RIFT TD

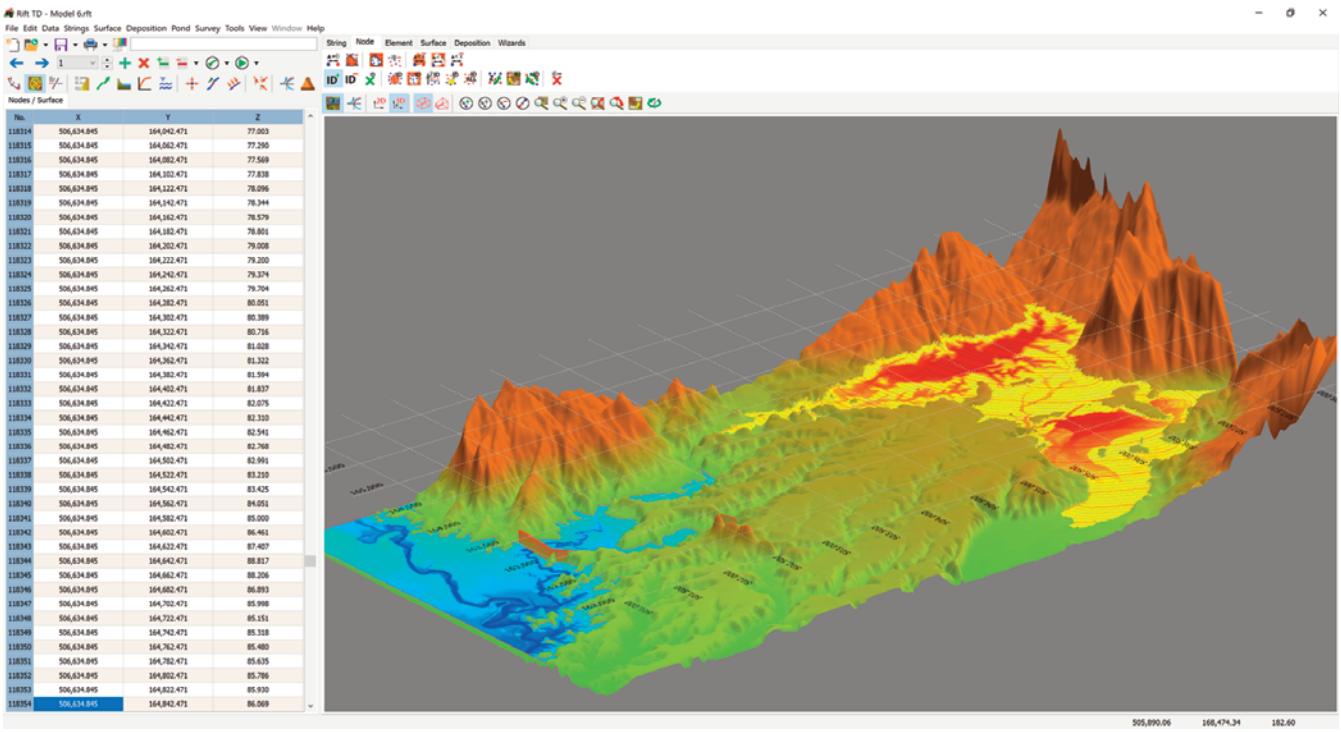
VERSION 5.0

MARCH 2021

ENHANCEMENTS

Rift TD, **Version 5.0**, is a major version release that introduces significant additional functionality:

- **Enhanced — Significantly Improved Graphics**
- **New — Raise Surface Contors/Shading**
- **New — Break Lines**
- **Enhanced — Deposition Order**
- **New — Deposition Status**
- **New — Valid Raise Elevations**
- **New — Incremental Volumes**
- **New — Multiple Longitudinal Sections**
- **New — Mark Data**
- **Enhanced — Initial (Pre-Deposition) Surface**
- **Enhanced — Raise Intervals**
- **Enhanced — Join Dialog**
- **Enhanced — DXF File Export**

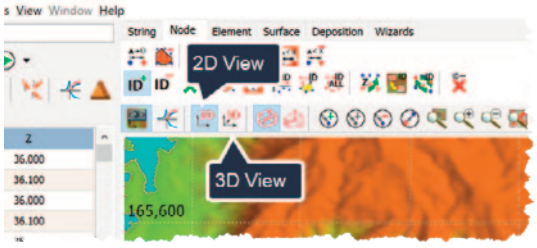


RIFT SOFTWARE

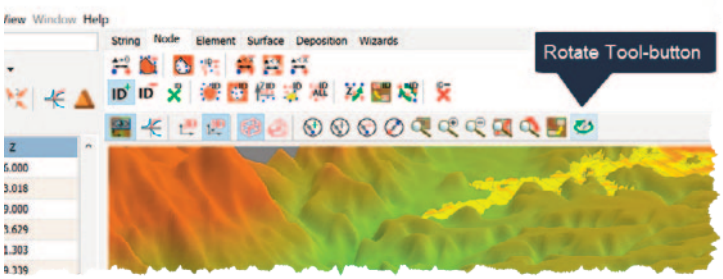
GRAPHICS

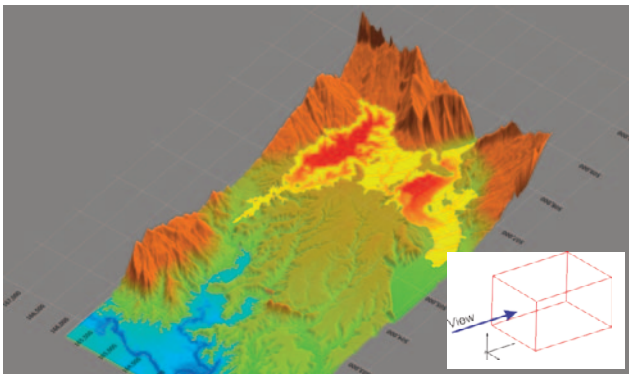
Rift TD's graphics is improved significantly:

- You can edit the model in the three dimensional view.
- The View Toolbar has been moved to the View Page. This makes the view toolbar easier to access.
- The 2D and 3D views have been merged: Click the 2D or 3D buttons to view the model in two (plan) or three dimensions.

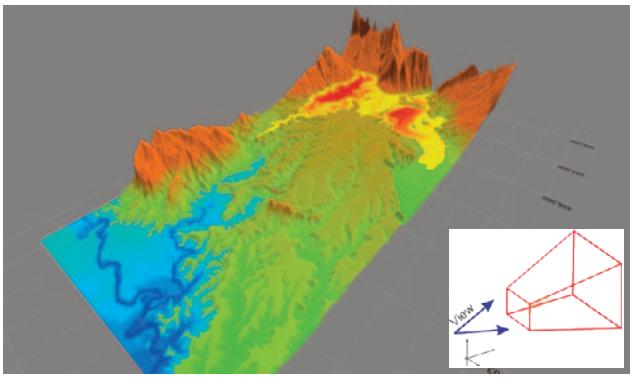


- Rotate the 3D view using the mouse:
  - **Click** the **rotate tool-button**.
  - **Click** on the **3D view** and **drag** the mouse to rotate the view.
- **Zoom** using the **mouse wheel:** Rotate the mouse wheel while over the 2**D or 3D view**.
- **Pan** using the **centre mouse button**:
  - **Press** the **centre mouse button**.
  - **Drag** on the **2D or 3D view**.
- The 2D and 3D views support both
  - **orthographic**; and
  - **perspective projections**.



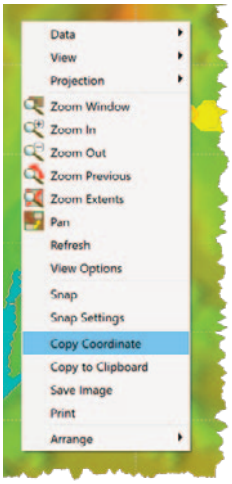


Orthographic Projection

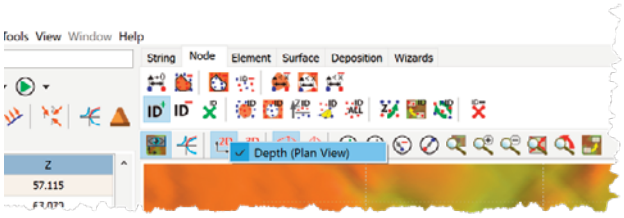


Perspective Projection

- **Copy** the **cursor coordinate** to the clipboard
  - **Right click** on the **DTM View.**
  - **Select Copy Coordinate**.



- View **depth** in the **2D View**:
  - **Right click** on the **2D Tool-button**.
  - **Check** or **uncheck Depth (Plan View)**.
- Get **coordinate elevation** from the **Surface** or from the **graphics engine**:
  - **Surface**: The elevation is for the **Active Surface**.
  - **Graphics engine**: The elevation is the model elevation at the **cursor** location.



To **toggle** the **elevation mode**:

- **Right click** on the **coordinate.**
- **Check** or **uncheck Elevation from Active Surface**.

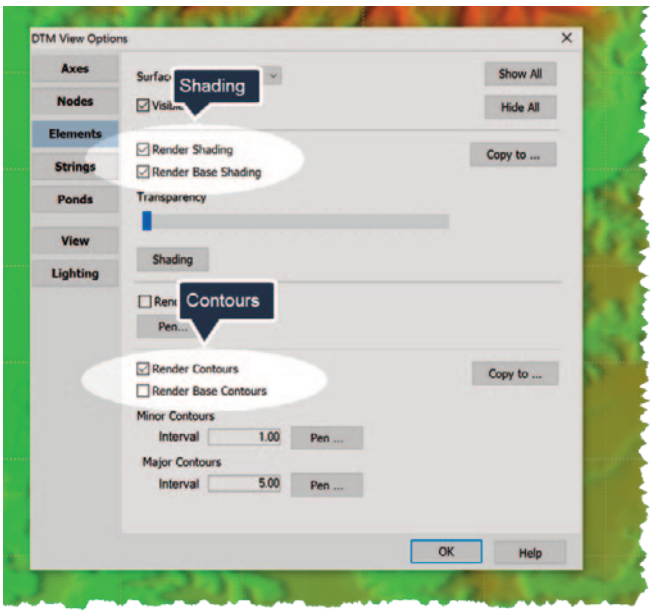
RAISE SURFACE SHADING/CONTOURS

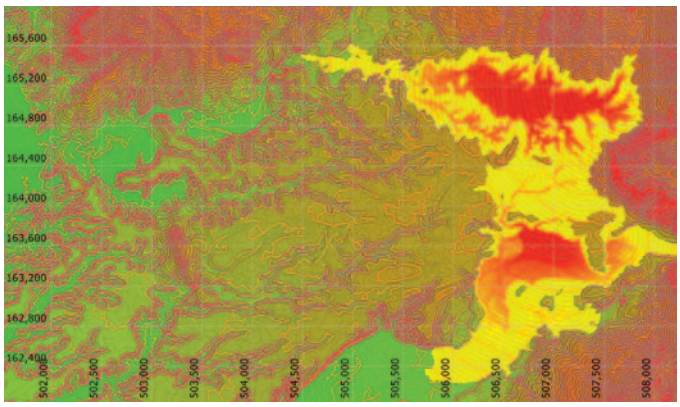
In **Version 5.0** you can set the **toggle base surface** or **raise surface**:

- **Shading**
- **Contours**

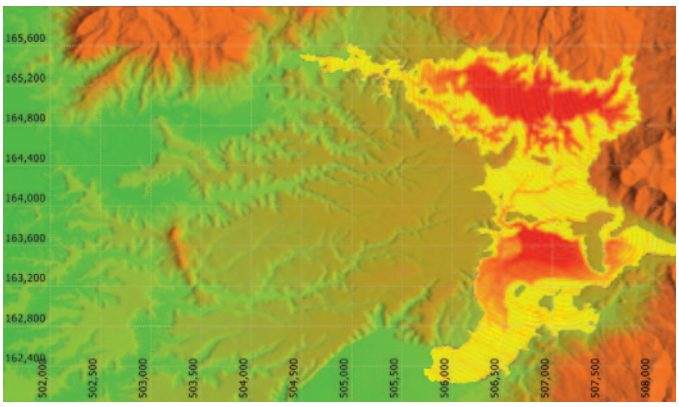
This allows you to easily **view** the **original surface** and or **display** the **raise raise surface** or **base surface contours** following a depoistion model run.

- **Right click** on the **DTM View**.
- **Select View Options**.
- **Select** the **Element Tab**.
- **Toggle Shading** and **Contour options**.



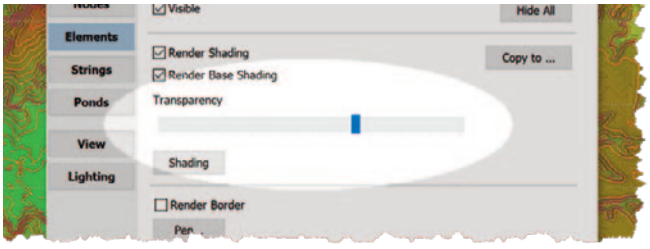


Surface with Base Contours

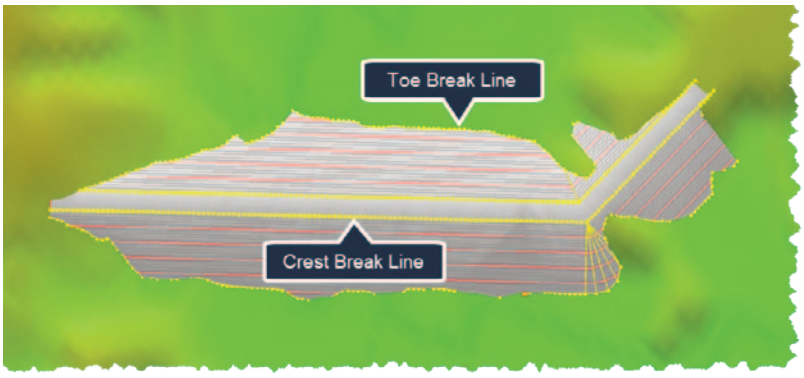


Surface without Base Contours

You can also **set Surface transparency**; **slide** the **transparency track bar**.



BREAK LINES

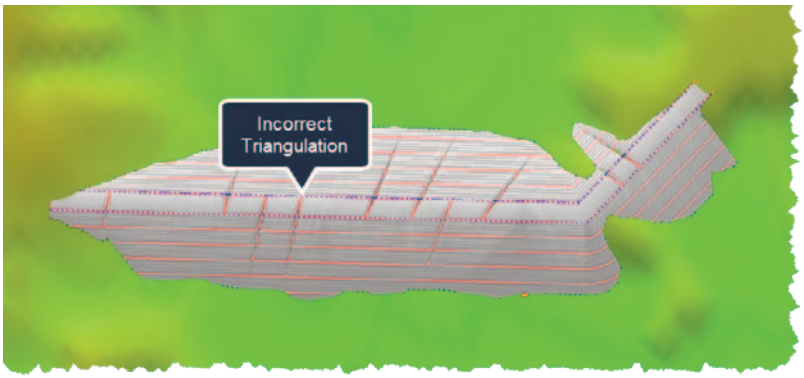


Rift TD Version 5.0 introduces **Break Line** editing. Previously **Break Lines** were only generated when generating embankments using the embankment wizard.

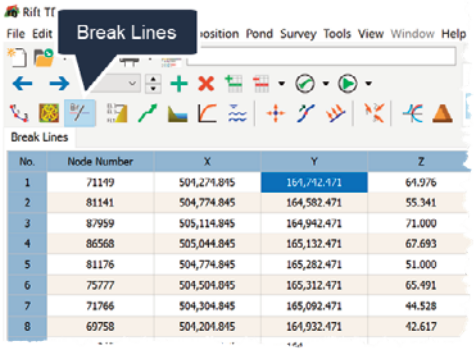
Break lines are three dimensional lines that constrain a triangulation, forcing element diagonals to align along them. This allows you to easily define breaks in the surface slope along lines where the slope changes such as:

- Crest lines.
- Toe lines.

Without Break Lines, nodes **may triangulate incorrectly**.



In **Rift TD Break Lines** are a data type.



You **define Break Lines** for **each Surface** using the nodes that define the Surface. The active **Break Line list changes** if the active **Surface changes**.

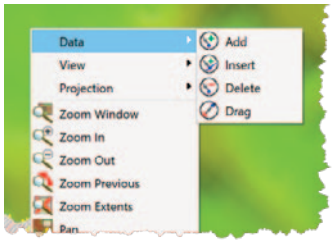
Break Lines have four data fields:

- Node number.
- X coordinate.
- Y coordinate.
- Z coordinate.

Only the **Node Number** is **editable**; the **node oordinates** are displayed for **information** only.

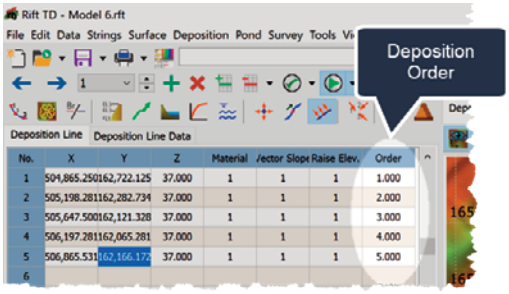
To **define** a **Break Line**, either:

- **Enter** the **node numbers** on the **Data Grid**; or
- **Define** it on the **DTM View**:
  - Either:
    - **Right Click** on the **DTM View** and **click Data > Add**; or
    - **Click** the **Add Tool-button** on the **View Toolbar**.
  - **Click** on the **DTM View** to select the **nodes** that **define** the **Break Line**.



You can also **edit** existing **Break Lines** on the **Data Grid** or on the **DTM View**.

DEPOSITION ORDER

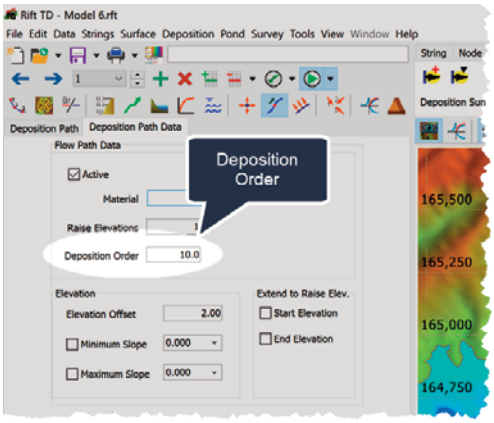


Deposition Line Order

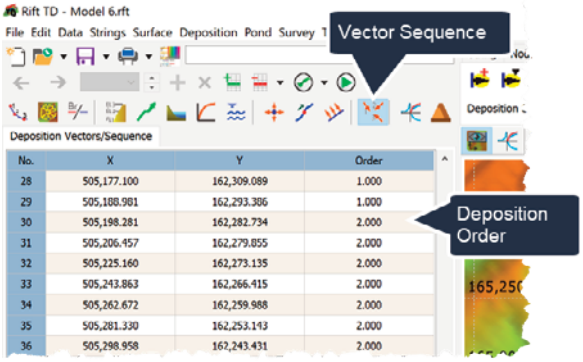
You can more easily set the **order** in which deposition takes place:

- **Deposition Lines** and **Deposition Nodes:** Set the **Deposition Order** on the `**Data Grid**.
- **Deposition Paths:** Set the **Deposition Order** on the **Deposition Path Data-sheet**.

Activate Deposition Sequences to **view** the **Deposition order**.



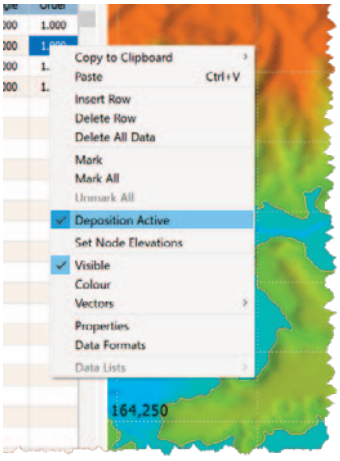
Deposition Path Order



DEPOSITION STATUS

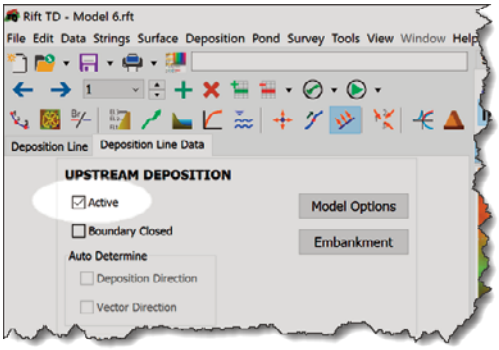
You set a **Deposition Structure's** state to **Active** or **Inactive**.

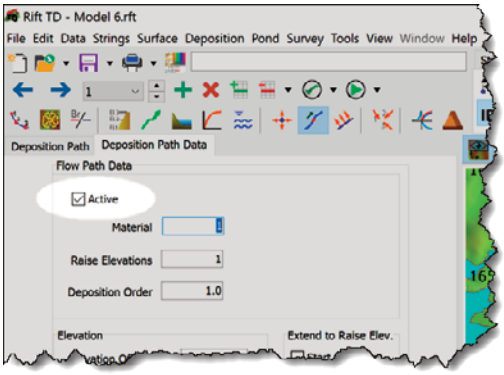
Deposition **does not take place** from inactive **Deposition Structures**. This allows you to easily **assess** a **Structures impact** on **deposition**.



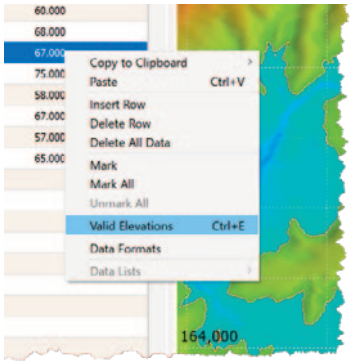
To set a **Deposition Structures** status:

- **Deposition Nodes: Right click** on the **Data Grid** and **click Deposition Active**.
- **Deposition Lines: Check** or **uncheck Active** on the **Deposition Line Data-sheet**.
- **Deposition Paths: Check** or **uncheck Active** on the **Deposition Path Data-sheet**.





VALID RAISE ELEVATIONS



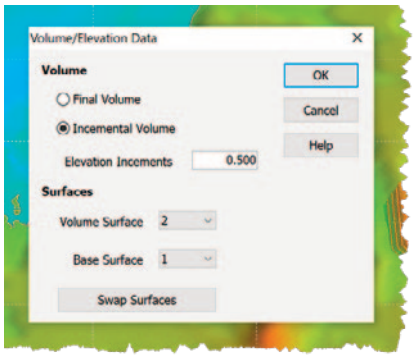
Valid Raise Elevations allow you define the **active elevation range** for a **Raise Elevation Set**.

To set **Valid Raise Elevations**:

- **Activate Raise Elevations**.
- **Click** on the **row** containing the **Raise Elevations** for which you would like to define **Valid Elevations**.
- **Right click** on the **Data Grid** and **select Valid Elevations** or press **Ctrl E**.
- **Enter** the **Minimum** and **Maximum Elevations** on the **Valid Elevations Dialog**.

For **Deposition Vectors** that use the **Raise Elevation Set**, **deposition** will only take place within the **defined minimum/maximum elevation range(s)**.

INCREMENTAL VOLUMES



Rift TD Version 5.0 adds the ability to calculate **incremental cut and fill volumes**, at defined elevation increments, when calculating **TIN Volumes**:

- **Select Incremental Volumes** on the **Volume/Elevation Data dialog**.
- **Enter** the elevation increment.
- **Click Ok**.

Rift TD calculates the volumes at the specified elevation increment and shows the results on the **Cut/Fill Form**.

MULTIPLE LONGITUDINAL SECTIONS

You can extract several l**ongitudinal sections** and plot them on the same chart. This allows you to view sections from multiple:

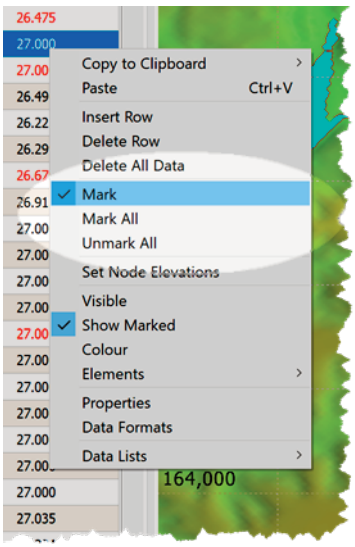
- **DTM Surfaces**; and/or
- **Deposition Raise Surfaces** on the **same chart**.

To plot sections on the same chart:

- **Define** a **String** along the section alignment.
- **Extract** a **section** from a **Deposition Raise** or a **DTM surface**.
- **Repeat** for a additional **Deposition Raise/DTM Surfaces** using the same **String**.

Longitudinal Sections along Several Raise Surfaces

MARK DATA



You can **Mark Data** on the **Data Grid**.

Once **marked** you can **copy** the **Marked Data** to the clipboard:

To **Mark Data** in the **Active Row**:

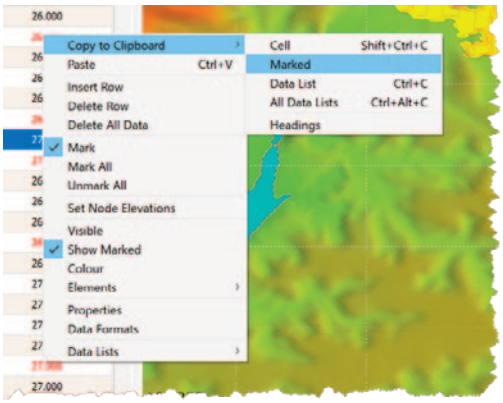
- **Right Click** on the **Data Grid**.
- **Select Mark**.

You can also **Mark** or **Unmark All Data**.

Marked Data is rendered in **red** on the **Data Grid**.

To **copy Marked Data** to the clipboard:

- **Right Click** on the **Data Grid**.
- **Select Copy to Clipboard > Marked**.



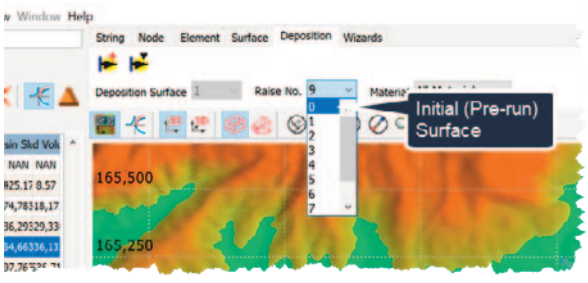
For **Surface Nodes**, marking a **Node** is equivalent to **identifying** the **Node**.

You can use **ID Node** operations to:

- Set node elevations.
- Translate coordinates.
- Delete Nodes.

DEPOSITION — LOAD INITIAL (PRE RUN) SURFACE

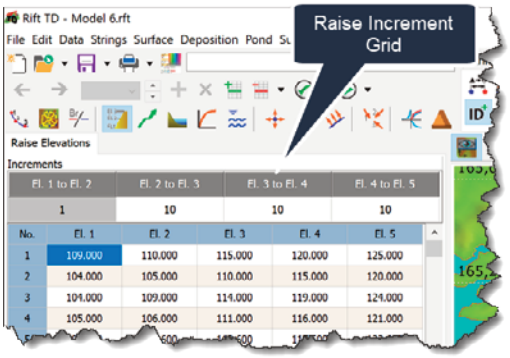
Rift TD allows you to load **deposition surfaces** following a **Deposition Model Run**.



In previous **Rift TD** versions you could load the initial, pre-run surface, using **Node Values**.

Version 5.0 makes this easier; on the **Deposition Toolbar select Raise No. 0** from **Raise No. Drop Down-box**.

RAISE INTERVALS

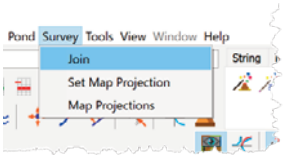


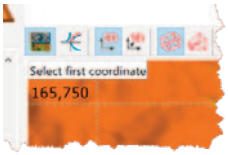
Version 5.0 adds a **Raise Increment Grid**, which is visible when editing **Raise Elevations**, making it easier and more intuitive to **edit Raise Increments**.

Enter the number of **Raise Increments** for each **Raise Elevation** in the **Raise Increment Grid**.

During deposition, **Deposition Vectors** are raised from the **Start Elevation** to the **End Elevation** (e.g. Elevation 1 to Elevation 2) in the specified number of **Raise Increments**.

JOIN DIALOG

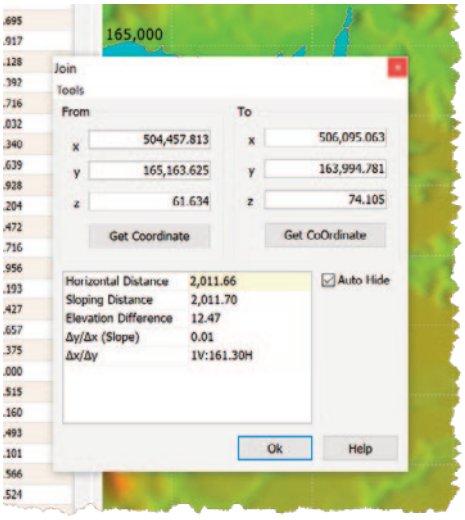


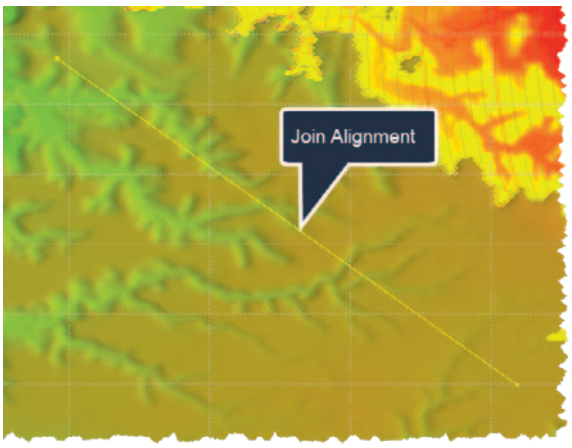


The **Join Dialog** has been **enhanced** to display the **Join Alignment** on the **DTM View**.

To generate a join:

- **Click Survey > Join**.
- **Click** on the **DTM View** to define the
  - **Join Start** and
  - **Join End Coordinates**.
- The **Join data** is **displayed** on **Join Dialog**.
- The **Join Alignment** is **displayed** on the **DTM View**.
- **Use** the **Get Coordinate Buttons** to **reselect** the **Join Start** and/or **End Coordinates**.





DXF FILE EXPORT

In **previous Rift TD versions contours** were **exported** to **DXF** as **line segments**. In **Version 5.0 contours** are **exported** as **Poly-lines**.