STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION OF PRIDE ENERGY COMPANY FOR COMPULSORY POOLING, NON-STANDARD SPACING AND PRORATION UNIT, AND UNORTHODOX LOCATION LEA COUNTY, NEW MEXICO.

CASE NO. 16169

IN THE MATTER OF THE APPLICATION OF PRIDE ENERGY COMPANY FOR COMPULSORY POOLING, NON-STANDARD SPACING AND PRORATION UNIT, AND UNORTHODOX LOCATION LEA COUNTY, NEW MEXICO.

CASE NO. 16170

IN THE MATTER OF THE APPLICATION OF PRIDE ENERGY COMPANY FOR COMPULSORY POOLING, NON-STANDARD SPACING AND PRORATION UNIT, AND UNORTHODOX LOCATION LEA COUNTY, NEW MEXICO.

CASE NO. 16171

IN THE MATTER OF THE APPLICATION OF PRIDE ENERGY COMPANY FOR COMPULSORY POOLING, NON-STANDARD SPACING AND PRORATION UNIT, AND UNORTHODOX LOCATION LEA COUNTY, NEW MEXICO.

CASE NO. 16172

IN THE MATTER OF THE APPLICATION OF PRIDE ENERGY COMPANY FOR COMPULSORY POOLING, NON-STANDARD SPACING AND PRORATION UNIT, AND UNORTHODOX LOCATION LEA COUNTY, NEW MEXICO.

CASE NO. 16173

IN THE MATTER OF THE APPLICATION OF PRIDE ENERGY COMPANY FOR COMPULSORY POOLING, NON-STANDARD SPACING AND PRORATION UNIT, AND UNORTHODOX LOCATION LEA COUNTY, NEW MEXICO.

CASE NO. 16174

CLOSING ARGUMENT

Introduction:

The captioned cases should be consolidated for hearing together with Devon Energy Production Company's OCD Cases Nos. 16099-16104.

Pride Energy's applications for Bone Spring and Wolfcamp development call for drilling one-mile horizontal wells in Section 16, Township 25 South, Range 32 East, NMPM, Lea

County, New Mexico. Devon's applications call for drilling 2-mile laterals in Sections 16 and 21.

Pride Energy has presented evidence and testimony showing that development pursuant to its applications will result in more efficient recovery of oil and gas, and ultimate recoveries.

Therefore, development through 1-mile laterals will be in the best interests of conservation of oil and gas.

The issues in these consolidated cases can be summarized to two issues:

- Pride Energy pre-planning or Devon misguided reaction to Pride Energy's proposals;
- The best and most effective drainage of oil and gas reserves from the Bone Spring and Wolfcamp proposed wells of each party.

Geology:

Geological conditions underlying Sections 16 and 21 are not contested. TR pg. 77 (19-25), 78 (1-5); 197 (23-25).

Land Position:

Pride Energy's Readiness Position

Pride Energy clearly has positioned itself with a superior plan of development. Its APDs for the following wells have been approved by the Oil Conservation Division for development of Section 16, Township 25 South, Range 32 East, NMPM, Lea County, New Mexico:

1. Paduca 16 State Well No. 501H (API 30-025-44451):

Mesa Verde Bone Spring Pool-- Pool Code 96229) SHL—Unit D, 200 FNL, 700 FWL BHL—Unit M, 330 FSL, 350 FWL W/2W/2 of Section 16

2. Paduca 16 State Well No. 502H (API 30-025-44452):

Mesa Verde Bone Spring Pool-- Pool Code 96229)

SHL—Unit B, 200 FNL, 2200 FEL BHL—Unit O, 330 FSL, 1680 FEL W/2E/2 of Section 16

3. Paduca 16 State Well No. 503H (API 30-025-44491):

Mesa Verde Bone Spring Pool-- Pool Code 96229) SHL—Unit C, 200 FNL, 2069 FWL BHL—Unit N, 330 FSL, 2314 FWL E/2W/2 of Section 16

4. Paduca 16 State Well No. 701H (API 30-025-44453):

WC-025 G-07 S253216D; UPPER WOLFCAMP Pool-- Pool Code 98270) SHL—Unit D, 200 FNL, 725 FWL BHL—Unit M, 330 FSL, 350 FWL W/2W/2 of Section 16

5. Paduca 16 State Well No. 702H (API 30-025-44454):

WC-025 G-07 S253216D; UPPER WOLFCAMP Pool-- Pool Code 98270) SHL—Unit B, 200 FNL, 2175 FEL BHL—Unit O, 330 FSL, 1680 FEL W/2E/2 of Section 16

6. Paduca 16 State Well No. 703H (API 30-025-44492):

WC-025 G-07 S253216D; UPPER WOLFCAMP Pool-- Pool Code 98270) SHL—Unit C, 200 FNL, 2094 FWL BHL—Unit N, 330 FSL, 2314 FWL E/2W/2 of Section 16

(See Pride Energy Exhibits 2-7)

Pride Energy's bidding process, through its engineering consultant, has completely updated its two-month old AFEs (Authority for Expenditures). As such Pride Energy is poised within a week's notice to start drilling location and wells. See TR pgs. 199-201. Additionally, Pride Energy's AFEs in its February, 2018 proposal, are in line with current bidding, i.e. within 10 percent. See, TR p. 221 (2-25)-222 1-4).

Devon's Readiness Position

Devon's plans to drill its wells were totally reactionary to Pride Energy's proposals to Devon. TR pg. 43 (25)-44 (1-3). Two days after Devon received Pride Energy's proposals, it then countered with its own proposals. TR 153 (14-16). In earlier discussions between Pride Energy and Devon, Devon had threatened to strand Pride Energy's lease holdings in the NW/4 and W/2NE/4 of Section 16 by forcing Pride Energy to develop its holding with east/west laterals in the N/2 of Section 16. Devon would have drilled 1.5-mile laterals. See, TR pgs. 145 (7-25)-146 (1). North/south drilling and completions are favored in this area of Lea County. See, TR pg. 211 (4-25)

<u>APDs</u>. Devon has submitted APDs (Application for Permit to Drill) to the Bureau of Land Management (BLM) to drill three 2-mile Bone Spring horizontal wells underlying Sections 16 and 21 would cover the W/2W/2 of Sections 16 and 21, E/2W/2 of Sections 16 and 21, and the W/2E/2 of Section 16 and 21. The minerals in Section 21 are held by the United States of America and administered by the BLM, therefore, APDs must be approved by the BLM.

Testimony at the hearing indicated that the BLM is delayed in approval of APDs. See, TR pgs. 60-61. Devon did not present any witnesses who directly knew the status of its three proposed APDs or were involved in the APD process which were filed on March 1, 2018. Id. pg. (11-15). Stephen Morris, Pride Energy's expert engineering witness, who as part of his consulting work, deals daily with BLM personnel and knows and understands the process and progress of numerous APD applications that he is currently processing through the BLM. His estimate for approval of the three Devon APDs is 12 to 18 months. See, TR pg. 201 (15-250)-202 (1-5). Effectively, start-up dates for drilling the proposed Bone Spring wells by Devon, would be approximately one year to 1.5 (one and one-half) years from now.

Devon has not filed APDs for its proposed Wolfcamp wells, therefore, drilling of these wells is hopelessly delayed. TR pg. 61(4-7). Devon's engineering witness had "no idea" of when the Wolfcamp APD applications would be filed. TR pg. 108 (15-18). Admittedly, Devon's regulatory department handles APD applications, but given the nature of this hearing, Devon's witness should have been sufficiently informed to better inform the Division.

Realistically, we can only speak to the Bone Spring proposals since APDs for the Wolfcamp proposals have not been filed. AFE costs a year or more from now are unpredictable and could very well be substantially more than current costs. TR pgs. 219 (22-25)- 220 (1-24). See also, TR pg. 200 (8-20).

Drilling Programs:

The Pride Energy Program

The testimony of Steve Morris precisely described Pride Energy's precise and effective drilling program for its six wells.

Pride Energy's Drilling Order (Pride Exhibit 11)

Pride Energy's drilling order shows planning. Starting with the Wolfcamp 701H (W/2W/2), then adjustment of the rig to drill the Bone Spring test, then moving the rig to drill the Wolfcamp and Bone Spring wells in the E/2W/2, and then on to the W/2E/2 in similar fashion. This drilling order effects optimum and efficient use of the drilling rig—and saves money.

Once all six wells are drilled, Pride Energy would then move to complete the wells in a "zipper frac" in their respective zones. None of the wells would be produced until all of the wells are completed to prevent loss of reservoir energy and prevent waste. See, TR pgs. 216, 217. Performing a zipper frac on 2-mile laterals would logistically not be possible. Id.

Devon attempts to make a case that Pride Energy will create waste due to the 330 feet setback requirement and will leave unproduced reserves. Devon argues that a 2-mile lateral will not produce 660 feet of combined setback on the lease line between Sections 16 and 21. This argument assumes a linear drainage pattern and that drainage follows straight lines. Mr. Morris, Pride Energy's expert, explained how to frac out the toe of the well to drain within 50 feet of the lease line. He also explained how to frac the heel of the well to achieve the most effective drainage results. See, TR 204 (10-25)-205 (1-21).

Pride Energy has even considered the necessity of changing fracture stages based on rock properties. TR p. 210 (15-25)-211 (1-3).

Finally, Pride Energy's overhead rates are considerably less than Devon's (i.e. \$3,500 per month less for drilling rates, and \$350 per month for producing rates), and consistent with OCD policy. See, Pride Energy Exhibit 12. As provided in Pride's testimony, Devon's producing overhead rates would cost the joint account an additional \$504,000 above Pride's producing overhead rates. (\$350 per month, per well x 6 wells x 12 months per year x 20 year life per well).

The Devon Program

AFEs. Devon's Bone Spring AFE for drilling a two-mile horizontal well in the amount of \$4.9 million dollars is misleading and wrong! In today's drilling environment, this estimate of drilling and completion is unrealistic and designed to leave reserves in the ground. Devon's allocated AFE costs simply limit completion of the well resulting in drainage looking like a laid out "Christmas tree." See, TR pgs.207. In other words, drainage at the toe of the well would be less on a per foot basis than drainage nearer the heel of the well. The result would be inefficient drainage and result in waste. Devon's estimated fracture and completion costs are \$1.3 million short for a 2-mile lateral. See, TR pgs. 202 (9-25)-203 (1-11).

Factors such as friction, horsepower, and pipe integrity play a role in actual well length. In other words, pumping rates for completions at the toe of a well cannot be as great due to these factors. See TR pps. 207 (8-25)-208 (1-6). The friction rate for Wolfcamp wells would be higher than Bone Spring wells, especially with 4-1/2-inch pipe as provided in Devon's AFEs. TR pg. 208 (7-19).

Mechanical Risk of 2-mile laterals. There is a greater mechanical risk when drilling a 2-mile lateral. Drilling and completion require friction factor and tortuosity calculations.

Tortuosity increases the further out the well is drilled and greater chance of error, as well as a greater chance of twisting off the drill pipe, which would require an expensive fishing job in the lateral. Fishing in the lateral is more difficult than in the vertical section. The further out you go, the more difficult the fishing operation. Most of the time the well needs to be cemented back and redrilled, which is extremely expensive, TR pg. 215 (9-22). P208 14-19. There would be a substantially higher friction level while fracking in Devon's Wolfcamp wells with the use of 4.5" liner. TR pg. 212 (17-25), TR pg. 213 (1-7). There would be the additional risk of not being able to slide when drilling a 2 mile lateral due to lack of control of the well bore direction. Id.

Conclusions

- 1. Pride Energy Company's proposal and planning is superior to Devon's. Pride Energy Company is ready to begin drilling, while Devon is not.
- 2. Two-mile laterals for Bone Spring development as proposed by Devon will result in waste because completions of the wells will be inadequate.
- 3. Ultimate recovery by drilling 1-mile laterals as proposed by Pride Energy will be greater.

- 4. Pride Energy Company's 6 APD's have been approved by the New Mexico Oil Conservation Division.
- 5. The most effective way to develop the oil and gas reserves from the subject lands is for Pride Energy to operate and drill the 6 one-mile laterals proposed by Pride Energy in Section 16-25S-32E. Devon could drill 6 one-mile laterals in Section 21-25S-32E.

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the forgoing was served to counsel of record by electronic mail this 27th day of July, 2018.

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