

DATE IN 5/11/2018	SUSPENSE	ENGINEER	LOGGED IN 5/13/2018	TYPE PMX	APP NO. PMAM1813430353
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



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

Check One Only for [B] or [C]

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

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

[D] Other: Specify Additional Injector within approved project area (R-4934-F)

[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

[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

Signature

Regulatory Specialist

Title

Date

April.Hood@Oxy.com
 e-mail Address

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

April 9, 2018

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
South Hobbs G/SA Unit
Well Nos. 153, 277, and 292
Section 5 and 9, T-19S, R-38E
Lea County, NM

To Whom it May Concern:

Occidental Permian Ltd. respectfully request administrative approval, without hearing, to commence injection (water, CO2 and produced gas) per the authorized Order No. R-4934-F dated July 18, 2013. In support of this request, please find the following documentation:

- Administrative Application Checklist
- Form C-108 with miscellaneous data attached
- Injection Well Data Sheets (3)
- Wellbore Schematics (3)
- Area of Review Maps (3)
- Form C-102 (3)
- Copy of the Approved Injection Order R-4934-F

*** Per Order No. R-4934-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.

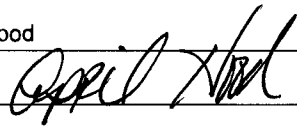
Sincerely,



April Hood
Regulatory Specialist

MAY 11 2018 4:12:58

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: Secondary Recovery X 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? X Yes No
If yes, give the Division order number authorizing the project: R-4934-F (July 18, 2013)
- 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:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
 5. 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: 04/11/18
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. 14981 Order R-4934-F - Effective July 18, 2013

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.
South Hobbs G/SA Unit
Lea County, New Mexico

V. Maps are attached.

VII. 1. Average Injection Rate N/A
 Maximum Injection Rate 9000 BWPD / 15000 MCF

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)

5. Injection is not for disposal purposes

IX. Wells will be selectively perforated in the San Andres formation at 4 SPF and stimulated with a pin point injection (PPI) packer below the frac pressure at $\pm 1-2$ bbl/ft using 15% HCL acid

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: SHU 153

WELL LOCATION:	1105' FNL & 1585' FWL	C	9	19-S	38-E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATICWELL CONSTRUCTION DATASurface Casing

Hole Size: 12-1/4" Casing Size: 8-5/8" x 24#

Cemented with: 1000 sx. or ft³

Top of Cement: 0 Method Determined: Circulated

Intermediate Casing

Hole Size: Casing Size:

Cemented with: sx. or ft³

Top of Cement: Method Determined:

Production Casing

Hole Size: 7-7/8" Casing Size: 5-1/2" x 15.5#

Cemented with: 1600 sx. or ft³

Top of Cement: 0 Method Determined: Circulated

Total Depth: 4300'

Injection Interval

4152' feet to 4300'

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 2-7/8" Lining Material: Duoline (Fiberglass)

Type of Packer: Nickel Plated

Packer Setting Depth: 4100'

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

Additional Data

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

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

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) @ +/- 3700'

Glorieta @ +/- 5300'

Current Wellbore Diagram

Occidental Permian Ltd.

South Hobbs G/SA Unit

Lea. County

Well No. 153

API: 30-025-2835~~46~~

Footage Location: 1105' FNL & 1485' FWL

Section: 9; T-19-S; R-38-E, U.L. "C"

Current Status: Active Producer

14" @ 30'
Cemented w/ 2 yds redi mix
TOC: surf. (circulated)

8 5/8" 24# @ 1524'
Cemented w/ 1000 sxs
TOC: surf. (circulated)

5 1/2" 15.5# @ 4300'
Cemented w/ 1600 sxs
TOC: surface (circ.)

Total Depth: 4300'

Perforations:

Open: 4101-08, 4115-30, 4152-57, 4159-62,
4167-71, 4178-82, 4194-4200, 4207-11,
4221-24 (4 SPF)

SQZ'd: 4020'-62', 4244'-4279' (gross)

Proposed Wellbore Diagram

Occidental Permian Ltd.

South Hobbs G/SA Unit

Lea. County

Well No. 153

API: 30-025-28356

Footage Location: 1105' FNL & 1585' FWL

Section: 9; T-19-S; R-38-E, U.L. "C"

Current Status: Active Producer

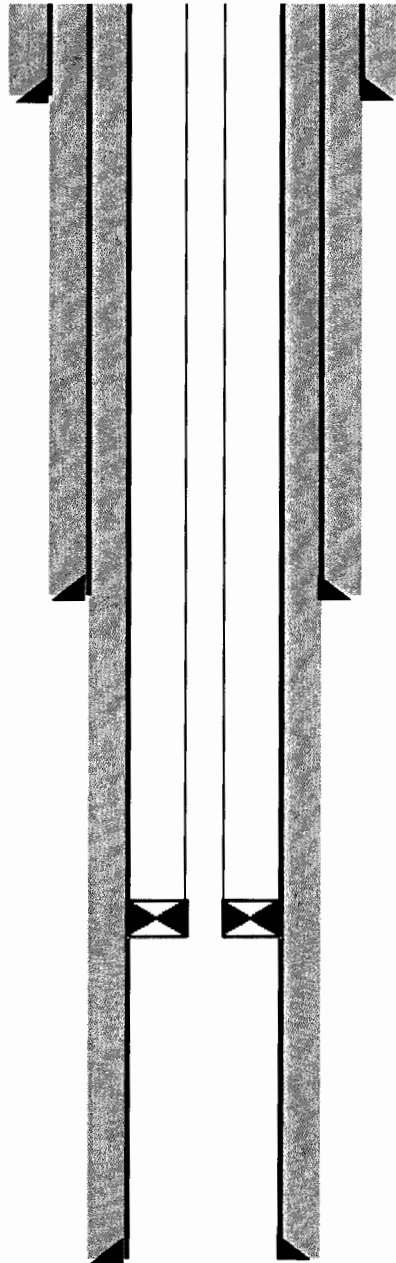
Future Status: CO2/Water Injector

14" @ 30'
Cemented w/ 2 yds redi mix
TOC: surf. (circulated)

8 5/8" 24# @ 1524'
Cemented w/ 1000 sxs
TOC: surf. (circulated)

5 1/2" 15.5# @ 4300'
Cemented w/ 1600 sxs
TOC: surface (circ.)

Total Depth: 4300'

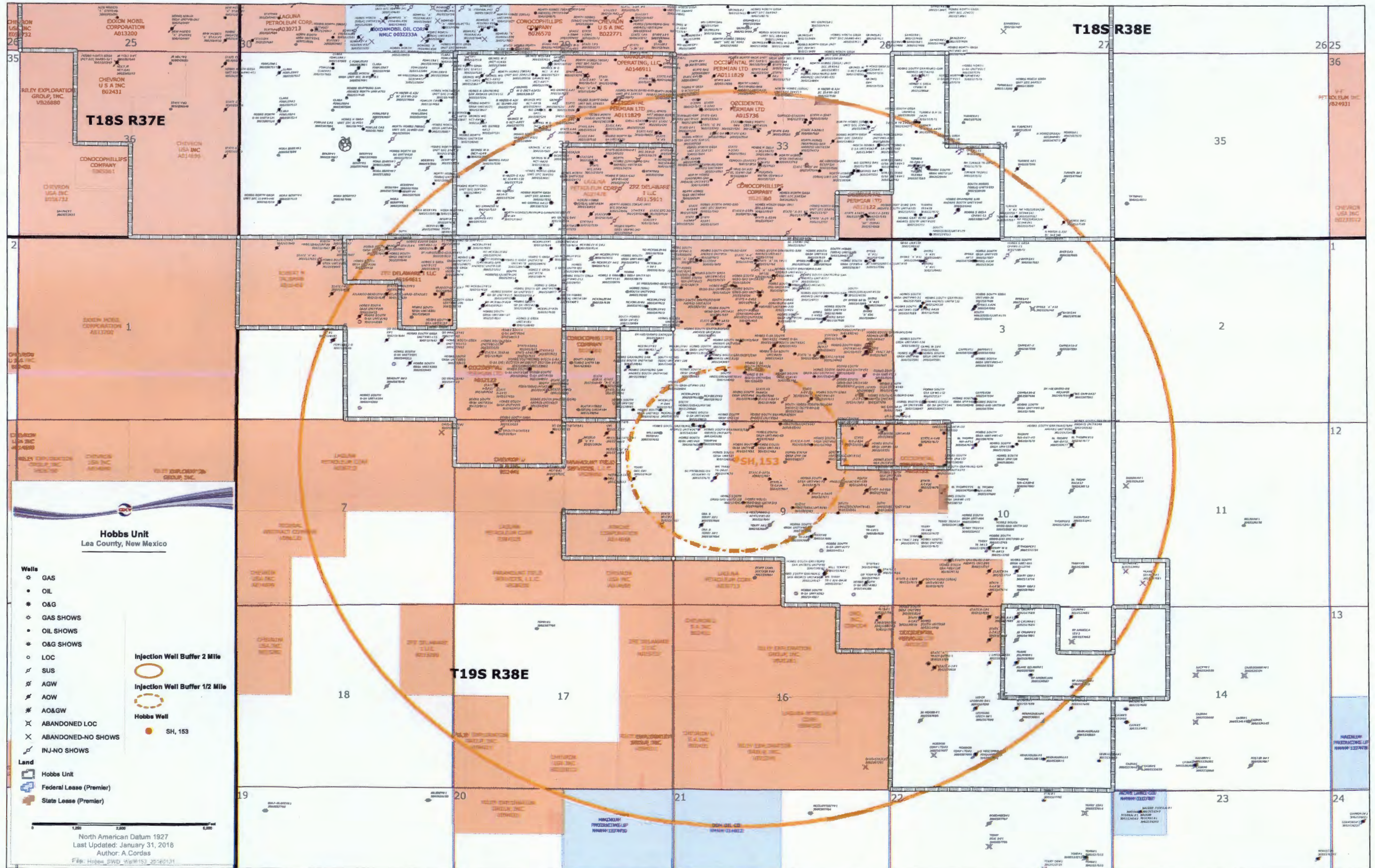


Proposed Packer depth at 4100'

Perforations:

Open: 4152'-4300' (Gross)

SQZ'd: 4020'-4130' (gross)



INJECTION WELL DATA SHEET

OPERATOR: Occidental Permian LTD.WELL NAME & NUMBER: South Hobbs G/SA Unit #277

WELL LOCATION:	<u>1573' FSL & 1711' FEL</u>	<u>U.L. "J"</u>	<u>9</u>	<u>T-19-S</u>	<u>R-38-E</u>
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATICWELL CONSTRUCTION DATASurface CasingHole Size: 12.25" Casing Size: 9.625" x 36#Cemented with: 690 sx. *or* ft³Top of Cement: 0 Method Determined: CirculatedIntermediate CasingHole Size: Casing Size: Cemented with: sx. *or* ft³Top of Cement: Method Determined: Production CasingHole Size: 8.75" Casing Size: 7" x 26#Cemented with: 1200 sx. *or* ft³Top of Cement: 0 Method Determined: CirculatedTotal Depth: 6000'Injection Interval4040 feet to 5430

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 2 7/8" Lining Material: Duoline (Fiberglass)

Type of Packer: Nickel Plated

Packer Setting Depth: San Andres

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

Additional Data

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

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

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) @ +/- 3700'

Glorieta @ +/- 5300'

Proposed Wellbore Diagram

Occidental Permian Ltd.

South Hobbs G/SA Unit

Lea. County

Well No. 277

API: 30-025-44311

Footage Location: 1573' FSL & 1711' FEL

Section: 9; T-19-S; R-38-E, U.L. "J"

Current Status: CO2/Water Injector

9.625" 36# @ 1700'
Cemented w/ 690 sxs
Estimated TOC: surface

7" 26# @ 6000'
Cemented w/ 1200 sxs
Estimated TOC: surface

Total Depth: 6000'

Proposed Wellbore Diagram

Occidental Permian Ltd.

South Hobbs G/SA Unit

Lea. County

Well No. 277

API: 30-025-44311

Footage Location: 1573' FSL & 1711' FEL

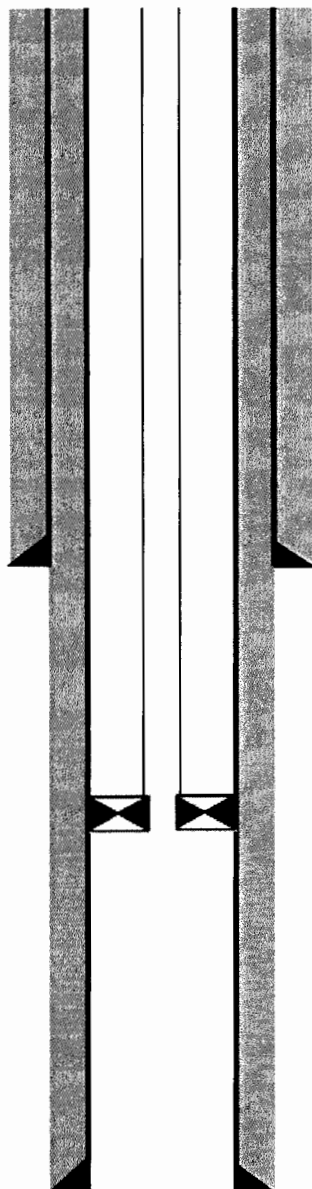
Section: 9; T-19-S; R-38-E, U.L. "J"

Current Status: CO₂/Water Injector

9.625" 36# @ 1700'
Cemented w/ 690 sxs
Estimated TOC: surface

7" 26# @ 6000'
Cemented w/ 1200 sxs
Estimated TOC: surface

Total Depth: 6000'



Proposed Packer depth @ 4000'

Proposed perf depth @ ~ 4040' - 5430'

Section 1
1025 N. French Dr. Hobbs, NM 88240
Phone: (575) 335-4141 Fax: (575) 335-4720

Section 2
8311 S. Harte St. Artesia, NM 88203
Phone: (575) 748-0285 Fax: (575) 748-0720

Section 3
1004 W. Brown Road, Santa Fe, NM 87501
Phone: (505) 834-6778 Fax: (505) 834-6770

Section 4
1220 S. St. Francis Dr. Santa Fe, NM 87505
Phone: (505) 476-3461 Fax: (505) 476-3462

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form O-304
Revised July 18, 2013

☒ AMENDED REPORT

[D]

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

Operator Name and Address Occidental Permian LTD PO Box 4294 Houston, TX 77210		OCRID Number 157984
Property Code 19552	Property Name South Hobbs G/SA Unit	API Number 30-025-44311
		Well No 277

Surface Location

U.T. - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
J	9	19S	38E		1573	S	1711	E	Lea

Proposed Bottom Hole Location

U.T. - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
J	9	19S	38E		1417	S	1793	E	Lea

Pool Information

Pool Name HOMAS; GRAYBURD - SAN ANDRES SURF P 5499 SURF P	Pool Code 31920
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Additional Well Information

Work Type New Drill	Well Type Inj	Cable Rotary	Lease Type State	Ground Level Elevation 3598
Multiple N	Proposed Depth 6000	Formation San Andres	Contractor	Spud Date 02/01/2018
Depth to Ground water		Distance from nearest fresh water well	Distance to nearest surface water	

☒ We will be using a closed-loop system in lieu of lined pits

Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	12.25	9.625	36	1700	690	0
Prod	8.75	7	26	6000	1200	0

Casing/Cement Program: Additional Comments

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Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	5000	3000	

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief
I further certify that I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒, if applicable.

Signature *April Hood*

Printed name April Hood

Title Regulatory Specialist

E-mail Address April_Hood@Oxy.com

Date 01/02/2018

Phone 713-366-5771

OIL CONSERVATION DIVISION

Approved By

[Signature]

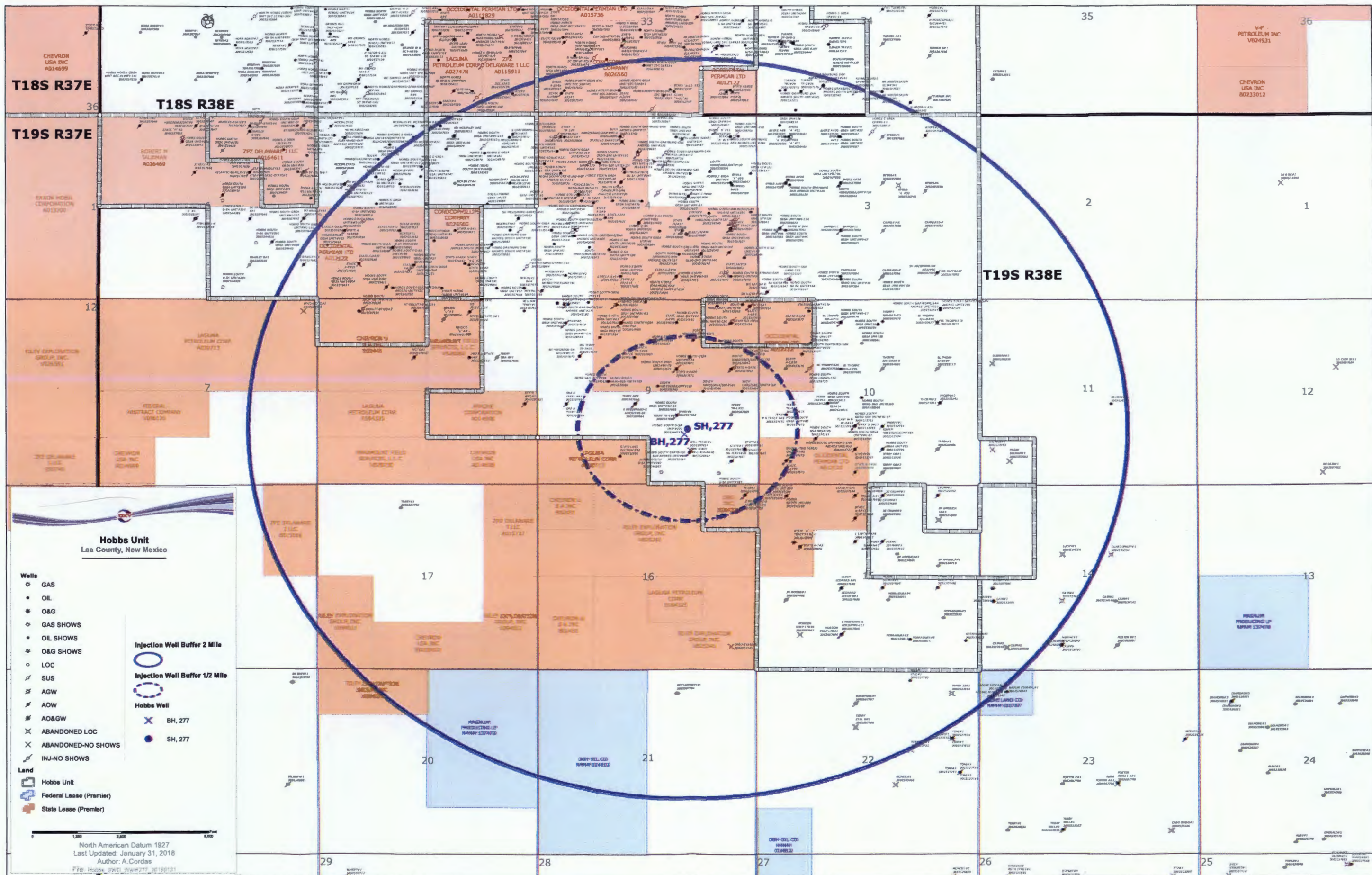
Title

Petroleum Engineer

Approved Date 01/04/18

Expiration Date 01/04/20

Conditions of Approval Attached



INJECTION WELL DATA SHEET

OPERATOR: Occidental Permian LTD.

WELL NAME & NUMBER: South Hobbs G/SA Unit #292

WELL LOCATION: 2231' FSL & 1130' FWL U.L. "L" 5 T-19-S R-38-E
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 12.25" Casing Size: 9.625" x 36#

Cemented with: 690 sx. *or* ft³

Top of Cement: 0 Method Determined: Circulated

Intermediate Casing

Hole Size: Casing Size:

Cemented with: sx. *or* ft³

Top of Cement: Method Determined:

Production Casing

Hole Size: 8.75" Casing Size: 7" x 26#

Cemented with: 1200 sx. *or* ft³

Top of Cement: 0 Method Determined: Circulated

Total Depth: 6000'

Injection Interval

4000 feet to 5340

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 2 7/8" Lining Material: Duoline (Fiberglass)

Type of Packer: Nickel Plated

Packer Setting Depth: San Andres

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

Additional Data

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

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

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) @ +/- 3700'

Glorieta @ +/- 5300'

Proposed Wellbore Diagram

Occidental Permian Ltd.

South Hobbs G/SA Unit

Lea. County

Well No. 292

API: 30-025-44313

Footage Location: 2231' FSL & 1130' FWL

Section: 5; T-19-S; R-38-E, U.L. "L"

Current Status: CO2/Water Injector

9.625" 36# @ 1700'
Cemented w/ 690 sxs
Estimated TOC: surface

7" 26# @ 6000'
Cemented w/ 1200 sxs
Estimated TOC: surface

Total Depth: 6000'

Perforations:
San Andres Formation

Proposed Wellbore Diagram

Occidental Permian Ltd.

South Hobbs G/SA Unit

Lea. County

Well No. 292

API: 30-025-44313

Footage Location: 2231' FSL & 1130' FWL

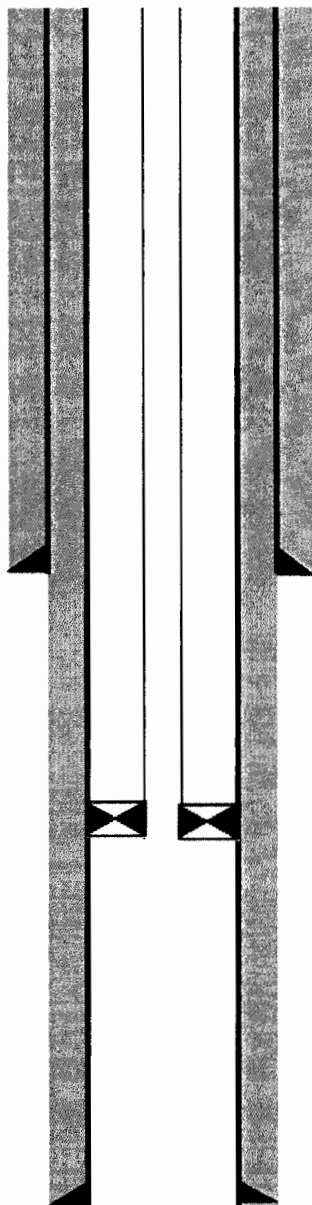
Section: 5; T-19-S; R-38-E, U.L. "L"

Current Status: CO₂/Water Injector

9.625" 36# @ 1700'
Cemented w/ 690 sxs
Estimated TOC: surface

7" 26# @ 6000'
Cemented w/ 1200 sxs
Estimated TOC: surface

Total Depth: 6000'



Proposed Packer depth @ 4100'

Proposed perf depth @ ~ 4000' - 5340'

Division I
1025 N. French Dr. Hobbs, NM 88240
Phone: (505) 345-6666 Fax: (505) 345-6723

Division II
811 S. First St. Artesia, NM 88203
Phone: (505) 748-1281 Fax: (505) 748-1723

Division III
1000 E. Broadway Blvd. Aztec, NM 87410
Phone: (505) 534-6170 Fax: (505) 534-6170

Division IV
1220 S. St. Francis Dr. Santa Fe, NM 87505
Phone: (505) 476-5455 Fax: (505) 476-5452

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form O-111
Revised July 18, 2013

☒ AMENDED REPORT



APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

Occidental Permian LTD PO Box 4294 Houston, TX 77210		Operator Name and Address	OGRID Number 157984
Property Code 19552	Property Name South Hobbs G/SA Unit	Well No 292	API Number 30-025-44213

*** Surface Location**

U.T. - Lot	Section	Township	Range	Lot Id#	Feet from	N/S Line	Feet From	E/W Line	County
L	5	19S	38E		2231	S	1130	W	Lea

*** Proposed Bottom Hole Location**

U.T. - Lot	Section	Township	Range	Lot Id#	Feet from	N/S Line	Feet From	E/W Line	County
L	5	19S	38E		1674	S	158	W	Lea

*** Pool Information**

Pool Name HUBBARD GAP - SAN ANDRES	Pool Code 31920
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Additional Well Information

Work Type New Drill	Well Type Inj	Cable Rotary	Lease Type State	Ground Level Elevation 3619
Multiple N	Proposed Depth 6000	Formation San Andres	Contractor	Spud Date 02/01/2018
Depth to Ground water		Distance from nearest fresh water well	Distance to nearest surface water	

☒ We will be using a closed-loop system in lieu of lined pits

*** Proposed Casing and Cement Program**

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	12.25	9.625	36	1700	690	0
Prod	8.75	7	26	6000	1200	0

Casing/Cement Program: Additional Comments

--

*** Proposed Blowout Prevention Program**

Type	Working Pressure	Test Pressure	Manufacturer
Annular	5000	3000	

21. I hereby certify that the information given above is true and complete to the best of my knowledge and belief
I further certify that I have complied with 19.15.14.9 (A) NMIC ☒ and/or 19.15.14.9 (B) NMIC ☒ if applicable.

Signature *April Hood*

Printed name April Hood

Title Regulatory Specialist

E-mail Address April_Hood@Oxy.com

Date 01/02/2018

Phone 713-366-5771

OIL CONSERVATION DIVISION

Approved By

[Signature]

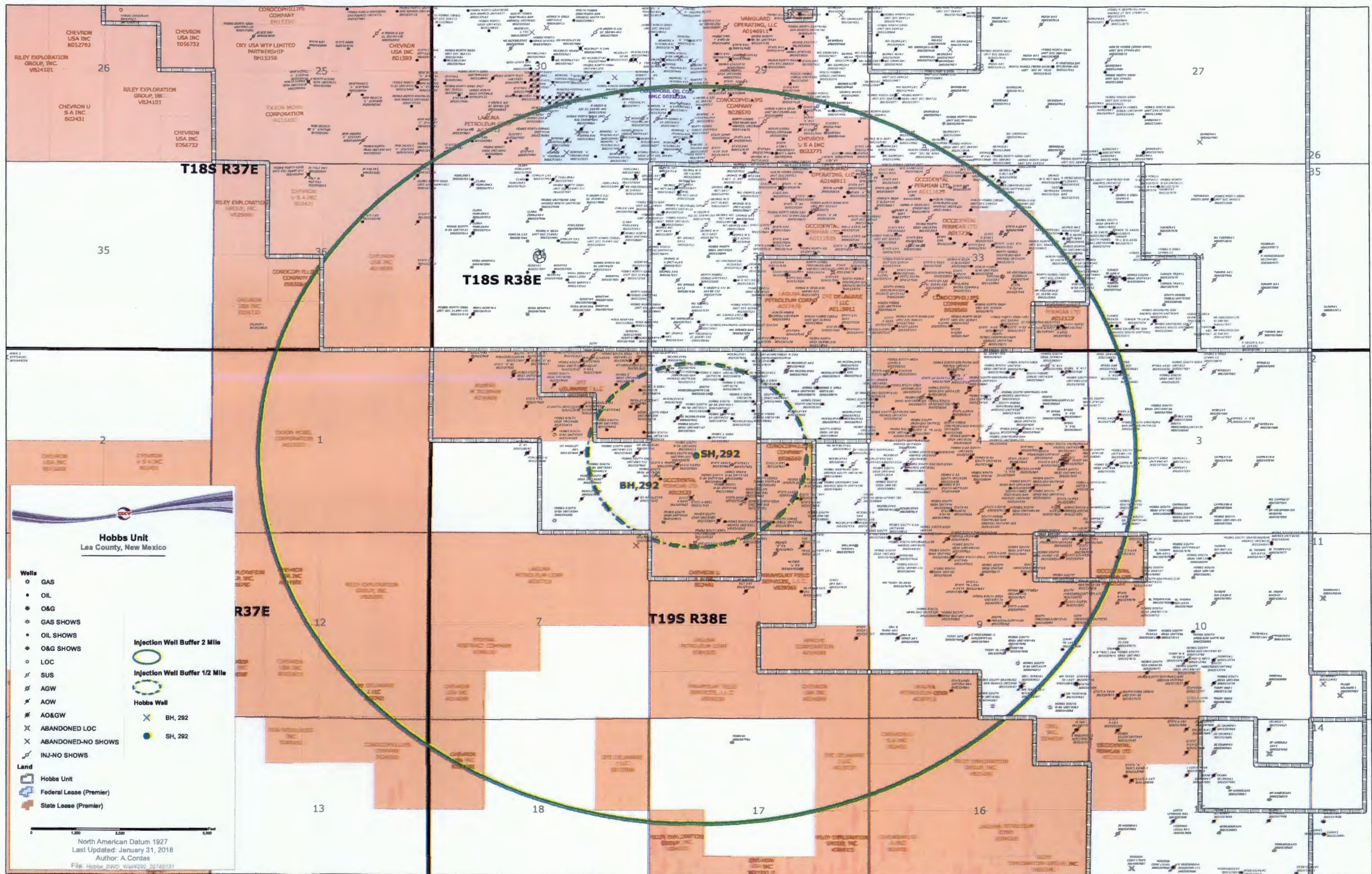
Title

Approved Date

01/04/18

Petroleum Engineer
Expiration Date 07/01/20

Conditions of Approval Attached



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

APPLICATION OF OCCIDENTAL PERMIAN LIMITED PARTNERSHIP TO AMEND ORDERS R-4934 AND R-4934-E GOVERNING THE SOUTH HOBBS GRAYBURG-SAN ANDRES PRESSURE MAINTENANCE PROJECT TO ALLOW THE INJECTION OF CARBON DIOXIDE AND PRODUCED GASES, TO MODIFY THE SURFACE INJECTION PRESSURE, TO OBTAIN OTHER RELIEF, AND TO QUALIFY THIS EXPANSION FOR THE RECOVERED OIL TAX RATE PURSUANT TO THE NEW MEXICO ENHANCED OIL RECOVERY ACT, LEA COUNTY, NEW MEXICO.

**CASE NO. 14981
ORDER NO. R-4934-F**

ORDER OF THE COMMISSION

This case comes before the New Mexico Oil Conservation Commission ("Commission") on the application of Occidental Permian Limited Partnership ("Oxy") to amend Order No. R-4934, as amended. The Commission, having conducted a hearing on May 9 and 10, 2013, at Santa Fe, New Mexico, and having considered the testimony and the record in this case, enters the following findings, conclusions and order.

THE COMMISSION FINDS THAT:

1. Due public notice has been given, and the Commission has jurisdiction of this case and its subject matter.
2. Under Order No. R-4934, issued in Case No. 5372 on December 3, 1974, the Commission authorized the injection of water into the Grayburg and San Andres formations and adopted Special Rules and Regulations for the South Hobbs Grayburg-San Andres Pressure Maintenance Project for certain acreage in Townships 18 and 19 South, Range 38 East, Lea County, New Mexico.
3. In May of 1984, under Order No. R-4934-E, the New Mexico Oil Conservation Division ("Division") amended the Special Rules and Regulations governing the South Hobbs Grayburg-San Andres Pressure Maintenance Project to what they are currently today.
4. Occidental Permian Limited Partnership is the current operator of the South Hobbs Grayburg-San Andres Pressure Maintenance Project. The acreage subject to the current waterflood operations consists of the following acreage in Lea County, New Mexico (hereinafter the "South Hobbs Project Area"):

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM

Section 33: SE/4 SE/4

Section 34: SW/4 and W/2 NW/4

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM

Sections 3, 4, and 5: All

Section 6: N/2 and SE/4

Section 8: N/2 NW/4, E/2 NE/4, and N/2 SE/4

Section 9: N/2, N/2 SW/4, and SE/4

Section 10: All

Section 11: SW/4 SW/4

Section 14: W/2 NW/4

Section 15: All

Section 16: NE/4 NE/4

5. In April of 2009, under Administrative Order IPI-340, the Division approved Oxy's request to utilize 1100 psi as the maximum surface injection pressure for water in the South Hobbs Project Area.

6. Oxy is also the operator of the North Hobbs Grayburg San Andres Unit, which is adjacent to and to the north of the South Hobbs Project Area. The North Hobbs Grayburg San Andres Unit and the South Hobbs Project Area are collectively referred to as the "Hobbs Field".

7. Under Order No. R-6199-B, entered in Case No. 12722 on October 22, 2001, the Division authorized the conversion of a portion of the North Hobbs Grayburg San Andres Unit (the "Phase I Area") from a waterflood pressure maintenance project to a carbon dioxide gas tertiary recovery injection project in the Grayburg and San Andres formations.

8. Oxy now seeks authority to convert the South Hobbs Project Area to a similar carbon dioxide gas tertiary recovery injection project, and therefore requests the following relief from the Commission:

(a) to approve the injection of carbon dioxide (CO₂), and the reinjection of produced CO₂, water and gases including methane, natural gas liquids and hydrogen sulfide (H₂S) in the South Hobbs Project Area;

(b) to provide for a surface injection pressure limit for CO₂, produced gases and water based on friction pressure losses down the tubing and the lower density of gas as compared to water as follows: 1100 psi for water injection, 1250 psi for CO₂ only injection, and 1770 psi for produced gas injection;

(c) to the extent that a limiting gas-oil ratio applies to an enhanced oil recovery project, to increase that limit above that allowed by 19.15.20.13 NMAC to 75,000 cubic feet of gas per barrel of oil produced;

- (d) to allow an exception to the one-year commencement of injection required by 19.15.26.12.C NMAC for the South Hobbs Project Area;
- (e) to provide that for any approved injection well that commences injection operations more than five years after approval of this request, that Oxy submit a statement that there have been no substantive changes to the area-of-review information submitted to the Division with its Application, or a statement describing any substantive changes;
- (f) to provide for a five-year frequency for the mechanical integrity tests required for temporarily-abandoned wells that are equipped with real-time pressure monitoring devices pursuant to 19.15.25.13.E NMAC;
- (g) to modify the packer setting depth required by Rule 10 of the Special Rules for the South Hobbs Grayburg-San Andres Unit Pressure Maintenance Project 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;
- (h) to remove the requirement in Rule 15 of the Special Rules for the South Hobbs Grayburg-San Andres Unit Pressure Maintenance Project that a cement bond log be run prior to placing a well on injection or at any time the rods and/or tubing are pulled from any producing well;
- (i) to allow for the administrative approval of additional injection wells into the Grayburg and San Andres formations underlying the South Hobbs Project Area; and
- (j) to qualify this expansion of injection authority for the recovered oil tax rate pursuant to the New Mexico Enhanced Oil Recovery Act, NMSA 1978, Sections 7-29A-1 to 7-29A-5 (Laws 1992, Chapter 38, Sections 1 through 5) ("Recovery Act"), and the rules of the Commission, 19.15.6 NMAC ("Rules").

9. The Division appeared at the hearing, examined Oxy's witnesses, and offered a Pre-Hearing Statement with sworn written testimony from Richard Ezeanyim, a registered petroleum engineer and a Bureau Chief within the Division.

10. Malcolm Coombes, a surface owner within the South Hobbs Project Area, submitted a Pre-Hearing Statement and opposed the application because the project would endanger human health and safety and possibly harm the value of his land. Mr. Coombes appeared at the hearing through counsel. After examining Oxy's initial witness, Mr. Coombes, through his counsel, indicated that he had no objection to Oxy's application and did not participate further in the case.

11. Big Al Oil & Gas submitted a letter protesting the application but did not appear at the hearing or offer any testimony or exhibits. The Economic Development Corporation of Lea County submitted a resolution in support of the application.

12. Oxy presented seven witnesses in support of its application: Richard Foppiano, a petroleum engineer employed by Oxy with expertise in oil and gas regulatory matters and health and safety issues; Jerad Brockman, Oxy's project manager for the South Hobbs Project Area 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 for the South Hobbs Project Area; Krishna Chokkarapu, a facilities and construction engineer employed by Oxy with special expertise in the design and engineering of CO2 and produced gas surface facilities for EOR projects; Kelley Montgomery, Oxy's regulatory consultant with expertise in oil and gas production engineering and environmental engineering; and Pat Sparks, Oxy's petroleum landman who directed a team of brokers to address the notice requirements for the application. These witnesses discussed and presented power-point slides, maps, diagrams, and other material that comprised a total of seventeen exhibits.

13. Oxy's witnesses provided testimony and presented exhibits addressing the following topics:

- (a) Oxy's extensive experience with oil and gas operations, including the handling of H2S and CO2 flooding operations in the Permian Basin;
- (b) How enhanced oil recovery projects utilize the injection of CO2, water and produced gases to recover additional oil that is not recovered by primary and secondary recovery operations;
- (c) How enhanced oil recovery projects are designed and implemented;
- (d) How the gas injection operations necessary for enhanced oil recovery projects differ from acid gas disposal operations;
- (e) The capital costs and associated development plans to convert the South Hobbs Project Area from a secondary waterflood project to an enhanced oil recovery project;
- (f) The injection and production well patterns Oxy intends to utilize in the South Hobbs Project Area;
- (g) The location and nature of the additional surface facilities Oxy intends to install in the South Hobbs Project Area;
- (h) The projected timetable for the installation of key components of the enhanced oil recovery project and the anticipated commencement date of CO2 injection operations;

- (i) The effect that an enhanced oil recovery project has on the gas-oil ratio over time;
- (j) How step rate tests were utilized to determine the appropriate surface injection pressure limits for water, CO2 and produced gases;
- (k) The injection pressure control devices Oxy intends to utilize on its injection wells;
- (l) The redundant pressure controls Oxy intends to utilize in the South Hobbs Project Area;
- (m) Oxy's supervisory control and data acquisition (SCADA) system, and how it will be utilized to provide constant monitoring of temperature, water content, pressures, H2S levels and gas content in the South Hobbs Project Area;
- (n) How Oxy intends to monitor the reservoir pressure to ensure that it remains just above the miscibility pressure;
- (o) The need for additional flexibility in the packer setting depth than what is currently allowed by Rule 10 of the Special Rules for the South Hobbs Grayburg-San Andres Unit Pressure Maintenance Project;
- (p) The geology underlying the South Hobbs Project Area, the location of the fresh water zones and the impermeable barriers that exist between the injection interval and the fresh water zones;
- (q) That a Division approved H2S contingency plan is in place that includes the South Hobbs Project Area;
- (r) Oxy's downhole corrosion mitigation efforts, including the use of corrosion resistant tubing, packers and inert packer fluid in the annulus;
- (s) Oxy's mechanical integrity program for the design, engineering, construction and maintenance of CO2 and produced gas injection facilities for enhanced oil recovery projects;
- (t) 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 South Hobbs Project Area;
- (u) The additional corrosion inhibition and mitigation efforts Oxy will utilize for the installation, construction and maintenance of the injection facilities in the South Hobbs Project Area;
- (v) The production history of the South Hobbs Project Area and the forecasted additional oil, gas and water production;

(w) The condition of the existing injection wells and design plans for additional injection wells in the South Hobbs Project Area;

(x) Oxy's plans to obtain additional information and address, as necessary, the cementing condition of the Herradura Well No. 3 (API No. 30-022-35933), a Chevron operated well in the southeast corner of the South Hobbs Project Area;

(y) 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;

(z) 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;

(aa) The extensive knowledge concerning the cementing conditions for wells within the South Hobbs Project Area, the current cement bond log requirements under Rule 15 of the Special Rules for the South Hobbs Grayburg-San Andres Unit Pressure Maintenance Project, and the absence of a need to run cement bond logs any time the rods and/or tubing are pulled from any producing well in the project area;

(bb) The methodology, time frame and effort involved to ascertain the parties entitled to notice of the hearing on Oxy's application;

(cc) The number and identification of the parties notified of the hearing either by certified mail or by newspaper publication; and

(dd) Oxy's meetings with the City of Hobbs concerning its proposed tertiary recovery project in the South Hobbs Project Area.

14. The Division's Environmental Bureau has approved a hydrogen sulfide contingency plan that covers the South Hobbs Project Area.

15. The geologic evidence established the following with respect to the Grayburg and San Andres formations underlying the South Hobbs Project Area and the adjacent North Hobbs Grayburg San Andres 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.

16. With respect to the proposed injection wells and the existing wells within the area of review for the South Hobbs Project Area, the evidence established that:

(a) The existing injection wells in the South Hobbs Project Area are sufficiently cased and cemented to prevent the migration of injection fluids out of the proposed injection interval.

(b) Oxy's design for additional injection wells in the South Hobbs Project Area will provide sufficient casing and cement to prevent the migration of injection fluids out of the proposed injection interval.

(c) With the possible exception of the Chevron operated Herradura Well No. 3 (API No. 30-022-35933), the remaining wells within the area of review are sufficiently cased and cemented to prevent migration of the injection fluids out of the proposed injection interval.

(d) Oxy does not intend to commence injection within one-half mile of the Chevron operated Herradura Well No. 3 (API No. 30-022-35933) until further evaluation of the cement in this well and Oxy is able to demonstrate to the Division that sufficient casing and cement exists to prevent migration of the injection fluids out of the proposed injection interval.

17. The Division has reviewed Oxy's application and found the proposed tertiary recovery project will prevent waste, protect correlative rights, is in the interest of conservation, and will provide a reasonable level of protection to human health and the environment.

18. The evidence demonstrates it is prudent to implement tertiary recovery operations in the Grayburg and San Andres formations underlying the South Hobbs Project Area and that implementing this project will result in the recovery of additional oil that may otherwise not be recovered and wasted.

19. The evidence presented to the Commission over the course of two days demonstrates that Oxy's proposed tertiary recovery operations in the Grayburg and San

Andres formations underlying the South Hobbs Project Area will not pose an unreasonable threat to groundwater, the public health or the environment.

20. Oxy's request to implement a tertiary recovery project utilizing the injection of CO₂ from outside sources, and produced water and produced gases from the Hobbs Field should be approved.

21. With respect to Oxy's requested maximum surface injection pressures for water, CO₂ and produced gases, the evidence demonstrates:

(a) Division Order IPI-340 approved a maximum surface injection pressure of 1100 psi for water after an evaluation of step rate tests performed by Oxy in 2008.

(b) Water is more dense than CO₂ and produced gases, thereby justifying higher surface injection pressures for these gases than that allowed for water.

(c) Oxy's proposed maximum surface injection pressures of 1250 psi for CO₂ and 1770 psi for produced gases are based on the step rate tests performed in 2008 and take into account the hydrostatic pressure differences between the substances.

(d) Oxy's proposed maximum surface injection pressures of 1250 psi for CO₂ and 1770 psi for produced gases will allow injection operations to be conducted well below the bottomhole parting pressures evidenced by the step-rate tests performed in 2008.

(e) Oxy's requested maximum surface injection pressures for water, CO₂ and produced gases should be approved.

22. With respect to Oxy's request for an exception to the limiting gas-oil ratio set forth in NMAC 19.15.20.13, Oxy provided testimony that Rules 19.15.20.12 (Depth Bracket Allowables) and 19.15.20.13 (Gas Oil Ratio Limitation) should not apply to enhanced oil recovery projects.

23. With respect to Oxy's request for an exception to the one-year commencement of injection required by NMAC 19.15.26.12.C, the evidence establishes that due to the time frames associated with the design, procurement and construction of the necessary facilities, injection operations in the South Hobbs Project Area are not expected to commence before September of 2015. Accordingly, it is reasonable to allow for a three year period of time to commence injection operations.

24. Based on the extensive area of review analysis performed by Oxy, as well as the low level of activity in the subject area by other operators, 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.

25. 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.

26. Pursuant to NMAC 19.15.25.14, 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 injection wells in the South Hobbs Project Area once every two years as recommended by the Division.

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

28. With respect to Oxy's request to modify the cement bond log requirements under Rule 15 of the Special Rules for the South Hobbs Grayburg-San Andres Unit Pressure Maintenance Project, the Commission finds that a cement bond log should be run prior to placing a well on injection, but agrees there is no need to run a cement bond log on a producing well each time the rods and/or tubing are pulled.

29. The Commission further finds that the remaining four additional requirements proposed by the Division in its prehearing statement are appropriate for the South Hobbs Project Area.

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

(a) Oxy's planned enhanced oil recovery project in the South Hobbs Project Area should result in the recovery of an additional 33.2 million barrels of oil that may otherwise not be recovered, thereby preventing waste.

(b) The South Hobbs Project Area has been so depleted 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 recovery project" under the Recovery Act and the Rules. NMSA 1978, Section 7-29A-4; 19.15.6.8.E NMAC.

31. The proposed tertiary recovery project will prevent waste, protect correlative rights, and should be approved with certain conditions.

THE COMMISSION CONCLUDES THAT:

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

2. Oxy has provided substantial evidence to support the approval of the authority to inject CO₂, and produced water and produced gases into the South 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 concludes Rules 19.15.20.12 (Depth Bracket Allowables) and 19.15.20.13 (Gas Oil Ratio Limitation) do not apply to enhanced oil recovery projects, and therefore, neither a limiting gas-oil ratio nor an oil allowable shall apply to this tertiary recovery project.

4. Rule 19.15.26.12(C) allows an extension of the one year deadline for injection authority for good cause. Oxy has provided substantial evidence concerning the size and complexity of the project to show good cause and to support the Commission extension of the deadline for initial injection to three years.

5. 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 South Hobbs Grayburg-San Andres Unit Pressure Maintenance Project, as expanded 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 South 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 Nos. R-4934 and R-4934-E remain applicable to the ongoing waterflood operations for the South Hobbs Grayburg-San Andres Unit Pressure Maintenance Project, except to the extent that the governing provisions are inconsistent with this order.

2. Oxy is authorized to implement a tertiary recovery project by the injection of CO₂, and produced water and produced gases from the Hobbs Field into the Grayburg and San Andres formations underlying the following acreage, which shall be known as the South Hobbs Project Area:

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM

Section 33: SE/4 SE/4
Section 34: SW/4 and W/2 NW/4

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM

Sections 3, 4, and 5: All
Section 6: N/2 and SE/4
Section 8: N/2 NW/4, E/2 NE/4, and N/2 SE/4
Section 9: N/2, N/2 SW/4, and SE/4
Section 10: All
Section 11: SW/4 SW/4
Section 14: W/2 NW/4
Section 15: All
Section 16: NE/4 NE/4

3. The injection of CO₂, water and produced gases is initially authorized for the 30 existing injection wells and 23 additional injection wells listed on Exhibit "A" attached to this order. Application for approval of additional injection wells in the South Hobbs Project Area 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. The injection authority granted herein for the wells shown on Exhibit "A" shall terminate three years after the date of this order if the operator has not commenced tertiary injection operations in the South Hobbs Project Area; provided, however, the Division, upon written request by the operator, may grant an extension for good cause. Furthermore, in accordance with NMAC 19.15.26.12.C (Abandonment of Injection Operations), whenever there is a one-year period of non-injection into all wells in the project area, the Division shall consider the project abandoned and the authority to inject shall automatically terminate.

5. For any injection well shown on Exhibit "A" 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

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.

6. The injection wells or pressurization system within the South Hobbs Project Area 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 only;
1250 psig for injection of CO₂ only; and
1770 psig for injection of produced gases.

7. 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.

8. 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.

9. 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.

10. 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.

11. 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.

12. 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.

13. The operator is no longer 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.

14. Prior to commencing injection operations, the casing in each of the injection wells within the South Hobbs Project Area shall be pressure tested throughout the interval from the surface down to the proposed packer setting depth to assure the integrity of such casing.

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

16. 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.

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

18. Oxy shall not commence injection operations anywhere within one-half (1/2) mile of the Chevron operated Herradura Well No. 3 (API No. 30-022-35933) until Oxy provides a cement bond log to the Division's Hobbs District Office demonstrating that adequate cement exists in this well to prevent migration of the injection fluids out of the proposed injection interval.

19. The operator shall immediately notify the supervisor of the Division's Hobbs District Office of the failure of the tubing, casing or packer in any of the injection wells, 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.

20. Oxy shall maintain recorded data from its SCADA system for the South Hobbs Project Area 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.

21. No limiting gas-oil ratio or oil allowable applies to this enhanced oil recovery project.

22. The hydrogen sulfide contingency plan for the South Hobbs Project Area shall be reviewed and amended as necessary pursuant to 19.15.11.9.F NMAC.

23. The South Hobbs Grayburg-San Andres Unit Pressure Maintenance Project is hereby certified as an enhanced recovery project and as a tertiary recovery project pursuant to the Recovery Act and the Rules. The South Hobbs Project Area is designated as the area to be affected by the enhanced recovery project. To be eligible for

the recovered oil tax rate, the operator shall advise the Division of the date and time CO2 injection commences within the project area. 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 the Rules, 19.15.6.E NMAC. 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. Oxy must also report annually to the Division to confirm that the project is still a viable EOR project as approved. 19.15.6.F NMAC.

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 18th day of July, 2013.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION




ROBERT BALCH, Member


TERRY WARNELL, Member


JAMI BAILEY, Chair

SEAL

Exhibit "A"

List of Injectors in South Hobbs Unit Project
53 Total Injectors

No.	API Number	Section	Unit Letter	Township & Range	Footage Location	Proposed Injectants Purchased CO2/Water or Produced Gas/CO2/Water	Current Status
SHU 128	30-025-28332	3	D	19-S; 38-E	335 FNL & 520 FNL	Purchased CO2/Water	Active Injector
SHU 240	30-025-35342	34	M	18-S; 38-E	571 FSL & 1302 FNL	Purchased CO2/Water	Active Producer
SHU 36	30-025-07588	3	F	19-S; 38-E	1980 FNL & 1980 FNL	Purchased CO2/Water	Active Injector
SHU 37	30-025-07584	3	G	19-S; 38-E	1980 FNL & 2310 FNL	Purchased CO2/Water	P&A'd Injector
SHU 188	30-025-28982	5	K	19-S; 38-E	1493 FSL & 1802 FNL	Produced Gas/CO2/Water	Active Producer
SHU 189	30-025-29085	5	J	19-S; 38-E	1685 FSL & 2475 FEL	Produced Gas/CO2/Water	Active Producer
SHU 190	30-025-29082	5	I	19-S; 38-E	1568 FSL & 1105 FEL	Produced Gas/CO2/Water	Active Producer
SHU 191	30-025-28983	4	L	19-S; 38-E	1585 FSL & 395 FNL	Produced Gas/CO2/Water	Active Producer
SHU 140	30-025-28343	4	L	19-S; 38-E	1485 FSL & 1245 FNL	Produced Gas/CO2/Water	Active Producer
SHU 141	30-025-28344	4	K	19-S; 38-E	1478 FSL & 2595 FNL	Produced Gas/CO2/Water	Active Producer
SHU 142	30-025-28345	4	O	19-S; 38-E	1310 FSL & 1370 FEL	Produced Gas/CO2/Water	Active Producer
SHU 145	30-025-28348	3	N	19-S; 38-E	577 FSL & 1984 FNL	Purchased CO2/Water	Active Producer
SHU 71	30-025-07670	9	E	19-S; 38-E	1650 FNL & 990 FNL	Produced Gas/CO2/Water	TA'd Injector
SHU 63	30-025-07662	9	C	19-S; 38-E	660 FNL & 1980 FNL	Produced Gas/CO2/Water	Active Injector
SHU 154	30-025-28357	9	B	19-S; 38-E	1163 FNL & 2600 FEL	Produced Gas/CO2/Water	Active Producer
SHU 155	30-025-28358	9	B	19-S; 38-E	1158 FNL & 1568 FEL	Produced Gas/CO2/Water	Active Producer
SHU 156	30-025-28359	9	H	19-S; 38-E	1370 FNL & 330 FEL	Produced Gas/CO2/Water	Active Producer
SHU 83	30-025-07664	9	J	19-S; 38-E	1980 FSL & 1980 FEL	Produced Gas/CO2/Water	TA'd Injector
SHU 91	30-025-20047	9	P	19-S; 38-E	990 FSL & 330 FEL	Produced Gas/CO2/Water	TA'd Producer
COOP 2	30-025-28305	4	D	19-S; 38-E	645 FNL & 453 FNL	Purchased CO2/Water	Active Injector
COOP 3	30-025-28306	4	C	19-S; 38-E	645 FNL & 2045 FNL	Purchased CO2/Water	Active Injector
COOP 4	30-025-28307	4	A	19-S; 38-E	494 FNL & 1025 FEL	Purchased CO2/Water	Active Injector
COOP 5	30-025-28308	34	L	18-S; 38-E	1980 FSL & 645 FNL	Purchased CO2/Water	Active Injector
COOP 6	30-025-28309	34	E	18-S; 38-E	1950 FNL & 535 FNL	Purchased CO2/Water	Active Injector
COOP 9	30-025-28968	34	A	18-S; 38-E	717 FNL & 651 FNL	Purchased CO2/Water	Active Injector
COOP 10	30-025-28969	34	L	18-S; 38-E	2564 FSL & 1607 FNL	Purchased CO2/Water	Active Injector
11	30-025-28970	34	L	18-S; 38-E	2500 FSL & 1660 FNL	Purchased CO2/Water	Active Injector
COOP 12	30-025-28971	34	N	18-S; 38-E	636 FSL & 2348 FNL	Purchased CO2/Water	Active Injector
COOP 13	30-025-28972	3	B	19-S; 38-E	505 FNL & 2560 FEL	Purchased CO2/Water	Active Injector
SHU 209	30-025-29522	8	D	19-S; 38-E	265 FNL & 1090 FEL	Produced Gas/CO2/Water	Active Injector
SHU 928	TBD	10	M	19-S; 38-E	660 FSL & 600 FNL	Produced Gas/CO2/Water	Proposed New Drill - Vertical
SHU 958	TBD	10	O	19-S; 38-E	990 FSL & 2310 FEL	Produced Gas/CO2/Water	Proposed New Drill - Vertical
VP1	TBD	6	G	19-S; 38-E	TBD	Purchased CO2/Water	Proposed New Drill - Vertical
VP2	TBD	6	F	19-S; 38-E	TBD	Purchased CO2/Water	Proposed New Drill - Vertical
VS2	TBD	15	G	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Vertical
VS3	TBD	15	F	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Vertical
DSR1	TBD	4	J	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Directional
DSR2	TBD	4	J	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Directional
DSR3	TBD	4	J	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Directional
DSR4	TBD	4	K	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Directional
DSR5	TBD	4	K	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Directional
DSR6	TBD	4	K	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Directional
DSR7	TBD	4	K	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Directional
DSR8	TBD	5	L	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Directional
DSR9	TBD	5	L	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Directional
DSR10	TBD	5	L	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Directional
DSR11	TBD	5	L	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Directional
DSR12	TBD	10	O	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Directional
DSR13	TBD	10	O	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Directional
DSR14	TBD	10	O	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Directional
203	TBD	5	L	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Directional
143	TBD	4	J	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Directional
P144	TBD	4	J	19-S; 38-E	TBD	Produced Gas/CO2/Water	Proposed New Drill - Directional



FORM C-108 Technical Review Summary [Prepared by reviewer and included with application; V16.2]

DATE RECORD: First Rec: 5/11/2018 Admin Complete: _____ or Suspended: _____ Add. Request/Reply: 6/13/2018
ORDER TYPE: WFX/PMX/SWD Number: _____ Order Date: _____ Legacy Permits/Orders: 12-4934-F

Well No. 25 Well Name(s): SOUTH HOBBS G/SH Unit
API: 30-0 25-428356 Spud Date: 9-12-1983 New or Old (EPA): NEW (UIC Class II Primacy 03/07/1982)
Footages 1105 FSL Lot _____ or Unit C Sec 9 Tsp 15S Rge 38E County Lea
General Location: 2.2 miles S of Hobbs Pool: HOBBS GRAYBANKS - Occidental Pool No.: 31920
BLM 100K Map: HOBBS Operator: Dennison LTD OGRID: 15748 Contact: April Hood
COMPLIANCE RULE 5.9: Total Wells: 627 Inactive: 0 Fincl Assur: OK Compl. Order? NA IS 5.9 OK? 07-09-2018
WELL FILE REVIEWED ☐ Current Status: Active
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 of Cf	Cement Top and Determination Method
Planned ___ or Existing ___ Surface		<u>12 1/4" / 18 5/8"</u>	<u>1524</u>	<u>100</u>	<u>Surface / Visual</u>
Planned ___ or Existing ___ Interm/Prod		<u>7 1/8" / 5 1/2"</u>	<u>4300</u>	<u>3771</u>	<u>Surface / Visual</u>
Planned ___ or Existing ___ Interm/Prod					
Planned ___ or Existing ___ Prod/Liner					
Planned ___ or Existing ___ Liner					
Planned ___ or Existing ___ OH / PERF		<u>4 1/2" / 4300</u>		<u>Inj Length: 168</u>	

Injection Lithostratigraphic Units		Depths (ft)	Injection or Confining Units	Tops	Completion/Operation Details:
Adjacent Unit: Litho. Struc. Por.			<u>GL</u>	<u>3979</u>	Drilled TD <u>4300</u> PBTD <u>4235</u>
Confining Unit: Litho. Struc. Por.			<u>SH</u>	<u>4079</u>	NEW TD _____ NEW PBTD _____
Proposed Inj Interval TOP: _____					NEW Open Hole <input type="radio"/> or NEW Perfs <input type="radio"/>
Proposed Inj Interval BOTTOM: _____					Tubing Size <u>2 7/8</u> in. Inter Coated? _____
Confining Unit: Litho. Struc. Por.					Proposed Packer Depth <u>4100</u> ft
Adjacent Unit: Litho. Struc. Por.					Min. Packer Depth <u>4000</u> (ft limit)
					Proposed Max. Surface Press. <u>1100</u> psi
					Admin. Inj. Press. _____ (0.2 psi per ft)

AOR: Hydrologic and Geologic Information

POTASH: R-111-P _____ Noticed? _____ BLM Sec Ord ☐ WIPP ☐ Noticed? _____ Salt/Salado T: 1250 B: 2789 NW: Cliff House fm _____

FRESH WATER: Aquifer Guthrie Max Depth 155 HYDRO AFFIRM STATEMENT By Qualified Person ☐

NMOSE Basin: LEA CAPITAN REEF: thru _____ adj _____ NA _____ No. GW Wells in 1-Mile Radius? _____ FW Analysis? _____

Disposal Fluid: Formation Source(s) Produced from 96 BWP Analysis? _____ On Lease ☐ Operator Only ☐ or Commercial ☐

Disposal Interval: Inject Rate (Avg/Max BWP): 15000/4000 Protectable Waters? _____ Source: _____ System Closed or Open

HC Potential: Producing Interval? Y Formerly Producing? _____ Method: Logs/DST/P&A/Other _____ 2-Mi Radius Pool Map ☐

AOR Wells: 1/2-M Radius Map and Well List? _____ No. Penetrating Wells: _____ [AOR Horizontals: _____ AOR SWDs: _____]

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 NA Mineral Owner NA Surface Owner NA N. Date _____

RULE 26.7(A): Identified Tracts? NA Affected Persons: NA N. Date _____

Order Conditions: Issues: WIP
Additional COAs: 1100 psi / H₂O
1250 CO₂, 1770 psi Produced Gas



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: 2 of 3 Well No. 277 Well Name(s): 50475 11 HO bks C1 S H445K
API: 30-0 25-4431 Spud Date: _____ New or Old: _____ (UIC Class II Primacy 03/07/1982)
Footages 1573 FEL Lot _____ or Unit J Sec 9 Tsp 155 Rge 38E County Lea
WELL FILE REVIEWED ☐ Current Status: Proposed
WELL DIAGRAMS: NEW: Proposed ☒ or RE-ENTER: Before Conv. ☐ After Conv. ☐ Logs in Imaging: MA
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>12 1/4 / 5 1/2</u>	<u>1700</u>	<u>690</u>	<u>Surface</u>
Planned ___ or Existing ___ Interm/Prod	<u>8 3/4 / 7"</u>	<u>6000</u>	<u>1200</u>	
Planned ___ or Existing ___ Interm/Prod				
Planned ___ or Existing ___ Prod/Liner				
Planned ___ or Existing ___ Liner				
Planned ___ or Existing ___ OH (PEBF)	<u>4040 / 5340</u>	<u>1390</u>	<u>1390</u>	

Completion/Operation Details: Drilled TD 6091 PBTD _____ NEW TD _____ NEW PBTD _____
NEW Open Hole ☐ or NEW Perfs ☒ Tubing Size 2 in. Coated? X Prop. Packer Depth 4000 ft Min. Depth 4000 (100-ft limit) (Lining. Per)
Proposed Max. Surface Press. _____ psi Admin. Inj. Press. _____ (0.2 psi per ft) ANY AREA IPI APPROVAL: _____
Specific Requirement(s) for Well: _____

MULTIPLE WELL APPLICATION: 3 of 3 Well No. 292 Well Name(s): South Hobbs C1 S H445K
API: 30-0 44313 Spud Date: TBD New or Old: N (UIC Class II Primacy 03/07/1982)
Footages 2231 FEL Lot _____ or Unit L Sec 5 Tsp 155 Rge 38E County Lea
WELL FILE REVIEWED ☐ Current Status: _____
WELL DIAGRAMS: NEW: Proposed ☐ or RE-ENTER: Before Conv. ☐ After Conv. ☐ Logs in Imaging: _____
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>12 1/4 / 5 1/2</u>	<u>1700</u>	<u>690</u>	<u>Surface / UIC</u>
Planned ___ or Existing ___ Interm/Prod	<u>8 3/4 / 7"</u>	<u>6000</u>	<u>1200</u>	<u>Surface / UIC</u>
Planned ___ or Existing ___ Interm/Prod				
Planned ___ or Existing ___ Prod/Liner				
Planned ___ or Existing ___ Liner				
Planned ___ or Existing ___ OH (PEBF)	<u>4040 / 5340</u>	<u>1390</u>	<u>1390</u>	

Completion/Operation Details: Drilled TD _____ PBTD _____ NEW TD _____ NEW PBTD _____
NEW Open Hole ☐ or NEW Perfs ☒ Tubing Size 2 1/8 in. Coated? X Prop. Packer Depth 4100 ft Min. Depth _____ (100-ft limit) (Lining interval)
Proposed Max. Surface Press. _____ psi Admin. Inj. Press. _____ (0.2 psi per ft) ANY AREA IPI APPROVAL: _____
Specific Requirement(s) for Well: _____