

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 FALCON CREEK RESOURCES, INC.  
FOR AUTHORITY TO INJECT WATER INTO SIX WELLS  
IN THE PROPOSED TEAS (YATES - SEVEN RIVERS)  
UNIT WATERFLOOD PROJECT AREA, LEA COUNTY,  
NEW MEXICO.**

*Case No. 12272*

**APPLICATION OF FALCON CREEK RESOURCES, INC.  
FOR STATUTORY UNITIZATION, LEA COUNTY, NEW  
MEXICO.**

*Case No. 12331*

**APPLICATION OF FALCON CREEK RESOURCES, INC.  
FOR APPROVAL OF A WATERFLOOD PROJECT AND  
QUALIFICATION FOR THE RECOVERED OIL TAX RATE  
PURSUANT TO THE ENHANCED OIL RECOVERY ACT,  
LEA COUNTY, NEW MEXICO.**

*Case No. 12332*

*Order No. R-11375*

**ORDER OF THE DIVISION**

**BY THE DIVISION:**

These cases came on for hearing at 8:15 a.m. on February 17, 2000, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 18<sup>th</sup> day of May, 2000, the Division Director, having considered the testimony, the record and the recommendations of the Examiner,

**FINDS THAT:**

(1) Due public notice has been given and the Division has jurisdiction of these cases and their subject matter.

(2) **Case No. 12272** was advertised as Falcon Creek Resources, Inc. ("Falcon Creek") seeking "...approval to inject water into the Yates and Seven Rivers formations,

West Teas-Yates Seven Rivers Pool, through 6 wells in its proposed Teas-Yates Seven Rivers Unit Waterflood Unit Waterflood Seven Rivers Pool, located in the following area:

LEA COUNTY, NEW MEXICO  
TOWNSHIP 20 SOUTH, RANGE 33 EAST, NMPM

Section 4:	SE/4
Section 9:	N/2
Section 16:	NE/4."

(3) In **Case No. 12331** Falcon Creek seeks the statutory unitization pursuant to the "Statutory Unitization Act," Sections 70-7-1 through 70-7-21, NMSA 1978, to establish a secondary recovery project, of all mineral interests in the designated and Undesignated West Teas Yates-Seven Rivers Pool in an area comprising 1320.00 acres, more or less, of state, federal, and fee lands in Lea County, New Mexico; this unitized area to henceforth be known as the West Teas (Yates-Seven Rivers) Unit Area. The applicant further seeks approval of the "*Unit Agreement*" and "*Unit Operating Agreement*," that were admitted in evidence at the time of the hearing as applicant's Exhibits No. 3 and 4.

(4) In **Case No. 12332** Falcon Creek seeks authority:

(a) to institute a waterflood project in its proposed West Teas (Yates-Seven Rivers) Unit Area by the injection of water into the designated and Undesignated West Teas Yates-Seven Rivers Pool through the gross perforated interval from approximately 3100 feet to 3400 feet in six wells to be converted from producing oil wells to injectors, as further described in attached Exhibit "A"; and

(b) to qualify this project for the recovered oil tax rate pursuant to the "New Mexico Enhanced Oil Recovery Act," Sections 7-29A-1 through 7-29A-5, NMSA 1978.

(5) The applicant proposes that the aforementioned West Teas (Yates-Seven Rivers) Unit Area comprise the following described area in Lea County, New Mexico:

TOWNSHIP 20 SOUTH, RANGE 33 EAST, NMPM

Section 4:	SE/4
Section 9:	NE/4, NE/4 NW/4, S/2 NW/4, and S/2
Section 16:	N/2, N/2 SW/4, and NW/4 SE/4
Section 17:	E/2 NE/4 and NE/4 SE/4.

<i>Federal lands:</i>	<i>720 acres</i>	<i>54.55%</i>
<i>State lands:</i>	<i>520 acres</i>	<i>39.39%</i>
<i>Fee lands:</i>	<i>80 acres</i>	<i>6.06%</i>

(6) The application in Case No. 12272 contains so many errors so as to render it incomprehensible. However, according to the applicant, this case is a duplicate of Division Case No. 12332, and Falcon Creek requested at the hearing to dismiss Case No. 12272.

(7) Division Case No. 12272 should be dismissed.

(8) At the request of the applicant, Division Cases No. 12331 and 12332 were consolidated at the time of hearing for the purpose of presenting evidence.

(9) The vertical limits for the proposed unit include that stratigraphic interval underlying the West Teas (Yates-Seven Rivers) Unit Area found between the top of the Yates formation and the base of the Seven Rivers Formation. The top of the Yates formation is defined as all points underlying the unit area correlative to the depth of 3,062 feet, and the base of the Seven Rivers formation is defined as all points underlying the unit area correlative to the depth of 3,358 feet, as said depths are identified on the Compensated Neutron/Litho-Density Log for the Olsen Energy, Inc. Snyder-State Well No. 1 (**API No. 30-025-30543**), located 1980 feet from the North line and 660 feet from the East line (Unit H) of Section 16, Township 20 South, Range 33 East, NMPM, Lea County, New Mexico.

(10) The West Teas (Yates-Seven Rivers) Unit Area contains eighteen (18) separate tracts owned by approximately nine (9) different working interest owners. There are eleven (11) royalty owners and ten (10) overriding royalty owners in the proposed unit area.

(11) At the time of hearing, the owners of approximately 98 % of the working interests, and the owners of over 80 % of the royalty and overriding royalty interests, had voluntarily joined in the proposed unitization. The 80% royalty owner approval includes federal lands owned by the United States. The U. S. Bureau of Land Management has indicated its preliminary approval by designating the unit as logical for conducting secondary recovery operations, and the New Mexico Commissioner of Public Lands, acting on behalf of the state's trust lands, has preliminarily approved the proposed unitization.

(12) Applicant has conducted negotiations with interest owners within the proposed unit area for over one year. Therefore, the applicant has made a good faith effort to secure voluntary unitization within the above-described unit area.

(13) All interested parties who have not agreed to unitization were notified of the hearing by applicant. At the hearing in this matter, no party appeared or otherwise objected to this application.

(14) The wells currently producing within the proposed project area are in an advanced state of depletion and can properly be classified as "stripper wells."

(15) Falcon Creek proposes to institute a waterflood project at the expected cost of \$3.4 million for the secondary recovery of oil and associated gas, condensate, and all associated liquid hydrocarbons within and to be produced from the proposed West Teas (Yates-Seven Rivers) Unit Area. As a result of implementing waterflood operations, the applicant estimates that 2.1 million barrels of oil will ultimately be recovered from the project area that would otherwise not be recovered, thereby preventing waste.

(16) The unitized management, operation and further development of the West Teas (Yates-Seven Rivers) Unit Area, as proposed, is reasonable and necessary to effectively increase the ultimate recovery of oil and gas from the unit area.

(17) The estimated additional cost of the proposed unitized operations within the West Teas (Yates-Seven Rivers) Unit Area will not exceed the estimated value of the additional oil and gas plus a reasonable profit.

(18) The participation formulas contained in the Unitization Agreement allocate the produced and saved unitized substances to the separately owned tracts in the West Teas (Yates-Seven Rivers) Unit Area on a fair, reasonable, and equitable basis.

(19) Unitization and the adoption of the proposed unitized methods of operation will benefit the working interest owners and the royalty interest owners of the oil and gas rights within the unit area.

(20) The Unit Agreement and Unit Operating Agreement, as applied to the West Teas (Yates-Seven Rivers) Unit Area, provide for unitization and unit operation of the unit area upon terms and conditions that are fair, reasonable, and equitable, which include:

- (a) a participation formula that will result in fair, reasonable and equitable allocation to the separately owned tracts of the West Teas (Yates-Seven Rivers) Unit Area of all oil and gas that is produced from the West Teas

(Yates-Seven Rivers) Unit Area and that is saved, being the production that is (i) not used in the conduct of unit operations, or (ii) unavoidably lost;

- (b) a provision for the credits and charges to be made in the adjustment among the owners in the unit area for their respective investments in wells, tanks, pumps, machinery, materials and equipment contributed to the unit operations;
- (c) a provision governing how the costs of unit operations, including capital investments, will be determined and charged to the separately owned tracts and how said costs shall be paid, including a provision providing when, how, and by whom the unit production allocated to an owner who does not pay the share of the costs of unit operations charged to that owner or the interest of that owner may be sold and the proceeds applied to the payment of the costs;
- (d) a provision for carrying any working interest owner on a limited or carried basis, payable out of production, upon terms and conditions that are just and reasonable, and that allow an appropriate charge for interest for such service payable out of production;
- (e) a provision designating the operator of the unit and providing for the supervision and conduct of the unit operations, including the selection, removal or substitution of an operator from among the working interest owners to conduct the unit operations;
- (f) a provision for a voting procedure for the decision of matters to be decided by the

working interest owners in respect to which each working interest owner shall have a voting interest equal to its unit participation; and

- (g) a provision specifying the time when the unit operations shall commence and the manner in which, and the circumstances under which, the unit operations shall terminate and for the settlement of accounts upon such termination.

(21) The statutory unitization of the West Teas (Yates-Seven Rivers) Unit Area is in conformity with the above findings, will protect the correlative rights of all owners of interest within the proposed unit area, and should be approved.

(22) The operator of the proposed West Teas (Yates-Seven Rivers) Unit Waterflood Project should take all steps necessary to ensure that the injected water enters and remains confined to the proposed injection interval and is not permitted to escape from that interval and migrate into other formations or onto the surface from injection, production, or plugged and abandoned wells.

(23) Injection should be accomplished through plastic-lined tubing installed in a packer set within 100 feet of the upper-most injection perforations; the casing-tubing annulus in each well should be filled with an inert fluid and equipped with an approved gauge or leak detection device.

(24) Before injection operations begin, each injection well should be pressure tested throughout the interval from the surface down to the proposed upper-most perforation to ensure the mechanical integrity of each well.

(25) At the hearing the applicant requested a maximum injection pressure of 1200 psi, which is in excess of the State's standard 0.2 pound per foot of depth from the surface to the top-most injection perforation. The applicant did not support this request with adequate technical data; therefore, this request will be decided on a well-by-well basis.

(26) The injection wells or pressurization system should be so equipped as to limit injection pressure at the wellhead to no more than 0.2 pound per foot of depth from the surface to the top-most injection perforation; however, the Division Director should have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described above upon a showing by the operator that such higher pressure will not

result in the fracturing of the injection formation or confining strata.

(27) The operator should give advanced notification to the supervisor of the Hobbs District Office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity pressure tests in order that the same may be witnessed.

(28) The proposed waterflood project should be approved and the project should be governed by the provisions of Division Rules No. 701 through 708.

(29) The applicant further requests that the subject waterflood project be approved by the Division as a qualified Enhanced Oil Recovery Project ("EOR") pursuant to the "New Mexico Enhanced Oil Recovery Act," Sections 7-29A-1 through 7-29A-5, NMSA 1978.

(30) The evidence presented indicates that the subject waterflood project meets all criteria for certification.

(31) The approved project area should initially comprise the area described in Finding Paragraph No. (5) above.

(32) To be eligible for the EOR tax rate, prior to commencing injection operations the operator must request from the Division a Certificate of Qualification, which certificate will specify the proposed project area as described above.

(33) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the operator must apply to the Division for certification of a positive production response, which application shall identify the area actually benefiting from enhanced recovery operations and identify the specific wells the operator believes are eligible for the EOR tax rate. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to the Department of Taxation and Revenue those lands and wells that are eligible for the EOR tax rate.

(34) The injection authority granted herein for any injection well should terminate one year after the effective date of this order if the operator has not commenced injection operations into the well, provided however the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

**IT IS THEREFORE ORDERED THAT:**

(1) The application of Falcon Creek Resources, Inc. ("Falcon Creek") in Division **Case No. 12331** for statutory unitization of the West Teas (Yates-Seven Rivers) Unit, covering 1320.00 acres, more or less, of state, federal and fee lands in the designated and Undesignated West Teas (Yates-Seven Rivers) Pool, Lea County, New Mexico, is hereby approved for the purpose of establishing a waterflood project, pursuant to the "Statutory Unitization Act," Sections 70-7-1 through 70-7-21, NMSA 1978.

(2) The West Teas (Yates-Seven Rivers) Unit Agreement and the West Teas (Yates-Seven Rivers) Unit Operating Agreement, which were submitted to the Division at the time of hearing as Exhibits No. 3 and 4, respectively, are hereby incorporated by reference into this order.

(3) The area designated the West Teas (Yates-Seven Rivers) Unit Area shall comprise the following described acreage in Lea County, New Mexico:

**TOWNSHIP 20 SOUTH, RANGE 33 EAST, NMPM**

Section 4:	SE/4
Section 9:	NE/4, NE/4 NW/4, S/2 NW/4, and S/2
Section 16:	N/2, N/2 SW/4, and NW/4 SE/4
Section 17:	E/2 NE/4 and NE/4 SE/4.

<b><i>Federal lands:</i></b>	<b><i>720 acres</i></b>	<b><i>54.55%</i></b>
<b><i>State lands:</i></b>	<b><i>520 acres</i></b>	<b><i>39.39%</i></b>
<b><i>Fee lands:</i></b>	<b><i>80 acres</i></b>	<b><i>6.06%</i></b>

(4) The vertical limits of the above-described West Teas (Yates-Seven Rivers) Unit Area shall include that stratigraphic interval from the top of the Yates formation to the base of the Seven Rivers formation. The top of the Yates formation is defined as all points underlying the unit area correlative to the depth of 3,062 feet, and the base of the Seven Rivers formation is defined as all points underlying the unit area correlative to the depth of 3,358 feet, as said depths are identified on the Compensated Neutron/Litho-Density Log for the Olsen Energy, Inc. Snyder-State Well No. 1 (**API No. 30-025-30543**), located 1980 feet from the North line and 660 feet from the East line (Unit H) of Section 16, Township 20 South, Range 33 East, NMPM, Lea County, New Mexico.

(5) Since persons owning the required statutory minimum percentage of interest in the unit area have approved, ratified, or indicated their preliminary approval of the Unit

Agreement and the Unit Operating Agreement, the interests of all persons within the West Teas (Yates-Seven Rivers) Unit Area are hereby unitized whether or not such persons have approved the Unit Agreement or the Unit Operating Agreement in writing.

(6) The applicant as operator of the West Teas (Yates-Seven Rivers) Unit shall notify the Division Director in writing of the removal or substitution of the unit operator by any other working interest owner within the unit area.

**IT IS FURTHER ORDERED THAT:**

(7) As requested in Division Case No. 12332, Falcon Creek is hereby authorized to institute a waterflood project in the above-described West Teas (Yates-Seven Rivers) Unit Area by the injection of water into the designated and Undesignated West Teas (Yates-Seven Rivers) Pool through six wells further described in Exhibit "A," attached hereto and made a part hereof.

(8) In compliance with Division Rule 701.G (3), the waterflood project area, for allowable and tax credit purposes, shall comprise the following described 1320.00 acres in Lea County, New Mexico:

**TOWNSHIP 20 SOUTH, RANGE 33 EAST, NMPM**

Section 4:	SE/4
Section 9:	NE/4, NE/4 NW/4, S/2 NW/4, and S/2
Section 16:	N/2, N/2 SW/4, and NW/4 SE/4
Section 17:	E/2 NE/4 and NE/4 SE/4.

(9) The applicant shall take all steps necessary to ensure that the injected water enters and remains confined to the proposed injection interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.

(10) Injection shall be accomplished through plastic-lined tubing installed in a packer set within 100 feet of the upper-most injection perforations; the casing-tubing annulus in each well shall be filled with an inert fluid and equipped with an approved gauge or leak detection device.

(11) The six water injection wells, as described in Exhibit "A," or their pressurization system shall be so equipped as to limit injection pressure at the wellhead to no more than 0.2 pound per foot of depth from the surface to the top-most injection perforation.

(12) The Division Director shall have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(13) Before injection operations begin, each injection well shall be pressure tested throughout the interval from the surface down to the proposed upper-most perforation to ensure the mechanical integrity of each well.

(14) The operator shall give advanced notification to the supervisor of the Division's Hobbs District Office of the date and time of the installation of injection equipment and of the mechanical integrity pressure tests in order that the same may be witnessed.

(15) The operator shall immediately notify the supervisor of the Division's Hobbs District Office of the failure of the tubing, casing, or packer assembly in any of the injection wells, or the leakage of water or oil from any producing well or any plugged and abandoned well within the project area, and shall take such steps as may be timely and necessary to correct such failure or leakage.

(16) The applicant shall conduct injection operations in accordance with Division Rules No. 701 through 708 and shall submit monthly progress reports in accordance with Division Rules No. 706 and 1115.

(17) The applicant is authorized to drill or convert to injection the six wells listed on Exhibit "A" attached hereto.

(18) The injection authority granted herein for any of the six wells shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the well provided however the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

**FURTHERMORE:**

(19) This waterflood project is hereby approved as an Enhanced Oil Recovery Project ("EOR Project") pursuant to the "New Mexico Enhanced Oil Recovery Act," Sections 7-29A-1 through 7-29A-5, NMSA 1978.

(20) To be eligible for the EOR tax rate, prior to commencing injection operations the operator must request from the Division a Certificate of Qualification, which certificate will specify the proposed project area as described above.

(21) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the operator must apply to the Division for certification of a positive production response, which application shall identify the area actually benefiting from enhanced recovery operations and identify the specific wells the operator believes are eligible for the EOR tax rate. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to the Department of Taxation and Revenue those lands and wells that are eligible for the EOR tax rate.

**FURTHERMORE:**

(22) The application of Falcon Creek Resources, Inc. in Division Case No. 12272 for "approval to inject water into the Yates and Seven Rivers formations, West Teas-Yates Seven Rivers Pool, through six wells in its proposed Teas-Yates Seven Rivers Unit Waterflood Unit Waterflood Seven Rivers Pool, located in the following area, is hereby dismissed:

LEA COUNTY, NEW MEXICO  
TOWNSHIP 20 SOUTH, RANGE 33 EAST, NMPM

Section 4:	SE/4
Section 9:	N/2
Section 16:	NE/4".

(23) Jurisdiction of this case is retained for the entry of such further orders as the Division may deem necessary.

Case Nos. 12272, 12331-32  
Order No. R-11375  
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DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
LORI WROTENBERY  
Director

SEAL

EXHIBIT "A"  
 DIVISION ORDER NO. R-11375  
 West Teas (Yates - Seven Rivers) Unit Waterflood Project  
 Township 20 South, Range 33 East, NMPM, Lea County, New Mexico  
 Approved Injection Wells

Well Name Well Number (API Number)	Footage Location	Unit	Section	Injection Perforations (Feet)	Packer Depth (Feet)	Tubing Size (Inch)	Maximum Injection Pressure (psia)
Anasazi "4" State Well No. 3 (API No. 30-025-32032)	1650' FSL & 1980' FEL	J	4	3230 - 3426	3130	2 - 7/8	646
Scharbauer "4" Well No. 3 (API No. 30-025-32102)	660' FS & EL	P	4	3104 - 3312	3000	2 - 3/8	621
Federal "9" Well No. 3 (API No. 30-025-31896)	330' FNL & 2310' FWL	C	9	3147 - 3409	3050	2 - 3/8	630
Barber Federal Well No. 2 (API No. 30-025-29971)	1980' FNL & 660' FWL	E	9	3138 - 3374	3030	2 - 3/8	628
Federal "9" Well No. 6 (API No. 30-025-32517)	1650' FNL & 990' FEL	H	9	3060 - 3260	2950	2 - 3/8	612
State "BF" Well No. 4 (API No. 30-025-33144)	330' FN & EL	A	16	3150 - 3361	3050	2 - 7/8	630