

# TerraModeler: Automating Volumetric Reporting



GeoCue Group Support  
9/5/2017  
Revision 1.0

When producing volume reports, TerraModeler, as with all Terrasolid software follows a convention of producing ASCII reports. These reports can then be easily integrated into formats desired to produce respectable deliverable reports. In the case of volume reporting, TerraModeler supports a nice and easy reporting method using an external application that replaces multiple values in a document. This find and replace tool eliminates the need to transcribe or copy and paste measurement values into final reports, which can not only save time, but can also eliminate transcription errors.

Volume computations are accomplished using TerraModeler's [Compute Quantity](#) tool. One of the output products is a comma separated "variable" text file (Figure 1) that contains the measurements and metadata of the quantities computed for all piles. Typically, this text file report contains: Cubic cut, Fill, Surface cut area, Surface cut volume, and calculated area. It may also include metadata, i.e. project, date, altitude, and sensor information.

```
#PROJECT,Limestone Site
#DATE,25DEC2016
#ALTITUDE,1000ft
#SCANNER,A
#CAMERA,X1
#PROCESSOR,Jim Maloney
#INFO,
#P1_AREA,8 269.0
#P1_CUT,74 332.9
#P1_FILL,2.8
#P2_AREA,5 294.3
#P2_CUT,666.0
#P2_FILL,1 456.6
#P3_AREA,4 415.0
#P3_CUT,941.1
#P3_FILL,1 182.8
#TOTAL_AREA,17 978.3
#TOTAL_CUT,75 940.0
#TOTAL_FILL,2 642.1
```

Figure 1: Variable text file containing metadata and measurements for three stockpiles (P1, P2, P3)

To automate deliverable report generation, it is necessary to first create a template report in a Microsoft Word or OpenOffice document (Figure 2). This template should include the desired variables that were produced in the output text file above. In the example below, you can see the following variables: #DATE, #PROJECT, #P1-3\_CUT, #P-13\_FILL, #TOTAL\_CUT, #TOTAL\_FILL, #ALTITUDE, #SCANNER, #PROCESSOR, and #INFO. The template may be formatted, branded, and contain as much other information as desired.

Stockpile Volume Report		
Airborne DIM Survey #DATE		
Project #PROJECT		
Stockpile	Volume Cut m <sup>3</sup>	Volume Fill m <sup>3</sup>
P1	#P1_CUT	#P1_FILL
P2	#P2_CUT	#P2_FILL
P3	#P3_CUT	#P3_FILL
<b>Total</b>	<b>#TOTAL_CUT</b>	<b>#TOTAL_FILL</b>
Altitude: #ALTITUDE		
Scanner: #SCANNER		
Camera: #CAMERA		
Processor: #PROCESSOR		
Info: #INFO		

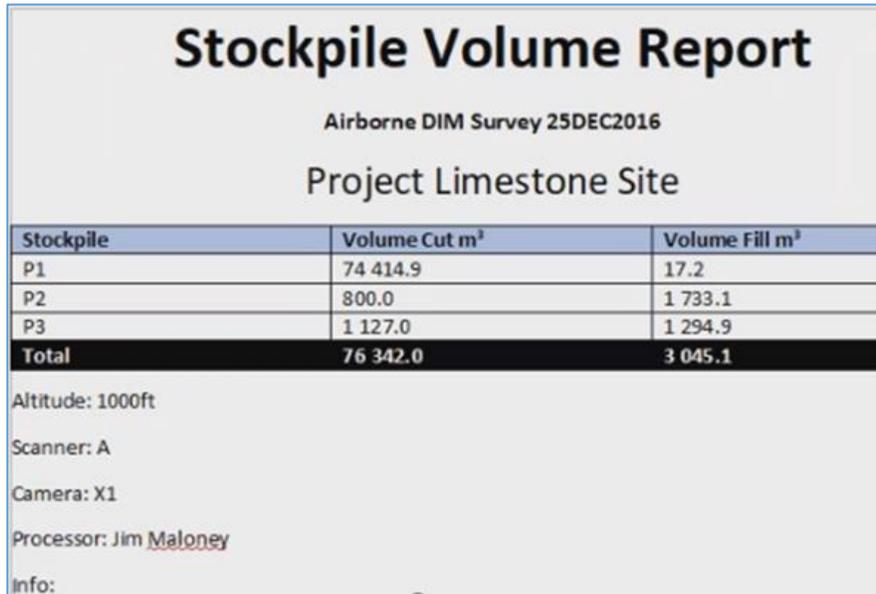
Figure 2: Template Report in OpenOffice

Next, we will make use of an external application that replaces multiple values in a document. In this example, we will use the free [‘OpenOffice Writer Find and Replace In Multiple Documents Software’](#) (Figure 3).



Figure 3: Dialog for 'OpenOffice Writer Find and Replace in Multiple Documents Software'

Load your template report in this software, along with the variable text file, making sure to specify that it is comma separated. The variables listed in your text file will be added to the “Find” list and the corresponding values will be added to the “Replace” list. Execution of the open source program results in the replacement of variables in your template report with the values from the text file generated by TerraModeler (Figure 4).



The screenshot shows a report titled "Stockpile Volume Report" for an "Airborne DIM Survey 25DEC2016" at the "Project Limestone Site". It contains a table with three columns: Stockpile, Volume Cut m³, and Volume Fill m³. Below the table, there is a section for metadata including Altitude, Scanner, Camera, Processor, and Info.

Stockpile	Volume Cut m³	Volume Fill m³
P1	74 414.9	17.2
P2	800.0	1 733.1
P3	1 127.0	1 294.9
<b>Total</b>	<b>76 342.0</b>	<b>3 045.1</b>

Altitude: 1000ft  
Scanner: A  
Camera: X1  
Processor: Jim Maloney  
Info:

Figure 4: Final report with variables replaced with values

This process can result in a quick and easy method to repetitively generate volumetric reports, which are highly customizable for individual clients. For more information on anything found in this article, please contact [support@geocue.com](mailto:support@geocue.com).