

**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 APACHE CORPORATION FOR APPROVAL OF A PILOT  
SECONDARY RECOVERY PROJECT, LEA COUNTY, NEW MEXICO**

**CASE NO. 14360  
ORDER NO. R-13176**

**ORDER OF THE DIVISION**

**BY THE DIVISION:**

This case came on for hearing at 8:15 a.m. on September 3, 2009, at Santa Fe, New Mexico, before Examiner Terry Warnell and again on September 17, 2009, before Examiner Richard Ezeanyim.

NOW, on this 30<sup>th</sup> day of September, 2009, the Division Director, having considered the testimony, the record and the recommendations of the Examiners,

**FINDS THAT:**

(1) Due public notice has been given and the Division has jurisdiction of this case and its subject matter.

(2) Apache Corporation ("Apache" or "Applicant"), seeks approval to implement secondary recovery operations by injection of water into the Blinebry, Tubb, and Drinkard formations within its 40-acre project area of the NW/4 SW/4 of Section 12, Township 20 South, Range 38 East, NMPM, Lea County, New Mexico.

(3) Applicant is proposing injection into the Blankenship Well No. 2 (API No. 30-025-07767) which was drilled to approximately 7125 feet deep and is located 2075 feet from the South line and 555 feet from the West line of Section 12. The lease injection project area is 40 acres in the NW/4 SW/4 of Section 12.

(4) The proposed vertical extent of the lease injection project is that productive interval underlying the Blankenship Lease within the Blinebry, Tubb, and Drinkard formations.

(5) The proposed injection well, the Blankenship Well No. 2, will be perforated from approximately 6,046 feet (top of Blinebry) to 7,028 feet (bottom of the Drinkard) after the Paddock perforations are squeezed off.

(6) The proposed pilot secondary recovery project is fully contained within the South House-Blinebry, House-Tubb and House-Drinkard Pools.

(7) No other parties appeared in this case or otherwise opposed this application.

(8) Apache appeared through counsel and presented its case at the September 3, 2009 hearing. On September 17, 2009, Apache's counsel appeared again and presented the actual affidavit of publication in this matter.

(9) The "Blankenship Lease," as it is called by Apache, covers the SW/4 of Section 12 and consists of 120 acres of fee land. Apache Corporation owns 100 percent of the working interests within the Blankenship Lease from surface to the base of the Drinkard formation.

(10) The applicant has notified all affected persons of their intent to inject and received no objections.

(11) Apache presented testimony from land, geology, and engineering witnesses at the hearings in support of the proposed pilot secondary recovery project as follows:

(a) The proposed injection interval is continuous across the project area. The proposed waterflood within the project area is analogous to the House Field, is economically and technically feasible and should result in the recovery of additional oil and gas that would not otherwise be recovered. The project area has been depleted, and the pilot secondary recovery is needed to prevent waste of oil and gas.

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

(c) The proposed pilot secondary recovery project will prevent waste, protect correlative rights, and should be approved and called the Blankenship Lease Waterflood Project.

(12) The Blankenship Well No. 2 should be approved for use as an injection well as this project is first implemented. Apache is currently in full compliance with the Division Rule 5.9 provisions as it relates to inactive wells and financial assurance.

(13) Provisions should be made for the operator of the Blankenship Lease to apply administratively for additional or different injection wells as needed.

(14) All 21 wells within the ½ mile area of review (AOR) of the Blankenship Well No. 2 are adequately cemented in order to isolate the injection to the intended injection interval. There are no faults or conduits which could transport injected waters out of the injection interval. The applicant prepared and submitted an adequate form C-108 and included wellbore diagrams on the three plugged and abandoned wells in the AOR.

(15) There are eight fresh water Ogallala wells in the ½ mile AOR with the deepest being 90 feet. All possible "protectable" water sands will be protected from this injection operation and will not be endangered.

(16) This application should be approved.

**IT IS THEREFORE ORDERED THAT:**

(1) Apache Corporation ("Apache") (OGRID 873) is hereby approved to implement secondary recovery "waterflood" operations into the Blinebry, Tubb, and Drinkard formations of the South House-Blinebry Pool (33225); House-Tubb Pool (78760) and House-Drinkard Pool (33250) within its 40-acre "Blankenship Lease" consisting of the (Unit L) of Section 12, Township 20 South, Range 38 East, NMPM, Lea County, New Mexico.

(2) The project shall be called the Blankenship Lease Waterflood Project and the project area shall comprise all of the NW/4 SW/4 (Unit L) of Section 12.

(3) Apache is granted approval to utilize its Blankenship Well No. 2 (API No. 30-025-07767) for injection of water at depths of 6,046 to 7,028 feet for secondary recovery purposes. The Blankenship Well No. 2 (API No. 30-025-07767) was drilled to approximately 7125 feet deep and is located 2075 feet from the South line and 555 feet from the West line of Section 12.

PRIOR TO BEGINNING INJECTION into this well, Apache shall squeeze the perforations in the Paddock formation and reperforate the Blinebry under the supervision of the Division's Hobbs District Office.

(4) The Division Director may administratively authorize additional injection wells within this Project as provided in Division Rule 26.8.

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

(6) Injection into this well shall be accomplished through 2 7/8 inch 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 determine

leakage in the casing, tubing, or packer.

(7) Waters injected into this well shall consist of produced water from the Blinebry, Tubb and Drinkard formations from the applicant's House field. Apache shall not use fresh water as injection water.

(8) The injection well or pressurization system shall be equipped with a pressure control device or acceptable substitute that will limit the surface injection pressure to 1209 psi.

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

(10) The unit operator shall give 72 hours advance notice to the supervisor of the Division's Hobbs District Office of the date and time (i) injection equipment will be installed, and (ii) the mechanical integrity pressure test will be conducted on the approved injection well, so that these operations may be witnessed. Injection shall not commence until the Division's district office has approved the report on the mechanical integrity test.

(11) The unit operator shall immediately notify the supervisor of the Division's Hobbs District Office of any failure of the tubing, casing or packer in the injection well or the leakage of water, oil or gas from or around any nearby producing or plugged and abandoned well, and shall promptly take all steps necessary to correct such failure or leakage.

(12) The unit operator shall conduct injection operations in accordance with Division rules numbered 26.8 through 26.15, and shall submit monthly reports of the injection operations on Division Form C-115, in accordance with Division rules numbered 26.13 and 7.24.

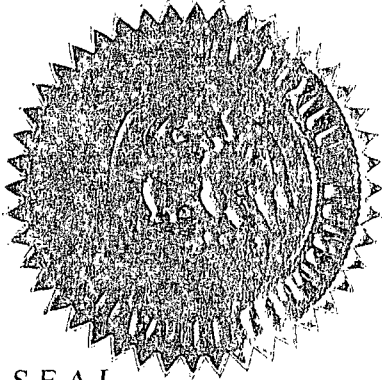
(13) In accordance with Division Rule No 26.12.C., the injection authority granted herein shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject well, provided however, the Division, upon written request, mailed by the operator prior to the termination date, may grant an extension thereof for good cause. One year after injection into this waterflood project has ceased, the authority to inject will terminate *ipso facto*.

(14) 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.

(15) 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 notice and hearing in event of an emergency, subject to NMSA 1978, Section 70-2-23, 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 dark ink, appearing to read "Mark E. Fesmire".

MARK E. FESMIRE, P.E.  
Director