



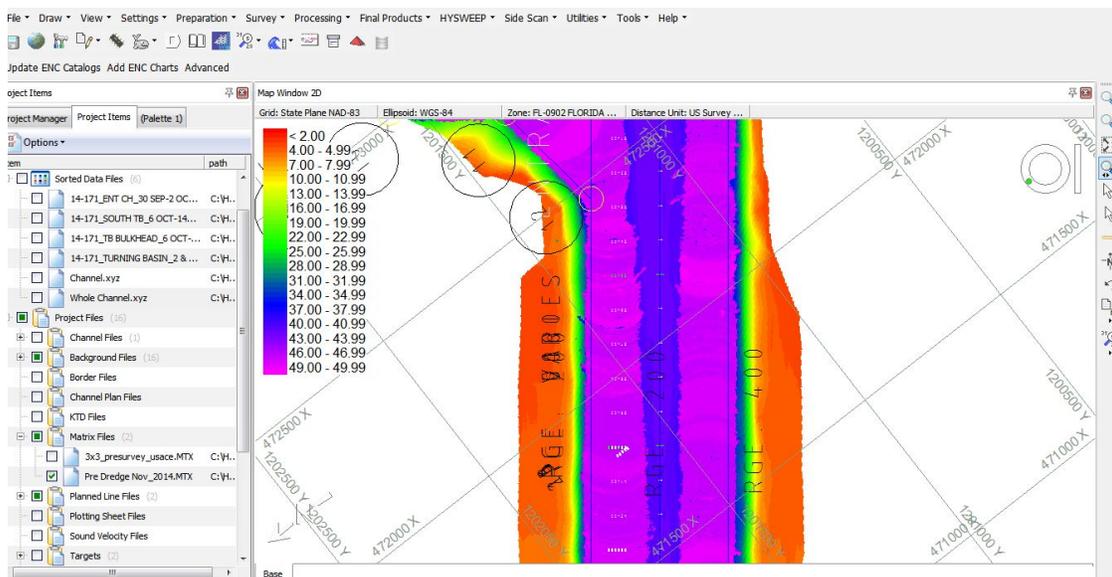
# Matrix Volumes from DREDGEPACK® in TIN MODEL

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I must preface this article by saying that ***this, in no way, should be used for payment or for replacing a hydrographic survey for your quantities.*** That being said...

There is an easy way to quickly arrive at a volume from an “As Dredged” matrix surface. This matrix is a result of the cutter tool being measured against a survey matrix surface from DREDGEPACK® and writing a dredge depth to the MTX file. If you have created a matrix file from XYZ or LOG data and are updating a matrix based on dredge depth, the TIN MODEL program can do a calculation of survey depth relative to dredge depth and report the volume in cubic yards (CY) or cubic meters. (Your survey units are set in the GEODETIC PARAMETERS.)

FIGURE 1. Sample Dredge Matrix



1. **Load your MTX file from the dredge into the TIN MODEL program.** Load the same matrix file as both the Main Input File and the Additional File. In this configuration,

Field	Value
Main Input File	C:\HYPACK 2014\Projects\Manatee Harbor\Pre Dredge Nov_2014.MTX
Additional File	C:\HYPACK 2014\Projects\Manatee Harbor\Pre Dredge Nov_2014.MTX
Section File	
Channel File	
Design File	
TIN Max Side	10
Mode	<input checked="" type="radio"/> Depth <input type="radio"/> Elevation
Align TIN with LNW (Single Beam Data)	<input type="checkbox"/>
Remove Narrow Triangles at Boundary	<input type="checkbox"/>

the TIN MODEL program knows to use the survey depth from the Main Input File and the dredge depth from the Additional File. TIN MODEL models each surface.

2. **Select CALCULATE>VOLUMES.**
3. **In the Volumes dialog, select the TIN- to-TIN option and click [Calculate].** TIN- to-TIN calculations result in the following in the volume report:

**TABLE 1.** Sample TIN-TIN Volumes Report:

```
(Cut/Fill) Surface 1 relative to Surface 2.  
Volume unit: Cubic Yard  
TIN vs TIN Volume Totals  
TIN1 File: C:\HYPACK 2014\Projects\Manatee Harbor\Pre Dredge Nov_2014.MTX  
TIN2 File: C:\HYPACK 2014\Projects\Manatee Harbor\Pre Dredge Nov_2014.MTX  
Volume Tin1 Above Tin2 = 961398.3  
Area Tin1 Above Tin2 = 6391391.3  
Volume Tin1 Below Tin2 = 0.0  
Area Tin1 Below Tin2 = 3684528.6
```

**FIGURE 2.** Calculating TIN-TIN Volumes

