

THE APPLICATION OF PANTERA ENERGY COMPANY TO CONSIDER AN EXCEPTION TO STATEWIDE RULE 38 FOR ITS B. A. DONALDSON LEASE, WELL NO. 2, IN THE PANHANDLE, WEST FIELD, MOORE COUNTY, TEXAS

HEARD BY: Richard D. Atkins, P.E. - Technical Examiner
Marshall F. Enquist - Legal Examiner

APPEARANCES:

REPRESENTING:

APPLICANT:

William Osborn
Jason Herrick
Brooks Gentry

Pantera Energy Company

PROTESTANT:

Jamie Nielson
Greg Cloud
Roy Burgess

ConocoPhillips Company

PROCEDURAL HISTORY

Application Filed:	August 6, 2010
Protest Received:	August 31, 2010
Request for Hearing:	September 8, 2010
Notice of Hearing:	September 13, 2010
Date of Hearing:	October 28, 2010
Transcript Received:	November 10, 2010
Proposal For Decision Issued:	February 15, 2011

EXAMINERS' REPORT AND PROPOSAL FOR DECISION

STATEMENT OF THE CASE

Pantera Energy Company ("Pantera") requests an exception to Statewide Rule 38 to drill its B. A. Donaldson Lease, Well No. 2, in the Panhandle, West Field, Moore County, Texas. The proposed well will be the second producing well on the 640 acre B. A. Donaldson Lease. The lease consists of two 320 acre tracts (the south half of Section 160 and the west half of Section 176) that are contiguous, but not adjacent. Pantera's existing

well is located in Section 176 and Pantera is requesting to drill a second well in Section 160 (See Pantera Exhibit No. 18 - Drainage Area Map). Field rules for the Panhandle, West Field require 640 acres per well.

The application was protested by ConocoPhillips Company ("Conoco"), an offsetting operator to the north of the proposed well.

DISCUSSION OF THE EVIDENCE

Applicant's Evidence

For the purposes of this hearing, Pantera presented data from the eight sections surrounding Section 160 in which the proposed well is located. Structure and gross thickness isopach maps of the study area show that north of the B. A. Donaldson Lease in Section 160 a fault runs west to east. The structure is higher to the south of the fault and the Brown Dolomite is almost 500 feet thick, which is twice the thickness that occurs north of the fault. Wells south of the fault have cumulative production up to 60 BCFG, while wells north of the fault have much lower cumulative production in the range of 13-18 BCFG. Pantera believes that there is obviously a difference in reservoir quality from north to south based on the difference in recoveries.

Pantera was unable to calculate net pay in the wells because modern electric logs for the older wells are largely unavailable. Pantera submitted a gamma ray neutron log for a plugged well in Section 160, which was drilled in 1981 and produced oil from a deeper formation. The well was the Kerr-McGee - Donaldson Oil Lease, Well No. 1, and had logged the entire Brown Dolomite interval. Analysis of this log indicates that net pay is approximately 95% of gross pay with an average porosity of 21% and an average water saturation of 22%. The current reservoir pressure in the field is approximately 10 psi, compared to an initial reservoir pressure of 485 psi. Pantera submitted a cross section showing that many of the older wells did not penetrate the entire Brown Dolomite formation pay section. As a result, Pantera believes that there is a lot of gas left to be produced from the Brown Dolomite formation, especially from the deeper zones.

Using the log-derived parameters and assuming 95% net pay to gross pay, original gas-in-place for the 640 acre lease was estimated to be 66.9 BCFG. To date, Pantera estimates that 59.9 BCFG had been produced from beneath the B. A. Donaldson Lease, including drainage from offsetting wells. This leaves approximately 7.0 BCFG remaining under the lease. Based on decline curve analyses of the wells surrounding the lease, only 846 MCFG will be recovered by the existing wells, both from the B. A. Donaldson Lease and offsetting leases. Pantera believes that an additional well on the B. A. Donaldson Lease is necessary for it to recover its fair share of the stranded reserves, which is over 6.1 BCFG.

Pantera calculated drainage areas for all of the sixteen wells in the study area based on cumulative production to date plus remaining reserves calculated from decline curve

analysis. The drainage areas ranged from a low of 69 acres up to 878 acres with an average of 405 acres. Pantera then plotted the drainage radii on a map, which showed a large area of stranded reserves contained on Section 160 (See Pantera Exhibit No. 18 - Drainage Area Map). Pantera believes that the Drainage Area Map demonstrates that an additional well is necessary to recover the stranded reserves remaining under the B. A. Donaldson Lease in Section 160. With an estimated drilling cost of \$450,000, Pantera calculated that if they could only recover 10% of the stranded gas, or 0.6 BCFG, this would still result in 8 to 10 million dollars of positive cash flow.

Pantera opines that exceptions to Rule 38 are often necessary in this very low-pressured field, and points to approximately 180 Statewide Rule 38 density exceptions which have been approved administratively in the Panhandle, West Field since 1990. Pantera also pointed out that twelve drilling permits on substandard acreage had been issued in the immediate area. Since the B. A. Donaldson 640 acre lease is contiguous and not contained in one section, Pantera contends that they have 8 offset tracts to prevent drainage from instead of four offset tracts for a regular 640 acre section.

The proposed location for Well No. 2 is on the west side of the south half of Section 160 (1,281 feet from the west line and 1,250 feet from the south line). Pantera believes the location is appropriate because it accommodates the center pivot irrigation system in place in Section 160. The proposed location is centered between existing producing wells and is expected to encounter almost 500 feet of gross pay thickness. Wells to the south of the fault in Section 160 have produced far greater volumes of gas than wells to the north of the fault, indicating a difference in reservoir quality in the area. The proposed location is based on a combination of surface obstructions, expected reservoir quality and the location of the stranded reserves. Pantera argues that the well is necessary to prevent waste and confiscation.

Protestant's Evidence

Conoco does not believe that Pantera met its burden of proof in showing that the exception to Statewide Rule 38 is necessary to prevent waste or protect correlative rights. Conoco's expert engineering witness estimated the remaining reserves from decline curve analysis on the existing B. A. Donaldson Lease, Well No. 1, to be approximately 791 MMCFG. The engineering expert also performed a volumetric recovery analysis of the current recoverable gas under the Donaldson Lease. Using a current reservoir pressure of 10 psi and an abandonment reservoir pressure of 5 psi, this calculation resulted in estimated remaining reserves for the lease of 627 MMCFG. The expert opined that since decline curve analysis showed a larger recovery for the existing Well No. 1 than what would be expected from the volumetric analysis for the lease, then another well on the Donaldson Lease would not be necessary to protect correlative rights.

EXAMINERS' OPINION

Pantera's tract, although contiguous at only a single point, is of standard size (640 acres) for the Panhandle, West Field. Because the tract is of standard size, Pantera is entitled to prove its need for a Statewide Rule 38 density exception for a second well based on either prevention of confiscation or prevention of waste.

An owner of oil and gas is entitled to a reasonable opportunity to recover the reserves underlying his tract, and any denial of that opportunity amounts to confiscation.¹ An applicant seeking an exception to Statewide Rule 38 based on prevention of confiscation must show that it is not feasible for the applicant to recover its fair share of hydrocarbons currently in place under its lease, or its equivalent in kind.

Original reservoir pressure conditions of 485 psi have long passed in the Panhandle, West Field. The field was discovered in 1945 and the current bottomhole pressure is estimated at only 10 psi, indicating substantial depletion. Pantera failed to offer any credible calculation of currently recoverable reserves beneath the B. A. Donaldson Lease or show that the existing well cannot recover Pantera's fair share of those reserves.

Pantera's reserve analysis is based on original reservoir pressure conditions of 485 psi and showed that there was approximately 6 BCFG that will not be recovered by the existing well on the B. A. Donaldson Lease. Pantera estimated that they could recover approximately 10% of the gas that would have existed at original conditions, but provided no support for the choice of a 10% recovery factor. The estimate was not supported by any calculation of currently recoverable reserves. The protestant's evidence clearly showed that the estimated remaining recoverable reserves from decline curve analysis for Well No. 1 of approximately 791 MMCFG exceeds the current recoverable reserves from volumetric analysis for the lease of 627 MMCFG.

To establish an entitlement to an exception to Statewide Rule 38 to prevent waste, an applicant must demonstrate that: 1) Unusual conditions, different from conditions in adjacent parts of the field, exist on the tract for which the exception is sought; and 2) As a result of these conditions, a substantial volume of hydrocarbons will be recovered by the well for which a permit is sought that would not be recovered by any existing well or by additional wells drilled at regular location.

The large fault at the top of Pantera's tract (See Pantera Exhibit No. 9 - Brown Dolomite Structure Map) is not an unusual condition because it is not a causal factor in any potential waste of hydrocarbons. If the fault is a sealing fault, then the Mobil - Britain No. 2, located to the north of the proposed location, could not have a circular drainage pattern as shown on Pantera Exhibit 18 and its drainage area would expand east and west. The easterly expansion would recover any hydrocarbons at the top of Pantera's Donaldson

¹*Atlantic Refining Co. v. Railroad Commission*, 346 S.W.2d 801 (Tex. 1961); *Imperial American Resources Fund, Inc. v. Railroad Commission*, 557 S.W.2d 280 (Tex. 1977).

Lease. Likewise, the Mobil - Britain #37 and Mobil - Britain # 4, located to the south of the proposed location, would form a no-flow boundary and their respective drainage areas would expand laterally to the no-flow boundary, extending into and draining Pantera's designated stranded hydrocarbon area. Wells on both sides of the fault are sufficient to drain the reserves on either side.

If the fault is not a sealing fault, Pantera's depiction of an area of stranded hydrocarbons on Exhibit 18 is based on an assumption of radial drainage and multiple overlapping drainage areas. However, where wells are in competition for the same reserves, no-flow boundaries form between the wells and overlapping drainage areas cannot exist. Therefore, Pantera's representation of stranded hydrocarbons does not account for drainage by any offsetting wells and is not credible.

As Pantera failed to carry its burden of proof, the examiners recommend that the application be denied. Pantera failed to prove its need for a Rule 38 exception based on the prevention of confiscation or waste.

FINDINGS OF FACT

1. Notice of this hearing was given to all persons entitled to notice at least ten days prior to the date of hearing.
2. On August 6, 2010, Pantera Energy Company filed Form W-1 to drill its B. A. Donaldson Lease, Well No. 2, in the Panhandle, West Field in Moore County. The proposed well will be the second producing well on the 640 acre B. A. Donaldson Lease.
3. Field Rules for the Panhandle, West Field require 640 acres per well. The proposed No. 2 well requires an exception to Statewide Rule 38.
4. The subject application for exception to Statewide Rule 38 was protested by ConocoPhillips Company, an offsetting operator to the north of the proposed well.
5. The proposed B. A. Donaldson Lease, Well No. 2, will not prevent confiscation.
 - a. The current recoverable reserves from volumetric analysis for the B. A. Donaldson Lease is 627 MMCFG.
 - b. The estimated remaining reserves from decline curve analysis for Well No. 1 are approximately 791 MMCFG and exceeds the current recoverable reserves for the lease.
 - c. The existing B. A. Donaldson Lease, Well No. 1, will adequately drain

the lease and produce Pantera's fair share of the hydrocarbons.

6. The proposed B. A. Donaldson Lease, Well No. 2, will not prevent waste.
 - a. Pantera's drainage area analysis did not account for drainage by any offsetting wells.
 - b. Pantera's depiction of an area of stranded hydrocarbons on Exhibit 18 is based on an assumption of radial drainage and multiple overlapping drainage areas.
 - c. Where wells are in competition for the same reserves, no flow boundaries form between the wells and overlapping drainage areas cannot exist.
 - d. The existing offset wells have adequately drained the lease.
 - e. There is no unusual reservoir condition at the location of the proposed B. A. Donaldson Lease, Well No. 2.

CONCLUSIONS OF LAW

1. Proper notice of the hearing was timely issued by the Railroad Commission to appropriate persons legally entitled to notice.
2. All things necessary to the Commission attaining jurisdiction over the subject matter and the parties in this hearing have been performed.
3. Approval of the requested Statewide Rule 38 exception is not necessary to prevent waste or protect correlative rights.

EXAMINERS' RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiners recommend denial of the Statewide Rule 38 exception, as requested by Pantera Energy Company.

Respectfully submitted,

Marshall F. Enquist
Legal Examiner

Richard D. Atkins, P.E.
Technical Examiner