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

APPLICATION OF APACHE CORPORATION FOR APPROVAL OF A NON-STANDARD HORIZONTAL WELL SPACING UNIT AND COMPULSORY POOLING, LEA COUNTY, NEW MEXICO.

Case No. 24141

APPLICATION OF AVANT OPERATING, LLC FOR COMPULSORY POOLING AND APPROVAL OF NON-STANDARD SPACING UNIT, LEA COUNTY, NEW MEXICO

Case No. 24254

APACHE'S POST-HEARING BRIEF AND PROPOSED FINDINGS

Apache Corporation ("Apache") submits this post-hearing brief and the attached proposed findings pursuant to the instructions from the Hearing Examiner following the conclusion of the hearing in these matters.

In these consolidated cases, both applicants seek an order (a) approving a non-standard 1280-acre horizontal well spacing unit in the Bone Spring formation underlying Sections 11 and 14, Township 19 South, Range 32 East, NMPM, Lea County, New Mexico and (b) pooling all uncommitted interests in this acreage. The primary difference between the proposed initial development plans is that Apache has proposed four wells in the First Bone Spring sands and four wells in the Second Bone Spring sands (for a total of eight initial wells), while Avant has proposed six wells in the First Bone Spring, six wells in the Second Bone Spring, and six wells in the Third Bone Spring (tor a total of eighteen initial wells). There were also differences in the depths and orientation of the proposed wells based on the information provided in Avant's well proposal letter. However, at the hearing Avant agreed Apache's proposed depths and well orientation are proper for this acreage and Avant has adjusted its initial drilling plan accordingly.

The evidence presented at the hearing demonstrates that Apache's application should be granted, and Avant's competing application should be denied for four basic reasons:

- Apache owns almost twice the working interest held by Avant and will be responsible for over 48% of the costs of development;
- Apache has an expiring term assignment that it should be allowed to protect, instead of relying on Avant to meet the contractual obligations;
- Apache's 8-well initial development plan is better tailored to the gas capacity constraints in the subject area than Avant's 18-well initial development plan, and will reduce the impact on the Lesser Prairie Chicken; and
- Avant has failed to show with compelling evidence that the 4-well per section development pattern proposed by Apache and used by other experienced operators in the area will cause waste.

A. It Is Undisputed Apache Owns Over 48% Of The Working Interest And Will Be Responsible For Almost Half Of The Costs Of Development.

The working interest of record held by Apache and Avant is largely undisputed. Looking solely at Avant's ownership exhibits, Apache and its affiliate ZPZ Delaware own 48.8% of the working interest and will therefore be responsible for payment of 48.8% of the development costs. Avant Ex. A-18. In contrast, Avant and affiliates Legion Production Partners and Double Cabin Mineral collectively own around 26% of the working interest. Avant Exhibit A-27 (rebuttal). As a result, it is undisputed Apache will be responsible for almost twice the costs of development as compared to Avant.

While Avant claims to have more working interest "under control," the evidence of this claim is disputed and conflicting. Avant's alleged working interest under "control" includes working interests held by at least two owners that signed Joint Operating Agreements for both

Avant and Apache (CXA Oil & Gas and Southwest Royalties). Avant further included under its "control" the working interest held by Northern Oil and Gas Company, which claims 144.00 net acres, or 11.25% working interest in the proposed 1280-acre spacing unit. *See* Northern's Notice of Support (filed post-hearing). However, the evidence at the hearing revealed Avant merely has a "pending trade" with Northern, that Avant and Northern have not executed or exchanged any agreements, that they are waiting on title information before exchanging agreements, and that they are completing a "due diligence period" of unknown duration. TR. 230-231 (Albrecht). In response to a direct inquiry from Examiner McClure, Avant's land witness conceded the working interest held by Northern does not belong to Avant nor is it under the control of Avant:

> Q. Based upon your earlier response to Mr. Rankin, would it be fair to say that Northern Oil & Gas, Incorporated's working interest does not, as of the date of this hearing, actually belong to Avant?
> A. Yes, that's probably correct.

TR. 264, lines 8-12 (Albrecht). Even if Avant credits itself with Northern's 11.25% working interest and the 5.5% working interest held by CXA Oil & Gas Holdings (who also executed a JOA with Apache), Avant still has less working interest under "control" than the 48.8% working interest held of record by Apache. *See. e.g.* Avant Ex. A-27 (rebuttal) and Apache Slide 31 (rebuttal).[1]

Since the "controlled" working interest is murky and disputed, the Division should look at the interests held of record by the applicants at the time of the hearing. Apache undisputably owns around 48% of the working interest while Avant owns around 26% of the working interest. Since Apache will be responsible for almost twice the amount of the costs of development as Avant, Apache should be awarded operatorship of the proposed spacing unit.

[1] Avant incorrectly lists Northern with 15.7%. working interest. Northern's post-hearing filing states it only owns 144 net acres in the proposed 1280-acre spacing unit, which yields an 11.25% working interest. *Compare* Avant Ex. A-27 (rebuttal) *with* Northern's Noticof Support (filed post-hearing).

B. Apache Should Be Allowed To Protect Its Correlative Rights Under The Expiring Term Assignment And Not Be Forced To Leave Compliance With The Contractual Obligations to Avant.

It is undisputed that Apache has a term assignment that expires in March of 2025. Over the last two years Apache has been actively taking the necessary steps to meet the obligations under that term assignment. Apache Slide 30 (rebuttal); TR. 121-123 (Johnson). These actions included:

- Nominating expired federal leases to allow the proposal and formation of the necessary spacing unit and communitization agreement;
- Addressing with the BLM the impacts on the Lesser Prairie Chicken;
- Updating title;
- Filing the necessary drilling permits with the BLM in October of 2023, months before Avant filed any of the necessary BLM permits; and
- Filing the necessary pooling applications before Avant filed any pooling applications.

Id. The evidence presented at the hearing confirms Apache has a directive from management to drill the proposed wells as soon as possible and that Apache is moving rigs into New Mexico this year to meet the contractual obligations under the expiring term assignment. TR. 119 (Roback); TR. 130-131 (Johnson).

In contrast, Avant did not file any of the necessary federal permits until four to six months after Apache's filings with the BLM. Apache Slide 30 (rebuttal). Avant could not say when it became aware of Apache's term assignment or the contractual obligations thereunder. TR. 239 (Albrecht). Avant candidly admitted that the requirements to satisfy the Apache term assignment are "irrelevant to Avant." TR. 244 (Albrecht). This testimony, coupled with the time that it takes to obtain approval of the necessary federal permits, raises legitimate and

substantiated concerns whether Avant will meet the contractual obligations of the expiring term assignment.[2]

Apache's superior ownership in the subject acreage, and Apache's expiring term assignment, alone warrant approval of Apache's application so that Apache maintains control of the development of this acreage. Compliance with the contractual obligations under Apache's term assignment should not be left to a working interest owner with no interest in the contract, and roughly half the working interest held by Apache in the necessary spacing unit.

C. Apache's 8-Well Initial Development Plan Is Better Tailored To The Gas Capacity Constraints In The Subject Area And Will Reduce The Impact On The Lesser Prairie Chicken.

The parties agree that the subject area currently does not have adequate gas gathering, processing and transportation; and that there is a need for significant capital investment to increase flow assurance. *See, e.g.,* Apache Ex. E (Roback Stmt) at ¶13; Avant Ex. C-9. Yet, Avant's proposed initial development plan under its filed application will require Avant to drill and then complete 18 wells in three benches of the Bone Spring formation over the next year, further exacerbating the gas takeaway deficiencies. Avant's ambitious drilling program is brought at a time when:

- Avant has not been able to meet a 98% gas capture standard and has a history of excessive gas flaring; and
- Avant does not appear to be in compliance with Division's filing requirements for Avant's current completed wells.

See Apache Ex. B-27; TR. 321 (Harper, questions from McClure), referencing Avant Ex. B-20.

[2] As noted below, the subject area is within the Lesser Prairie Chicken restricted area designated and controlled by the BLM. While Apache has been in discussions with the BLM about the drilling restrictions associated with this area since August of 2023, Avant presented no evidence that it is aware of the restrictions or taken them into account.

In contrast Apache's application seeks approval of an incremental approach to development. This includes developing the Third Bone Spring interval after the First Bone Spring and Second Bone Spring wells are in decline and there is capacity in the gas takeaway system. This approach is not only tailored to the existing gas capacity constraints but will reduce the surface footprint and the initial capital commitment for the working interest owners. TR 96-97 (Johnson), question from McClure; Apache Ex. E (Roback Stmt) at ¶4, referencing Apache Slide 23. Both parties agree that Apache's proposal to delay development of the Third Bone Spring interval until sufficient gas takeaway capacity is available will not cause waste. TR. 305 (Harper); TR. 365 (Kelly).

Finally, the proposed spacing unit is within the Lesser Prairie Chicken restricted area designated and controlled by the BLM. Since August of 2023 Apache has been in discussions with the BLM about the impacts on the Lesser Prairie Chicken from development of the subject acreage. *See* Apache Ex. B, Slide 5. Apache presented evidence that its tailored 8-well initial development plan will have a lower impact on the Lesser Prairie Chicken than the 18-well initial drilling plan proposed by Avant. *See* Apache Ex. E (Roback Stmt) at ¶¶5-9, referencing Apache Slides 24 and 25. A review of the record from the hearing reveals Avant did not dispute this fact, nor did Avant provide any indication that it has taken the Lesser Prairie Chicken restrictions into account in creating its development plan.

D. Avant Did Not Show With Compelling Evidence That The 4-Well Per Section Development Pattern Proposed By Apache And Used By Other Experienced Operators In The Area Will Cause Waste.

The primary difference between the proposed initial development plans is that Apache has proposed an initial development pattern of 4-wells per section for the targeted Bone Spring intervals while Avant has proposed 6-wells per section in these intervals. Avant did not dispute

that a vast majority of operators in the subject area are using 4-well per section development patterns. TR. 333 (Kelly) providing no response to Apache Slide 36. Avant's witnesses further admitted that:

- For the deposition environment comprising the subject area, "more than four wells per section has not necessarily made it to this area at this time" [TR. 308, lines 1-2 (Harper)];
- A 6-wells per section development pattern is "an outlier" and is "stepping out" of existing wells spacing patterns in the subject area; [TR. 350 (Kelly)]; and
- A 6-wells per section development pattern is not the trend in the subject area. TR. 362, line 22- TR. 363, line 6 (Kelly), referencing Apache's Slide 36.

Due the absence of 6-wells per section spacing patterns in the subject area, Avant attempted to build its case by referencing results from its Cutbow and Golden Tee developments and by creating arbitrary type-curves.

1. Avant's Cutbow and Golden Tee Development Areas

With respect to Avant's Cutbow development, the hearing revealed Avant developed this area using a 5-well per section spacing pattern, not 6-wells per section. TR. 306 (Harper). There is also evidence Avant's Cutbow development is under-performing most other operators and developments in the area. *See, e.g.,* Apache Ex. B-19. As important is the fact that Avant's Cutbow development only has production data for less than 9-months, which is not a reliable prediction of ultimate performance. TR. 149-150 (Roback), referencing Apache Slide 37.

With respect to Avant's Golden Tee development, that area is over 25 miles away and only the Third Bone Spring interval was developed by Avant with 6-wells per section. *See* Apache Slides 32, 33 and 34 (rebuttal). In response to Apache's Slide 39 (rebuttal), demonstrating Avant's underperformance in the Third Bone Spring interval compared to analogs

with less well density, Avant's engineer stated: "So in my professional opinion, this slide is accurate, and I have no problem with it. That's all I have on that one. TR. 337, lines 22-24 (Kelly). Avant's geologist eventually conceded that the Golden Tee development area is not analogous to the area underlying the proposed spacing unit:

> Q. I mean, the bottom line I think from your testimony to Ms. Hardy was that if you get too far away from the Grayling area, due to the heterogeneity of the rock in the Bone Spring, the area may not be analogous?
> A. Yes.
> Q. Is the Golden Tee analogous to the Grayling area?
> A. No.

TR. 326 (Harper).

2. Avant's Arbitrary Type Curves

Due to the absence of 6-well per section spacing patterns, Avant brought forth type curves that sought to project the recovery from the 4-well per section spacing patterns used by most operators in the area and Avant's proposed 6-wells per section. *See* Avant Exs. C-12 through C-15. Apache's witness noted these type curves are not reliable because:

- There are no 6-well per section spacing developments with yearly production data to review;
- Avant has used analogues for wells that have only a short period of production;
- Since data for 6-wells per section is not available, Avant used analogues from various well spacing patterns (single wells, 2-wells per section, etc.) which inherently and artificially increases what you expect to receive from 6-wells per section;
- Avant does not account for verified well degradation as you move from 4-wells per section to 6-wells per section.

TR. 175-180 (Roback). Apache's witness summarized the problems with relying on the type curves developed by Avant as follows:

> Well, I think that what we've demonstrated in some of our prepared material is that type curves include inherent bias, that an engineer can take a single set of data, especially data that has only -- data from a short period of time of production, and make the final number

> look however you'd like it to look. We didn't see that as the best opportunity to demonstrate Apache's strength as an operator. We instead opted to show real production data that could be verified. And that's the inherent concern with using type curves and -- and forecasting EURs, is that they can't be verified. And we -- we don't know what assumptions are behind them. Traditionally, a company will have their own sets of rules and regulations that they follow for how to make those -- how to make those EUR determinations. I -- we -- we have no idea of knowing where they're at. And -- and they can be hidden.

TR. 203-204 (Roback).

Apache provided studies that demonstrate well degradation as you move from standalone wells to tighter well spacing. *See* Apache Slide 38 (rebuttal); TR. 153-155 (Roback). In contrast, Avant did not present any degradation study. Instead, the hearing revealed Avant simply made a "rough guess" that there will be a 10% degradation as you increase from 5-wells to 6-wells per section. TR. 346 (Kelly). No support was provided for this "rough guess." Avant's engineer further testified he did not use any degradation percentage when moving from 4-wells to 5-wells per section because Avant did not have any analogous area with 5-wells per section. TR. 346-347 (Kelly). When it came to estimating total production from 6-wells per section and 4-wells per section, Avant did not account for per well degradation, it simply applied the same estimated production volume per well no matter the spacing pattern:

> Q. So I think we just went through. So, you took 752,000 barrels, right, which is the number you got from your type curve?
> A. Correct.
> Q. And you applied that same number to Avant's proposed development of six wells --
> A. Correct.
> Q. -- to get that number of 4.5; right?
> A. Yeah.
> Q. And you applied that same calculation to Apache's proposed development of four wells: correct?
> A. Correct.
> Q. Which gives them about three million; right?
> A. Yep.
> Q. But I don't see how that 10 percent degradation factor was incorporated to decrease Avant's total EUR.
> A. Wasn't.

TR. 354 (Kelly), referencing Avant Ex. C-12.

In contrast, Apache presented evidence that its proposed 4-well per section initial spacing pattern in the First and Second Bone Spring intervals:

- Is consistent with the spacing pattern used by a vast majority of operators in the area [Apache Rebuttal Slide 36];
- Is justified by the reservoir quality of the First and Second Bone Spring intervals underlying the subject acreage [Apache Rebuttal Slides 32 and 33];
- Will yield enhanced economic efficiency for the initial wells [Apache Ex. E (Roback Stmt) at ¶4, referencing Apache Ex. B, Slide 23]; and
- Will yield a higher total recovery than Avant's proposed 6-wells per section [Apache Ex. D (Emmett Stmt.) at ¶8, discussing Apache Ex. B, Slide 22].

Avant did not contest any of Apache's information, all of which was based on verifiable public data.

Avant's proposed 6-well per section spacing pattern is not supported by any actual public data, any published study, or other form of substantial and compelling evidence. Avant's desire to experiment with an unproven spacing pattern should be left to acreage where Avant owns a large working interest, not acreage where Apache will be responsible for almost half the costs.

CONCLUSION

For these reasons and the evidence presented by Apache at the hearing in this matter. Apache's application should be granted, and Avant's application should be denied.

APACHE'S PROPOSED FINDINGS AND CONCLUSIONS

1. In these consolidated cases, both applicants seek an order (a) approving a non-standard 1280-acre horizontal well spacing unit in the Bone Spring formation underlying Sections 11 and 14, Township 19 South, Range 32 East, NMPM, Lea County, New Mexico and (b) pooling all uncommitted interests in this acreage.

2. The primary difference between the proposed initial development plans is that Apache has proposed four wells in the First Bone Spring sands and four wells in the Second Bone Spring sands (for a total of eight initial wells), while Avant has proposed six wells in the First Bone Spring, six wells in the Second Bone Spring and six wells in the Third Bone Spring (tor a total of eighteen initial wells). Apache Ex. B, Slides 17-18.

3. The total vertical depths Avant initially proposed for its competing development plan placed the First and Second Bone Spring wells in or near the carbonate rather than the high-quality sands. Apache Ex. C (Chenoweth Stmt) at ¶11; Apache Ex. B, Slides 17-18.

4. At the hearing, Avant noted that it modified the total vertical depths of its proposed wells to match what Apache has proposed for the targeted formations. TR. 303-304 (Harper).

Ownership

5. Avant's title information shows Apache and affiliate ZPZ Delaware with 48.8% working interest of record. Avant Ex. A-18.

6. Avant and its affiliates have a 26% working interest of record. TR. 104 (Johnson), question from McClure.

7. CXA Oil & Gas signed a JOA with Avant and with Apache. TR. 99 (Johnson), question from McClure.

   a. CXA has not withdrawn the JOA that it signed with Apache. TR. 263 (Albrecht), question from McClure.

8. Southwest Royalties signed a JOA with Apache and appears to have also signed a JOA with Avant. TR. 98 (Johnson), question from McClure; TR. 111 (Johnson).

9. Apache disagrees that Avant has 52% of the working interest under control because that interest is not of record, includes interest owners that have signed JOAs with Apache and Avant, and includes a transaction that has not been completed. TR. 103 (Johnson), questions from McClure.

10. The interest Avant has credited to itself includes the undisclosed working interest currently held by Northern Oil & Gas. Avant Ex. A-17.

11. Apache's witness explained why Avant's attempt to include Northern's interest is improper since the transaction has not been completed. TR. 112-113 (Johnson).

12. With respect to Northern's working interest, Avant's land witness conceded:

a. The working interest held by Northern is disputed and somewhere between 10% and 16%. TR. 264 (Albrecht), question from McClure.

b. Avant has a "pending trade" with Northern but that transaction has not been completed nor filed of record. Avant Ex. A-17; TR. 223 and TR. 229 (Albrecht).

c. Avant and Northern are "waiting to exchange agreements," waiting on confirmation of the working interest held by Northern and are currently in a "due diligence period" of unknown duration. TR. 230-231 (Albrecht).

d. The working interest held by Northern Oil & Gas does not belong to Avant:

> Q. Based upon your earlier response to Mr. Rankin, would it be fair to say that Northern Oil & Gas, Incorporated's working interest does not, as of the date of this hearing, actually belong to Avant?
> A. Yes, that's probably correct.

TR. 264, lines 8-12 (Albrecht), question from McClure.

13. After the hearing, Northern filed a Notice of Support for Avant in which it confirmed the two companies are "collaborating to finalize a trade" and that Northern owns 144 net acres in the proposed 1280-acre spacing unit, which equates to an 11.25% working interest. *See* Northern's Noticof Support (filed post-hearing).

14. Avant agrees that neither party should include the interests held by Southwest Royalties since that company signed a JOA with both Apache and Avant. TR. 223 (Albrecht)

15. Even if Avant is credited with the 11.25% working interest held by Northern Oil & Gas and the 5.5% working interest held by CXA Oil & Gas Holdings (who also executed a JOA with Apache), Avant still has less working interest under control than the 48.8% working interest held of record by Apache. *See. e.g.* Avant Ex. A-27 (rebuttal) and Apache Slide 31 (rebuttal).

16. The working interest that has under "control" is disputed and has not been firmly established. The Division will therefore look at the ownership of record for each applicant.

17. Avant does not dispute that Apache and affiliate ZPZ Delaware have around 48% working interest of record, while Avant and affiliates (Legion Production Partners and Double Cabin Mineral) have around 26% working interest of record. Avant Ex. A-18 and A-27 (rebuttal).

The Apache Term Assignment:

18. Apache has a term assignment that expires in March of 2025. Apache Ex. A (Johnson Stmt.) at ¶ 11.

19. For the last two years, Apache has been actively taking the steps necessary to meet the obligations under Apache term assignment. Apache Ex, B, Slides 5 and 30 (rebuttal); TR. 121-123 (Johnson). These actions included:

- Nominating expired federal leases to allow the proposal and formation of the necessary spacing unit and communitization agreement;
- Addressing with the BLM the impacts of development on the Lesser Prairie Chicken;
- Updating title;
- Filing the necessary drilling permits with the BLM in October of 2023, months before Avant filed any of the necessary BLM permits; and
- Filing the necessary pooling applications before Avant filed any pooling applications.

20. Apache further confirmed with the BLM in June of 2023 that a three-string casing design is appropriate in the subject area and has submitted AFE's incorporating those costs. TR. 154 (Chenoweth), referencing Apache B-35.

21. Apache's landman testified that COVID-19 and the expiration of two federal leases in the subject area delayed Apache's ability to protect its term assignment. TR. 108-109 (Johnson)

a. The acreage subject to the Apache term assignment could not be proposed for development until after the expired federal leases had been nominated for leasing and then leased. TR. 108-109 (Johnson); TR. 257 (Albrecht).

b. The two-year effort undertaken by Apache to get the necessary federal leases nominated for development of the acreage is "equivalent" to the time Avant has been a company. TR. 235 (Albrecht), commenting on Apache Slide 30.

22. Apache is currently running ten rigs in the Permian Basin and regularly floats drilling rigs between the Texas and the New Mexico side of the Permian Basin. TR. 130 (Johnson).

23. Apache has a directive from management to drill the proposed wells as soon as possible to protect the term assignment. TR. 119 (Roback).

24. Apache is moving rigs into New Mexico this year to develop the Ghost Rider and Camacho properties and will add the Dustbowl development if Apache is approved as operator of the proposed 1280-acre spacing unit. TR. 130-131(Johnson).

25. Evidence was presented that raises concerns about leaving compliance with the contractual obligations under the expiring Apache term assignment to Avant.

a. Avant has multiple drilling obligations to satisfy and no vested interest in drilling on the subject acreage in time to meet the obligations under the Apache term assignment. TR. 131-133 (Johnson), referencing Avant Ex. A-12.

b. According to Avant Exhibit A-12, Avant has 86 existing drilling permits and have, or will have, multiple drilling obligations to satisfy under other pooling orders. TR. 135 (Johnson), referencing Avant Ex. A-12.

c. Avant did not file any of the necessary federal permits until four to six months after Apache filed the necessary drilling permits with the BLM. Apache Slide 30 (rebuttal).

d. Avant's witness could not say when Avant became aware of Apache's term assignment. TR. 239 (Albrecht).

e. Avant's witness testified that the requirements to satisfy the Apache term assignment are "irrelevant to Avant." TR. 244 (Albrecht).

26. Apache's expert land witness opined that because of the time it takes to obtain federal drilling permits, it is unlikely that Avant will be able to satisfy the March 2025 obligations under the Apache term assignment. TR. 136-137 (Johnson), referencing Avant Ex. A-13.

27. The Division concludes Apache's superior ownership in the subject acreage and Apache's expiring term assignment warrant approval of Apache's application so that Apache maintains control of the development of this acreage.

Apache's Initial Development Plan Accounts for Gas Takeaway Constraints and Reduces the Impact on the Lesser Prairie Chicken

28. The subject area currently does not have adequate gas gathering, transportation and processing, and there is a need for significant capital investment to increase flow assurance. *See, e.g.,* Apache Ex. E (Roback Stmt) at ¶13; Avant Ex. C-9.

29. Apache's application seeks approval of an incremental development approach that:

a. Delays development of the Third Bone Spring interval until after the production from the First Bone Spring and Second Bone Spring wells decline,
b. Will reduce the surface footprint,
c. Will reduce the capital commitment for the working interest owners, and
d. Will not exacerbate the current gas capacity constraints.

TR 96-97 (Johnson), question from McClure; Apache Ex. E (Roback Stmt) at ¶4, referencing Apache Slide 23.

30. Apache has four proposals in place to handle the volumes expected from its initial wells that can be executed once it is determined Apache is the operator of the proposed spacing unit. TR. 109-110 (Johnson).

31. There is a sufficient barrier between the Third Bone Spring and the Second Bone Spring intervals to allow independent development of these intervals. TR. 305 (Harper).

32. Avant's witnesses agreed that Apache's plan to delay development of the Third Bone Spring interval until sufficient gas takeaway capacity is available will not result in waste. TR. 305 (Harper); TR. 365 (Kelly).

33. Avant's application seeks approval of an initial development plan that will result in the drilling and eventual completion of 18 wells in three benches of the Bone Spring formation over the next year.

a. Avant's proposed initial development plan raises concerns about the availability of sufficient gas takeaway capacity. Apache Ex. E (Roback Stmt) at ¶12-13.

b. Avant has not been able to meet a 98% gas capture rate and has a history of excessive gas flaring. Apache Ex. B-27.

34. The proposed 1280-acre spacing unit is within the Lesser Prairie Chicken restricted area designated and controlled by the BLM. Apache Ex. E (Roback Stmt) at ¶5.

a. Since August of 2023 Apache has been in discussions with the BLM about the impacts on the Lesser Prairie Chicken from development of the subject acreage. *See* Apache Ex. B, Slide 5.

b. Apache presented evidence that its tailored 8-well initial development plan will have a lower impact on the Lesser Prairie Chicken than the 18-well drilling plan proposed by Avant. *See* Apache Ex. E (Roback Stmt) at ¶¶5-9, referencing Apache Slides 24 and 25.

c. A review of the record from the hearing reveals Avant did not dispute that its proposed 18-well drilling program will have a greater negative impact on the Lesser Prairie Chicken, and Avant did not provide any evidence that it has taken the Lesser Prairie Chicken restrictions into account in creating a timeline for drilling the proposed wells.

Avant Did Not Demonstrate With Compelling Evidence That The 4-Well Per Section Development Pattern Proposed By Apache And Used By Experienced Operators In The Area Will Cause Waste.

35. Apache seeks to initially develop the First and Second Bone Spring intervals underlying the subject acreage using a 4-well per section spacing pattern in each bench. Apache Ex. B, Slides 3 and 4.

36. Apache presented evidence that its proposed 4-well per section initial spacing pattern:

a. Is consistent with the spacing pattern used by a vast majority of operators in the general area [Apache Ex. D (Emmett Stmt.) at ¶6; TR. 147 (Roback), referencing Apache Rebuttal Slide 36];

b. Is justified by the reservoir quality of the First and Second Bone Spring intervals underlying the subject acreage (Apache Rebuttal Slides 32 and 33);

c. Will yield enhanced economic efficiency for the initial wells [Apache Ex. E (Roback Stmt) at ¶4, referencing Apache Ex. B, Slide 23]; and

d. Will yield a higher total recovery than Avant's proposed 6-wells per section [Apache Ex. D (Emmett Stmt.) at ¶8, referencing Apache Ex. B, Slide 22].

37. Avant's proposed 6-well per section development plan is contrary to the 4-well per section development pattern used by most operators in the subject area. TR. 147 (Roback), referencing Apache Slide 36.

a. Avant's witnesses agreed that in the depositional environment comprising the subject area, "more than four wells per section have not necessarily made it to this area at this time." TR. 308, lines 1-2 (Harper).

b. Avant agreed that its proposed 6-wells per section is "an outlier" and is "stepping out" in terms of well spacing patterns. TR. 350 (Kelly).

c. Avant's engineer confirmed that Apache Slide 36 demonstrates 6-wells per section is not a trend in the subject area. TR. 362, line 22 – TR. 363, line 6 (Kelly).

d. Avant did not dispute that a vast majority of operators in the subject area are using 4-well per section development patterns. TR. 333 (Kelly) providing no response to Apache Slide 36.

Avant's Cutbow Development Area

38. Avant's Cutbow area is one of the few areas in recent years where an operator attempted to develop using more than 4-wells per section. TR. 148 (Roback), referencing Apache B-36.

39. Avant started development of the Cutbow area with three wells the E2 of the section, but then reduced the spacing pattern to 5-wells per section due to gas capacity constraints. TR. 306 (Harper).

40. Evidence was presented that Avant's Cutbow development at 5-wells per section is one of the worst performing projects in the area. Apache Ex. B-19.

41. Avant's Cutbow development has reported production data for less than 9-months, which is not a reliable prediction of ultimate performance. TR. 149-150 (Roback), referencing Apache Slide 37.

42. Avant's analysis of the Cutbow wells in Ex. C-13 is not reliable because:

a. Avant uses limited daily production data to compare with the monthly production data for Earthstone's Diamondback wells (orange and blue curves) that have been producing since 2019;

b. The lifting mechanism for the Diamondback wells at all points of production history is unknown for purposes of comparing to the ESP installation on the Cutbow wells; and

c. There is insufficient production data on the Cutbow wells already on ESP to determine how they will ultimately compare to the Earthstone's Diamondback wells.

TR. 172-174 (Roback), referencing Avant Ex. C-13.

Avant's Golden Tee Development Area

43. Avant's Golden Tee development is over 25 miles away from the Dustbowl/Grayling acreage at issue in these cases. TR. 116 (Emmett).

44. Avant initially drilled the First and Second Bone Spring intervals using 4-wells per section and added a fifth well at a subsequent time. TR. 332-33 (Kelly).

45. Only the Third Bone Spring bench was developed by Avant with six wells per section in the Golden Tee development area. TR. 333 (Kelly).

46. Avant's analysis of the Golden Tee area uses only 9 months of production, and Avant's reference to "IP24" is not defined. TR. 167-68 (Robeck), referencing Avant Ex. C-2.

a. Avant's Golden Tee projections do not show an increase in production when compared to the offsetting areas developed with less wells per section. TR. 158-160; 169-170 (Robeck), referencing Apache Slide 39 and Avant Ex. C-4.

b. In response to Apache's Slide 39 (rebuttal) criticizing Avant's results from the 6-well spacing pattern in the Third Bone Spring interval, Avant's engineer stated: "So in my professional opinion, this slide is accurate, and I have no problem with it. That's all I have on that one. TR. 337, lines 22-24 (Kelly).

47. Avant's geologist eventually conceded the Golden Tee area is not analogous to the area that is the subject of the competing applications:

Q. I mean, the bottom line I think from your testimony to Ms. Hardy was that if you get too far away from the Grayling area, due to the heterogeneity of the rock in the Bone Spring, the area may not be analogous?
A. Yes.
Q. Is the Golden Tee analogous to the Grayling area?
A. No.

TR. 326 (Harper).

Avant's Type Curves

48. One of the fundamental differences between the analysis provided by Apache and the analysis provided by Avant is that Apache used publicly available production data, while Avant used predictions based on type curves on short periods of production and unsubstantiated assumptions. TR. 152, 182-185 (Roback).

49. Due to the absence of any data from a 6-well per section spacing pattern, Avant brought forth type curves that sought to project the recovery from 4-well and 6-well per section spacing patterns. *See* Avant Exs. C-12 through C-15.

50. Avant's type curves and resulting analysis (Avant Exs. C-3, C-12, C-14 and C-15) are not reliable because:

a. Since data for 6-wells per section is not available, Avant used analogues from various well spacing patterns (single wells, 2-wells per section, etc.) which artificially increases what you expect to receive from 6-wells per section;

b. Production data from wells that have been producing for less than one year is not a reliable source for EUR predictions; and

c. Avant does not account for verified well degradation as you move from a single well per section to six wells per section.

TR. 149-151 (Roback), referencing Apache Slide 37; 175-180 (Roback).

51. Apache's witness summarized the problems with using the type curves developed by Avant as follows:

"Well, I think that what we've demonstrated in some of our prepared material is that type curves include inherent bias, that an engineer can take a single set of data, especially data that has only -- data from a short period of time of production, and 4 make the final number look however you'd like it to look. We didn't see that as the best opportunity to demonstrate Apache's strength as an operator. We instead opted to show real production data that could be verified. And that's the inherent concern with using type curves and -- and forecasting EURs, is that they can't be verified. And we -- we don't know what

> assumptions are behind them. Traditionally, a company will have their own sets of rules and regulations that they follow for how to make those -- how to make those EUR determinations. I -- we -- we have no idea of knowing where they're at. And -- and they can be hidden."

TR. 203-204 (Roback).

52. Studies demonstrate a clear degradation in per well performance as you increase the number of wells per section. TR. 154 -155 (Roback), referencing Apache Slide 38.

53. Avant's engineer agrees there is a degradation in per well performance as you add more wells pe section, and that the degradation is not linear. TR. 336 & 363 (Kelly).

a. Avant's type curves do not indicate whether they account for degradation in per well performance as you move from 4-wells per section to 6-wells per section. TR. 154 (Roback), referencing Apache Slides 38 and 39.

b. Avant's engineer testified that when developing Avant's type curves, he made a "rough guess" of a degradation of 10% when plotting 5 wells to 6 wells per section. TR. 346 (Kelly).

c. Avant did not use any degradation percentage when plotting 4 wells to 5 wells per section because Avant did not have any analogous area with 5 wells per section to plot type curves. TR. 346-47 (Kelly).

d. Avant's engineer admitted that failing to account for well degradation as you increase well density to 6-wells per section will always yield larger estimated production for 6-wells per section. TR. 361-62 (Kelly).

e. Avant's engineer admitted that he did not know and had not tested the actual degradation per well as you move from one well per section to six or more wells per section:

> Q. Yeah. Now, why are you stopping at six? If you're going to get a bigger reserve total, why not go to seven?
> A. Because you're riding on the economics of a single well. Degradation, it's not a linear pattern. It's not another 10 percent from 6 to 7. I don't know what it is. I haven't tested it in this area or even close. I think the closest well that we would have done that would have been 40 miles away. TR. 361-62 (Kelly)

54. When estimating total production from 6-wells per section and 4-wells per section, Avant did not account for per well degradation, it simply applied an estimated production volume per well no matter the spacing pattern:

Q. So I think we just went through. So, you took 752,000 barrels, right, which is the number you got from your type curve?
A. Correct.
Q. And you applied that same number to Avant's proposed development of six wells --
A. Correct.
Q. -- to get that number of 4.5; right?
A. Yeah.
Q. And you applied that same calculation to Apache's proposed development of four wells; correct?
A. Correct.
Q. Which gives them about three million; right?
A. Yep.
Q. But I don't see how that 10 percent degradation factor was incorporated to decrease Avant's total EUR.
A. Wasn't.

TR. 354 (Kelly), referencing Avant Ex. C-12.

55. Avant's Ex C-3, which is based on the type curves, contains the same flaws as the type curves, and in addition:

a. Imposes the flawed, artificial per well estimated recovery numbers on Apache's 4-well per section initial two bench development (8 wells) and compares that with Avant's 6-well per section three bench development (18 wells); and

b. Does not account for Apache's plan to subsequently develop the Third Bone Spring bench when gas capacity constraints are alleviated.

TR. 181-183 (Roback); TR. 194 (Chenoweth).

56. Apache presented evidence that Apache's wells have historically outperformed wells drilled by Avant. Apache Ex B, Slides 21-22.

57. Apache's analysis rests on wells with a vintage after January 2015 to ensure it is capturing production results from wells using more modern completion techniques. TR. 115-116 (Emmett).

58. Apache's request for approval of a 1280-acre non-standard horizontal well spacing unit and compulsory pooling in Case 24141 is approved and Avant's competing application filed under Case 24254 is denied.

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CERTIFICATE OF SERVICE

I hereby certify that on July 12, 2024, I served a copy of the foregoing document to the following counsel of record via Electronic Mail to:

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