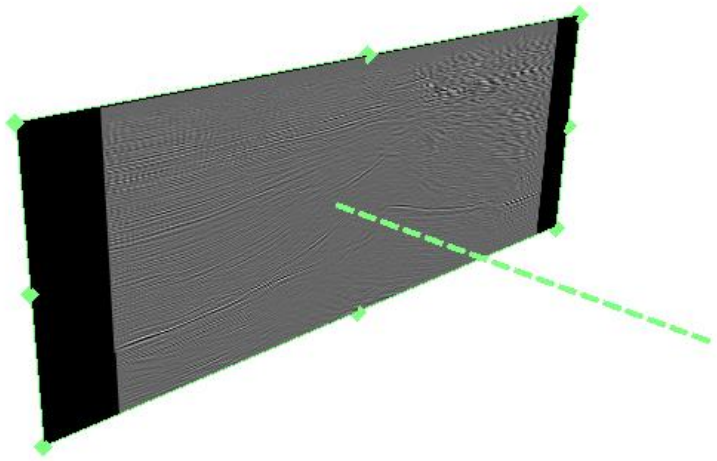



It is now possible to render interpretation and intersections on box probes during interaction (*ie.* moving probe faces). The option is off by default as it can reduce performance when interacting with large probes.

### Option to hide planar probe orientation guide line




An option is now available in the Style Editor to hide the planar probe orientation line shown when manipulating planar probes, as shown below:



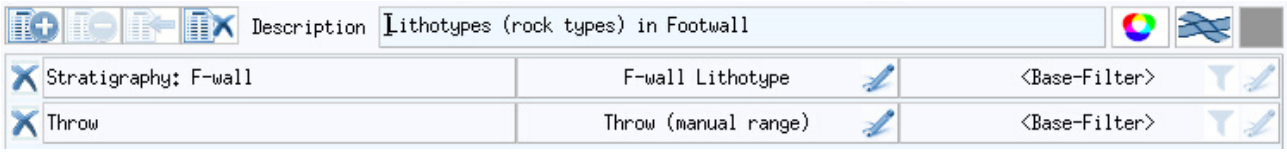
## *New Display Method Colour Blending Control*

The T7 Display Method system is used to provide the backbone for many types of property displays in the Volume Editor. It is used for Fault Surfaces, Horizon Surfaces, Cell-Grids, and several others. A Display Method comprises a list of entries – often only one; each entry consists of a reference to an attribute (eg Throw on a Fault Surface), a colourmap (which describes how to map the attribute values to colours) and an optional filter (which controls where the attribute will be displayed on the fault surface and where it will be set as transparent). Each entry in the Display Method results in a colour image which is blended with the images from any other entries to form the final displayed image. There are now two types of blending that can be used to blend multi-item display methods – RGBA averaging or RGBA maximum.

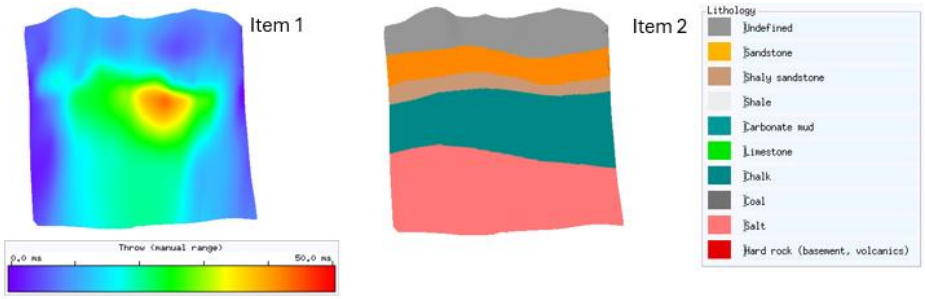
The RGBA averaging is most commonly useful – but in some cases where particular data is available, the RGBA maximum option may be preferable.

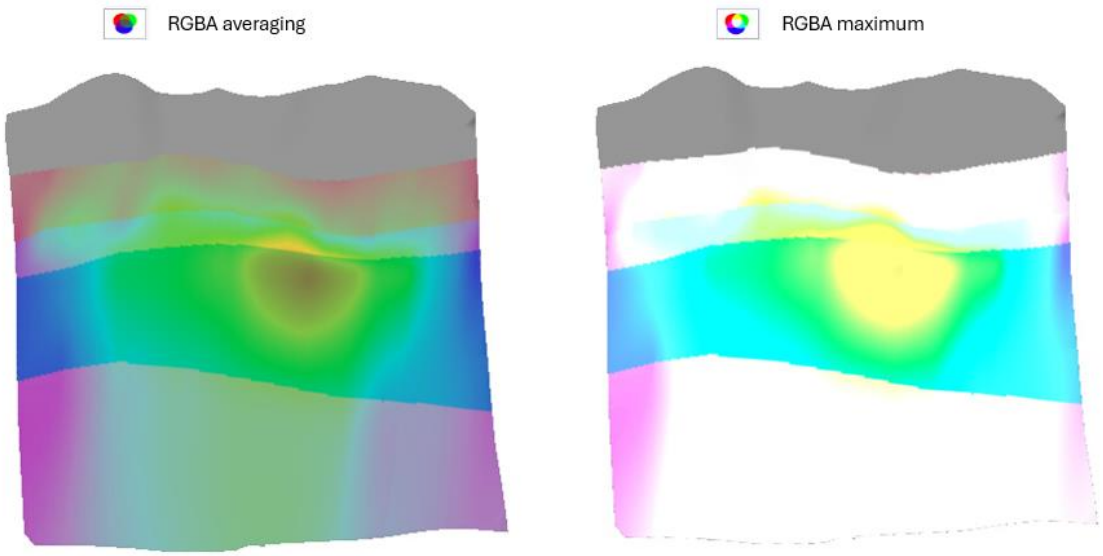
Here are two examples:

1) This example contains two items in the Display Method: Throw and Footwall stratigraphy – the latter using a lithotype colour scheme.

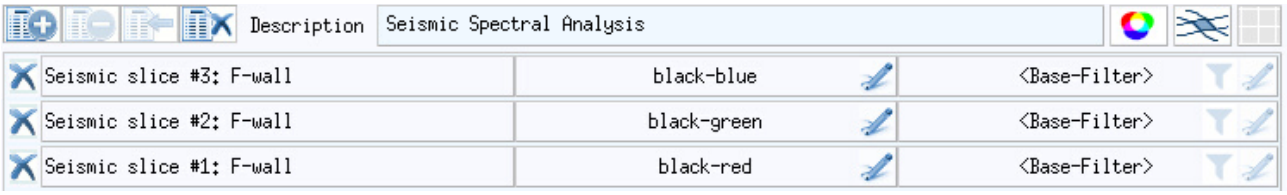


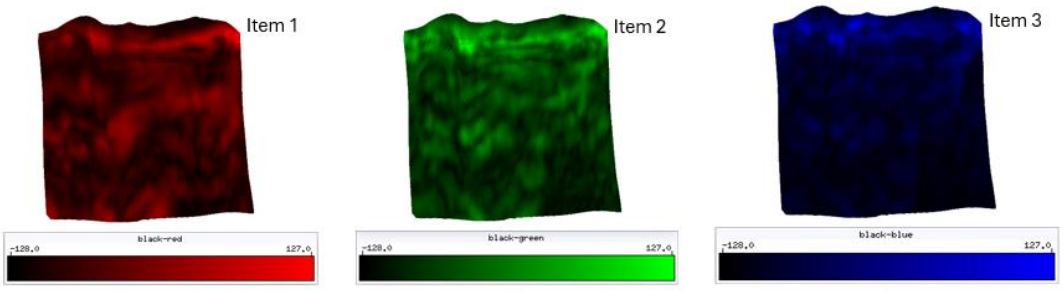

As can be seen in the following images, the RGBA average blending is the most appropriate for these items since the RGBA maximum blend results in washed-out colours.

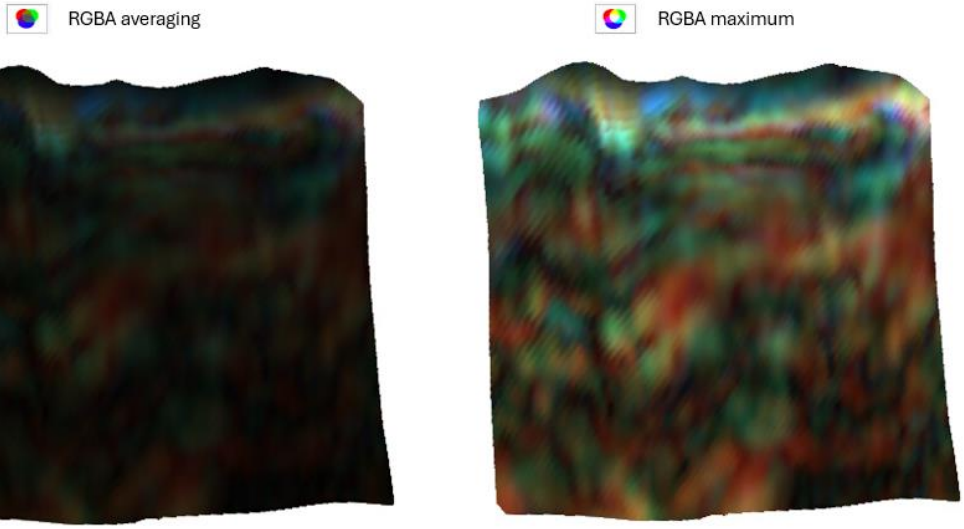


2) This example shows the results of seismic slices on the fault surface. There are three items in the Display Method – each representing a slice from a different 3D seismic volume. The three seismic volumes, in this case, contain amplitude data for different seismic frequency ranges. The display method combines all three with specific red, green and blue colour maps.

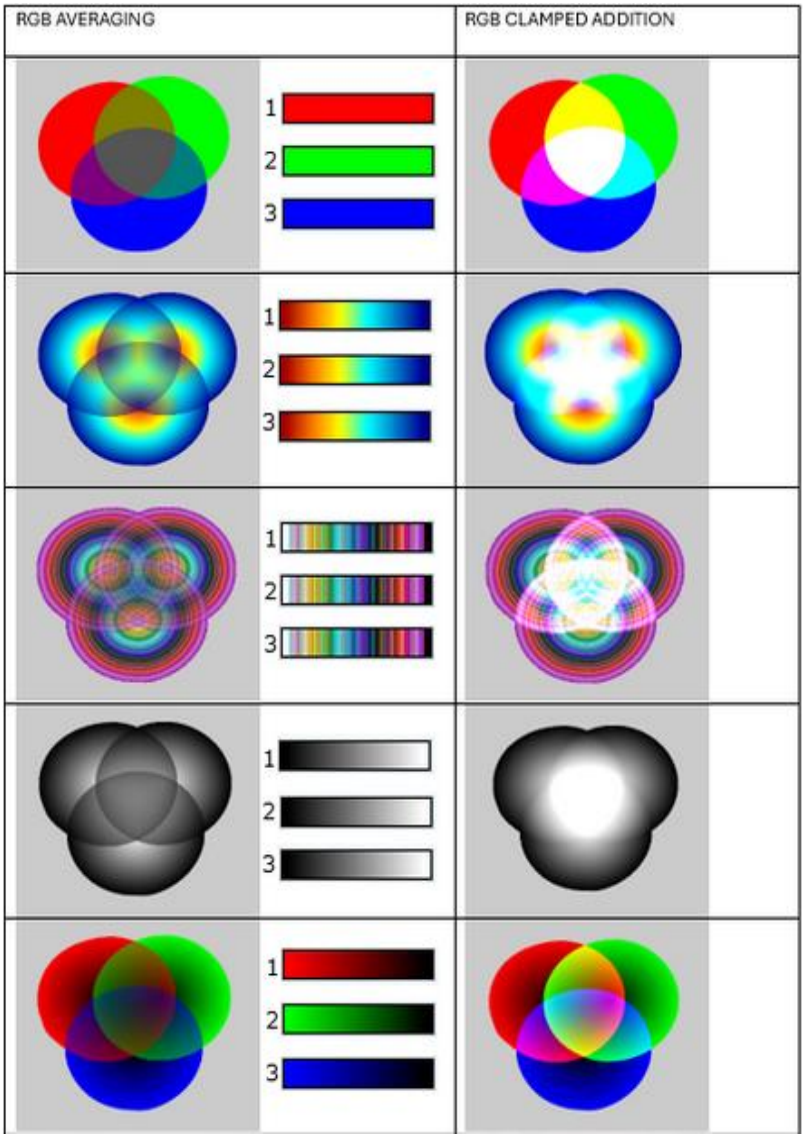



In this instance, the RGBA maximum blend mode is the more appropriate. The RGBA averaging results in a very dark image.

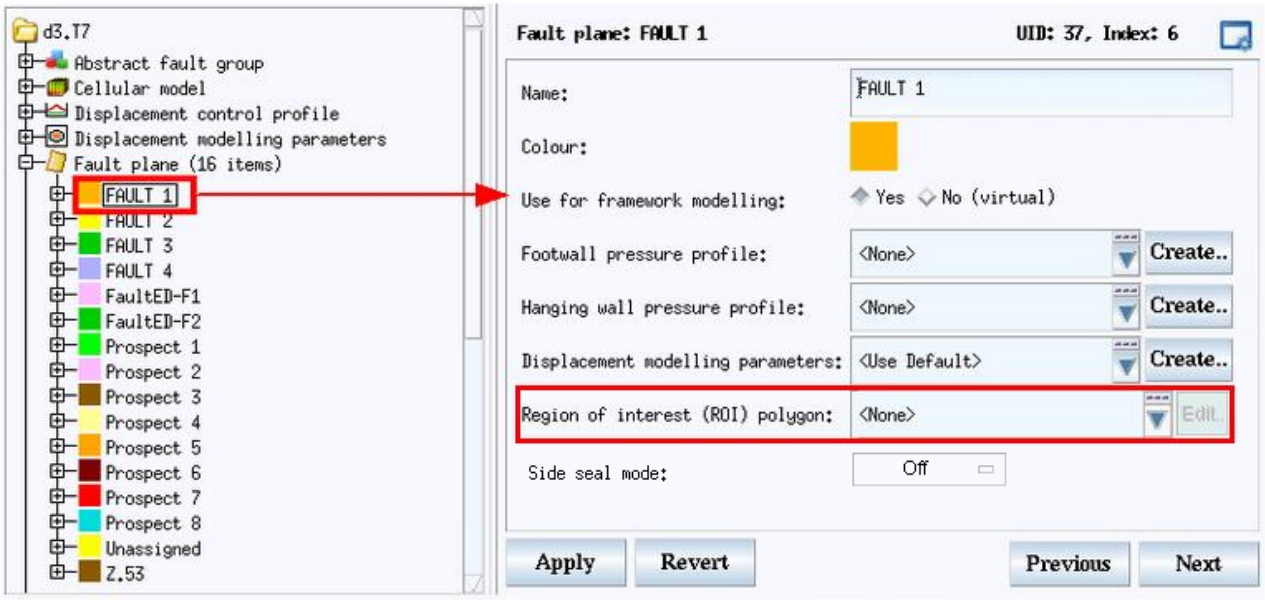
The following images show a comparison of the blending modes for a variety of different colour schemes.



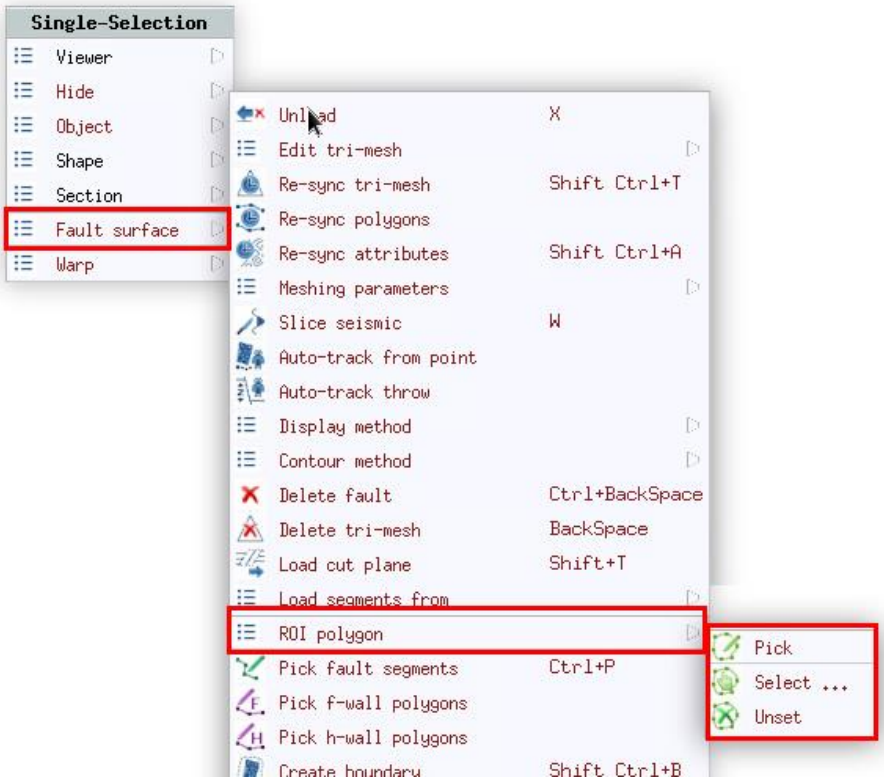
## *Fault Region of Interest Polygons*

A Region of Interest (ROI) polygon is a Polygon Shape that is assigned to a fault to restrict the region over which attributes are displayed and, in some cases, processed; in particular, it can play an important role for the determination of lateral spill points when using the new Fault Seal Uncertainty tool.

The setting of the ROI Polygon can be made directly in a Fault Plane editor window as shown below.




Alternatively, ROI polygons can be created and automatically assigned to a fault using a dedicated process in the Volume Editor. This process is accessible via the <MB3> popup menu for a single fault surface selection:



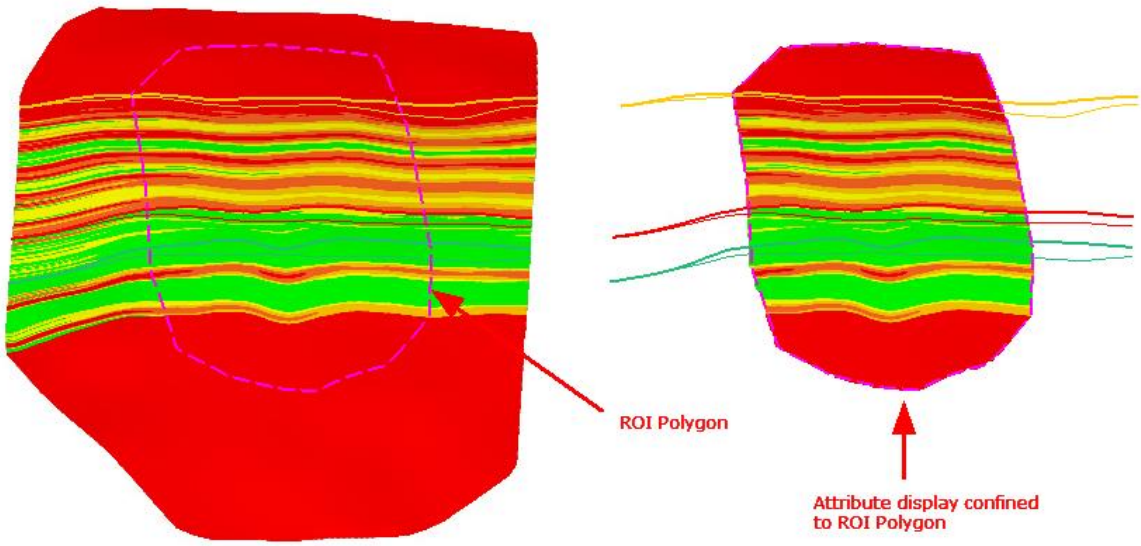
There are three sub-options in the Volume Editor ROI Polygon menu option:

**Pick**: Enter a mode to pick a new Polygon Shape on the Fault Surface. Use <MB1> to add points, <MB2> to back-track, <MB3> to complete, <Esc> to abort. Upon successful completion, the newly created Polygon Shape will be assigned as the ROI Polygon for the fault and loaded for display.

**Select**: Use this option to pop-up a list selection from which an existing Polygon Shape can be chosen and assigned to the fault.

**Unset**: Use this option to de-assign the currently assigned ROI Polygon from the fault.

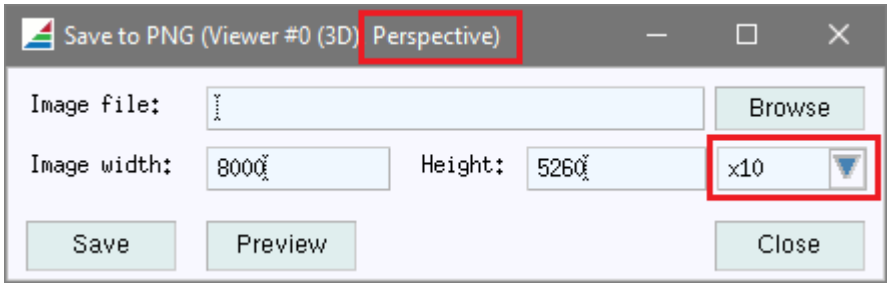
The below image shows a fault surface with an assigned ROI Polygon and the attributes subsequently calculated and displayed.




## ROI Polygons for Fault Seal Uncertainty Modelling

The ROI Polygon has a specific function when the fault in question is used for Fault Seal Uncertainty modelling (see earlier section). The ROI Polygon is effectively used as a new fault boundary (for the computation of related fault properties) and hence the limit for the determination of lateral spill points. In this case it is important to ensure that the ROI polygon encompasses the potential trap region(s) on the fault and excludes those parts of the intersection geometry that are not relevant to the process.

## *Volume Editor Save to PNG Improvements*

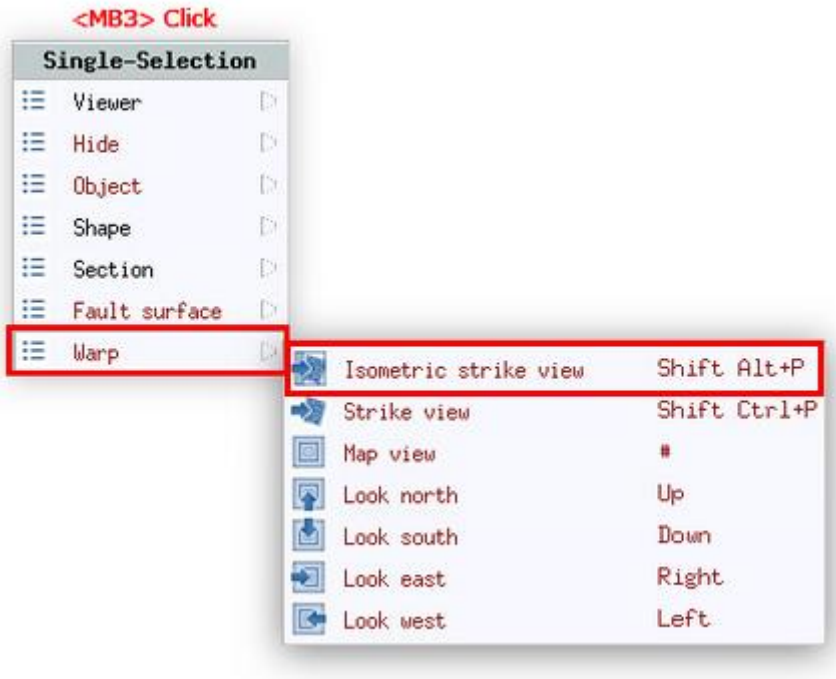



The **Save to PNG** functionality in Volume Editor has been improved to allow scaling of output images when in the viewer is in perspective mode. Previously this was only possible in isometric.

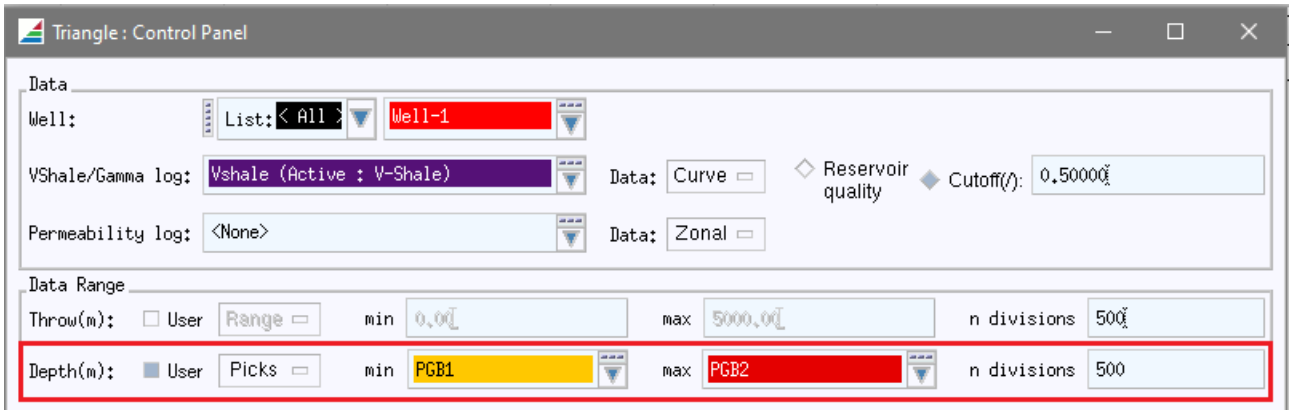
In addition, the CGM **Hardcopy** will now include the compass and graticule if they are enabled in the active viewer.

## *Volume Editor Isometric Strike View Option*

A new option to quicky obtain an isometric strike-plane view of a fault surface has been added to the Volume Editor <MB3> popup menu and context toolbar. This extends the esiting Strike-View warp option by ensuring that tha viewer is first switched into Isometric mode. This option will not be available is the viewer is already in Isometric mode.



## *Triangle Depth Range based on Horizon Intervals*




The T7 Triangle (1D Fault Seal) utility has been upgraded to allow the Depth range to be specified using the pick depths of the specified horizons.

In the screenshot above, the picks for horizon **PGB1** are checked to obtain the minimum depth value. The picks for horizon **PGB2** are checked to obtain the maximum depth value. It is also possible to specify the well top as a minimum depth, or well bottom for a maximum depth.

# USABILITY IMPROVEMENTS

## *Volume Editor new Icon/Tools Layout*

The T7.4 release introduces a change in that way in which some of the most frequently used icons are laid out in the the Volume Editor main window.

In particular, a number of quick access icons from the Home Tab have been moved to be permanently accessible from the Main Window tool bar. These items provide permanent access to:

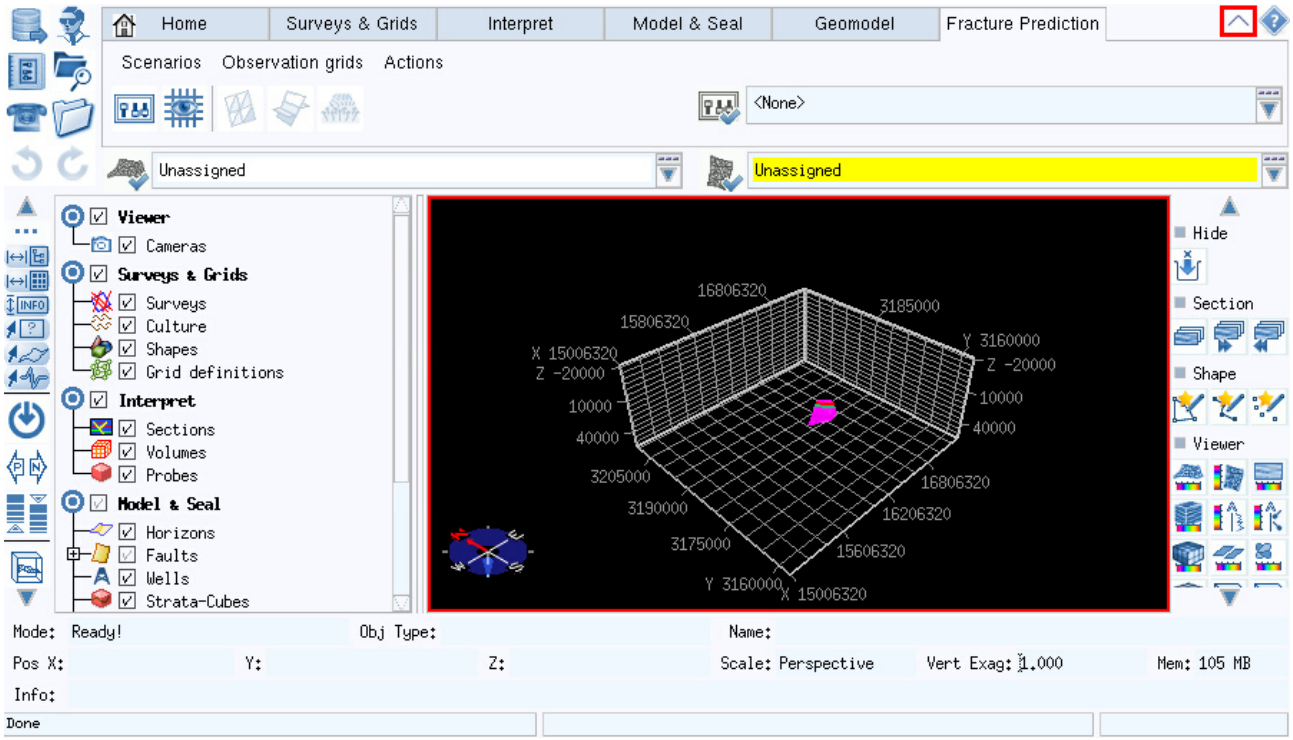
- Project Parameters 
- Database Explorer (new icon) 
- Volume Editor Messages Window 
- Volume Editor Session Manager 

Pre-T7.4

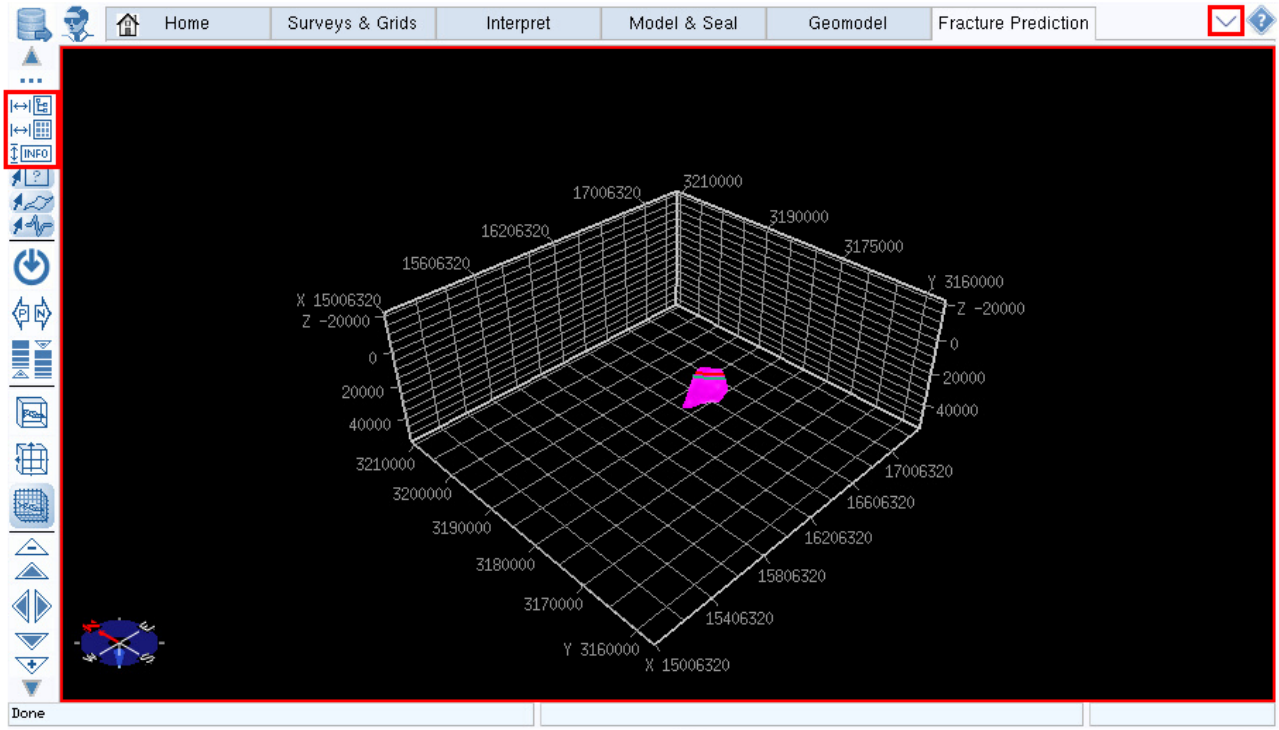

T7.4

## *Collapsible Volume Editor Main Tab Pane*

When screen real estate is at a premium and it is required to maximise the size of the main Volume Editor viewer, it is now possible to mimimize the space occupied by the Module Tabs. Simply click on the upper right hand corner “Minimize control tabs” button. Click again or click on any tab (other than the selected tab) to restore to normal.

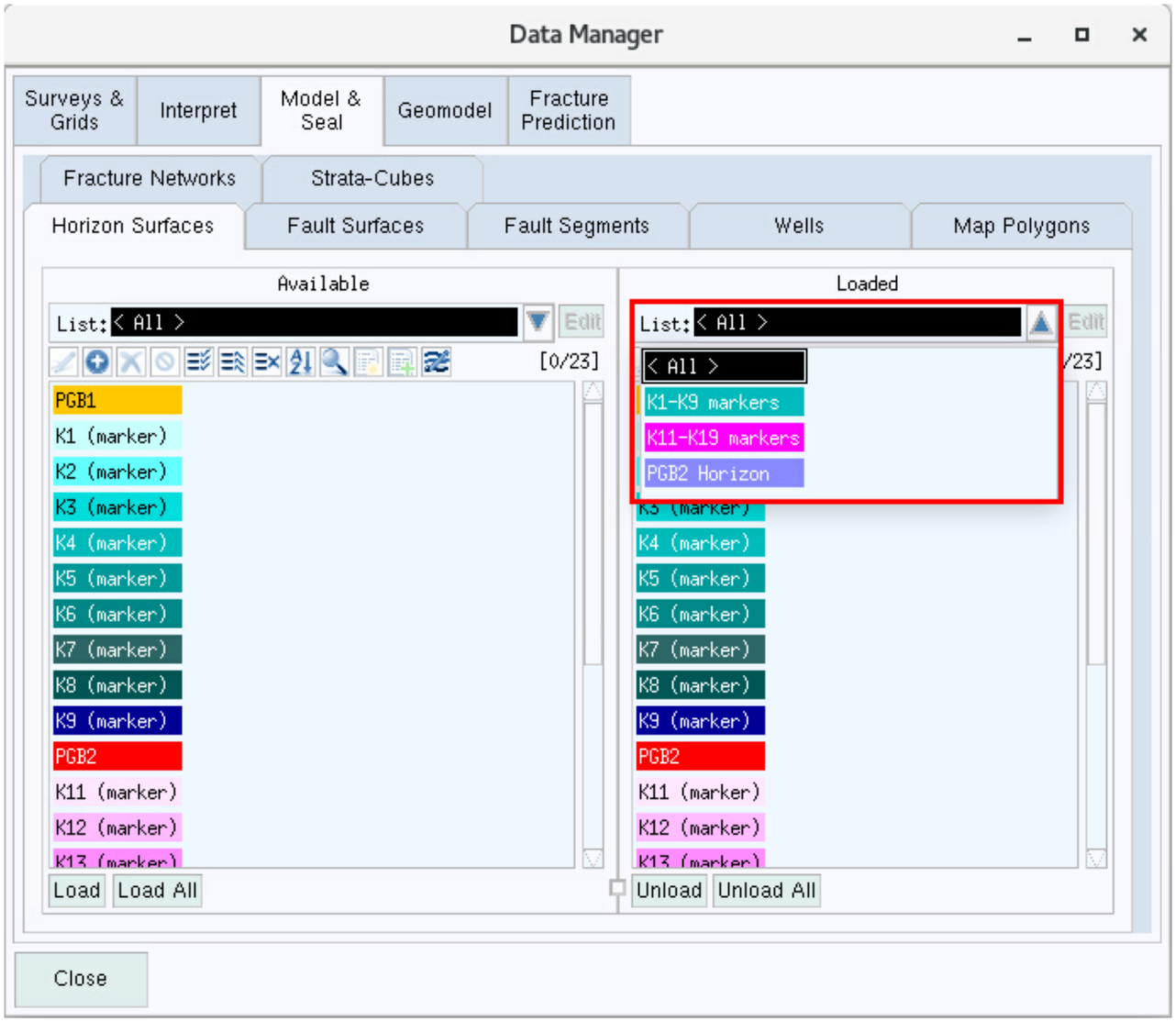



The effect of the button is shown below, in combination with the tool-bar options to hide the tree-view, context tool-bar (on the right) and information area.



## *List Selection for Volume Editor Loaded Data Items*

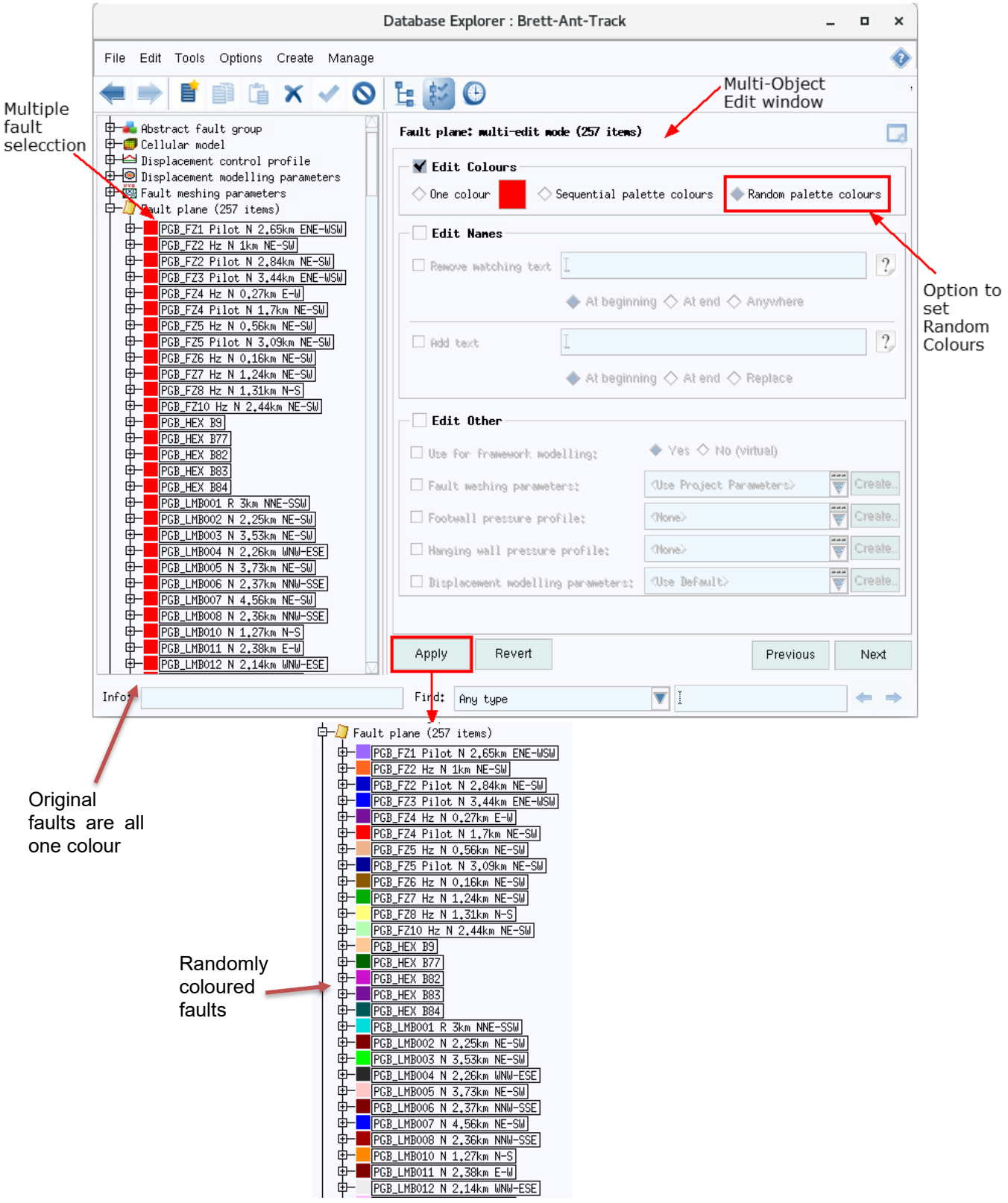
The Volume Editor Data manager window is the tool that handles much of the data-loading and unloading activities to visualise data in the 3D viewer. For many data types, the act of selecting items to load is facilitated through list displays. The load actions have always been supplemented with a “List Selection”, whereby user-defined “Lists” of items can be used to filter the items available for selection. This feature has now been extended to the list of loaded data items so that they too can benefit from the same filtering. The image below indicates this new feature for the Horizon Surface tab in the Data Manager.



# *Multi-Object Edit Random Colour Option*

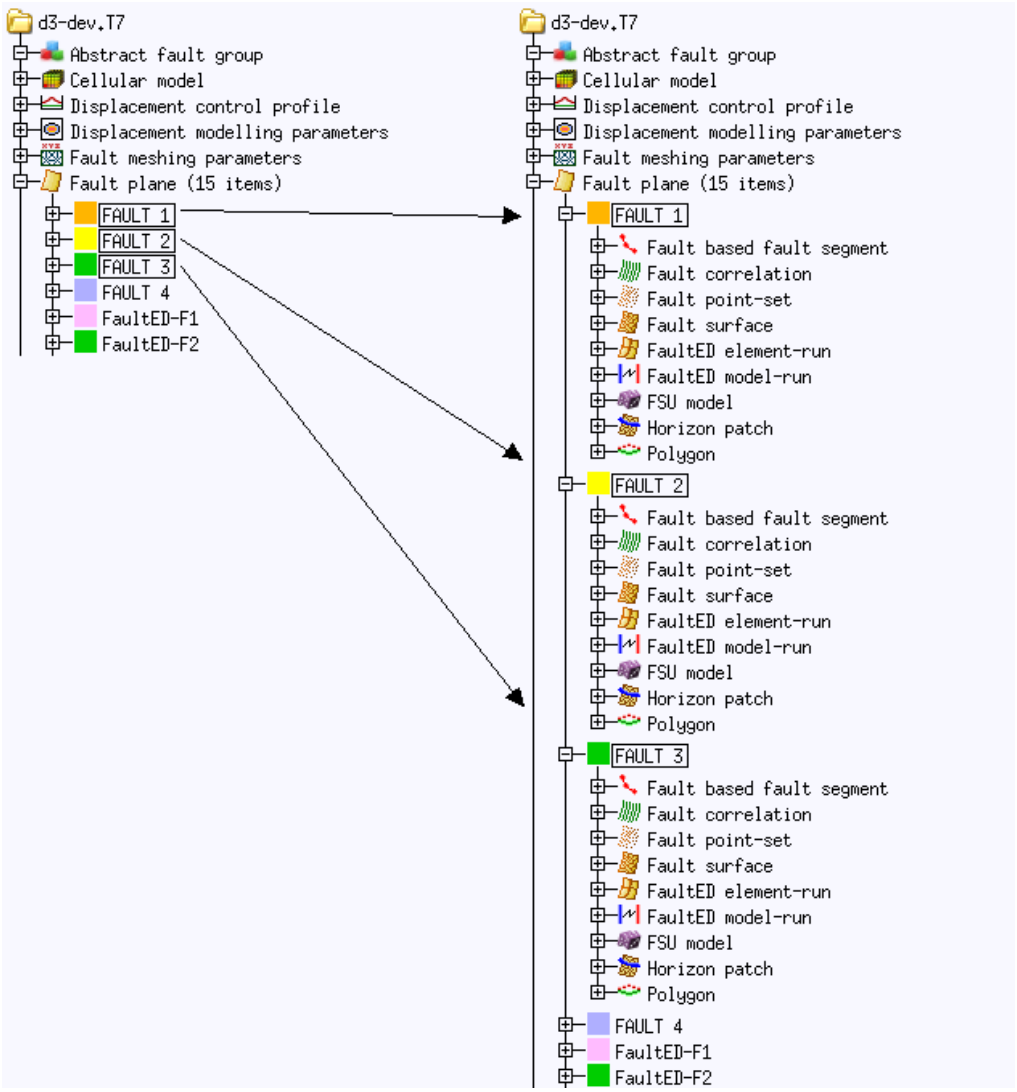
The Multi-Object Editor window (available in Database-Explorer and more generally from object lists in T7 apps) now supports a facility to set random colours from the T7 colour palette.

Here is an example of random colouring applied to a fault selection in the Database Explorer:



## *Database Explorer Multi-Node Expansion/Collapse*

The object tree in Database Explorer has been upgraded to support the expansion of all selected nodes:




Clicking the expand/collapse icon on a selected node will expand or collapse all other selected nodes.

The same functionality is also available in the Volume Editor object tree.

## *Database Explorer Fault Manager Improvements*

The Fault Manager table in Database Explorer has been extended to support four new columns:

| | Col | Name | Displacement mode parameters | Assigned,hosted segment count | Surface | Point-set | Region of interest polygon |
|---|---|---|---|---|---|---|---|
| 1 | | FAULT 1 | <Use Default> | 56,4 | Yes | No | <None> |
| 2 | | FAULT 2 | <Use Default> | 17,0 | Yes | No | <None> |
| 3 | | FAULT 3 | <Use Default> | 11,0 | Yes | No | <None> |
| 4 | | FAULT 4 | <Use Default> | 17,0 | Yes | No | <None> |
| 5 | | FaultED-F1 | <Use Default> | 15,0 | Yes | No | <None> |
| 6 | | FaultED-F2 | <Use Default> | 19,0 | Yes | No | <None> |
| 7 | | Prospect 1 | <Use Default> | 39,0 | Yes | No | <None> |
| 8 | | Prospect 2 | <Use Default> | 30,0 | Yes | No | <None> |
| 9 | | Prospect 3 | <Use Default> | 12,0 | Yes | No | <None> |
| 10 | | Prospect 4 | <Use Default> | 16,0 | Yes | No | <None> |
| 11 | | Prospect 5 | <Use Default> | 23,0 | Yes | No | <None> |
| 12 | | Prospect 6 | <Use Default> | 6,0 | Yes | No | <None> |
| 13 | | Prospect 7 | <Use Default> | 16,0 | Yes | No | <None> |
| 14 | | Prospect 8 | <Use Default> | 24,0 | Yes | No | <None> |

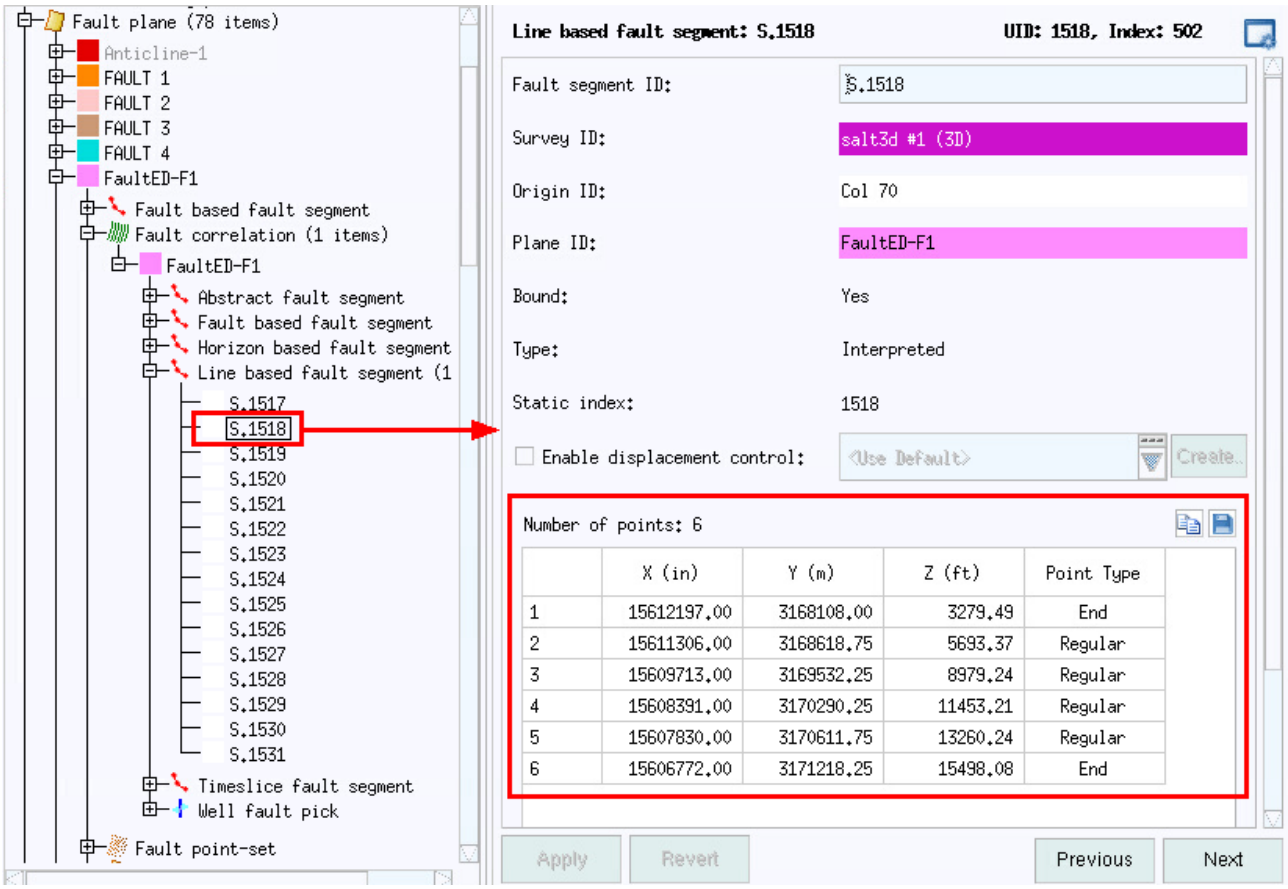
**Assigned,hosted segment count** shows the number of assigned and hosted segments for the fault. Hosted segments are those that are picked on the fault surface but are not necessarily assigned to it – eg branch lines.

**Surface** and **Pointset** indicate whether a surface or pointset exist for the fault.

**Region of interest polygon** shows the currently selected ROI polygon for the fault. The combo box may be used to choose a different ROI polygon, or to unset the polygon by selecting <*None*>

## *Database Explorer Fault Segment Editor*

The Fault Segment Editor has been extended to include a tabular display of the constituent point data as shown in the image below. This provides a direct means of visualising the XYZ and point-flag values that define the fault segment.




The table also provides the ability to save selected fields to file or to copy them to the system clipboard.

## *Image Capture – Repeat Regions*

The Image Capture tool (accessed from "*T7 Main Menu -> Utilities -> Image capture*") has been given a new option to allow repeat capture of the same user-defined region on the screen. This is useful, for example, when a number of same-size and same-location images are required to be captured while the content in that part of the screen is to be altered for each one. As an example, it can be used to capture a part of the Volume Editor window showing a fault with a particular attribute. The attribute can then be altered and a repeat capture will ensure that the captured image will be taken at the exact same location.