

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION COMMISSION**

**APPLICATION OF OCCIDENTAL PERMIAN, LTD.
TO AMEND ORDER NO. R-6199 TO EXPAND THE
PHASE 1 AREA AND APPROVE AN INJECTION WELL
IN THE NORTH HOBBS GRAYBURG-SAN ANDRES
TERTIARY RECOVERY PROJECT, LEA COUNTY,
NEW MEXICO.**

**CASE NO. 14976
ORDER NO. R-6199-E**

ORDER OF THE COMMISSION

This case comes before the New Mexico Oil Conservation Commission ("Commission") on the application of Occidental Permian, Ltd ("OXY") to amend Order No. R-6199, as amended. The Commission, having conducted a hearing on May 10, 2013, at Santa Fe, New Mexico, and having considered the testimony and the record in this case, enters the following findings, conclusions and order.

THE COMMISSION FINDS THAT:

1. Due public notice has been given, and the Commission has jurisdiction over this case and its subject matter.
2. By Order No. R-6198 issued in Case No. 6652 on November 30, 1979, the Commission, upon the application of Shell Oil Company, approved the statutory unitization of the North Hobbs Grayburg San Andres Unit within the Hobbs-Grayburg-San Andres Pool (31920).
3. By Order No. R-6199 issued in Case No. 6653 on November 30, 1979, the Commission, upon the application of Shell Oil Company, approved a pressure maintenance project for the North Hobbs Grayburg San Andres Unit.
4. By Order No. PMX-89, dated August 26, 1980, the New Mexico Oil Conservation Division ("Division") authorized the injection of water, pursuant to Order No. R-6199, through the North Hobbs Grayburg San Andres Unit Well No. 431 (API No. 30-025-05445), located 1640 feet from the South line and 1000 feet from the East line (Unit I) of Section 13, Township 18 South, Range 37 East, NMPM, Lea County, New Mexico ("Well No. 431").
5. By Order No. R-6199-A issued in Case No. 7908 on August 4, 1983, the Division, upon the application of Shell Oil Company, expanded the pressure maintenance

project by allowing five directionally drilled injection wells along the common boundary of the North Hobbs Grayburg San Andres Unit and the South Hobbs Grayburg San Andres Unit.

6. By Order No. R-6199-B issued in Case No. 12722 on October 22, 2001, and amended by Order No. R-6199-D, the Division authorized the following:

(a) Implementation of a carbon dioxide (CO₂) tertiary recovery injection project within a portion of the North Hobbs Grayburg San Andres Unit defined as follows and referred to as the "Phase I Area":

TOWNSHIP 18 SOUTH, RANGE 37 EAST, NMPM

Section 13: SW4, S/2 NW/4, S/2 SE/4

Section 14: SE/4, S/2 NE/4

Section 23: E/2

Section 24: All

Section 25: N/2, SE/4

Section 36: NE/4

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM

Section 18: S/2

Section 19: All

Section 20: W/2, SE/4

Section 28: SW/4, S/2 NW/4

Sections 29 and 30: All

Section 31: N/2, N/2 S/2

Section 32: N/2, N/2 S/2

(b) Certification of the North Hobbs Grayburg San Andres Unit Phase I Tertiary Recovery Project as an "Enhanced Oil Recovery Project" to comprise the Phase I Area as described above.

(c) Set a limiting gas-oil ratio at 6,000 cubic feet of gas per barrel of oil within that portion of the Hobbs-Grayburg-San Andres Pool contained within the North Hobbs Grayburg San Andres Unit.

(d) Authorized the addition of 60 injection wells, for a total of 103 injection wells within the Unit, and defined which of the 103 wells are authorized for CO₂ and water injection and which of those wells are authorized for CO₂, water, and produced gas injection.

(e) The maximum allowable surface injection pressure as follows:

1100 psig for injection of water;
1250 psig for injection of CO₂; and
1770 psig for injection of produced gas.

7. Well No. 431 is within the North Hobbs Grayburg San Andreas Unit. Well No. 431 is not within the current boundaries of the Phase I Area, as described in Order No. R-6199 as amended.

8. On December 21, 2012, OXY applied administratively to the Division seeking to amend Order No. PMX-89 to authorize injection of CO₂ and produced gas through Well No. 431.

9. The Division determined that because Well No. 431 is outside the Phase I Area approved by the Division for injection of CO₂ and produced gas, Order No. PMX-89 could not be amended administratively. The Division, therefore, requested that the application be set for hearing before the Commission.

10. In doing so, the Division determined that OXY's application is approvable and recommended that the Phase I Area be expanded to include Well No. 431 and any offsetting producing wells which may produce fluids or gases injected into Well No. 431.

11. Accordingly, OXY also seeks an amendment to Order No. R-6199 expanding the Phase I Area of the North Hobbs Grayburg San Andres Unit pressure maintenance project to include a tract consisting of the north half of the southeast quarter of Section 13, Township 18 South, Range 37 East, NMPM, Lea County, New Mexico.

12. The Division intervened in this Case and supported the application of OXY. No other party entered an appearance in this case or opposed this application.

13. The Commission held a hearing on May 10, 2013. OXY presented one witness at the hearing, Kelley Montgomery, a regulatory consultant for OXY. Division counsel appeared at the hearing. The Division had submitted with its Pre-Hearing Statement the Pre-Filed Testimony of William V. Jones, P.E. (OCD Exh. A). The Division did not produce any witnesses or introduce any other exhibits at the hearing.

14. OXY presented evidence showing that notice of this proposed injection was provided to all leasehold and unleased mineral interest owners, offset operators within one-half mile of Well No. 431, and to the surface owner on which the well is located.

15. OXY presented evidence showing that injection through Well No. 431 will be on an inverted five-spot pattern with four production wells surrounding Well No. 431, injecting in the center. The four production wells comprising the inverted five-spot pattern will be Well Nos. 331, 832, 341, and 645. Two of the production wells in this pattern that are expected to produce fluids or gases injected into Well No. 431 are not currently within the Phase I Area. Well No. 331 (API No. 30-025-05447) is located in the northwest quarter of the southeast quarter of Section 13, and Well No. 832 (API No. 30-025-40822) is located in the northeast quarter of the southeast quarter of Section 13, within the same unit letter as Well No. 431 but just to the north.

16. OCD provided testimony that the Division had reviewed the application and reviewed wells within one half mile. The Division found that the proposed injection application is approvable subject to conditions that are placed on similar wells including timing of mechanical integrity tests, availability of injection and pressure data from OXY, updating of H2S plan and confirmation that the dual bottomhole packers will be installed.

THE COMMISSION CONCLUDES THAT:

1. The Commission is empowered to regulate the injection of natural gas or of any other substance into any pool in this state for the purpose of repressuring, cycling, pressure maintenance, secondary or any other enhanced recovery operations and to regulate the disposition of water produced or used in connection with drilling for or producing of oil or gas, and to regulate the disposition of nondomestic waste resulting from the treatment of natural gas or the refinement of crude oil to protect public health and the environment. NMSA 1978 § 70-2-12(B)(14, 15, 22). The Commission has a statutory duty to prevent waste and protect correlative rights. NMSA 1978 § 70-2-11(A).

2. OXY has provided substantial evidence to support the expansion of the Phase 1 Area and to approve the injection of CO2 and produced gases into Well No. 431 and such actions will protect correlative rights and will prevent waste.

3. The Commission will approve OXY's application subject to conditions necessary to ensure protection of public health, the environment and correlative rights, and to prevent waste.

IT IS THEREFORE ORDERED THAT:

1. Order No. R-6199, as amended, is hereby amended to expand the North Hobbs Grayburg San Andres Unit Phase I Tertiary Recovery Project Area to include the tract consisting of the north half of the southeast quarter of Section 13, Township 18 South, Range 37 East, NMPM, Lea County, New Mexico.

2. All permissions covering the Phase I Area granted in Order No. R-6199-B, including the injection of CO2 and produced gas, shall be applied to this additional tract and those portions of administrative Order No. PMX-89 governing type of injection fluid and maximum surface injection pressure shall be hereafter governed by rule applicable to the Phase I Area.

3. The North Hobbs Grayburg San Andres Unit Well No. 431 (API No. 30-025-05445) shall be allowed to inject water, CO2, and produced gas at the following respective maximum surface injection pressures:

1100 psig for injection of water;
1250 psig for injection of CO2; and
1770 psig for injection of produced gas.

4. In addition, the following conditions shall apply to this authorization to inject CO₂ and produced gas into Well No. 431:

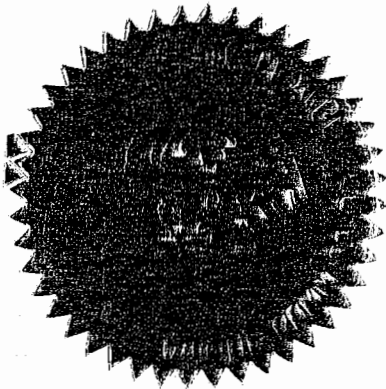
- (a) Prior to commencing injection, OXY shall conduct and submit to the Division a cement bond log on the production casing in Well No. 431 and shall conduct a Division-witnessed mechanical integrity test;
- (b) OXY shall conduct a Division-witnessed mechanical integrity test every two years after injection commences;
- (c) OXY shall fill the annular space of Well No. 431 with an inert fluid containing biocide and corrosion inhibitors;
- (d) OXY shall conduct an annual Bradenhead test and submit the results to the Division;
- (e) Prior to commencing injection of CO₂ and produced gases at Well No. 431, OXY shall amend its hydrogen sulfide contingency plan to specifically include this well;
- (f) OXY shall keep and maintain recorded data from its Supervisory Control and Data Acquisition system in Well No. 431 and have such data available for inspection by the Division for a reasonable period of time to be determined and agreed upon through consultation between OXY and the Division's District Office; and
- (g) OXY shall install the dual bottomhole packers described in the well diagram in OXY's application.

5. The North Hobbs Grayburg San Andres Unit Phase I Tertiary Recovery Project certified as an "Enhanced Oil Recovery Project" in Order No. R-6199-B shall comprise the Phase I Area as modified by Ordering Paragraph No. 1 of this Order.

6. Jurisdiction of this case is retained for the entry of such further orders as the Commission may deem necessary.

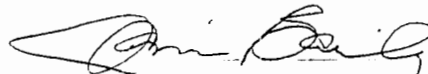
DONE at Santa Fe, New Mexico, on this 6th day of June, 2013.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION




ROBERT BALCH, Member


TERRY WARNELL, Member


JAMI BAILEY, Chair

SEAL