

Marcus LD 11-379HC - Request to Extend TD

The following information is provided in support of Great Western's request to extend the TD of the Marcus LD 11-379HC wellbore.

Well Information:

- The Marcus LD11-379HC well is a 2 section well targeting the Codell formation.
- The well has been spud and surface casing is set at 1763' which covers the Fox Hills as well as the Upper Pierre formation.
- This well will be mono-bore well with the following general design:
 - 13-1/2" surface hole drilled to 1763' (done)
 - 9-5/8" surface casing run and cemented to surface (done)
 - 8-1/2" production hole drilled to TD (pending)
 - 5-1/2" production casing run and cemented to surface (pending)

Reason to extend TD (see attachment):

The 5-1/2" casing point is currently planned and permitted to be 470' FSL of Section 11. The presence of the 5-1/2" shoe track and Frac Initiation Sleeve means that the deepest possible perforation point will be approximately 100' above the 5-1/2" casing point or approximately 570' FSL of Section 11. Based on Great Western's current frac design, this situation results in approximately 100' of cased and cemented lateral that is located within the 460' setback boundary but that cannot be completed.

In order to more effectively access all of the oil and gas reserves located within the 460' setback boundary Great Western requests approval to:

- Extend the production hole TD from the current location of 470' FSL of Section 11 to a position that is approximately 370' FSL of Section 11 (see attachment).
- The production casing will be cemented in place as normal.
- When the production casing is run the Frac Initiation Sleeve will be positioned so that when the casing shoe is at TD, the Frac Initiation Sleeve is no closer than 470' FSL of Section 11.
 - This will ensure that all contact with the reservoir occurs inside the 460' set-back boundary.
- A permanent bridge plug will be set above the Frac Initiation Sleeve.
- The first perf cluster and the first frac will be located above the permanent bridge plug providing further guarantee that all production comes from inside the 460 set-back boundary.

As the drawing shows, this proposal will essentially create the same set of circumstances at the TD of the wellbore that already exists at the landing point of the well – essentially there will be a section of cemented and non-productive casing positioned outside the 460' set-back boundary.