Surface Volume tool

Surface Volume tool allows to calculate the area and volume of a raster, triangulated irregular network (TIN), or terrain dataset surface above or below a given reference plane.(ArcGIS_Help)

To calculate Reservoir Volumes and Surface Areas considering different elevations in the Watershed, I did the following steps:

- Go to: ArcToolbox -> 3D Analyst Tools -> Functional Surface -> Surface Volume
- Click the "Surface Volume" tool and enter in:
 - Input Raster = Watershed DEM or TIN
 - Specify an output file name (this will be a Text File that I can open up to get the computed volume and surface area)
 - Reference Plane = "Below"
 - Specify Plane Height.
 - No need to change Z factor or Pyramid Level Resolution !!!
 - Run the tool and open the Text File that is created to get Volume and Surface Area.

Surface Volume	- • ×	
1 Input Surface 2 Extwatershed	✓ Plane Height (optional)	
3 Output Text File (optional) C:\Users\Mosaed\Project1\Elevation at_169m.txt Reference Plane (optional) BELOW Plane Height (optional)	The elevation of the plane that will be used to calculate area and volume.	
Z Factor (optional) Pyramid Level Resolution (optional)	169 169 m is the elevation that I will get the Volu and Surface area below	ı ıme w it
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Here is an example:

<u>Results</u>

Table						□ ×
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Elevation at 169m						×
Dataset	Plane_Height	Reference	Z_Factor	Area_2D	Area_3D	Volume
s\Mosaed\Project1\Extwatershed	169	BELOW	1	34609308.583831	34644908.074294	225471152.83781

<u>or</u>

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Elevation at 169m.txt	Dataset, Plane_Height, Reference, Z_Factor, Area_2D,	<u>^</u>				
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<u>Reference :</u>

http://resources.arcgis.com/search/?do=search&start=0&lg=en&product=&version=&collectio n=&subject=&g=surface+volume