

Surpac Google Earth Tools

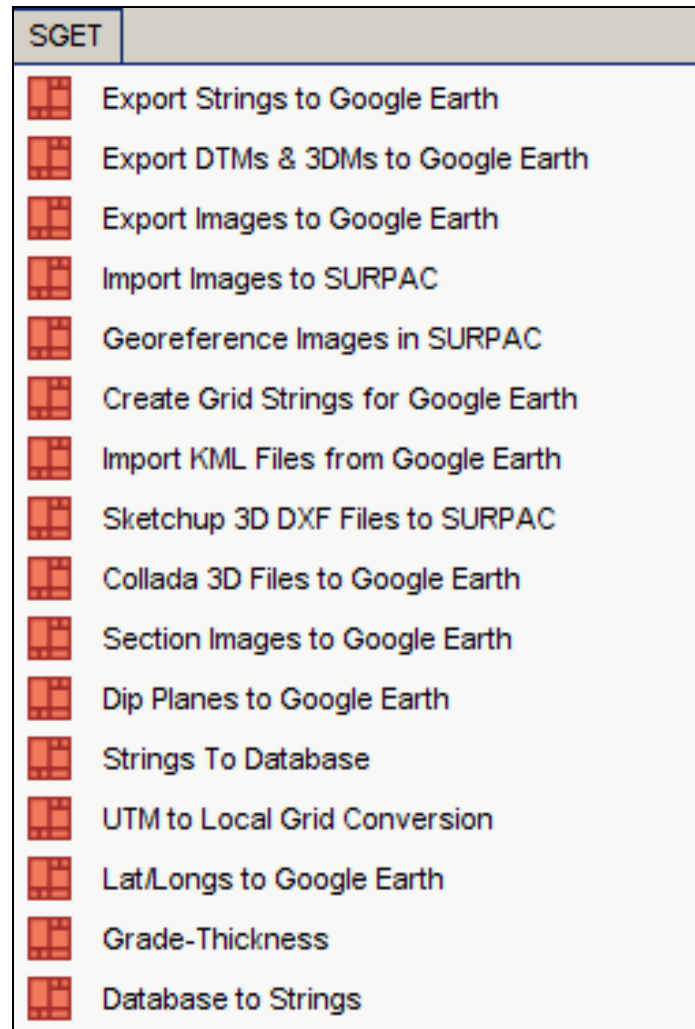
Google Earth is a free software program that lets you fly anywhere on Earth to view satellite imagery, maps, terrain and 3D buildings. When used in conjunction with **SURPAC**, it becomes a very powerful 3D GIS tool that can be used for storing, displaying and printing all of your exploration and mining data.

Any data created in **SURPAC** can be exported to **Google Earth** including string point data, string line data and string polygon data, all DTM's and 3DM models as well as saved screen images. Any other images taken from PDF's for example can be imported to **SURPAC** and geo-referenced and then exported to **Google Earth**. More complicated 3D models created in programs such as **Sketchup** can also be imported to **SURPAC** for geo-referencing and then exported to **Google Earth**.

High quality images can be saved from **Google Earth** and imported into **SURPAC** for geo-referencing. **Google Earth** also provides some useful digitising tools and any digitised data can be exported directly to **SURPAC** strings.

The following slides give you some idea of what can be done.

Surpac Google Earth Tools Menu



Exporting **SURPAC** String Data to **Google Earth**

Strings to KML [X]

Input string file:

String range:

Which altitude mode?:

Enter altitude adjustment or zero?:

Select the label string field:

Select the string type:

Select the point icon:

Select the icon colour:

Enter the icon scale:

Select the colour mode:

Select the colour:

Enter the line width:

Select the polygon fill transparency level:

Create a shape file? ☐ yes

Label name:

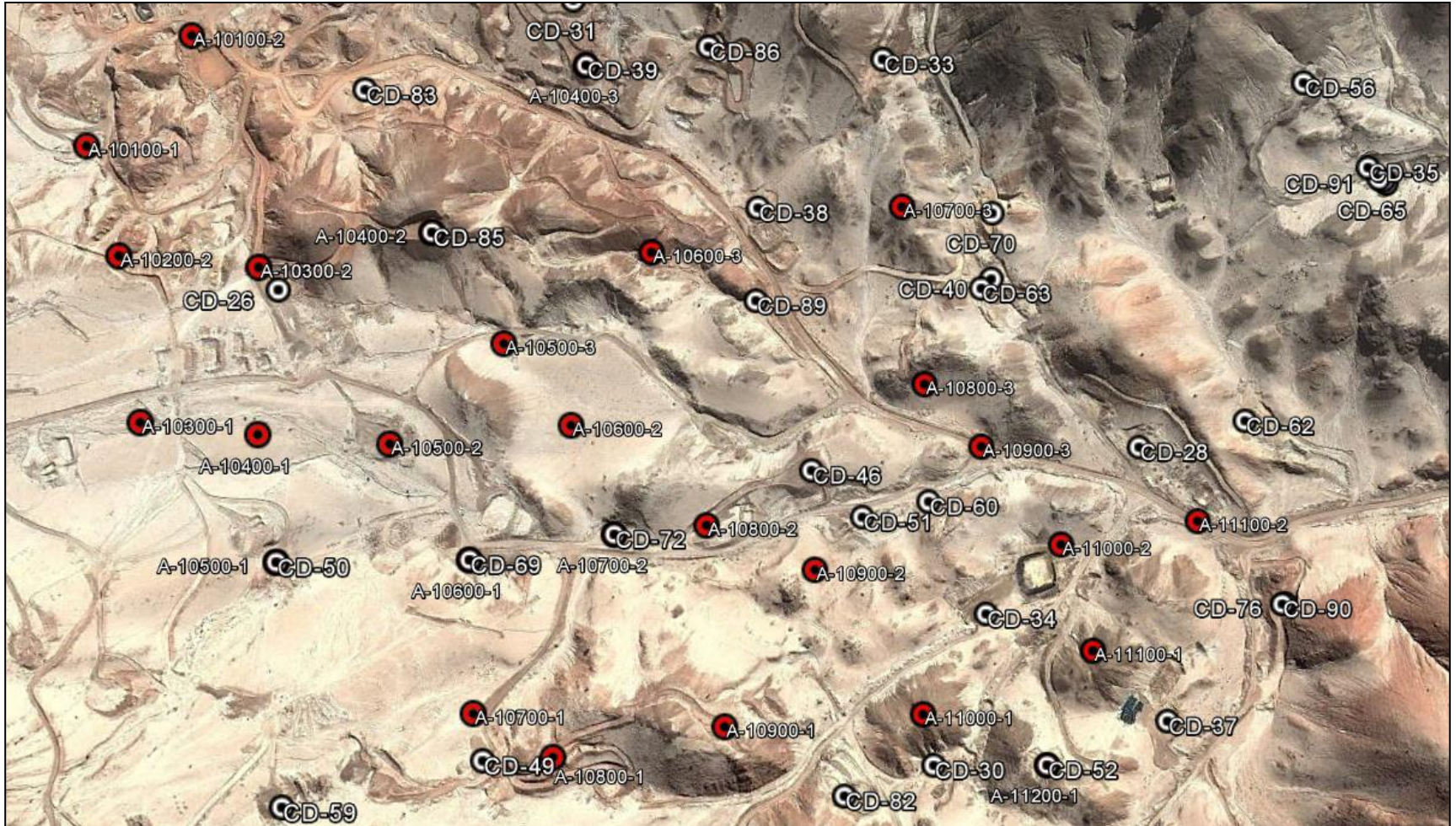
Select the Datum and Zone:

SGET created by: [Collaroy Computing - www.collaroy.com](http://www.collaroy.com)

[?] [Apply] [Cancel]

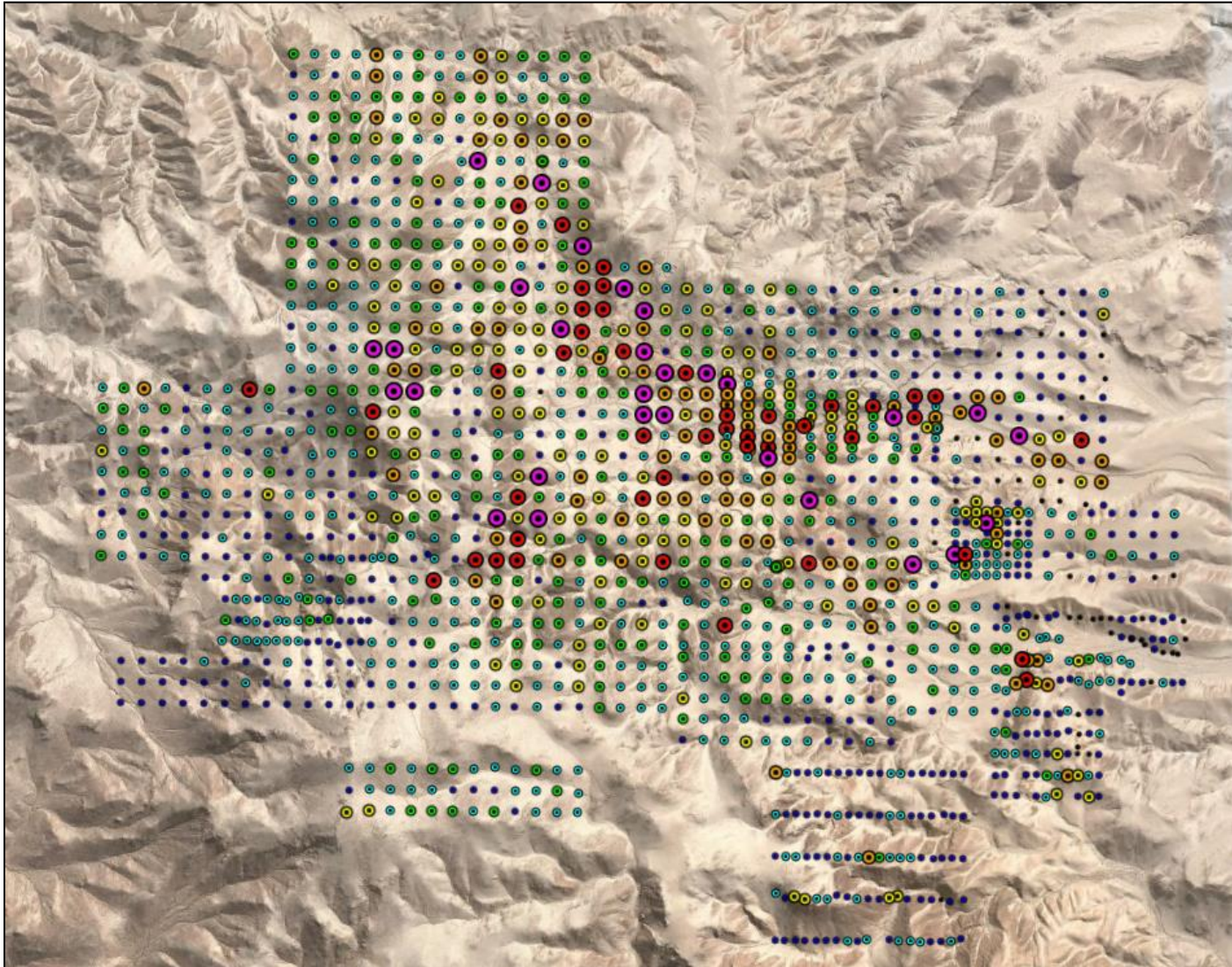
Exporting **SURPAC** String Data to **Google Earth**

Point Data eg. Drill hole collars



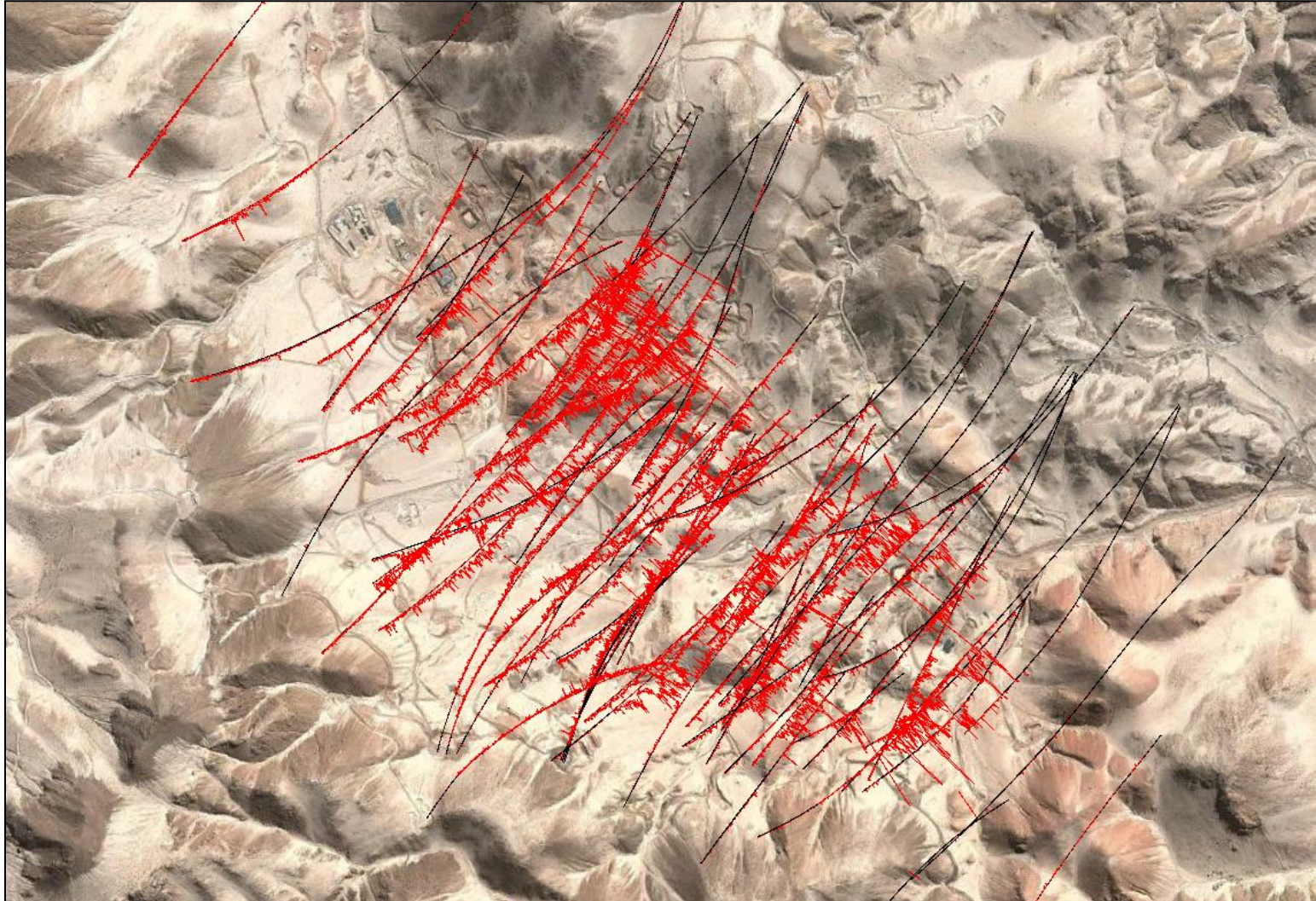
Exporting **SURPAC** String Data to **Google Earth**

Point Data eg. Soil geochem data



Exporting **SURPAC** String Data to **Google Earth**

Line Data eg. Drill hole traces and grade histograms



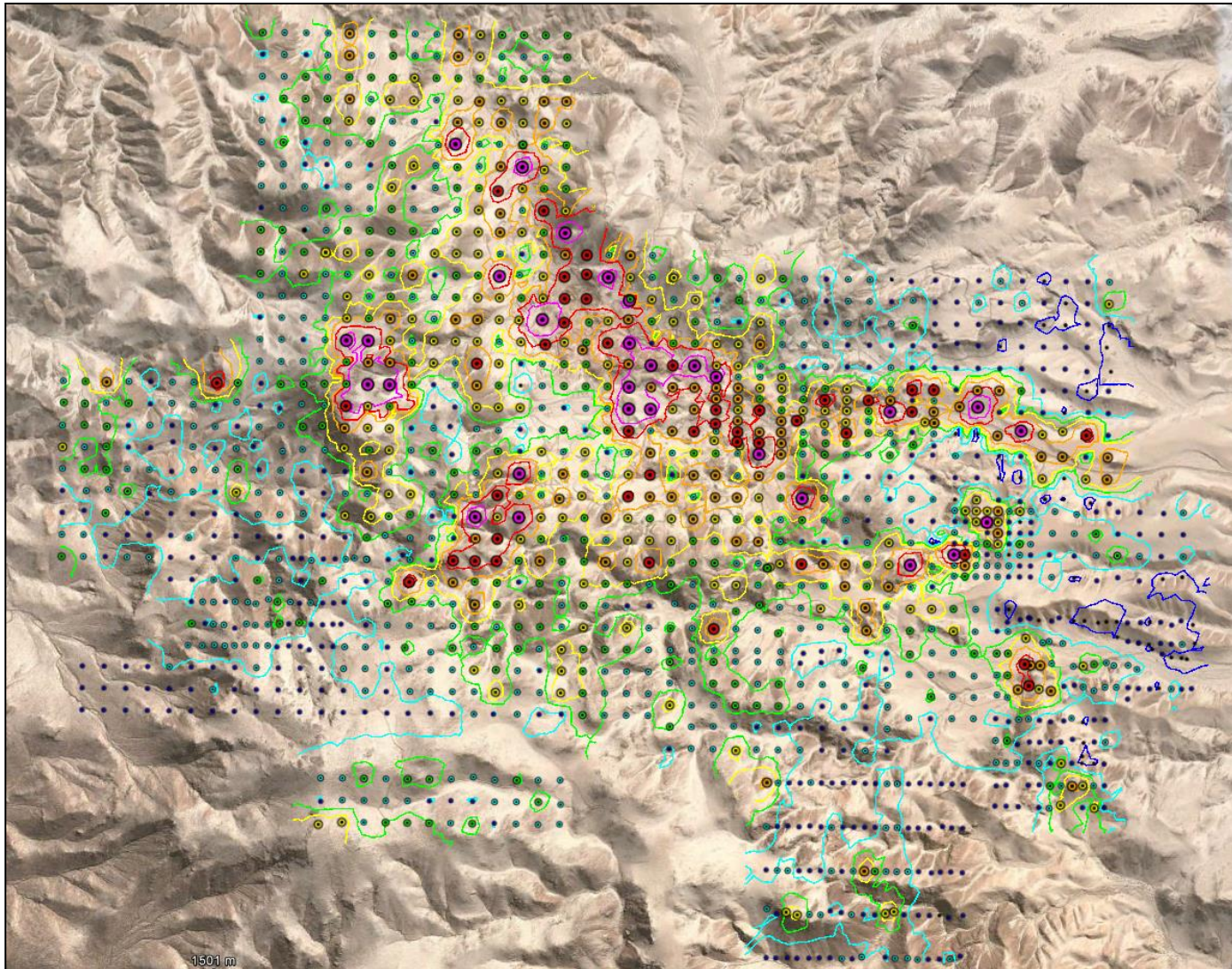
Exporting **SURPAC** String Data to **Google Earth**

Line Data eg. Local grid lines



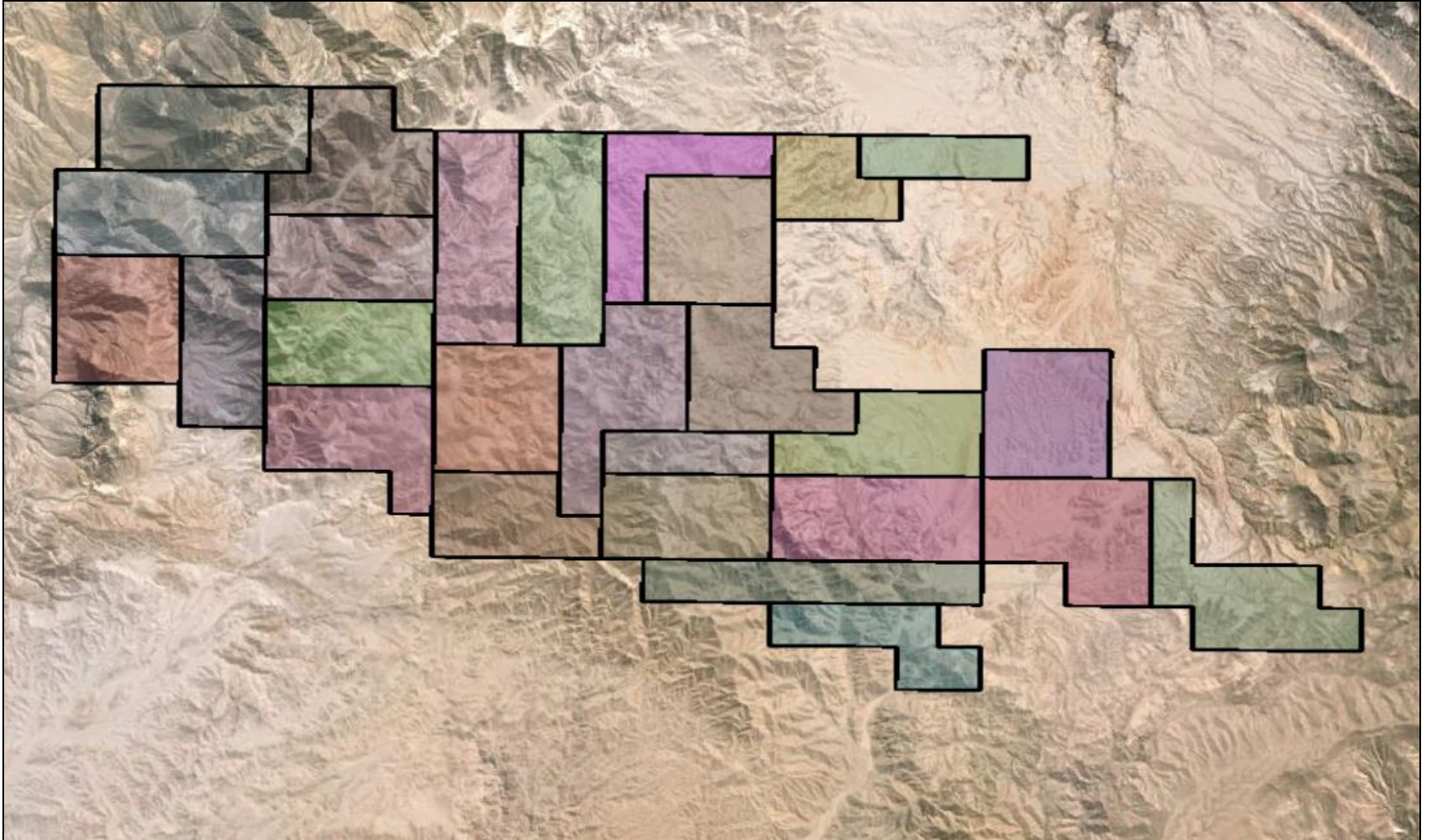
Exporting **SURPAC** String Data to **Google Earth**

Line Data eg. Soil geochem contours



Exporting **SURPAC** String Data to **Google Earth**

Polygon Data eg. Tenements



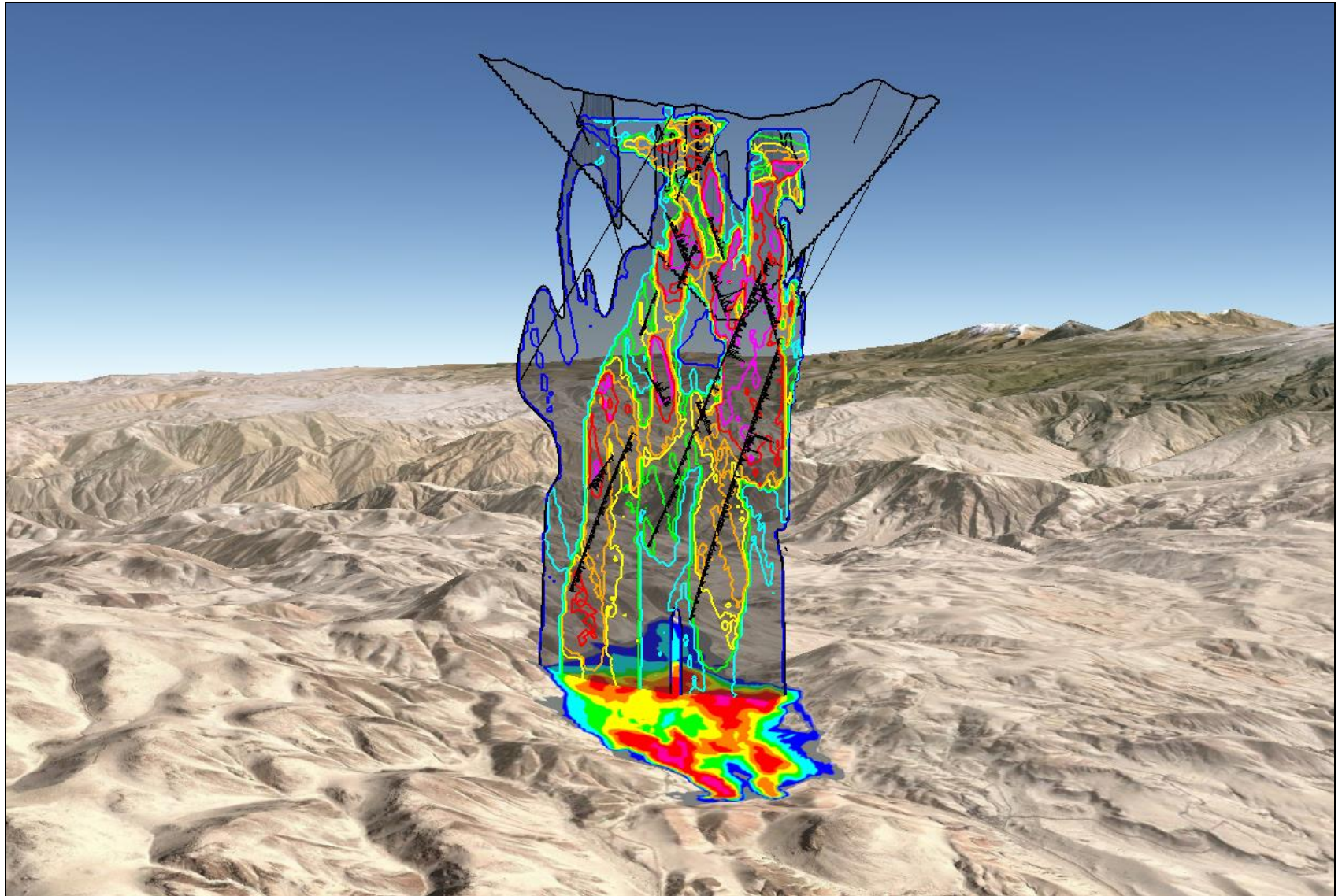
Exporting **SURPAC** String Data to **Google Earth**

Polygon Data eg. Closed shapes such as open pit outlines



Exporting **SURPAC** String Data to **Google Earth**

Polygon and Line Data eg. Cross section shapes



Exporting **SURPAC** DTM-3DM Data to **Google Earth**

DTM to KML

DTM file: soils.dtm

Object range: 1,32000

Which altitude mode? Relative_to_ground

Enter altitude adjustment or zero? 0

Do you want to colour the triangles by ranges? ☒ yes

Value range: 0;25;50;75;100;150;250;500;9999

Select the triangle fill transparency level: 100

Select the triangle fill colour: blue

Triangle outlines? ☒ yes

Select the outline colour: black

Enter the outline width: 1

Create a shape file? ☐ yes

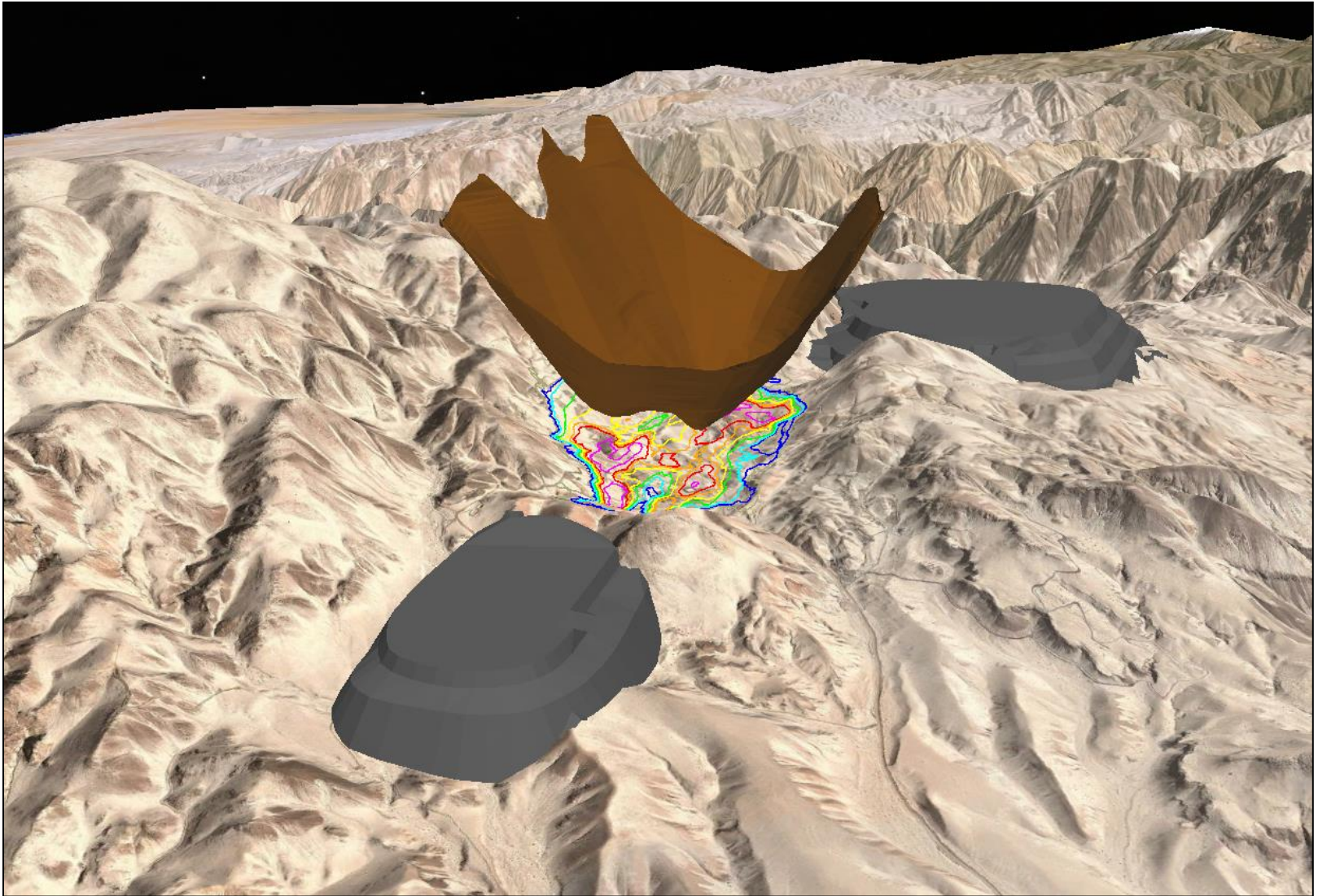
Select the Datum and Zone: WGS_1984_UTM_Zone_19S

SGET created by: [Collaroy Computing - www.collaroy.com](http://www.collaroy.com)

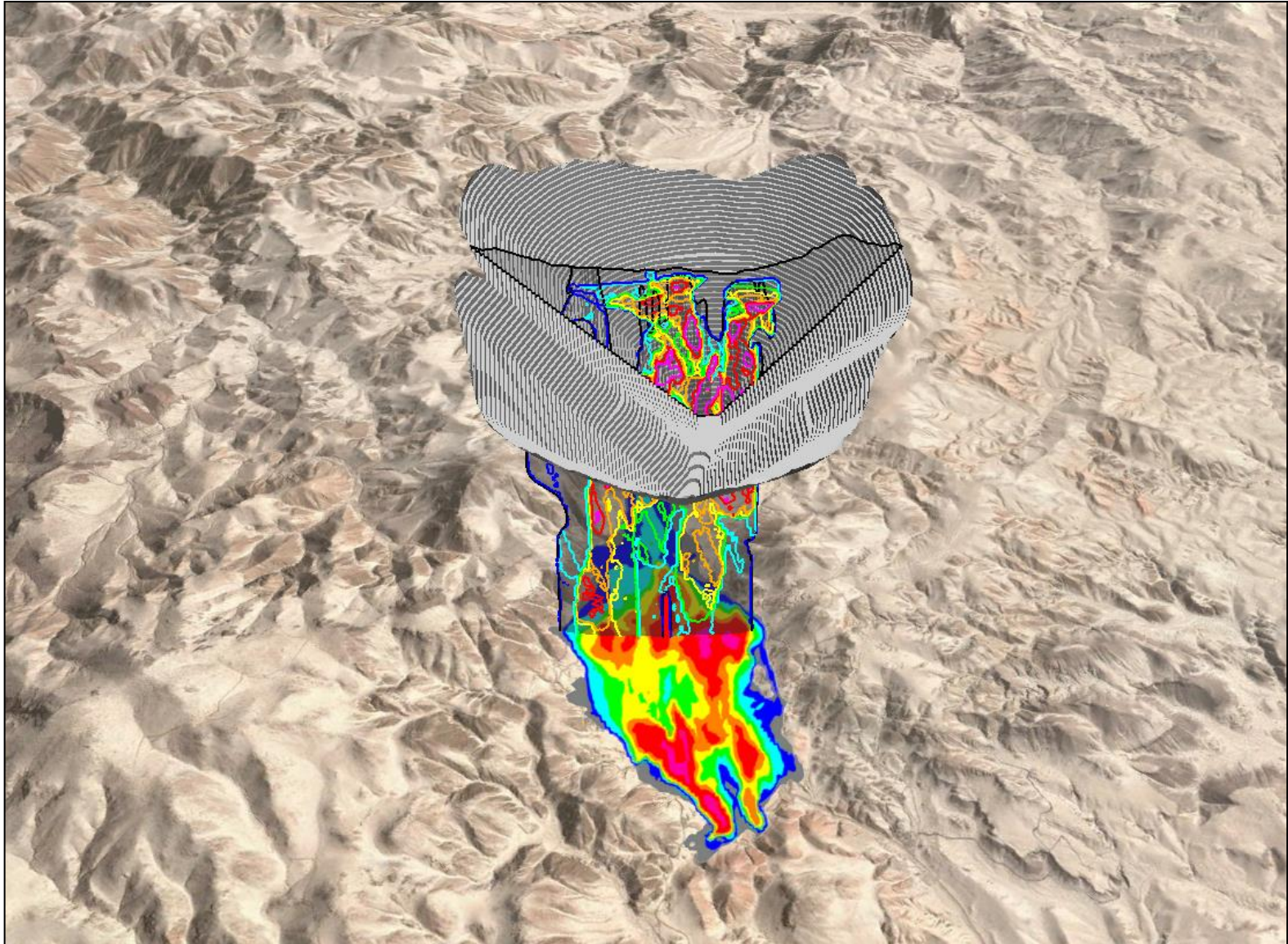
Exporting **SURPAC** DTM-3DM Data to **Google Earth**

3D Data eg. Waste Dumps & open pits



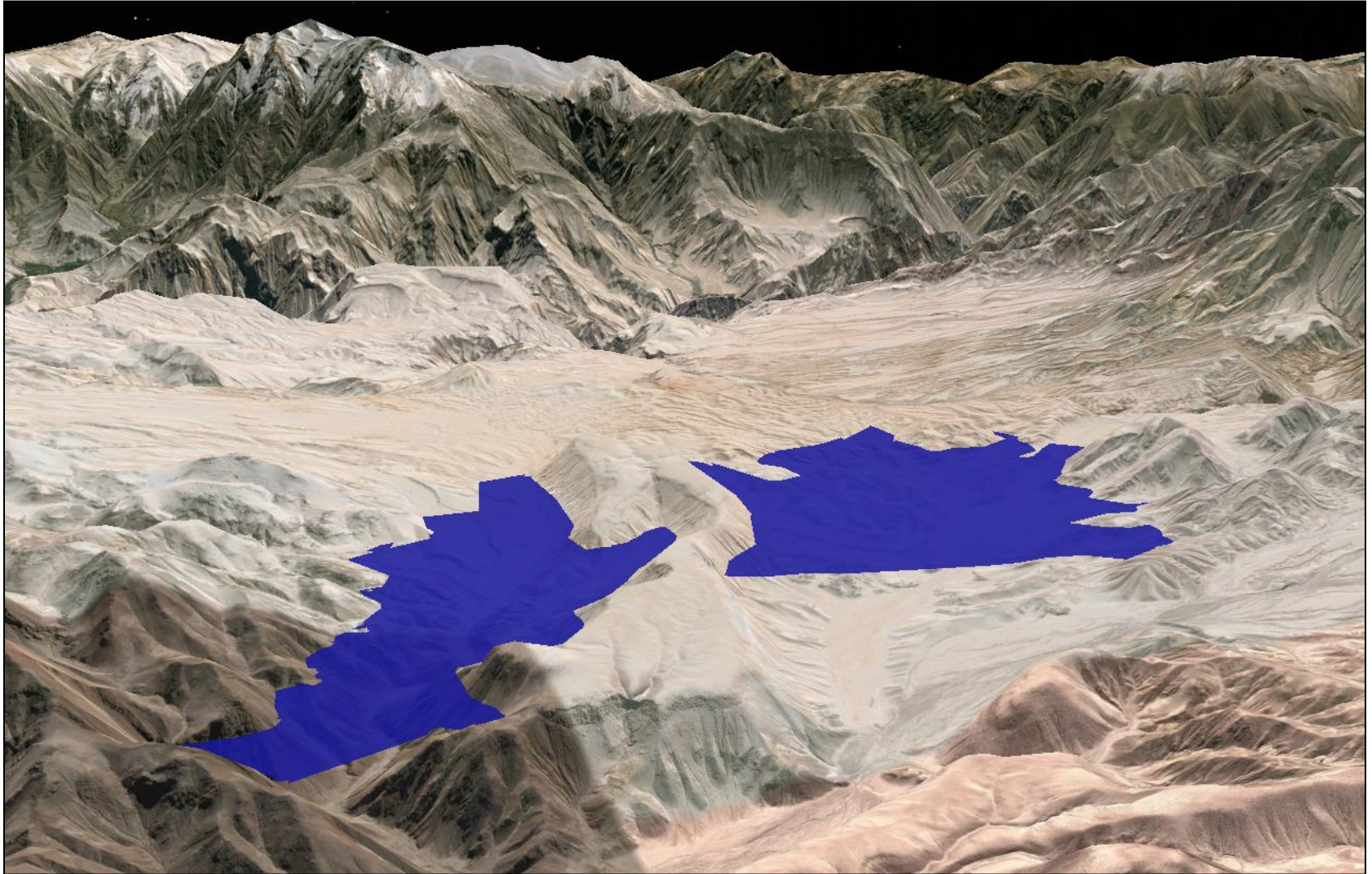
Exporting **SURPAC** DTM-3DM Data to **Google Earth**

3D Data eg. Open pit with string cross sections data



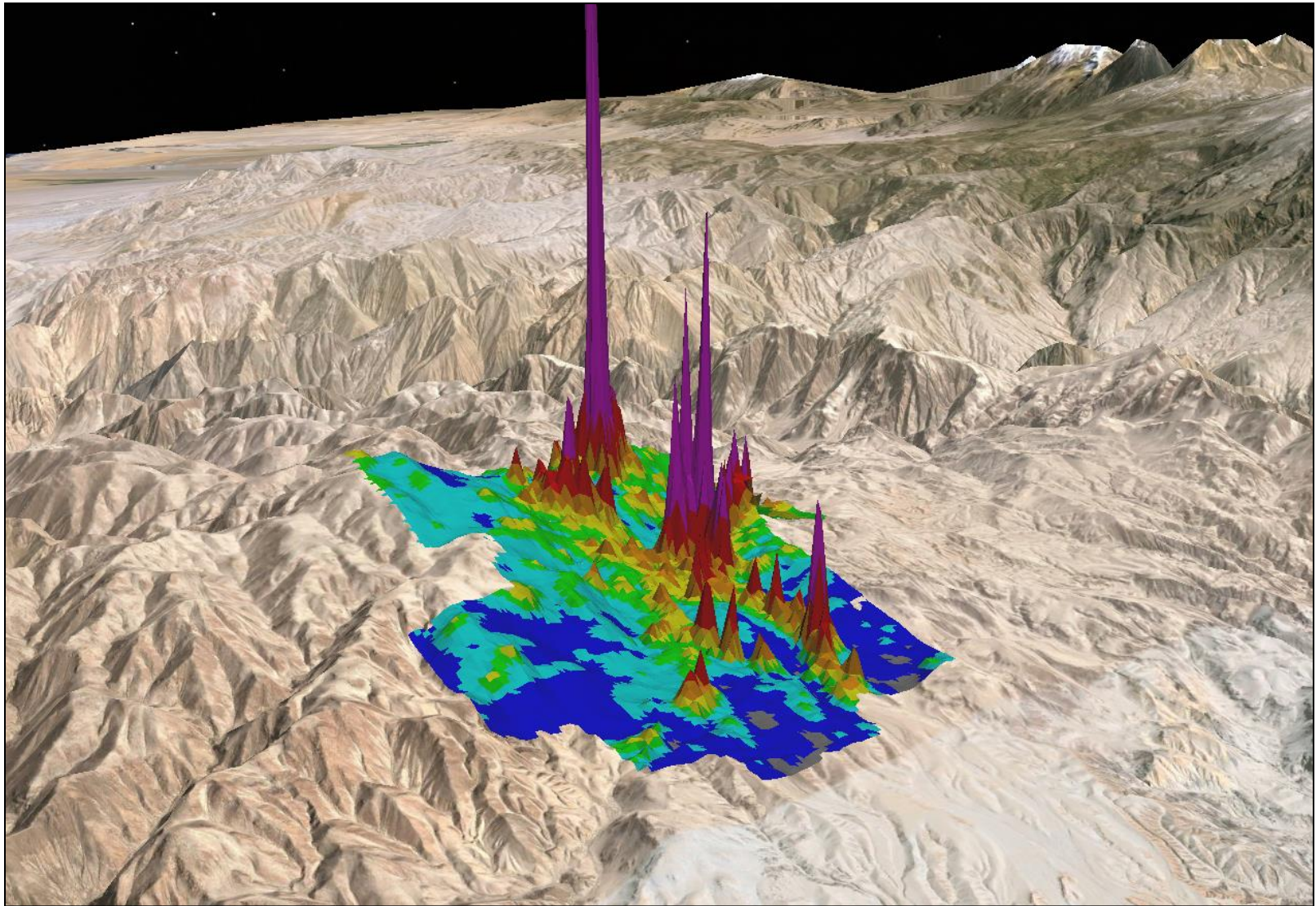
Exporting **SURPAC** DTM-3DM Data to **Google Earth**

3D Data eg. Tailings dams



Exporting **SURPAC** DTM-3DM Data to **Google Earth**

3D Data eg. Soil geochem solid contours



Exporting Images Created in SURPAC to Google Earth

Image to KML [X]

Image file type to create ☒ GIF ☐ PNG

Image file name

Factor to increase image resolution

Google Earth Overlay Name

Create a SURPAC .rgf file? ☒ yes

Do you have an existing DTM to drape the image over

DTM file to drape image over

Plan, EW Section or NS view?

Elevation for DTM

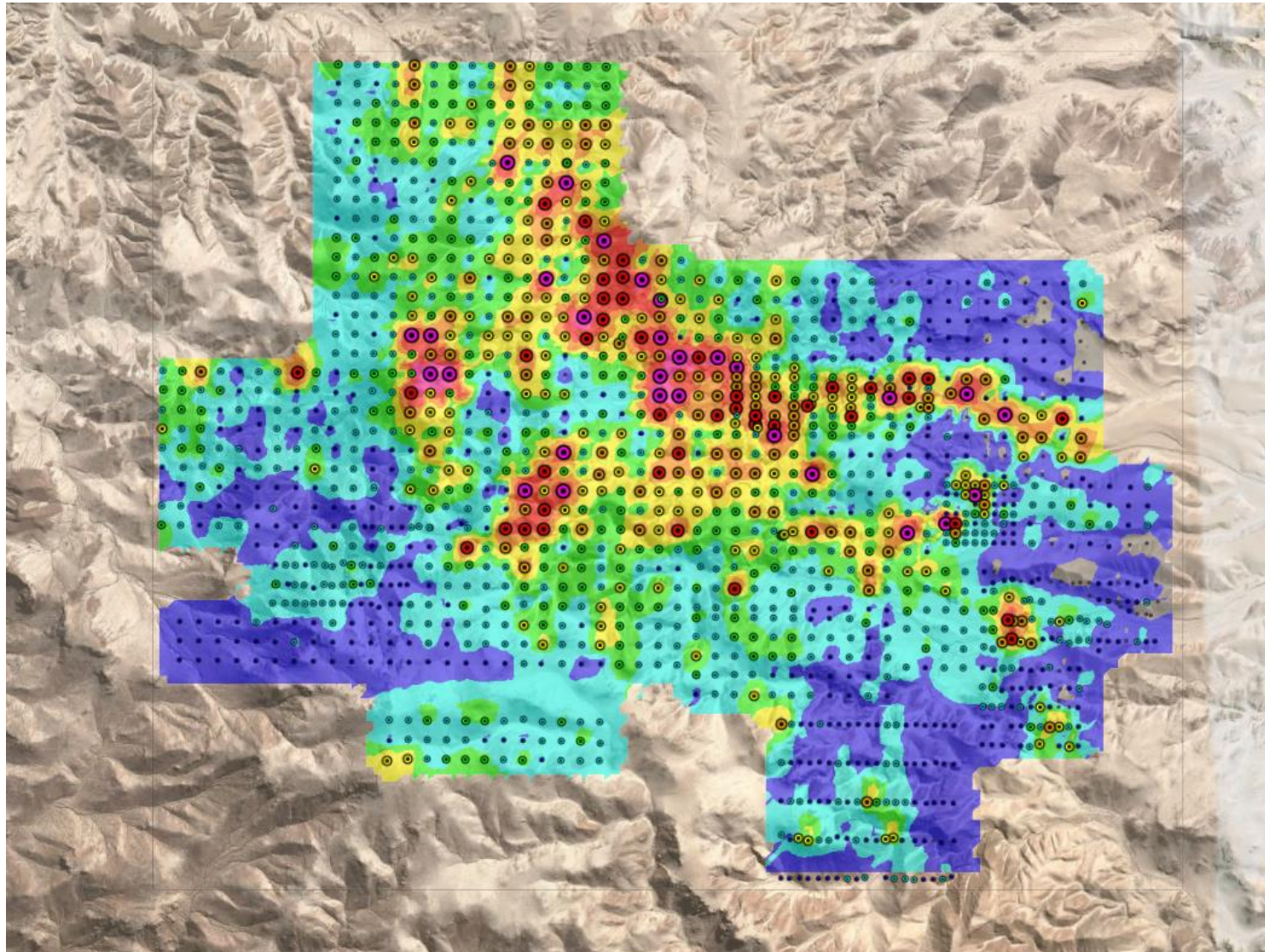
Select the Datum and Zone

SGET created by: [Collaroy Computing - www.collaroy.com](http://www.collaroy.com)

[?] [Apply] [Cancel]

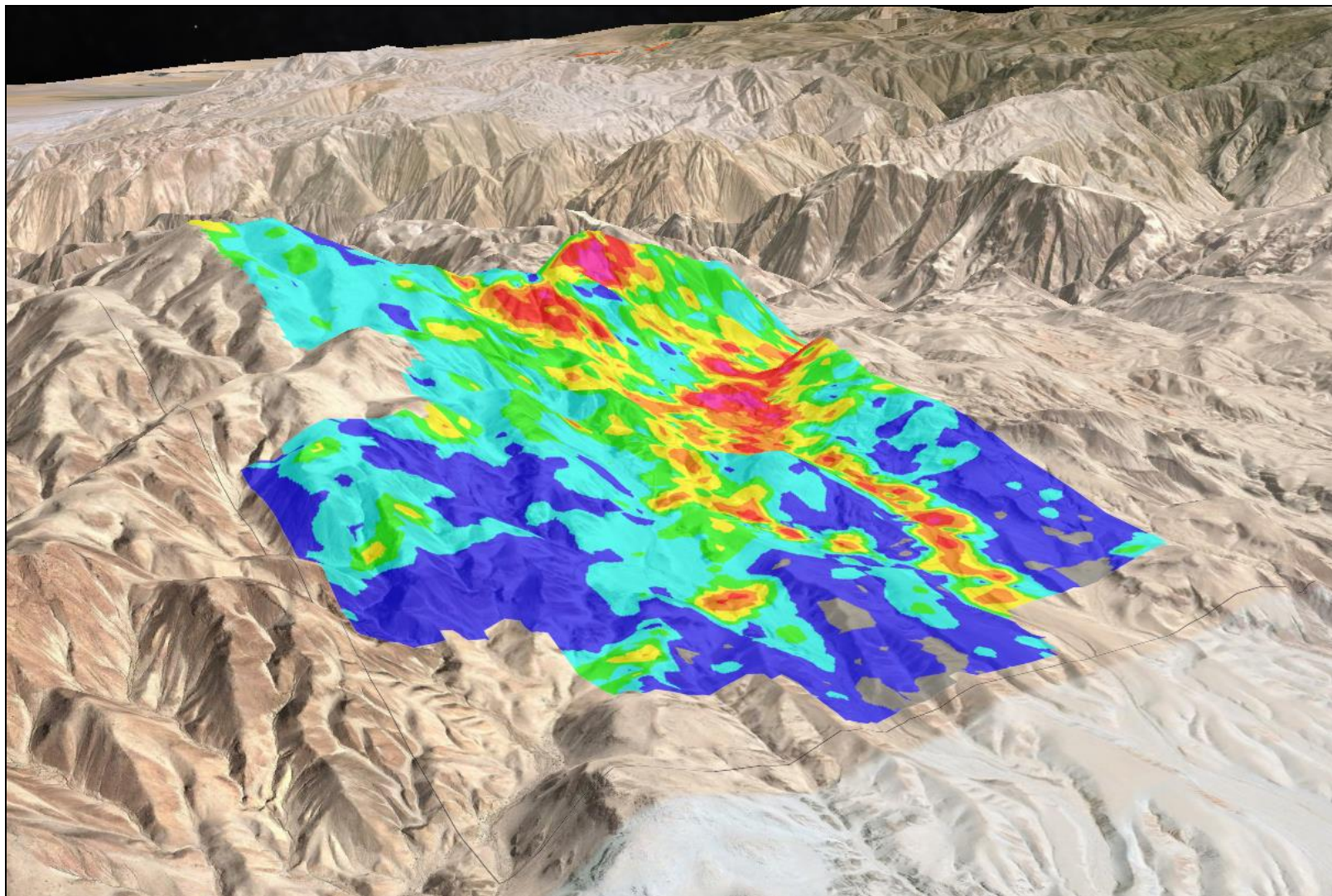
Exporting Images Created in **SURPAC** to **Google Earth**

Soil Geochem with Solid Colour Banding



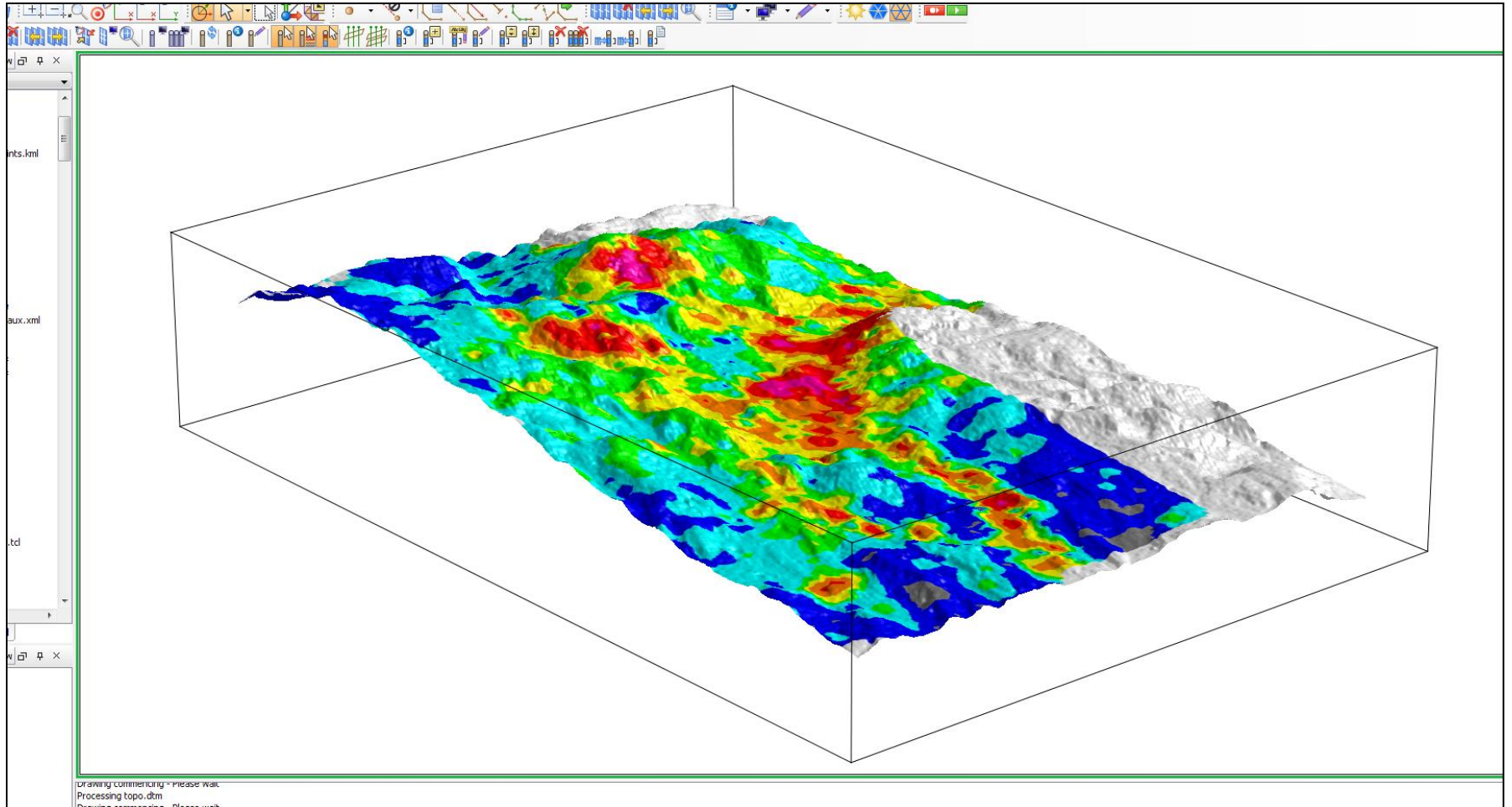
Exporting Images Created in **SURPAC** to **Google Earth**

Soil Geochem with Solid Colour Banding



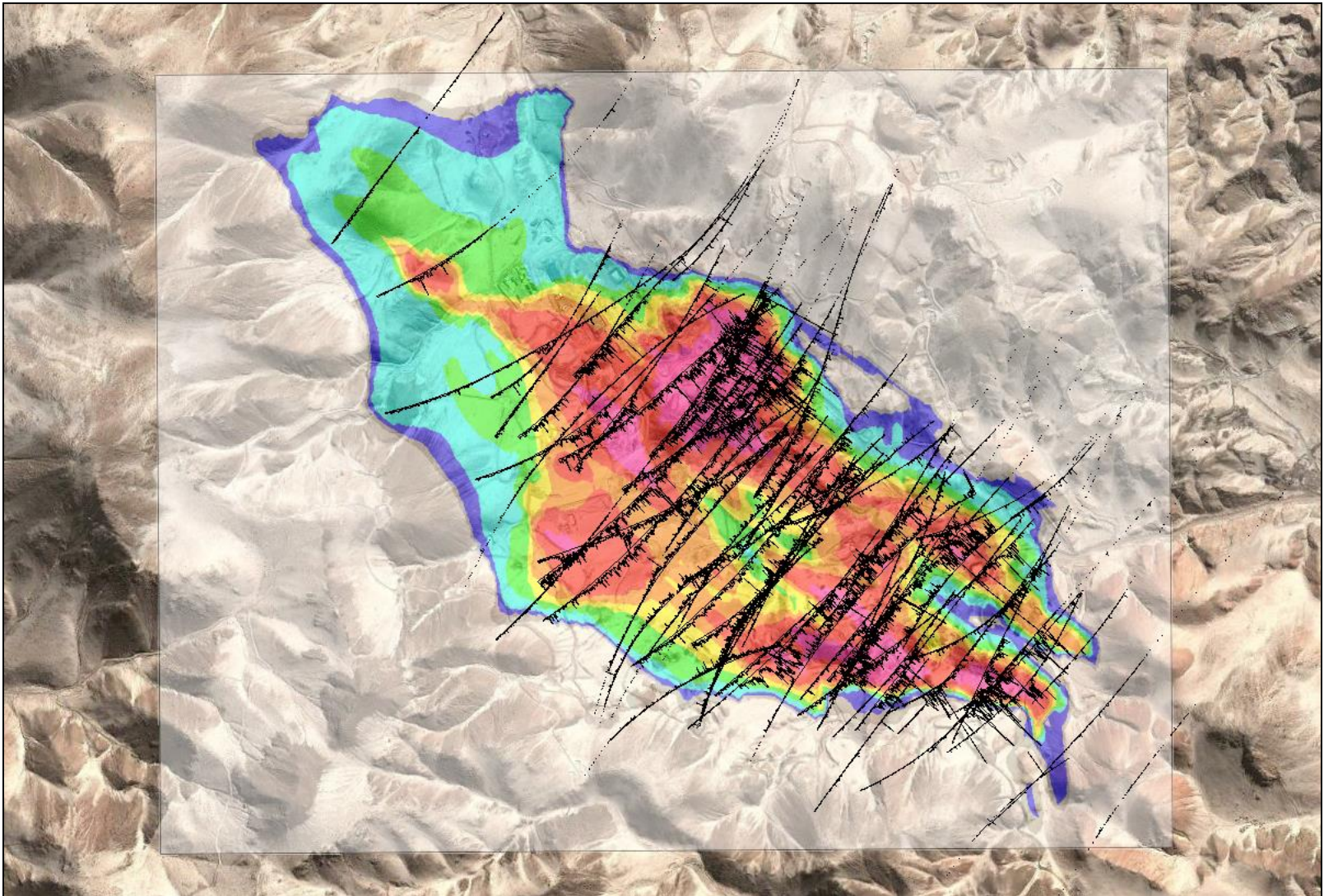
Automatic Draping of Images on DTM's in **SURPAC**

Soil Geochem with Solid Colour Banding



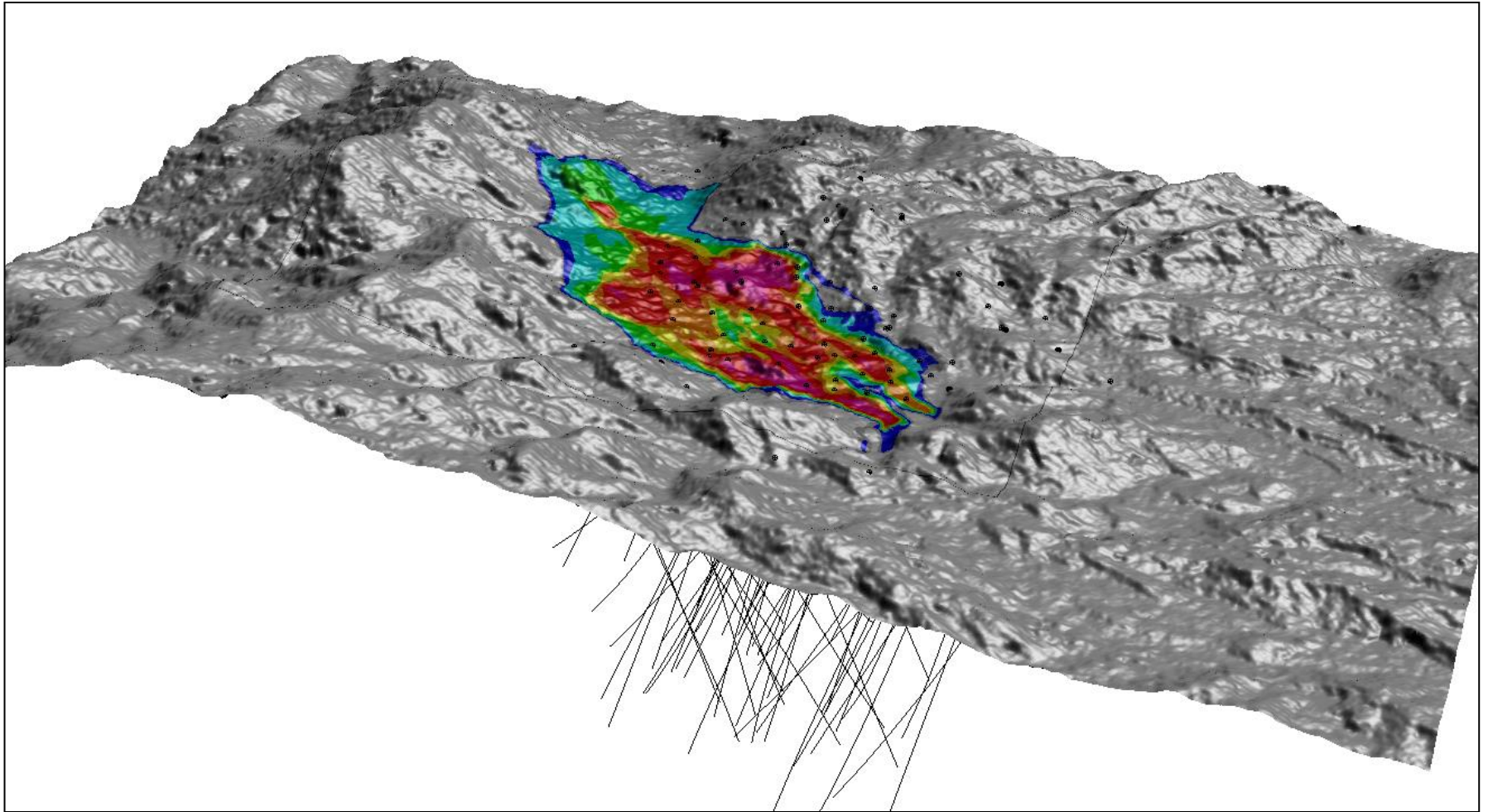
Exporting Images Created in **SURPAC** to **Google Earth**

Block Model Grade-Thickness with Solid Colour Banding



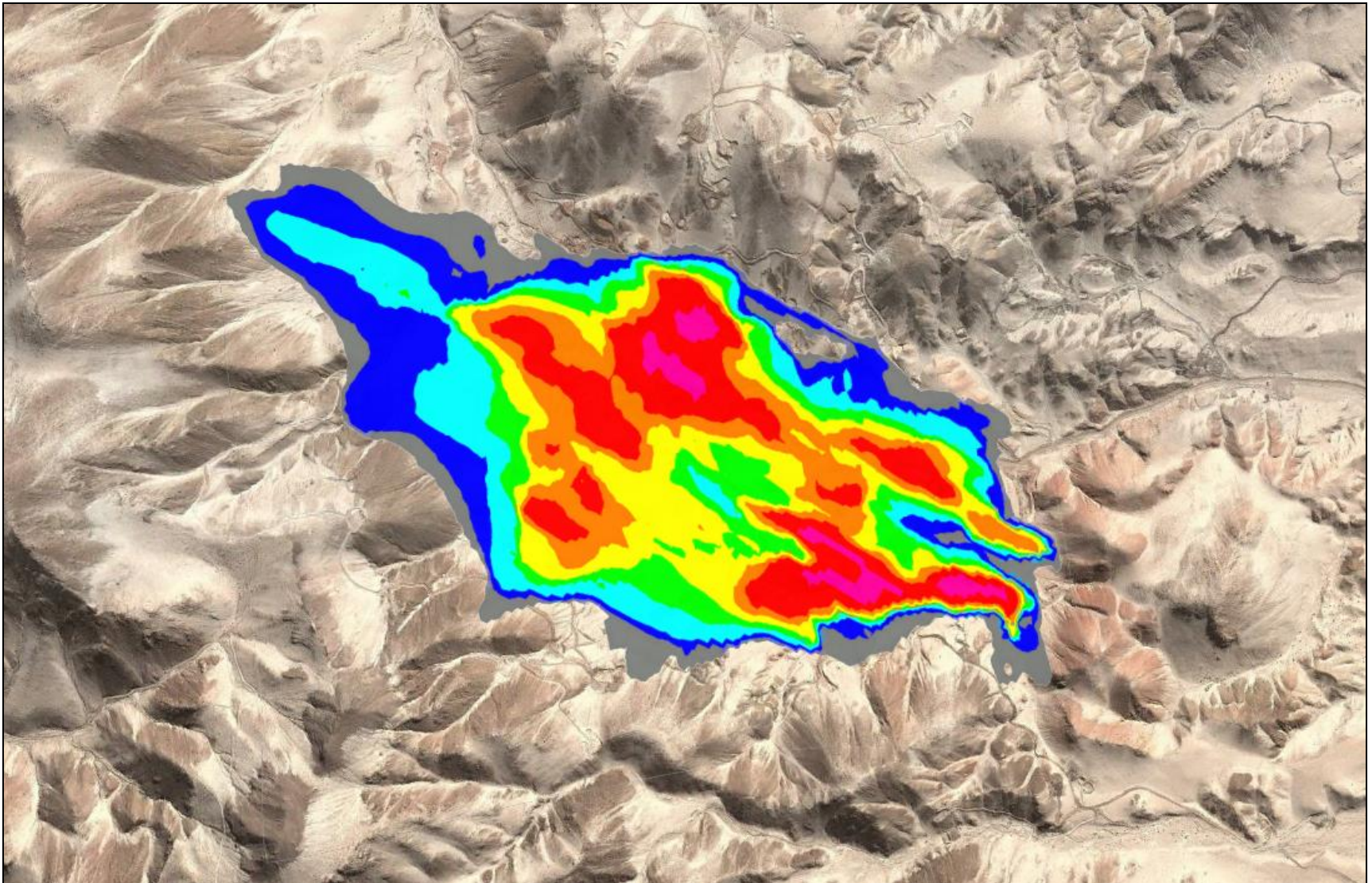
Automatic Draping of Images on DTM's in **SURPAC**

Block Model Grade-Thickness with Solid Colour Banding



Exporting Images Created in **SURPAC** to **Google Earth**

Block Model Grade-Thickness with Solid Colour Banding and Transparent Outer Colour



Importing Images to SURPAC

Image to SURPAC

Image file:

X image resolution:

Y image resolution:

Enter image extents? ☐ yes

Is there a valid world file? ☐ yes

Do you have an existing DTM to drape the image over? ☐ yes

DTM file to drape image over:

UTM or Lat-Longs?

PLan, EW Section or NS Section?

North or Top co-ordinate:

West or Left co-ordinate:

South or Bottom co-ordinate:

East or Right co-ordinate:

Elevation, Northing or Easting:

Transparent?

Create a KML file? ☐ yes

Select the Datum and Zone:

SGET created by: [Collaroy Computing - www.collaroy.com](http://www.collaroy.com)

Image to SURPAC

Image file:

Input string file with coordinates:

Co-ordinates from a database? ☐ yes

Which D field contains the hole ID?

Which D field contains the Y co-ordinate?

Which D field contains the X co-ordinate?

Do you have an existing DTM to drape the image over? ☐ yes

DTM file to drape image over:

PLan, EW Section or NS Section?

Do you want to enter the image extent co-ordinates or calculate from image resolution?

X image resolution:

Y image resolution:

North or Top co-ordinate:

West or Left co-ordinate:

South or Bottom co-ordinate:

East or Right co-ordinate:

Elevation or Section co-ordinate:

Transparent?

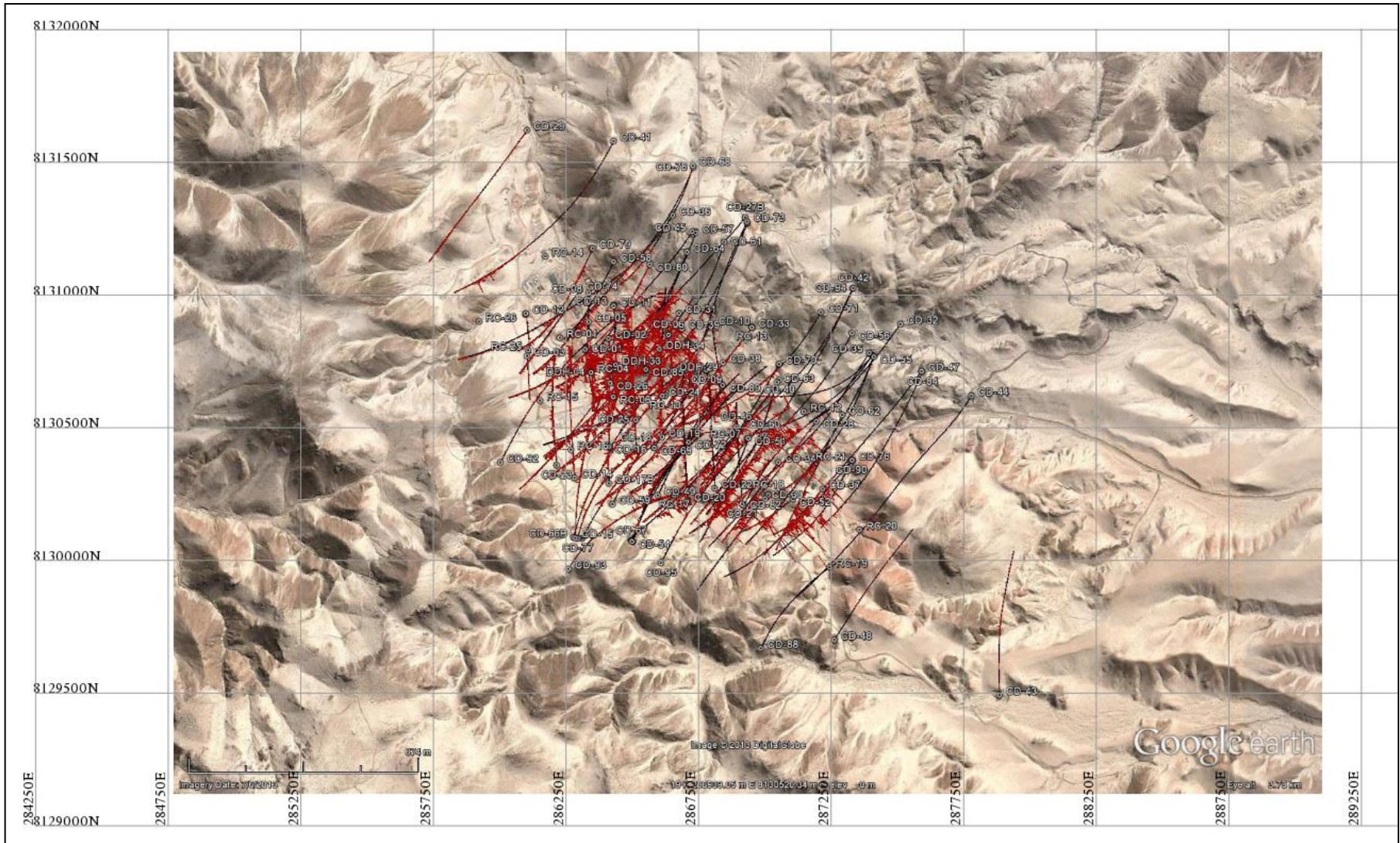
Create a KML file? ☒ yes

Select the Datum and Zone:

SGET created by: [Collaroy Computing - www.collaroy.com](http://www.collaroy.com)

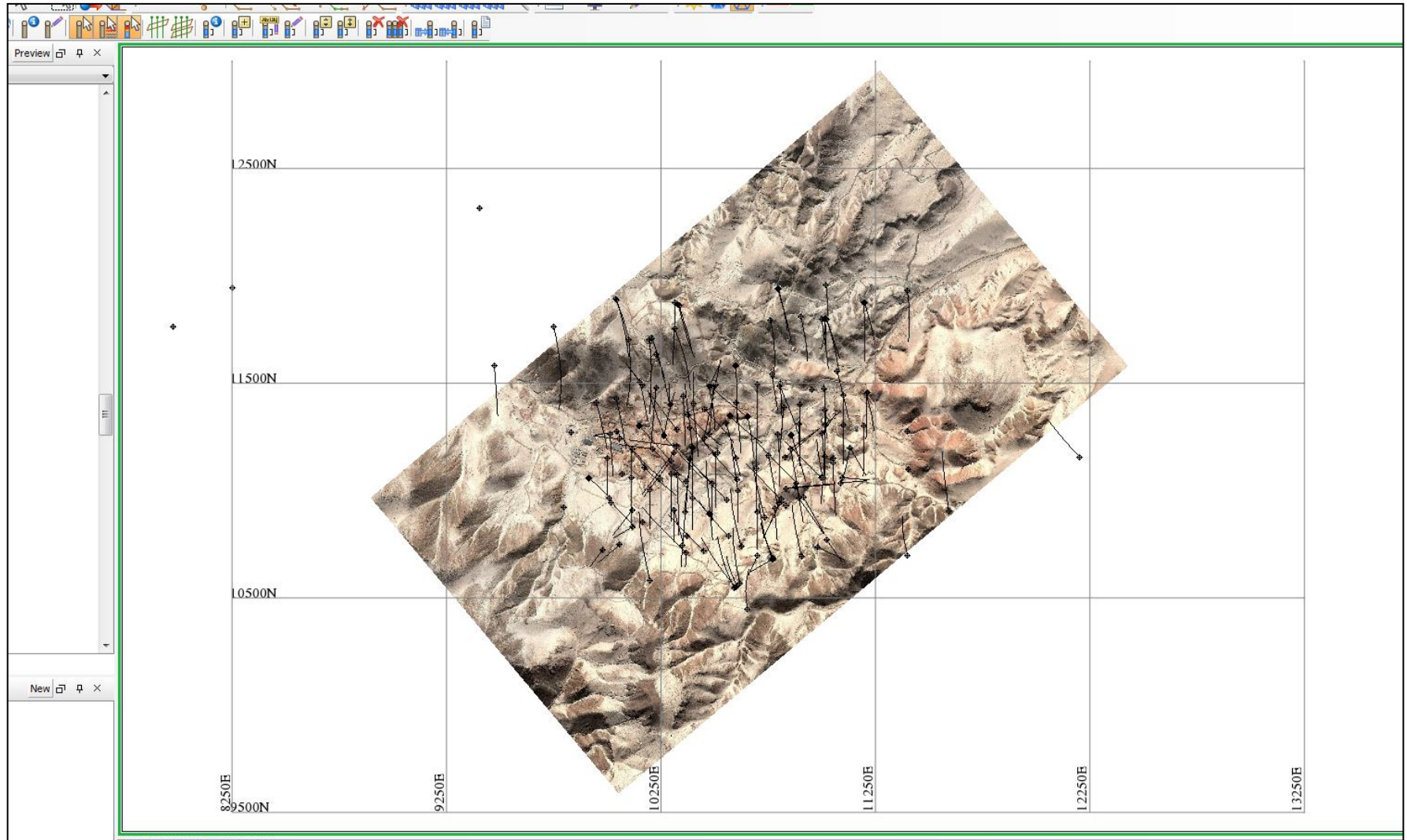
Importing Google Earth Images to SURPAC

High Resolution Google Earth Image in SURPAC



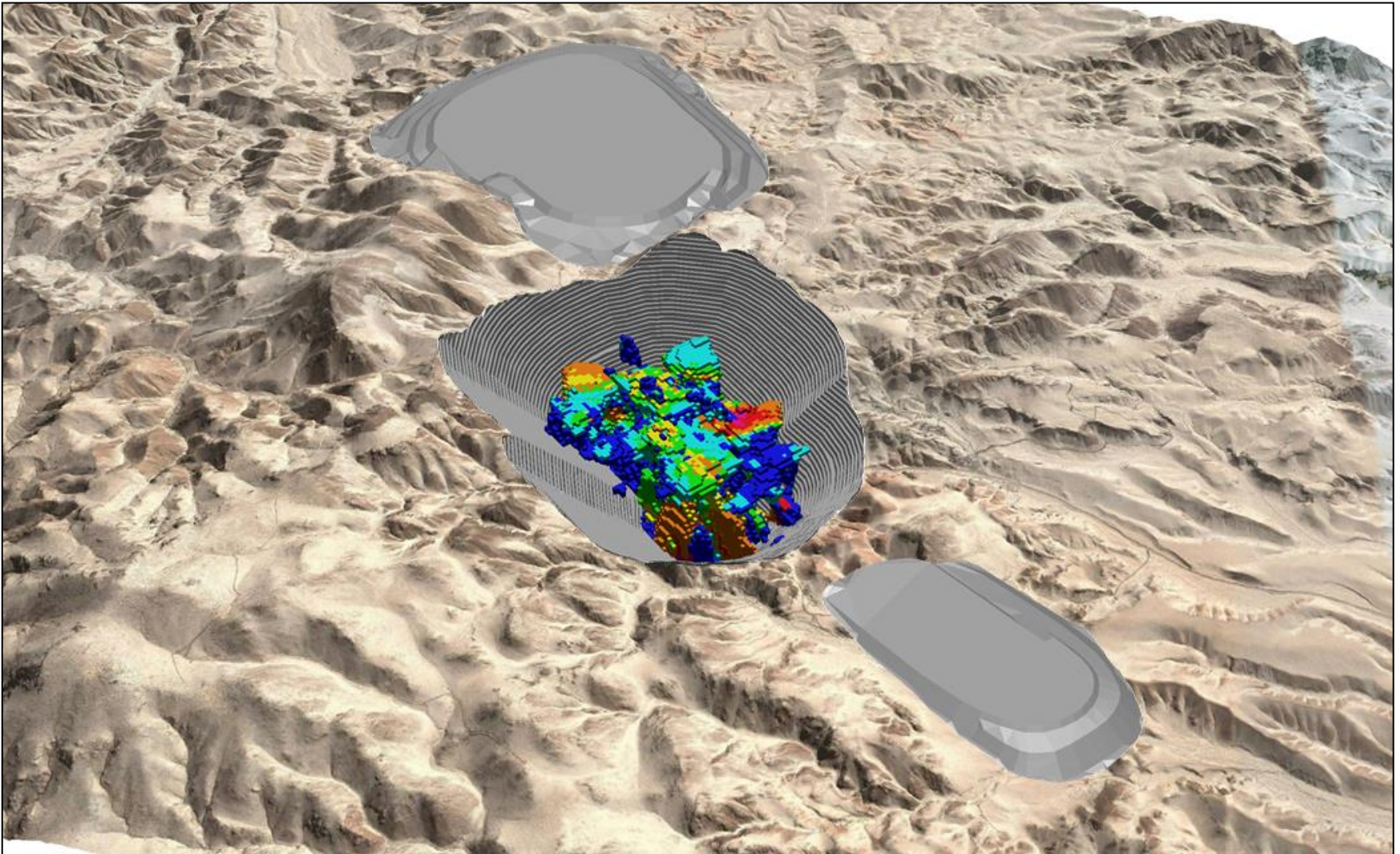
Importing **Google Earth** Images to **SURPAC**

High Resolution Google Earth Image in **SURPAC** in Local Grid



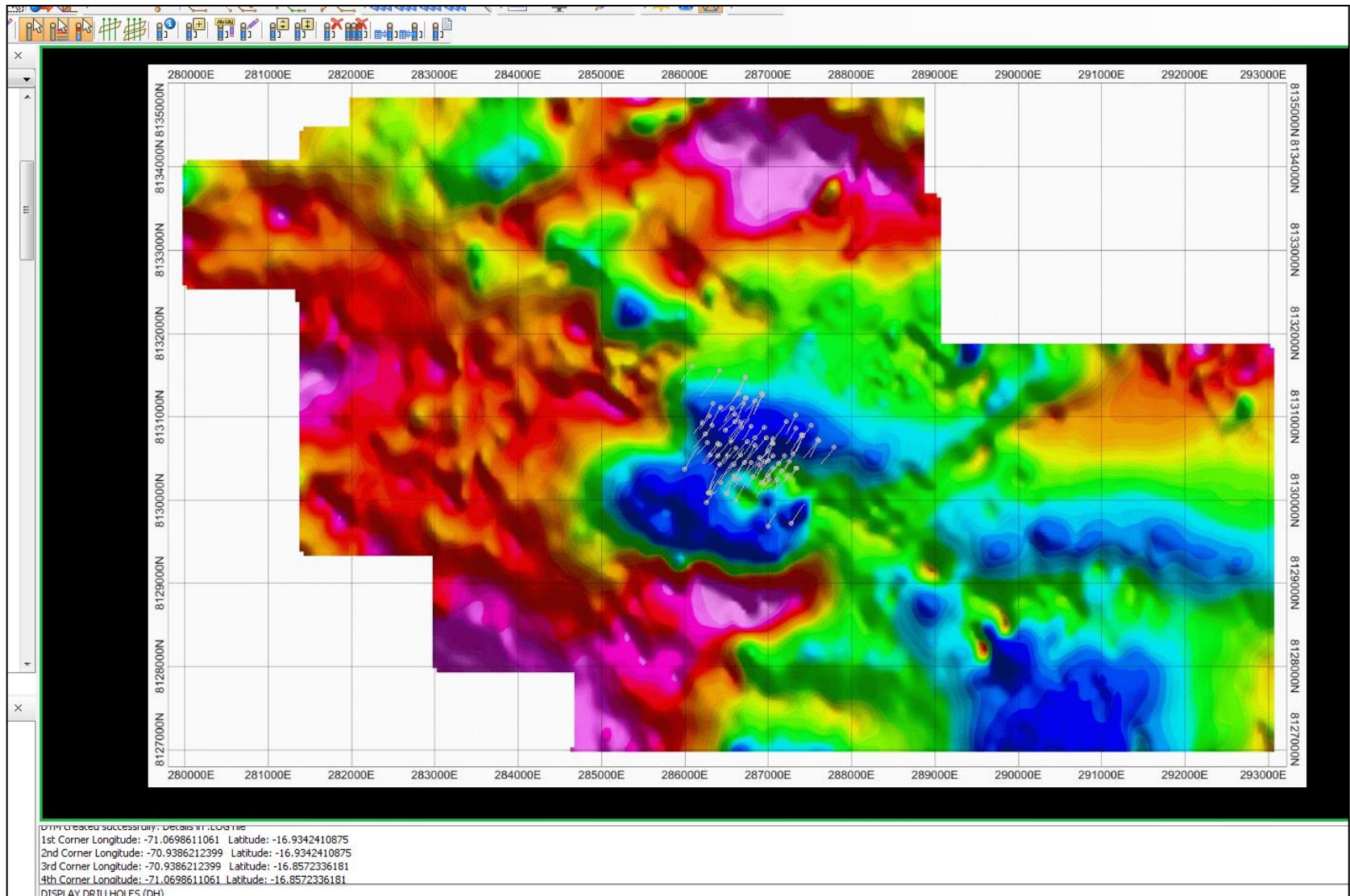
Importing Google Earth Images to **SURPAC**

High Resolution Google Earth Image in **SURPAC** with Open Pit and Block Model



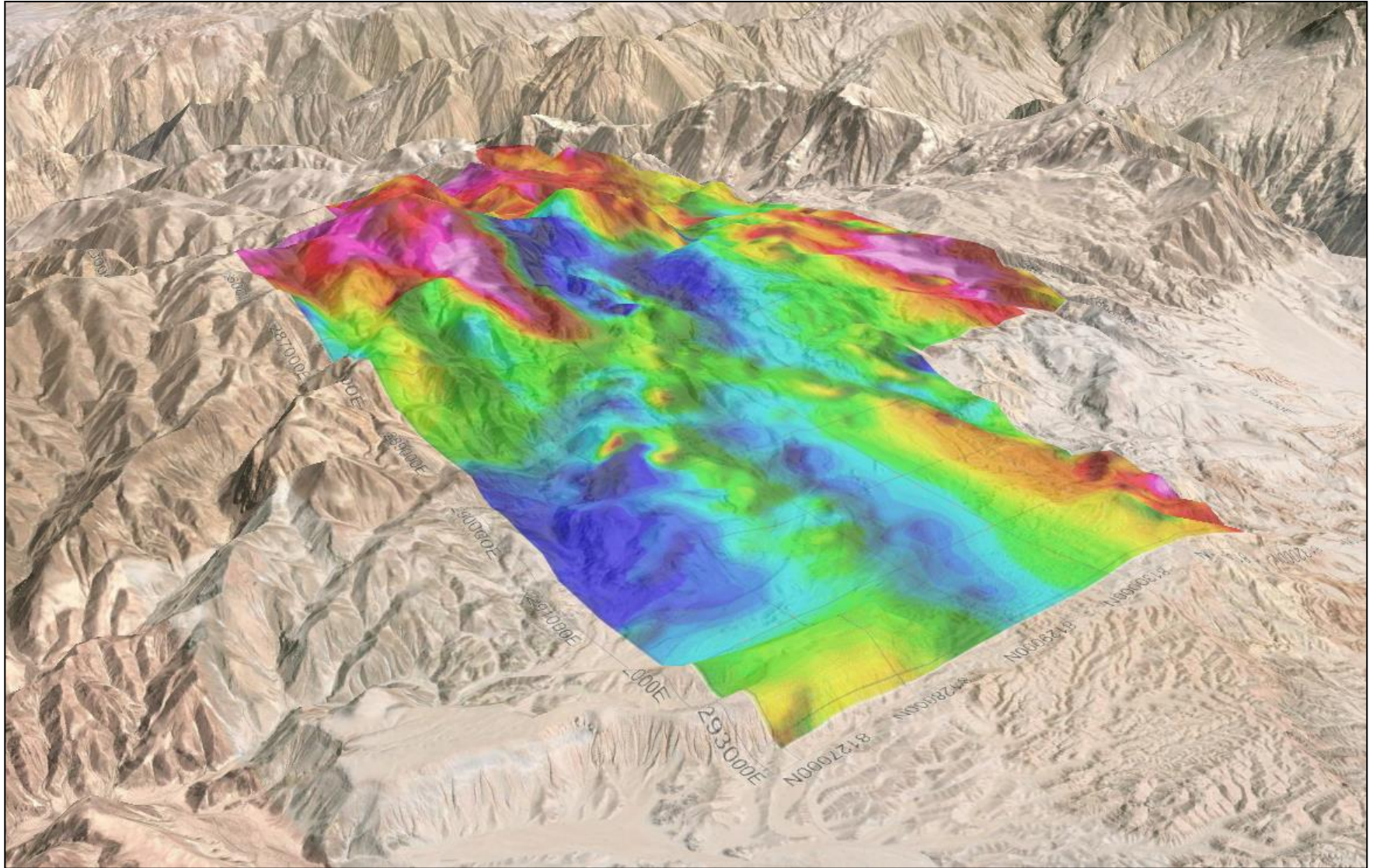
Importing Images from PDF's into **SURPAC**

Aerial Magnetic Solid Contour Image in **SURPAC**



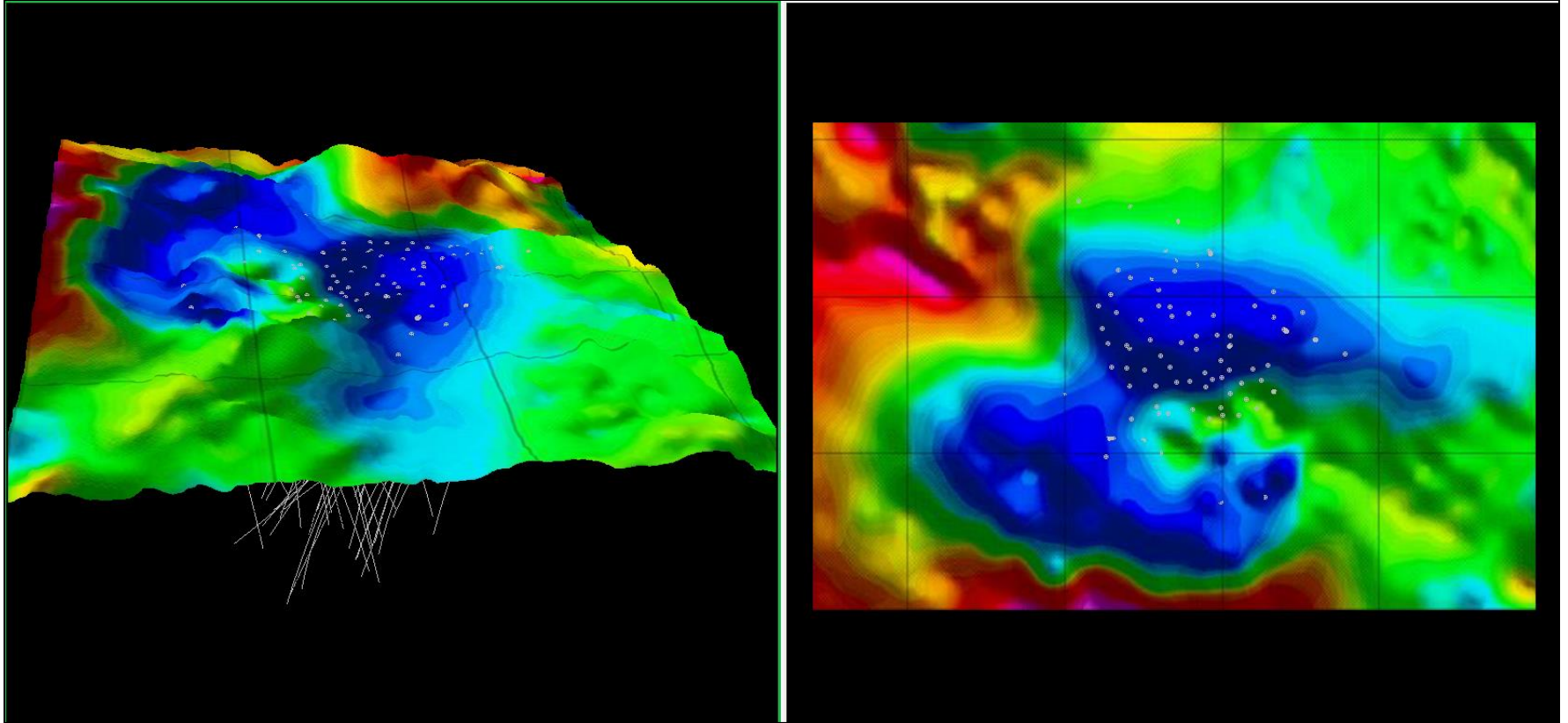
Exporting PDF Images from **SURPAC** to **Google Earth**

Aerial Magnetic Solid Contour Image in Google Earth with Transparent Outer Colour



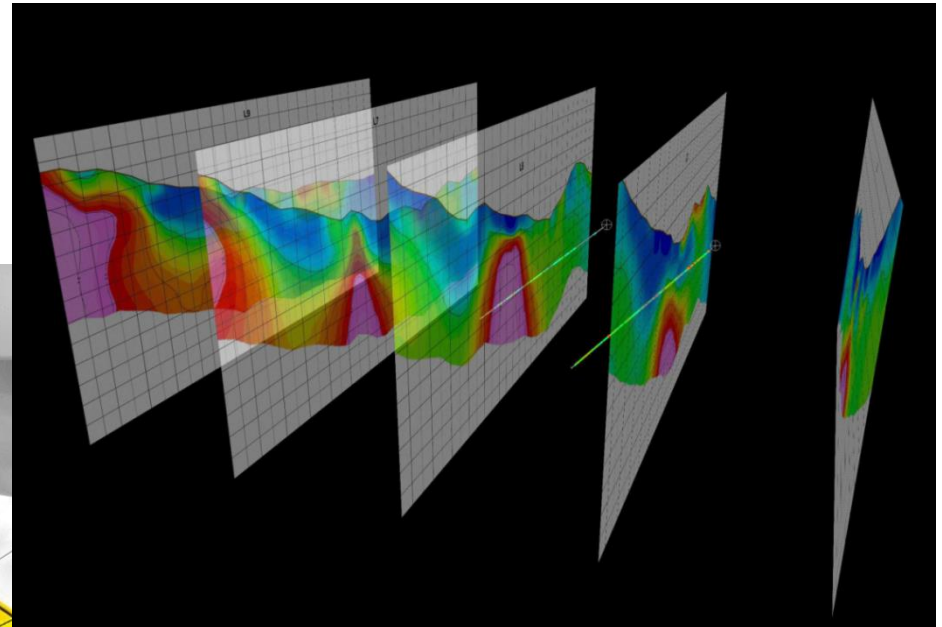
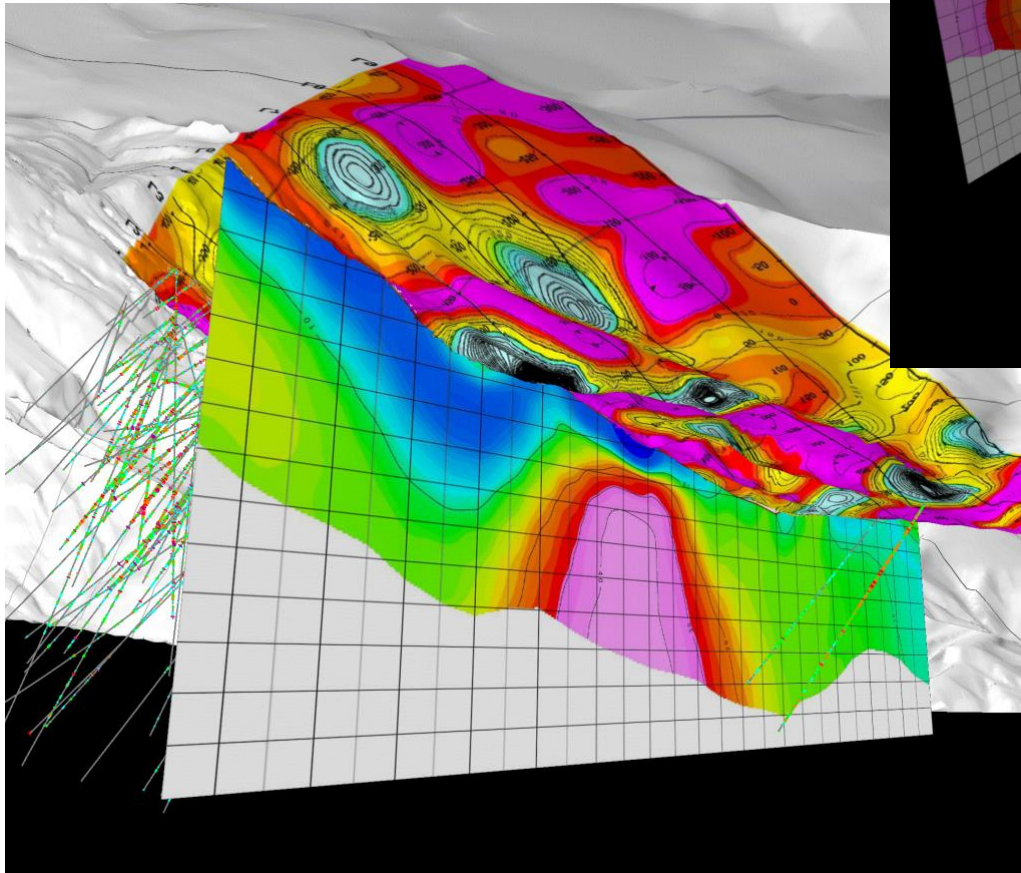
Importing Images from PDF's into **SURPAC**

Aerial Magnetic Solid Contour Image Draped on Topography in **SURPAC**



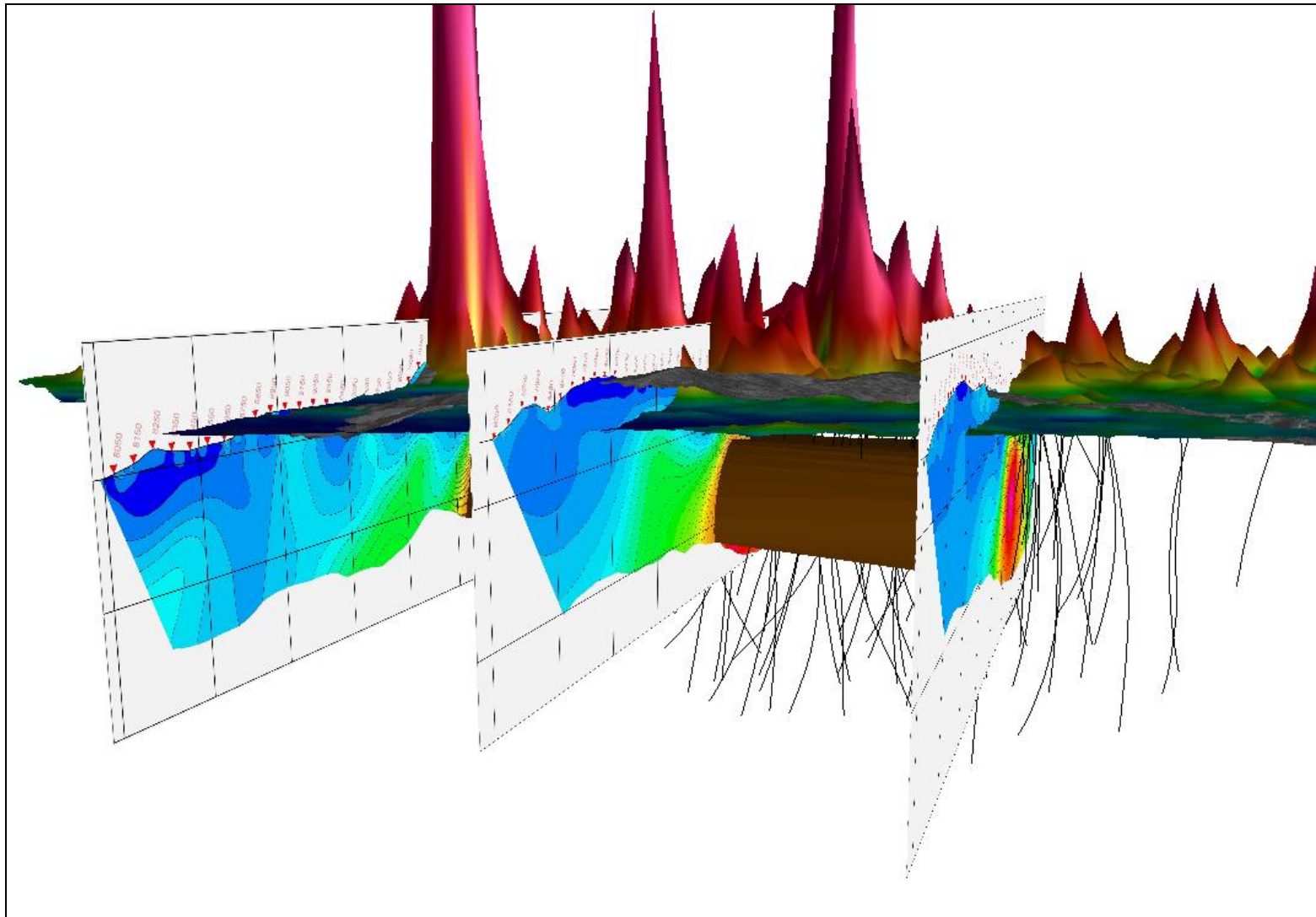
Importing Section Images from PDF's into **SURPAC**

Geophysical IP Section Images in **SURPAC**

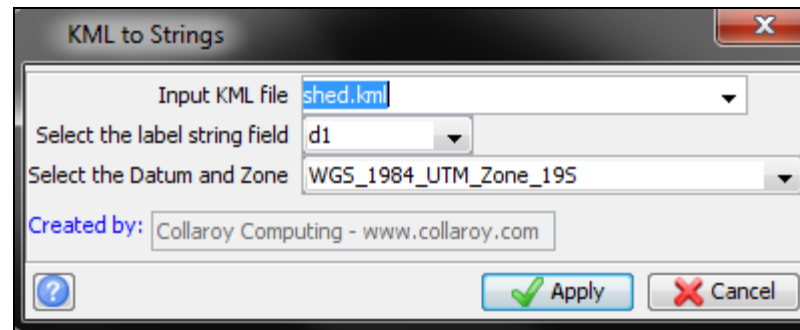


Importing Section Images from PDF's into **SURPAC**

Geophysical IP Section Images in **SURPAC** with Soil Geochem DTM

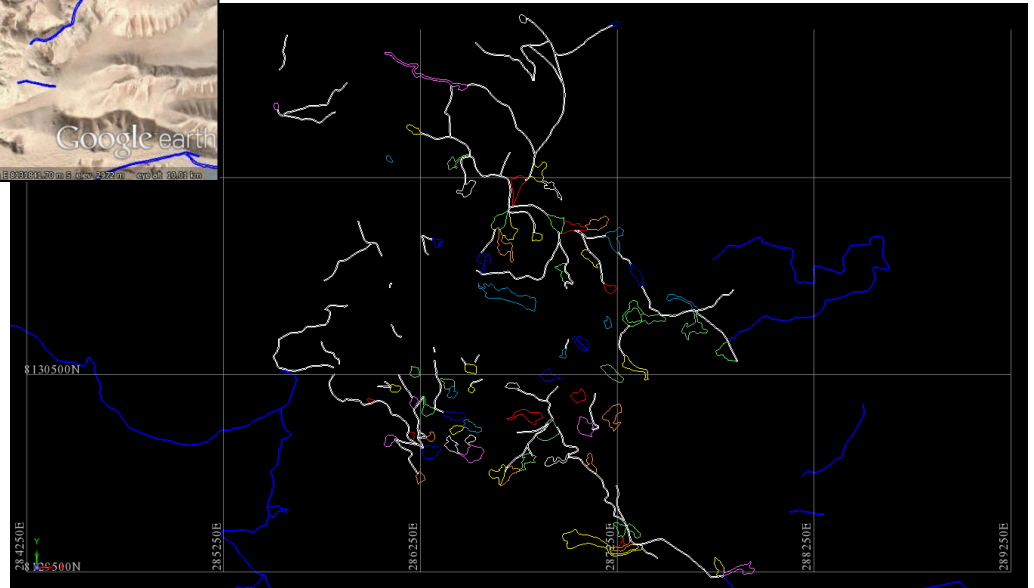
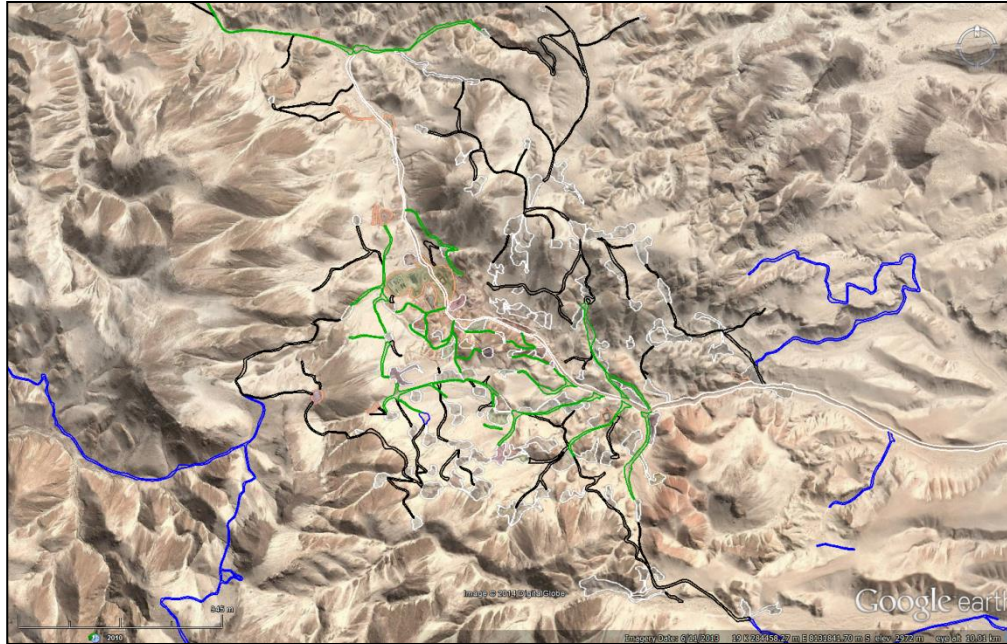


Exporting Digitised Data from **Google Earth** to **SURPAC**



Exporting Digitised Data from **Google Earth** to **SURPAC**

Road Outlines and Ground Disturbances



Displaying Vertical Section Images in **Google Earth**

Section to KML

Input section image file: res10300.JPG

Lat-Longs or UTM: UTM

North or Top: 8128235.634

West or Left: 284418.550

Which altitude mode?: Relative_to_ground

Enter altitude adjustment or zero?: 100

Elevation of bottom: 866.779

Orientation (0 - 180) of cross section: 40.5

Length of the cross section: 4500

Height of the cross section: 2500

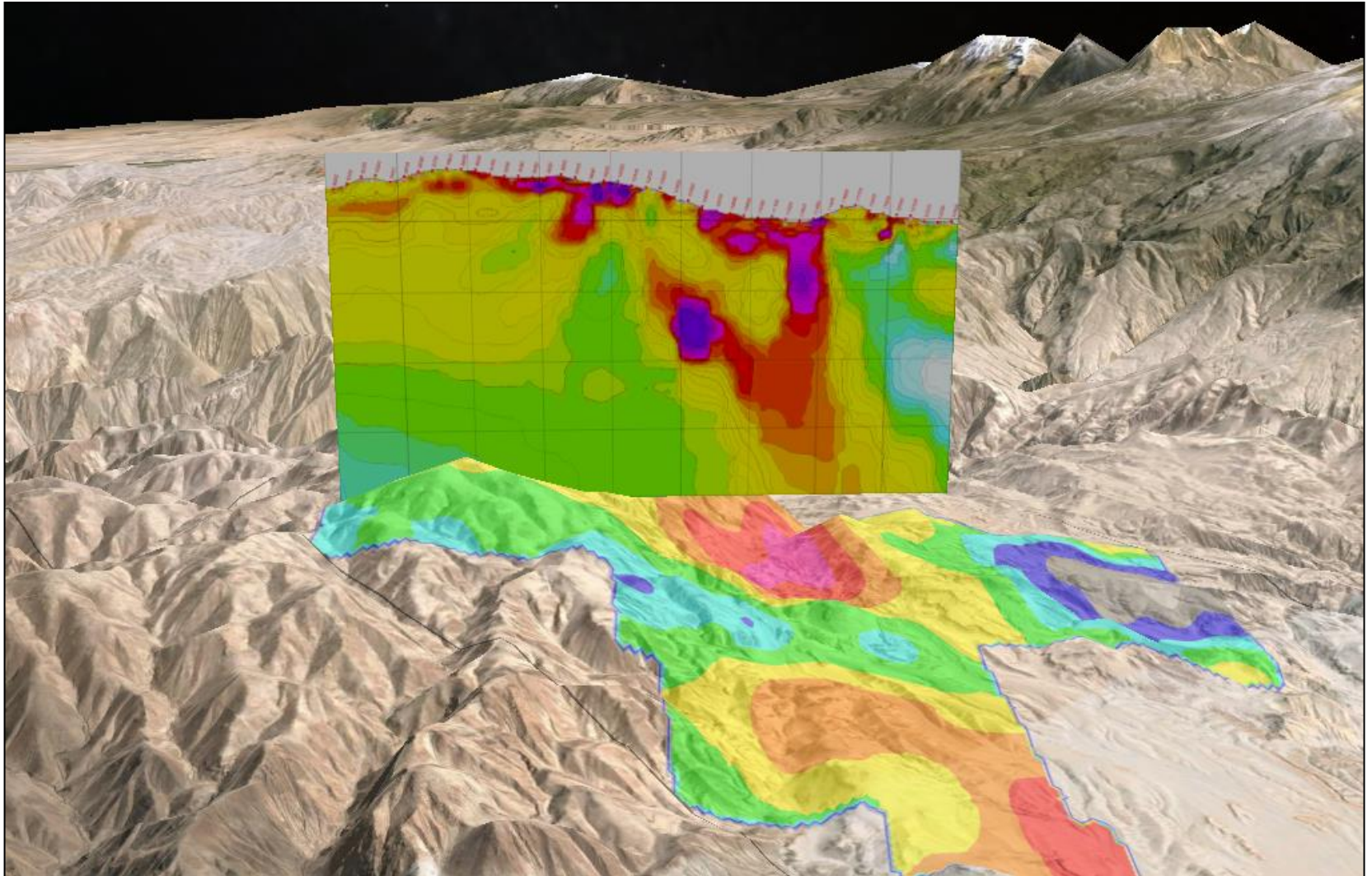
Select the Datum and Zone: WGS_1984_UTM_Zone_19S

SGET created by: [Collaroy Computing - www.collaroy.com](http://www.collaroy.com)

? Apply Cancel

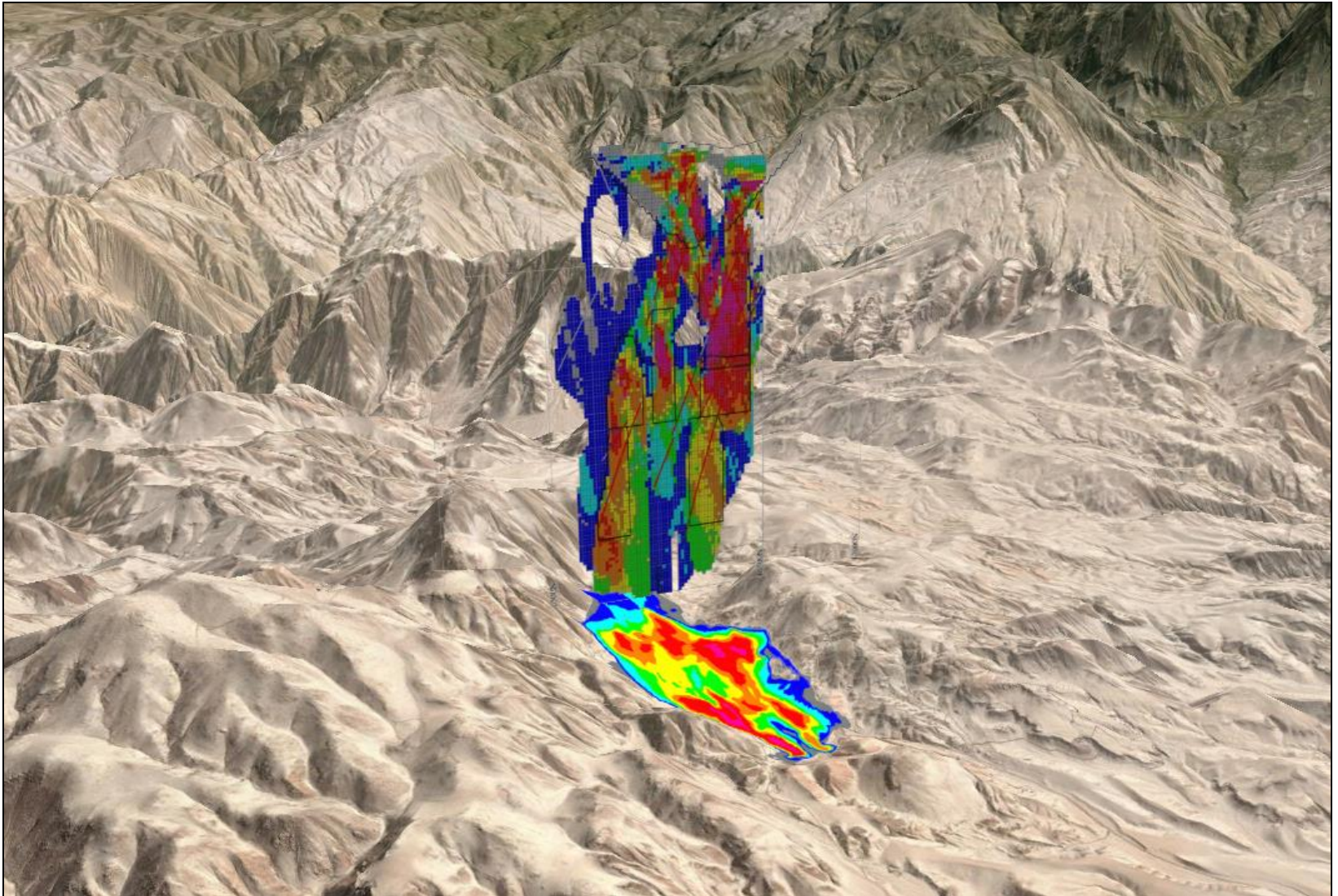
Displaying Vertical Sections in **Google Earth**

Geophysical Resistivity Cross Section



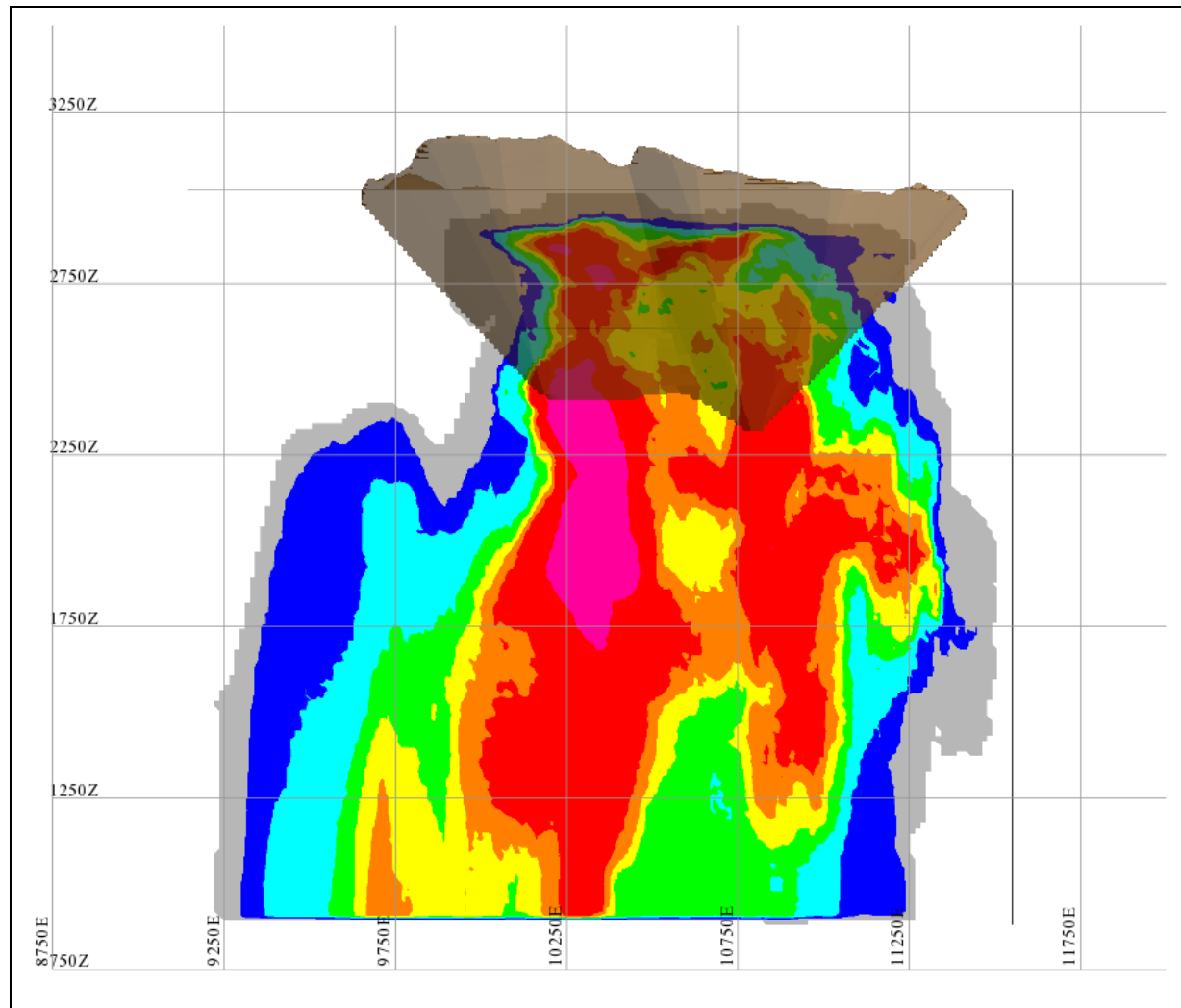
Displaying Vertical Sections in **Google Earth**

Block model and drill holes



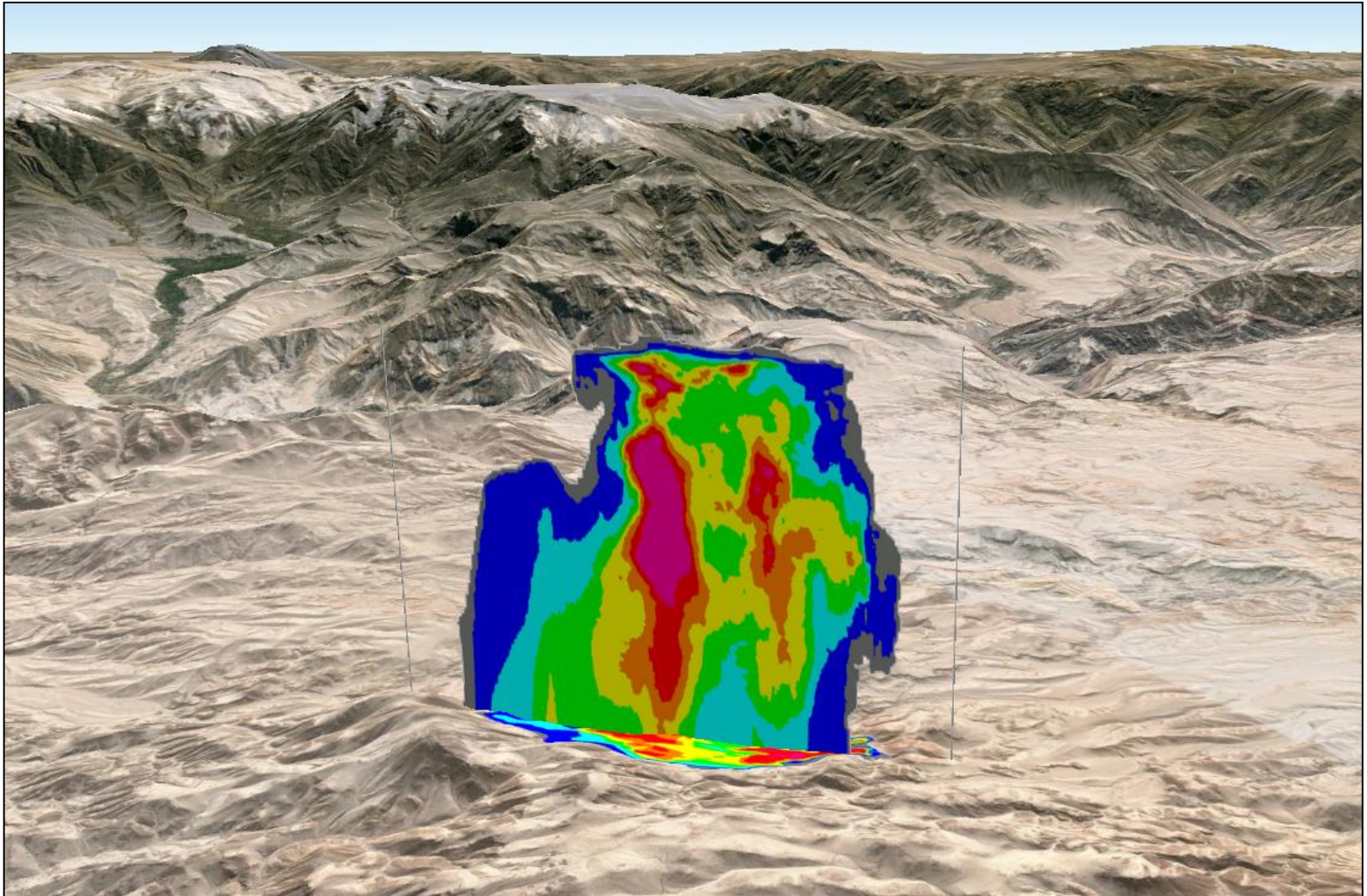
Create Grade-Thickness images in **SURPAC** and display with DTM's

Grade-Thickness Long Section



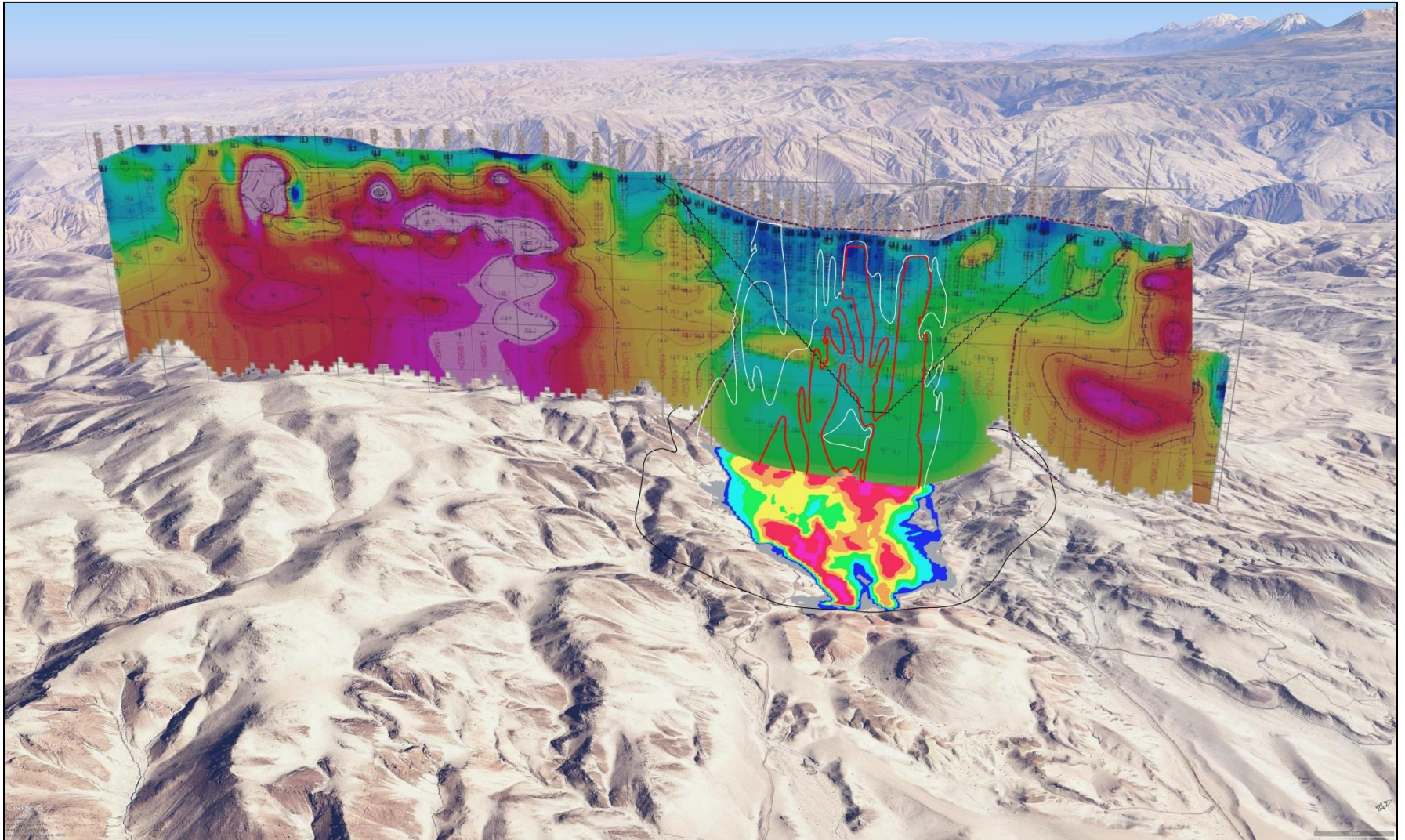
Displaying Vertical Sections in **Google Earth**

Grade-Thickness Long Section



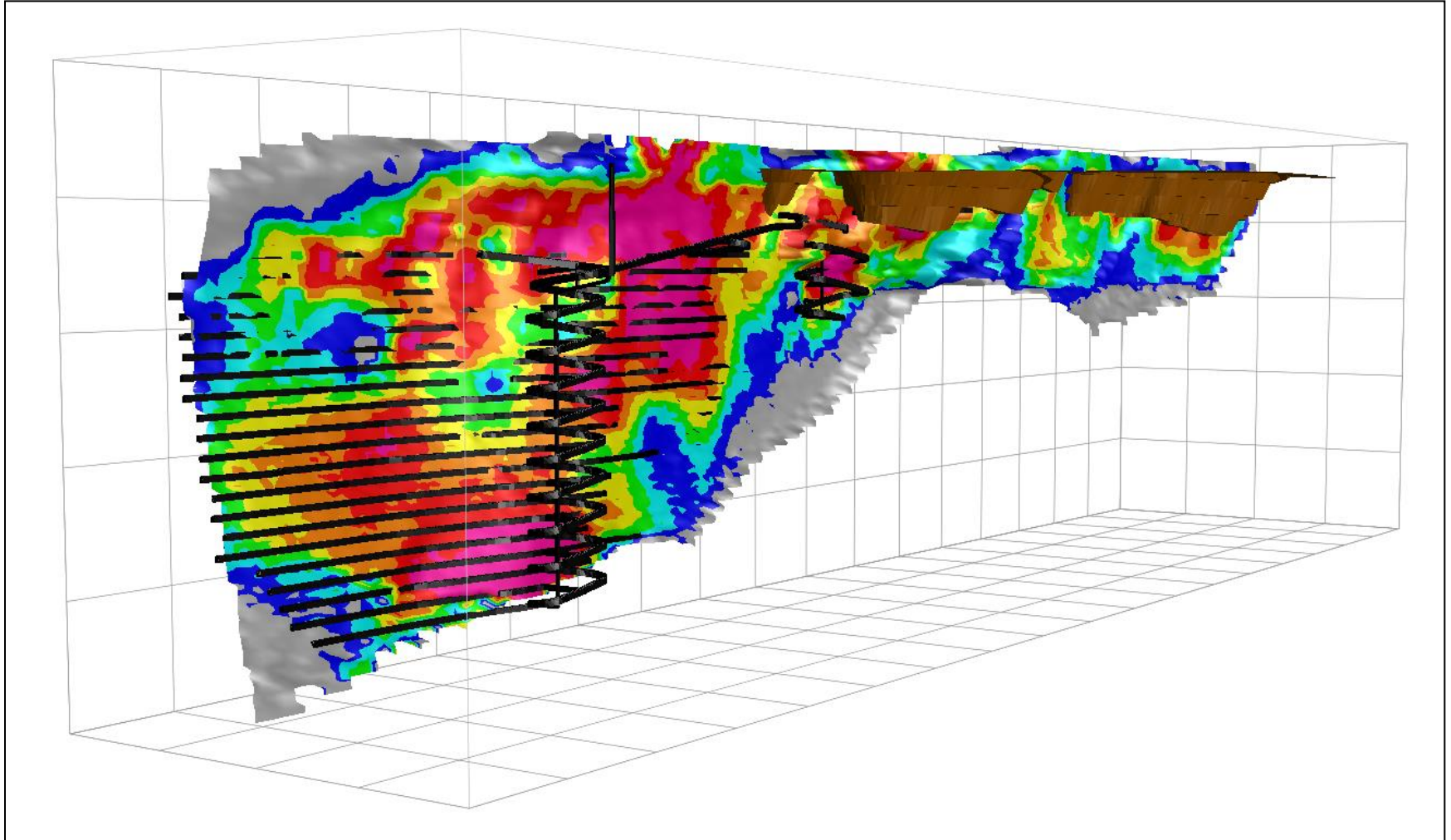
Displaying Vertical Sections in **Google Earth**

with section strings outlines



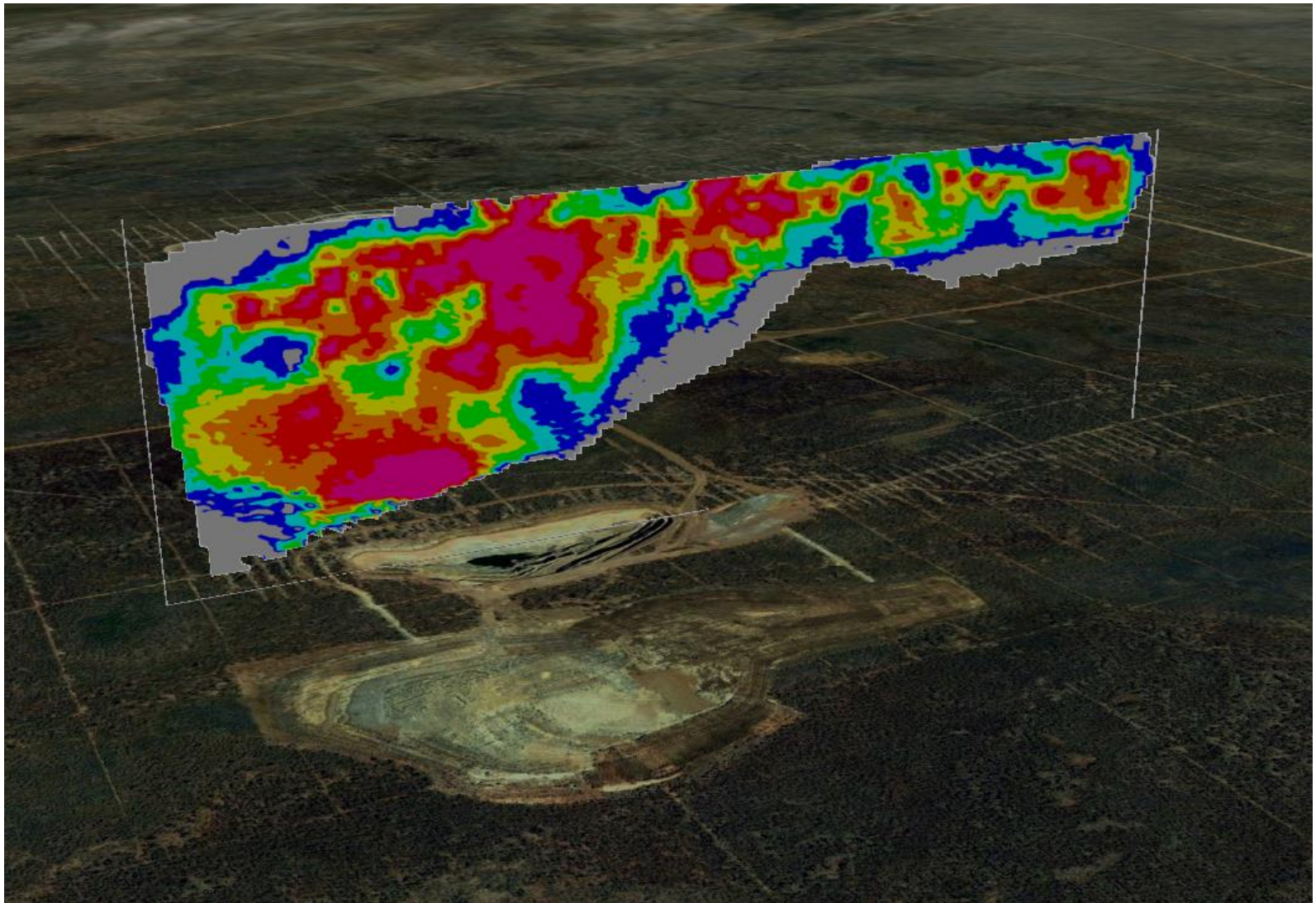
Create Grade-Thickness images in **SURPAC** and display with 3DM's

Grade-Thickness Long Section



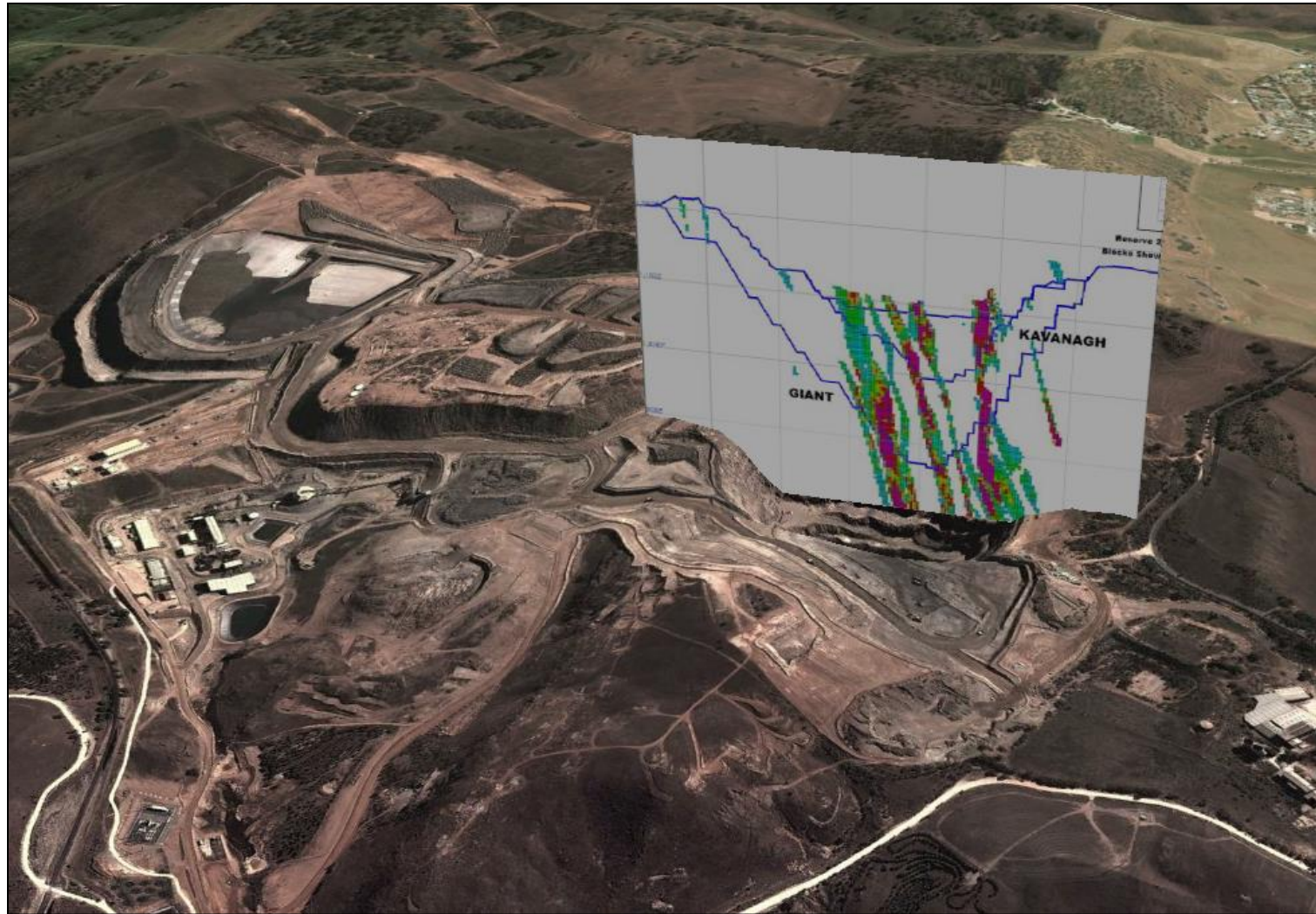
Displaying Vertical Sections in **Google Earth**

Grade-Thickness Long Section



Displaying Vertical Sections in **Google Earth**

Block model and open pit



Creating and Exporting 3D Structural Data from **SURPAC** to **Google Earth**

Strings to KML

Input string file:

String range:

Select the string field with the azimuth values:

Select the string field with the dip values:

Enter the y length:

Enter the x length:

Which altitude mode?:

Enter altitude adjustment or zero?:

Select the colour:

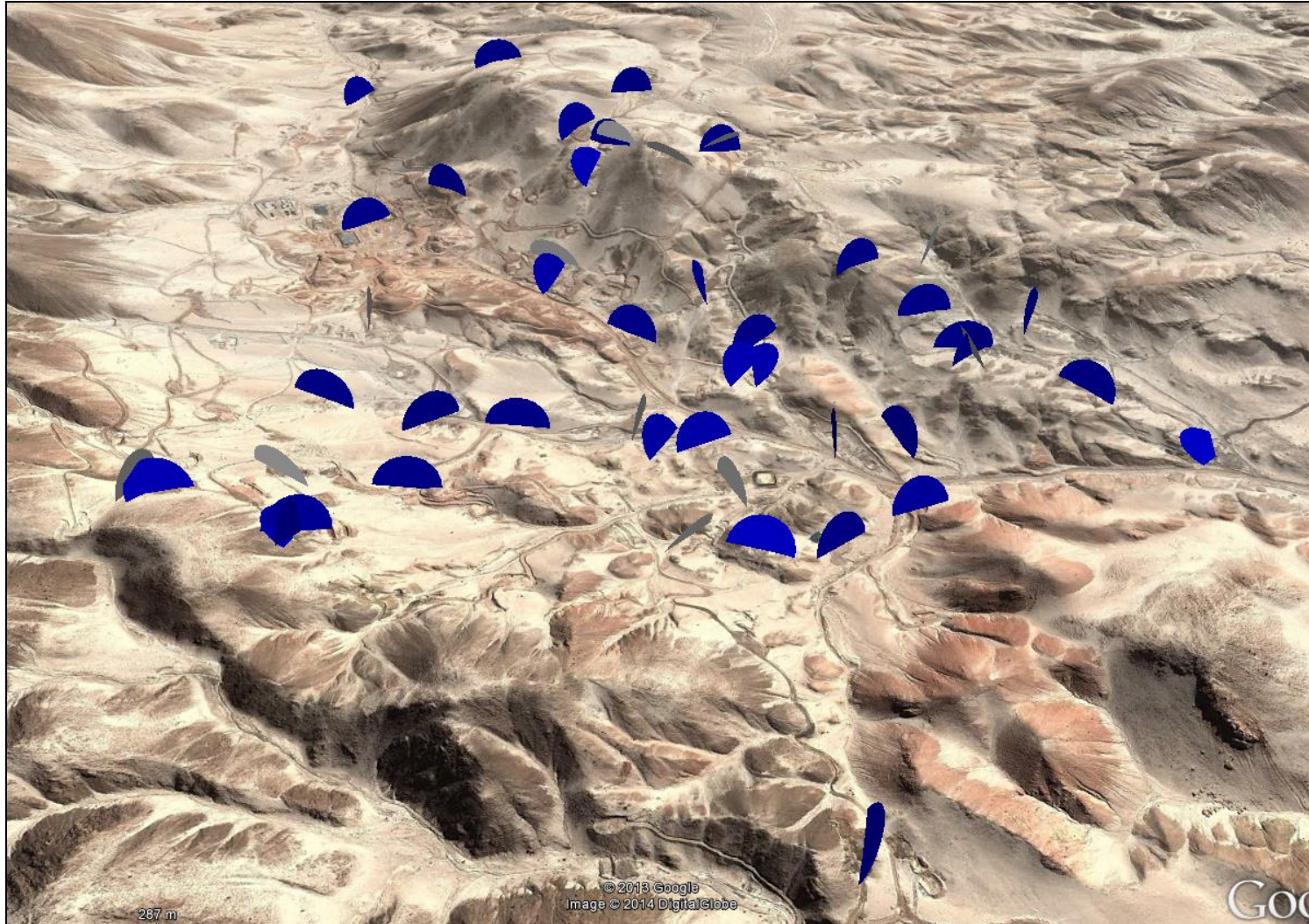
Create DTM shapes? ☒ yes

Select the Datum and Zone:

Created by:

Creating and Exporting 3D Structural Data from **SURPAC** to **Google Earth**

Geological Mapping Structural Dip Planes



Creating and Exporting 3D Structural Dip Planes from **SURPAC** to **Google Earth**

Drill Hole Structural Logging Data



Creating 3D Models in Sketchup, Geo-referencing in SURPAC and export to **Google Earth**

DXF to DTM

DXF file: shed.dxf

Enter DXF x coordinate: 0

Enter DXF y coordinate: 0

Enter DXF minimum z coordinate: 0

Enter co-ordinates or from string file? Enter

String file: shed.str

Enter DTM x coordinate: 287055.8454

Enter DTM y coordinate: 8130682.343

Enter DTM z coordinate: 2921.6081

Enter the rotation angle: 40

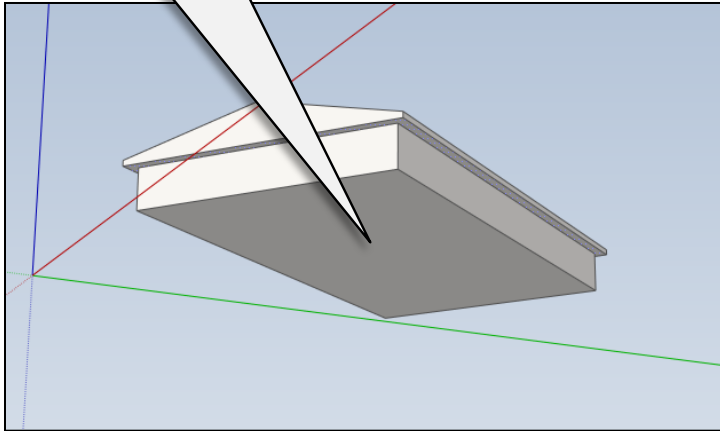
Created by: Collaroy Computing - www.collaroy.com

Apply Cancel

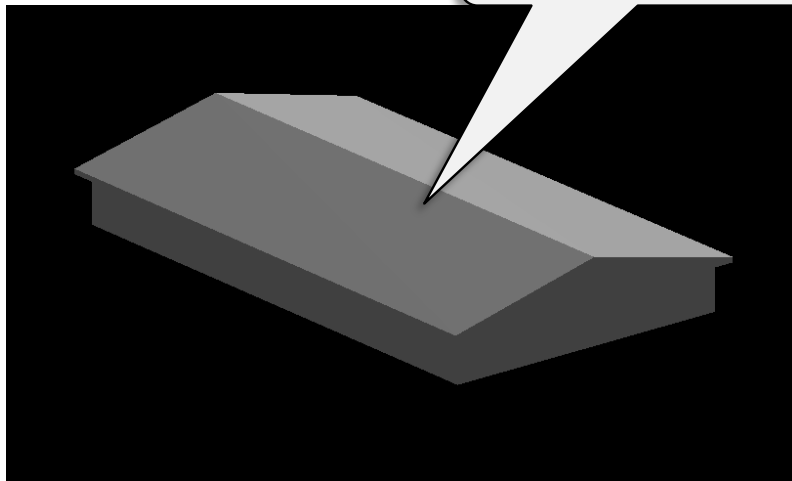
Creating 3D Models in Sketchup, Geo-referencing in SURPAC and export to **Google Earth**

Drill Core Shed

*Create 3D building
using base as
footprint in Sketchup*



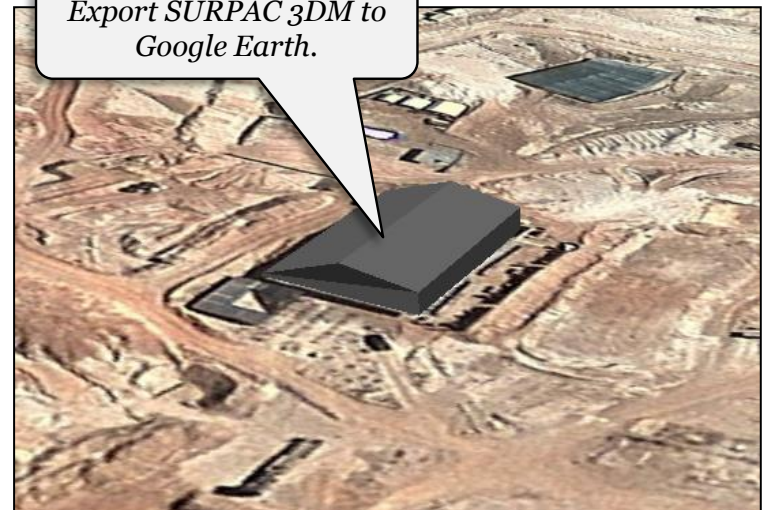
*Export building to SURPAC
and geo-reference.*



*Digitise building base
in Google Earth.*

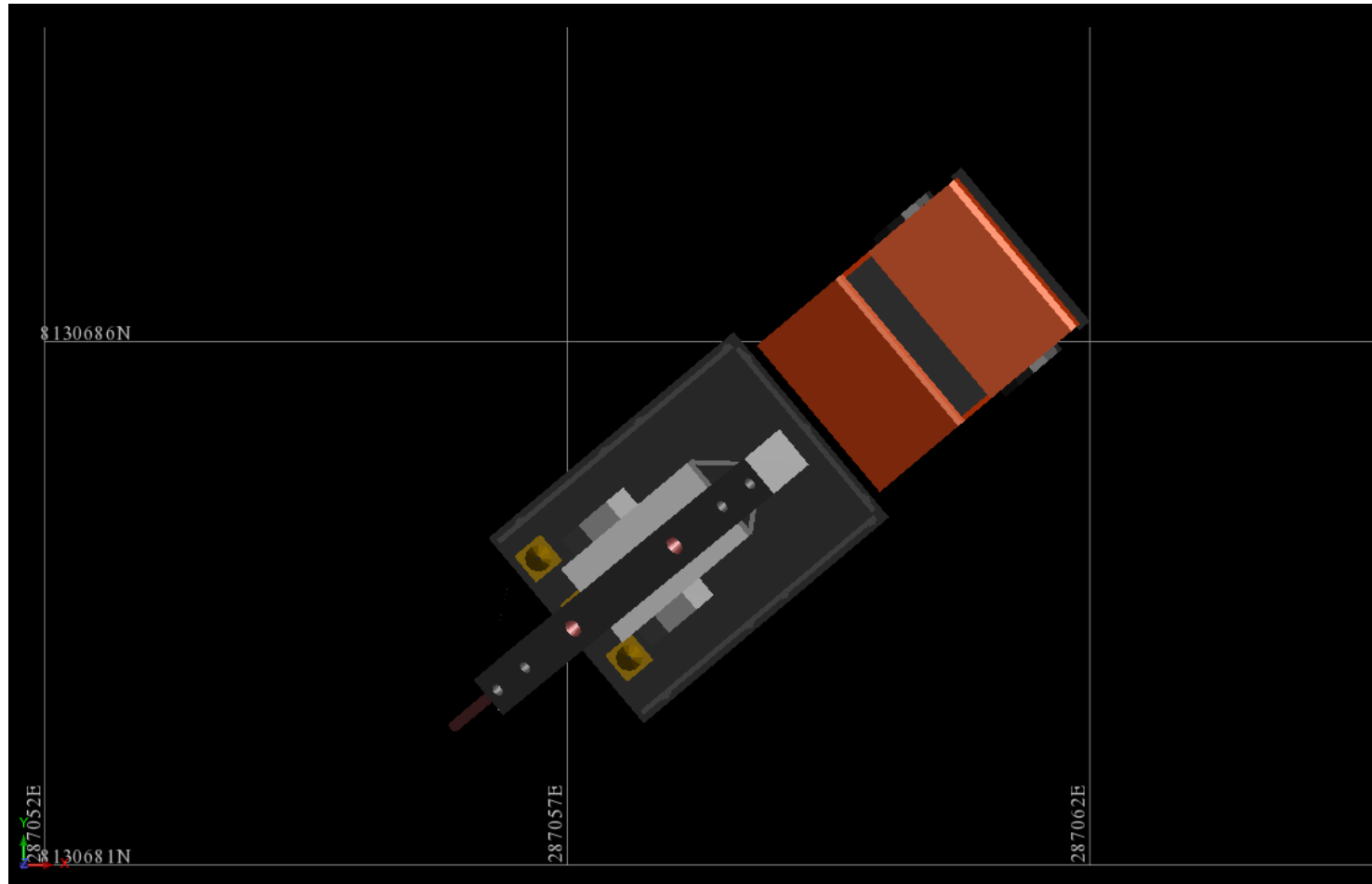


*Export SURPAC 3DM to
Google Earth.*



Exporting 3D Models from **Sketchup** Warehouse for geo-referencing in **SURPAC**

Drill Rig



Export 3D Model to **Google Earth**

Drill Rig

