



# 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 NO. WFX-823*

***APPLICATION OF CHEVRON USA, INC. TO EXPAND ITS ENHANCED OIL TERTIARY  
RECOVERY PROJECT IN THE VACUUM GRAYBURG-SAN ANDRES POOL IN LEA COUNTY,  
NEW MEXICO***

**ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION**

Under the provisions of Division Order No. R-4442, as amended, Chevron USA, Inc. has made application to the Division on September 22, 2006 for authorization to expand its Vacuum Grayburg San Andres Unit Enhanced Oil Tertiary Recovery Project in the Vacuum Grayburg-San Andres Pool in Lea County, New Mexico.

**THE DIVISION DIRECTOR FINDS THAT:**

- (1) The application was filed in due form.
- (2) Satisfactory information was provided to demonstrate that all offset operators and surface owner have been provided notice of the application.
- (3) No objection has been received within the waiting period as prescribed by Rule 701(C).
- (4) The proposed injection well is eligible for conversion to injection under the terms of Rule 701.
- (5) The proposed expansion of the above-referenced enhanced oil tertiary recovery project will not cause waste nor impair correlative rights.
- (6) The application should be approved.

**IT IS THEREFORE ORDERED THAT:**

The applicant, Chevron USA, Inc., is hereby authorized to inject water, CO<sub>2</sub> and produced gas into the Grayburg-San Andres formation, Vacuum Grayburg-San Andres Pool, through selected perforations within the unitized interval from 3,977 feet to 4,909 feet using 2-7/8-inch fiberglass-lined

tubing set in a packer located within 100 feet of the uppermost injection perforations in the following-described well for purposes of tertiary recovery to wit:

**Vacuum Grayburg San Andres Unit Well No. 250 (API No. 30-025-38001)**

1443' FNL & 1286' FEL (Unit H) Section 1, Township 18 South, Range 34 East;

Injection Interval: Selective Perforations within the Unitized Interval

Maximum Surface Injection Pressure: Water-1,730 psi

CO<sub>2</sub> & produced gas-1,850 psi

**IT IS FURTHER ORDERED THAT:**

The operator shall take all steps necessary to ensure that the injected fluid 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 well, 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 well or pressurization system shall be equipped with a pressure limiting device that will limit the wellhead injection pressure to 1,730 psi for water and 1850 psi for CO<sub>2</sub> & produced gas.

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Vacuum Grayburg-San Andres Pool. 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 Hobbs OCD of the date and time of the installation of injection equipment in the injection well and of the mechanical integrity test so that these operations may be inspected and witnessed.

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

The subject well shall be governed by all provisions of Division Order No. R-4442, as amended, 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.

DONE at Santa Fe, New Mexico, on this 23rd day of October, 2006.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



MARK E. FESMIRE, P.E.  
Director

S E A L

MEF/drc

cc: Oil Conservation Division – Hobbs



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

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***APPLICATION OF CHEVRON USA, INC. TO EXPAND ITS ENHANCED OIL TERTIARY  
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NEW MEXICO***

**ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION**

Under the provisions of Division Order No. R-4442, as amended, Chevron USA, Inc. has made application to the Division on September 22, 2006 for authorization to expand its Vacuum Grayburg San Andres Unit Enhanced Oil Tertiary Recovery Project in the Vacuum Grayburg-San Andres Pool in Lea County, New Mexico.

**THE DIVISION DIRECTOR FINDS THAT:**

- (1) The application was filed in due form.
- (2) Satisfactory information was provided to demonstrate that all offset operators and surface owner have been provided notice of the application.
- (3) No objection has been received within the waiting period as prescribed by Rule 701(C).
- (4) The proposed injection well is eligible for conversion to injection under the terms of Rule 701.
- (5) The proposed expansion of the above-referenced enhanced oil tertiary recovery project will not cause waste nor impair correlative rights.
- (6) The application should be approved.

**IT IS THEREFORE ORDERED THAT:**

The applicant, Chevron USA, Inc., is hereby authorized to inject water, CO<sub>2</sub> and produced gas into the Grayburg-San Andres formation, Vacuum Grayburg-San Andres Pool, through selected perforations within the unitized interval from 3,977 feet to 4,909 feet using 2-7/8-inch fiberglass-lined

tubing set in a packer located within 100 feet of the uppermost injection perforations in the following-described well for purposes of tertiary recovery to wit:

**Vacuum Grayburg San Andres Unit Well No. 250 (API No. 30-025-38001)**

1443' FNL & 1286' FEL (Unit H) Section 1, Township 18 South, Range 34 East;

Injection Interval: Selective Perforations within the Unitized Interval

Maximum Surface Injection Pressure: Water-1,730 psi

CO<sub>2</sub> & produced gas-1,850 psi

**IT IS FURTHER ORDERED THAT:**

The operator shall take all steps necessary to ensure that the injected fluid 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 well, 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 well or pressurization system shall be equipped with a pressure limiting device that will limit the wellhead injection pressure to 1,730 psi for water and 1850 psi for CO<sub>2</sub> & produced gas.

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Vacuum Grayburg-San Andres Pool. 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 Hobbs OCD of the date and time of the installation of injection equipment in the injection well and of the mechanical integrity test so that these operations may be inspected and witnessed.

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

The subject well shall be governed by all provisions of Division Order No. R-4442, as amended, 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.

DONE at Santa Fe, New Mexico, on this 23rd day of October, 2006.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



MARK E. FESMIRE, P.E.  
Director

S E A L

MEF/drc

cc: Oil Conservation Division – Hobbs



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON  
Governor  
Jennifer A. Salisbury  
Cabinet Secretary

FOR RECORD ONLY

Lori Wrotenbery  
Director  
Oil Conservation Division

ADMINISTRATIVE ORDER NO. PMX-216

***APPLICATION OF TEXACO EXPLORATION & PRODUCTION, INC. TO EXPAND  
ITS TERTIARY RECOVERY PROJECT IN THE VACUUM-GRAYBURG SAN  
ANDRES POOL IN LEA COUNTY, NEW MEXICO***

**ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION**

Under the provisions of Division Order No. R-4442, as amended, Texaco Exploration & Production, Inc. has made application to the Division on June 19, 2001, for permission to expand its Vacuum Grayburg San Andres Unit Tertiary Recovery Project in Vacuum-Grayburg San Andres Pool in Lea County, New Mexico.

**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 injection under the terms of Rule 701.
- (5) The proposed expansion of the above referenced tertiary recovery project will not cause waste nor impair correlative rights.
- (6) The application should be approved.

**IT IS THEREFORE ORDERED THAT:**

The applicant, Texaco Exploration & Production, Inc., is hereby authorized to inject water, carbon dioxide (CO<sub>2</sub>), and produced gas into the Grayburg and San Andres

formations at approximately 4150 feet to approximately 4700 feet through 2 7/8-inch fiberglass lined tubing set in a packer located approximately 100 feet above the uppermost injection perforations in the following described wells for purposes of tertiary recovery injection:

**Vacuum Grayburg San Andres Unit No. 135**

API No. N/A

2535' FNL & 1930' FEL, (Unit G)

Section 1, Township 18 South, Range 34 East, NMPM

**Vacuum Grayburg San Andres Unit No. 235**

API No. N/A

2610' FNL & 660' FEL, (Unit H)

Section 1, Township 18 South, Range 34 East, NMPM

**Vacuum Grayburg San Andres Unit No. 249**

API No. N/A

1390' FNL & 2530' FWL, (Unit F)

Section 1, Township 18 South, Range 34 East, NMPM

**IT IS FURTHER ORDERED THAT:**

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

Prior to commencing injection operations, the casing in each well 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 system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than:

830 psig for water injection

1170 psig for CO<sub>2</sub> injection

The Director of the Division may authorize an increase in injection pressure upon a



proper showing by the operator that such higher pressure will not result in migration of the injected fluid from the Grayburg and San Andres formations.

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.

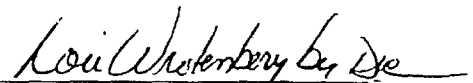
The subject wells shall be governed by all provisions of Division Order No. R-4442, as amended, and Rules 702-706 of the Division Rules and Regulations not inconsistent herewith.

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 for the wells granted herein shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the wells, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

DONE at Santa Fe, New Mexico, on this 3rd day of October, 2001.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



LORI WROTENBERY  
Director

SEAL

LW/DRC

cc: Oil Conservation Division - Hobbs /



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON  
Governor  
Jennifer A. Salisbury  
Cabinet Secretary

Lori Wrotenbery  
Director  
Oil Conservation Division

ADMINISTRATIVE ORDER NO. PMX-217

## ***APPLICATION OF TEXACO EXPLORATION & PRODUCTION, INC. TO EXPAND ITS TERTIARY RECOVERY PROJECT IN THE VACUUM-GRAYBURG SAN ANDRES POOL IN LEA COUNTY, NEW MEXICO***

### **ADMINISTRATIVE ORDER OF THE OIL CONSERVATION DIVISION**

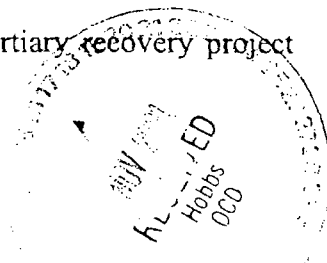
Under the provisions of Division Order No. R-4442, as amended, Texaco Exploration & Production, Inc. has made application to the Division on October 26, 2001, for permission to expand its Vacuum Grayburg San Andres Unit Tertiary Recovery Project in Vacuum-Grayburg San Andres Pool in Lea County, New Mexico.

#### **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 well is eligible for conversion to injection under the terms of Rule 701.
- (5) The proposed expansion of the above referenced tertiary recovery project will not cause waste nor impair correlative rights.
- (6) The application should be approved.

#### **IT IS THEREFORE ORDERED THAT:**

The applicant, Texaco Exploration & Production, Inc., is hereby authorized to inject water, carbon dioxide (CO<sub>2</sub>), and produced gas into the Grayburg and San Andres



formations at approximately 4250 feet to approximately 4730 feet through 2 7/8-inch fiberglass lined tubing set in a packer located approximately 100 feet above the 5 1/2 inch casing shoe in the following described well for purposes of tertiary recovery injection:

**Vacuum Grayburg San Andres Unit No. 133**  
API No. N/A  
2590' FNL & 1270' FWL, (Unit E)  
Section 1, Township 18 South, Range 34 East, NMPM

IT IS FURTHER ORDERED THAT:

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

Prior to commencing injection operations, 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.

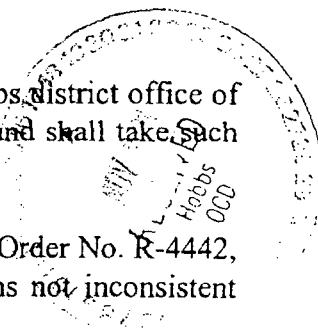
The injection well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than:

850 psig for water injection  
1200 psig for CO<sub>2</sub> injection

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected fluid from the Grayburg and San Andres formations.

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 well and shall take such steps as may be timely and necessary to correct such failure or leakage.

The subject well shall be governed by all provisions of Division Order No. R-4442, as amended, and Rules 702-706 of the Division Rules and Regulations not inconsistent herewith.

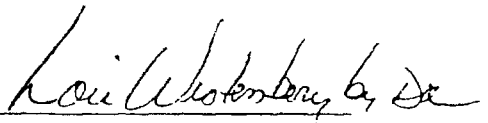


PROVIDED FURTHER THAT, jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh water or (2) consistent with the requirements 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 well, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

DONE at Santa Fe, New Mexico, on this 13th day of November, 2001.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
LORI WROTENBERY  
Director

SEAL

LW/DRC

cc: Oil Conservation Division - Hobbs /

