

**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. 14808  
ORDER NO. R-13603**

**APPLICATION OF LEGACY RESERVES OPERATING, LP, FOR  
APPROVAL OF A SALT WATER DISPOSAL WELL, EDDY COUNTY,  
NEW MEXICO.**

**ORDER OF THE DIVISION**

This case came on for hearing at 8:15 a. m. on April 26, 2012, at Santa Fe, New Mexico, before Examiner Richard Ezeanyim.

NOW, on this 19 day of July, 2012, 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) The applicant, Legacy Reserves Operating, LP ("Legacy"), seeks approval to inject produced water for the purposes of disposal into its Andrew Arnquist Estate Well No. 2 (**API No. 30-015-21942**), located 330 feet from the North and East lines (unit A) of Section 29, Township 18 South, Range 26 East, NMPM, Eddy County, New Mexico

(3) Legacy proposes to inject up to 5000 barrels of water per day, at a maximum pressure not to exceed 0.2 psi per foot of depth to the uppermost injection perforation (unless otherwise authorized), into the Canyon formation through perforations from 7,750 feet to 8,100 feet.

(4) Legacy Reserves Operating, LP originally filed an administrative application in this case, but the Division received an objection from land owners represented by Betty Arnquist. Accordingly, this case was referred to the hearing process.

(5) At the hearing, Legacy presented the following testimony:

- (a) The proposed injection well was plugged and abandoned in 2007 and has been in this status since then;
  - (b) There is no hydrocarbon production from the Canyon formation in this area;
  - (c) The majority of the wells in this area are shallow wells in the Yeso, or the San Andres formation that did not penetrate the Canyon formation;
  - (d) Legacy is conducting active development in the Yeso formation which makes considerable amounts of water, and therefore it will need a disposal well to dispose of the Yeso produced water;
  - (e) There are two (2) wells operated by Yates Petroleum Corporation that penetrated the proposed injection zone, and these wells are properly cemented to protect any fluid migration into the injection zone;
  - (f) The proposed injection well is properly constructed to prevent upward migration of the injected fluids, and there are no faults or conduits in this area that would permit upward migration of the injected fluid;
  - (g) Water analysis indicate that there will be no water compatibility issues between the Yeso and the Canyon formations; and
  - (h) There are already five (5) permitted salt water disposal wells disposing the Yeso produced water into the Canyon formation.
- (6) The counsel representing Betty Arnquist and the surface owners underlying Section 29, Township 18 South, Range 26 East, appeared at the hearing with no witnesses, but cross-examined Legacy's witnesses.
- (7) No other party appeared at the hearing or otherwise opposed the application.

**The Division concludes that:**

(8) Legacy is the leasehold operator within the one-half mile area of review of the proposed injection well and notice has been provided to the owners of the surface on which the well is located.

(9) Legacy should be authorized to inject produced water into the Canyon formation at depths between approximately 7750 feet and 8100 feet below the surface through the proposed injection well.

(10) All wells in the area of review (AOR) appear to be adequately cased and cemented, so that they will not become conduits for the escape of injected fluid from the permitted injection formation. Accordingly, no remedial work on wells in the AOR is required.

(11) Legacy should be authorized to inject fluids at a surface injection pressure not to exceed 0.20 psi per foot of depth to the top of the injection interval; provided that Legacy 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.

(12) The proposed project will prevent waste, and will not impair correlative rights.

(13) Accordingly, the application should be approved.

**IT IS THEREFORE ORDERED THAT:**

(1) Legacy Reserves Operating, LP ("Legacy" or "operator") is hereby authorized to inject a maximum volume of 5000 barrels of produced water per day for the purpose of disposal into the Canyon formation, through its Andrew Arnquist Estate Well No. 2 (**API No. 30-015-21942**), located 330 feet from the north and East lines of Section 29, Township 18 South, Range 26 East, NMPM, Eddy County, New Mexico, in an injection interval at a depth of approximately 7,750 feet and 8,100 feet below the surface.

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

(3) Injection shall be accomplished through 2-7/8-inch, plastic-lined steel tubing installed in a packer set in the casing at an approximate depth of 7,700 feet, and within 100 feet of the uppermost injection perforations. The casing -tubing annulus shall be filled with an inert fluid, and a gauge of approved

leak-detection device shall be attached to the annulus in order to detect leakage in the casing, tubing or packer.

(4) Prior to commencing injection operations, the casing in the disposal well shall be pressure tested throughout the interval from the surface down to the packer setting depth to assure the integrity of such casing. This mechanical integrity test (MIT) shall be conducted once every five (5) years.

(5) The maximum surface injection pressure shall be 1,550 psi. The injection well shall be equipped with a pressure control device or acceptable substitute that will limit the surface injection pressure to no more than the pressure authorized herein.

(6) The Division Director may 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.

(7) The operator shall give at least 72 hours advance notice to the supervisor of the Division's Artesia 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.

(8) The operator shall provide written notice of the date of the commencement of injection to the Artesia District Office of the Division.

(9) The operator shall immediately notify the supervisor of the Division's Artesia District Office of any failure of the tubing, casing or packer in the disposal well, or the leakage of water, oil, gas or other fluid from around any producing, injection 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.

(10) The operation of the injection well shall be governed by Division Rules 19.15.26.1 through 19.15.26.15 NMAC. The operator shall submit monthly reports of the disposal operation on Division Form C-115, in accordance with Division Rules 19.15.26.13 NMAC and 19.15.7.24NMAC.

(11) In accordance with Rule 19.15.26.12.C(1) NMAC, the injection authority granted herein shall terminate one year after the effective date of this order if the operator has not commenced disposal operations; provided, however, the Division Director, upon written request by the operator filed prior to the expiration of such time, may grant an extension for good cause.

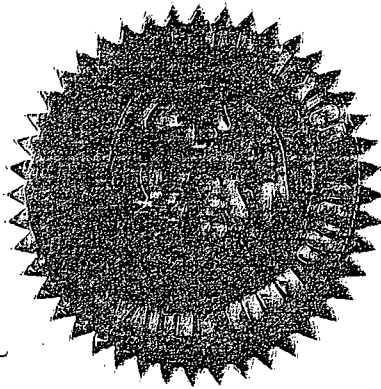
(12) Operator shall provide written notice to the Division upon permanent cessation of disposal.

(13) This order does not relieve the operator of responsibility should its operations 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.

(14) 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 the event of an emergency, subject to the provisions of NMSA 1978 Section 70-2-23), terminate the disposal authority granted herein.

(15) 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

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

JAMI BAILEY  
Division Director