



Updates to Google Earth™ Exporting

by Bill Bergman

Viewing a HYPACK® project in Google Earth™ is both a popular and useful feature. We have recently made changes to this part of the software as we have gained experience and received feedback from users on how to make it more useful.

A MICROSOFT VS GOOGLE GOTCHA FIXED

A KML, or Keyhole Markup Language, file is used to encode the information that Google Earth™ will display on its world model. This file format is actually a schema on top of the more general XML standard. As such, certain characters have special meanings within the context of the format which are not relevant outside of it. In particular, references to external images can cause unexpected errors in the Google Earth™ parser if not handled properly. For instance, a line in a KML file which looks like the line below, though a perfectly valid name in the Microsoft operating system, will cause an error in Google Earth™.

```
<href>C:\HYPACK 2011\projects\8101 C&D Canal\ScreenImage.png</href>
```

The problem is the '&' ampersand character. The solution is to use an XML trick to encode the line as follows:

```
<href>C:\HYPACK 2011\projects\8101 C&amp;D Canal\ScreenImage.png</href>
```

PACKAGING IT UP WITH KMZ

A KML file, with external file references, works great on the computer where the file was generated, but what happens when you wish to send it to another computer? Most likely, the file references will break and the person receiving your KML document will see less than was intended.

Google Earth™ has provided a simple solution in the form of the KMZ file. This is actually a ZIP file renamed with the KMZ extension. All files referenced by the KML document are included in the KMZ so they are always available. Google Earth™ can accept this format directly making it a very convenient way to share your data. As a side bonus, the data is compressed which lowers band width and storage concerns, for example, when sending your files via email or storing them on servers.

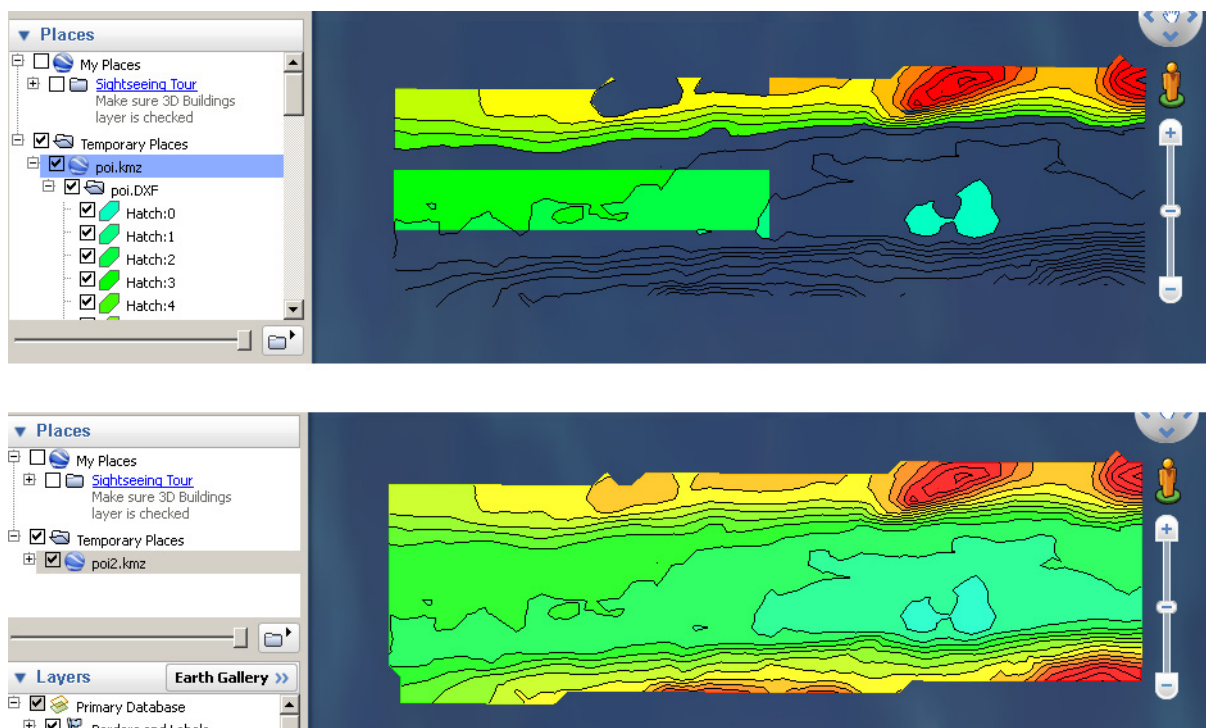
As an aside, you can take any KMZ file, rename the extension to ZIP and manipulate the contents in your favorite ZIP utility. Once the KMZ file is created, the HYPACK® software will cleanup any unnecessary files it generated during the export process. This includes the original KML file as well as PNG and PGW files.

RAISING DATA OFF THE GROUND

Pat Sanders found a good solution for certain geometry not displaying nicely inside Google Earth™. The cause is an interaction between the solid filled areas and contours with the background images provided by Google Earth™. Since all elements are basically lying in at

the same Z level, the Google Earth™ display engine has difficulty presenting the elements as expected. His solution is to take advantage of the altitude attribute available for most presentation objects. By slightly elevating these objects above the surface of the earth, a much cleaner display is obtained.

FIGURE 1. FILLED CONTOURS AT THE SAME Z-LEVEL AS THE GOOGLE EARTH™ BACKGROUND (TOP), FILLED CONTOURS DRAWN ABOVE THE GOOGLE EARTH™ BACKGROUND (BOTTOM)



The software sets the Altitude attribute as 'Relative to Ground' for Solid Fills and Contours. Solid Fills get a value of 1 m and Contours 1.1 m, to ensure the contours will always display on top of the solid filled areas. If you need to change these defaults, you can open the attribute tab inside of Google Earth™ and set the values manually.