Contours

Updated on 04 Mar 2024 · 9 Minutes to read · Contributors

In this section, you will look at:

- **What are Contour Maps?**
- **Generating Contour Maps**
- **Viewing Contour Maps**

What are Contour Maps?

When used with topographic maps, a **contour line** connects areas at the same elevation with respect to the mean sea level. As a result, when you view a **contour map**, a topographic map overlaid with contour lines, you can identify areas that are at the same height.

Before we plot contour lines, we need to define a **contour interval** or the difference in elevation that will be mapped by a new contour line. For example, if the contour interval is set as 50m, the contour lines will connect areas that are -50m, 50m, 100m, 150m, etc. above mean sea level.

As a result, in a contour map, adjacent contour lines represent areas that are at a new height and the difference between the height is the contour interval. When contour lines are close to each other, it indicates that the elevation is changing rapidly or that it is a steep slope. Similarly, widely spaced contour lines indicate a gentle slope as the elevation changes gradually.

Without Contour Lines

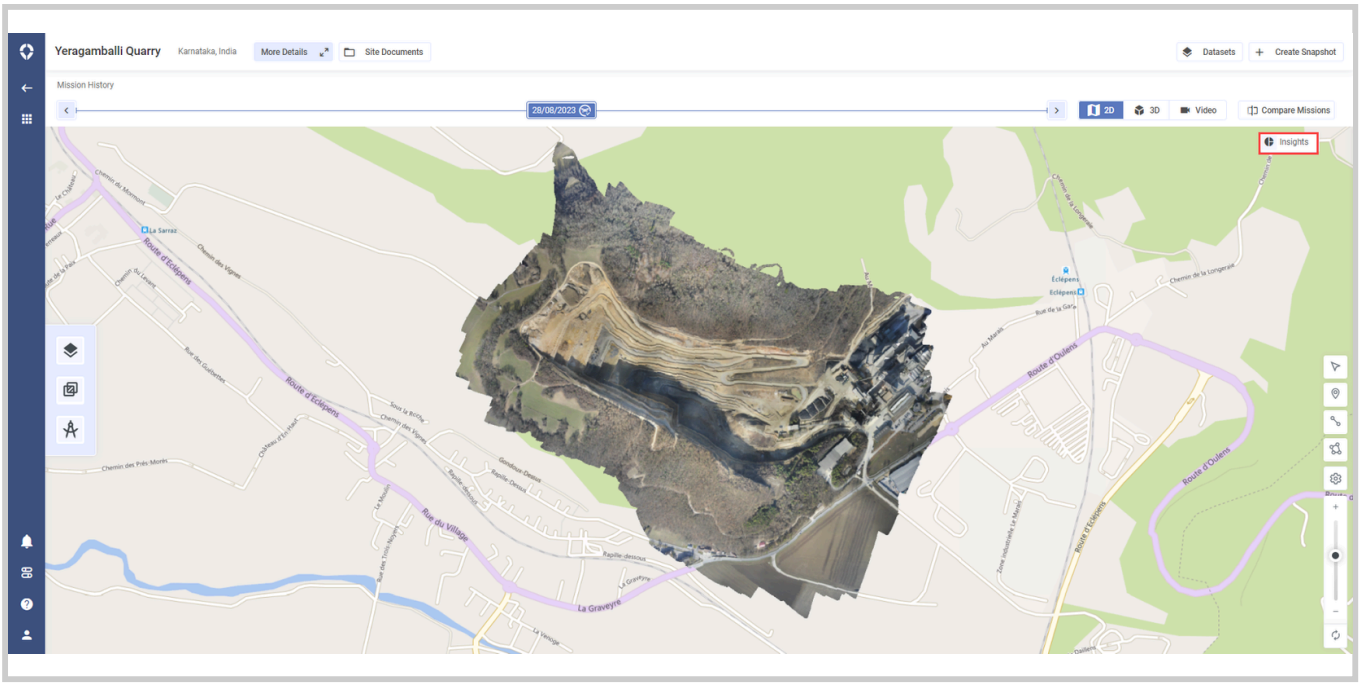
With Contour Lines

Uses of Contour Maps

- **Terrain Analysis**: Contour maps are widely used to study the topography of an area and identify geological features such as hills, valleys, ridges and faults.
- **Land surveys**: Contour maps can be used to survey the land and plan the layout of roads, buildings and other structures by avoiding areas with steep slopes or unstable terrain. They also help calculate the volume of earthwork required for construction projects.
- **Mining and Other Exploration**: Contour maps are used to identify potential mineral deposits and plan mining operations. In the energy sector, these maps help locate potential drilling sites and plan extraction operations.

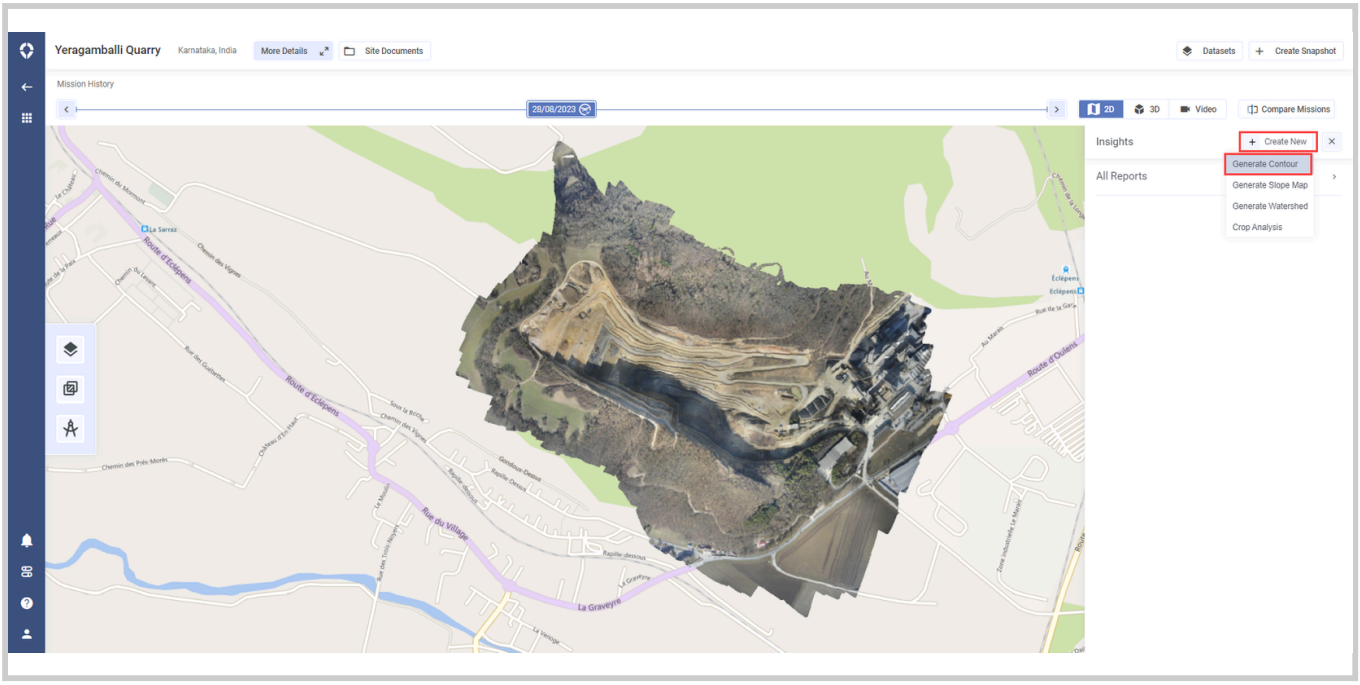
Generating Contour Maps

1. Open the site and select the snapshot where you want to generate the contour map.
2. On the map area, click **Insights.**



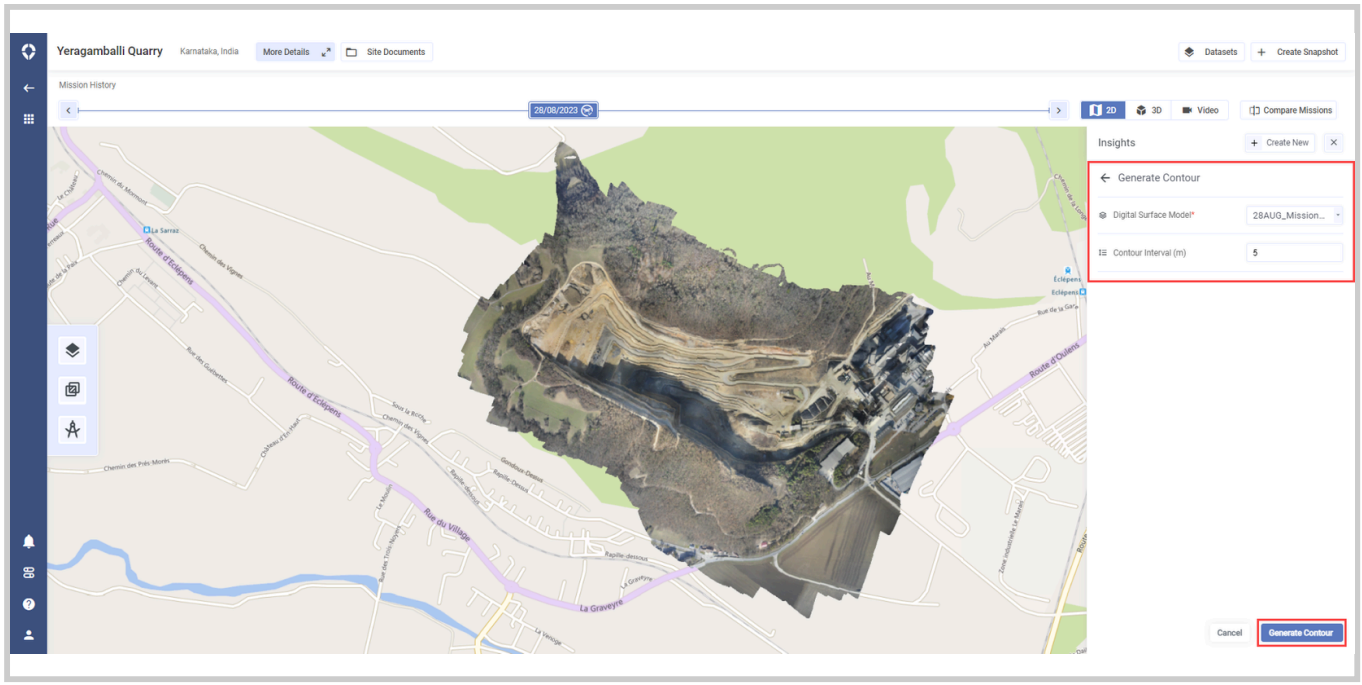
Create Insight

1. In the **Insights** panel, click **Create New** and then click **Generate Contour.**



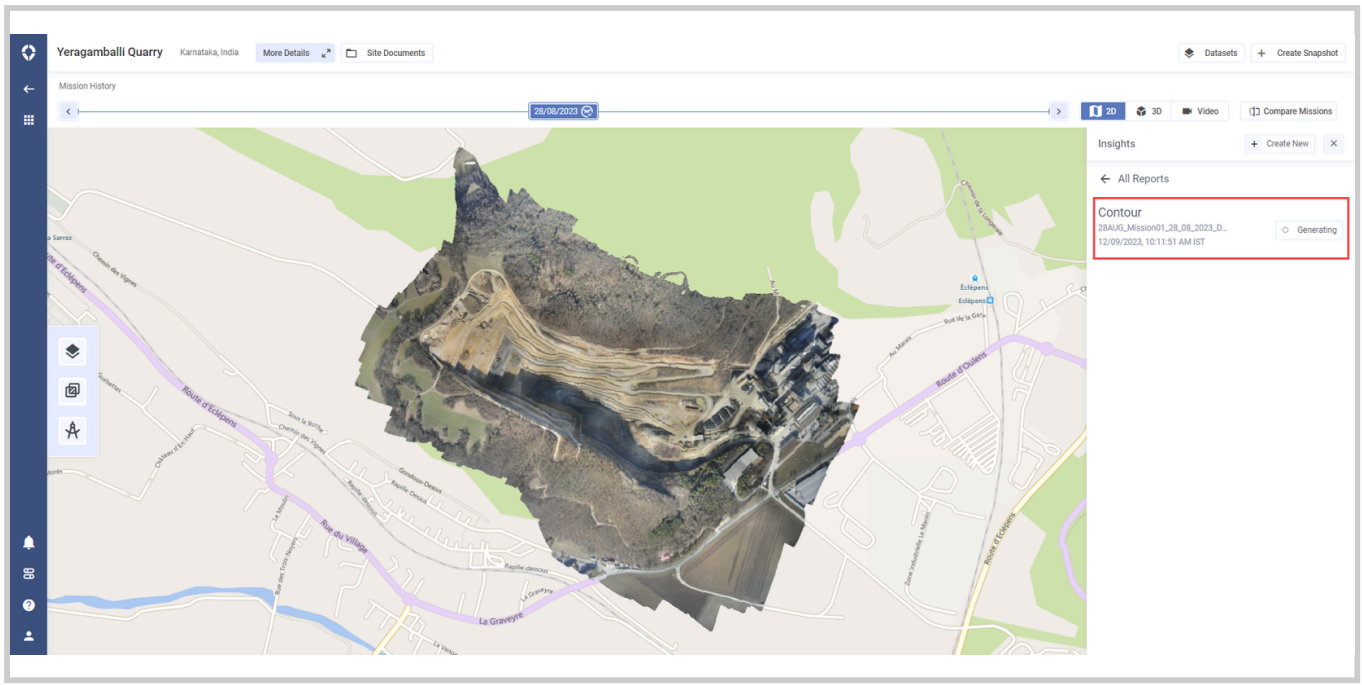
Generate Contour

1. Select the **Digital Surface Model** on which you want to create the contour map.
2. Define the **Contour Interval** in meters and click **Generate Contour**.



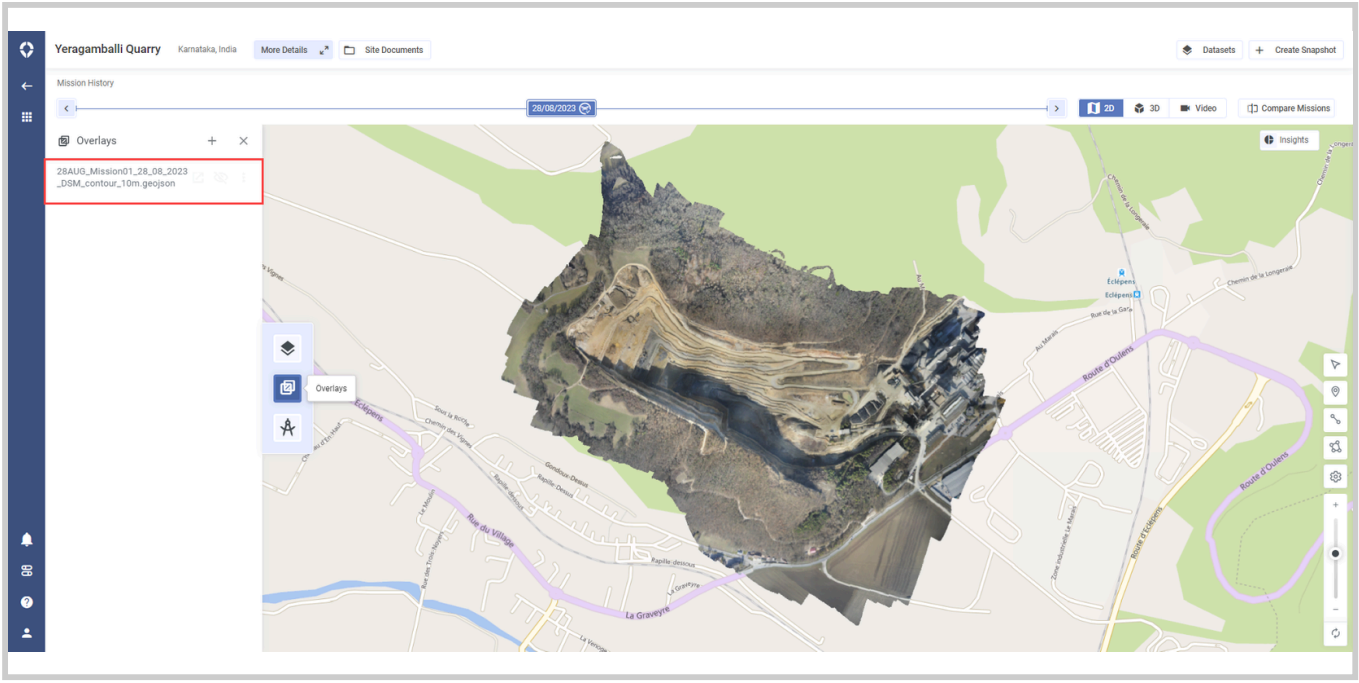
Select DSM and Contour Intervals

1. In the **Token Quotation** popup, click **Accept**. The contour map starts generating.



Contour Map Generation in Progress

Once generated, the completion status is displayed in the **Insights** panel under **All Reports** and the contour file is displayed in the **Overlays** panel.



Generated Contour Map

> The time taken for processing and visualization of the Contour Map on Skydeck may vary in duration depending on the dataset size.

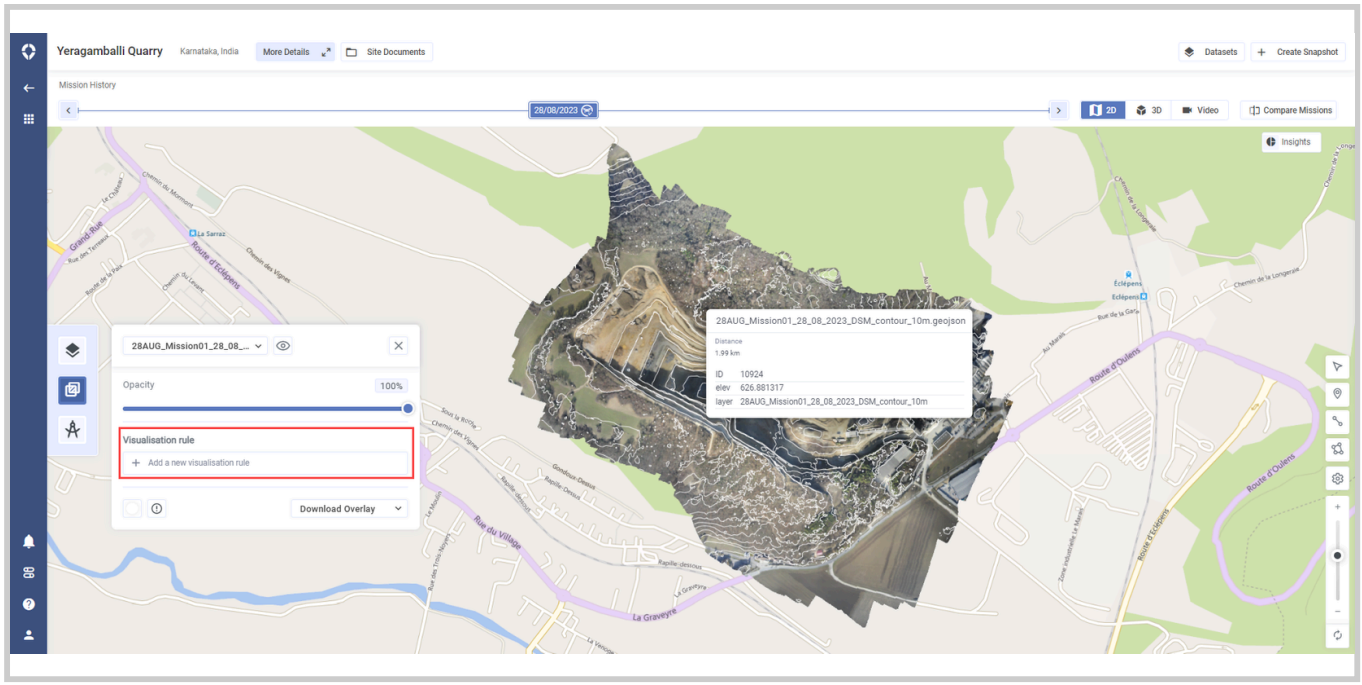
Viewing Contour Maps

When you click on a contour line on the contour map the following details are displayed:

- **Distance**: This value describes the total distance that the selected contour line covers on the map.
- **ID**: This is the identifier of the line that you are viewing and can be helpful in viewing the details of a specific contour line in a downloaded contour map file. This value can be used to define visualization rules when viewing the contour map.
- **elev**: This describes the elevation of the contour line. For example, a value of 519.379 means that all the surfaces connected by this contour line are at an elevation of 519.370 meters above sea level. This value can be used to define visualization rules when viewing the contour map.
- **layer**: This shows the layer that was used to generate the contour map.

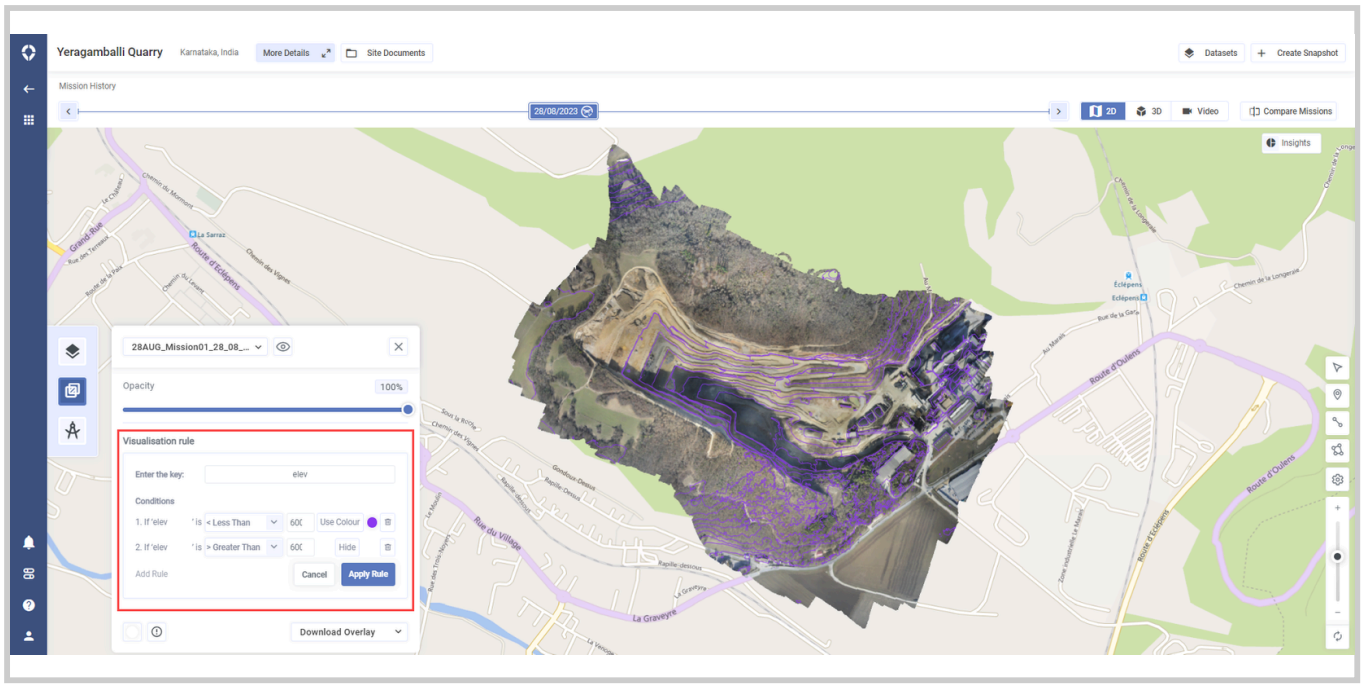
You can visualize the contour map in different ways by defining a visualization rule for above mentioned keys.

1. From the **Overlays** panel, select the contour map you want to visualize and click the **expand** icon. A pop-up is displayed with options to customize the overlay.
2. Use the slider to set the **Opacity** of the contour map.
3. To create a **Visualization rule**, click **Add a new visualization rule**.



Add Visualization Rule

1. Enter the key, for example, **elev** and under **Conditions,** click **Add Rule**.
2. Define the conditions for the visualization rule.
3. Select the condition from the dropdown and enter or select the value for the condition.
4. Select the color to be displayed for the defined condition. OR If you want to hide the contour for the defined condition, click **Use Color**.
5. Once you have added all the rules click **Apply Rule**. Contour lines will be hidden or displayed in the chosen color as per the defined rule(s).

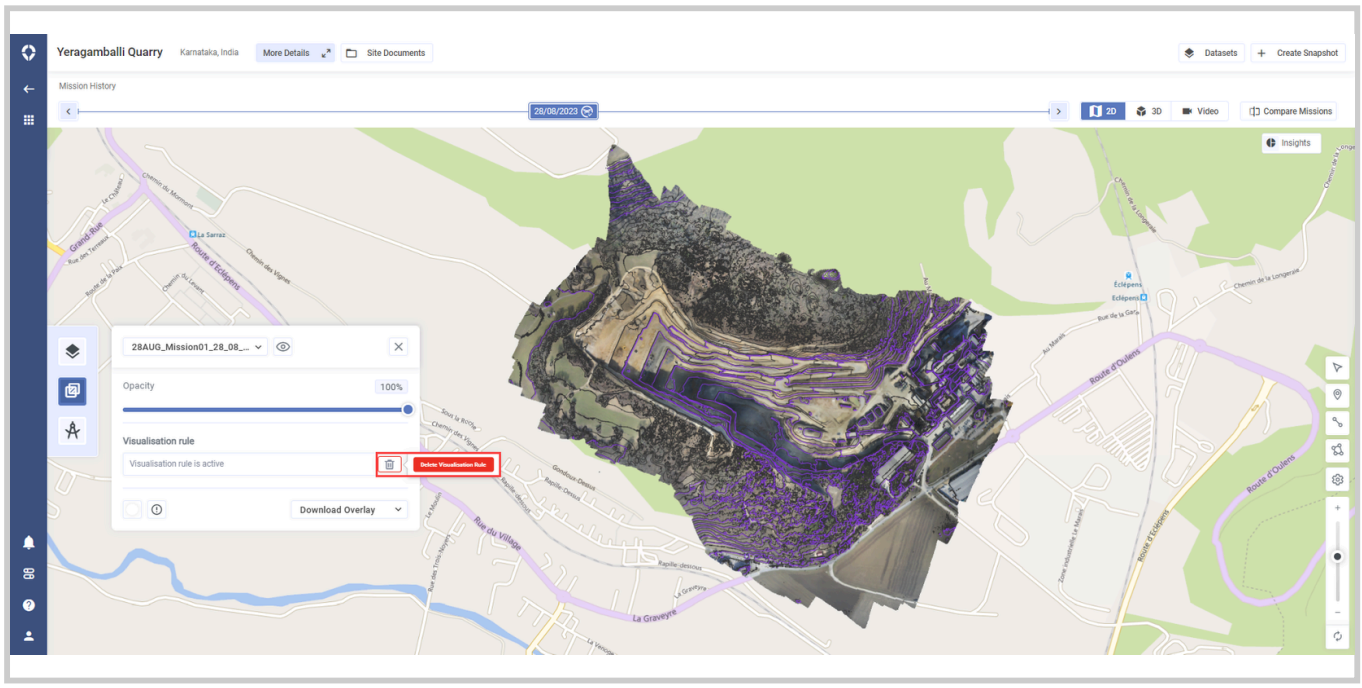


Visualization Rule Applied

For example, as per the visualization rules defined as shown above, the contour lines that are at an elevation lesser than 600 meters will be displayed in purple color and the contour

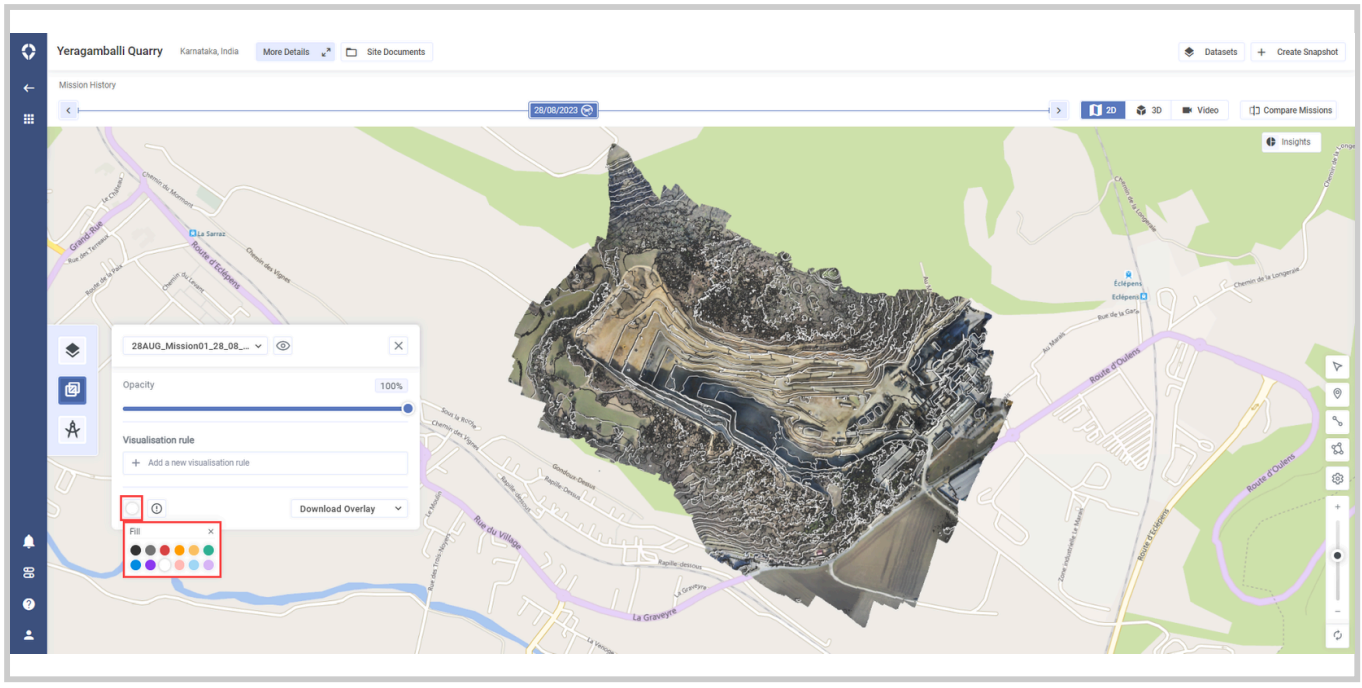
lines that are at an elevation greater than 600 meters will be hidden.

1. To delete the visualization rule, click the **delete** icon and then click **Delete Visualization Rule**.



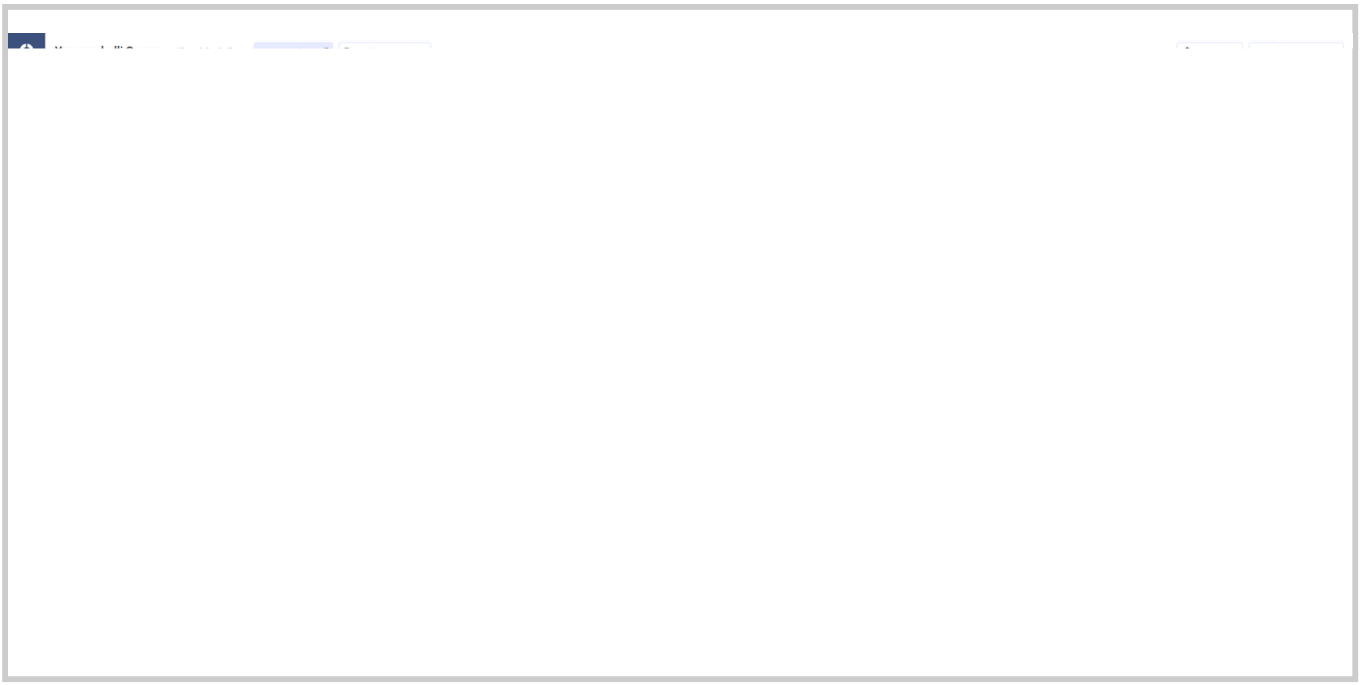
Delete Visualization Rule

1. To view the contour lines in a different color, click on the **colored dot** and select the color from the given color palette.



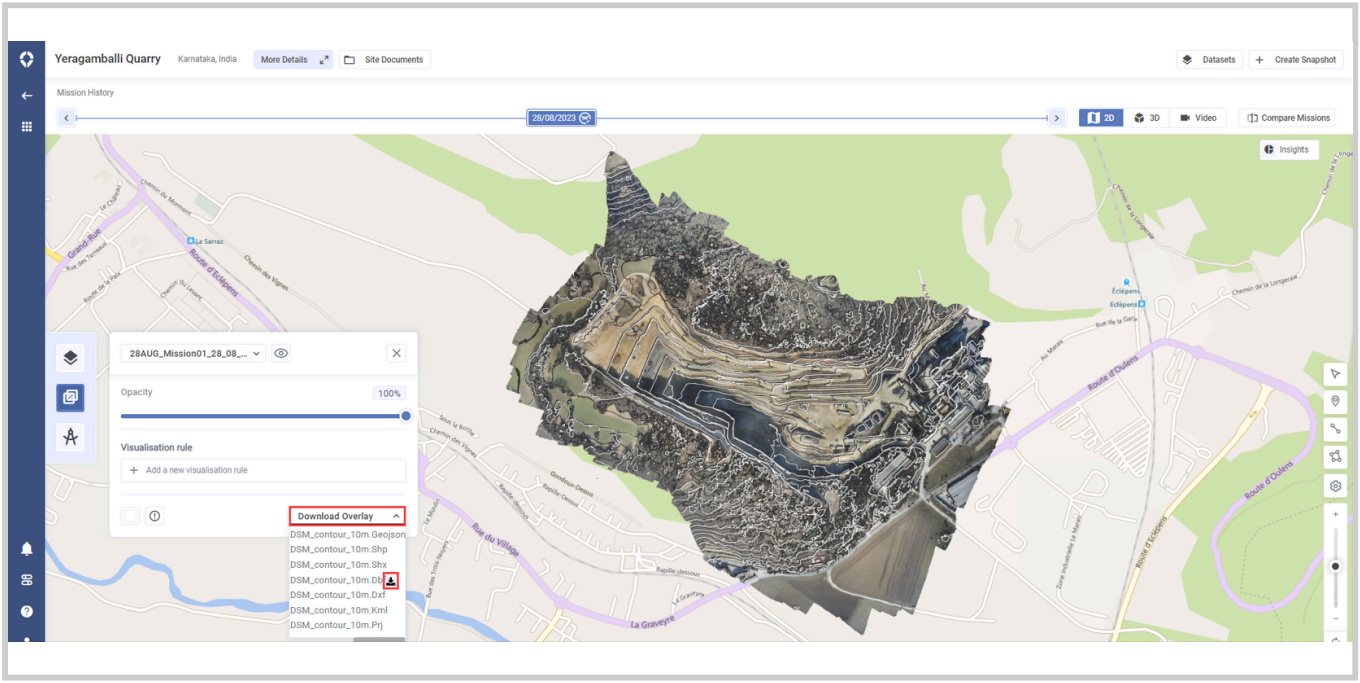
Customize Contour Line Colorr

1. To change the contour line style, click the **exclamation** icon and select the **Line Style.**



Customize Contour Line Style

1. To download the overlay, select the overlay from the dropdown.



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