

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

**IN THE MATTER OF THE HEARING CALLED BY  
THE OIL CONSERVATION DIVISION FOR THE  
PURPOSE OF CONSIDERING:**

**APPLICATION OF FAE II OPERATING, LLC  
FOR STATUTORY UNITIZATION,  
LEA COUNTY, NEW MEXICO**

**CASE NO. 23712  
ORDER NO. R-23736**

**ORDER OF THE DIVISION**

This case came in for hearing before the Oil Conservation Division (“OCD”) at 8:15 a.m. on December 7 and 8, 2023, in Santa Fe, New Mexico.

The OCD Director, having considered the testimony, the record, the recommendations of Hearing Examiners, these findings of fact, and conclusions of law issues this Order.

**FINDINGS**

1. Due public notice has been given and the OCD has jurisdiction of this case and its subject matter.
2. The applicant, FAE II Operating, LLC ("Applicant" or “FAE”), seeks statutory unitization, pursuant to NMSA 1978 Sections 70-7-1 through 70-7-21, as amended (the “Statutory Unitization Act”), of the South Jal Unit, comprising 19,369.77 acres, more or less, of federal, state and fee lands, being a portion of the JALMAT;TAN-YATES-7 RVRS (OIL) Pool [pool code 33820] and the LANGLIE MATTIX;7 RVRS-Q-GRAYBURG Pool [pool code 37240] and for the purpose of instituting enhanced oil recovery operations in the Yates, Seven Rivers and Queen formations, and approval of a Unit Agreement and Unit Operating Agreement, which were submitted as Applicant's Exhibit Nos. A-5 and A-6, respectively, in this case.
3. The proposed Unit Area consists of the following described lands in Lea County, New Mexico:

**Township 25 South, Range 36 East, NMPM**

|             |           |
|-------------|-----------|
| Section 13: | SE/4      |
| Section 24: | E/2       |
| Section 25: | All       |
| Section 26: | E/2E/2    |
| Section 36: | N/2, SE/4 |

**Township 25 South, Range 37 East, NMPM**

|             |  |
|-------------|--|
| Section 15: | W/2W/2   |
| Section 16: | All  |
| Section 18: | Lot 4  |
| Section 19: | All  |
| Section 21: | Lot 1 through Lot 4 (inclusive), E/2SW/4       |
| Section 22: | W/2NW/4, S/2                                   |
| Section 23: | SW/4   |
| Section 26: | W/2, SW/4SE/4                                  |
| Section 27: | All  |
| Section 28: | All  |
| Section 30: | Lot 1 through Lot 4 (inclusive), E/2W/2, W2/E2 |
| Section 31: | All  |
| Section 32: | All  |
| Section 33: | All  |
| Section 34: | All  |
| Section 35: | NW/4, W/2NE/4, S/2                             |

**Township 26 South, Range 37 East, NMPM**

|             |                                      |
|-------------|--------------------------------------|
| Section 3:  | All                                  |
| Section 4:  | All                                  |
| Section 5:  | All                                  |
| Section 6:  | All                                  |
| Section 7:  | All                                  |
| Section 8:  | All                                  |
| Section 9:  | All                                  |
| Section 10: | All                                  |
| Section 15: | All                                  |
| Section 16: | All                                  |
| Section 17: | All                                  |
| Section 18: | Lot 1, NE/4NW/4, E/2                 |
| Section 19: | NE/4                                 |
| Section 20: | All                                  |
| Section 21: | W/2, NE/4, W/2SE/4                   |
| Section 22: | N/2                                  |
| Section 23: | SW/4NW/4                             |
| Section 29: | All                                  |
| Section 32: | N/2N/2, Lots 1 through 4 (inclusive) |

4. For purposes of hearing, this case was consolidated with Case No. 23711, *Application of FAE II Operating, LLC for Approval of an Enhanced Oil Recovery Project and to Qualify the Project for the Recovered Oil Tax Rate, Lea County, New Mexico*. A separate order will be entered in Case No. 23711.

5. As per the Unit Agreement, submitted as Applicant's Exhibit A-5, the vertical extent of the proposed Unitized Formation is from the top of the Yates formation to a lower limit at the base of the Queen formation; the geologic markers having been previously found to occur at 2635 feet and 3563 feet, respectively, in Western Natural Gas Company's Dabbs Well No. 1 (current well name Dabbs Well No. 4; API Number 30-025-11887), located at 1650 feet from the North line and 660 feet from the West line of Section 34, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico, as recorded on the Schlumberger Gamma Ray-Neutron Log run taken on August 14, 1957, said log being measured from a Kelly Bushing elevation of 3025 feet above sea level.

6. FAE had originally filed Case No. 22972 that sought approval of a Statutory Unit for the South Jal Unit but later requested a dismissal of this case and the associated Case No. 22971.

7. On September 20, 2023, COG Oil & Gas, LLC ("COG") and ConocoPhillips entered an appearance in these cases and notice of objection to proceeding by affidavit.

8. On October 5, 2023, Pilot Water Solutions, LLC entered an appearance for Case No. 23712.

9. In response to the objection, a status conference for both cases was held on October 5, 2023. Following the conference, the OCD Hearing Examiner issued a pre-hearing order that set the hearing date as December 7, 2023, and the requirements for submission of case documents and procedures for conducting the hearing.

10. COG provided a prehearing statement on November 30, 2023, with the following summary of the case:

a. Applicant seeks to force COG and other working interest owners into a Statutory Unit.

b. To proceed with the application, Applicant must demonstrate that notice has been properly satisfied as required under 19.15.4.12(A)(1) NMAC.

c. If notice is proper, then the application must satisfy the six fundamental criteria described in Section 70-7-6(A) NMSA of the Statutory Unitization Act.

d. Finally, any order issued for approval of the unit must address the allocation of production and costs with a proposed tract allocation formula applicable to separately owned tracts on a fair, reasonable and equitable basis.

11. Through counsel, COG and ConocoPhillips appeared at hearing. No other party appeared at hearing or otherwise opposed these applications.

12. Applicant appeared at the hearing through counsel and presented the following testimony in support of the proposed Unit:

a. Applicant made a good faith effort to identify and notify all owners of the mineral estate within the Unit Area. Applicant stated that all working interest owners for the Unit Area have been identified.

b. Applicant proposed participation parameters and made a good faith effort to present and explain those parameters and the Unit Agreement and Unit Operating Agreement to the tract owners. Applicant formally proposed the Unit and the Unit Agreement to the working and overriding royalty interests.

c. At the time of the hearing, Applicant had obtained voluntary agreement of the Unit by 78.10 percent of the interest owners. At the time of the hearing, Applicant provided documentation that Bureau of Land Management ("BLM") had given preliminary approval for the Unit but did not provide written documentation of preliminary approval by the New Mexico State Land Office.

d. The lands are divided in mineral ownership (more or less) as follows: 2,692.40 acres (13.90 percent of the Unit Area) of State trust lands, 13,078.29 acres (67.52 percent of the Unit Area) of federal lands, and 3,599.08 acres (18.58 percent of the Unit Area) of fee lands. Both the Commissioner of Public Lands for the State Trust and the Authorized Officer of the BLM for the federal lands must give final approval before the non-cost bearing interests will exceed the required 75 percent.

e. Applicant has requested that it be designated operator of the Unit.

f. Applicant is interested in multiple producing intervals for enhanced oil recovery within the Yates, Seven Rivers and Queen formations. The combined gross thickness of the proposed unit is approximately 918 feet based on the type log for the Unitized Formation with the low permeability Tansil anhydrite layer at 2649 feet to the lower seal in a low permeability Grayburg carbonate at 3567 feet. All three main targets are continuous across the proposed Unit area and considered prospective for enhanced recovery through secondary and tertiary methods.

g. A total of 306 million barrels of original oil in place is contained in the Yates-Seven Rivers-Queen interval within the Unit. The cumulative production (as of 2021) is calculated at 19.568 million barrels and provides an estimated primary reserves of 1.03 million barrels with an estimated secondary reserves of 0.47 million barrels for the proposed Unit Area. Applicant estimates 20.7 million barrels of undeveloped primary reserves in unperforated sections of the Unitized Formation and in undrilled acreage of the prior primary well pattern.

h. For development of the Unit, Applicant is proposing a drilling program the

includes 667 wells consisting of 438 injection wells and 229 producing wells while utilizing a 40-acre, inverted 5-spot pattern for waterflooding. Applicant also proposes the use of small-scale pilot projects within the Unit to evaluate performance in support of the larger development program.

i. The revenue from the project is expected to exceed the costs plus a reasonable profit. The waterflood is expected to increase production in existing wells, and those wells should qualify for the recovered oil tax rate.

j. Unitized management of this reservoir and the associated pools is necessary to effectively carry out enhanced recovery operations.

k. The tract allocation formula is a single phase and is shown in Section 13 of the Unit Agreement, as follows:

- i. Current production rate from the Unitized Formation by Tract at 10 percent; and
- ii. Amount of Remaining Recoverable Oil in Place at 90 percent.
- iii. Agreement allows for modification of the calculation for tract participation in the event less than all tracts are qualified on the effective date.

l. The proposed enhanced oil recovery operation is economically and technically feasible.

13. Applicant requested that the *“Rhodes Unit, which appears to have been approved by Division Order No. 772, be terminated pursuant to the Bureau of Land Management’s agreement to dissolve the Rhodes Unit and incorporate the area into the South Jal Unit.”*

14. Upon cross examination by counsel for COG and ConocoPhillips, the following statements or facts were provided in testimony.

a. There was no title opinion obtained by the Applicant that covered the entire proposed Unit while the Applicant stated that only title opinions for individual tracts within the Unit were utilized for the application.

b. Applicant did not address the potential for separate or split ownership of gas rights and oil rights within the proposed Unit.

c. Applicant’s proposed unit operating agreement was vague or deficient in several important components including determination of expenses, termination procedures, readjustment of investments, and funding provisions.

d. COG and other interest owners expressed opposition to the amount of proposed expenditures available without an AFE being provided to working interest owners for approval or without approval by voting by working interest owners.

e. Application contained the request to incorporate the area for an existing

waterflood project, the Arnott Ramsey Waterflood Project, into the Unit Area. The incorporation of this project under the terms of the proposed unit operating agreement imposed excessive risk penalty and did not allow for notice or participation by working interest owners in unit operations.

15. Notice of this application was provided to all affected locatable interest owners in the Unit Area. In addition, pursuant to OCD rules, the Applicant published notice of this application in a newspaper of general circulation in Lea County, New Mexico on September 13, 2023.

16. On December 19, 2023, FAE provided a Supplemental Filing for both cases that contained the following documentation requested by the Examiners at hearing.

a. An enlarged Figure 11 which was originally submitted in the hearing exhibits as the Feasibility Study and provided as part of the initial Plan of Development.

b. Proposed plan for the protection of correlative rights which included the use of production wells to manage pressure at the Unit boundary and obtaining written agreements with adjacent operators for the placement of injection wells at the Unit boundary.

c. Additional analysis of the sources of injection water, produced water from the Unitized Formation, to be used in the waterflood operation.

d. A copy of FAE's hydrogen sulfide ("H<sub>2</sub>S") Standard Working Policy and the H<sub>2</sub>S Contingency Plan proposed for the operation of the Unit.

17. Review of OCD records show the type log of the well referenced for the Unitized Formation is not available on the OCD Imaging website and not available for public review.

### **CONCLUSIONS OF LAW**

1. Unitized management, operation, and development of the Unit Area are necessary to effectively conduct enhanced recovery operations and increase the ultimate recovery of oil from the Unit Area.

2. The proposed method of enhanced recovery operations within the Unit Area, as described in the Plan of Operations is feasible, will prevent waste, and will result, with reasonable probability, in the recovery of substantially more hydrocarbons from the Unitized Area than would otherwise be recovered.

3. The estimated additional costs of the proposed operations will not exceed the estimated value of the additional hydrocarbons recovered plus a reasonable profit.

4. Unitization and implementation of enhanced recovery operations in the Unit Area, as described in the Unit Agreement will benefit the working interest and royalty interest owners within the proposed Unit Area and will protect the correlative rights of all parties.

5. Applicant has made a good faith effort to secure voluntary unitization of the Unitized Formation within the Unit Area.
6. The provisions of the proposed Unit Agreement and Unit Operating Agreement are fair, reasonable, and equitable, contain satisfactory provisions with respect to all of the matters required by Section 70-7-7 NMSA 1978, as amended, and should be incorporated by reference into this order. The participation formula contained in the Unit Agreement allocates the produced and saved, unitized hydrocarbons to the separately owned tracts in the Unit Area on a fair, reasonable, and equitable basis.
7. Creating a Unit comprising the Unit Area and providing for the unitization and unitized operation of the Unit Area upon the terms and conditions approved herein is necessary to protect and safeguard the rights and obligations of the working interest owners, the royalty and overriding interest owners in the Unit Area.
8. It is prudent to apply enhanced recovery techniques to maximize the ultimate recovery of crude oil from the Unit Area. The enhanced recovery application (Case No. 24605) is the subject of a separate OCD order.
9. The Unit Area should be approved for statutory unitization in accordance with the Unit Agreement and Unit Operating Agreement and should be named the **South Jal (Yates-Seven Rivers-Queen) Unit**.
10. FAE II Operating, LLC (OGRID No. 329326) should be designated as the operator of the Unit.

**IT IS THEREFORE ORDERED THAT:**

1. The application of FAE II Operating, LLC (“Applicant” or “operator”) for the statutory unitization of 3,154.37 acres (more or less) of Federal, State, and Fee lands in Lea County, New Mexico, to be known as the **South Jal (Yates-Seven Rivers-Queen) Unit** (“Unit”), is hereby approved pursuant to the Statutory Unitization Act (NMSA 1978, Sections 70-7-1 through 70-7-21).
2. The Unit Area shall consist of the following described lands in Lea County, New Mexico:

**Township 25 South, Range 36 East, NMPM**

|             |           |
|-------------|-----------|
| Section 13: | SE/4      |
| Section 24: | E/2       |
| Section 25: | All       |
| Section 26: | E/2E/2    |
| Section 36: | N/2, SE/4 |

**Township 25 South, Range 37 East, NMPM**

|             |  |
|-------------|--|
| Section 15: | W/2W/2   |
| Section 16: | All  |
| Section 18: | Lot 4  |
| Section 19: | All  |
| Section 21: | Lot 1 through Lot 4 (inclusive), E/2SW/4       |
| Section 22: | W/2NW/4, S/2                                   |
| Section 23: | SW/4   |
| Section 26: | W/2, SW/4SE/4                                  |
| Section 27: | All  |
| Section 28: | All  |
| Section 30: | Lot 1 through Lot 4 (inclusive), E/2W/2, W2/E2 |
| Section 31: | All  |
| Section 32: | All  |
| Section 33: | All  |
| Section 34: | All  |
| Section 35: | NW/4, W/2NE/4, S/2                             |

**Township 26 South, Range 37 East, NMPM**

|             |                                      |
|-------------|--------------------------------------|
| Section 3:  | All                                  |
| Section 4:  | All                                  |
| Section 5:  | All                                  |
| Section 6:  | All                                  |
| Section 7:  | All                                  |
| Section 8:  | All                                  |
| Section 9:  | All                                  |
| Section 10: | All                                  |
| Section 15: | All                                  |
| Section 16: | All                                  |
| Section 17: | All                                  |
| Section 18: | Lot 1, NE/4NW/4, E/2                 |
| Section 19: | NE/4                                 |
| Section 20: | All                                  |
| Section 21: | W/2, NE/4, W/2SE/4                   |
| Section 22: | N/2                                  |
| Section 23: | SW/4NW/4                             |
| Section 29: | All                                  |
| Section 32: | N/2N/2, Lots 1 through 4 (inclusive) |

3. The inclusion of the Unit Area of the Arnott Ramsey Waterflood Project into the South Jal (Yates-Seven Rivers-Queen) Unit is conditional. The following 640 acres (more or less) of state trust land were approved as the project area for the Arnott Ramsey Waterflood Project under Division Order No. R-21423.

**Township 25 South, Range 37 East, NMPM**

|             |     |
|-------------|-----|
| Section 32: | All |
|-------------|-----|



Within sixty (60) days of approval of this Order, FAE II Operating, LLC shall satisfy the requirement of Ordering Paragraph (23) of Order No. R-21423. A copy of the written notice shall also be submitted to the New Mexico State Land Office. Failure to meet this requirement shall result in FAE II Operating, LLC to seek approval for the inclusion of this state trust land through hearing.

4. In response to Findings Paragraph (13), OCD records indicate that the Statutory Unit described as the "*Rhodes Unit, which appears to have been approved by Division Order No. 772*" is the Rhodes Yates Unit (Hearing Order No. R-4521 and No. R-4522) located in Sections 21, 27 and 28, Township 26 South, Range 37 East, NMPM. The acreage of this Statutory Unit is not included in the Unit Area described in Ordering Paragraph (2) but is adjacent to southeast boundary of the Unit. To proceed with the requested action, the Applicant shall comply with the conditions provided in the *UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION OF THE RHODES-YATES UNIT AREA, LEA COUNTY, NEW MEXICO* [Case Nos. 4935 and 4936; Exhibit No. 2 dated April 11, 1973].

Citing the UNIT AGREEMENT; Section 25. Effective Date and Term; Paragraph 3:

*This agreement may be terminated at any time with the approval of the Commissioner and the Supervisor by Working Interest Owners having at least ninety percent (90%) Unit Participation, as determined from Exhibit "C". Notice of such termination shall be given by Unit Operator to all parties hereto.*

Where the:

*"Commissioner" is defined as the Commissioner of Public Lands of the State of New Mexico*

And the:

*"Supervisor" is defined as the Oil and Gas Supervisor of the United States Geological Survey.* OCD assumes that this authority is currently with the BLM but shall be verified by the Applicant.

Consequently, with the approvals previously cited, Applicant shall fulfill the conditions of Ordering Paragraph (4) of Commission Order No. R-4522. With all of these conditions satisfied, Applicant shall file an application to amend this Order to include the acreage of the former Rhodes Yates Unit.

5. As per the Unit Agreement, submitted as Applicant's Exhibit A-5, the vertical extent of the Unitized Formation shall be from the top of the Yates formation to a lower limit at the base of the Queen formation; the geologic markers having been previously found to occur at 2635 feet and 3563 feet, respectively, in Western Natural Gas Company's Dabbs Well No. 1 (current well name Dabbs Well No. 4; API Number 30-025-11887), located at 1650 feet from the North line and 660 feet from the West line of Section 34, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico, as recorded on the Schlumberger Gamma Ray-Neutron Log run taken on August 14, 1957, said log being measured from a Kelly Bushing elevation of 3025 feet above sea level.

6. Applicant shall submit an electronic version of the type log used for the determination of the vertical extent of the Unitized Formation in Ordering Paragraph (4) to be placed in the well log file for the Dabbs Well No. 4.

7. This Order shall become effective on the first day of the month following the approval of plan of unit operations provided herein by the owners of at least seventy-five (75) percent of the production or proceeds thereof, that will be credited to interests which are free of cost, such as royalties and overriding royalties (Section 70-7-8 NMSA 1978). Any supplemental OCD order that the plan of unit operations has been so approved will be retroactive to that date.

8. Within sixty (60) days of the approval of this Order, the Applicant shall submit (electronically using the [OCD.Engineering@emnrd.nm.gov](mailto:OCD.Engineering@emnrd.nm.gov) email) the following items as a single submission.

a. Applicant shall provide a final current version of Applicant's Exhibit B "*Schedule Showing the Percentage and Type of Ownership of Oil and Gas Interests.*" for this case.

b. Applicant shall provide a current list of uncommitted working interest and royalty owners for inclusion into the case file.

c. Applicant shall provide a summary of any additional title research conducted since the date of the hearing for this application.

9. The proposed Unit Agreement and the Unit Operating Agreement, admitted as Applicant's Exhibit Nos. A-5 and A-6, respectively, at the hearing of this case, are hereby approved and incorporated into this Order by reference.

10. FAE II Operating, LLC (OGRID No. 329326) is hereby designated the operator of the Unit.

11. In order to facilitate the orderly development of the Jalmat;Tan-Yates-7 Rvrs (Oil) and the Langlie Mattix;7 Rvrs-Q-Grayburg pools within the Unit, the operator shall file an additional application to expand the vertical limits within the Unit Area of the Langlie Mattix;7 Rvrs-Q-Grayburg pool to include the Yates formation.

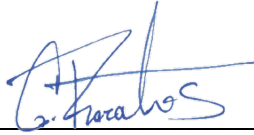
12. The operator of the Unit shall notify the OCD in writing of its removal or the substitution of any other working interest owner within the Unit Area as operator, or of the transfer or assignment of its entire remaining working interest in the Unit Area.

13. The operator shall submit copies of all governmental reports (such as annual Plans of Development or Plans of Operation) required by the BLM and the State Land Office. These reports shall be submitted to the OCD through E-permitting for posting in the case file for Case No. 23712.

14. This Unit created for purposes of enhanced recovery shall terminate if the authority for

injection within the Unit is terminated by the OCD.

15. Jurisdiction is retained by the OCD for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order; whereupon the OCD may, after notice and hearing or prior to notice and hearing in event of an emergency, terminate the disposal authority granted herein.



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**GERASIMOS RAZATOS**  
**Division Director (Acting)**

**Date:** 3/12/2025

GR/prg