

Aubrey Dunn
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State of New Mexico
Commissioner of Public Lands

310 OLD SANTA FE TRAIL
P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

COMMISSIONER'S OFFICE

Phone (505) 827-5760
Fax (505) 827-5766
www.nmstatelands.org

August 26, 2015

BY EMAIL (dgordon@linnenergy.com) & U.S. MAIL

Case 15284

Debra Gordon
Regulatory Compliance Manager
Linn Operating, Inc.
JP Morgan Chase Tower
600 Travis, Suite 5100
Houston, TX 77002

**Re: Unit Agreement for the Development and Operation of the East Hobbs
(San Andres) Unit (the "San Andres Unit Agreement")**

Dear Ms. Gordon:

In accordance with Paragraph 18 of the San Andres Unit Agreement and State Land Office Rule 19.2.100.51(C)(2) NMRA, the Commissioner of Public Lands hereby approves Linn Operating, Inc.'s proposed use of fresh water from the City of Hobbs municipal water system to re-pressure the Unit, as set forth in your letter dated June 25, 2015. Based on the information provided by Linn Operating, I find that (i) other sources of water are not practicably feasible technologically or financially; (ii) use of fresh water from the City of Hobbs municipal water system will facilitate economical and efficient production of oil from the San Andres Unit and avoid waste; and (iii) Linn's construction of approximately 3,300 feet of new water main for the City of Hobbs municipal water system while paying for the water at rates applicable to users outside of the City, as well as the continued operation of the San Andres Unit, will provide substantial ancillary benefit to the City, as evidenced by the Mayor Sam D. Cobb's letter to me dated August 3, 2015.

San Andres Unit Agreement

Under Paragraph 18 of the San Andres Unit Agreement:

Operations hereunder and production of Unitized Substances shall be conducted to provide for the most economical and efficient recovery of said substances without waste, as defined by State laws and

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regulations. The use of fresh water in waterflood operations is prohibited unless expressly approved by the Commissioner of Public Lands on the basis of excessive technological or financial burden.

State Land Office Rule 19.2.100.51(C)(2) NMAC

Use of Fresh Water: The use of fresh water in waterflood units is discouraged in the cases where salt water is practical. If an operator plans to use fresh water in a proposed unit, the following specific information should also be provided:

- (a) Laboratory analyses of water compatibility tests (fresh vs. salt water).
- (b) Reservoir analyses for swelling clays and soluble salts.
- (c) Estimate of monthly make-up water required for operations.
- (d) Location and depth of area salt water wells or quantities of produced water available for injection.

19.2 100.51(C)(2) NMAC.

Linn Operating, Inc.'s June 25, 2015 Request

In your June 25, 2015 letter, you indicated that the proposed use of City of Hobbs municipal water is the "best and possibly only way" to re-pressure the Unit for tertiary recovery without excessive technological or financial burden. You stated that the nearest oil field, the South Hobbs Unit, is in fact using City of Hobbs grey water as make-up water to re-pressure. You further stated that trucking salt water produced in oil fields in the north is not economically feasible and presents other environmental and safety concerns. In terms of ancillary benefit to the City of Hobbs, you stated that Linn will be constructing 3,300 feet of water main line to be added to the municipal water system, and Linn will be paying for the water at rates applicable to users outside the City limits.

According to your letter, Linn will be using approximately 8,600 barrels of water per day over a two-year period, at which point Linn will use CO₂ to pressure the Unit, with an expected additional production of 4.6 million barrels of oil.

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City of Hobbs Approval

In a letter to the Commissioner of Public Lands dated August 3, 2015, Mayor Sam D. Cobb of the City of Hobbs stated that the City has determined that Linn's proposed use of fresh water from the City's municipal water system would be appropriate and beneficial. Among other things, Mayor Cobb stated that Linn's use of the City's infrastructure and water will help protect the City's water production field and the Ogallala Aquifer by avoiding competing additional appropriations of water or water rights. In addition, Mayor Cobb noted that Linn's construction of an additional water main will provide a needed extension of the City's water distribution system and provide potable water service and fire protection in an area that currently lacks those services. Further, Mayor Hobbs noted that Linn's project would protect and provide local jobs and help defer and decrease future water rate increases for the City's water users.

OCC Order No. R-11980-D

On August 13, 2015, the New Mexico Oil Conservation Commission entered Order No. R-11980-D, pursuant to 19.15.26.8 NMAC, approving Linn's proposed use of fresh water subject to the following conditions:

- (a) Linn must obtain approval from the Commissioner of Public Lands;
- (b) Linn's injection of make-up water shall be limited to two years from date of first injection;
- (c) Linn's injection is limited to 8,600 barrels of water per day;
- (d) Linn shall file Form C-115 reports with the OCD to report fresh water injection and produced water use.

Submission of Additional Information

In a letter to me dated July 20, 2015, Linn noted that the OCC had made a decision in favor of Linn's proposed use of fresh water, Linn provided a copy of materials submitted to the OCC, and Linn stated that (i) it has been searching for a source of water to re-pressurize the reservoir for over a year; (ii) fresh water is the only economical source with sufficient volumes available to re-pressurize the reservoir (as there is no City "gray" water currently available. Devonian water cannot

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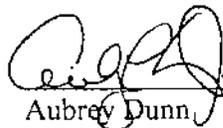
be sold for this short a term and also presents difficult technical issues,¹ and carbon dioxide injection for re-pressurization is uneconomical); (iii) the fresh water use will be limited to two years; (iv) use of fresh water to re-pressure the unit is the only feasible means of recovering additional reserves within the Unit; and (v) fresh water is frequently used in the area to do frac treatments on horizontal wells.

On August 18, 2015, Linn submitted to the State Land Office (i) a copy of OCC Order No. R-11980-D; (ii) reservoir analyses for swelling clays and soluble salts; and (iii) a plat and table showing the location, depth and quantities of salt water sources within a 5-mile radius of the San Andres Unit. This information shows that wells producing sufficient water from the San Andres formation are located in locations and at distances from the project which make the construction of pipeline to deliver the produced water financially difficult and environmentally undesirable. The information also shows that water produced from the Devonian formation has a much greater concentration of dissolved solids than the water in the San Andres formation, making it inappropriate to use Devonian water in this project.

Final Agency Determination

As a final agency determination, I find that (i) the use of salt water is not technologically and financial practicable and (ii) the use of fresh water will facilitate economical and efficient production of oil from the San Andres Unit and avoid waste. Therefore, Linn's proposed use of fresh water as set forth in your June 25, 2015, subject to the conditions set forth in OCC Order No. R-11980-D, should be and hereby is approved.

Sincerely,



Aubrey Dunn
Commissioner of Public Lands

¹ The available information indicates that water produced from the Devonian formation contains approximately 140,000 p.p.m. dissolved solids, which would degrade the higher quality water in the San Andres formation and create scaling problems when mixed with the water in the San Andres formation.