

ABOVE THIS LINE FOR DIVISION USE ONLY

**NEW MEXICO OIL CONSERVATION DIVISION**  
 - Engineering Bureau -  
 1220 South St. Francis Drive, Santa Fe, NM 87505



30-025-36011

**ADMINISTRATIVE APPLICATION CHECKLIST**

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

**Application Acronyms:**

- [NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
- [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
- [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
- [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
- [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
- [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

- [A] Location - Spacing Unit - Simultaneous Dedication  
 NSL  NSP  SD

- PMX  
 - Occidental Permian Ltd  
 15784

Check One Only for [B] or [C]

- [B] Commingling - Storage - Measurement  
 DHC  CTB  PLC  PC  OLS  OLM

W 211  
 - North Hobbs  
 GISA unit # 9234  
 30-015-36011

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery  
 WFX  PMX  SWD  IPI  EOR  PPR

- [D] Other: Specify Additional Injector within approved project area (R-6199-F)

- North Hobbs  
 GISA unit # 111  
 30-025-07375

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or Does Not Apply

- [A]  Working, Royalty or Overriding Royalty Interest Owners
- [B]  Offset Operators, Leaseholders or Surface Owner
- [C]  Application is One Which Requires Published Legal Notice
- [D]  Notification and/or Concurrent Approval by BLM or SLO  
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E]  For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F]  Waivers are Attached

- North Hobbs  
 GISA unit # 944  
 30-025-35999  
 P001  
 - Hobbs,  
 GR Arbans -

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

April Hood Print or Type Name	<u>April Hood</u> Signature	Regulatory Specialist Title	09/18/17 Date
		April.Hood@Oxy.com e-mail Address	

San Andres  
 31920



**Occidental Permian LTD.**

A subsidiary of Occidental Petroleum Corporation

5 Greenway Plaza, Suite 110, Houston, Texas 77046-0521  
P.O. Box 27570, Houston, Texas 77227-7570  
Phone 713.215.7000

September 18, 2017

State of New Mexico  
Energy, Minerals & Natural Resources Department  
Oil Conservation Division  
1220 S. St. Frances Dr.  
Santa Fe, NM 87505

RE: Pressure Maintenance Project  
North Hobbs Unit  
Well No. 944  
API 30-025-35999  
Letter I, Section 29, T-18S, R-38E  
Lea County, NM

RECEIVED OGD  
2017 SEP 20 A 10: 11

To Mr. Richard Ezeanyim, Chief Engineer:

Occidental Permian Ltd. respectfully request administrative approval, without hearing, to commence injection (water, CO<sub>2</sub>, and produced gas) per the authorized Order No. R-6199-F. In support of this request please find the following documentation:

- Administrative Application Checklist
- Form C-108 with miscellaneous data attached
- An Injection Well Data Sheet with Wellbore Schematic
- Form C-102
- Map

\*\*\* Per Order No. R-6199-F, this application is eligible for administrative approval without notice or hearing \*\*\*

If you have any questions regarding this application, please contact me at 713-366-5771 or email [april\\_hood@oxy.com](mailto:april_hood@oxy.com).

Sincerely,

April Hood  
Regulatory Specialist

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: Secondary Recovery  Pressure Maintenance Disposal  Storage  
Application qualifies for administrative approval?  Yes  No
- II. OPERATOR: Occidental Permian LTD.  
ADDRESS: PO Box 4294 Houston, TX 77210  
CONTACT PARTY: April Hood PHONE: 713-366-5771
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.  
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project?  Yes  No  
If yes, give the Division order number authorizing the project: R-6199-F (May 22, 2014)
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
- Proposed average and maximum daily rate and volume of fluids to be injected;
  - Whether the system is open or closed;
  - Proposed average and maximum injection pressure;
  - Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  - If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- \*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: April Hood TITLE: Regulatory Specialist  
SIGNATURE:  DATE: 09/18/17  
E-MAIL ADDRESS: April\_Hood@Oxy.com
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted.  
Please show the date and circumstances of the earlier submittal: Case No. 15103 Order R6199-F - Effective May 22, 2014

### III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

### XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

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NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

**INJECTION WELL DATA SHEET**

OPERATOR: Occidental Permian LTD.

WELL NAME & NUMBER: North Hobbs Unit 20-111

WELL LOCATION: 330 FNL & 330 FWL      D      20      18-S      38-E  
 FOOTAGE LOCATION      UNIT LETTER      SECTION      TOWNSHIP      RANGE

**WELLBORE SCHEMATIC**

**WELL CONSTRUCTION DATA**

- see additional production casing and production liner information on well bore diagram

Surface Casing  
 Hole Size: 16"      Casing Size: 12"  
 Cemented with: 500 sx.      or \_\_\_\_\_ ft<sup>3</sup>  
 Top of Cement: 1355'      Method Determined: \_\_\_\_\_

**Intermediate Casing**

Hole Size: 11 3/4"      Casing Size: 9"  
 Cemented with: 500 sx.      or \_\_\_\_\_ ft<sup>3</sup>  
 Top of Cement: 1355'      Method Determined: Calculation

**Production Casing**

Hole Size: 8 3/4"      Casing Size: 7"  
 Cemented with: 200 sx.      or \_\_\_\_\_ ft<sup>3</sup>  
 Top of Cement: 2831'      Method Determined: Calculation  
 Total Depth: 4365'

**Injection Interval**

4181'      feet to      4217' Perforated

(Perforated or Open Hole; indicate which)

**INJECTION WELL DATA SHEET**

Tubing Size: 2 3/8" Lining Material: \_\_\_\_\_

Type of Packer: \_\_\_\_\_

Packer Setting Depth: 3950'

Other Type of Tubing/Casing Seal (if applicable): \_\_\_\_\_

**Additional Data**

1. Is this a new well drilled for injection? \_\_\_\_\_ Yes  No

If no, for what purpose was the well originally drilled? Producer

2. Name of the Injection Formation: San Andres

3. Name of Field or Pool (if applicable): Hobbs; Grayburg - San Andres

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. \_\_\_\_\_

Squeezed with cement - 4181' - 4345'; Plugged back: 4242'-4270'

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: \_\_\_\_\_

Byers (Queen) @ +/- 3680

Glorieta @ +/- 5300



# NHU 20-111 Current Wellbore Diagram (as of August-2017)

\*Note: Diagram not to scale

API (10):

30-025-07375

Elevation: DF: 3662'  
GL: 3660.8'

## Well History:

**October 1932** – spud and complete, open hole production interval 4040'-4238'

**Feb 1934** – Acid treat open hole

**May 1955** – Installed / cemented 5" casing and perforate 4181'-4203'. Squeeze perms 4181'-4203' and perforate 4200'-08', acidize perms

**May 1973** – Cement squeeze 4093'-4234', drill open hole from 4238' - 4275'

**September 1974** – Drill to 4365' and install / cement 3-1/2" (actually 2-7/8") partial liner from 3977' – 4364' and perforate 4331' – 4345'. Dump frac sand 4333' 4355', cement from 4323' – 4333'. Add perms 4285' – 4311' (1 JSPF)

**December 1974** – Squeeze perms 4242'-4270', add perms 4266' -4270' (2 JSPF) and acid treat

### Only proposed work procedure found

**1980 – 1986** – multiple pump failures

**May 1989** – Add perms 4242' - 4250', 4252, 4257' (2JSPF)

**March 1994** – Well TA'd, determined 3 1/2" liner is actually 2 7/8" liner – *CIBP at 4200' w 35' cmt cap*

**November 2013** – Return to production, couldn't retrieve CIBP set during TA, pushed to 4271'. Added perms 4181'-4217' (4 JPSF) – *CIBP from 1994 - no cmt added or CIBP tested after pushing*

**September 2014** – ESP failure, replace pump

## Equipment in well:

Installed 09/2014: 2-3/8" tubing (116jts) and ESP, intake set at 3817'

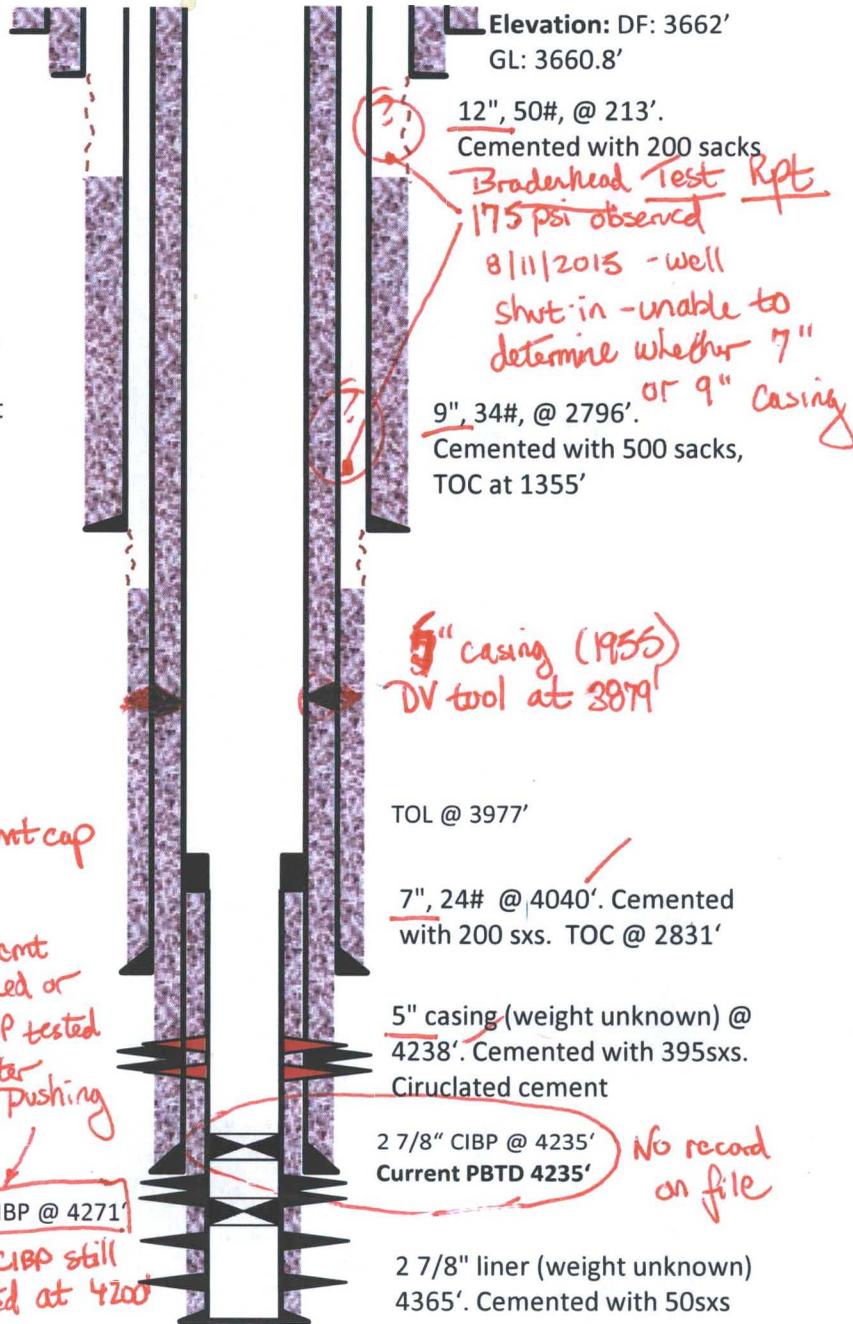


## Perforation Summary:

Open: 4181'-83', 4192'-4217'

Squeezed: 4181'-4203', 4200'-08', 4242'-4270', 4285' – 4311', 4331' – 4345',

Plugged Back: 4242'-50', 4250', 4257', 4266' - 4270'



TD – 4,365'

*\* August 2001 - "Replaced wellhead & 3' of 5" csg" - Note on MIT Chart dated 8/27/2001 no NOI or Subsequent*



# NHU 20-111 Proposed Wellbore Diagram (as of September-2017)

\*Note: Diagram not to scale

API (10):

30-025-07375

## Well History:

**October 1932** – spud and complete, open hole production interval 4040’-4238’

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**November 2013** – Return to production, couldn’t retrieve CIBP set during TA, pushed to 4271’. Added perfs 4181’-4217’ (4 JPSF)

**September 2014** – ESP failure, replace pump

**October 2017** – Convert to Injection

## Equipment in well:

2-3/8” injection tubing with packer (depth TBD)

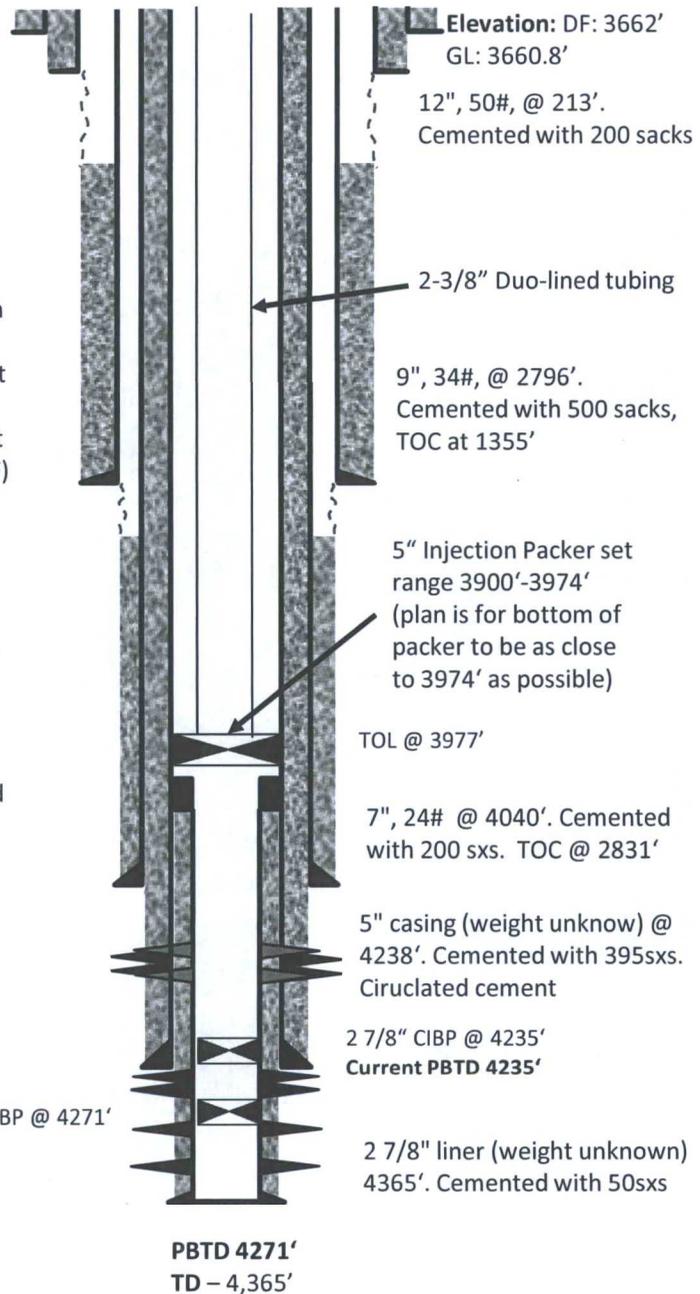
2 7/8” CIBP @ 4271’

## Perforation Summary:

Open: 4181’-83’, 4192’-4217’

Squeezed: 4181’-4203’, 4200’-08’, 4242’-4270’, 4285’ – 4311’, 4331’ – 4345’,

Plugged Back: 4242’-50’, 4250’, 4257’, 4266’ - 4270’



District I  
 25 N. French Dr., Hobbs, NM 88240  
 District II  
 101 W. Grand Avenue, Artesia, NM 88210  
 District III  
 100 Rio Brazos Rd., Aztec, NM 87410  
 District IV  
 20 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
 Energy, Minerals & Natural Resources

**HOBBS OCD**

Form C-102  
 Revised October 12, 2005

OIL CONSERVATION DIVISION  
 1220 South St. Francis Dr.  
 Santa Fe, NM 87505

MAR 17 2014

Appropriate District Office  
 State Lease - 4 Copies  
 Fee Lease - 3 Copies

**RECEIVED**

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-025-07375		<sup>2</sup> Pool Code 31920		<sup>3</sup> Pool Name Hobbs; Grayburg - San Andres	
<sup>4</sup> Property Code 19520		<sup>5</sup> Property Name North Hobbs G/SA Unit			<sup>6</sup> Well Number 111
<sup>7</sup> OGRID No. 157984		<sup>8</sup> Operator Name Occidental Permian Ltd.			<sup>9</sup> Elevation 3662' DF

<sup>10</sup> Surface Location

1/4 or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	20	18-S	38-E		330	North	330	West	Lea

<sup>11</sup> Bottom Hole Location If Different From Surface

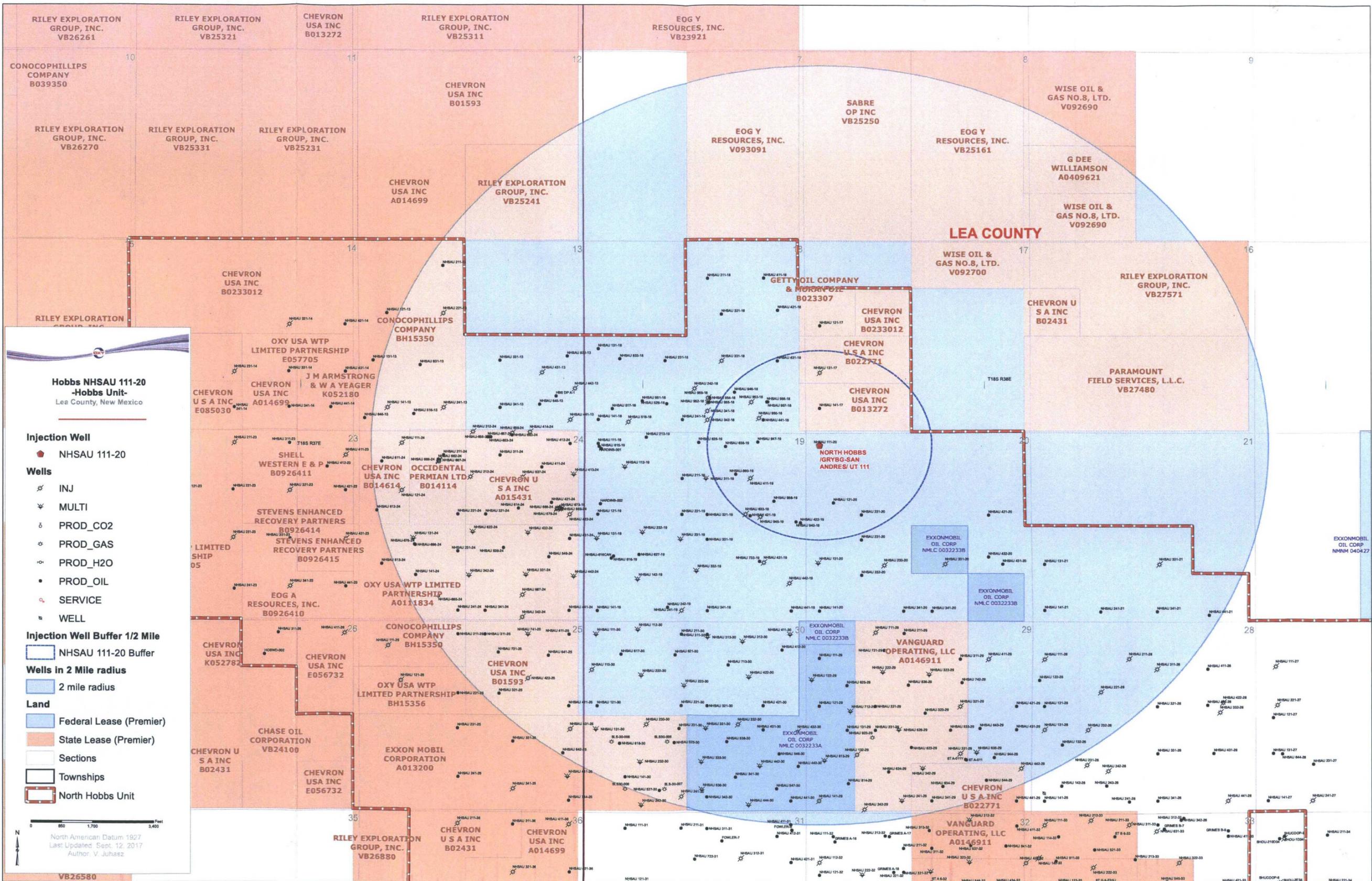
1/4 or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres 40	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

				<p><sup>17</sup> OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p style="text-align: right;">3/17/14</p> <p>Signature <u>Mark Stephens</u> Date</p> <p>Printed Name Mark Stephens</p>	
					<p><sup>18</sup> SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>Date of Survey</p> <p>Signature and Seal of Professional Surveyer</p>
				Certificate Number	

MAR 18 2014



**Hobbs NHSAU 111-20**  
**-Hobbs Unit-**  
 Lea County, New Mexico

**Injection Well**

- N18AU 111-20

**Wells**

- INJ
- MULTI
- PROD\_CO2
- PROD\_GAS
- PROD\_H2O
- PROD\_OIL
- SERVICE
- WELL

**Injection Well Buffer 1/2 Mile**

- N18AU 111-20 Buffer

**Wells in 2 Mile radius**

- 2 mile radius

**Land**

- Federal Lease (Premier)
- State Lease (Premier)
- Sections
- Townships
- North Hobbs Unit

North American Datum 1927  
 Last Updated: Sept. 12, 2017  
 Author: V. Juhasz

VB26580



**Occidental Permian LTD.**  
A subsidiary of Occidental Petroleum Corporation

5 Greenway Plaza, Suite 110, Houston, Texas 77046-0521  
P.O. Box 27570, Houston, Texas 77227-7570  
Phone 713.215.7000

September 18, 2017

State of New Mexico  
Energy, Minerals & Natural Resources Department  
Oil Conservation Division  
1220 S. St. Frances Dr.  
Santa Fe, NM 87505

RE: Pressure Maintenance Project  
North Hobbs Unit  
Well No. 111  
API 30-025-07375  
Letter D, Section 20, T-18S, R-38E  
Lea County, NM

RECEIVED OGD  
2017 SEP 20 A 10:11

To Mr. Richard Ezeanyim, Chief Engineer:

Occidental Permian Ltd. respectfully request administrative approval, without hearing, to commence injection (water, CO<sub>2</sub>, and produced gas) per the authorized Order No. R-6199-F. In support of this request please find the following documentation:

- Administrative Application Checklist
- Form C-108 with miscellaneous data attached
- An Injection Well Data Sheet with Wellbore Schematic
- Form C-102
- Map

\*\*\* Per Order No. R-6199-F, this application is eligible for administrative approval without notice or hearing \*\*\*

If you have any questions regarding this application, please contact me at 713-366-5771 or email [april\\_hood@oxy.com](mailto:april_hood@oxy.com).

Sincerely,

April Hood  
Regulatory Specialist

C-108 Application Attachment  
Occidental Permian Ltd.  
North Hobbs Unit No. 111  
Lea County, New Mexico

- V. Two maps are attached.
- VII. The area of review is attached.. If cement tops were not available, the top of cement was calculated using 1.32 cubic feet/sack of cement and 70% fill.
1. Average Injection Rate N/A  
Maximum Injection Rate 5000 BWPD / 10000
  - 2 This will be a closed system.
  3. Average Surface Injection Pressure N/A  
Maximum Surface Injection Pressure  
Produced Water 1100 PSI  
CO2 1250 PSI  
CO2 w/produced gas 1770 PSI  
(In accordance with Order No. R-4934-F, effective 7/18/13)
  4. Source Water – San Andres Produced Water  
(Analysis previously provided at hearing, Case No. 14981)
- IX. Acid treatment of injection interval may be performed during well workover (approximately 2000 gal. of 15% HCL)
- XII. NA. This is a pressure maintenance project, not a disposal well.
- XIII. Per Order No. R-4934-F, this application is eligible for administrative approval without notice or hearing.

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: Secondary Recovery  Pressure Maintenance Disposal  Storage  
Application qualifies for administrative approval? X Yes No
- II. OPERATOR: Occidental Permian LTD.  
ADDRESS: PO Box 4294 Houston, TX 77210  
CONTACT PARTY: April Hood PHONE: 713-366-5771
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Additional sheets may be attached if necessary.
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- NAME: April Hood TITLE: Regulatory Specialist  
SIGNATURE:  DATE: 09/18/17  
E-MAIL ADDRESS: April\_Hood@Oxy.com
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Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

**NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.**

---

**NOTICE:** Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

C-108 Application Attachment  
Occidental Permian Ltd.  
North Hobbs Unit No. 944  
Lea County, New Mexico

- V. Two maps are attached.
- VII. The area of review is attached.. If cement tops were not available, the top of cement was calculated using 1.32 cubic feet/sack of cement and 70% fill.
1. Average Injection Rate N/A  
Maximum Injection Rate 15000 BWPD / 30000
  2. This will be a closed system.
  3. Average Surface Injection Pressure N/A  
Maximum Surface Injection Pressure  
Produced Water 1100 PSI  
CO2 1250 PSI  
CO2 w/produced gas 1770 PSI  
(In accordance with Order No. R-4934-F, effective 7/18/13)
  4. Source Water – San Andres Produced Water  
(Analysis previously provided at hearing, Case No. 14981)
- IX. Acid treatment of injection interval may be performed during well workover (approximately 30000 gal. of 15% HCL)
- XII. NA. This is a pressure maintenance project, not a disposal well.
- XIII. Per Order No. R-4934-F, this application is eligible for administrative approval without notice or hearing.



**INJECTION WELL DATA SHEET**

Tubing Size: 4 - 1/2" Lining Material: Duoline

Type of Packer: 7" x 4 1-2" 17-26# AS1-X Double Grip injection Packer

Packer Setting Depth: 4950' MD

Other Type of Tubing/Casing Seal (if applicable): \_\_\_\_\_

**Additional Data**

1. Is this a new well drilled for injection? Yes  No

If no, for what purpose was the well originally drilled? Producer

2. Name of the Injection Formation: San Andres

3. Name of Field or Pool (if applicable): Hobbs; Grayburg - San Andres

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. No

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: \_\_\_\_\_

Byers (Queen) @ +/- 3680'

Glorieta @ +/- 5300'

**WELLBORE DIAGRAM**

(updated: 09/1/2017 CER)

Revision 0

WELL# North Hobbs Unit 29-944H

API# 30-025-35999

Zone: San Andres

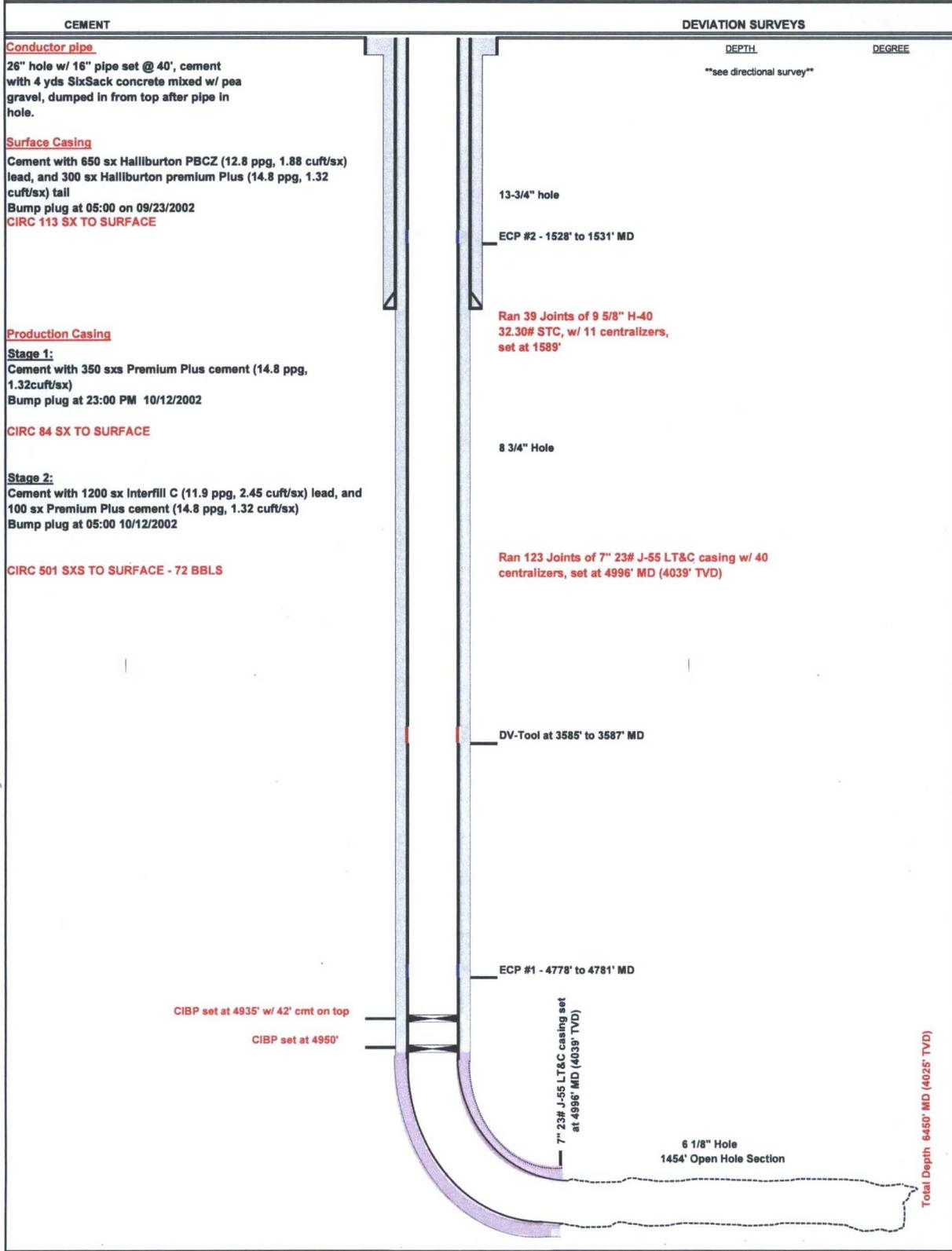
Spud: 09/21/2002

RR: 10/23/2002

GL elev

3644.00

**North Hobbs Unit 29-944H**



**WELLBORE DIAGRAM**

(updated: 09/1/2017 CER)

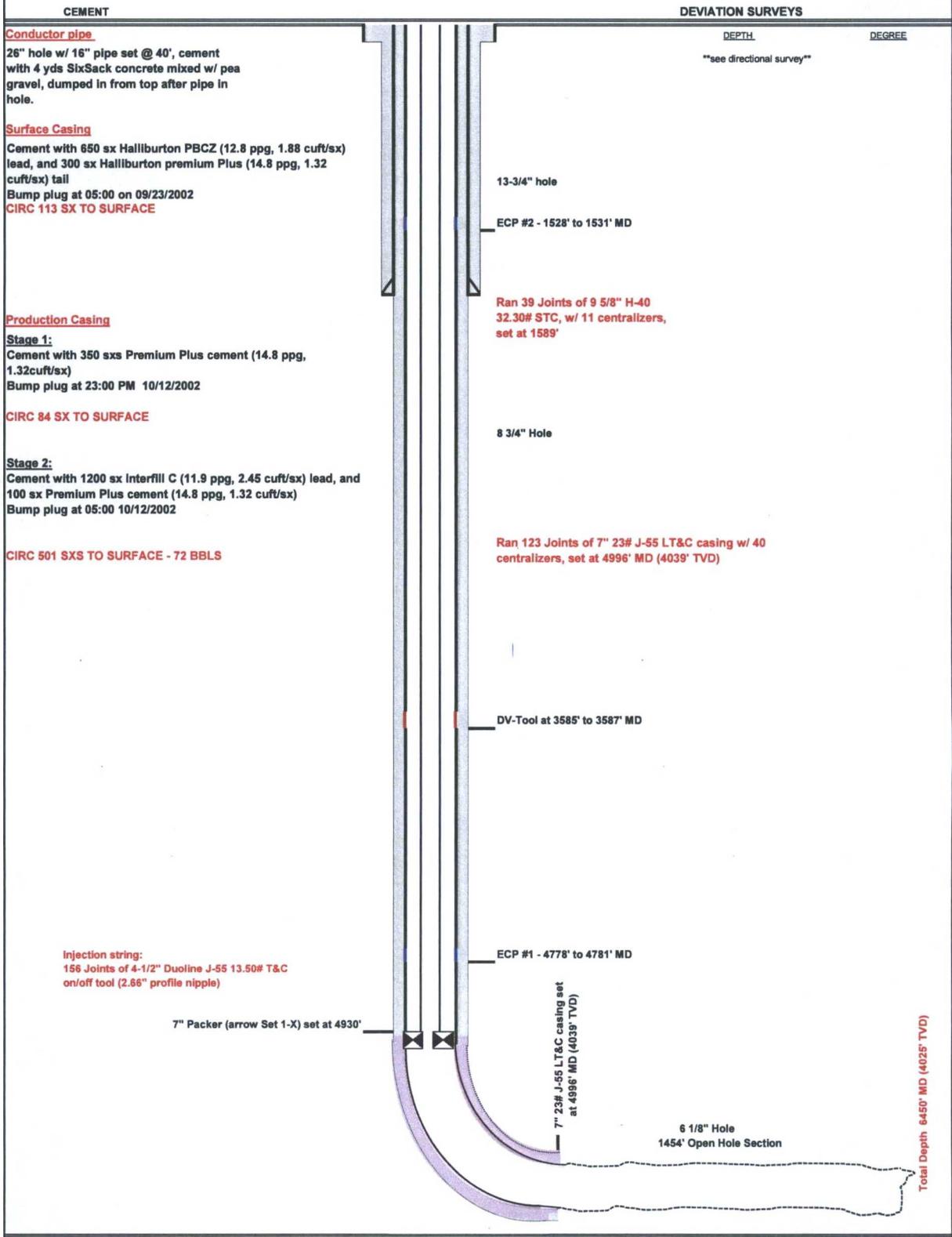
Revision 0

WELL# North Hobbs Unit 29-944H  
API# 30-025-35999

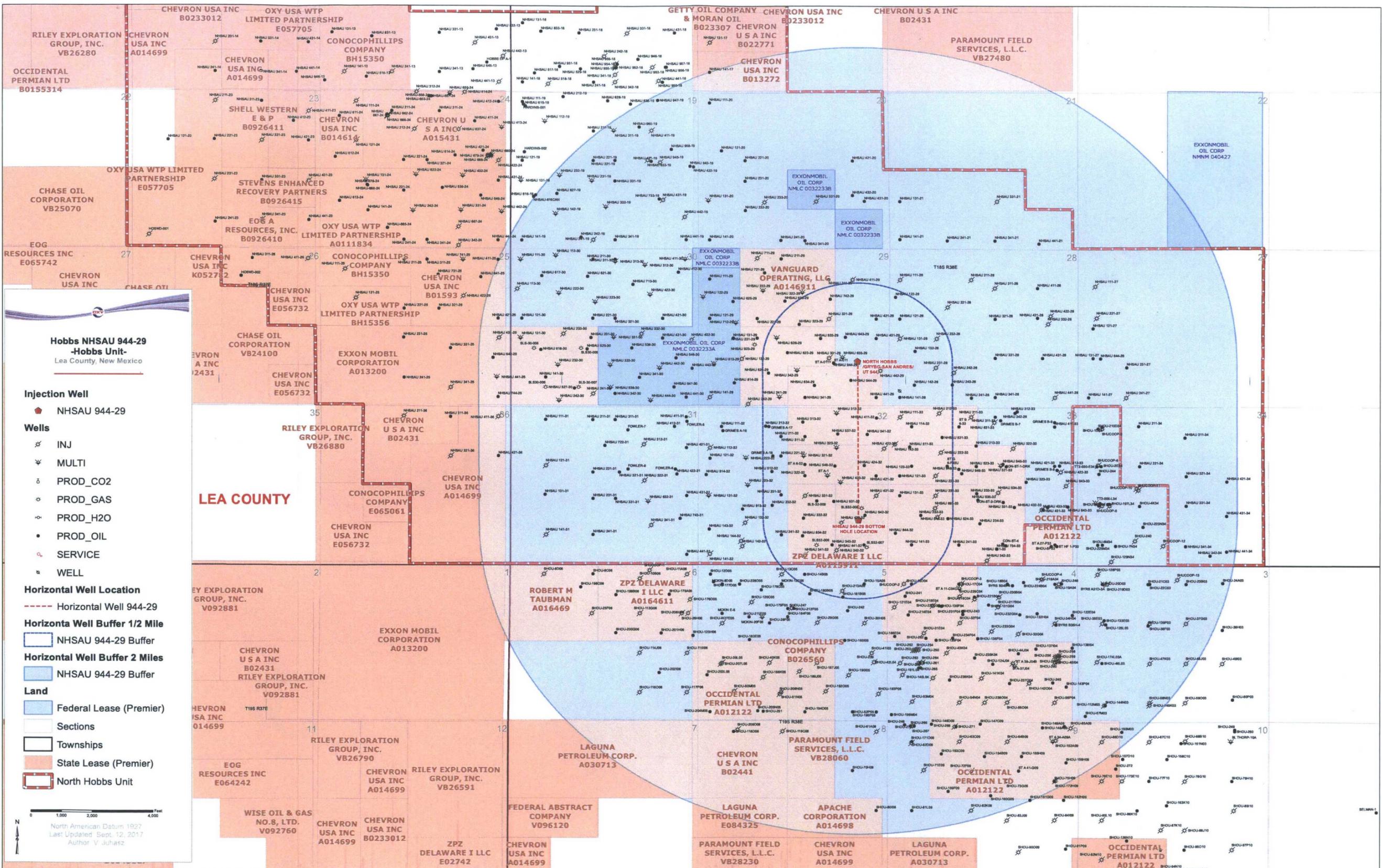
Zone: San Andres  
Spud: 09/21/2002  
RR: 10/23/2002

GL elev 3644.00

**North Hobbs Unit 29-944H**







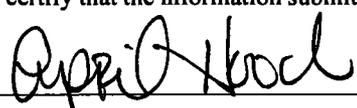
**Hobbs NHTSAU 944-29**  
**-Hobbs Unit-**  
 Lea County, New Mexico

- Injection Well**
- NHTSAU 944-29
- Wells**
- ✳ INJ
  - ✳ MULTI
  - PROD\_CO2
  - PROD\_GAS
  - PROD\_H2O
  - PROD\_OIL
  - SERVICE
  - WELL

- Horizontal Well Location**
- Horizontal Well 944-29
- Horizontal Well Buffer 1/2 Mile**
- NHTSAU 944-29 Buffer
- Horizontal Well Buffer 2 Miles**
- NHTSAU 944-29 Buffer
- Land**
- Federal Lease (Premier)
  - Sections
  - Townships
  - State Lease (Premier)
  - North Hobbs Unit

North American Datum 1927  
 Last Updated: Sept. 12, 2017  
 Author: V. Juhasz

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: Secondary Recovery  Pressure Maintenance Disposal  Storage  
Application qualifies for administrative approval? X Yes No
- II. OPERATOR: Occidental Permian LTD.  
ADDRESS: PO Box 4294 Houston, TX 77210  
CONTACT PARTY: April Hood PHONE: 713-366-5771
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.  
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project?  Yes  No  
If yes, give the Division order number authorizing the project: R-6199-F (May 22, 2014)
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
- Proposed average and maximum daily rate and volume of fluids to be injected;
  - Whether the system is open or closed;
  - Proposed average and maximum injection pressure;
  - Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  - If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- \*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: April Hood  TITLE: Regulatory Specialist  
SIGNATURE: \_\_\_\_\_ DATE: 09/18/17  
E-MAIL ADDRESS: April\_Hood@Oxy.com
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: Case No. 15103 Order R6199-F - Effective May 22, 2014

### III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

### XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

**NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.**

---

**NOTICE:** Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

C-108 Application Attachment  
Occidental Permian Ltd.  
North Hobbs Unit No. 923  
Lea County, New Mexico

- V. Two maps are attached.
- VII. The area of review is attached.. If cement tops were not available, the top of cement was calculated using 1.32 cubic feet/sack of cement and 70% fill.
1. Average Injection Rate N/A  
Maximum Injection Rate 15000 BWPDP / 30000
  - 2 This will be a closed system.
  3. Average Surface Injection Pressure N/A  
Maximum Surface Injection Pressure  
Produced Water 1100 PSI  
CO2 1250 PSI  
CO2 w/produced gas 1770 PSI  
(In accordance with Order No. R-4934-F, effective 7/18/13)
  4. Source Water – San Andres Produced Water  
(Analysis previously provided at hearing, Case No. 14981)
- IX. Acid treatment of injection interval may be performed during well workover (approximately 40000 gal. of 15% HCL)
- XII. NA. This is a pressure maintenance project, not a disposal well.
- XIII. Per Order No. R-4934-F, this application is eligible for administrative approval without notice or hearing.

## INJECTION WELL DATA SHEET

OPERATOR: Occidental Permian LTD.WELL NAME & NUMBER: North Hobbs Unit No. 923.

WELL LOCATION:	<u>2114' FSL &amp; 1568' FWL</u>	<u>K</u>	<u>29</u>	<u>18S</u>	<u>38E</u>
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATICWELL CONSTRUCTION DATASurface Casing

Hole Size: 13 - 3/4" Casing Size: 9 - 5/8"  
 Cemented with: 950 sx. *or* \_\_\_\_\_ ft<sup>3</sup>  
 Top of Cement: Surface Method Determined: Circulated

Intermediate Casing

Hole Size: 8 - 3/4" Casing Size: 7"  
 Cemented with: 1450 sx. *or* \_\_\_\_\_ ft<sup>3</sup>  
 Top of Cement: Surface. Method Determined: Circulated

Production Casing

Hole Size: 6 - 1/8" Casing Size: Open Hole  
 Cemented with: \_\_\_\_\_ sx. *or* \_\_\_\_\_ ft<sup>3</sup>  
 Top of Cement: \_\_\_\_\_ Method Determined: \_\_\_\_\_

Total Depth: 5161' MD (4049' TVD) to 7037' MD (4068' TVD)Injection Interval

5161' MD - (4049' TVD) feet to 7037' MD - (4068' TVD) - OPEN HOLE

(Perforated or Open Hole; indicate which)

**INJECTION WELL DATA SHEET**

Tubing Size: 4 - 1/2" Lining Material: Duoline

Type of Packer: 7" x 4 1-2" 17-26# AS1-X Double Grip injection Packer

Packer Setting Depth: 5100' MD

Other Type of Tubing/Casing Seal (if applicable): \_\_\_\_\_

**Additional Data**

1. Is this a new well drilled for injection? \_\_\_\_\_ Yes  No

If no, for what purpose was the well originally drilled? Producer

2. Name of the Injection Formation: San Andres

3. Name of Field or Pool (if applicable): Hobbs; Grayburg - San Andres

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. No

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: \_\_\_\_\_

Byers (Queen) @ +/- 3680'

Glorieta @ +/- 5300'

## WELLBORE DIAGRAM

(updated: 09/12/2017 CER)

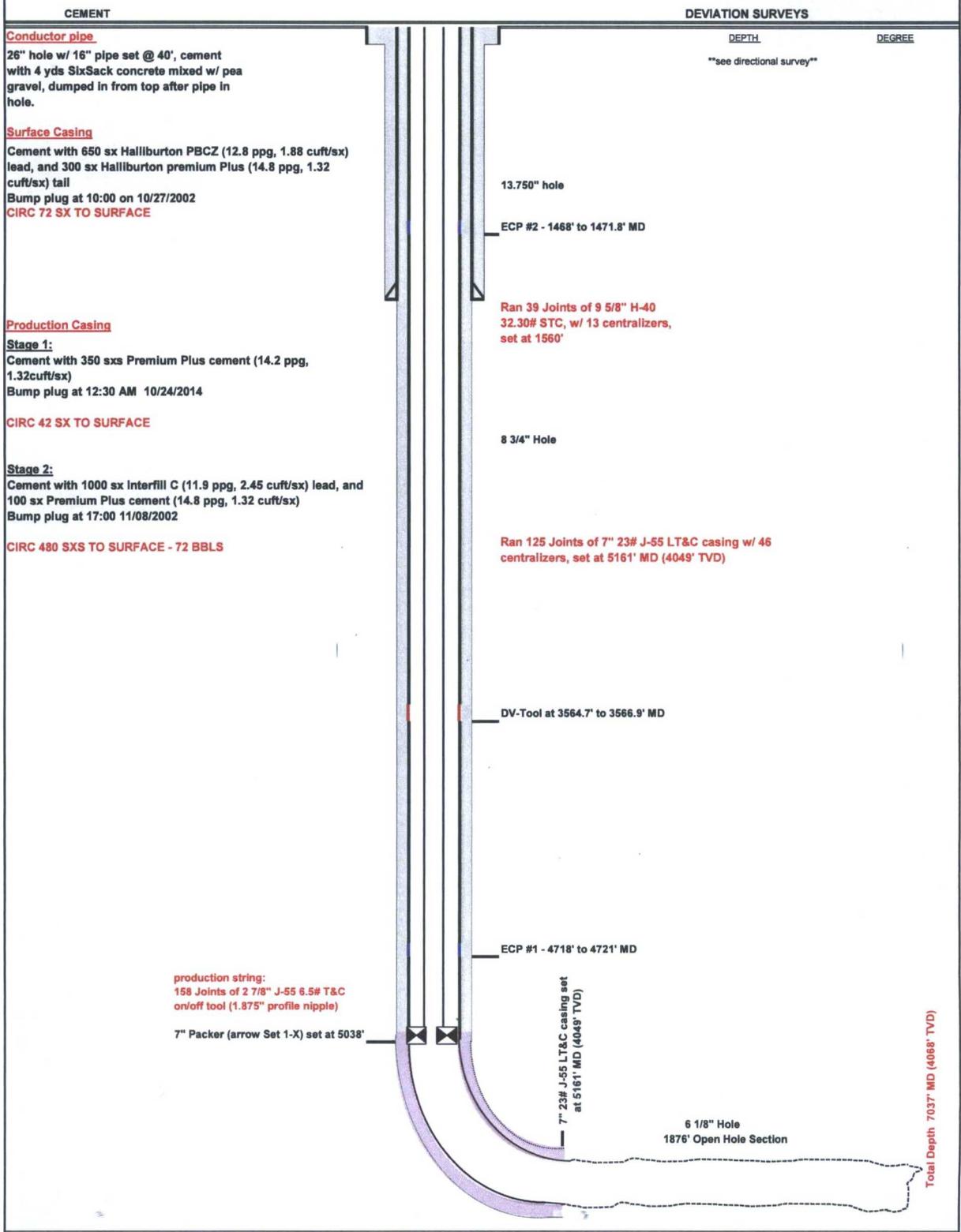
Revision 0

WELL# North Hobbs Unit 29-923H  
API# 30-025-36011

Zone: San Andres  
Spud: 10/25/2002  
RR: 11/21/2002

GL elev 3645.00

### North Hobbs Unit 29-923H



# WELLBORE DIAGRAM

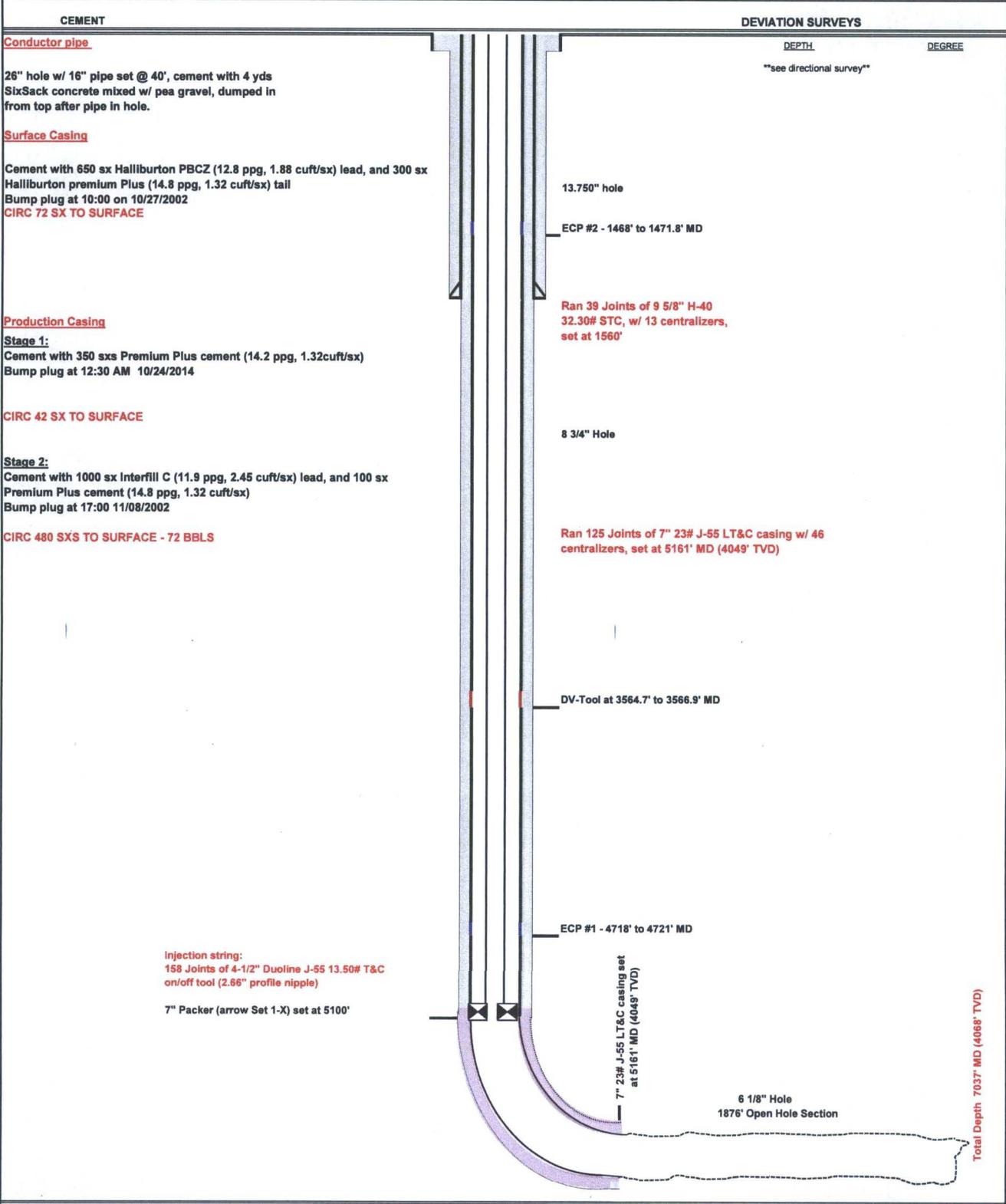
(updated: 09/1/2017 CER)  
Revision 0

WELL# North Hobbs Unit 29-923H  
API# 30-025-36011

Zone: San Andres  
Spud: 10/25/2002  
RR: 11/21/2002

GL elev 3645.00

## North Hobbs Unit 29-923H



District I  
1625 N. French Dr., Hobbs, NM 88240

District II  
811 South First, Artesia, NM 88210

District III  
1000 Rio Brazos Rd., Aztec, NM 87410

District IV  
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
2040 South Pacheco  
Santa Fe, NM 87505

Form C-102  
Revised October 18, 1994  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

AMENDED REPORT  
Revised Pen. Pt. & BHL

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-36011	Pool Code 31920	Pool Name Hobbs; Grayburg - San Andres
Property Code 19520	Property Name North Hobbs (GSA) Unit	Well Number 923
OGRID No. 157984	Operator Name Occidental Permian Limited Partnership	Elevation 3645'

Surface Location

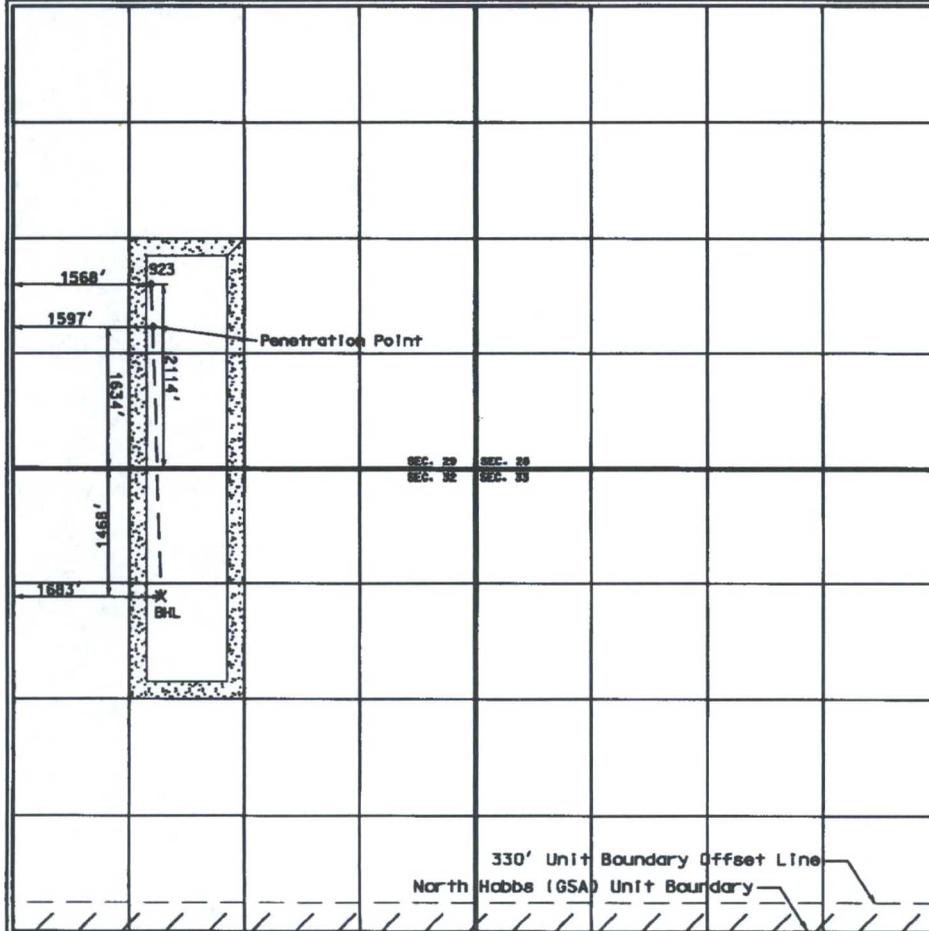
UL or lot no.	Section	Township	Range	Lot Idn.	Feet from the	North/South line	Feet from the	East/West line	County
K	29	18-S	38-E		2114	South	1568	West	Lea

Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn.	Feet from the	North/South line	Feet from the	East/West line	County
F	32	18-S	38-E		1468	North	1683	West	Lea

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
	I	U	

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature  
Mark Stephens

Printed Name  
Mark Stephens

Title  
Regulatory Compliance Analyst

Date  
July 22, 2003

Date

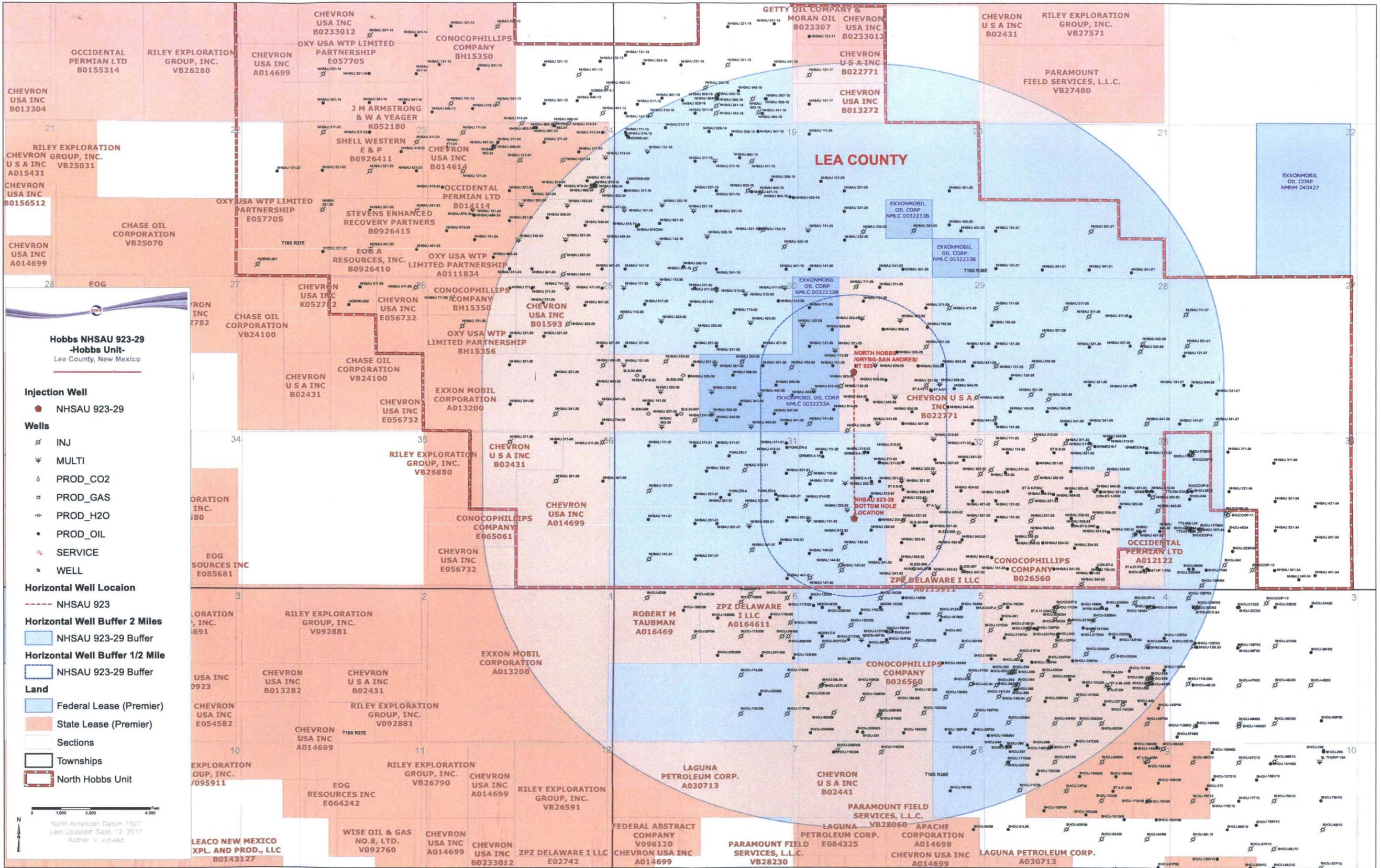
SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date of Survey

Signature and Seal of Professional Surveyor

Certificate Number



**Hobbs NNSAU 923-29**  
 -Hobbs Unit-  
 Lea County, New Mexico

- Injection Well**
- NNSAU 923-29
- Wells**
- INJ
  - MULTI
  - PROD\_CO2
  - PROD\_GAS
  - PROD\_H2O
  - PROD\_OIL
  - SERVICE
  - WELL

**Horizontal Well Location**

- NNSAU 923

**Horizontal Well Buffer 2 Miles**

- NNSAU 923-29 Buffer

**Horizontal Well Buffer 1/2 Mile**

- NNSAU 923-29 Buffer

- Land**
- Federal Lease (Premier)
  - State Lease (Premier)
  - Sections
  - Townships
  - North Hobbs Unit





**Occidental Permian LTD.**

A subsidiary of Occidental Petroleum Corporation

5 Greenway Plaza, Suite 110, Houston, Texas 77046-0521  
P.O. Box 27570, Houston, Texas 77227-7570  
Phone 713.215.7000

September 18, 2017

State of New Mexico  
Energy, Minerals & Natural Resources Department  
Oil Conservation Division  
1220 S. St. Frances Dr.  
Santa Fe, NM 87505

RE: Pressure Maintenance Project  
North Hobbs Unit  
Well No. 923  
API 30-025-36011  
Letter K, Section 29, T-18S, R-38E  
Lea County, NM

To Mr. Richard Ezeanyim, Chief Engineer:

Occidental Permian Ltd. respectfully request administrative approval, without hearing, to commence injection (water, CO<sub>2</sub>, and produced gas) per the authorized Order No. R-6199-F. In support of this request please find the following documentation:

- Administrative Application Checklist
- Form C-108 with miscellaneous data attached
- An Injection Well Data Sheet with Wellbore Schematic
- Form C-102
- Map

\*\*\* Per Order No. R-6199-F, this application is eligible for administrative approval without notice or hearing \*\*\*

If you have any questions regarding this application, please contact me at 713-366-5771 or email [april\\_hood@oxy.com](mailto:april_hood@oxy.com).

Sincerely,

April Hood  
Regulatory Specialist

RECEIVED OGD  
2017 SEP 20 A 10:11

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

**APPLICATION OF OCCIDENTAL PERMIAN LTD  
TO AMEND ORDER NO. R-6199-B TO EXPAND THE  
NORTH HOBBS GRAYBURG-SAN ANDRES UNIT  
PHASE I TERTIARY RECOVERY PROJECT,  
TO MODIFY CERTAIN OPERATING REQUIREMENTS,  
AND TO CERTIFY THIS EXPANSION FOR  
THE RECOVERED OIL TAX RATE PURSUANT  
TO THE NEW MEXICO ENHANCED OIL  
RECOVERY ACT, LEA COUNTY, NEW MEXICO.**

**CASE NO. 15103  
ORDER NO. R-6199-F**

**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-B, as amended. The Commission, having conducted a hearing on March 13, 2014, at Santa Fe, New Mexico, and having considered the testimony and the record in the case, enters the following findings, conclusions and order:

**THE COMMISSION FINDS THAT:**

1. Due public notice has been given, and the Commission has jurisdiction of this case and its subject matter.
  
2. On October 3, 1979, the Commission entered Orders No. R-6198 and R-6199 in Case Nos. 6652 and 6653 that statutorily unitized the North Hobbs Unit and approved a pressure maintenance project by the injection of water into the Grayburg and San Andres formations underlying the following acreage in Lea County, New Mexico:

**TOWNSHIP 18 SOUTH, RANGE 37 EAST, NMPM**

Section 13: W/2, SE/4  
Section 14: All  
Section 23: All  
Section 24: All  
Section 25: All  
Section 26: E/2 NE/4, NW/4 NE/4  
Section 36: E/2, E/2 NW/4

**TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM**

Section 17: S/2 NW/4, SW/4

Section 18: NE/4 and S/2  
Section 19: All  
Section 20: All  
Section 21: SW/4, W/2 SE/4, SE/4 SE/4  
Section 27: All  
Section 28: All  
Section 29: All  
Section 30: All  
Section 31: All  
Section 32: All  
Section 33: W/2, NE/4, W/2 SE/4, and NE/4 SE/4  
Section 34: E/2, E/2 NW/4

3. On October 22, 2011, the Energy, Minerals and Natural Resources Department Oil Conservation Division ("Division") entered Order No. R-6199-B authorizing a carbon dioxide gas tertiary recovery project within a portion of the North Hobbs Unit called the "Phase I Area" by injection of carbon dioxide (CO<sub>2</sub>), produced water, and produced gas through certain existing wells and yet to be drilled wells in the quarter-quarter sections identified on Exhibits A and B to that Order.

4. Since the entry of Order No. R-6199-B, the Division has approved additional injection wells in the Phase I area of the North Hobbs Unit through various administrative and hearing orders.

5. Oxy is the current operator of the North Hobbs Unit and now seeks the following relief from the Commission as provided in an Application filed with the Commission on February 11, 2014 ("Application"):

- (a) to expand the approved geographic area for the carbon dioxide gas tertiary recovery injection project to include the following acreage:

**TOWNSHIP 18 SOUTH, RANGE 37 EAST, NMPM**

Section 13: W/2, SE/4  
Section 14: All  
Section 23: All  
Section 24: All  
Section 25: All  
Section 26: E/2 NE/4, NW/4 NE/4  
Section 36: E/2, E/2 NW/4

**TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM**

Section 17: S/2 NW/4, SW/4  
Section 18: NE/4 and S/2  
Section 19: All  
Section 20: All  
Section 21: SW/4, W/2 SE/4, SE/4 SE/4  
Section 28: All

Section 29: All  
Section 30: All  
Section 31: All  
Section 32: All  
Section 33: W/2, NE/4, W/2 SE/4, and NE/4 SE/4

- (b) to expand the injection authority to include new wells in the quarter-quarter sections identified on Exhibit A to the Application and the existing producing or temporarily abandoned wells identified on Exhibit B to the Application;
- (c) to confirm that the well limitation for quarter-quarter sections set forth in NMAC 19.15.15.9(A) does not apply to active tertiary recovery projects, such as the North Hobbs Unit project;
- (d) to grant an exception to NMAC 19.15.15.13(A) (unorthodox well locations) to allow wells to be closer than 10 feet to a quarter-quarter section line or subdivision inner boundary within the North Hobbs Unit area;
- (e) to grant an exception to the notice requirements set forth in NMAC 19.15.26.8.C and 19.15.26.8.F to allow for administrative approval of additional injection wells in the expanded North Hobbs Unit area without notice and hearing;
- (f) to provide that for any injection well covered by this application that does not commence injection within 5 years after approval of this request, Oxy may submit within a period no more than twelve months and no less than sixty days before injection operations commence in the well either (i) a statement certifying that there have been no substantive changes to the information furnished in support of this application concerning the status or construction of any well that penetrates the injection interval within the one half (1/2) mile area of review around the injection well; or (ii) a statement describing any substantive changes;
- (g) to eliminate the existing limiting gas-oil ratio of 6,000 cubic feet of gas per barrel of oil and to provide that no limiting gas-oil ratio or oil allowable applies to this expanded enhanced oil recovery project;
- (h) to modify the packer setting depth required by R-6199-B Ordering Paragraph (3) to allow for the packer to be set anywhere above the uppermost injection perforations or casing shoe, provided the packer is set below the top of the Grayburg Formation;

- (i) to provide a five-year frequency for mechanical integrity tests for temporarily abandoned wells equipped with real-time pressure monitoring devices pursuant to NMAC 19.15.25.13.E; and
- (j) to certify the approved expansion of the tertiary recovery project for the recovered oil tax rate pursuant to the New Mexico Enhanced Oil Recovery Act, Sections 7-29A-1 to 7-29A-5 NMSA 1978 (Laws 1992, Chapter 38, Section 1 through 5) ("Recovery Act") and the rules of the Commission, 19.15.6 NMAC ("Rules").

6. At the hearing, upon the request of Oxy, the Commission adopted and took notice of the record from Case No. 14981, which resulted in Order No. R-4934-F approving a tertiary recovery project in the adjacent South Hobbs Project Area. The Commission also noted that several persons had filed written notices of appearance in this proceeding including Cornelia England, Gerald Carl Golden, Sharon Aileen Mehs (Lee) and Thomas R. Mehs.

7. Oxy presented five witnesses in support of its Application: Jerad Brockman, Oxy's project manager with expertise in oil and gas production engineering; Randy Stillwell, a senior geologic advisor for Oxy with expertise in petroleum geology; Scott Hodges, Oxy's operations supervisor; Kelley Montgomery, Oxy's regulatory consultant with expertise in oil and gas production engineering; and Pat Sparks, Oxy's petroleum landman with expertise in petroleum land matters. Oxy's witnesses provided testimony and presented exhibits addressing the following topics:

- (a) Oxy's current operations and facilities within the Phase I area of the North Hobbs Unit and the planned expansion of gas injection operations;
- (b) The injection and production well patterns in the expanded Phase I Area, the need to exceed four wells per forty acre spacing unit, and the potential need to locate wells closer than ten feet to the quarter-quarter section lines;
- (c) The capital costs and projected timeline for installation of key components of the expansion of gas injection in the Phase I area;
- (d) The production history of the North Hobbs Unit and the additional oil anticipated from the Phase I area expansion project;
- (e) The need for additional flexibility in the packer setting depth than what is currently allowed by Order No. R-6199-B;
- (f) The geology underlying the North Hobbs Unit, the location of the fresh water zones and the impermeable barriers that exist between the injection interval and the fresh water zones;

- (g) The gas injection facilities and pressure control devices Oxy utilizes in the Phase I area;
- (h) The supervisory control and data acquisition (SCADA) system Oxy utilizes to provide real time monitoring of pressures, temperature, water content, H<sub>2</sub>S levels and gas content in the North Hobbs Unit;
- (i) How Oxy monitors for H<sub>2</sub>S releases in the existing and proposed expanded Phase I area;
- (j) Oxy's mechanical integrity program for the design, engineering, construction and maintenance of CO<sub>2</sub> and produced gas injection facilities for enhanced oil recovery projects like the North Hobbs Unit;
- (k) The NACE Standard MRO175 set forth in NMAC 19.15.11.14 and Oxy's compliance with that standard for the injection facilities in the existing and proposed expanded Phase I Area;
- (l) The additional corrosion inhibition and mitigation efforts Oxy will utilize for the installation, construction and maintenance of the injection facilities in the proposed expanded Phase I Area;
- (m) Oxy's downhole corrosion mitigation efforts, including the use of corrosion resistant tubing, packers and inert packer fluid in the annulus of wells in the existing and proposed expanded Phase I Area;
- (n) The time frame for mechanical integrity tests for temporarily-abandoned wells under NMAC 19.15.25.12 and the absence of a need for more frequent testing for wells equipped with real-time pressure monitoring devices;
- (o) The location of existing gas injection wells in the Phase I Area and the proposed locations for the expansion efforts;
- (p) The condition of the existing injection wells and design plans for additional injection wells in the Phase I Area;
- (q) Oxy's plans to add additional cement behind the production casing across the fresh water zone in the North Hobbs Unit Well No. 231 (API No. 30-025-07545) in the SE/4 NW/4 (Unit F) of Section 33 of Township 18 South, Range 38 East, prior to using this well for gas injection;
- (r) The area of review analysis conducted by Oxy and the conditions of the wells within the area of review;

- (s) The extensive knowledge of the wells within the area of review, the amount of time and effort devoted to the area of review analysis, and the absence of a need to update the area of review analysis for any injection wells that commence injection over the next five years;
- (t) The methodology, time frame and effort involved to ascertain the parties entitled to notice of the hearing on Oxy's application; and
- (u) The parties notified of the hearing either by certified mail or by newspaper publication.

8. The Division's Environmental Bureau has approved a hydrogen sulfide contingency plan that covers the North Hobbs Unit Area.

9. The geologic evidence establishes the following with respect to the Grayburg and San Andres formations underlying the North Hobbs Unit :

- (a) These formations consist of a layered, anticlinal structure that acts as a natural trapping mechanism for oil, as well as any injected fluids.
- (b) These formations are separated from the fresh water zones by over 3,500 feet.
- (c) The upper portion of the Grayburg formation consists of 150 to 200 feet of impermeable anhydrite and limestone.
- (d) Various additional layers of impermeable anhydrite, salt, shale and limestone exist between these injection formations and the fresh water zones.
- (e) No geologic faults or other natural means exist in this area by which injected fluids could communicate with the shallower fresh water zones.

10. With respect to the existing wells and the proposed injection wells within the area of review for the expanded Phase I Area of the North Hobbs Unit, the evidence establishes that:

- (a) The existing injection wells in the expanded Phase I Area of the North Hobbs Unit are sufficiently cased and cemented to prevent the migration of injection fluids out of the proposed injection interval. Nonetheless, Oxy intends to add additional cement behind the production casing across the fresh water zone for the North Hobbs Unit Well No. 231 (API No. 30-025-07545) in the SE/4 NW/4 (Unit F) of Section 33 of Township 18 South, Range 38 East, prior to using this well for gas injection.

- (b) Oxy's design for additional injection wells in the expanded Phase I Area of the North Hobbs Unit will provide sufficient casing and cement to prevent the migration of injection fluids out of the proposed injection interval.

11. The evidence demonstrates it is prudent to expand the geographic area for the tertiary recovery operations in the Grayburg and San Andres formations underlying the North Hobbs Unit as proposed by Oxy and that expansion of the Phase I Area of the North Hobbs Unit will result in the recovery of additional oil that may otherwise not be recovered and wasted.

12. The evidence presented to the Commission demonstrates that Oxy's proposed expansion of the tertiary recovery operations in the Grayburg and San Andres formations underlying the North Hobbs Unit will not pose an unreasonable threat to groundwater, the public health or the environment.

13. Oxy's request to expand the geographic area for the injection of CO<sub>2</sub>, water, and produced gases in the North Hobbs Unit should be approved.

14. The well limitation for quarter-quarter sections set forth in NMAC 19.15.15.9(A) does not apply to active tertiary recovery projects and Oxy should be allowed to locate wells closer than 10 feet to a quarter-quarter section line or subdivision inner boundary within the North Hobbs Unit.

15. Based on the extensive area of review analysis performed by Oxy, and the previous reviews conducted by Oxy and the Division in connection with previous applications to expand the injection authority in the Phase I Area of the North Hobbs Unit, the Commission finds it is unnecessary to update the existing area of review analysis for a period of five years. However, if any well commences injection operations more than five years after the date of this order, Oxy should submit a statement to the Division that there have been no substantive changes to the area-of-review information submitted, or a statement describing any substantive changes.

16. Pursuant to NMAC 19.15.25.13.E, and based on the evidence presented on Oxy's SCADA system and proposed real time pressure monitoring devices, the Commission finds it is appropriate to conduct mechanical integrity tests on temporarily-abandoned wells equipped with real-time pressure monitoring devices once every five years.

17. The geologic and other evidence presented demonstrates Oxy should be allowed to set packers in injection wells in the North Hobbs Unit anywhere above the uppermost injection perforations or casing shoes, so long as the packer is set below the top of the Grayburg formation.

18. With respect to Oxy's request that its proposed expanded injection authority qualify for the recovered oil tax rate pursuant to the New Mexico Enhanced Oil Recovery Act, the evidence establishes that:

- (a) Oxy's planned enhanced oil recovery project in the expanded Phase I Area of the North Hobbs Unit should result in the recovery of an additional 54 million barrels of oil that may otherwise not be recovered, thereby preventing waste.
- (b) The proposed expanded Phase I Area of the North Hobbs Unit has been depleted to the point that it is prudent to apply enhanced recovery techniques to maximize the ultimate recovery of crude oil;
- (c) The application is economically and technically reasonable and has not been prematurely filed; and
- (d) The proposed tertiary recovery project meets all of the criteria for certification as a qualified "enhanced oil recovery project" under the Recovery Act and the Rules. NMSA 1978, Section 7-29A-4; NMAC 19.15.6.8.E.

19. The proposed tertiary recovery project in the expanded Phase I Area of the North Hobbs Unit will prevent waste, protect correlative rights, and should be approved with certain conditions.

**THE COMMISSION CONCLUDES THAT:**

1. The Commission is empowered to regulate and permit 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. NMSA 1978, Section 70-2-12(B)(14). The Commission has a further statutory duty to prevent waste and protect correlative rights. NMSA 1978, Section 70-2-11(A).

2. Oxy has provided substantial evidence to support the approval of the authority to inject CO<sub>2</sub>, and produced water and produced gases into the North Hobbs Project Area subject to the conditions provided in this Order, which conditions are necessary to prevent waste and protect correlative rights and public health and the environment.

3. The Commission and the Division have the authority to certify "enhanced recovery projects" that are eligible for a "recovered oil tax rate" under the Enhanced Oil Recovery Act, NMSA 1978, Sections 7-29A-1 to -5 (1992) and under the Rules, 19.15.6 NMAC. The North Hobbs Grayburg-San Andres Unit Pressure Maintenance Project, as described by this Order, meets the requirements for certification as an enhanced recovery project and a tertiary recovery project under the Recovery Act and the Rules. The North

Hobbs Project Area shall be designated as the area to be affected by the enhanced recovery project.

**IT IS THEREFORE ORDERED THAT:**

(1) The provisions of this Order shall govern the tertiary recovery project described herein. The provisions of Orders No. R-6199-B, R-6199-C, R-6199-D and R-6199-E remain applicable to the ongoing operations in the North Hobbs Unit, except to the extent that they are inconsistent with this Order.

(2) Oxy is authorized to expand the geographic area of the current tertiary recovery project in the Phase I Area of the North Hobbs Unit by the injection of CO<sub>2</sub>, water, and produced gases into the Grayburg and San Andres formations underlying the following acreage:

**TOWNSHIP 18 SOUTH, RANGE 37 EAST, NMPM**

Section 13: W/2, SE/4  
Section 14: All  
Section 23: All  
Section 24: All  
Section 25: All  
Section 26: E/2NE/4, NW/4 NE/4  
Section 36: E/2, E/2 NW/4

**TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM**

Section 17: S/2 NW/4, SW/4  
Section 18: NE/4 and S/2  
Section 19: All  
Section 20: All  
Section 21: SW/4, W/2 SE/4, SE/4 SE/4  
Section 28: All  
Section 29: All  
Section 30: All  
Section 31: All  
Section 32: All  
Section 33: W/2, NE/4, W/2 SE/4, and NE/4 SE/4

(3) The injection of CO<sub>2</sub>, water and produced gases is authorized for the wells and locations identified on Exhibits "A" and "B" attached to this Order. Application for approval of additional injection wells in the expanded Phase I Area of the North Hobbs Unit shall be filed in accordance with NMAC 19.15.26.8 and may be approved administratively by the Division Director without notice and hearing.

(4) For any injection well or location identified on Exhibits "A" or "B" to this Order in which tertiary injection operations commence more than five years after the date of this Order, the operator shall submit to the Division either: (i) a statement certifying that there have been no substantive changes in the information furnished in support of the

subject application concerning the status or construction of any well that penetrates the injection interval within the one half (1/2) mile area of review around the injection well; or (ii) a statement describing any substantive changes. This statement shall be submitted to the Division's Santa Fe office within a period no more than twelve months and no less than sixty days before injection operations commence in the well.

(5) The well limitation for quarter-quarter sections set forth in NMAC 19.15.15.9(A) does not apply to active tertiary recovery projects and Oxy is authorized to locate wells closer than 10 feet to a quarter-quarter section line or subdivision inner boundary within the North Hobbs Unit.

(6) No limiting gas oil ratio or oil allowable applies to this enhanced oil recovery project.

(7) The injection wells or pressurization system within the expanded Phase I Area of the North Hobbs Unit shall be equipped with a pressure control device or acceptable substitute that will limit the surface injection pressure to no more than:

1100 psig for injection of water;  
1250 psig for injection of CO<sub>2</sub>; and  
1770 psig for injection of produced gases.

(8) The Division Director may administratively authorize an increase in surface injection pressure upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(9) The operator shall take all necessary steps to ensure that the injected gases and fluids enter only the Grayburg and/or San Andres formations and are not permitted to escape to other formations or to the surface from injection, production, or plugged and abandoned wells.

(10) A one-way automatic safety valve shall be installed at the surface of all injection wells to prevent flow-back of the injected gas during an emergency, start-up or shut-down operations.

(11) Injection shall be accomplished through fiberglass-lined tubing and a nickel plated packer. The packer shall be set as close as practical to the uppermost injection perforations or casing shoe (of any open hole completion), so long as the packer set point remains below the top of the Grayburg formation.

(12) The casing-tubing annulus shall be filled with an inert packer fluid containing biocide and corrosion inhibitors. A gauge or approved leak-detection device shall be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(13) The operator shall use a special type of cement on all new injection wells that is designed to withstand the corrosive environment. The cement design shall contain

more than three percent (3%) tricalcium aluminate (C3A) in this High Sulfate Resistance (HSR) environment.

(14) The operator is not required to run a cement bond log on a producing well each time the rods and/or tubing are pulled from the well. However, prior to placing any well on injection, a cement bond log shall be run on said well and copies of all cement bond logs shall be sent to the Division's Hobbs District Office. If any well is found to have inadequate casing cement bond, such measures as may be necessary to prevent leakage or migration of fluids within the wellbore shall be taken before placing the well on injection.

(15) Prior to commencing injection operations, the casing in each of the injection wells within the expanded Phase I Area of the North Hobbs Unit shall be pressure tested throughout the interval from the surface down to the proposed packer setting depth to assure the integrity of such casing.

(16) A mechanical integrity test shall be conducted on all injection wells once every two years.

(17) Pursuant to NMAC 19.15.25.13.E, a mechanical integrity test shall be conducted on all temporarily-abandoned wells equipped with real-time pressure monitoring devices once every five years.

(18) Injection operations shall be conducted in a closed loop system, and the trucking of fluids is not allowed.

(19) Oxy shall not commence gas injection operations in the North Hobbs Unit Well No. 231 (API No. 30-025-07545) in the SE/4 NW/4 (Unit F) of Section 33 of Township 18 South, Range 38 East, until Oxy adds additional cement behind the production casing across the fresh water zone and provides a cement bond log to the Division's Hobbs District office.

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

(21) Oxy shall maintain recorded data from its SCADA system for the North Hobbs Unit 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 Hobbs District Office.

(22) The hydrogen sulfide contingency plan for the North Hobbs Unit shall be reviewed and amended as necessary pursuant to NMAC 19.15.11.9.F.

(23) The North Hobbs Grayburg-San Andres Unit Pressure Maintenance Project is hereby certified as an enhanced oil recovery project and as a tertiary recovery project pursuant to the Recovery Act and Rules, and the expanded Phase I Area of the North Hobbs Unit is designated as the area to be affected by the enhanced oil recovery project. To be eligible for the recovered oil tax credit, the operator shall advise the Division of the date and time CO2 injection commences within the expanded Phase I Area and at that time the Division will certify the project to the New Mexico Taxation and Revenue Department.

(24) At such time as a positive production response occurs, and within seven years from the date the project was certified to the New Mexico Taxation and Revenue Department, the applicant must apply to the Division for certification of a positive production response pursuant to the Recovery Act, NMSA 1978, Section 7-29A-3 and NMAC 19.15.6.8.E. This application shall identify the area benefiting from enhanced oil recovery operations and the specific wells eligible for the recovered oil tax rate. The Division may review the application administratively or set it for hearing. Based upon the evidence presented, the Division will certify to the New Mexico Taxation and Revenue Department those wells that are eligible for the recovered oil tax rate. Pursuant to NMAC 19.15.6.8.F, Oxy must also report annually to the Division to confirm that the project remains a viable enhanced oil recovery project.

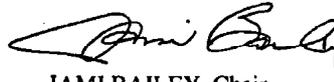
(25) Jurisdiction of this case is retained for the entry of such further orders as the Commission may deem necessary.

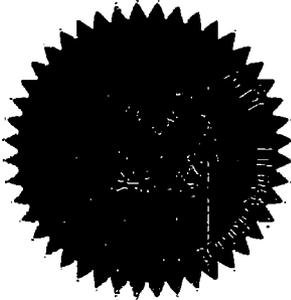
DONE at Santa Fe, New Mexico, on this 22nd day of May, 2014.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
ROBERT BALCH, Member

  
TERRY WARNELL, Member

  
JAMI BAILEY, Chair



SEAL

Exhibit A  
 List of Proposed Project Injectors by Qtr/Qtr Section

Well Name	API Number	Surface Location			Footage Location	Injection Interval	Proposed Injectant
		Section	Unit Letter	Township & Range			
TBD	TBD	14	A	18-S; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	B	18-S; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	C	18-S; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	D	18-S; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	E	18-S; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	F	18-S; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	G	18-S; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	H	18-S; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	I	18-S; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	J	18-S; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	K	18-S; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	L	18-S; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	M	18-S; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	N	18-S; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	O	18-S; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	14	P	18-S; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	23	A	18-S; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
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TBD	TBD	26	B	18-S; 37-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
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TBD	TBD	18	O	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	18	P	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	A	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	B	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	C	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	D	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	E	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	F	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	G	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	H	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	K	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	19	L	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	D	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	E	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	F	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	I	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	J	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	K	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	L	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	M	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	N	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	30	O	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	30	P	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	A	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	B	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	C	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	31	D	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	31	E	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	31	F	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	31	G	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	H	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	I	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	J	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	K	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	31	L	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	31	M	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	N	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	O	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	31	P	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	17	E	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water

Exhibit A  
 List of Proposed Project Injectors by Qtr/Qtr Section

Well Name	API Number	Surface Location			Footage	Injection Interval	Proposed Injectant
		Section	Unit Letter	Township & Range			
TBD	TBD	17	K	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	17	L	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	17	M	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	17	N	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	20	C	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	20	D	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	20	E	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
TBD	TBD	20	F	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
TBD	TBD	20	L	18-5; 38-E	TBD	3698' - 4500'	Produced Gas/CO2/Water
NHU-29A	TBD	29	I	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
NHU-28A	TBD	28	K	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water
NHU-28B	TBD	28	L	18-5; 38-E	TBD	3698' - 4500'	Purchased CO2/Water

Exhibit B  
 List of Proposed Project Injectors (Existing Wells)

Well Name	API Number	Surface Location			Footage Location	Current Status	Injection Interval	Proposed Injectant
		Section	Unit Letter	Township & Range				
NHU 28-231	30-025-07421	28	K	18-S; 38-E	1325' FSL & 1325' FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 28-232	30-025-28882	28	K	18-S; 38-E	2300 FSL & 2350 FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-422	30-025-28268	33	H	18-S; 38-E	2181 FNL & 498 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-432	30-025-28269	33	I	18-S; 38-E	1842 FSL & 1029 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 32-431	30-025-07537	32	I	18-S; 38-E	2310 FSL & 330 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 32-432	30-025-26974	32	I	18-S; 38-E	1400 FSL & 1300 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 32-132	30-025-27139	32	L	18-S; 38-E	1400 FSL & 1300 FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 32-142	30-025-28265	32	M	18-S; 38-E	610 FSL & 1210 FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 32-341	30-025-07539	32	O	18-S; 38-E	330 FSL & 2310 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 32-342	30-025-28266	32	O	18-S; 38-E	457 FSL & 1437 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-342	30-025-28267	33	O	18-S; 38-E	125 FSL & 2730 FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 31-441	30-025-07498	31	P	18-S; 38-E	330 FSL & 330 FEL	TA	3698' - 4500'	Purchased CO2/Water
NHU 33-142	30-025-28411	33	M	18-S; 38-E	1250 FSL & 185 FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-312	30-025-29199	33	B	18-S; 38-E	151 FNL & 1702 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-211	30-025-07564	33	C	18-S; 38-E	330 FNL & 2310 FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-212	30-025-29026	33	C	18-S; 38-E	205 FNL & 1420 FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-222	30-025-26975	33	F	18-S; 38-E	1520 FNL & 1470 FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-322	30-025-27169	33	G	18-S; 38-E	1435 FNL & 1670 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-323	30-025-28951	33	G	18-S; 38-E	2525 FNL & 1453 FEL	Produce	3698' - 4500'	Purchased CO2/Water
NHU 33-534	30-025-34373	33	J	18-S; 38-E	2415 FSL & 2200 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-231	30-025-07545	33	F	18-S; 38-E	2310 FSL & 1320 FWL	Water Injector	3698' - 4500'	Purchased CO2/Water
NHU 33-232	30-025-27169	33	K	18-S; 38-E	1435 FNL & 1670 FEL	Water Injector	3698' - 4500'	Purchased CO2/Water

I/III

9/20/2011



C-108 Review Checklist: Received \_\_\_\_\_ Add. Request: \_\_\_\_\_ Reply Date: \_\_\_\_\_ Suspended: \_\_\_\_\_ [Ver 15]

ORDER TYPE: WFX / PMX / SWD Number: \_\_\_\_\_ Order Date: \_\_\_\_\_ Legacy Permits/Orders: 12-6199-F  
~~12-4954-F~~

Well No. 111 Well Name(s): WORTH HUBBS C/LSA

API: 30-0 25-07375 Spud Date: Sept 9, 1982 New or Old: \_\_\_\_\_ (UIC Class II Primacy 03/07/1982)

Footages 330FWL Lot \_\_\_\_\_ or Unit D Sec 20 Tsp 18S Rge 38E County Lea

General Location: Hobbs City Limits Pool: Hobbs, C/LSA - Sun Andreas Pool No.: 31920

BLM 100K Map: Hobbs Operator: Occidental Petroleum Ltd OGRID: 157984 Contact: April Hood

COMPLIANCE RULE 5.9: Total Wells: 628 Inactive: 0 Fincl Assur: OK Compl. Order? MA TS 5.9 OK? Y Date: 10-06-2011

WELL FILE REVIEWED  Current Status: Active

WELL DIAGRAMS: NEW: Proposed  or RE-ENTER: Before Conv.  After Conv.  Logs in Imaging: Y

Planned Rehab Work to Well: \_\_\_\_\_

Well Construction Details	Sizes (in) Borehole / Pipe	Setting Depths (ft)	Cement <input checked="" type="radio"/> or Cf	Cement Top and Determination Method
Planned ___ or Existing ___ Surface	16" / 12"	213	200	Surface / CALL
Planned ___ or Existing ___ Interm/Prod	8" / 6"	2796	.500	1355 / CALL
Planned ___ or Existing ___ Interm/Prod	6" / 4"	4316	.20	2781 / CALL
Planned ___ or Existing ___ Prod/Liner	6" / 4"	4238	395	Surface / CALL
Planned ___ or Existing ___ Liner	6" / 4"	4365	50	3773 / CALL
Planned ___ or Existing ___ OH / REEF	4 1/4" / 4 1/2"			

Injection Lithostratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops	Completion/Operation Details:
Adjacent Unit: Litho. Struc. Por.				Drilled TD <u>4238</u> PBDT _____
Confining Unit: Litho. Struc. Por.				NEW TD <u>4365</u> NEW PBDT _____
Proposed Inj Interval TOP:				NEW Open Hole <input type="radio"/> or NEW Perfs <input checked="" type="radio"/>
Proposed Inj Interval BOTTOM:				Tubing Size <u>2 3/8</u> in. Inter Coated? _____
Confining Unit: Litho. Struc. Por.				Proposed Packer Depth _____ ft
Adjacent Unit: Litho. Struc. Por.				Min. Packer Depth _____ (100-ft limit)
				Proposed Max. Surface Press. _____ psi
				Admin. Inj. Press. _____ (0.2 psi per ft)

**AOR: Hydrologic and Geologic Information**

POTASH: R-111-P \_\_\_\_\_ Noticed? MA BLM Seg. Ord  WIPP  Noticed? \_\_\_\_\_ Salt/Salado T: \_\_\_\_\_ B: \_\_\_\_\_ NW: Cliff House fm \_\_\_\_\_

FRESH WATER: Aquifer Triassic Max Depth 360' HYDRO AFFIRM STATEMENT By Qualified Person

NMOSE Basin: Lea CAPITAN REEF: thru adj NA No. Wells within 1-Mile Radius? \_\_\_\_\_ FW Analysis \_\_\_\_\_

Disposal Fluid: Formation Source(s) produced H2O Analysis? \_\_\_\_\_ On Lease  Operator Only  or Commercial

Disposal Int: Inject Rate (Avg/Max BWPD): 54/10K Protectable Waters? \_\_\_\_\_ Source: \_\_\_\_\_ System: Closed or Open

HC Potential: Producing Interval? Y Formerly Producing? \_\_\_\_\_ Method: Logs/DST/P&A/Other \_\_\_\_\_ 2-Mile Radius Pool Map

AOR Wells: 1/2-M Radius Map? Y Well List? \_\_\_\_\_ Total No. Wells Penetrating Interval: \_\_\_\_\_ Horizontals? \_\_\_\_\_

Penetrating Wells: No. Active Wells \_\_\_\_\_ Num Repairs? \_\_\_\_\_ on which well(s)? \_\_\_\_\_ Diagrams? \_\_\_\_\_

Penetrating Wells: No. P&A Wells \_\_\_\_\_ Num Repairs? \_\_\_\_\_ on which well(s)? \_\_\_\_\_ Diagrams? \_\_\_\_\_

NOTICE: Newspaper Date MA Mineral Owner MA Surface Owner MA N. Date \_\_\_\_\_

RULE 26.7(A): Identified Tracts? \_\_\_\_\_ Affected Persons: \_\_\_\_\_ N. Date \_\_\_\_\_

set w/ 9 unitized interval

Order Conditions: Issues: \_\_\_\_\_

Add Order Cond: \_\_\_\_\_



### C-108 Review Checklist: Area Order

Supplemental Checklist for Multiple Well Application

ORDER TYPE: WFX / PMX Number: \_\_\_\_\_ SUPPLEMENTAL PAGE \_\_\_\_\_ of \_\_\_\_\_

Relevant Hearing Order(s): \_\_\_\_\_

MULTIPLE WELL APPLICATION: II of III Well No. \_\_\_\_\_ Well Name(s): Norths Hobbs Unit 9234  
 API: 30-0 25-36011 Spud Date: \_\_\_\_\_ New or Old: \_\_\_\_\_ (UIC Class II Primacy 03/07/1982)  
 Footages B → 1768 F24 143 F24 or Unit K Sec 32 Tsp 155 Rge 385 County 385  
 WELL FILE REVIEWED  Current Status: (TID)  
 WELL DIAGRAMS: NEW: Proposed  or RE-ENTER: Before Conv.  After Conv.  Logs in Imaging: X  
 Planned Rehab Work to Well: \_\_\_\_\_

Well Construction Details	Sizes (in) Borehole / Pipe	Setting Depths (ft)	Cement Sx or Cf	Cement Top and Determination Method
Planned ___ or Existing ___ Surface	<u>13 3/4 / 9 7/8</u>	<u>1000</u>	<u>950</u>	<u>Surface</u>
Planned ___ or Existing ___ Interm/Prod	<u>8 7/8 / 7 1/4</u>	<u>4200</u>	<u>1100</u>	<u>Surface</u>
Planned ___ or Existing ___ Interm/Prod				
Planned ___ or Existing ___ Prod/Liner				
Planned ___ or Existing ___ Liner				
Planned ___ or Existing ___ <u>(OH) PERF</u>	<u>5161 (4045 TD)</u> <u>7037 (4067 TD)</u>		<u>Inj Length</u> <u>1876 (mb)</u>	<u>Hydrologic Information and AOR Well Summary on Coversheet</u>

Completion/Operation Details: Drilled TD 7037 mb PBDT 7137 (mb) NEW TD \_\_\_\_\_ NEW PBDT \_\_\_\_\_  
 NEW Open Hole  or NEW Perfs  Tubing Size 4 1/2 in. Coated? Y Prop. Packer Depth \_\_\_\_\_ ft Min. Depth \_\_\_\_\_ (100-ft limit)  
 Proposed Max. Surface Press. \_\_\_\_\_ psi Admin. Inj. Press. 900 (0.2 psi per ft) ANY AREA IPI APPROVAL: with approved injection interval  
 Specific Requirement(s) for Well: Needs current WBD

MULTIPLE WELL APPLICATION: II of III Well No. \_\_\_\_\_ Well Name(s): Norths Hobbs Unit 544  
 API: 30-0 25-35948 Spud Date: 9/21/2007 New or Old: \_\_\_\_\_ (UIC Class II Primacy 03/07/1982)  
 Footages (1) 152 F25L (2) 154 F25L3 or Unit A Sec 32 Tsp 185 Rge 385 County Leg  
 WELL FILE REVIEWED  Current Status: (TID)  
 WELL DIAGRAMS: NEW: Proposed  or RE-ENTER: Before Conv.  After Conv.  Logs in Imaging: Y  
 Planned Rehab Work to Well: \_\_\_\_\_

Well Construction Details	Sizes (in) Borehole / Pipe	Setting Depths (ft)	Cement Sx or Cf	Cement Top and Determination Method
Planned ___ or Existing ___ Surface	<u>13 3/8 / 9 5/8</u>	<u>1585 (mb)</u>	<u>950</u>	<u>Surface / Vis</u>
Planned ___ or Existing ___ Interm/Prod		<u>4466 (mb) 4032</u>	<u>3070</u>	<u>Surface / Vis</u>
Planned ___ or Existing ___ Interm/Prod				
Planned ___ or Existing ___ Prod/Liner				
Planned ___ or Existing ___ Liner	<u>4466</u> <u>(4032 TD)</u>			
Planned ___ or Existing ___ <u>(OH) PERF</u>	<u>6382</u>	<u>1463</u>	<u>Inj Length</u> <u>1386</u>	<u>Hydrologic Information and AOR Well Summary on Coversheet</u>

Completion/Operation Details: Drilled TD 6449 mb PBDT 6382 NEW TD \_\_\_\_\_ NEW PBDT \_\_\_\_\_  
 NEW Open Hole  or NEW Perfs  Tubing Size 4 1/2 in. Coated? \_\_\_\_\_ Prop. Packer Depth \_\_\_\_\_ ft Min. Depth \_\_\_\_\_ (100-ft limit)  
 Proposed Max. Surface Press. \_\_\_\_\_ psi Admin. Inj. Press. \_\_\_\_\_ (0.2 psi per ft) ANY AREA IPI APPROVAL: with injection interval  
 Specific Requirement(s) for Well: \_\_\_\_\_

NEW MEXICO OIL CONSERVATION COMMISSION  
MISCELLANEOUS REPORTS ON WELLS  
(Submit to appropriate District Office as per Commission Rule 1106)

COMPANY Skelly Oil Company Box 38 Hobbs, New Mexico  
(Address)

LEASE H.D. McKinley WELL NO. 1 UNIT <sup>"D"</sup> S 20 T 185 R 368  
DATE WORK PERFORMED 5/4/55 to 8/30/55 POOL Hobbs

This is a Report of: (Check appropriate block)  Results of Test of Casing Shut-off  
 Beginning Drilling Operations  Remedial Work  
 Plugging  Other \_\_\_\_\_

Detailed account of work done, nature and quantity of materials used and results obtained.

Pulled rods and tubing. Tested 7"OD casing to 1000' and casing tested o.k.. Ran Dowell spinner survey and survey indicated water zones 4181-87' & 4201-64'. Ran 129 jts. of 5"OD casing and set at 4238'. Cemented around shoe with 100 sacks. Opened DV tool at 3879' and circulated 70 sacks cement. Cemented thru DV tool with 225 sacks cement. Cement-circulated. Drilled plug and tested casing shut-off. Tested o.k.. Perforated 5" OD casing 4181-89' and 4201-03' and squeezed with 100 sacks at max. pressure of 6000#. Perforated 5" OD casing 4200'-4208'. Treated new perfe. w/500 gals. H-38 acid. After pumping and testing several days, well tested 54 bbls. oil, 360 bbls. sulphur water per day.

FILL IN BELOW FOR REMEDIAL WORK REPORTS ONLY

Original Well Data:

DF Elev. 3662' TD 4238' PBD - Prod. Int. 4040-4238' Compl Date 10/13/1932  
Tbng. Dia 2 1/2" Tbng Depth 4238' Oil String Dia 2 1/2" 7"OD Oil String Depth 4040'  
Perf Interval (s) -  
Open Hole Interval 4040-4238' Producing Formation (s) San Andres

RESULTS OF WORKOVER:

	BEFORE	AFTER
Date of Test	<u>5/2/55</u>	<u>8/30/55</u>
Oil Production, bbls. per day	<u>37</u>	<u>54</u>
Gas Production, Mcf per day	<u>37</u>	<u>39</u>
Water Production, bbls. per day	<u>271</u>	<u>360</u>
Gas-Oil Ratio, cu. ft. per bbl.	<u>1000</u>	<u>722</u>
Gas Well Potential, Mcf per day	-	-

Witnessed by J. W. George Skelly Oil Company  
(Company)

OIL CONSERVATION COMMISSION

Name \_\_\_\_\_  
Title \_\_\_\_\_  
Date \_\_\_\_\_

I hereby certify that the information given above is true and complete to the best of my knowledge.

Name \_\_\_\_\_  
Position Dist. Supt.  
Company Skelly Oil Company