

**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:**

**CASE NO. 14907
ORDER NO. R-13700**

**APPLICATION OF K.C. RESOURCES, INC.
FOR A PRESSURE MAINTENANCE
PROJECT, EDDY COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on December 13, 2012 and on March 7, 2013, at Santa Fe, New Mexico, before Examiner David K. Brooks.

NOW, on this 18th day of April, 2013, the Division Director, having considered the testimony, the record and the recommendations of the Examiner,

FINDS THAT:

- (1) Due notice has been given, and the Division has jurisdiction of the subject matter of this case.
- (2) By this application, K.C. Resources, Inc. ("Applicant") seeks approval of a lease pressure maintenance project in the Atoka-San Andres Pool within the horizontal boundaries described below, in Eddy County, New Mexico.

Township 18 South, Range 26 East
Section 13: SE/4 NE/4 and NE/4 SE/4

Township 18 South, Range 27 East
Section 18: SW/4 NW/4 and NW/4 SW/4

- (3) Applicant proposes to inject produced water from San Andres wells on its Jones D Lease into the San Andres formation at a depth interval from approximately 1750 to 1900 feet below the surface, through its Jones D Well No. 5 (API No. 30-015-

20421), located 2310 feet from the South line and 330 feet from the West line (Unit L) of Section 18.

(4) At the hearing, Applicant appeared through counsel and presented engineering testimony and exhibits to the effect that:

(a) The Jones D Well No. 5 ("the proposed injection well") is an existing San Andres producer, which has become uneconomic to continue in production. It is currently producing approximately one barrel of oil per day.

(b) This San Andres reservoir has produced, cumulatively, 175,000 barrels of oil and 688,000 barrels of water. There is an estimated 45,000 barrels of oil remaining that could be produced by primary recovery, but it is very marginal to produce at current rates of production.

(c) The primary drive mechanism in this reservoir is a solution gas drive with some assisting water drive. It is characterized by a sharp structural dip from northwest to southeast, with an elevation difference of more than 200 feet across the one-mile diameter circle centered on the proposed injection well. Oil cut varies from 8 to 9% in the wells lowest on the structure to 31% in the highest well. The wells to the South of the proposed injection well have either not been completed in the San Andres or not been commercial producers in that zone. The producing wells are located to the North and West, higher on the structure.

(d) The proposed production well has an oil cut of approximately 15%, and, in the opinion of Applicant's engineering witness, is in a transition zone, close to oil water contact. Because such a large amount of fluid has been withdrawn from the reservoir, the reservoir will take water readily at this point, and the injected water can be expected to improve the performance of the higher oil cut producers up structure to the North and West.

(e) There are nine producing wells in the San Andres formation, in addition to the proposed injection well, within the one-half mile area of review, and there are three wells drilled through the San Andres that produce from lower zones. All of the producing wells are properly cemented. In addition, there are two plugged and abandoned wells in the area of review, which are properly plugged so as to prevent fluid migration out of the San Andres through these wellbores.

(f) Applicant has discussed this project with Lime Rock Resources, the only other operator of San Andres wells in the area of review, and Lime Rock has indicated that they have no objection.

(g) This area is well north of the Capitan Reef.

(5) No other party appeared at the hearing or otherwise opposed the application.

The Division concludes that:

(6) The proposed project appears to be based on reasonable assumptions.

(7) All of the producing or plugged and abandoned wells in the one-half mile area of review surrounding the proposed injection well ("AOR") appear to be adequately plugged or cased and cemented, so that none of them will become a conduit for the escape of injected fluid from the permitted injection formation. Accordingly, no remedial work on wells in the AOR need be required.

(8) Applicant should be authorized to inject fluids at a surface injection pressure not to exceed 355 psi (0.2 psi per foot of depth to the uppermost perforation); provided that Applicant may apply to the Division for a higher injection pressure upon satisfactorily demonstrating that an increase in injection pressure will not result in fracturing of the injection formation or confining strata.

(9) The proposed project will, in reasonable probability, result in production of substantially more hydrocarbons from the project area that would not otherwise be produced therefrom, will prevent waste, and will not impair correlative rights.

(10) Accordingly, the application should be approved.

IT IS THEREFORE ORDERED THAT:

(1) K.C. Resources, Inc. ("Applicant" or "Operator") is hereby authorized to inject produced water into the San Andres formation [Atoka-San Andres Pool (Pool Code 3610)], at a depth interval from approximately 1779 to 1934 feet below the surface, through its Jones D Well No. 5 (API No. 30-015-20421), located 2310 feet from the South line and 330 feet from the West line (Unit L) of Section 18 ("the injection well").

(2) This project is hereby designated the **Jones D San Andres Pressure Maintenance Project**, and shall consist of the San Andres formation underlying the following lands in Eddy County, New Mexico:

Township 18 South, Range 26 East
Section 13: SE/4 NE/4 and NE/4 SE/4

Township 18 South, Range 27 East
Section 18: SW/4 NW/4 and NW/4 SW/4

(3) K.C. Resources, Inc. (OGRID 122912) is designated operator of the project.

(4) **Water from outside the Jones D lease shall not be injected into this well. The operator shall monitor the oil and water production from the producing area of review wells and report these productions to the Division on a quarterly basis.**

(5) Operator shall take all steps necessary to ensure that the injected fluid enters only the injection interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.

(6) The injection well shall be cased with 8 5/8-inch surface casing set at approximately 1,005 feet below the surface and cemented to the surface, and 5 1/2-inch production casing set approximately 1,963 feet below the surface.

(7) Injection shall be accomplished through plastic-lined steel tubing installed in a packer set in the casing below the top of the injection formation and within 100 feet of the uppermost injection perforations. 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 leakage in the casing, tubing or packer.

(8) The well shall pass a mechanical integrity test prior to initial commencement of injection and prior to resumption of injection each time the packer is unseated. All testing procedures and schedules shall conform to the requirements of Division Rule 19.15.26.11.A NMAC. The Division Director retains the right to require at any time wireline verification of completion and packer setting depths.

(9) The injection well shall be initially equipped with a pressure control device or acceptable substitute that will limit the surface injection pressure to no more than 355 psi.

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

(11) For each injection well, the operator shall give at least 72 hours advance notice to the supervisor of the Division's District Office of the date and time (i) injection equipment will be installed, and (ii) the mechanical integrity pressure tests will be conducted, so these operations may be witnessed.

(12) The operator shall provide written notice of the date of commencement of injection into each well to the Artesia District Office of the Division.

(13) The operator shall immediately notify the supervisor of the Division's Artesia District Office of the failure of the tubing, casing or packer in any of the injection wells, or the leakage of water, oil, gas or other fluid from or around any producing or abandoned well within one-half mile of the injection well, and shall take all steps as may be timely and necessary to correct such failure or leakage.

(14) The Project shall be governed by Division Rules 19.15.26.8 through 26.15 NMAC. The operator shall submit monthly reports of the injection operations on Division Form C-115, in accordance with Division Rules 19.15.26.13 and 19.15.7.28 NMAC.

(15) The injection authority granted herein shall terminate two years after the effective date of this order if the operator has not commenced injection operations; provided, however, the Division, upon written request by the Operator filed prior to the expiration of the two-year time period, may grant an extension for good cause.

(16) 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 shall 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.

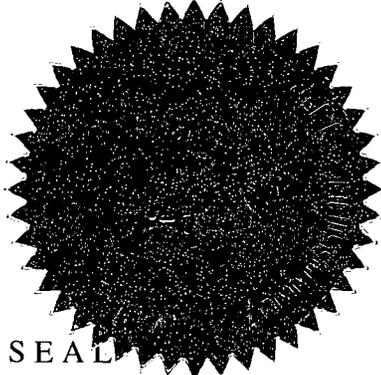
(17) Operator shall provide written notice to the Division upon permanent cessation of injection into the Project.

(18) This order does not relieve Operator of responsibility should its operations cause any actual damage or threat of damage to protectible fresh water, human health or the environment; nor does it relieve the operator of responsibility for complying with applicable Division rules or other state, federal or local laws or regulations.

(19) Upon failure of the operator to conduct operations (1) in such manner as will protect fresh water or (2) in a manner consistent with the requirements in this order, the Division may, after notice and hearing (or without notice and hearing in event of an emergency, subject to the provisions of NMSA 1978 Section 70-2-23), terminate the injection authority granted herein.

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

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



SEAL

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JAMI BAILEY
Director