

**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 THE:**

**APPLICATION OF CIMAREX ENERGY COMPANY OF COLORADO FOR  
APPROVAL OF A SECONDARY RECOVERY PROJECT AND TO QUALIFY  
THE PROJECT FOR THE RECOVERED OIL TAX RATE, LEA COUNTY, NEW  
MEXICO**

**CASE NO. 14676  
ORDER NO. R-13451**

**ORDER OF THE DIVISION**

**BY THE DIVISION:**

This case came on for hearing at 8:15 a.m. on June 23, 2011, at Santa Fe, New Mexico before Examiner William V. Jones.

NOW, on this 31<sup>st</sup> day of August, 2011, 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 this case and its subject matter.

(2) Cimarex Energy Company of Colorado ("Cimarex" or "applicant"), seeks approval to institute a lease secondary recovery project in the Yates formation, Buffalo-Yates Pool (8180) within its Bondurant Federal Lease (Federal Lease NM 12568-A) and to qualify the project for the Enhanced Oil Tax Rate.

(3) The Bondurant Federal Lease covers 440 acres, more or less, of the following federal lands within Lea County, New Mexico:

**Township 19 South, Range 32 East, NMPM**

Section 1: E/2, E/2 NW/4, and NE/4 SW/4

(4) The Buffalo-Yates Pool is developed on statewide rules, specifically Division Rule 19.15.15.9(A), with 40-acre, quarter-quarter section, oil spacing and

proration units, and wells to be located no closer than 330 feet from the spacing unit boundary.

(5) Cimarex requests permission to convert the Bondurant Federal Well No. 10 (API No. 30-025-32431) located within Unit B of Section 1 from a producing oil well to be used for injection of oil field produced water into the Yates formation from depths of 3362 feet to 3650 feet.

(6) Cimarex further requests the Division provide a procedure whereby additional injection wells could be approved administratively.

(7) Cimarex presented exhibits and testimony from a landman, geologist, and engineer indicating the following:

(a) Cimarex controls 100 percent of the working interest within this federal lease and ownership is uniform within the lease for the Yates formation.

(b) Notice was provided to offsetting operators of this lease, including Strata Production Company, Penroc Oil Corporation, and Saber Oil & Gas Ventures, LLC, who all operate wells producing from the Yates formation. Notice was provided to the owners of all tracts of lands located within ½ mile of the initially proposed injection well. The surface owner at the well site of the Bondurant Federal Well No. 10 is the US BLM and the BLM was notified.

(c) This Yates formation oil reservoir extends linearly from east to west. The reservoir is stratigraphically controlled within sand lenses and not dependent on any structural features of the Yates formation. The reservoir extends east and west beyond the boundaries of the Bondurant lease area.

(d) The vertical extent for the proposed project is the gross extent of the Yates formation as it appears in wells within this lease. The Type Log is presented to be the existing resistivity log on the Bondurant Federal Well No. 10 with the Yates formation extending from 3362 feet down to 3650 feet on that log.

(e) The Yates formation productive sands are a subset of the gross Yates interval and are isolated from each other and from formations above and below by bounding shales and anhydrites.

(f) The Yates formation is overlain by approximately 200 feet of Tansill formation anhydrites and above the Tansill is the Salado (Salt) formation. The non-productive Seven Rivers formation extends approximately 650 feet, directly below the Yates formation.

(g) The wells within this lease are severely depleted and reservoir pressure has declined almost to abandonment.

(h) Cimarex has examined rock and fluid properties and determined that conditions are favorable for waterflooding. In addition, properties favorably compare with analogous Yates formation waterfloods where the secondary to primary recovery ratio has been approximately 0.5 to 1.

(i) Planned makeup water will first be obtained from Bone Spring formation drilling in this area.

(j) Cimarex did not find water wells within or surrounding this lease area. Any possible fresh waters should be protected by surface casing and cement.

(8) This Bondurant Federal lease is approximately six miles north of the defined Potash area and approximately two miles north of the northern limit of the Capitan Reef. The wells within this lease were drilled in the early 1990's and logs for all the wells appear on the Division's web site. The cementing data submitted with this application and the Division's well records indicate that cement jobs were designed to cover at least the depths of this Yates formation.

(9) Within one half mile from the proposed injection well, there are 18 total wells and six of these are plugged (or dry) and abandoned wells. All of these Area of Review wells are cased, cemented, and/or plugged to adequately isolate the intended injection interval within the Yates formation and to protect any underground fresh waters if present.

(10) Cimarex Energy Company of Colorado (OGRID 162683) is the operator of record of the wells located on this acreage. Cimarex is in compliance with Division Rule 5.9 and therefore eligible for approval of disposal and injection permits.

(11) The applicant has notified all affected parties of the intent to inject into the proposed injection well and has received no objections. No other parties appeared in this case or otherwise opposed this application.

(12) The proposed secondary recovery injection project or waterflood within this lease is feasible and should result in the recovery of additional oil and gas that would not otherwise be recovered.

(13) The estimated additional costs of the proposed secondary recovery operations will not exceed the estimated value of the additional oil and gas recovered plus a reasonable profit.

(14) The proposed project will prevent waste, protect correlative rights, and should be approved and called the **Bondurant Federal Secondary Recovery Project**. The Project Area to be affected by this secondary recovery operation should consist of the entire Bondurant Federal lease area.

(15) As proposed, Cimarex should be approved to inject into the Bondurant

Federal Well No. 10 (API No. 30-025-32431) located within Unit B of Section 1 into the Yates formation from depths of 3362 feet to 3650 feet. Cimarex should run an injection survey within one year of commencing injection in order to verify the extent at which the separate Yates formation sands are taking fluid and supply that data to the Division.

(16) Provisions should be made for the operator of this secondary recovery project to apply administratively for additional or alternate injection wells as needed.

(17) The maximum surface injection pressure should be initially set at a 0.2 psi per foot gradient. Cimarex should run step rate tests and present evidence to the Division administratively seeking a higher injection pressure limit if a higher limit is needed.

(18) Cimarex presented exhibits containing the information required by Division rules to qualify this project under the Enhanced Oil Recovery Act.

(19) The evidence establishes that the secondary recovery project meets all the criteria for certification by the Division as a qualified "Enhanced Oil Recovery (EOR) Project" pursuant to the "Enhanced Oil Recovery Act" (NMSA 1978 Sections 7-29A-1 through 7-29A-5). The certified project area should consist of the entire Bondurant Lease area.

(20) The EOR project area and/or the producing wells within this area eligible for the recovered oil tax rate may be contracted or expanded depending upon the evidence presented by the applicant in its demonstration of the occurrence of a positive production response.

**IT IS THEREFORE ORDERED THAT:**

(1) Cimarex Energy Company of Colorado ("operator", OGRID 162683) is hereby authorized to implement secondary recovery or waterflood operations within the Bondurant Federal Lease by injection of oil field produced waters (UIC Class II) into the Yates formation, Buffalo-Yates Pool (Pool Code 8180).

(2) The project shall be called the Bondurant Federal Secondary Recovery Project and shall consist of the entire Bondurant Federal Lease area which covers 440 acres, more or less, of the following federal lands within Lea County, New Mexico:

**Township 19 South, Range 32 East, NMPM**

Section 1: E/2, E/2 NW/4, and NE/4 SW/4

(3) The vertical extent of the Yates formation for these purposes is hereby defined as the equivalent interval as measured on the existing resistivity log for the Bondurant Federal Well No. 10 (API No. 30-025-32431) extending from 3362 feet to 3650 feet.

(4) Injection is approved to immediately commence within the Bondurant Federal Well No. 10 (API No. 30-025-32431), located in Unit B of Section 1, Township

19 South, Range 32 East, NMPM, Lea County, New Mexico. Injection shall be through perforations in that well from a maximum depth range from 3362 feet to 3650 feet, and through lined tubing and a packer set no higher than 100 feet above the approved injection interval.

(5) Within one year of commencing injection into this well, the operator shall have an injection survey run in the well while injecting at typical rates. The results of this survey shall be submitted to the Division and placed in this file for Case No. 14676.

(6) The Division Director may administratively authorize alternate or additional injection wells within this project as provided in 19.15.26.8 NMAC.

(7) The operator shall take all steps necessary to ensure that the injected water enters only the permitted injection intervals and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.

(8) Injection into any approved injection wells within this project shall be accomplished through plastic-lined tubing installed in a packer located within 100 feet of the uppermost injection perforation. The casing-tubing annulus shall be filled with an inert fluid, and a gauge or approved leak-detection device shall be attached to the annulus in order to detect any leakage in the casing, tubing, or packer.

(9) The injection well(s) or pressurization system shall be equipped with a pressure control device or acceptable substitute that will limit the maximum surface injection pressure to 672 psi.

(10) The Division Director may administratively authorize a pressure limitation in excess of the above, upon a showing by the operator, supported by approved Step Rate Tests that such higher pressure will not result in the fracturing of the injection formation or confining strata or damage to the reservoir.

(11) As per Division Rule 19.15.26.11A., the operator shall test each approved injection well for mechanical integrity prior to commencing injection into that well and prior to resuming injection each time the packer is unseated. All MIT testing procedures and schedules shall follow the requirements in Division Rule 19.15.26.11A. NMAC.

(12) The operator shall provide notice, 72 hours in advance, to the supervisor of the Division's district office of the date and time of the installation of injection equipment and of any mechanical integrity test so that the same may be inspected and witnessed.

(13) The operator shall provide written notice of the date of commencement of injection to the Division's district office. In accordance with Division rules, the operator shall submit monthly reports of the injection operations on Division Form C-115.

(14) Without limitation on the duties of the operator as provided in Division

rules, or otherwise, the operator shall immediately notify the Division's district office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from or around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

(15) The Bondurant Federal Secondary Recovery Project is hereby certified to the New Mexico Taxation and Revenue Department as an "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (NMSA 1978 Sections 7-29A-1 through 7-29A-5).

(16) The area to be affected by the enhanced oil recovery project shall consist of the area within the Bondurant Federal lease. Provided, the area and/or the producing wells eligible for the enhanced oil recovery (EOR) tax rate may be contracted or expanded based upon the evidence presented by the unit operator in its demonstration of a positive production response.

(17) At such time as a positive production response occurs, and within five years from the date the project was certified to the New Mexico Taxation and Revenue Department, the unit operator must apply to the Division for certification of a "positive production response." This application for "positive production response" shall identify the area benefiting from enhanced oil recovery operations and the specific wells eligible for the EOR tax rate.

(18) The Division may review the application administratively or set it for hearing. Based upon the evidence presented, the Division will certify to the New Mexico Taxation and Revenue Department those wells that are eligible for the EOR tax rate.

(19) The injection authority granted under this order is not transferable except upon Division approval. The Division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

(20) The Division may revoke this injection permit after notice and hearing if the operator is in violation of 19.15.5.9 NMAC.

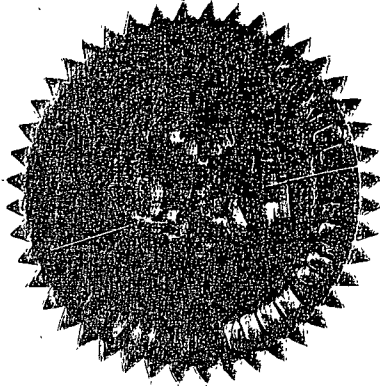
(21) The injection authority granted herein shall terminate two years after the effective date of this order if the operator has not commenced injection operations into at least one of any permitted injection wells, provided however, the Division, upon written request, mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

(22) One year after all injection into the project area has ceased (or not reported), the Division shall consider the project abandoned, and the authority to inject will terminate *ipso facto*. The Division, upon written request mailed by the operator prior to that termination date, may grant an extension thereof for good cause.

(23) Compliance with this order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

(24) Jurisdiction is retained by the Division 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 Division may, after notice and hearing (or without prior notice and hearing in case of emergency), terminate the injection authority granted herein.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



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STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

A handwritten signature in cursive script, appearing to read "Jami Bailey".

JAMI BAILEY  
Director