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. 14973
ORDER NO. R-13722

APPLICATION OF BTA OIL PRODUCERS, LLC FOR AUTHORIZATION TO INJECT PRODUCED WATER INTO THE DELAWARE (UPPER BRUSHY CANYON) FORMATION UNDERLYING THE SE/4 OF SECTION 2, TOWNSHIP 20 SOUTH, RANGE 33 EAST, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on March 21, 2013, at Santa Fe, New Mexico, before Examiner Richard I. Ezeanyim.

NOW, on this 11th day of July, 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, BTA Oil Producers, LLC ("Applicant") seeks authorization to inject produced water for purposes of disposal and pressure maintenance into the Upper Brushy Canyon member of the Delaware formation through its **Gem 8705 JV-P Well No. 3 (API No. 30-025-30977)** ("the Subject Well"), located 660 feet from the South line and 1980 feet from the East line (Unit O) of Section 2, Township 20 South, Range 33 East, in Lea County, New Mexico; and the establishment of a lease pressure maintenance project comprising all of said Section 2.

(3) Applicant requests injection authority for the subject well, as follows:

Injection Interval: 6618 to 6648 feet below the surface

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average, approximately 700 psig

Injection Volume: maximum 1500 BOW/day
Average, approximately 500 BOW/day

(4) At the hearing, Applicant appeared through counsel and presented land and engineering testimony and exhibits as follows:

(a) Applicant has notified the surface owner at the site of the Subject Well and all operators or owners of minerals in the Delaware formation within one-half mile of the Subject Well, as required by Division rules.

(b) All of Section 2 is a single State of New Mexico lease.

(c) The Subject Well was drilled as a Morrow prospect, later plugged back to the Bone Spring, and still later plugged back to the lower Delaware and converted to injection, with an existing injection interval at 7743 to 8025 feet below the surface.

(d) The Subject Well has four casing strings all cemented and circulated to the surface, as follows: 20" surface casing set at 1385 feet; 13-3/8" intermediate casing set at 3100 feet; 9-5/8" production string set at 5426 feet; and 5 ½" production string set at 13,700 feet.

(e) The formations below the Delaware in the Subject Well have been isolated with cast iron bridge plugs and permanently plugged with cement plugs, the uppermost such plug being set at 9920 feet. Applicant proposes to set a cast iron bridge plug and cement plug at 7680 feet to isolate the lower Delaware before perforating at the proposed injection interval.

(f) There are existing wells located to the north, south and west of the Subject Well that produce hydrocarbons marginally from the Brushy Canyon. Five of these wells are operated by Applicant. Current production from these wells is less than 20 BO/day per well, with most wells producing significantly less than that amount. Bottomhole pressure is very low.

(g) The productive sand in the Brushy Canyon in this area is continuous and well correlated.

(h) The Subject Well is below the oil-water contact, and accordingly unproductive in the Brushy Canyon, but due to its low position on the structure, is well located to introduce water into the formation for pressure maintenance and restoration.

withdrawal of approximately 2.2 million barrels of fluids. At an average injection rate of 500 BOW/day, it will take about four years to achieve fill-up. The producing wells in the area should experience a positive production response soon after that.

(j) The only plugged and abandoned well in the one-half mile Area of Review ("AOR") surrounding the Subject Well is shallow and does not penetrate the proposed injection zone. The producing wells in the Area of Review are properly constructed to prevent communication with any freshwater zone, and no remedial work is necessary.

(k) The water that will be injected is produced water from the Delaware and Bone Spring formations. There are no fluid compatibility issues.

(l) The fresh water bearing formation in the area is the Ogallala at a depth of 300 feet or less below the surface. Applicant has investigated the available geologic information, and has concluded that there are no faults or other structures that would permit communication from the injection zone to any Underground Source of Drinking Water.

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

The Division concludes that:

(6) Applicant's proposed project should be approved and should be named the **Gem BTA JV-P Lease Pressure Maintenance Project.**

(7) All of the wells in the AOR appear to be adequately 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 1320 psig; 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 than would otherwise be produced therefrom, will prevent waste, and will not impair correlative rights.

(10) Accordingly, the application should be approved.

(1) BTA Oil Producers, LLC (OGRID 260297) ("Applicant" or "Operator", which latter term shall include any future operator of the Subject Well while this order remains in force) is hereby authorized to inject produced water into the Brushy Canyon member of the Delaware formation, at an injection interval from approximately 6618 feet to 6648 feet below the surface, through the following existing well:

> Applicant's **Gem 8705 JV-P Well No. 3 (API No. 30-025-30977)** ("the Subject Well"), located 660 feet from the South line and 1980 feet from the East line (Unit O) of Section 2, Township 20 South, Range 33 East, in Lea County, New Mexico

(2) Applicant's proposed lease pressure maintenance project is hereby approved and designated the **BTA Gem 8705 JV-P Lease Pressure Maintenance Project.** The project area shall comprise all of Section 2, Township 20 South, Range 33 East, in Lea County, New Mexico.

(3) The Division Director, upon application by Operator, may authorize injection into the same zone through additional injection wells in the project area by administrative order, without public hearing.

(4) BTA Oil Producers, LLC (OGRID 260297) is designated operator of the project.

(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) Prior to commencement of injection, Operator shall permanently plug the subject well below the proposed injection zone by setting a cast iron bridge plug and cement plug at 7680 feet to isolate the existing injection perforations in the lower Delaware.

(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 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 leakage in the casing, tubing or packer.

(8) The well shall pass a mechanical integrity test prior to initial commencement of injection after completion of the initial workover as above provided, and thereafter prior to resumption of disposal each time the disposal 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.

device or acceptable substitute that will limit the surface injection pressure to no more than 1320 psig.

(10) The Division Director shall have the authority to authorize an increase in injection pressure administratively, without public notice or hearing, upon a showing by the operator that such higher pressure will not result in fracturing of the injection formation or confining strata.

(11) 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 that these operations may be witnessed.

(12) The Operator shall provide written notice of the date of commencement of injection to the Hobbs District Office of the Division.

(13) The Operator shall immediately notify the supervisor of the Division's Hobbs District Office of the failure of the tubing, casing or packer in any injection well, 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 applicable provisions of Division Rules 19.15.26.8 through 26.15 NMAC. 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) In accordance with Division Rule 19.15.26.12.C NMAC, the injection authority granted herein shall terminate if, after injection commences, any continuous period of one year elapses without any reported injection occurring into the injection zone pursuant to the project established by this order; provided, however, the Division, upon written request by Operator filed prior to the expiration of the one-year period of non-injection, may grant an extension for good cause.

(17) The permission granted by this order may not be transferred without permission of the Division. The Division may require that a mechanical integrity test be conducted on the Subject Well as a condition of granting such permission.

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

cause any actual damage or threat of damage to protectable 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.

(20) 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.

(21) 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