



How to Create a Cross Section Profile Displaying the Channel Template with Pre- and Post-dredge Data

By Ivan Izaak

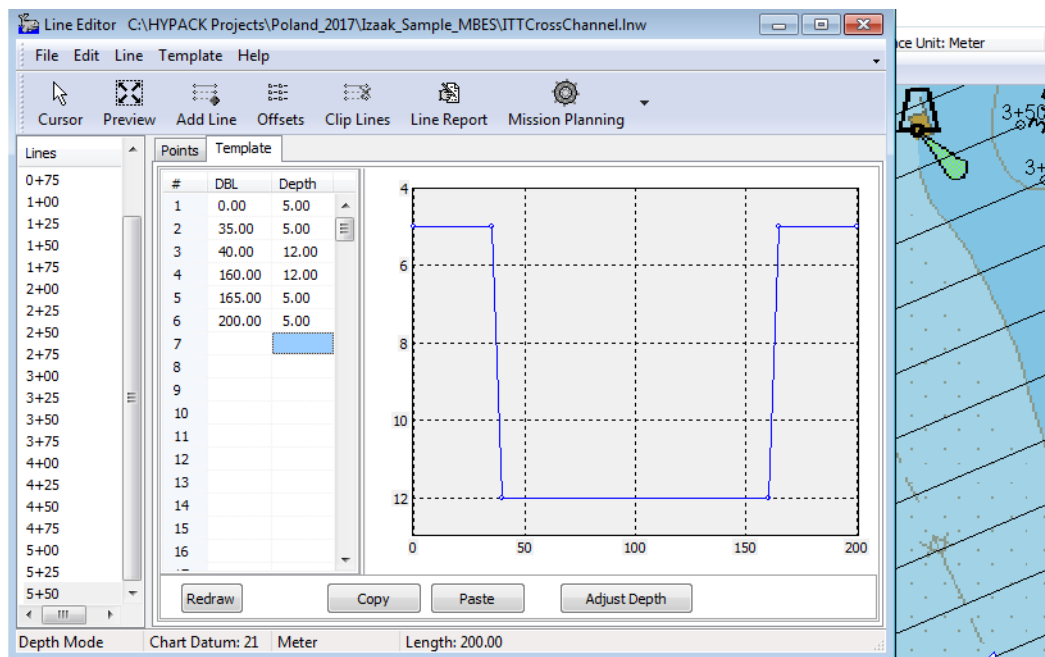
There are two methods to apply channel template information to your sounding data:

- Perform the survey over three-dimensional planned lines OR
- Cut cross sections using three-dimensional planned lines in the TIN MODEL program

CREATING 3D PLANNED LINES IN THE LINE EDITOR

1. Create two-dimensional planned lines.
2. Create a template by entering DBL / Depth values for each turning point.

FIGURE 1. Drawing the Template in the LINE EDITOR



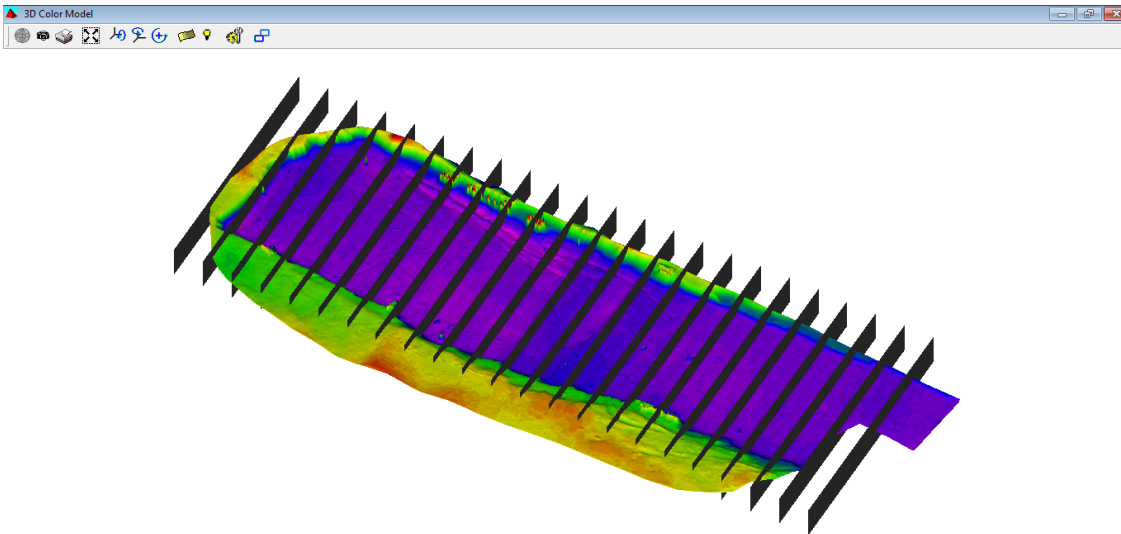
3. **Save the template.** Select TEMPLATE– ACTIVE– SAVE and name the template (*.TPL).
4. **Copy current template into the clipboard.** Select TEMPLATE– ACTIVE– COPY.
5. **Paste the copied template into all planned lines.** Select TEMPLATE– ALL LINES – PASTE.
6. **Save the planned line file (*.LNW).**

NOTE: If you have different templates for different planned lines, you can create individual templates for each line.

CUTTING PROFILES THROUGH THE XYZ DATA IN THE TIN MODEL PROGRAM

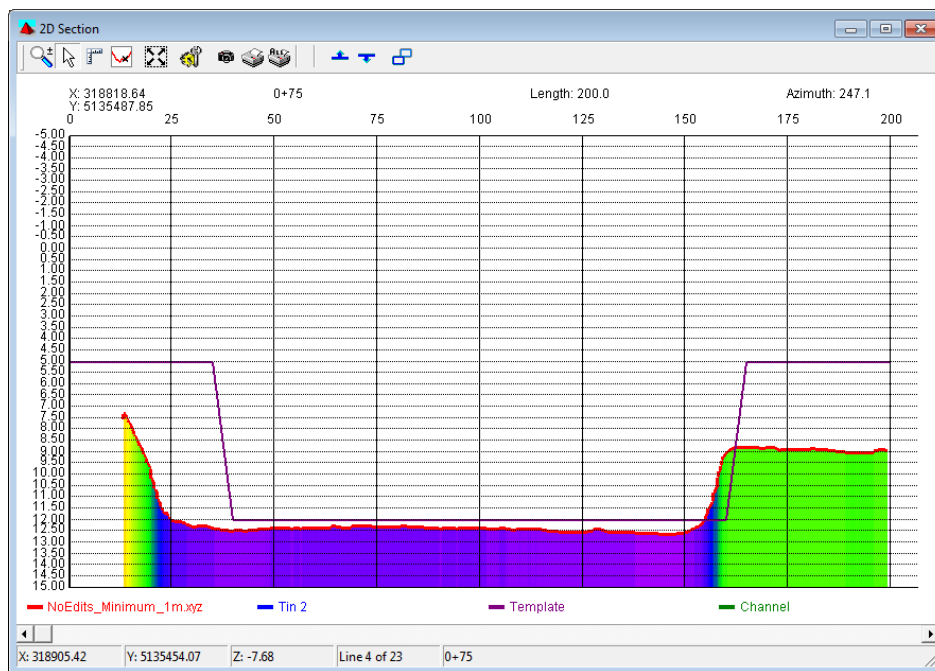
1. Run TIN MODEL program.
2. In the Initial Data dialog, open a single XYZ file of predredge survey data as the Main File and your LNW as Planned Lines.
3. Check the model in any 2D or 3D views to make sure it is OK.

FIGURE 2. Checking the Model with the Planned Lines in a 3D, Color Model in TIN MODEL.



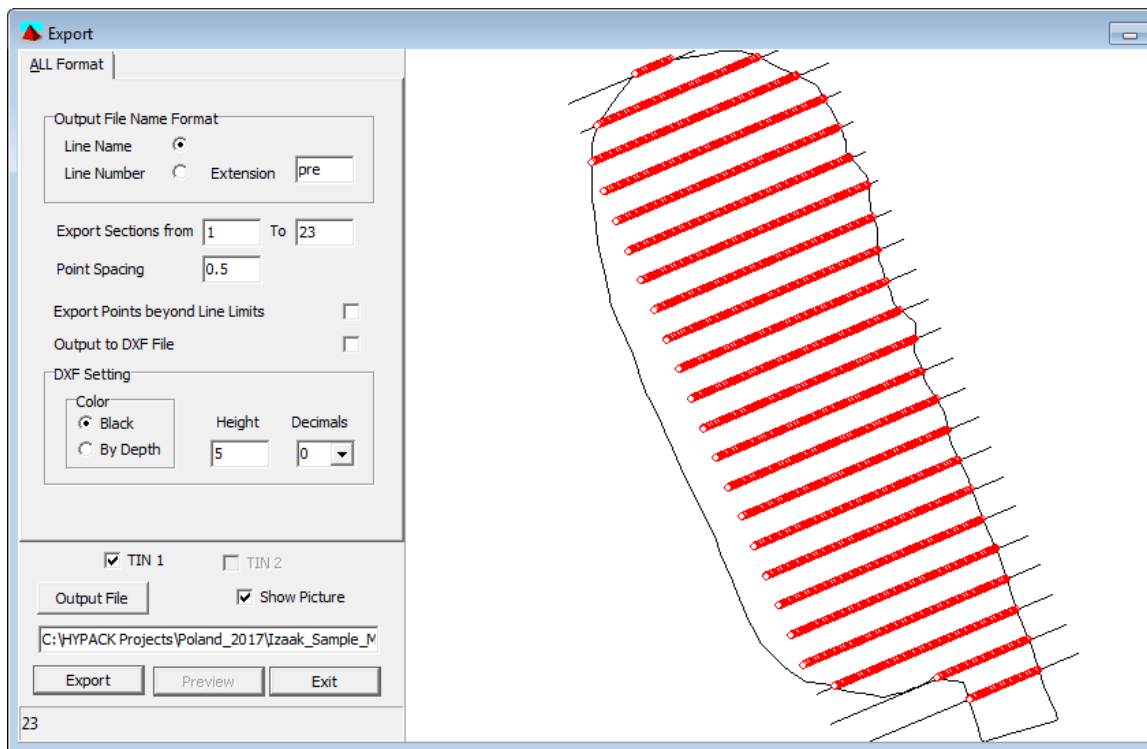
At this point, you can view the cross sections in the 2D Sections display (SECTIONS-2d SECTIONS) though it is not the best, as there are few additional options for the display.

FIGURE 3. Displaying the Cross Section of the Single Model with the Template from the 3D Planned Line in the 2D Cross Section View of TIN MODEL.



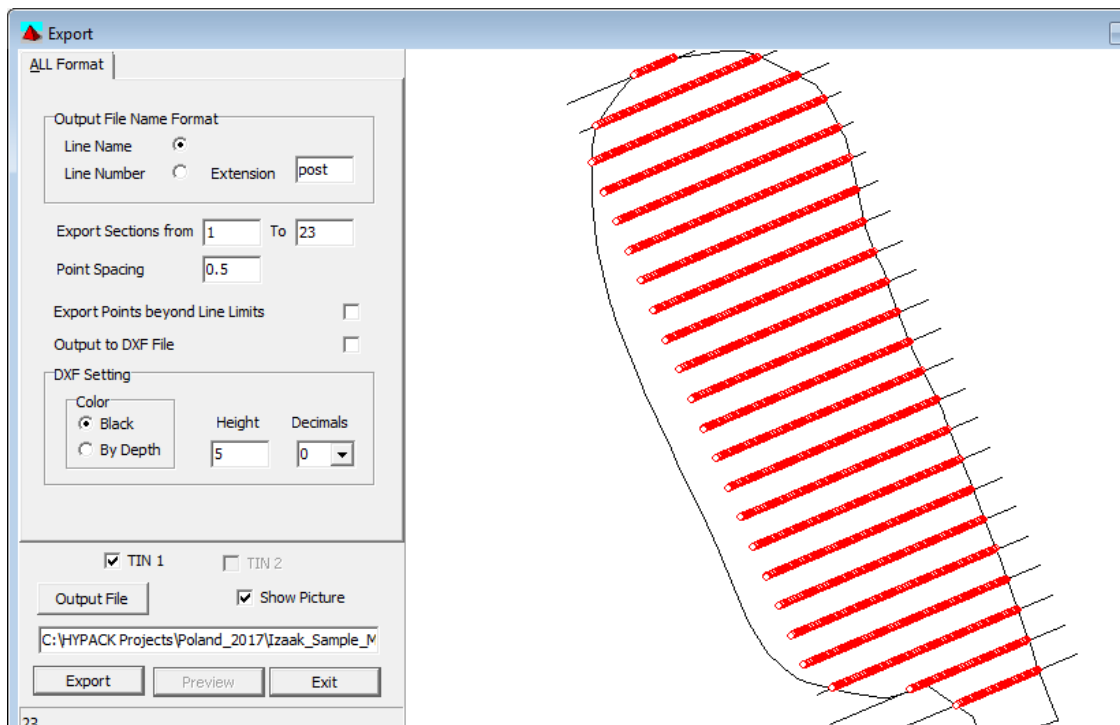
4. **Export the data along the planned lines into ALL format.** Select Export – ALL and name the output “Pre”.

FIGURE 4. Exporting the Previous Dataset from the Export-ALL Format in TIN MODEL.



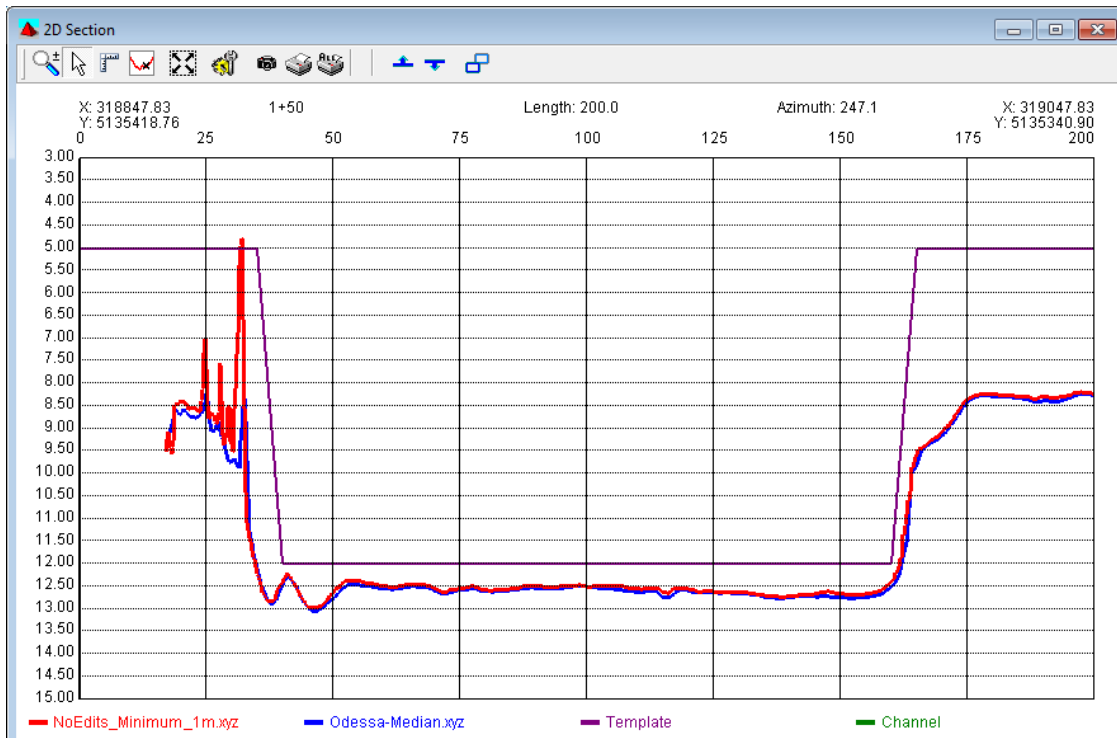
5. **Repeat the same process with the post-dredge data and the same planned lines.** This time call the output “Post”.

FIGURE 5. Exporting the Postdredge Data Set to the All Format in TIN MODEL.



In the following figure, you can see what can be done in the Cross Section View in the TIN MODEL. The blue line is the base survey, the red line is post-survey, the purple line shows the template from the planned line.

FIGURE 6. *Displaying Both Surveys in the Cross Section – 2D View in TIN MODEL.*



DISPLAYING THE DATA FROM THE TWO SURVEYS AND THE TEMPLATES IN THE CROSS SECTIONS AND VOLUMES PROGRAM (CSV)

1. Run the CSV program from the FINAL PRODUCTS menu.
2. Select the AEA 3 or Philadelphia Postdredge volume method as they allow loading two surveys at a time and compute the volumes!
3. Configure the display and, optionally, add further detail. The cross section shown in the View tab is fully configurable using the numerous options and tools in the Surveys, Graph Options and View tabs. Refer to the HYPACK User Manual for the details!

Survey Tab:

- > Overdredge Depth (OVDepth) to display the additional template,
- > Objects—text, round shapes or polylines. (Select the corresponding cell in the Objects column and click the Edit icon.) In the following figure, I added 4 circular objects along the cross section.

Graph Options Tab:

- > Labels and annotations
- > Depth and template options

View Tab:

- > Graph extents and colors

FIGURE 7. Adding Objects into a Cross Section in CSV.

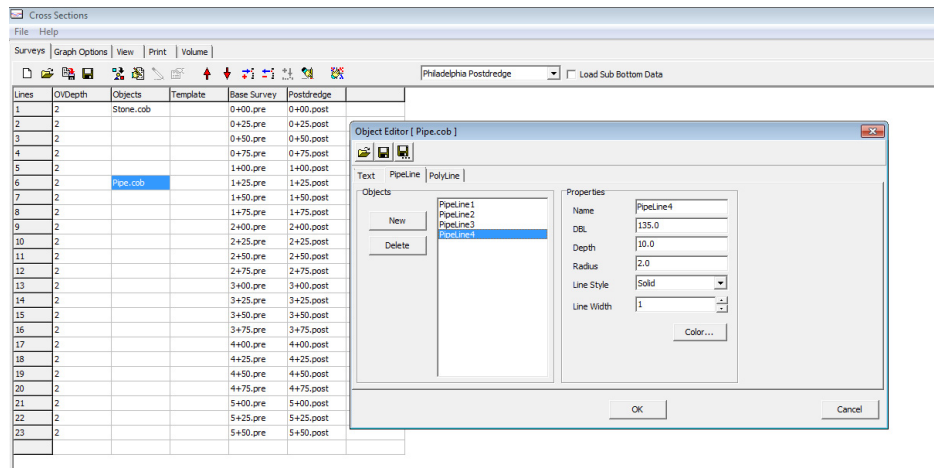
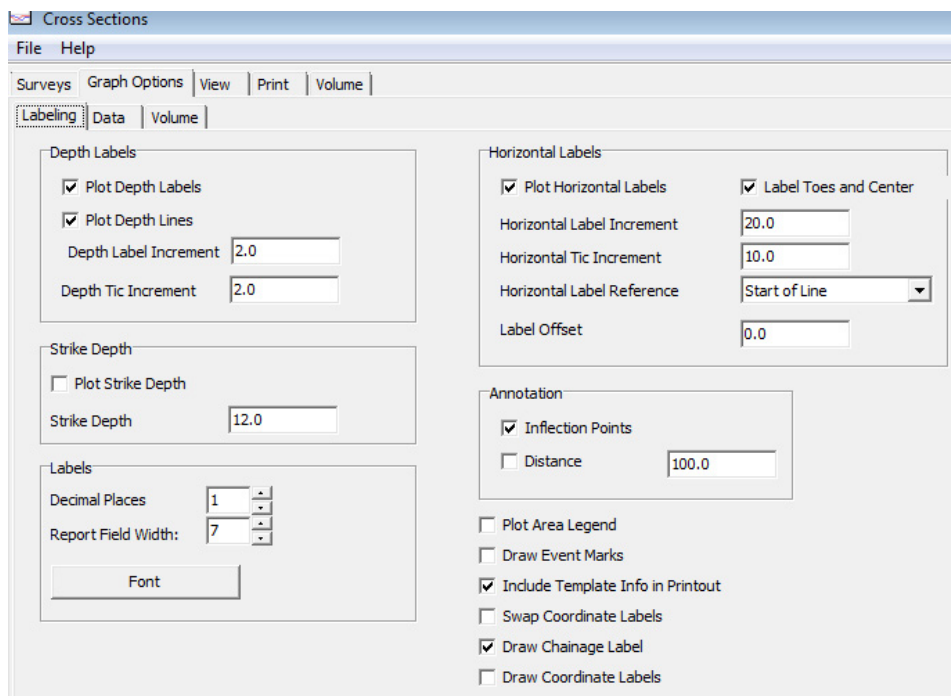
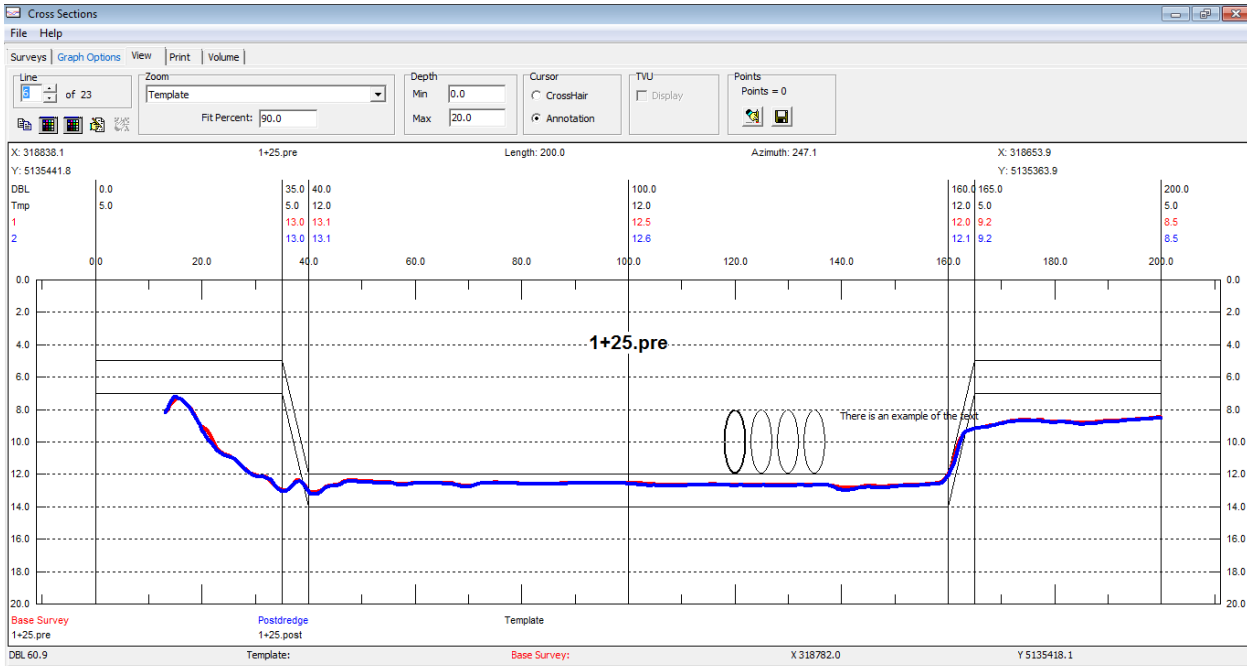


FIGURE 8. Labeling the Cross Sections.



4. **Check the view of the cross sections** in the View tab. The following figure is just an example. You can see the channel and overdepth templates, predredge and postdredge surveys (red and blue lines), some stones we drew in the right part of the channel, text you can add as an object (right of the stones), the name of the profile (as 1+25.pre), labels (vertical 2m and horizontal 20m), annotations (vertical lines showing the DBL, design depth and both survey depths at the top).

FIGURE 9. Sample Display of the Cross Section



Finally, the most useful thing in CSV – you can compute volumes! Refer to the CSV part of HYPACK User Manual.