



RIFT TD TUTORIAL
EMBANKMENT VOLUMES

INTRODUCTION

In this tutorial you will calculate embankment fill volumes using:

- Grid Area Volumes.
- Grid Volumes.
- TIN Volumes.

A copy of the **Rift TD** Users Manual may be useful when working through this tutorial. It is installed during **Rift TD** installation, but can also be downloaded from our [download page](#).

TUTORIAL COMPONENTS

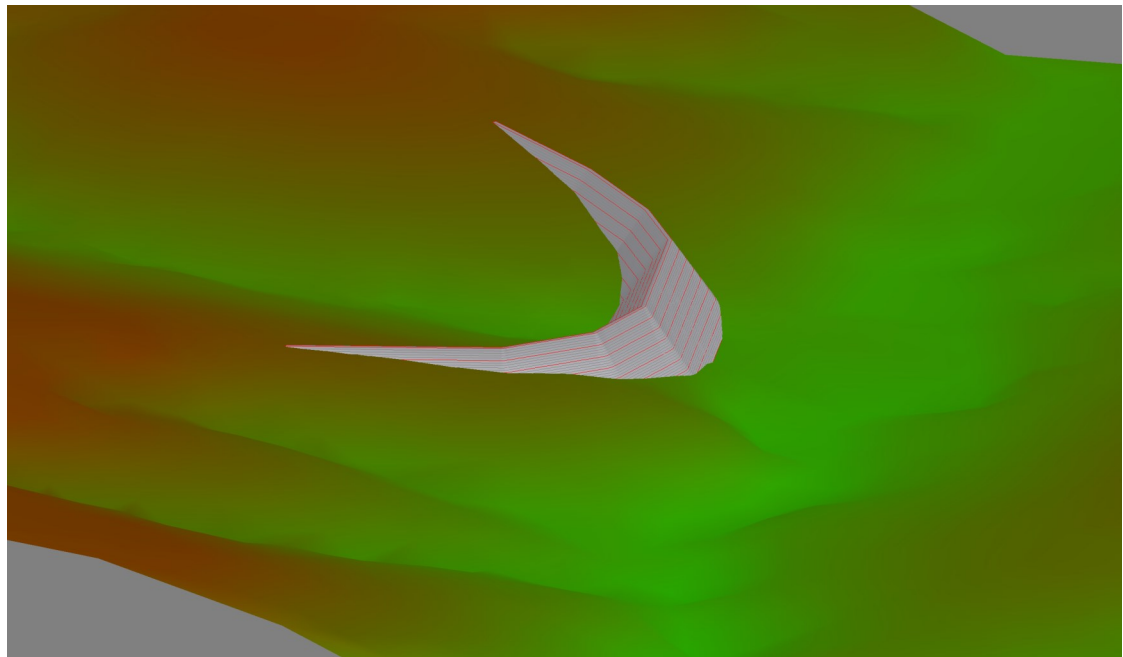
This tutorial comprises:

- This instruction set.
- Data Files:
 - Embankment Model.rft: The **Rift TD** embankment and base surface file.
 - Survey Data.txt: Topography survey data.

EMBANKMENT MODEL

The embankment used in this tutorial was previously generated in the **Embankment Modelling Tutorial**. Start by opening the embankment model:

- Click **File > Open**.
- Select **Embankment Model.rft**.
- Click **Open**.



Embankment Model

VOLUME CALCULATIONS

Rift TD has three volume calculation options:

- Grid Area.
- Grid.
- TIN.

GRID AREA VOLUME

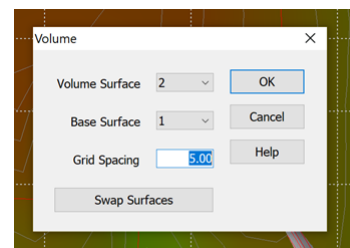
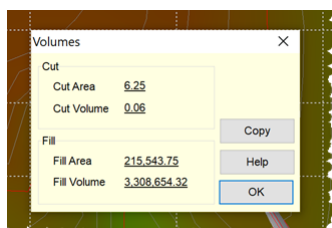
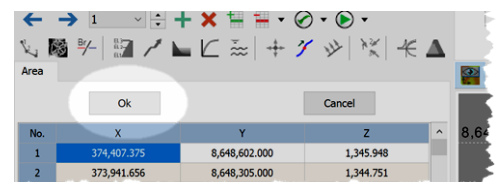
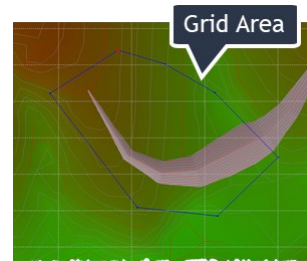
Grid Area Volume calculates cut and fill volumes:

- Using a defined grid spacing.
- Within an area that you define.



To **calculate** the **Grid Area Volume**:

- Either:
 - **Click Surface > Volumes > Grid Area Volume**; or
 - **Click the Grid Area Volume Tool-button.**
- **Define the Area** using the **Area Data Type**:
 - **Click on the DTM View** to define the **Grid Area**.
 - **Click Ok** or **Press Ctrl Enter**.
- On the **Grid Volume Dialog**:
 - **Set a Volume Surface of 2.**
 - **Set a Base Surface of 1.**
 - **Enter a Grid Spacing of 5.0 m.**
 - **Click Ok.**
- **Results** are displayed on the **Volume Dialog**.



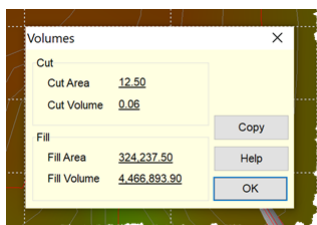
- **Click Copy** to **copy** all results to the **clipboard**.
- **Click** on any of the **results** to **copy** it to the **clipboard**.

GRID VOLUME

Grid Volume calculates the cut and fill volumes between two **Surfaces** using a defined grid spacing.

To **calculate** the **Grid Volume**:

- Either:
 - **Click Surface > Volumes Grid Volume**; or
 - **Click** the **Grid Volume Tool-button**.
- On the **Grid Volume Dialog**:
 - **Set** a **Volume Surface of 2**.
 - **Set** a **Base Surface of 1**.
 - **Enter** a **Grid Spacing of 5.0 m**.
 - **Click Ok**.
- **Results** are displayed on the **Volume Dialog**.

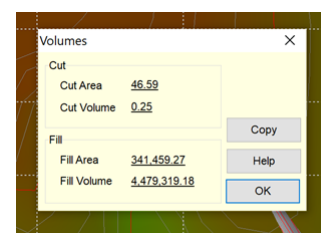
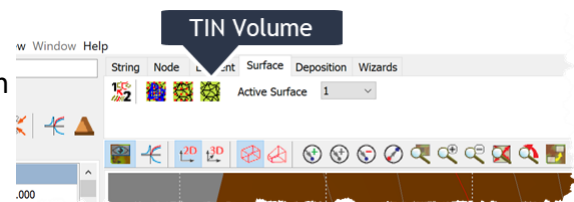


TIN VOLUME

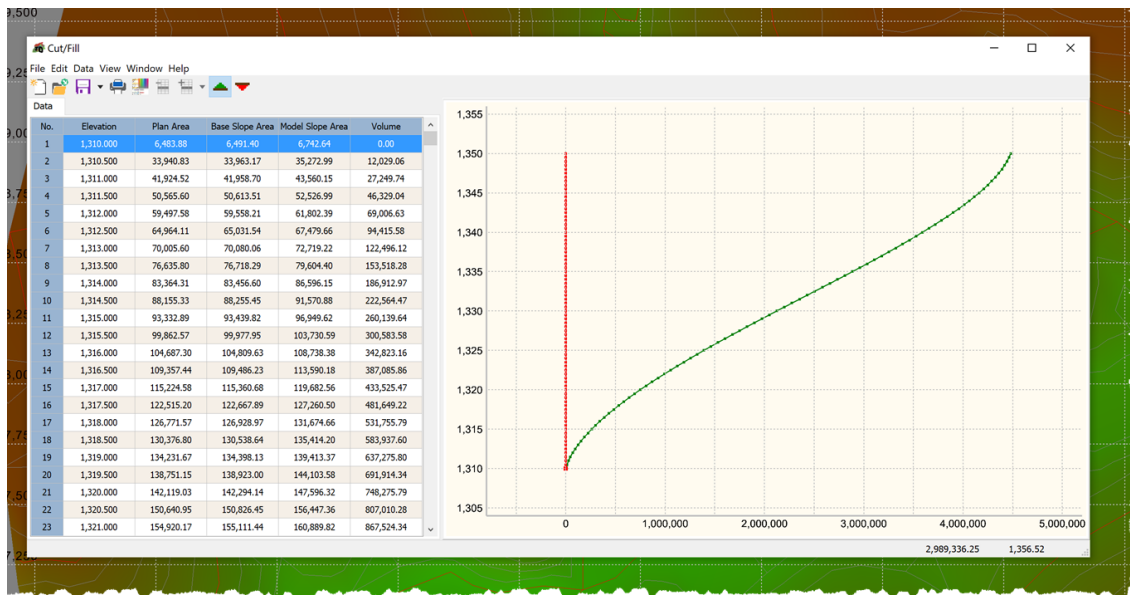
TIN Volume calculates the cut and fill volumes using Surface elements; this is the most accurate calculation option.

To **calculate** the **TIN Volume**:

- Either:
 - **Click Surface > Volumes > TIN Volume**; or
 - **Click** the **Tin Volume Tool-button**.
- On the **TIN Volume Dialog**:
 - **Set either**:
 - **Final Volume**: Only Final Volumes are calculated.
 - **Incremental Volume**: Incremental Volumes are calculate at the specified elevation interval.
 - **Set** a **Volume Surface of 2**.
 - **Set** a **Base Surface of 1**.
 - **Click Ok**.
- For **Final Volume**, results are displayed on the **Volume Dialog**.



- For **Incremental Volume**, results are displayed on the **Cut/Fill Form**.



- The **cut and fill curves** are shown.
- Results comprise:
 - Elevation.**
 - Plan Area:** The plan/two dimensional area.
 - Base Slope Area:** The slope area of the base surface.
 - Model Slope Area:** The slope area of the volume surface.
 - Volume.**
- Click the **Cut or Fill buttons** to toggle cut or fill results.
- You can **save results** and **reopen** them.

