



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

**Mark E. Fesmire, P.E.**

Director

**Oil Conservation Division**

Administrative Order WFX-844

November 18, 2008

Josh Hegg  
Apache Corporation  
6120 S. Yale Ave., Suite 1500  
Tulsa, OK 74136

**RE: North Monument Grayburg San Andres Unit Waterflood Project**  
**Apache Corporation**

Under the provisions of Division Order R-9596, Apache Corporation (OGRID 873) has made application to the Division for permission to expand its North Monument Grayburg-San Andres Unit Waterflood Project located within the Eunice Monument Grayburg-San Andres Pool (23000) in Lea County, New Mexico.

**THE DIVISION DIRECTOR FINDS THAT:**

The application was filed in due form. No objections have been filed within the waiting period prescribed by Division Rule 701(C). The proposed injection wells are eligible for conversion to injection under the terms of Rule 701.

The proposed expansion of the above-referenced waterflood project will not cause waste nor impair correlative rights and should be approved.

**IT IS THEREFORE ORDERED THAT:**

Apache Corporation is hereby authorized to inject water into the unitized interval of the North Monument Grayburg-San Andres Unit Waterflood Project, through plastic-lined tubing set in a packer located within 100 feet of the top of the injection interval in the following-described 2 wells for purposes of secondary recovery:

**NMGSA Unit Unit Well No. 511 (API No. 30-025-05749)**

1980' FSL, 1980' FWL, Unit K, Sec 19, T19S, R37E, NMPM

Permitted Vertical Injection Interval (Perforated and Open Hole): 3797 - 3899

Maximum Surface Injection Pressure: 750 PSIG

**NMGSA Unit Well No. 515 (API No. 30-025-05648)**

660' FSL, 1980' FEL, Unit O, Sec 19, T19S, R37E, NMPM  
Permitted Vertical Injection Interval (Open Hole): 3784 - 3919  
Maximum Surface Injection Pressure: 750 PSIG

**IT IS FURTHER ORDERED THAT:**

The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

Prior to commencing injection operations into the wells, the casing shall be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

The casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing or packer.

The injection wells or systems shall be equipped with a pressure limiting device which will limit the wellhead pressure to the maximum surface injection pressures described above.

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said wells that such higher pressure will not result in migration of the injected fluid from the Grayburg-San Andres formations. Such proper showing shall consist of valid step-rate tests run in accordance with and acceptable to this office.

The operator shall notify the supervisor of the Hobbs District Office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity test so that the same may be inspected and witnessed.

The operator shall immediately notify the supervisor of the Hobbs District Office of the Division of the failure of the tubing, casing or packer in said wells and shall take such steps as may be timely and necessary to correct such failure or leakage.

The subject wells shall be governed by all provisions of Division Order No. R-9596, and Rules 702-706 of the Division Rules and Regulations not inconsistent herewith.

**PROVIDED FURTHER THAT,** 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 water or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the injection authority granted herein.

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 by the operator, may grant an extension thereof for good cause shown.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



MARK E. FESMIRE, P.E.  
Director

cc: Oil Conservation Division – Hobbs