

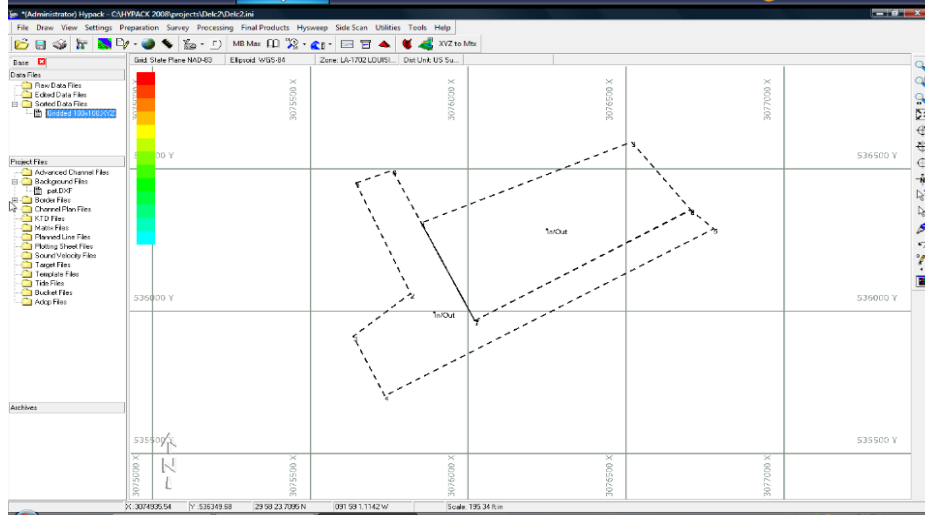


# Using Border Files In TIN Model Volumes

by Monicque Lee

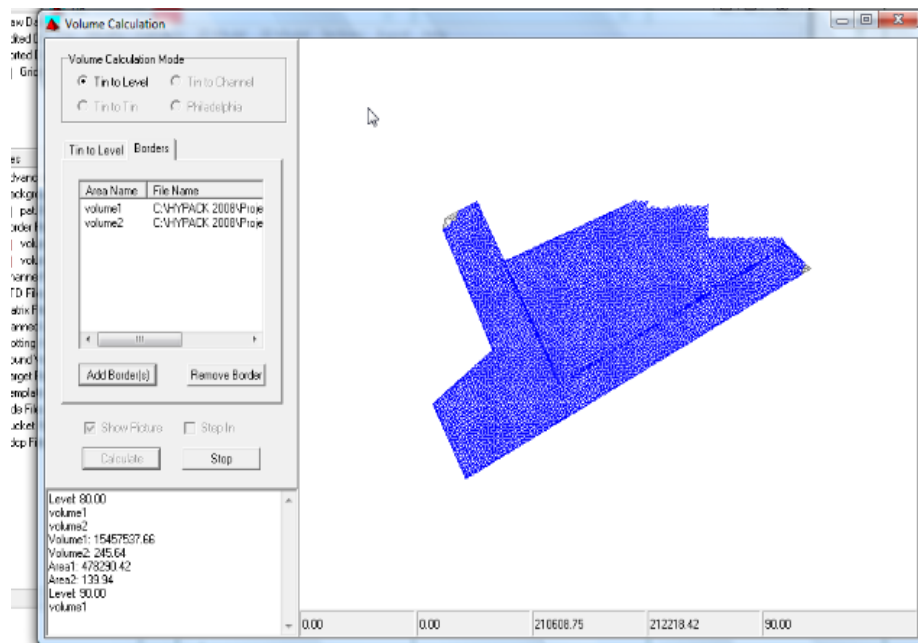
A new feature in HYPACK® 2009 for computing Volumes is the ability to separate the volume quantity by using more than one Border File in the TIN MODEL program. There is no limit to the number of Border Files you can use.

**FIGURE 1. Bordering your Volume Areas**



This allows you to calculate a different Volume quantity for each border area and report that volume individually.

**FIGURE 2. Calculating Volumes for 2 Border Areas in TIN MODEL**



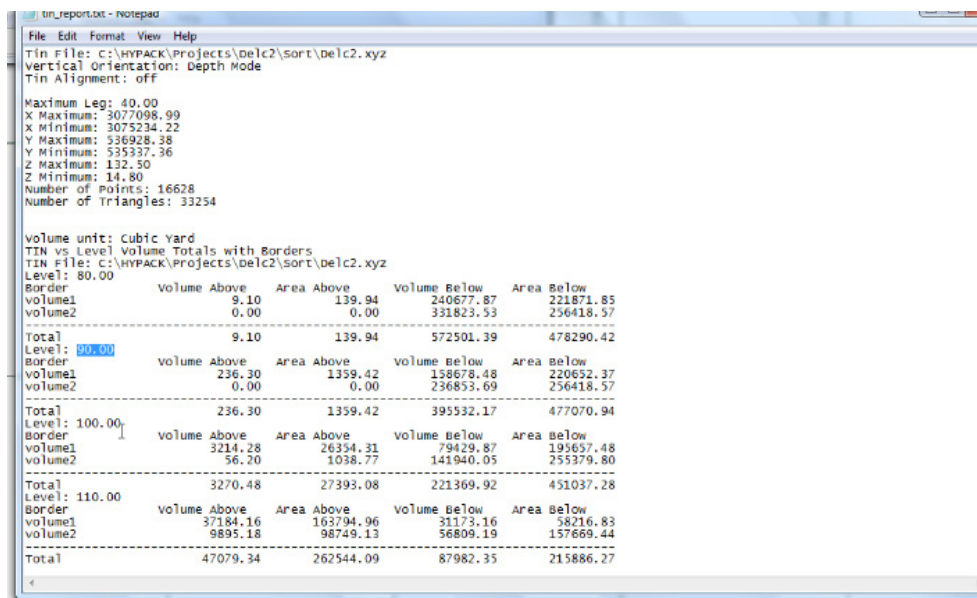
## To use multiple Border Files in the TIN Program:

1. Open up TIN MODEL as normal.
2. Input the desired XYZ data set, set your Max Sides and Mode then click [OK].
3. Select CALCULATE-VOLUME and enter the range and interval for your calculations:

- Volume Calculation Mode = TIN to Level
- From Depth and To Depth define the range
- Step = the distance in survey units for your reporting intervals.

For example, where From Depth = 60, To Depth = 80 and Step = 10, the program would calculate a volume report at 60, 70, and 80. If you used a Step of 20, then you would only have a volume report at 60 and 80.

**FIGURE 3.** Sample Volumes Report between 80 and 110 at intervals of 10 units.



```
tin_report.txt - Notepad
File Edit Format View Help
Tin File: c:\HYPACK\Projects\delc2\sort\delc2.xyz
Vertical Orientation: Depth Mode
Tin Alignment: off

Maximum Leg: 40.00
X Maximum: 3077098.99
X Minimum: 3075234.22
Y Maximum: 536928.38
Y Minimum: 535337.36
Z Maximum: 132.50
Z Minimum: 14.80
Number of Points: 16628
Number of Triangles: 33254

Volume unit: Cubic Yard
TIN vs Level Volume Totals with Borders
Tin File: c:\HYPACK\Projects\delc2\sort\delc2.xyz
Level: 80.00
Border
Volume Above Area Above Volume Below Area Below
volume1 9.10 139.94 240677.87 221871.85
volume2 0.00 0.00 331823.53 256418.57
-----
Total 9.10 139.94 572501.39 478290.42
Level: 90.00
Border
Volume Above Area Above Volume Below Area Below
volume1 236.30 1359.42 158678.48 220632.37
volume2 0.00 0.00 236853.69 256418.57
-----
Total 236.30 1359.42 395532.17 477070.94
Level: 100.00
Border
Volume Above Area Above Volume Below Area Below
volume1 3214.28 26334.31 79429.87 195637.48
volume2 56.20 1038.77 141940.05 255379.80
-----
Total 3270.48 27393.08 221369.92 451037.28
Level: 110.00
Border
Volume Above Area Above Volume Below Area Below
volume1 37184.16 163794.96 31173.16 58216.83
volume2 9895.18 98749.13 56809.19 157669.44
-----
Total 47079.34 262544.09 87982.35 215886.27
```

4. **Apply your Border files.** In the Borders tab (behind the TIN to Level tab), select one or more border files. (You can select multiple files at once by holding the Ctrl key.) The selected files appear on the left Borders box.
5. **Click [Calculate]** and you can watch TIN MODEL draw and calculate the volumes for each specified level.
6. When the calculations are complete, **return to the main TIN MODEL window.**
7. **Select EXPORT-VIEW REPORT** from the menu and you will have a Volumes Report broken down into each separate area.