



RAILROAD COMMISSION OF TEXAS

OFFICE OF GENERAL COUNSEL

September 25, 2012

Rule 37 Case No. 0273809
Status No. 726844
District 09

APPLICATION OF XTO ENERGY, INC. FOR A RULE 37 EXCEPTION TO DRILL ITS PROPOSED SUE BARNETT UNIT, WELL NO. 2H, NEWARK EAST (BARNETT SHALE) FIELD, TARRANT COUNTY, TEXAS.

APPEARANCES:

FOR APPLICANT:

David Gross, Attorney
Rick Johnston, Consulting Engineer
Raul Flores, Drilling Engineer
Austin Hardwick, Senior Landman
Jackie Huxel, Independent Landman

APPLICANT:

XTO Energy, Inc
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FOR PROTESTANTS:

Carlos A. Fernandez, Attorney

PROTESTANTS:

Hong Bui
Tien B. Dao
Linh T. Nyugen
Mr. and Mrs. Richard Hunter
Ericka Russell
Kesha Simmons
Mr. and Mrs. Basem Hirbawi

PROPOSAL FOR DECISION

PROCEDURAL HISTORY

APPLICATION FILED:

December 6, 2011

NOTICE OF HEARING:

March 2, 2012

HEARD BY:

Marshall Enquist - Hearings Examiner
Brian Fancher - Technical Examiner

HEARING DATE :

April 19, 2012

TRANSCRIPT RECEIVED:

May 3, 2012

PFD CIRCULATION DATE:

September 25, 2012

STATEMENT OF THE CASE

XTO Energy, Inc. (“XTO” or “Applicant”), seeks a drilling permit pursuant to the provisions of Statewide Rule 37 for the proposed location of the Sue Barnett Unit, Well No. 2H, a horizontal well in the Newark, East (Barnett Shale) Field, Tarrant County, Texas. XTO received a drilling permit on October 26, 2011 to drill its Well No. 2H at a Rule 37 exception location on its 625.177-acre pooled unit. This permit was restricted by two “no perforation zones” (“NPZs”) and was approved administratively as regular. The well, a 5398 foot lateral, includes a total of 4117 feet that cannot be perforated due to the two NPZs. The subject well has not been drilled. Appendix I to this proposal for decision is a plat associated with the October 26, 2011 drilling permit, showing the well path and the two NPZs.

On December 6, 2011, XTO applied to remove the two NPZs on its proposed Well No. 2H on its Sue Barnett Unit, which had increased in size to 628.82 acres. In that application, the unit boundaries remained the same as in the previous application.

The surface location of Well No. 2H is 2054 feet from the north line of the unit and 599 feet from the east line of the unit, and 2030 feet from the north line and 629 feet from the east line of the P. Rouche Survey, A-1339. The penetration point is 1675 feet from the north line and 857 feet from the east line of the J. Casey Survey, A-293. The terminus is 390 feet from the west line and 803 feet from the north line of the J. Casey Survey, A-293. The well is roughly in an east-west orientation.

Special field rules for the Newark, East (Barnett Shale) Field provide for 330 foot lease line spacing. As to horizontal wells, where the horizontal portion of the well is cased and cemented back above the top of the Barnett Shale formation, the distance to any property line, lease line, or subdivision line is calculated based on the distance to the nearest perforation point in the well, and not based on the penetration point or terminus. Where an external casing packer is placed in a horizontal well and cement is pumped above the external casing packer to a depth above the top of the Barnett Shale formation, the distance to any property line, lease line, or subdivision line is calculated based on the top of the external casing packer or the closest open hole section in the Barnett Shale. The standard drilling and proration unit for the Newark, East (Barnett Shale) Field is 320 acres. An operator is permitted to form optional drilling units of 20 acres.

A Rule 37 exception is needed for the proposed Sue Barnett Unit, Well No. 2H because the section of the well proposed to be perforated is closer than 330 feet to the boundaries of certain tracts internal to the unit that are unleased. Notices of Intent to Appear in Protest of the application were filed by Hong Bui, Tien D. Dao, Linh T. Nguyen, Mr. And Mrs. Basem Hirbawi, Mr. And Mrs. Richard Hunter, Ericka Russell and Kesha Simmons. They were represented at the hearing by their attorney, Carlos A. Fernandez. After the close of the hearing, all protests except those of Mr. and Mrs. Hirbawi were withdrawn.

The examiners believe XTO has proved that it cannot recover its fair share of the recoverable hydrocarbons in place beneath the Sue Barnett Unit with the current “no perforation zones” in place on its Well No. 2H, and recommend that XTO’s application be approved.

DISCUSSION OF THE EVIDENCE

XTO ENERGY, INC.

XTO seeks removal of the two “no perforation zones” (“NPZs”) on its Sue Barnett Unit, Well No. 2H. XTO believes removal of the NPZs is necessary to prevent the loss of roughly 2.9 BCF of gas that would otherwise be left in the formation. XTO also believes removal of the NPZs is necessary to afford the mineral owners within the 628.823-acre Sue Barnett Unit a reasonable opportunity to recover their fair share of Barnett Shale reserves.

XTO began leasing in this area in the summer of 2008, shortly before the decline in gas prices which took place in October, 2008. At the market peak, XTO was paying \$26,517 per mineral acre bonus and a 26.5% royalty. After the decline in gas prices, XTO stopped taking leases in the area. As activity slowly returned, XTO progressed from offering no-bonus leases, to leases with bonuses increasing to \$1500, then to \$2500, then to \$4500, and, at the time of the hearing, to \$6500 an acre.

The total acreage within the perimeter of the Sue Barnett Unit is 703.514 acres, in 2052 separate tracts. At the time of the hearing, 1829 tracts comprising 628.823 acres had been leased. There are 223 unleased tracts comprising 74.691 acres, or 10.6 percent of the total acreage. XTO has leased 89.4% of the acreage within the boundaries of its Sue Barnett Unit. XTO is still open to signing the unleased mineral interest owners. It currently offers a lease with a \$6,500 bonus per mineral acre, 25 percent royalty and three-year primary term.¹

Due to the number of unleased tracts scattered across the unit, XTO has a limited number of regular locations available. These are shown on Appendix II, which was constructed by drawing a 330 foot radius around every unleased tract within the unit. XTO has already permitted and drilled Well No. 1H, which is shown on Appendix II (Appendix II has been amended by the examiners to show the location of permitted Well No. 4H) as the well extending east from the pad site with a lateral dropping due south within an area allowing it a regular location.

To establish the currently recoverable reserves under the 628.82-acre Sue Barnett Unit, XTO

¹ XTO is currently involved in a suit with a local neighborhood association (SEACTX - Southeast Arlington Communities of Texas) whose members received offers of a \$26,517 bonus per acre and a 26.5 percent royalty for leases within the boundaries of the Sue Barnett Unit in 2008. Apparently, these offers occurred before the price of gas dropped radically in October/November, 2008. XTO’s current offer is contingent upon the lessor dropping its participation in the lawsuit.

presented an exhibit partially drawn from an exhibit presented in Oil & Gas Docket No. 09-0242843², which indicated Original Gas In Place in Denton and Tarrant Counties to be 139 BCF per acre for every 640 acres, assuming a formation thickness of 433 feet. Available well logs in the vicinity of the Sue Barnett Unit indicate the thickness of the Barnett Shale locally to be 470 feet. Adjusting for formation thickness of 470 feet in the area of the Sue Barnett Unit yields 150.9 BCF of gas per 640 acres. Adjusting further for the 628.82 leased acres of the Sue Barnett Unit results in 148.2 BCF of Original Gas In Place under the leased acreage of the Unit. Applying a recovery factor of 0.3 to the Original Gas In Place under the Unit results in currently recoverable reserves of 44.5 BCF under the 628.82-acre Sue Barnett Unit.

XTO reviewed 114 Newark, East (Barnett Shale) Field wells within a five mile radius of the proposed well. Plotting the estimated ultimate recovery (EUR) of each of these wells, XTO developed a scatter diagram and used a least squares regression method to produce a trend line to predict the ultimate recovery of a well in this area based upon its length. Based on the scatter diagram, with the drainhole length as the “x” axis and the estimated EUR in MMCF as the “y” axis, XTO derived a well recovery formula of “y” = 0.7124x + 55.641. This formula indicates each incremental foot of wellbore will recover 0.712 MMCF of gas (or 712 MCF of gas). The 55.641 is the amount of gas, in MMCF, that XTO would expect to recover with a vertical wellbore and no incremental horizontal drainhole length. Using these figures, XTO’s proposed full-length lateral of 5398 feet will recover 3.9 BCF of gas.

The NPZs currently in place affect 4117 feet of the Sue Barnett Unit, Well No. 2H, precluding recovery of 2.93 BCF of gas. Absent removal of the NPZs, XTO argues that it would be left with a wellbore lateral only 1281 feet in length, which would recover only 0.968 BCF of gas. XTO believes removal of the NPZs is necessary to afford the mineral interest owners within the 628.82-acre Sue Barnett Unit a reasonable opportunity to recover the gas under their acreage.

XTO has already applied for and received drilling permits for two other wells on the Sue Barnett Unit. The Well No. 1H has been drilled and the Well No. 4H has not been drilled. As shown on Appendix II, XTO was limited in its choice of a surface location by a shortage of acreage in a regular location. XTO has no other location available for a pad site on this unit. Well No. 1H is the lateral dropping to the south on the eastern edge of the largest regular location. Well No. 4H is the well breaking to the northeast from the surface location. Both are relatively short holes and have been limited by the number of possible protestants with unleased tracts.

Well No. 1H has a usable lateral approximately 1166 feet long and has a projected EUR of 0.9 BCF. Well No. 4H will have a usable lateral approximately 2340 feet long and has a projected EUR of 1.7 BCF. Well Nos. 1H and 4H, combined with proposed Well No. 2H, are projected to recover 6.5

² Oil & Gas Docket No. 09-0242843: Application of Devon Energy Operating Co., LP to Consider Amending the Field Rules for the Newark, East (Barnett Shale) Field, Wise, Bosque, Cooke, Denton, Erath, Hood, Jack, Johnson, Montague, Palo Pinto, Parker, Tarrant and Young Counties, Texas. Final Order Issued August 3, 2005.

BCF of gas, an amount far less than the 44.5 BCF of recoverable gas in place under the Sue Barnett Unit.

XTO will return to the Commission and seek permits to drill additional wells. XTO believes the location of its Proposed Well No. 2H is reasonable as a well necessary to recover the reserves in place beneath the western two thirds of the Sue Barnett Unit.

Appendix II shows the locations of alternative wells that XTO could drill to regular locations, but these are unsatisfactory for a variety of reasons. Case 2 is a well which roughly parallels the existing Well No. 1H, but it is too close to Well No. 1H, and would drain much the same area. Cases 4 and 5 are S-shaped wells that would end with a vertical hole into the Barnett Shale. These two wells are technically feasible, but production from the wells would not recover drilling expenses. The Case 7 well would involve drilling a long 3500 foot tangent to the west and then leveling off within the formation to drill a 2070 foot lateral to the north northeast. Case 7 would be the most difficult well to drill and would result on a short productive lateral that would not be expected to recover drilling expenses.

PROTESTANTS' POSITION AND EVIDENCE

Protestants believe XTO has alternative locations to drill its proposed well that will not affect their tracts. In addition, protestants question whether XTO is leasing in good faith, that is, whether XTO is using the relief offered by Statewide Rule 37 in order to avoid making fair lease offers to the protestants.

In the course of the hearing, under cross-examination by Protestant's attorney, XTO's Landman, Mr. Hardwick, indicated that XTO was offering to sign additional acreage at a rate of \$6500 per mineral acre bonus, with a 25% royalty, conditioned on any new lessors dropping their participation in the ongoing Southeast Arlington Communities of Texas lawsuit against XTO. Additionally, Mr. Hardwick stated he would hold that offer open for three months. The Protestant's attorney, Mr. Fernandez, indicated that he wished he had been aware of that offer prior to the hearing, and that he would hold XTO to that offer.

The protestants note that the current NPZs cover more than 50% of the total wellbore length. XTO admitted that, in the absence of further leasing and in the absence of the grant of Rule 37 exceptions, further drilling on the Sue Barnett Unit would likely cease.

By letter dated July 12, 2012, Mr. Fernandez, attorney for the Protestants, indicated that his clients Hong Bui, Tien B. Dao and Lynh T. Nguyen, Mr. And Mrs. Richard Hunter, Ericka Russell and Kesha Simmons had withdrawn their protests to XTO's application. However, the Protest of Mr. and Mrs. Basem Hirbawi continued.

EXAMINERS' OPINION

In the present case, XTO had a valid Commission permit to drill its 5398 foot lateral, subject to 4117 feet of NPZ. The examiners believe XTO has proved that the existing NPZs must be removed to afford XTO a reasonable opportunity to recover its fair share of the currently recoverable reserves in place beneath the Sue Barnett Unit.

To establish entitlement to an exception to Rule 37 to prevent confiscation, an applicant must show that, absent the applied-for well, it will be denied a reasonable opportunity to recover its fair share of hydrocarbons currently in place under the lease, or their equivalent in kind. The applicant must satisfy a two-pronged test: 1.) the applicant must show that it will not be afforded a reasonable opportunity to recover its fair share of hydrocarbons currently in place by drilling a well at a regular location; and 2.) the applicant must show that the proposed irregular location is reasonable.

It is the basic right of every landowner or lessee to a fair and reasonable chance to recover the oil and gas under their property as recognized by the Texas Supreme Court in *Gulf Land Co. v. Atlantic Refining Co.*, 131 S.W.2d 73, 80 (Tex. 1939). Denial of that fair chance is confiscation within the meaning of Rule 37. *Id.*

Fair share is based on recoverable reserves on the entire lease or unit. XTO has demonstrated the presence of 44.5 BCF of currently recoverable gas under the 628.82-acre Sue Barnett Unit. Appendix II demonstrates that there are few regular locations on the unit. The evidence demonstrates that if XTO is confined to drilling the available regular portion of its Well No. 2H, it will be able to perforate only 1281 feet of lateral, which will recover only 0.968 BCF of gas. Existing Well No. 1H has a lateral length of 1166 feet and is projected to recover 0.9 BCF. Proposed Well No. 4H will have a lateral only 2340 feet long and will recover approximately 1.7 BCF of gas. Well Nos. 1H and 4H, combined with Well No. 2H, will recover a total of 6.5 BCF of gas, an amount far less than the 44.5 BCF of currently recoverable reserves underlying the Sue Barnett Unit. XTO's calculations demonstrate that removal of the two NPZ designations restricting production in 4117 feet of its proposed Well No. 2H is necessary for the recovery of an additional 2.932 BCF of gas. The total recovery for the well would be 3.9 BCF of gas.

The location of Well No. 2H is reasonable. As shown on Appendix II, the location of Well No. 2H is necessary to begin draining the reserves under the western two thirds of the Sue Barnett Unit, as part of a development plan that will ultimately require the drilling of as many as five additional wells. Failure to remove the two NPZs would result in shorter laterals which would deprive the mineral owners of the 628.82-acre Sue Barnett Unit of the chance to obtain their fair share of the currently recoverable reserves in place.

The examiners are not persuaded by protestants' argument that XTO must develop all of its regular locations in the unit before seeking Rule 37 relief from the Commission. XTO has shown that

wells drilled to the regular locations, as shown in Cases 4 and 5, would be S-shaped wells with only a vertical hole penetrating the Newark, East (Barnett Shale). The Case 4 well has an AFE of \$2.49 million and the Case 5 well has an AFE of \$1.99 million. These wells would perforate only a 350 foot vertical section of the Newark, East (Barnett Shale) and would not be economic. Cases 2 and 7 would be short horizontal wells establishing take points through, respectively, 1470 feet and 2070 feet of the Newark, East (Barnett Shale) Field. It is XTO's unrefuted testimony that these wells would not be economic.

The examiners recommend that XTO be granted an exception to Statewide Rule 37 for its Well No. 2H on the 628.82-acre Sue Barnett Unit in Tarrant County based on prevention of confiscation. Based on the record in this docket, the examiners recommend adoption of the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

1. At least 10 days notice of this hearing was given to the designated operator, all offset operators, all lessees of record for tracts that have no designated operator, and all owners of record of unleased mineral interests for each affected adjacent tract.
2. XTO Energy, Inc. ("XTO" or "Applicant"), seeks an exception to Statewide Rule 37 for the proposed location of its Sue Barnett Unit, Well No. 2H, in the Newark, East (Barnett Shale) Field in Tarrant County.
3. On October 26, 2011, XTO obtained a permit to drill the Sue Barnett Unit, Well No. 2H, at a Rule 37 location on the 625.177-acre pooled unit. The permit authorized a well with a 5398 foot lateral and two NPZs totaling 4117 feet.
4. On December 6, 2011, XTO submitted an application to remove the 4117 foot no-perf zones from the lateral of its Well No. 2H on its 628.82-acre Sue Barnett Unit. The increased acreage reflects additional leasing within the unit.
5. The boundaries of the Sue Barnett Unit encompass 703.514 acres, but the acreage leased by XTO within the unit is 628.82 acres. XTO has leased 89.4% of the acreage within the boundaries of the Sue Barnett Unit. A plat showing the applied-for well with NPZs imposed is attached to this proposal for decision as Appendix I, which is incorporated into this finding by reference.
6. A Rule 37 exception is needed for the proposed Sue Barnett Unit, Well No. 2H, because the section of the well proposed to be perforated is closer than 330 feet to the boundaries of certain tracts internal to the unit that are unleased.

7. Special field rules for the Newark, East (Barnett Shale) Field provide for 330 foot lease line spacing. As to horizontal wells, where the horizontal portion of the well is cased and cemented back above the top of the Barnett Shale formation, the distance to any property line, lease line, or subdivision line is calculated based on the distance to the nearest perforation point in the well, and not based on the penetration point or terminus. Where an external casing packer is placed in a horizontal well and cement is pumped above the external casing packer to a depth above the top of the Barnett Shale formation, the distance to any property line, lease line, or subdivision line is calculated based on the top of the external casing packer or the closest open hole section in the Barnett Shale. The standard drilling and proration unit for the Newark, East (Barnett Shale) Field is 320 acres. An operator is permitted to form optional drilling units of 20 acres.
8. The surface location of the Sue Barnett Unit, Well No 2H is located within the unit, 2054 feet from the north line of the unit and 599 feet from the east line of the unit, and 2030 feet from the north line and 629 feet from the east line of the P. Rouche Survey, A-1339, Tarrant County, Texas. The penetration point is 1675 feet from the north line and 857 feet from the east line of the J. Casey Survey, A-293. The terminus location is 390 feet from the west line and 803 feet from the north line of the J. Casey Survey, A-293. The well is oriented roughly east-west.
9. The present XTO application was opposed by nine owners of unleased tracts internal to the Sue Barnett Unit. The tracts are within 330 feet of the as-drilled lateral.
 - a. Subsequent to the hearing, seven of the nine protestants leased with XTO.
 - b. Two remaining protestants, Mr. And Mrs. Basem Hirbawi, joint owners of one tract, continue to protest the XTO application.
10. The Newark, East (Barnett Shale) Field is present and productive under the entirety of the Sue Barnett Unit. The formation is approximately 470 feet thick in the area of the Unit.
11. To establish the currently recoverable reserves under the 628.82-acre Sue Barnett Unit, XTO presented an exhibit partially drawn from an exhibit presented in Oil & Gas Docket No. 09-0242843, which indicated Original Gas In Place in the Newark, East (Barnett Shale) Field in Denton and Tarrant Counties to be 139 BCF per acre for every 640 acres, assuming a formation thickness of 433 feet.
 - a. Available well logs in the vicinity of the Sue Barnett Unit indicate the thickness of the Barnett Shale locally to be 470 feet. Adjusting for formation thickness of 470 feet in the area of the Sue Barnett Unit yields 150.9 BCF of gas per 640 acres.
 - b. Adjusting further for the 628.82 leased acres of the Sue Barnett Unit rather than

640 acres results in 148.2 BCF of Original Gas In Place under the leased acreage of the Unit.

- c. Applying a recovery factor of 0.3 to the Original Gas In Place under the Sue Barnett Unit results in currently recoverable reserves of 44.5 BCF under the 628.82-acre Sue Barnett Unit.
12. XTO plotted drainhole length versus estimated ultimate recovery for 114 wells with a five mile radius of review of the applied-for well. Using the least squares regression method, XTO derived a well recovery factor of “ $y = 0.7124x + 55.641$ ”, meaning that each incremental foot of drainhole length results in the recovery of 712 MCF of gas and that a vertical well would recover 55.641 MMCF of gas.
 13. The total length of the Well No. 2H drainhole after removal of the 4117 feet of NPZs as proposed by XTO, from upper perforation to lower perforation, is 5398 feet. Applying XTO’s calculated incremental recovery of 712 Mcf per foot of drainhole, Well No. 2H is calculated to have an estimated ultimate recovery of 3.9 BCF of gas.
 14. As currently permitted, Well No. 2H has two “no perforation zones” (“NPZs”) totaling 4117 feet in length. Removal of the NPZs would result in the recovery of 2932 MMCF of gas or 2.93 BCF of gas that would otherwise not be recoverable.
 15. The only regular locations available to XTO to attempt to recover its fair share of the currently recoverable reserves beneath the Sue Barnett Unit are shown on XTO Exhibit 5, which is attached to this proposal for decision as Appendix II, which is incorporated into this finding by reference.
 - a. On Appendix II, two possible wells drilled to regular areas, represented by Case 4 and Case 5, would be S-shaped wells entering the Barnett Shale as vertical wells. They would not be expected to recover drilling expenses.
 - b. On Appendix II, two possible wells drilled to regular areas, represented by Cases 2 and 7, would be horizontal wells drilled on a long tangent, with relatively short laterals. They would not be expected to recover their drilling expenses.
 16. The “no perforation zone” (“NPZ”) restrictions placed on Well No. 2H which prevents perforation of the lateral within 330 feet of any unleased tract will leave a substantial amount of gas unrecovered and preclude XTO and its lessors from recovering their fair share of gas beneath the Unit.
 - a. Well No. 2H, with NPZs in place, would be perforated over 1281 feet of its

length from its first perforation point and would recover an estimated 0.968 BCF of gas.

- b. Well No. 2H, with the NPZs removed, would be perforated over 5398 feet of its length from its first perforation point and recover an estimated 3.9 Bcf of gas.
- c. The difference between the recoveries of Well No. 2H, with the NPZs in place and with the NPZs removed, is approximately 2.93 Bcf of gas. This additional gas would be recovered from the western two-thirds of the Unit, and could not be recovered by any other well drilled at a regular location.

- 17. The proposed location of the Sue Barnett Unit, Well No. 2H is reasonable. The location of the well is necessary to begin draining the reserves under the western two thirds of the Sue Barnett Unit, as part of a development plan that will ultimately require the drilling of as many as five additional wells.
- 18. XTO made several attempts to lease all of the unleased tracts and remains open to signing the unleased mineral interest owners. It offers a lease with terms of \$6,500 per acre, 25% royalty, and a three year primary term.

CONCLUSIONS OF LAW

- 1. Proper notice of hearing was timely given to all persons legally entitled to notice.
- 2. All things have occurred to give the Commission jurisdiction to decide this matter.
- 3. Approval of a Rule 37 exception for the proposed location of the Sue Barnett Unit, Well No. 2H, as proposed by XTO Energy, Inc., is necessary to prevent confiscation and protect the correlative rights of the mineral owners.

RECOMMENDATION

The examiners recommend that the application of XTO Energy, Inc., for a Statewide Rule 37 exception for the as-drilled location of the Sue Barnett Unit, Well No. 2H in the Newark, East (Barnett Shale) Field, Tarrant County, be granted as necessary to prevent confiscation and protect correlative rights.

Respectfully submitted,



Marshall Enquist
Hearings Examiner



Brian Fancher
Technical Examiner