Raster Tadpole Picking in TerraStation

Beginning with TerraStation Version 7.372, a new method for capturing picks from raster tadpole images has been added. Here are the steps necessary to do this.

Setup an IMAGELog Template

Create or restore an IMAGELog template containing at least two tracks, a Core Image Photo track, and a Tadpole track. You may also want to have a Depth track on the left to help identify vertical location.

The Tadpole track needs to be the same width as the Core Image Photo track, and immediately to its right.

If the raster image contains extra header information and other tracks, it may be easiest to take the raster tadpole image into another product, such as Microsoft's Paint program, and crop it so that it contains only a representation of the tadpole track.

Depth Register the Image

In the Core Image Photo track, add an entry that points to your raster tadpole image. Set up the depth references for the top and bottom of the image. One can do this by clicking on the MD button under Edit Image Entry, and then clicking on the top depth for the image, or one can simply enter the MD in the Top Ref dialog box.   Use a similar technique to register the Bottom Ref for the image.
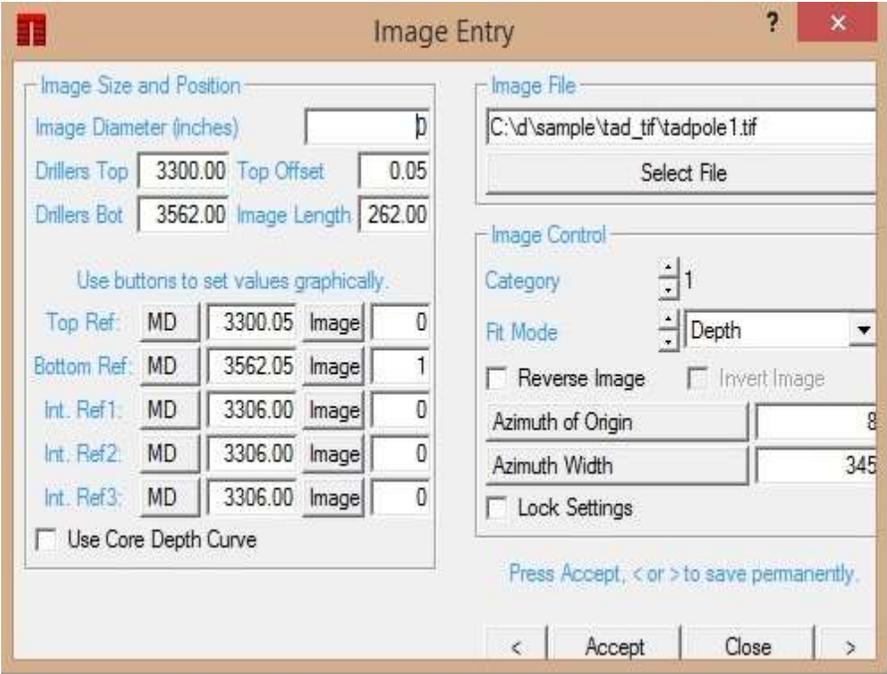
You may also add additional internal reference points to improve the accuracy if desired.

Register the Horizontal Image Dimensions

Next, adjust the Azimuth of Origin and the Azimuth width (seen on the above column) to identify the left and right position of the raster. This can be done manually if you use the button and vertical cursor line to set the Azimuth of Origin to the left edge of the tadpole track.

(Setting it just inside the left track boundary seems to be the best place for good registration.)

Similarly set the Azimuth Width. (Again it may be best to set it just inside track right boundary.)

In the example above, the Azimuth of Origin is set to 8, and the Azimuth Width is set to 345.

Configure the Tadpole Scaling Method

Go to Track Configuration for the tadpole track and overlay it. Then toggle the scale options until you find the best match. The example shown uses the form sine to 60, then linear. Be sure to get the right scale setting, which may involve some trial and error.

In many cases, you may not get a perfect match. Raster images often contain distortion that was introduced during the scanning process. You want the match to be best where most of the picks are.

If better accuracy is desired, you can pick in more than one pass, perhaps getting good registration for the 0 to 30 degree range and picking up to 30 degrees, then adjusting the registration for picks in the 30 to 90, or even 30 to 60 range, etc.

The ultimate goal is to have the tadpole grid lines line up exactly with the raster grid lines. It is easiest to see this if you have depth extending beyond the raster image.
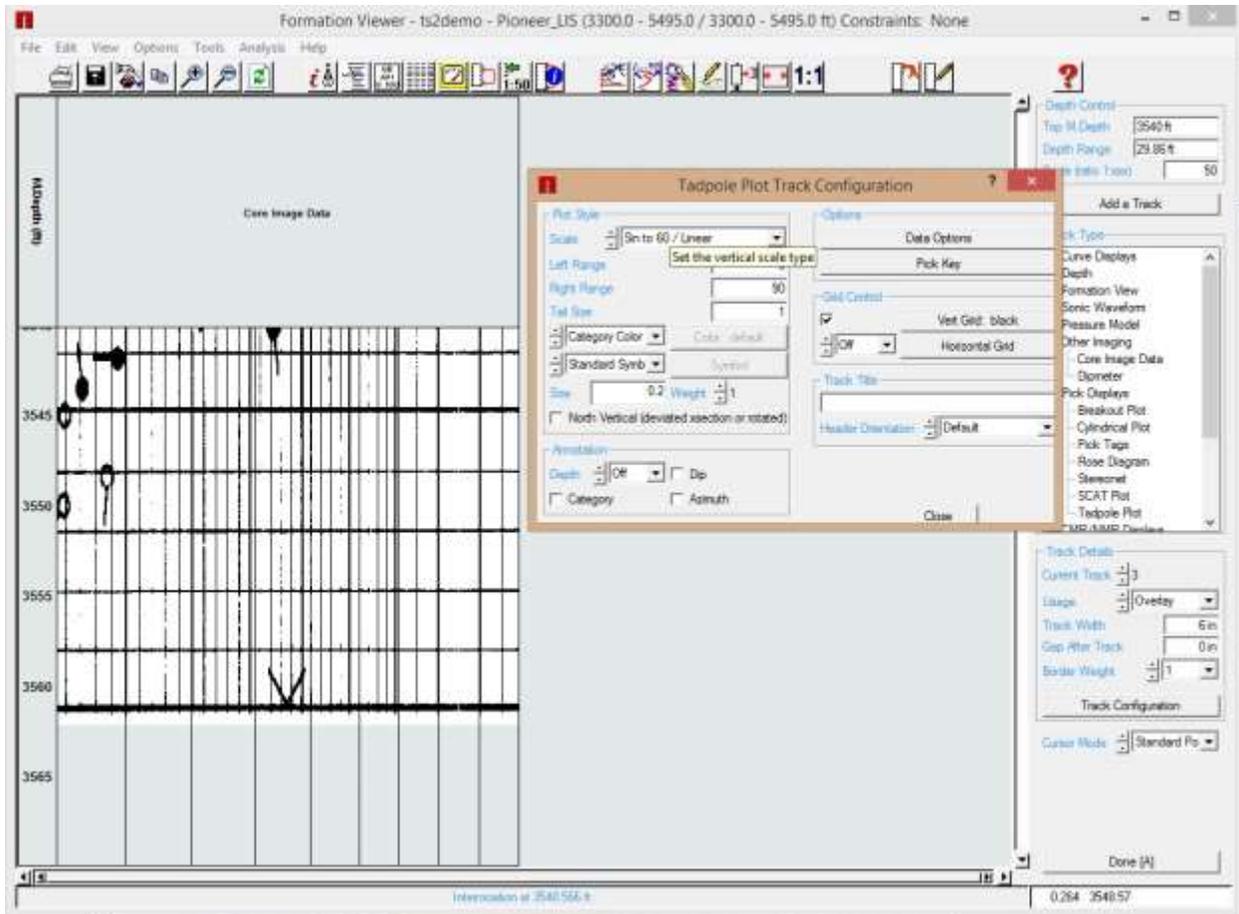
Note that the raster lines are quite accurate in the low and high angle ranges, and a bit less so in the middle.

This match was achieved by toggling back and forth between the Core Image Photo track and the Tadpole track. Changing the Azimuth of Origin and Azimuth Width on the Core Image Photo track adjusts the horizontal stretching of the tadpole image, and changing the scale on the Tadpole track realigns the vertical grid lines.
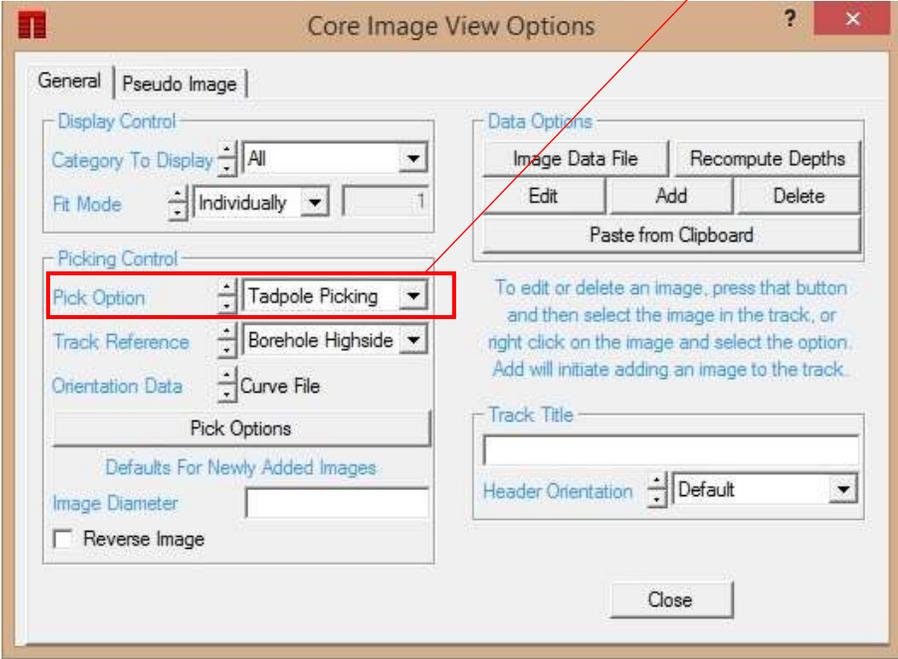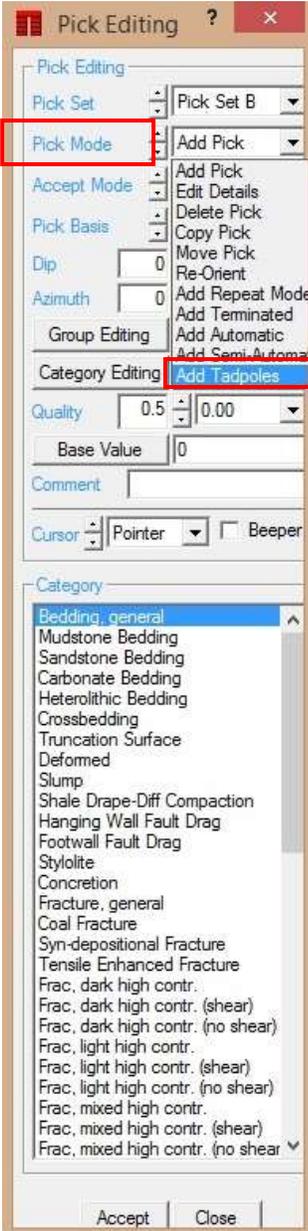
Saving the Tadpole Scaling

Once a scale is chosen, assign a number to the scale as follows: 0 = linear, 1 = sine, 2 = tangent, 3 = sine to 60 / linear, 4 = segmented, 5 = sine to 50 / linear. Multiply it by 100 and add the right scale range. In this example, this computes to 390, 300 to identify Sin to 60/Linear, plus 90 to identify that the raster covers 0-90 degrees.

One might have a 0-60 linear scale, in which the scaling code is 60, 0 (for linear) plus 60.

Put this number into the scale column of the CID file for this image. Use the Edit Pick Data Table option to access this, under Data Options. The SCALE column may be the furthest on the right, after the file name column.

Making Tadpole Picks

On the **Core Image View Options** panel, set the <u>**Pick Option**</u> under Picking Control to **Tadpole Picking**.

Turn the overlay off for the tadpole track, but leave the track as a normal track to echo the picks you make. If you are saving the picks in one of the other pick sets, say Pick Set B, change the track configuration to show these tadpoles.

Right click on the image track and select pick editing, set the pick mode to **Add Tadpoles** and pick. Configure the pick set to receive the picks.

To make the picks, click first in the center of the head of the tadpole. Then click out at the end of the tadpole line to mark the azimuth. With the second click, the Accept/Cancel menu will appear. You can also press A rather than clicking to improve efficiency.

If you **Accept** the pick, it will display on the core image track as well as the tadpole track to the right. The dip and azimuth will show in the dialogs on the pick panel. When adding the tail, you can make it as long as you want to improve accuracy.

It is probably more important to make it parallel with the original than to make some compromise attempt to match the tail end point.

Some picks as created by selecting from a tadpole:
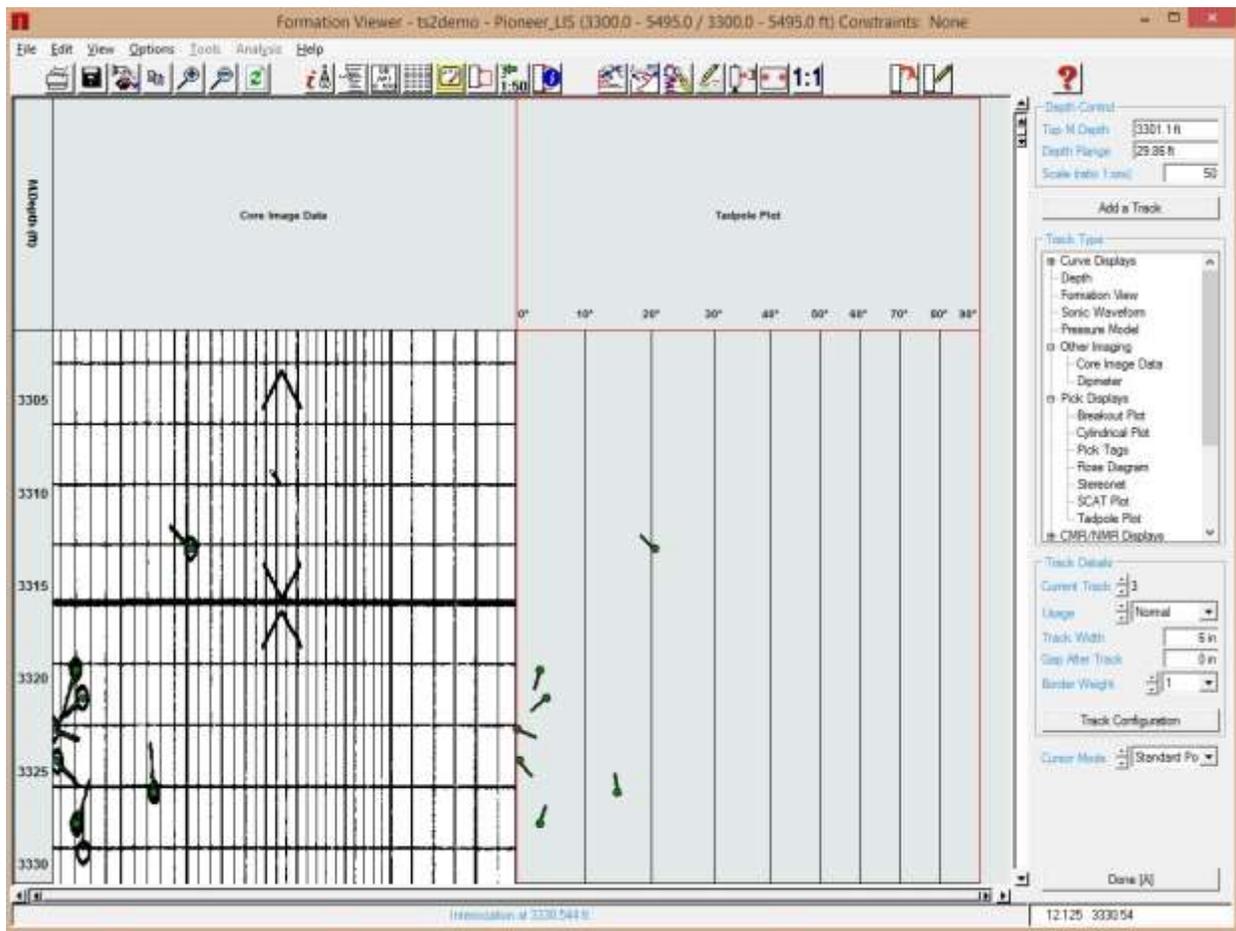
Multiple Tadpole Rasters in a Single Plot

The display scale in effect for the core image track will be determined by the first core image drawn in the current display window. In most cases, there will almost never be more than one raster image displayed in a track at a time. That image will determine the draw scale for tadpoles in that track at that moment.

But if two images are displayed in a track simultaneously, the tadpoles for the second will be displayed using the scale defined by the first. Scrolling to make the second be the first will correct this.

When picks are made, we find the actual image at the depth and read the scale entry to determine the scale to use.