

Trevor Clayton

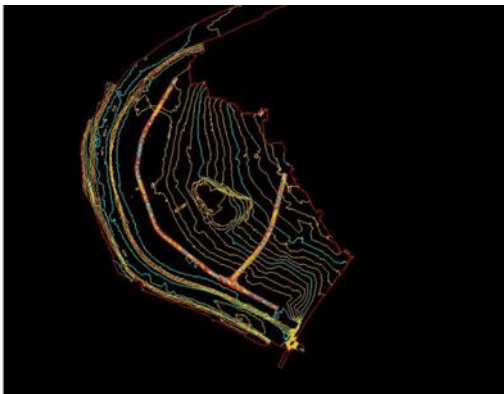
Passion Integrity Expertise Teamwork

Civil 3D Volume Dashboard

Civil 3D 2013

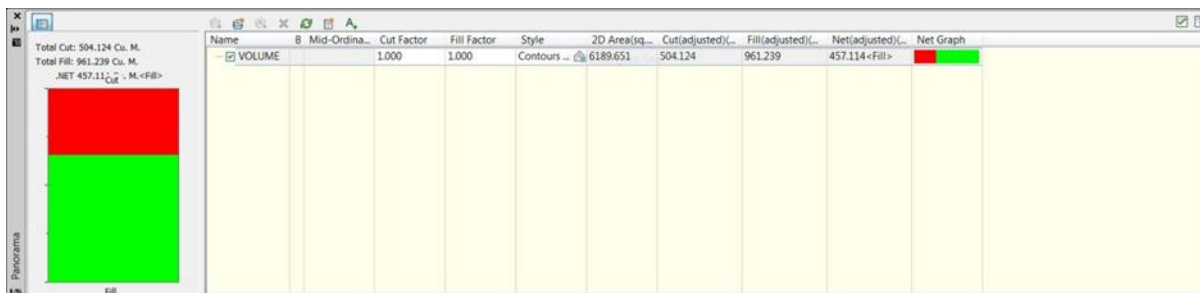
All Civil 3D 2013 Users

The Volume Dashboard has been around for some time, initially from the Autodesk Labs site and latterly in the current version of Civil 3D, I have been asked on numerous occasions on how to use it to get Bounded volumes.



As you can see from the image above I have just created an existing surface and a corridor with a surface created to the corridor at formation levels. Now it's one of the fundamental functions to create a volume surface (Isopachyte Analysis)

So I created the Volume Surface in the normal way using the existing as a base surface and the formation surface of my corridor as my comparison.



But what do you do if you want to split the volume up into different areas? First thing is to create some polygons that bound the different required areas as in the image below



Then go to your Volume Dashboard and uncheck the Volume Surface this then allows you to select the Add Bounded Volume Button which will then prompt you to select a polygon, a bounded volume will then appear with the volume associated with it you can also change the bulking and compaction factors specific to that area if required, you can then repeat until you have all your bounded volumes

Name	B	Mid-Ordina...	Cut Factor	Fill Factor	Style	2D Area(sq...	Cut(adjusted)(...	Fill(adjusted)(...	Net(adjusted)(...	Net Graph
VOLUME			1.000	1.000	Contours ...	6189.651	504.124	961.239	457.114<Fill>	
AREA 1			1.000	1.000		515.394	16.528	7.907	8.621<Cut>	
AREA 2			1.000	1.000		849.800	48.574	91.450	42.876<Fill>	
AREA 3			1.000	1.000		1588.499	220.911	647.231	426.319<Fill>	
AREA 4			1.000	1.000		3175.132	210.669	201.003	9.665<Cut>	

The results can be displayed in various ways either using Generate Volume report

Cut/Fill Report							
Generated:	2012-11-01 11:00:34						
By user:	trevor clayton						
Drawing:	Drawing3.dwg						
Volume Summary							
Name	Type	Cut Factor	Fill Factor	2d Area (sq m)	Cut (Cu. M)	Fill (Cu. M)	Net (Cu. M)
AREA 1	bounded	1.000	1.000	515.394	16.528	7.907	8.621<Cut>
AREA 2	bounded	1.000	1.000	849.800	48.574	91.450	42.876<Fill>
AREA 3	bounded	1.000	1.000	1588.499	220.911	647.231	426.319<Fill>
AREA 4	bounded	1.000	1.000	3175.132	210.669	201.003	9.665<Cut>
Totals							
Total				6128.825	496.682	947.591	450.909<Fill>

* Value adjusted by cut or fill factor other than 1.0

Or insert volume report into the drawing

Cut/Fill Summary						
Name	Cut Factor	Fill Factor	2D Area	Cut	Fill	Net
AREA 1	1.000	1.000	218,394sq.m	16,628 Cu. M.	7,907 Cu. M.	8,621 Cu. M.<Cut>
AREA 2	1.000	1.000	349,800sq.m	18,574 Cu. M.	91,450 Cu. M.	42,876 Cu. M.<Fill>
AREA 3	1.000	1.000	1568,499sq.m	220,911 Cu. M.	647,231 Cu. M.	426,319 Cu. M.<Fill>
AREA 4	1.000	1.000	3175,122sq.m	210,469 Cu. M.	201,009 Cu. M.	9,465 Cu. M.<Cut>
Totals			6129,825sq.m	496,692 Cu. M.	947,591 Cu. M.	450,909 Cu. M.<Fill>