

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. 10326
ORDER NO. R-4676-A*

**APPLICATION OF BURNETT OIL COMPANY, INC.
FOR AREA EXPANSION OF ITS GISSLER B-11
WATERFLOOD EXPANSION OF ITS GRAYBURG JACKSON-
SAN ANDRES WATERFLOOD PROJECT, EDDY COUNTY, NEW MEXICO**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on June 13, 1991, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 4th day of December, 1991 the Division Director, having considered the testimony, the record and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) By Division Order No. R-4676, dated November 20, 1973, the Gissler B-11 Waterflood Project was established for the purpose of injecting water into the Grayburg and San Andres formations to recover secondary oil production from the Gissler "B" Lease underlying portions of Section 11, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico.

(3) By Division Administrative Order WFX-604, dated February 12, 1991, said project was expanded to include seven additional injection wells on the Gissler "B" Lease (three wells in said Section 11 and two wells each in adjacent Sections 12 and 14).

(4) Within all or portions of Sections 11, 12, 13, 14, 23 and 24, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico, Burnett Oil Company, Inc. operates the Grayburg Jackson (San Andres) Unit in which the San Andres formation is under waterflood pursuant to Division Order No. R-3257, dated June 8, 1967.

(5) The applicant, Burnett Oil Company, Inc., at this time, seeks authority to expand the Gissler B-11 Waterflood Project Area, to include an additional 200 acres on its Gissler and Gissler "A" Leases comprising the S/2 SE/4 of said Section 11, N/2 NE/4 of said Section 14, and the SW/4 SW/4 of said Section 12. The applicant further seeks authority to convert the Gissler "A" Well Nos. 12 and 13 located, respectively, in Unit P of said Section 11 and Unit B of said Section 14 to water injection wells in the Grayburg formation only.

(6) At the time of the hearing the applicant requested that the portion of its application seeking to expand its Grayburg Jackson San Andres Unit Waterflood Project to include both wells by extending the injection intervals into the San Andres formation as well be dismissed.

(7) The entire area encompassing the Gissler "B", Gissler "A" and Gissler leases and the Grayburg Jackson San Andres Unit is within the boundary of the Grayburg Jackson Queen-Grayburg San Andres-Seven Rivers Pool. However, since the previous waterflood orders restricted the zone of injection into the Grayburg and/or San Andres formations, only formation names, not pool names, will be referenced.

(8) By the evidence presented at the hearing the addition of the two subject wells would serve to recover additional reserves from the Grayburg formation and would also effectively complete an existing injection/production pattern within the immediate surrounding area of the Gissler B-11 Waterflood Project.

(9) No interested party appeared at the hearing in opposition to this application.

(10) In approving this application the Division feels it necessary to form a cooperative waterflood project comprising the applicant's three leases, rename the Gissler B-11 Project, and establish a horizontal boundary for the project. Also, since this particular area overlaps the Grayburg Jackson San Andres Unit where the injection zone is restricted to the San Andres formation, the redesignated "Gissler" projection should have established within its horizontal extent varying vertical limits so that the unitized area will not be affected.

(11) The horizontal extent of Burnett's Gissler leases located in Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico is as follows:

GISSLER LEASE (NM-2746)

Section 11: SW/4 SE/4

GISSLER "A" LEASE (LC-029338)

Section 11: SE/4 SE/4

Section 12: SW/4 SW/4

Section 14: N/2 NE/4

GISSLER "B" LEASE (NM-2748)

Section 11: W/2 NE/4, W/2, N/2 SE/4

Section 12: E/2 NW/4

Section 14: N/2 NW/4

GISSLER "B" LEASE (NM-074939)

Section 12: N/2 SW/4

Section 14: S/2 NW/4

(12) The Grayburg Jackson San Andres Unit comprises the following acreage in said Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico:

Section 11: SE/4 SE/4

Section 12: NE/4 and S/2

Section 13: All

Section 14: E/2, S/2 NW/4, N/2 SW/4, and SE/4 SW/4

Section 23: N/2 NE/4

Section 24: NE/4, N/2 NW/4, and SE/4 NW/4

(13) The Gissler B-11 Waterflood Project authorized by said Order No. R-4676 should be redesignated the Gissler Cooperative Lease Waterflood Project and should comprise the areal extent described in Finding Paragraph No. (11) above; however injection in that portion of the redesignated area enveloping the Grayburg Jackson San Andres Unit should be restricted to the Grayburg formation. Anywhere outside the overlapping area can be extended to both the Grayburg and San Andres formations.

(14) Injection into the No. 12 well should be accomplished through 2 3/8-inch plastic-lined tubing installed in a packer to be set at approximately 2930 feet, with reinjection of produced water from the Grayburg Jackson San Andres Unit into the perforated interval from approximately 2980 to 3009 feet.

(15) Injection into the No. 13 well should be accomplished through 2 3/8-inch plastic-lined tubing installed in a packer to be set at approximately 2779 feet, with reinjection of produced water from the Grayburg Jackson San Andres Unit into the perforated interval from approximately 2829 feet to 2928 feet.

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

(17) The casing-tubing annulus for both wells should be filled with an inert fluid; and a pressure gauge or approved leak-detection device should be attached to the annulus in order to determine leaks in the casing, tubing or packer.

(18) The injection wells or pressurization system for each well should be so equipped as to limit injection pressure at the wellhead to no more than 570 psi.

(19) Prior to commencing injection operations, the casing in each of the subject wells should be pressure-tested throughout the interval, from the surface down to the proposed packer-setting depth, to assure integrity of such casing.

(20) The Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected waters from the Grayburg formation.

(21) Both wells should be governed by the applicable provisions of Rules 702 through 708 of the Division General Rules and Regulations.

(22) All provisions of previous Order No. R-4676 should remain in full force and effect until further notice.

(23) The operator should give advance notification to 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 pressure-test in order that the same may be witnessed.

IT IS THEREFORE ORDERED THAT:

(1) The Burnett Oil Company, Inc. Gissler B-11 Waterflood Project authorized by Division Order No. R-4676, dated November 20, 1973, is hereby redesignated the Gissler Cooperative Lease Waterflood Project and shall comprise the indicated vertical limits underlying the following area in Township 17 South, Range 30 East, NMPM, Grayburg-Jackson Pool, Eddy County, New Mexico:

GRAYBURG AND SAN ANDRES FORMATIONS

Section 11: W/2 NE/4, W/2, N/2 SE/4, and SW/4 SE/4
Section 12: E/2 NW/4
Section 14: N/2 NW/4

GRAYBURG FORMATION ONLY

Section 11: SE/4 SE/4
Section 12: N/2 SW/4 and SW/4 SW/4
Section 14: N/2 NE/4 and S/2 NW/4

(2) The applicant, Burnett Oil Company, Inc., is hereby authorized to expand said project by converting its Gissler "A" Well Nos. 12 and 13 located, respectively, in Unit P of said Section 11 and Unit B of said Section 14 from producing oil wells to water injection wells in the Grayburg formation only.

(3) Injection into the No. 12 well shall be accomplished through 2 3/8-inch plastic-lined tubing installed in a packer to be set at approximately 2930 feet, with reinjection of produced water from the Grayburg Jackson San Andres Unit into the perforated interval from approximately 2980 to 3009 feet.

(4) Injection into the No. 13 well shall be accomplished through 2 3/8-inch plastic-lined tubing installed in a packer to be set at approximately 2779 feet, with reinjection of produced water from the Grayburg Jackson San Andres Unit into the perforated interval from approximately 2829 feet to 2928 feet.

(5) The casing-tubing annulus for both wells shall be filled with an inert fluid; and a pressure gauge shall be attached to the annulus or the annulus shall be equipped with an approved leak-detection device in order to determine leakage in the casing, tubing or packer.

(6) Prior to commencing injection operations, the casing in each of the subject wells shall be pressure-tested to assure the integrity of such casing in a manner that is satisfactory to the supervisor of the Division's Artesia District Office.

(7) The injection wells or pressurization system shall be equipped with a pressure-limiting switch or other acceptable device which will limit the wellhead pressure to no more than 570 psi.

(8) 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 formation.

(9) The operator shall notify the supervisor of the Artesia District Office of the Division in advance of the date and time of the installation of injection equipment and of the mechanical integrity pressure-test in order that the same may be witnessed.

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

(11) Both wells shall be governed by the applicable provisions of Rules 702 through 708 of the Division Rules and Regulations.

(12) Monthly progress reports shall be submitted to the Division in accordance with Rules 706 and 1115.

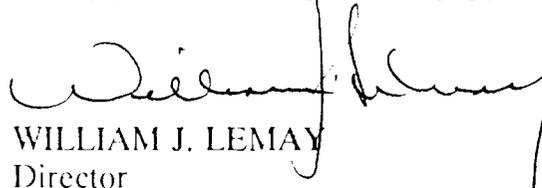
(13) The portion of this application seeking to expand its Grayburg Jackson San Andres Unit Waterflood Project to include both wells by extending the injection intervals into the San Andres formation as well shall be dismissed.

(14) Jurisdiction of this cause 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


WILLIAM J. LEMAY
Director



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

BRUCE KING
GOVERNOR

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SANTA FE, NEW MEXICO 87504
(505) 827-5800

ADMINISTRATIVE ORDER NO. WFX-604

APPLICATION OF BURNETT OIL COMPANY, INC. TO EXPAND ITS WATERFLOOD PROJECT IN THE GRAYBURG JACKSON SEVEN RIVERS QUEEN GRAYBURG SAN ANDRES POOL IN EDDY COUNTY, NEW MEXICO

**ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION**

Under the provisions of Division Order No. R-4676, Burnett Oil Company, Inc. has made application to the Division on November 21, 1990 for permission to expand its Gissler B-11 Waterflood Project in the Grayburg Jackson Seven Rivers Queen Grayburg San Andres Pool in Eddy County, New Mexico.

NOW, on this 12th day of February, 1991, the Division Director finds that:

- (1) The application has been filed in due form.
- (2) Satisfactory information has been provided that all offset operators have been duly notified of the application.
- (3) No objection has been received within the waiting period as prescribed by Rule 701(B).
- (4) The proposed injection wells are eligible for conversion to water injection under the terms of Rule 701.
- (5) The proposed expansion of the above-referenced waterflood project will not cause waste nor impair correlative rights.
- (6) The application should be approved.

IT IS THEREFORE ORDERED THAT:

The applicant, Burnett Oil Company, Inc., be and the same is hereby authorized to inject water into the Seven Rivers-Queen-Grayburg-San Andres formation at approximately 2786 feet to approximately 3513 feet through 2 3/8-inch plastic lined tubing set in a packer located approximately 100 feet above the uppermost injection perforation in the wells shown

on Exhibit "A" attached hereto for purposes of secondary recovery.

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 in each well shall be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

Prior to commencing injection operations into any injection well located within ½-mile of the Grayburg-Jackson San Andres Unit Well No. 39 located 1750' FSL & 2150' FWL (Unit K) of Section 14, Township 17 South, Range 30 East, NMPM, said well shall be repaired or plugged and abandoned in a manner satisfactory to the supervisor of the Artesia District Office of the Division.

The casing-tubing annulus in each well 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 system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection wells to no more than that shown on Exhibit "A".

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 Seven Rivers-Queen-Grayburg-San Andres formation. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

The operator shall notify the supervisor of the Artesia district office of the Division of the date and time of the installation of injection equipment, of repair or plugging operation on the above-described well and of the mechanical integrity tests so that the same may be inspected and witnessed.

The operator shall immediately notify the supervisor of the Artesia 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.

*Administrative Order WFX-604
Burnett Oil Company, Inc.
February 13, 1991
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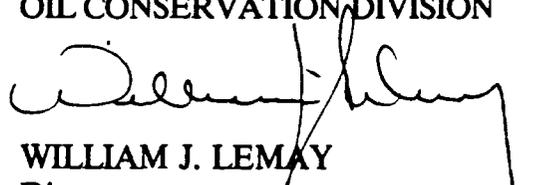
The subject wells shall be governed by all provisions of Division Order No. R-4676 and Rules 701-708 of the Division Rules and Regulations not inconsistent herewith.

PROVIDED FURTHER THAT, jurisdiction of this cause is hereby retained by the Division for the entry of such further order or orders as may be deemed necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of the operator to conduct operations in a manner which will ensure the protection of fresh water or in a manner inconsistent with the requirements set forth in this order, the Division may, after notice and hearing, terminate the injection authority granted herein.

The operator shall submit monthly progress reports of the project in accordance with Rules 706 and 1115 of the Division Rules and Regulations.

Approved at Santa Fe, New Mexico, on this 12th day of February, 1991.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY
Director

S E A L

cc: Oil Conservation Division - Artesia
R. Brown

EXHIBIT "A"
BURNETT OIL COMPANY, INC.
GISSLER B-11 WATERFLOOD PROJECT
INJECTION WELLS
ADMINISTRATIVE ORDER WFX-604

Well Number	Location	Unit	S-T-R	Injection Perforations	Packer Depth	Tubing Size	Injection Pressure
Gissler "B" No. 16	1980' FSL & 660' FWL	L	11-17S-30E	2863' - 3122'	2813'	2-3/8	573 PSIG
Gissler "B" No. 18	1980'FSL & 1980' FEL	J	11-17S-30E	2982' - 3468'	2932'	2-3/8	596 PSIG
Gissler "B" No. 21	1980' FNL - 1980' FWL	F	12-17S-30E	2896' - 3463'	2846'	2-3/8	579 PSIG
Gissler "B" No. 22	660' FSL - 1880' FWL	N	11-17S-30E	2903' - 3513'	2853'	2-3/8	581 PSIG
Gissler "B" No. 23	660' FNL - 660' FWL	D	14-17S-30E	2827' - 3430'	2777'	2-3/8	565 PSIG
Gissler "B" No. 26	1980' FNL - 1980' FWL	F	14-17S-30E	2786' - 2891'	2736'	2-3/8	557 PSIG
Gissler "B" No. 27	1980' FSL - 685' FWL	L	12-17S-30E	2981' - 3031'	2931'	2-3/8	596 PSIG

GRAYLUNG JACKSON (SAN ANDRES) UNIT AREA

No. 14-08-0001-8867

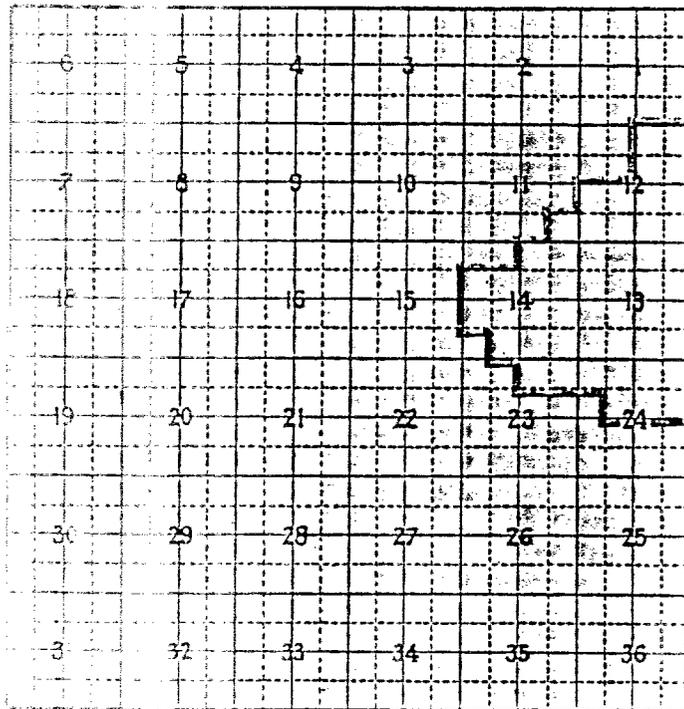
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EFFECTIVE: August 1, 1967

WATERFLOOD

San Andres Formation
Eddy County, New Mexico

Burnet Oil Company, Inc., Operator



R 30 E

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2,000 acres