

THE APPLICATION OF GASTAR EXPLORATION TEXAS LP. FOR AN EXCEPTION TO STATEWIDE RULE 11(C)(2), DONELSON LEASE, WELL NO. 1, HILLTOP RESORT (BOSSIER) FIELD, LEON COUNTY, TEXAS

Heard by: Margaret Allen, Technical Hearings Examiner

Procedural history

Application received: April 25, 2006

Hearing held: May 12, 2006

Appearances

Robert E. Dreyling
Doreen Grieve

Representing
Gastar Exploration Texas LP.

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Gastar Exploration Texas LP. ("Gastar") seeks approval for an exception to Statewide Rule 11(c)(2) for its Donelson Lease, Well No. 1 in the Hilltop Resort (Bossier) Field. Statewide Rule 11(c) requires a directional survey for directionally drilled wells, and part (c)(2)(B) states in part:

All directional surveys, unless otherwise specified by the commission, shall be either single shot surveys or multi-shot surveys with the shot points not more than 200 feet apart....

No shot point was taken over the last 467' of the Donelson No. 1 and Gastar must therefor request an exception to produce this well.

DISCUSSION OF THE EVIDENCE

The Hilltop Resort (Bossier) Field was discovered in 1981 at a depth of 16,841'. Field rules require that wells be drilled 467' from lease lines.

Gastar permitted its Donelson Well No. 1 on May 20, 2005. The permitted surface location was 477' from the northeast line and 631' from the northwest line of the lease; the permitted bottomhole location was 723' from the northeast line and 804' from the northwest line of the lease. Gastar set surface casing at 2843' and intermediate casing at 11,000', as well as two liners (10,740'-14,650' and 14,317'-15,750'). The well was drilled to a total depth of 19,242' and production casing was set to

19,200' and cemented up to 9348'. Cement was then placed from the bottom of the hole up to 19,026'.

On November 14, 2005, the drilling permit was amended to add a Rule 37 exception as the bottomhole was thought to be only 455' from the northwest lease line. Gastar is its own offset to the northwest. On February 22, 2006, a Form P-12 was filed to assign a 640 acre pooled unit to the Donelson No. 1, which made the Rule 37 unnecessary. The well produced at an initial tested rate of 7912 MCFD, from three sets of perforations: 18,561'-606', 18,709'-745', and 18,935'-962'. Cumulative production through March, 2006, is 281 MMCF. There are no Bossier sandstones between 18,988' and the total depth of the wellbore.

When the well was being drilled, shot points were taken every 200' as is required for directionally drilled wells. The last shot point was taken at 18,775' and Gastar's staff at the well site thought that the well had finished drilling at a depth of 18,842'. Management decided to drill another 400'. Apparently Gastar's staff at the well site then became confused and thought that shot points were necessary only every 500' as is standard for vertical wells.

Gastar believes that additional shot points at 18,975' and 19,175' would not add enough additional information to risk killing this well for further shot points. The bottomhole temperature is 415°F., which means that directional survey equipment is subject to poor performance and to complete failure, even melting. There are technical problems with any re-entry at this depth and other wells in this field have had permanently reduced flow rates after being shut-in. When Gastar designed this well, it planned for the completion to be tested directly to sales to avoid having to shut it in.

The last shot point depth (18,775') is 1306' from the nearest line, based on the current unit boundaries. Even if the wellbore had turned horizontal after the last measured shot point, and traveled 467' directly toward the nearest unit line, the end of the wellbore would still be 839' from the nearest unit line. If the angle of inclination developed by the last few measured shot points (7.58°) is assumed to apply down to total depth, and this angle is directed toward the closest unit line, the bottom of the wellbore would be 1244' from the nearest unit line and the deepest perforation would be 1281' from this unit line.

EXAMINER'S OPINION

The examiner believes that the subject well should be given an exception to Statewide Rule 11(c)(2). The deepest perforation is only 187' below the lowest shot point depth. Statewide Rule 11 is designed in general to protect correlative rights and this well cannot be producing in violation of the minimum lease or unit line field rule. Gastar has not yet filed a new permit with a Form P-12 to show the 640 acre unit around the Donelson No. 1. It should be required to do so. The Donelson No. 1 can be considered regular as long as it is produced on this unit. If the unit is reformed, the well's status may have to be revisited.

FINDINGS OF FACT

1. Notice of this hearing was given to all interested persons on May 2, 2005.

2. Field rules for the Hilltop Resort (Bossier) Field require wells to be 467' from the nearest lease line and Gastar Exploration Texas LP. permitted its Donelson Lease Well No. 1 at a regular location.
3. Statewide Rule 11(c)(2) requires shot points every 200' for directional wells such as the Donelson No. 1.
4. The Donelson No. 1 was drilled to a total depth of 19,242' and cement was then placed from the bottom of the hole up to 19,026'.
5. The last shot point taken in the Donelson No. 1 was at 18,775', 467' before the end of the wellbore and 251' before the end of the uncemented part of the wellbore.
6. The lowest perforation in the Donelson No. 1 is at 18,962', less than 200' below the last shot point.
7. There are no sandstones below the last perforated sandstone and therefor no perforations will be added deeper.
8. Even if the well had turned horizontal after the last shot-point and traveled in the direction of the nearest unit line, the bottom of the wellbore would still be 839' from the nearest unit line.
9. The bottomhole temperature is 415°F., which means that even if the well were re-entered to take additional shot points, the directional survey equipment might be unreliable and would be subject to failure.
10. It is unnecessary to shut this well in to take two additional shot points because the bottomhole location cannot be at an irregular location.

CONCLUSIONS OF LAW

1. Proper notice was timely given to all parties entitled to notice pursuant to applicable statutes and rules.
2. All things have occurred and have been accomplished to give the Commission jurisdiction in this case.
3. An exception to Statewide Rule 11(c)(2) for the Gastar Exploration Texas LP. Donelson Lease, Well No. 1 in the Hilltop Resort (Bossier) Field will not violate correlative rights and may prevent waste.

EXAMINER'S RECOMMENDATION

The examiner recommends that Gastar Exploration Texas LP. be given an exception to Statewide Rule 11(c)(2) to produce its Donelson Lease, Well No. 1 in the Hilltop Resort (Bossier) Field.

Specifically, Gastar Exploration Texas LP. is not required to run a directional survey below a depth of 18,775'. Gastar Exploration Texas LP. should file an amended permit, including a Form P-12, to show the full unit size of 640 acres.

Respectfully submitted,

Margaret Allen
Technical Hearings Examiner