

## COGCC Interactive Map: How to interpret Directional Well Plots

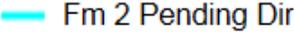
From the COGCC GIS Online interactive map, zoom in to your area of interest. The red dots represent surface hole locations for wells, plugged wells, and approved permits.

In the layers list to the left of the map, check the box to the left of the Directionals layer to display that layer and then click the plus mark to the left of the check box to expand the legend for the Directionals:



Figure 1.

The Pending Directionals are thicker colored lines that represent submitted directionals attached to a pending (unapproved) Form 2, 4 or 5.

 **Fm 2 Pending Dir** The Pending Directional light blue line represents a planned directional wellbore attached to an unapproved Form 2 Application for Permit to drill.

 **Pending Permits** The surface locations for these pending directionals can be viewed by checking the Pending Permits layer.

Figure 2 represents a multi-well pad with 16 directional wells:

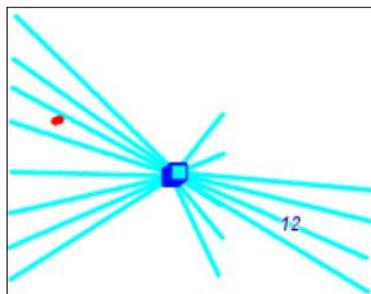
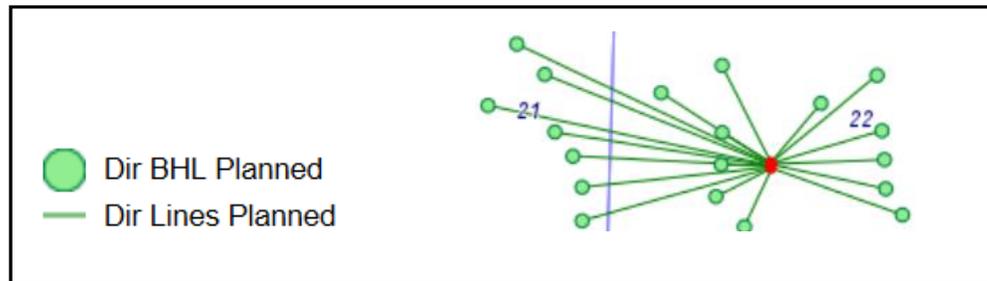


Figure 2.

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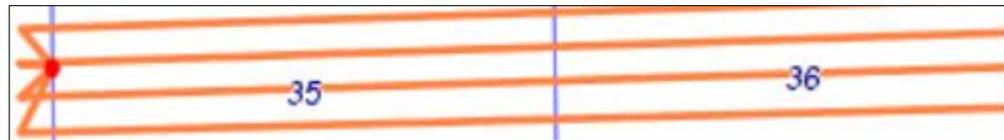
Once the Form 2 is approved, the thicker light blue line will be replaced on the map with a thinner green line and bottomhole location (BHL) representing the approved planned directional.

Figure 3.



**— Fm 4 Pending Dir** A Form 4 Sundry Notice is used to submit a modified planned directional wellbore after the Form 2 Permit to drill has been approved. The thick orange line represents the pending (unapproved) directional attached to the pending Form 4.

Figure 4.



Once the Form 4 is approved, the pending thick orange line will be replaced on the map with a thinner green line and bottomhole location (BHL) representing the approved planned directional as shown above in Figure 3 above.

**— Fm 5 Pending Dir** A Form 5 Drilling Completion Report is used to submit the actual drilled directional wellbore. The thick purple line represents the unvetted directional information plotted from the submitted data. By turning off the Pending Directions, you can view the planned directionals (green lines). With both Pending and Actual line layers turned on you can see if the Actual wellbore deviated from the Planned wellbore (see red arrow).

Figure 5.



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— Dir Lines Actual Once the Form 5 Drilling Completion Report is approved, the thick purple unvetted line and the Planned thin green line are replaced by a thin purple line which represents the vetted actual directional wellbore plot as shown in Figure 6.

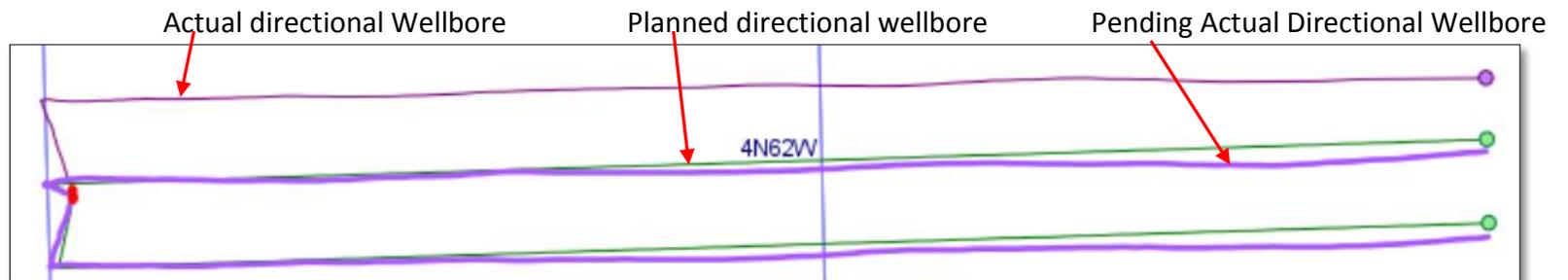


Figure 6.

### SUMMARY:

#### Pending (unapproved) wellbore plot

Form 2: — Fm 2 Pending Dir

Form 4: — Fm 4 Pending Dir

Form 5: — Fm 5 Pending Dir

#### upon approval is replaced by

#### Actual (approved) wellbore plot

— Dir Lines Planned + ● Dir BHL Planned

— Dir Lines Planned + ● Dir BHL Planned

— Dir Lines Actual + ● Dir BHL Actual