

**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. 12022  
ORDER NO. R-11056**

**APPLICATION OF SOUTHWEST ROYALTIES,  
INC. FOR A WATERFLOOD PROJECT, LEA  
COUNTY, NEW MEXICO.**

**ORDER OF THE DIVISION**

**BY THE DIVISION:**

This case came on for hearing at 8:15 a.m. on August 20, 1998, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 10<sup>th</sup> day of September, 1998, 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, Southwest Royalties, Inc., seeks authority to institute a waterflood project on its Eilliams and Wyatt Phillips Federal Leases, which collectively comprise the N/2 of Section 34, Township 17 South, Range 33 East, NMPM, Lea County, New Mexico, by the injection of water into the Grayburg/San Andres formations, Maljamar Grayburg-San Andres Pool through the perforated interval from approximately 4,325 feet to 4,833 feet in its Eilliams Federal Well No. 14 located 1650 feet from the North line and 1980 feet from the East line (Unit G) of Section 34.
- (3) The applicant further seeks authority to reclassify its Eilliams "34" Federal Well No. 12, located 330 feet from the North line and 660 feet from the East line (Unit A) of Section 34, from a salt water disposal well to an injection well within the proposed waterflood project.
- (4) Division records indicate that the Eilliams "34" Federal Well No. 12 was approved for use as a salt water disposal well by Order No. SWD-623 dated April 12, 1996. Injection was authorized into the Grayburg/San Andres formations through the perforated interval from approximately 4,290 feet to 4,833 feet.

(5) Applicant's evidence and testimony indicates that it will initially utilize the Eilliams Federal Well No. 14 and the Eilliams "34" Federal Well No. 12 as injection wells within the project area.

(6) Applicant's evidence further indicates that it will utilize the Wyatt Phillips Federal Well Nos. 14 and 15, the Eilliams Federal Well Nos. 8, 9, 10, and 11, and the Wyatt "A" Federal Well No. 1 as producing wells within the project area.

(7) The producing wells within the proposed project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

(8) The proposed project area is directly offset to the northwest by Wiser Oil Company's Caprock Maljamar Unit, a large waterflood project in the Maljamar Grayburg-San Andres Pool.

(9) The interest ownership is common within the proposed project area.

(10) The implementation of waterflood operations within the proposed project area should result in the recovery of oil which may otherwise not be recovered, thereby preventing waste, and will not violate correlative rights.

(11) The injection of water into the Eilliams Federal Well No. 14 should be accomplished through 2 3/8-inch internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforations; the casing-tubing annulus should be filled with an inert fluid and a gauge or approved leak-detection device should be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(12) The evidence presented by the applicant indicates that the following described three wells, located within the "area of review" of the applicant's Eilliams Federal Well No. 14, may not be adequately cased or cemented to confine the injected fluid to the proposed injection interval:

<u>Well Name &amp; Number</u>	<u>Well Location</u>
Phillips Petroleum Company Eilliams Federal No. 3	2308' FNL & 660' FWL (Unit F) Section 34, T-17S, R-33E
Phillips Petroleum Company Eilliams Federal No. 7	2310' FNL & 1720' FWL (Unit F) Section 34, T-17S, R-33E
Southwestern Energy Production Company Denius Federal No. 5	1750' FSL & 1650' FWL (Unit C) Section 34, T-17S, R-33E

(13) Prior to commencing injection operations into the Eilliams Federal Well No. 14, the applicant should be required to either: 1) demonstrate that the above-described wells will not provide a conduit whereby injected fluid may migrate to other formations; or 2) conduct remedial cement operations and cement the production casing across and below the injection interval in a manner satisfactory to the Division.

(14) Prior to commencing injection operations into the Eilliams Federal Well No. 14, the casing should be pressure tested throughout the interval from the surface down to the proposed packer setting depth to assure the integrity of such casing.

(15) The Eilliams Federal Well No. 14 and the Eilliams "34" Federal Well No. 12 should be initially equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 865 psi and 1935 psi, respectively.

(16) The Division Director should have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(17) The operator should give advance notification to the supervisor of the Division's Hobbs District Office of the date and time it intends to perform re-cementing operations on the wells described in Finding No. 12, install injection equipment, and conduct mechanical integrity pressure tests, in order that these operations may be witnessed.

(18) The proposed waterflood project should be approved and the project should be governed by the provisions of Rule Nos. 701 through 708 of the Division Rules.

(19) The injection authority granted herein for the Eilliams Federal Well No. 14 should terminate one year after the effective date of this order if the operator has not commenced injection operations into this well, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

(20) The Eilliams "34" Federal Well No. 12 should be reclassified from a disposal well to a waterflood injection well within the project area.

**IT IS THEREFORE ORDERED THAT:**

(1) The applicant, Southwest Royalties, Inc, is hereby authorized to institute a waterflood project on its Eilliams and Wyatt Phillips Federal Leases, which collectively comprise the N/2 of Section 34, Township 17 South, Range 33 East, NMPM, Lea County, New Mexico, by the injection of water into the Grayburg/San Andres formations, Maljamar Grayburg-San Andres Pool through the perforated interval from approximately 4,325 feet to 4,833 feet in its Eilliams Federal Well No. 14 located 1650 feet from the North line and 1980 feet from the East line (Unit G) of Section 34.

(2) 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 from injection, production, or plugged and abandoned wells.

(3) The injection of water into the Eilliams Federal Well No. 14 shall be accomplished through 2 3/8-inch internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforations; 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.

(4) Prior to commencing injection operations into the Eilliams Federal Well No. 14, the casing shall be pressure tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

(5) Prior to commencing injection operations into the Eilliams Federal Well No. 14, the applicant shall either: 1) demonstrate that the following described wells will not provide a conduit whereby injected fluid may migrate to other formations; or 2) conduct remedial cement operations on the following described wells and cement the production casing across and below the injection interval in a manner satisfactory to the Division:

<u>Well Name &amp; Number</u>	<u>Well Location</u>
Phillips Petroleum Company Eilliams Federal No. 3	2308' FNL & 660' FWL (Unit E) Section 34, T-17S, R-33E
Phillips Petroleum Company Eilliams Federal No. 7	2310' FNL & 1720' FWL (Unit F) Section 34, T-17S, R-33E
Southwestern Energy Production Company Denius Federal No. 5	1750' FSL & 1650' FWL (Unit K) Section 34, T-17S, R-33E

(6) The Eilliams Federal Well No. 14 and the Eilliams "34" Federal Well No. 12 shall be initially equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 865 psi and 1935 psi, respectively.

(7) The Division Director shall have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(8) The operator should give advance notification to the supervisor of the Division's Hobbs District Office of the date and time it intends to perform re-cementing operations on the wells described in Finding No. 12, install injection equipment, and conduct mechanical integrity pressure tests, in order that these operations may be witnessed.

(9) The operator shall immediately notify the supervisor of the Division's Hobbs District Office of the failure of the tubing, casing or packer in any of the injection wells, the leakage of water, oil or gas from or around any producing well, or the leakage of water, oil or gas from any plugged and abandoned well within the project area, and shall take such steps as may be timely and necessary to correct such failure or leakage.

(10) The project is hereby designated the Eilliams-Wyatt Phillips Federal Waterflood Project.

(11) The operator shall conduct injection operations in accordance with Division Rule Nos. 701 through 708 and shall submit monthly progress reports in accordance with Division Rule Nos. 706 and 1115.

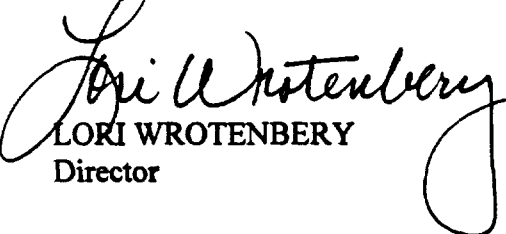
(12) The injection authority granted herein for the Eilliams Federal Well No. 14 shall terminate one year after the effective date of this order if the operator has not commenced injection operations into this well, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

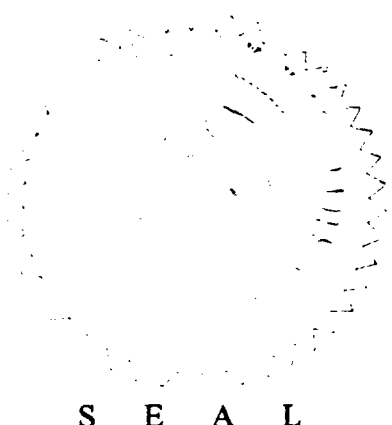
(13) The Eilliams "34" Federal Well No. 12, located 330 feet from the North line and 660 feet from the East line (Unit A) of Section 34, which was originally permitted as a salt water disposal well by Division Order No. SWD-623, is hereby reclassified as an injection well within the Eilliams-Wyatt Phillips Federal Waterflood Project.

(14) 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.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
LORI WROTENBERY  
Director



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