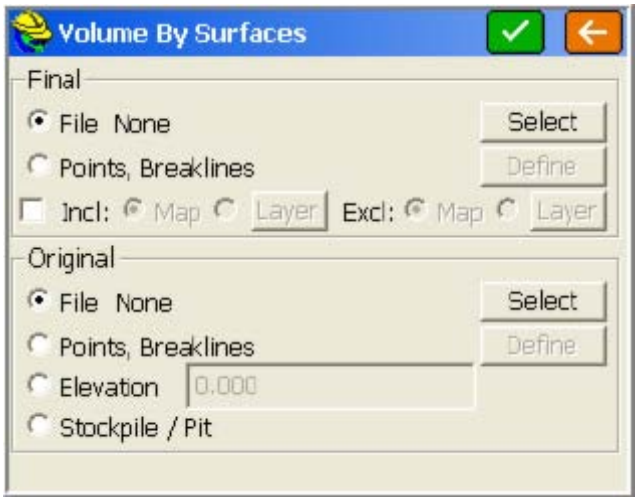
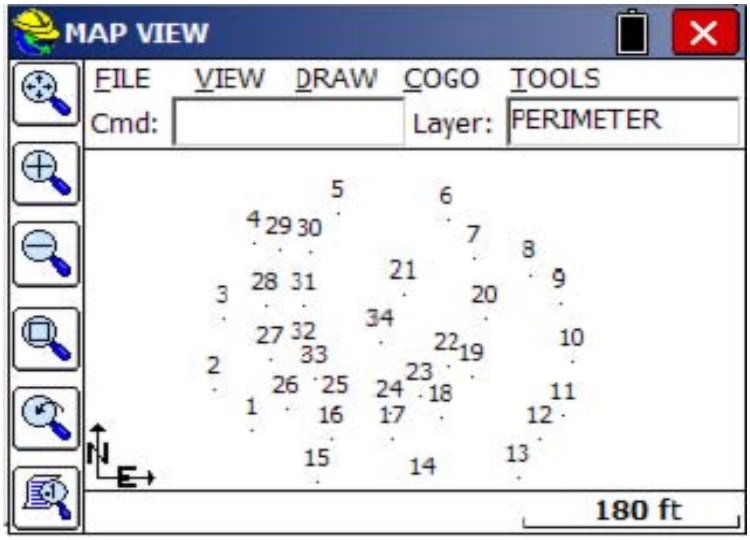
Volume Calculations in SurvCE

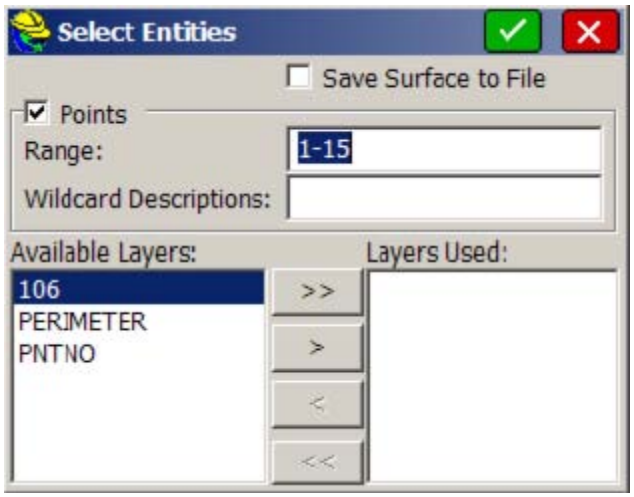
Volumes can be computed by several methods, using point ranges and/or layers to define existing and final surfaces. Perimeters can be used to further limit the area of the volume calculation.



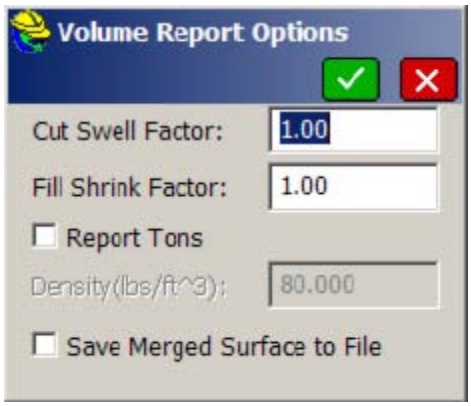
Referring to the graphic below, which illustrates a stockpile, the "Final" point range could be defined as ALL points, and the "Original" point range could be defined as the base points of the stockpile.



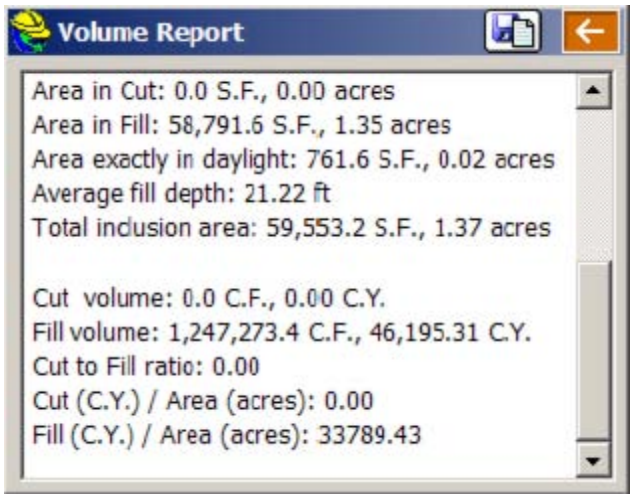
So using the settings above in the Volume routine, you would verify your two point ranges, then click OK. For example, the "Original" surface point range would be set as follows using the "Define" button for "Original" prior to clicking OK.



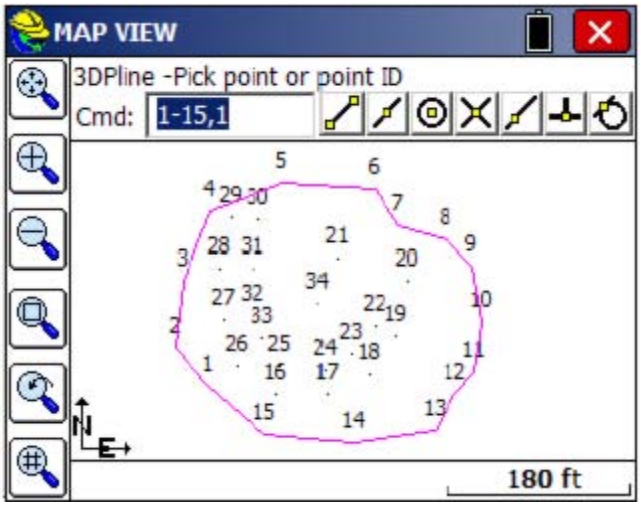
Clicking OK moves forward to a shrink and swell factor screen. Only if you are set to English units do you get the option for tons based on a density factor. In metric units, the volume is presented in cubic meters. You can create a new surface TIN file that merges the original surface with the final surface within the selected or assumed perimeter. If you do not have an inclusion perimeter, then the largest "convex" figure defined by all final surface points and entities becomes the default perimeter.



Clicking OK continues on to the Volume Report.



The report can be saved to a text file using the “Save to Disk” icon at the top of the screen within “Volume Report”. Click the “Return” arrow to continue back to the Map screen. If you draw a 3D polyline perimeter connecting points with elevation representing the outer limits of the volume calculation (using Draw, Polyline, 3D), then you can click on Inclusion and use the polyline as an inclusion perimeter. You can also use drawn elements on different layers as part of the volume calculation, if they are 3D, by moving them over to the right-colume using the “Define” button. Volumes can also be conducted between “File” surfaces, TIN files made with Triangulate & Contour or within the Volume command itself using the option “Save Surface to File.”



Finally, if you are doing a stockpile and make the effort to put this outer perimeter in the “Perimeter” layer, then you can select the “Stockpile” option within Volume and it goes directly to the shrink/swell factor screen and then to the report, without any other selections by the user. This is because the Perimeter layer will define both the inclusion perimeter and the original surface in this case.