PathTracker

HORIZONTAL WELL PLAN

Well Planning Information & Worksheet

Creating a Two-Dimensional Horizontal Well Plan has never been easier. Follow the steps below to create the curve for a horizontal well profile using the PathPlanner Well Planning Program from Onscreen Software Solutions

Step 1: Describe The Ending Point of the Curve
Enter the required data below to describe the ending point of your curve:

Horizontal Displacement: _____   Maximum Allowable

 Azimuth Bearing: _____   *Vertical Displacement:_____

*(this is the maximum Vertical Depth allowed to complete the curve only)

We can ignore the target TVD for now. First we will design the curve, and later we will adjust it to fit our required target depth. But since we are in the process of entering data:

 Target TVD: _____

Step 2: Start the Program
From PathTracker's "*Tools*" Menu, select "*PathPlanner Well Planning Program*". Enter data for the well description and click "OK".

Step 3: Design The Curve
If you are uncertain of the type of curve you need to build, or have exacting requirements for horizontal displacement, you can use a PathPlanner calculator to get approximate design calculations. If you know the parameters for your curve, proceed to the next step.

From the "*Calculators*" menu, select "*Curve Displacement*". Enter the starting and ending angles for your curve as well as a starting build rate. You can create a complex curve by adding a second curve and a tangent section (click on the appropriate buttons).

Adjust the parameters until you have achieved the horizontal and vertical displacements you require. Record your information and click "Cancel".

 Starting Angle: _____   Tangent Length: _____

 1st Build Rate: _____   2nd Build Rate: _____

 Tangent Angle: _____   Ending Angle: _____

Step 4: Create the Segments
If your starting angle is not 0 (zero), then double click on the first survey (#0), and input the starting angle.

From the "*Add Segment*" menu, select "*Project to Inclination*". Enter the ending inclination of the first segment, and the build rate you want to use to achieve it. Click "OK" to add this segment.

You can now select other "*Add Segment*" options to build your curve. To add a tangent section, select "*Project to Measured Depth*". Add as many segments as needed to achieve your terminal angle.

Step 5: Adjust the TVD for Our Target
From the "*Edit*" menu, select "*Adjust All TVD's for New Final TVD*". Enter the true vertical depth for our target.

Step 6: Complete the Plan to TD
From the "*Add Segment*" menu, select other segments to plan the lateral section of the well. Enter the depth at which you wish to terminate the well.

   Total Depth(TD): _____

Step 7: Add Interpolation Points for Formation Tops, Casing Points, etc.
If you want your plan to clearly identify formation tops or other points in the well, we need to add interpolation points to mark them. From the "*Edit*" menu, select "*Add Interpolation Point*" and select either "*Measured Depth* " or "*True Vertical Depth*". Enter the depth and the point will be added. Repeat this step as often as necessary.

Point 1:_____MD/TVD   Point 4:_____MD/TVD   Point 7:_____MD/TVD

Point 2:_____MD/TVD   Point 5:_____MD/TVD   Point 8:_____MD/TVD

Point 3:_____MD/TVD   Point 6:_____MD/TVD   Point 9:_____MD/TVD

Step 8: Create a Survey File
Now we need to interpolate the points in between our segment starting and end points so that we can obtain an accurate picture of our plan. From the "*File*" menu, select "*Create Survey File*". The default interval is 30 meters or 100 feet. You can change this to any interval you want. A zero (0) value will create a file with the points in the segment plan only.

Step 9: Add Text Annotations to the Planned Survey
If you created interpolation points in Step 7, you may want to add lines of text to your printouts to identify these points. From the "*Edit*" menu, select "*Edit Text Annotations*", or just click on the "*Text*" button. You can now enter the depths from Step 10, and type in any associated text to display at that point. Note: Text only displays on print outs when "*Show Annotations*" on the Print Window is checked.

THAT'S IT! YOU'VE CREATED A WELL PLAN. You can now print your plan or view it with any of PathTracker's graph features.