



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

August 1, 2022

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. 341; API 30-025-05497
Well No. 411; API 30-025-05539
Lea County, NM

Occidental Permian Ltd. respectfully requests administrative approval to inject CO2 and produced gas into the two above referenced injectors in the North Hobbs Unit under Order No. R-6199-F. The wells are currently authorized to inject water. The H2S contingency plan which covers both North and South Hobbs Units will be updated to reflect this change.

In support of this request, please find the following documentation:

- Administrative Application Checklist
- Form C-108 with required data attached
- Injection Well Data Sheet with Wellbore Schematic
- Form C-102
- Map
- Area of Review statement

Per R-6199-F Paragraph 3 on page 9, “(...) *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.*” The two injectors in this application are located within the expanded Phase I Area of the North Hobbs Unit.

If you have any questions, please contact me at 832-646-4450 or email Jose_Gago@oxy.com.

Sincerely,

A handwritten signature in blue ink that reads "Jose Gago".

Jose Gago
Engineer, Regulatory

DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
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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 _____

[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
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- [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.

Jose L Gago

Print or Type Name

Jose Luis Gago
 Signature

Engineer, Regulatory

Title

07/19/2022

Date

jose_gago@oxy.com

e-mail Address

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

FORM C-108
Revised June 10, 2003

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: P.O. Box 4294 Houston, TX 77210-4294

CONTACT PARTY: Jose L Gago PHONE: 832-646-4450

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

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).

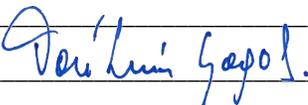
*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

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: Jose L Gago TITLE: Engineer, Regulatory

SIGNATURE:  DATE: 07/19/2022

E-MAIL ADDRESS: Jose_Gago@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: February 11, 2014 as part of Order No. R-6199-F application

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

Side 2

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 G/SA Unit No. 341
Lea County, New Mexico

- I. This is a pressure maintenance project. The project qualifies for administrative approval.
- II. OCCIDENTAL PERMIAN Ltd.
P.O. Box 4294 Houston, TX 77210-4294
Contact Party: Jose Gago, 832-646-4450
- III. Injection well data sheet and wellbore schematic has been attached for NORTH HOBBS G/SA UNIT No. 341
- IV. This is an expansion of an existing project authorized under Order No. R-6199-F.
- V. The map with a two mile radius surrounding the injection well and a one half mile radius for area of review is attached.
- VI. In accordance to Order No. R-6199-F Section 4 OCCIDENTAL PERMIAN Ltd certifies that:
The area of review for well "NORTH HOBBS G/SA UNIT #341" shows no substantive changes in the information furnished in support of Order No. R-6199-F concerning the status of construction of any well that penetrates the injection interval within the one-half (1/2) mile around the injection well.
- VII. Proposed Operation
 1. Average Injection Rate 4,000 BWPD / 15,000 MCFGPD
Maximum Injection Rate 9,000 BWPD / 20,000 MCFGPD
 - 2 This will be a closed system.
 3. Average Surface Injection Pressure 1,100 PSIG
Maximum Surface Injection Pressure

Produced Water	1,100 PSIG
CO2	1,250 PSIG
CO2 w/produced gas	1,770 PSIG

 (In accordance with Order No. R-6199-F, effective 7/18/13)
 4. Source Water – San Andres Produced Water
(Analysis previously provided at hearing, Case No. 14981)
- VIII. The information was previously submitted as part of Order No. R-6199-F application
- IX. This is an existing well. An NOI to run a liner and re-perforate was approved on May 26th 2022. The new well configuration is reflected in this application.
- X. Logs were filed at the time of drilling.
- XI. Water analysis from PODs L-04920 X and L-04920 and their location map are included with the application.
- XII. N/A. This is a pressure maintenance project, not a disposal well.
- XIII. Order No. R-6199-F allows the administrative approval, from the Division Director, of additional injection wells without notice and hearing. Notices to producers and surface owners for the water/CO2 flood area were provided at the time of the application and hearing for Order No. R-6199-F.

Side 1

INJECTION WELL DATA SHEET

OPERATOR: Occidental Permian LTD.

WELL NAME & NUMBER: NORTH HOBBS G/SA UNIT #341

WELL LOCATION:	<u>660' FSL 1650' FEL</u>	<u>O</u>	<u>25</u>	<u>18 S</u>	<u>37 E</u>
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 11.0" Casing Size: 8-5/8"
 Cemented with: 900 sx. *or* _____ ft³
 Top of Cement: Surface 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"
 Cemented with: 1100 sx. *or* _____ ft³
 Top of Cement: 440 Method Determined: CBL
 Total Depth: 4220' TVD / 4220' MD

Injection Interval

perforated from 4090' TVD feet to Base of the unit @ 4500' TVD

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

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

Type of Packer: 4.0" x 2-3/8" 10.46-12.95# AS1-X Double Grip injection Packer

Packer Setting Depth: approx. 3900' MD

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

Additional Data

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

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

2. Name of the Injection Formation: San Andres

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

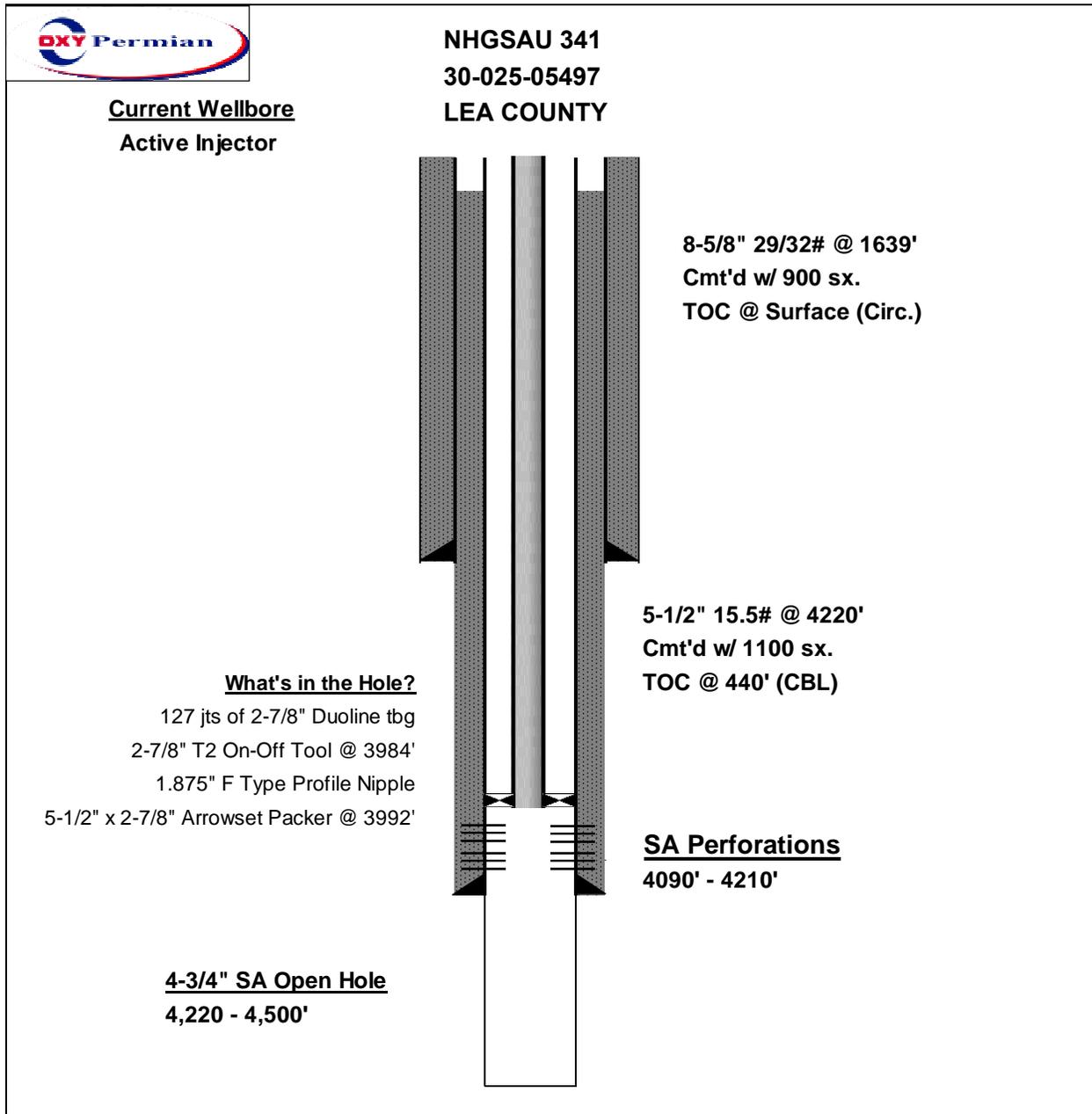
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. _____ No

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

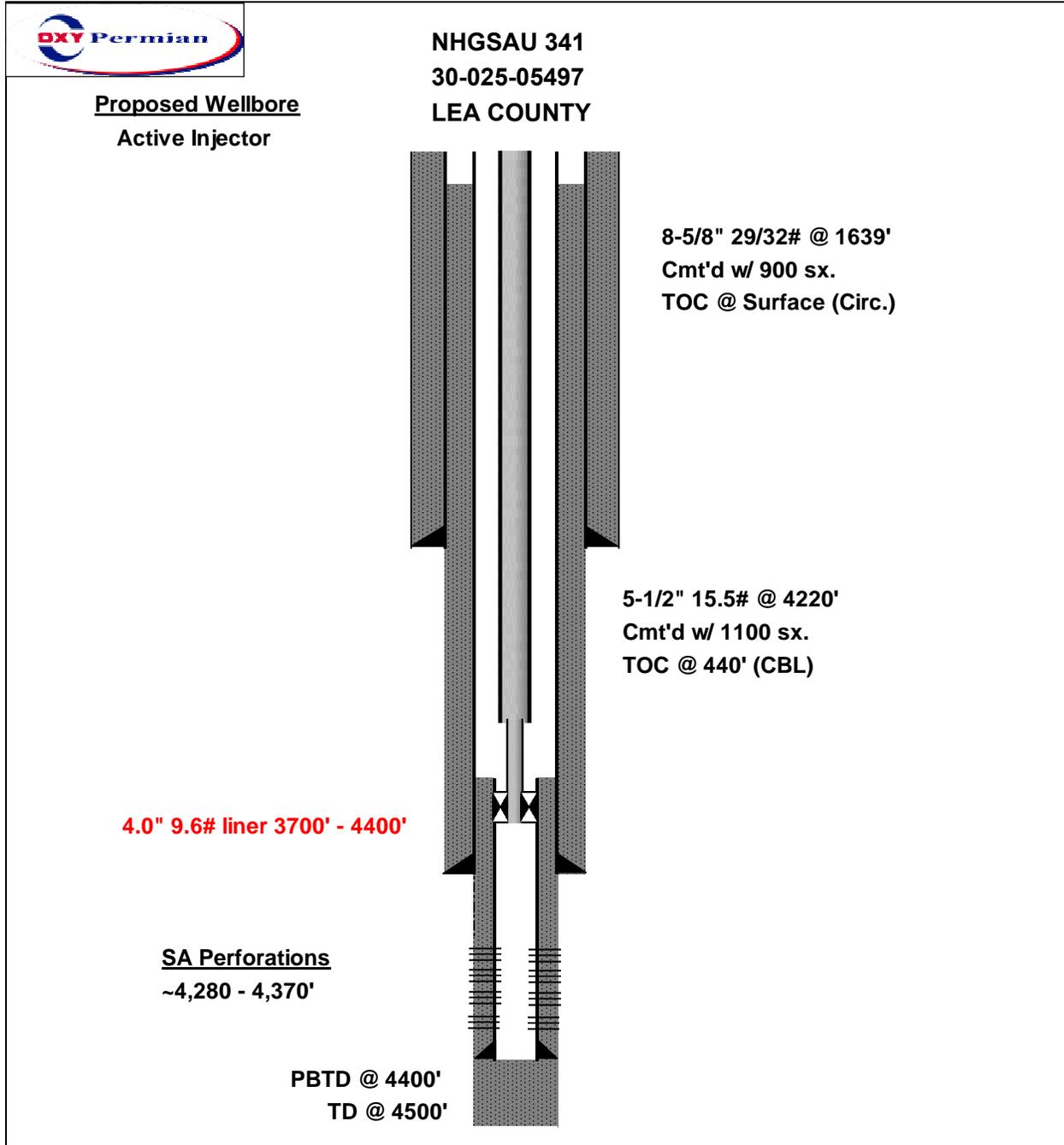
Queen @ -89' TVDSS or 3577' TVD

Glorieta @ -1998' TVDSS or 5665' TVD

Current WBD



Proposed WBD



District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-05497		Pool Code 31920	Pool Name HOBBS; GRAYBURG-SAN ANDRES
Property Code 19250	Property Name NORTH HOBBS G/SA UNIT		Well Number 341
OGRID No. 157984	Operator Name OCCIDENTAL PERMIAN LTD.		Elevation 3656.9'

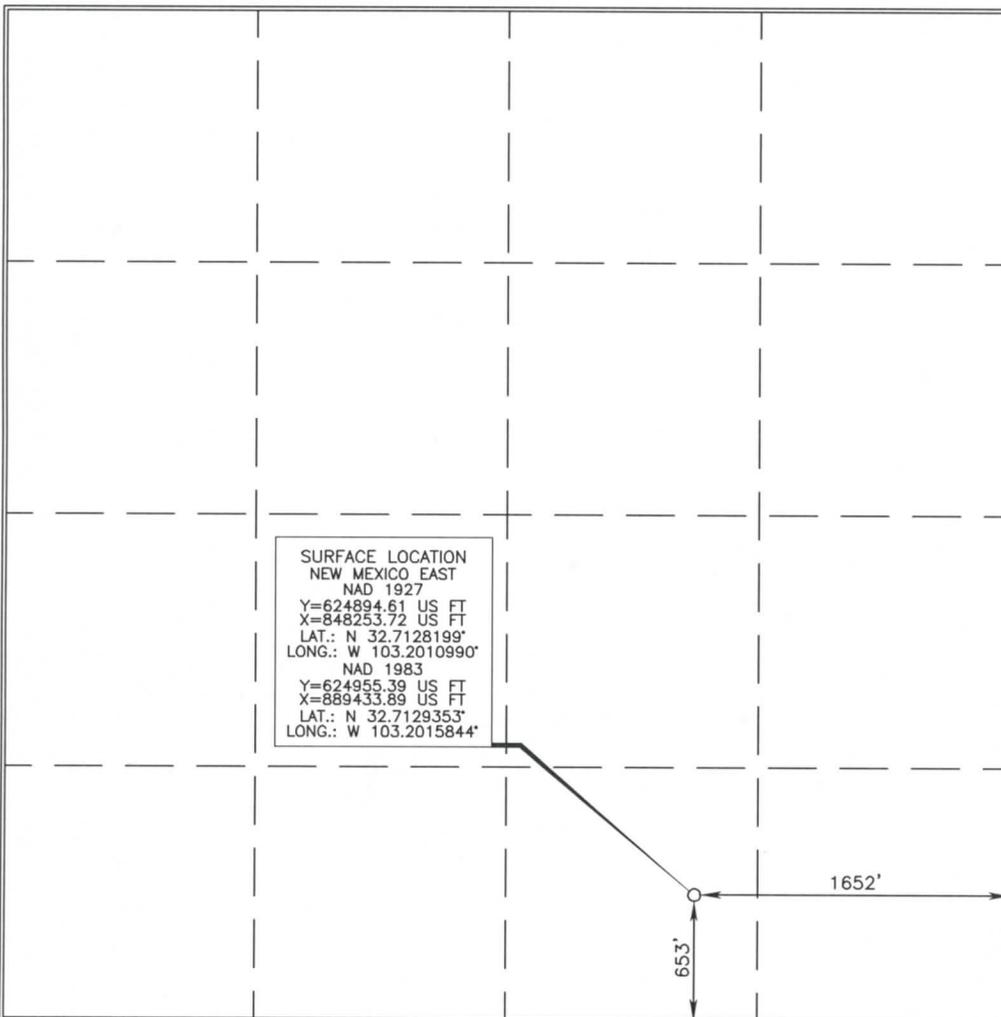
Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	25	18 SOUTH	37 EAST, N.M.P.M.		653'	SOUTH	1652'	EAST	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
Dedicated Acres		Joint or Infill	Consolidation Code	Order No.					

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, 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.

Jose Luis Gago July 27, 2022
Signature Date

Jose L. Gago
Printed Name
Jose_Gago@oxy.com
E-mail Address

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.

Tony J. Paul JULY 25, 2022
Date of Survey
Signature and Seal of Professional Surveyor

Tony J. Paul 7/28/2022
Certificate Number 15079

WO# 220725WL-b (KA)

North Hobbs G/SA Unit 341 AOR (30-025-05497)

Oil and Gas Wells

Wells - Large Scale

- Miscellaneous
- CO2, Active
- CO2, Cancelled
- CO2, New
- CO2, Plugged
- CO2, Temporarily Abandoned
- Gas, Active
- Gas, Cancelled
- Gas, New
- Gas, Plugged
- Gas, Temporarily Abandoned
- Injection, Active
- Injection, Cancelled
- Injection, New
- Injection, Plugged
- Injection, Temporarily Abandoned
- Oil, Active
- Oil, Cancelled
- Oil, New
- Oil, Plugged
- Oil, Temporarily Abandoned
- Salt Water Injection, Active
- Salt Water Injection, Cancelled
- Salt Water Injection, New
- Salt Water Injection, Plugged
- Salt Water Injection, Temporarily Abandoned
- Water, Active
- Water, Cancelled
- Water, New
- Water, Plugged
- Water, Temporarily Abandoned
- undefined

OCD Districts and Offices

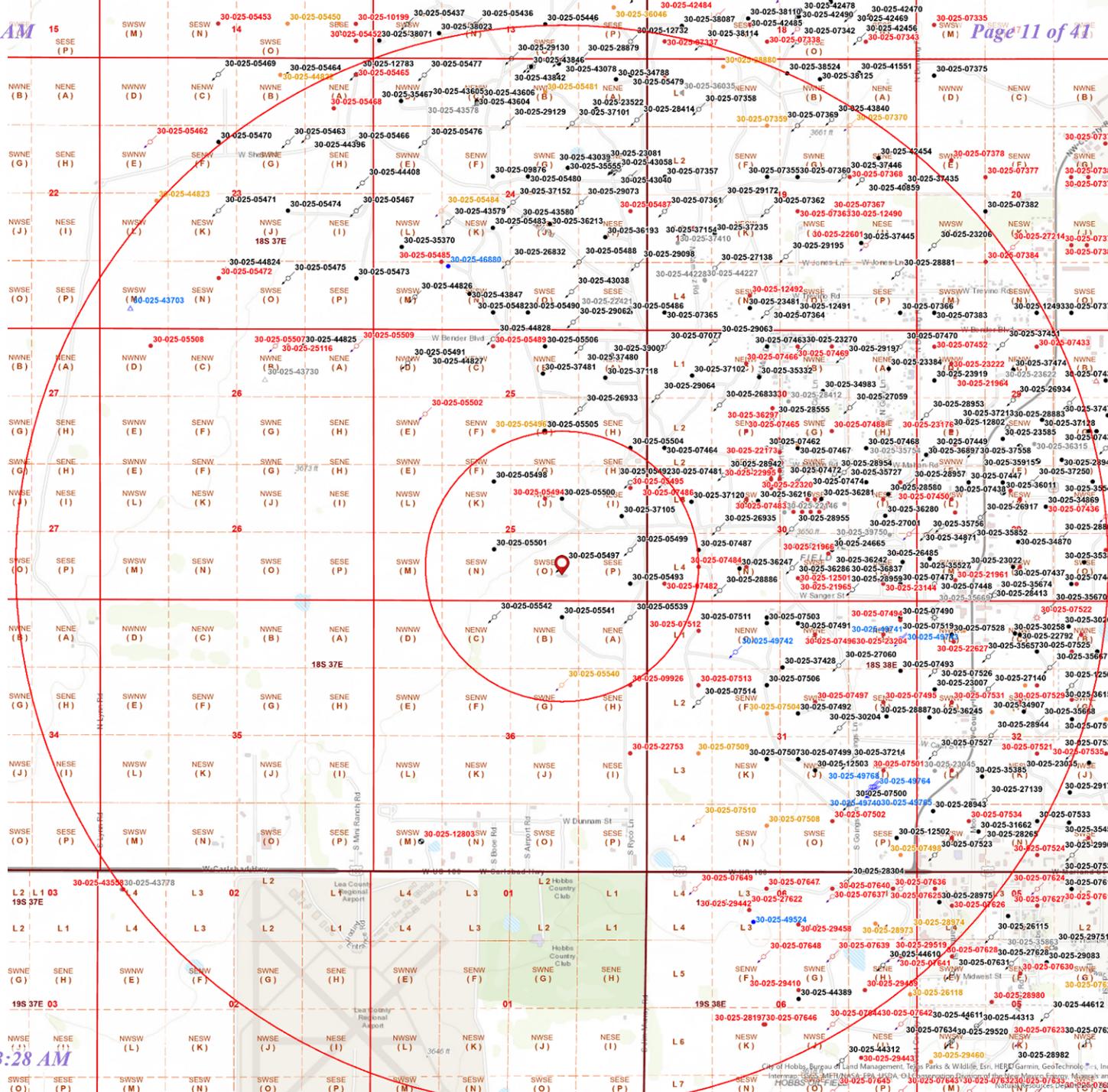
OCD District Offices

- OCD District Offices

Public Land Survey System

PLSS Second Division

- PLSS Second Division



North Hobbs G/SA Unit 341 PODs 1 mile radius

- Oil and Gas Wells**
- Wells - Large Scale
 - Miscellaneous
 - CO2, Active
 - CO2, Cancelled
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 - Gas, New
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 - Gas, Temporarily Abandoned
 - Injection, Active
 - Injection, Cancelled
 - Injection, New
 - Injection, Plugged
 - Injection, Temporarily Abandoned
 - Oil, Active
 - Oil, Cancelled
 - Oil, New
 - Oil, Plugged
 - Oil, Temporarily Abandoned
 - Salt Water Injection, Active
 - Salt Water Injection, Cancelled
 - Salt Water Injection, New
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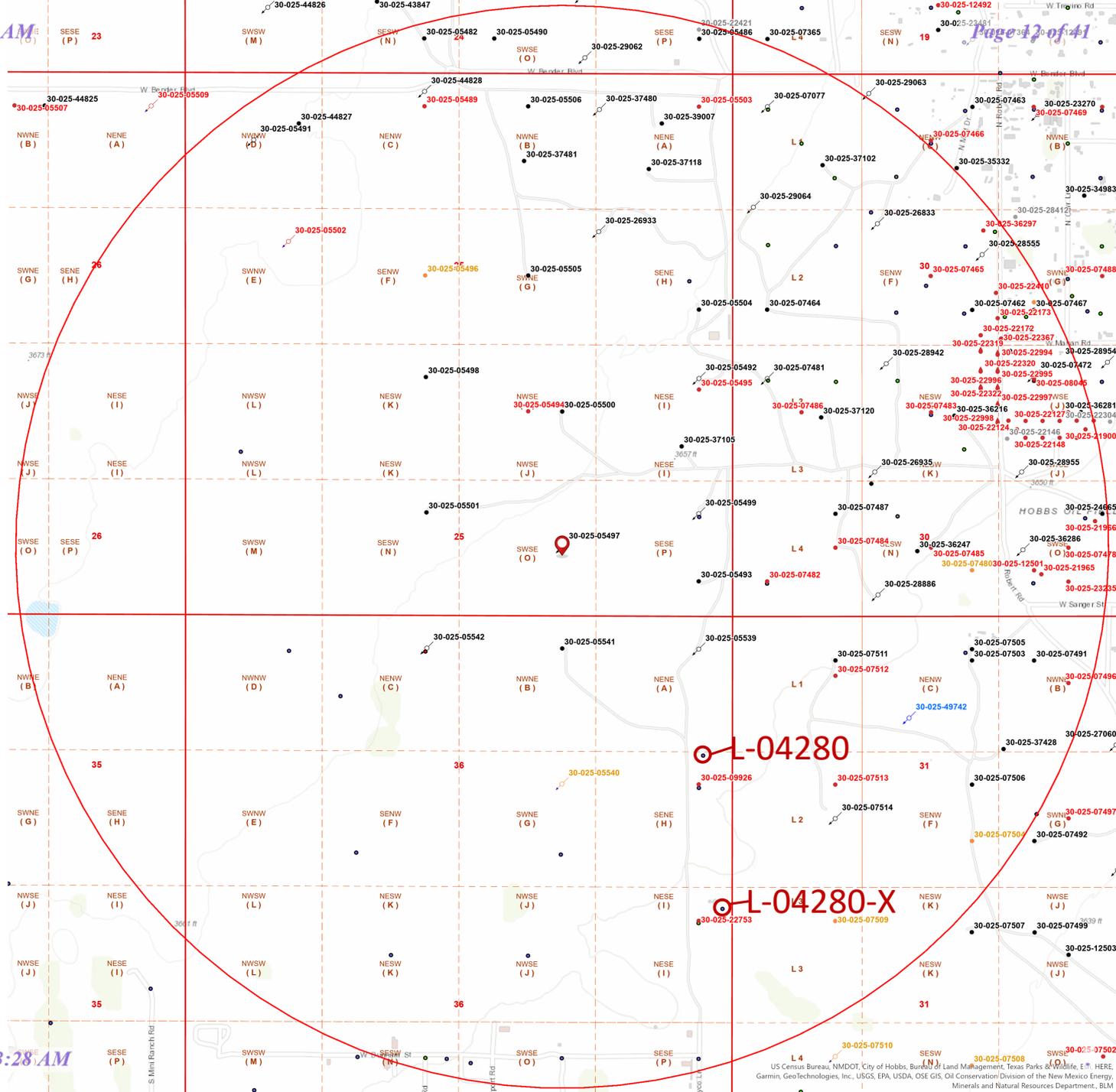
OCD Districts and Offices

OCD District Offices



Public Land Survey System

PLSS Second Division



L-04280

L-04280-X

DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
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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



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Jose L Gago

Print or Type Name

Jose Luis Gago
 Signature

Engineer, Regulatory

Title

07/19/2022

Date

jose_gago@oxy.com

e-mail Address

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

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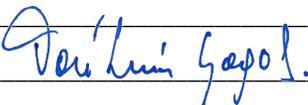
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SIGNATURE:  DATE: 07/19/2022

E-MAIL ADDRESS: Jose_Gago@oxy.com

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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 G/SA Unit No. 411
Lea County, New Mexico

- I. This is a pressure maintenance project. The project qualifies for administrative approval.
- II. OCCIDENTAL PERMIAN Ltd.
P.O. Box 4294 Houston, TX 77210-4294
Contact Party: Jose Gago, 832-646-4450
- III. Injection well data sheet and wellbore schematic has been attached for NORTH HOBBS G/SA UNIT No. 411
- IV. This is an expansion of an existing project authorized under Order No. R-6199-F.
- V. The map with a two mile radius surrounding the injection well and a one half mile radius for area of review is attached.
- VI. In accordance to Order No. R-6199-F Section 4 OCCIDENTAL PERMIAN Ltd certifies that: The area of review for well "NORTH HOBBS G/SA UNIT #411" shows no substantive changes in the information furnished in support of Order No. R-6199-F concerning the status of construction of any well that penetrates the injection interval within the one-half (1/2) mile around the injection well, with the exemption of the wells listed below:

API	Well Name	Operator	Status after Jan 2014
30-025-07484	STATE LAND SECTION 30 006	OXY USA INC	P & A
30-025-07486	STATE LAND SECTION 30 008	OXY USA INC	P & A
30-025-07485	STATE LAND SECTION 30 007	OXY USA INC	P & A
30-025-09926	NORTH HOBBS G/SA UNIT 421	OCCIDENTAL PERMIAN LTD	P & A

- The wellbore diagrams, their tabulated data, and the area of review map are attached.
- VII. Proposed Operation
 - 1. Average Injection Rate 4,000 BWPD / 15,000 MCFGPD
Maximum Injection Rate 9,000 BWPD / 20,000 MCFGPD
 - 2 This will be a closed system.
 - 3. Average Surface Injection Pressure 1,100 PSIG
Maximum Surface Injection Pressure
 - Produced Water 1,100 PSIG
 - CO2 1,250 PSIG
 - CO2 w/produced gas 1,770 PSIG
 (In accordance with Order No. R-6199-F, effective 7/18/13)
 - 4. Source Water – San Andres Produced Water
(Analysis previously provided at hearing, Case No. 14981)
 - VIII. The information was previously submitted as part of Order No. R-6199-F application
 - IX. This is an existing well. An NOI to run a liner and re-perforate was approved on May 26th 2022. The new well configuration is reflected in this application.
 - X. Logs were filed at the time of drilling.
 - XI. Water analysis from PODs L-04920 X and L-04920 and their location map are included with the application.

- XII. N/A. This is a pressure maintenance project, not a disposal well.
- XIII. Order No. R-6199-F allows the administrative approval, from the Division Director, of additional injection wells without notice and hearing. Notices to producers and surface owners for the water/CO2 flood area were provided at the time of the application and hearing for Order No. R-6199-F.

Side 1

INJECTION WELL DATA SHEET

OPERATOR: Occidental Permian LTD.

WELL NAME & NUMBER: NORTH HOBBS G/SA UNIT #411

WELL LOCATION:	<u>330' FNL 330' FEL</u>	<u>A</u>	<u>36</u>	<u>18 S</u>	<u>37 E</u>
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 18.0" Casing Size: 15-1/2"
 Cemented with: 400 sx. *or* _____ ft³
 Top of Cement: Surface Method Determined: Circulated

Intermediate Casing

Hole Size: 12-3/4" Casing Size: 10.0"
 Cemented with: 500 sx. *or* _____ ft³
 Top of Cement: 1418' Method Determined: Calculated

Production Casing

Hole Size: 8-3/4" Casing Size: 7.0"
 Cemented with: 500 sx. *or* _____ ft³
 Top of Cement: 1038' Method Determined: Calculated
 Total Depth: 4062' TVD / 4062 MD

Injection Interval

perforated from 4190' TVD feet to Base of the unit @ 4500' TVD

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

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

Type of Packer: 4.0" x 2-3/8" 10.46-12.95# AS1-X Double Grip injection Packer

Packer Setting Depth: approx. 3900' MD

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

Additional Data

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

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

2. Name of the Injection Formation: San Andres

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

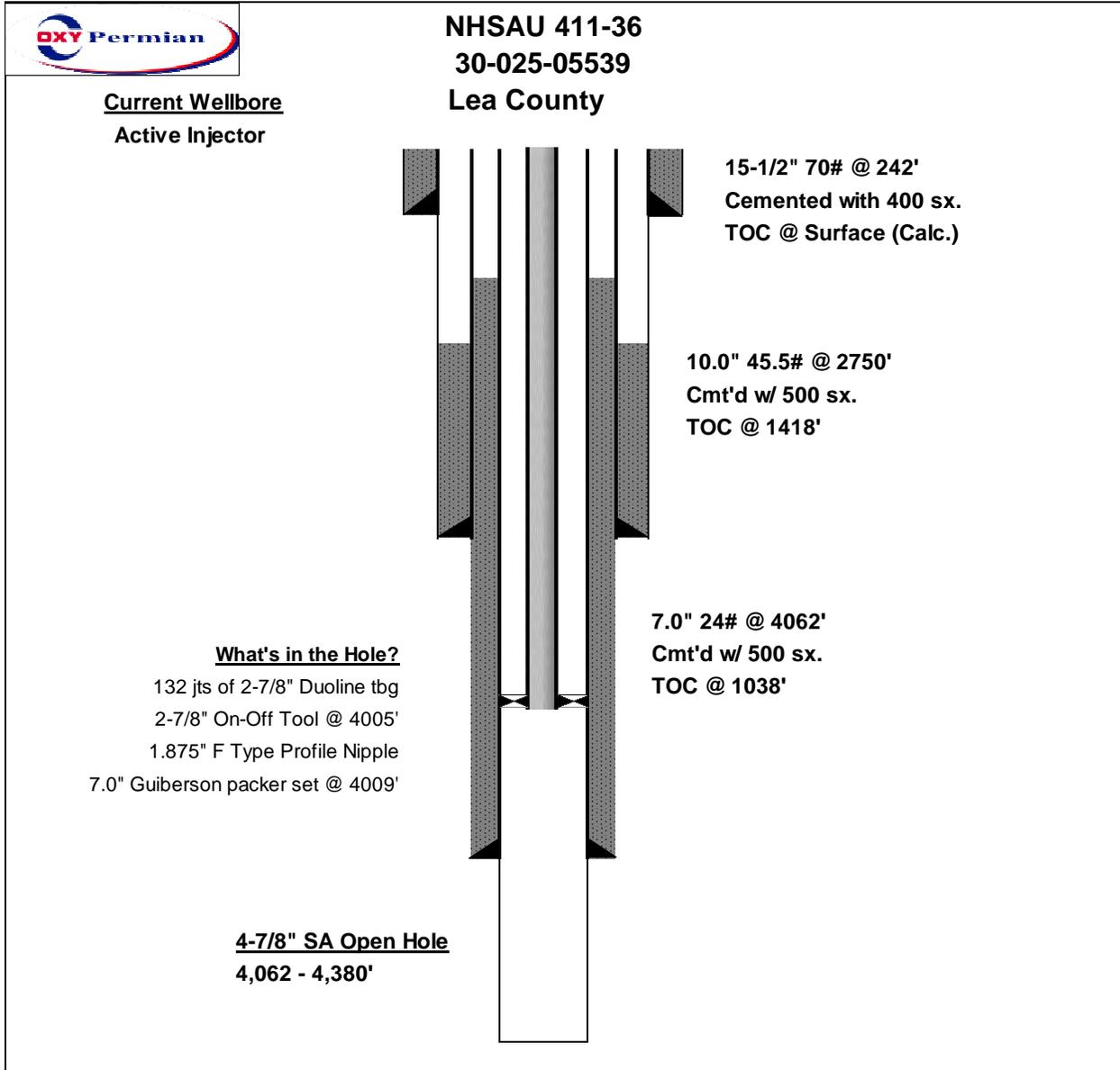
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. _____ No

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

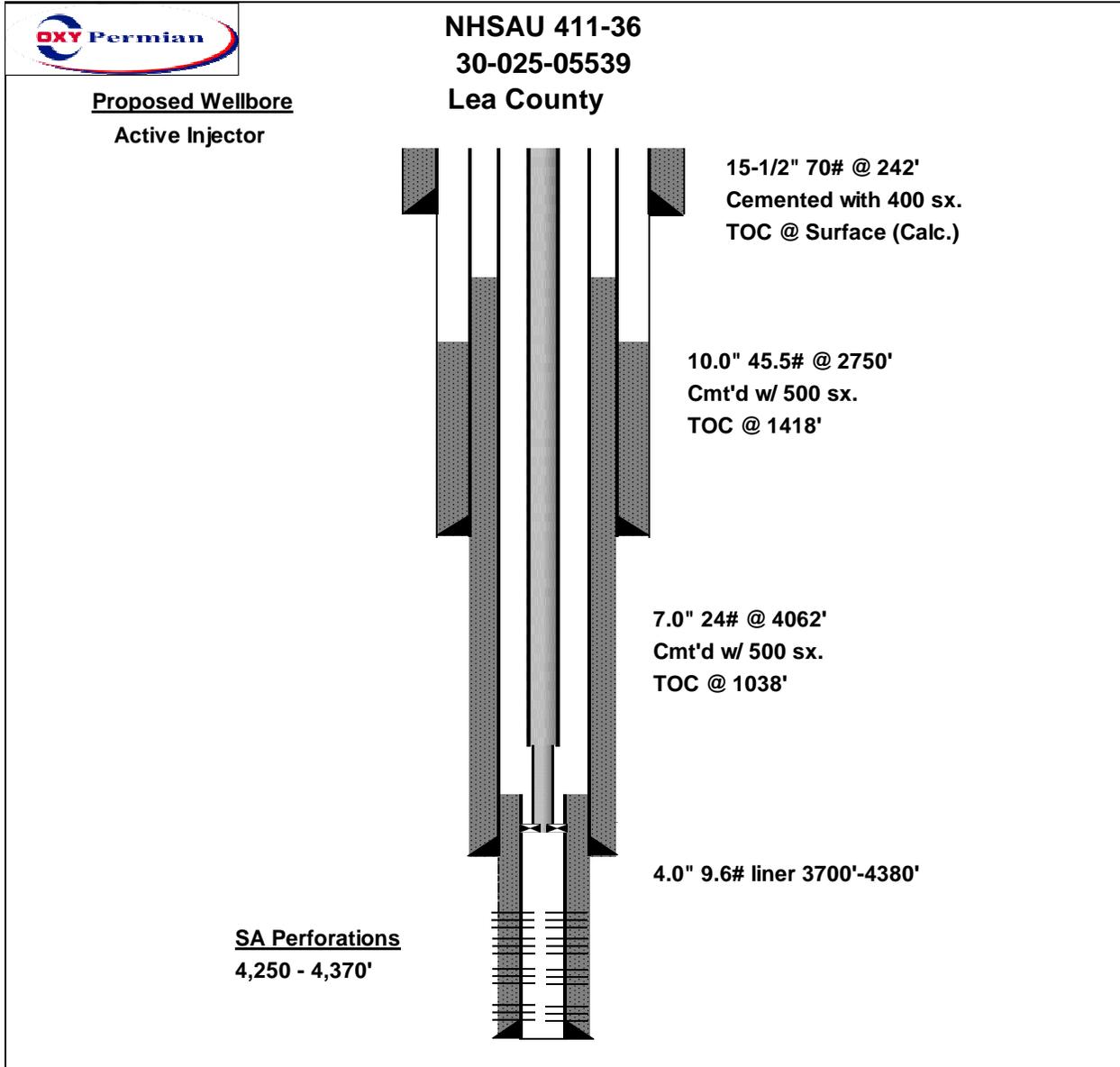
Queen @ -121' TVDSS or 3550' TVD

Glorieta @ -1952' TVDSS or 5623' TVD

Current WBD



Proposed WBD



District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-05539		Pool Code 31920	Pool Name HOBBS; GRAYBURG-SAN ANDRES	
Property Code 19250	Property Name NORTH HOBBS G/SA UNIT		Well Number 411	
OGRID No. 157984	Operator Name OCCIDENTAL PERMIAN LTD.		Elevation 3654.2'	

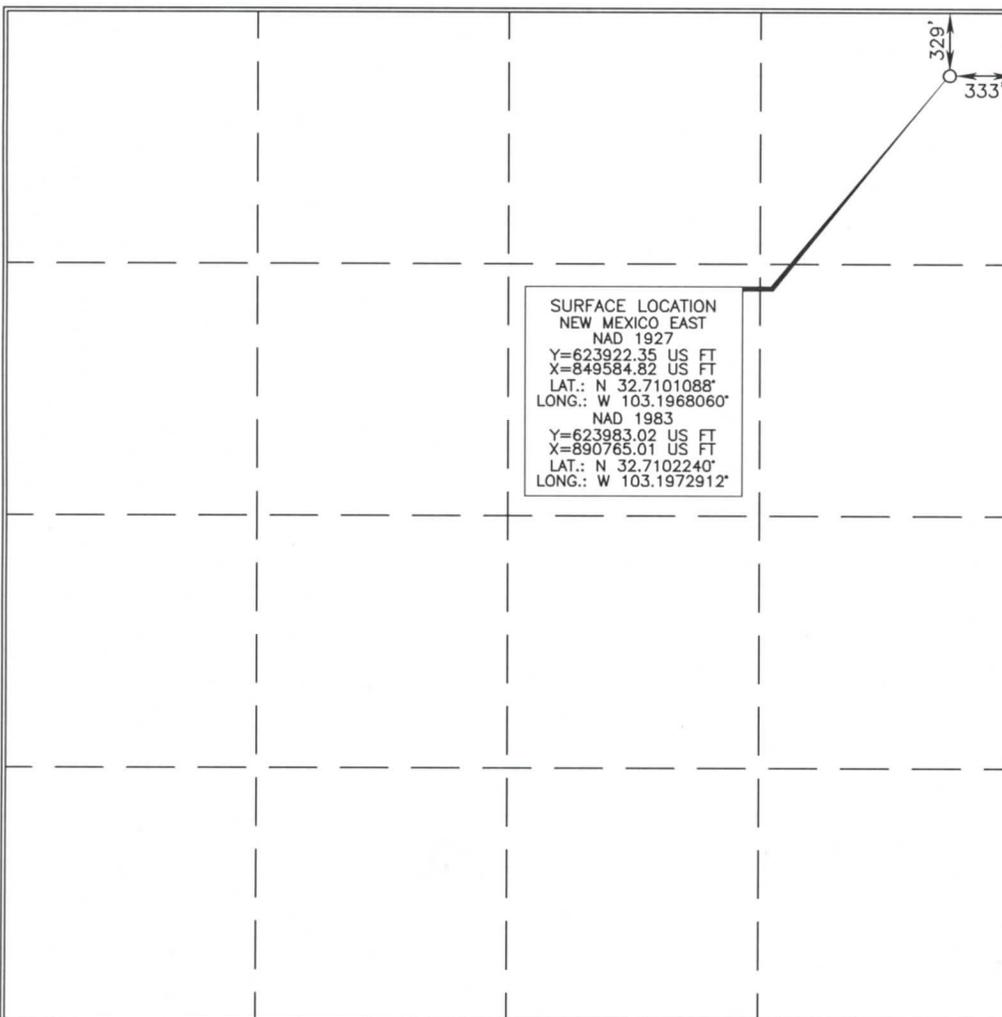
Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	36	18 SOUTH	37 EAST, N.M.P.M.		329'	NORTH	333'	EAST	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
Dedicated Acres		Joint or Infill	Consolidation Code	Order No.					

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, 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.

Jose L. Gago July 27, 2022
Signature Date

Jose L. Gago
Printed Name
Jose_Gago@oxy.com
E-mail Address

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.

JULY 26, 2022
Date of Survey

Terry J. Asst
Signature and Seal of Professional Surveyor

Terry J. Asst 7/26/2022
Certificate Number 15079

WO# 220725WL-a (KA)

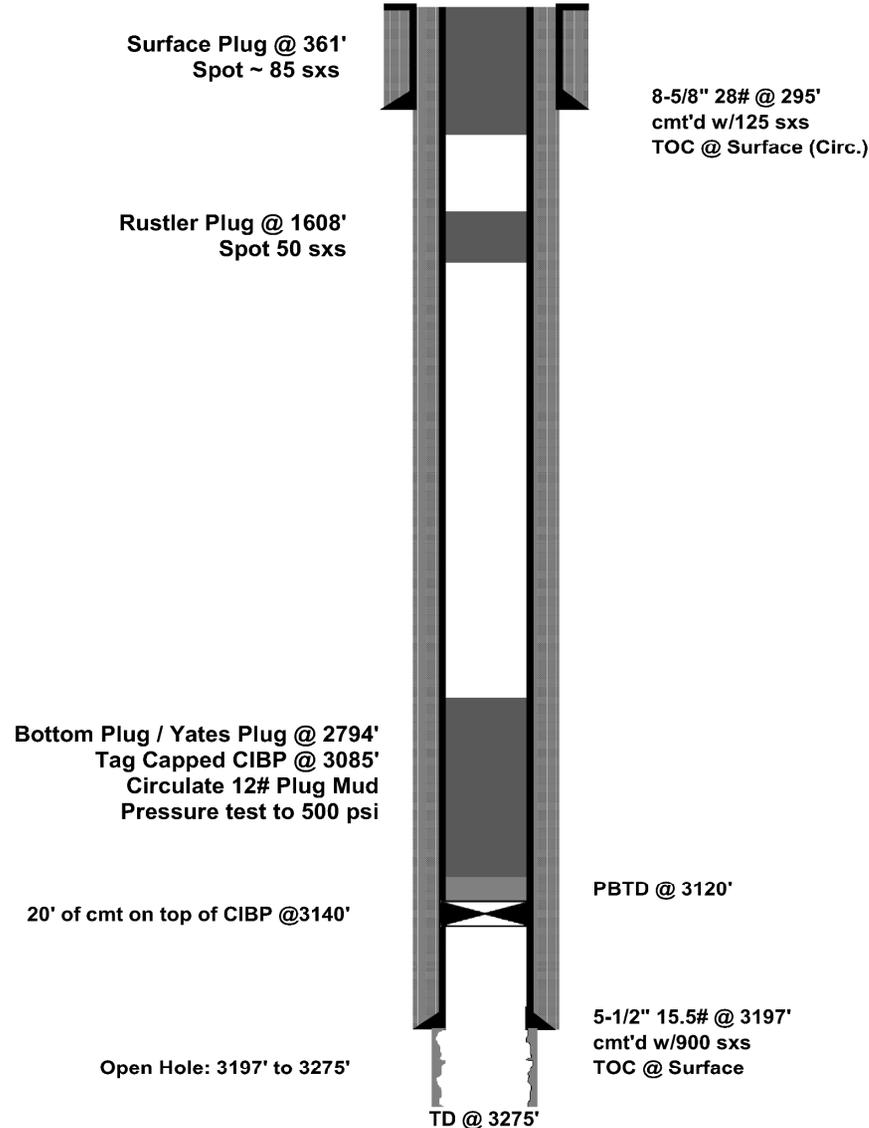
API NUMBER	OPERATOR	LEASE NAME	WELL NO.	WELL TYPE	STATUS	FTG. N/S	N/S	FTG. E/W	E/W	UNIT	SEC.	TSHP.	RNG.	DATE DRILLED	TVD (ft)	HOLE SIZE (in)	CSG. SIZE (in)	SET AT (ft)	SX. CMT.	CMT. TOP (ft)	MTD.	COMPLETION	REMARKS
30-025-07484	OXY USA INC	STATE LAND SECTION 30	006	Oil	Plugged, Not Released	660	S	990	W	M	30	18S	38E	17593	3240	11 7	8.625 5.5	295 3197	125 900	Surf Surf	Circ. Circ.	3197'-3275' SEVEN RIVERS	Well Plugged on 02/24/2020



State Land 30 - 006

API# 30-025-07484

TWN 18-S; RNG 38-E
Prod- TA'd



API NUMBER	OPERATOR	LEASE NAME	WELL NO.	WELL TYPE	STATUS	FTG. N/S	N/S	FTG. E/W	E/W	UNIT	SEC.	TSHP.	RNG.	DATE DRILLED	TVD (ft)	HOLE SIZE (in)	CSG. SIZE (in)	SET AT (ft)	SX. CMT.	CMT. TOP (ft)	MTD.	COMPLETION	REMARKS	
30-025-07485	OXY USA INC	STATE LAND SECTION 30	007	Oil	Plugged, Not	660	S	1914	W	N	30	18S	38E	3/29/1948	3254	11 7	8.625 5.5	296 3171	125 900	Surf Surf	Circ. Circ.		3171'-3254' SEVEN RIVERS	Well Plugged on 02/03/2020



State Land 30 - 007

API# 30-025-07485

TWN 18-S; RNG 38-E

Prod- TA'd

Surface Plug @ 355'
Circulate Cement to Surface

8-5/8" 28# @ 296'
cmt'd w/125 sxs
TOC @ Surface (Circ.)

Rustler Plug @ 1615'
Spot 12 sxs
TOC @ 1500'

Bottom Plug / Yates Plug @ 2652'
Tag Capped CIBP @ 2998'
Circulate 12# Plug Mud
Pressure test to 500 psi

PBTD @ 3110'

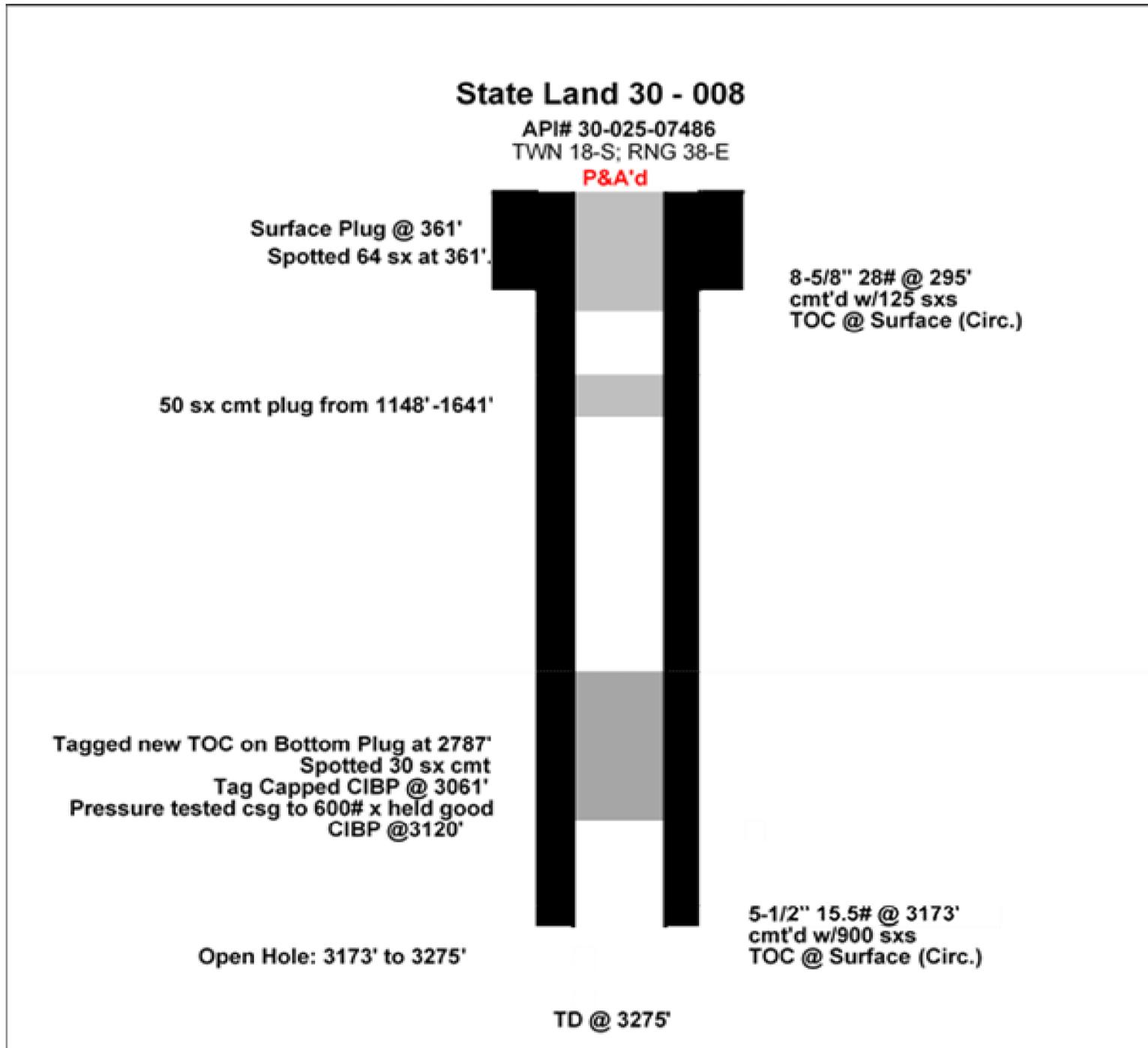
35' of cmt on top of CIBP @2998'

5-1/2" 15.5# @ 3171'
cmt'd w/900 sxs
TOC @ Surface

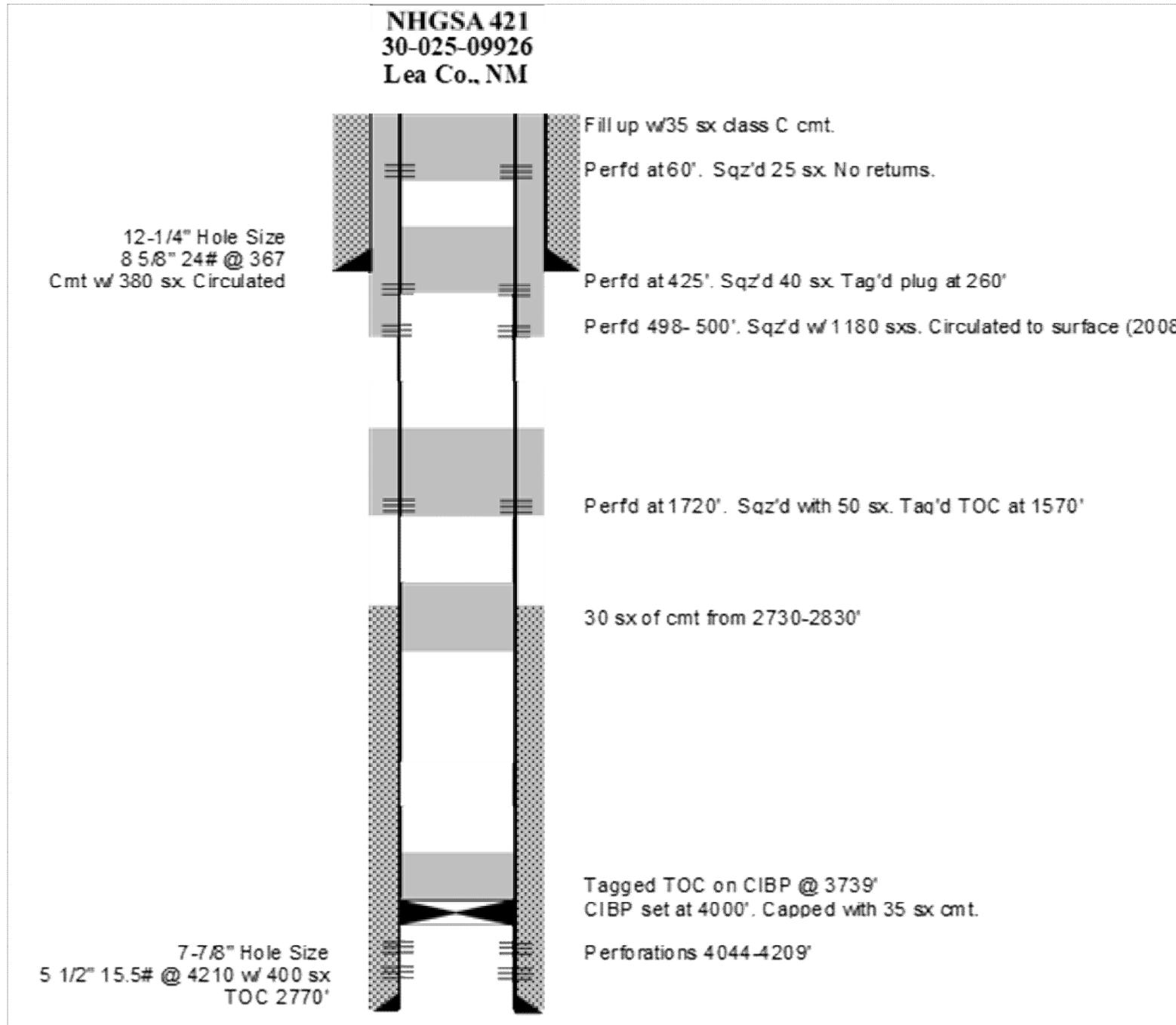
Open Hole: 3171' to 3254"

TD @ 3254'

API NUMBER	OPERATOR	LEASE NAME	WELL NO.	WELL TYPE	STATUS	FTG. N/S	N/S	FTG. E/W	E/W	UNIT	SEC.	TSHP.	RNG.	DATE DRILLED	TVD (ft)	HOLE SIZE (in)	CSG. SIZE (in)	SET AT (ft)	SX. CMT.	CMT. TOP (ft)	MTD.	COMPLETION	REMARKS
30-025-07486	OXY USA INC	STATE LAND SECTION 30	008	Oil	Plugged, Not	1980	S	660	W	L	30	18S	38E	4/25/1948	3275	11 7	8.625 5.500	295 3173	125 900	Surf Surf	Circ. Circ.	3173'-3275' SEVEN RIVERS	Well Plugged on 2/28/2020



API NUMBER	OPERATOR	LEASE NAME	WELL NO.	WELL TYPE	STATUS	FTG. N/S	N/S	FTG. E/W	E/W	UNIT	SEC.	TSHP.	RNG.	DATE DRILLED	TVD (ft)	HOLE SIZE (in)	CSG. SIZE (in)	SET AT (ft)	SX. CMT.	CMT. TOP (ft)	MTD.	COMPLETION	REMARKS
30-025-09926	OCCIDENTAL PERMIAN LTD	NORTH HOBBS G/SA	421	Oil	Plugged, Site	1650	N	330	E	H	36	185	37E	8/20/1956	4210	12.25 7.875	8.625 5.5	367 4210	380 400	Surf. 2770	Circ. Calc.	4044'-1' GRAYBURG-SAN ANDRES	Well Plugged on 10/29/2013





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

June 25, 2021

Dusty Armstrong
Laboratory Services, Inc.
2609 W. Marland
Hobbs, NM 88240

RE: OXY

Enclosed are the results of analyses for samples received by the laboratory on 06/18/21 10:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Total Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.4 Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2 Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2 Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene
Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Laboratory Services, Inc. 2609 W. Marland Hobbs NM, 88240	Project: OXY Project Number: NONE GIVEN Project Manager: Dusty Armstrong Fax To: (505) 397-3713	Reported: 25-Jun-21 17:23
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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WELL # 1L-4920 X	H211573-01	Water	18-Jun-21 10:15	18-Jun-21 10:45
WELL # 2L-4920	H211573-02	Water	18-Jun-21 10:30	18-Jun-21 10:45

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Laboratory Services, Inc. 2609 W. Marland Hobbs NM, 88240	Project: OXY Project Number: NONE GIVEN Project Manager: Dusty Armstrong Fax To: (505) 397-3713	Reported: 25-Jun-21 17:23
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**WELL # 1L-4920 X
H211573-01 (Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Alkalinity, Bicarbonate	220		5.00	mg/L	1	1060808	AC	18-Jun-21	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	1060808	AC	18-Jun-21	310.1	
Chloride*	100		4.00	mg/L	1	1061604	GM	21-Jun-21	4500-Cl-B	
Conductivity*	770		1.00	umhos/cm @ 25°C	1	1061814	AC	18-Jun-21	120.1	
pH*	7.49		0.100	pH Units	1	1061814	AC	18-Jun-21	150.1	
Temperature °C	17.7			pH Units	1	1061814	AC	18-Jun-21	150.1	
Resistivity	13.0			Ohms/m	1	1061814	AC	18-Jun-21	120.1	
Specific Gravity @ 60° F	1.003		0.000	[blank]	1	1061801	AC	18-Jun-21	SM 2710F	
Sulfate*	61.6		10.0	mg/L	1	1061811	AC	18-Jun-21	375.4	
TDS*	453		5.00	mg/L	1	1061813	GM	21-Jun-21	160.1	
Alkalinity, Total*	180		4.00	mg/L	1	1060808	AC	18-Jun-21	310.1	
Sulfide, total	<0.0100		0.0100	mg/L	1	1062103	AC	21-Jun-21	376.2	

Green Analytical Laboratories

Total Recoverable Metals by ICP (E200.7)

Barium*	0.064		0.050	mg/L	1	B211388	JDA	25-Jun-21	EPA200.7	
Calcium*	80.3		0.100	mg/L	1	B211388	JDA	25-Jun-21	EPA200.7	
Iron*	<0.050		0.050	mg/L	1	B211388	JDA	25-Jun-21	EPA200.7	
Magnesium*	14.2		0.100	mg/L	1	B211388	JDA	25-Jun-21	EPA200.7	
Potassium*	2.41		1.00	mg/L	1	B211388	JDA	25-Jun-21	EPA200.7	
Sodium*	45.0		1.00	mg/L	1	B211388	JDA	25-Jun-21	EPA200.7	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Laboratory Services, Inc. 2609 W. Marland Hobbs NM, 88240	Project: OXY Project Number: NONE GIVEN Project Manager: Dusty Armstrong Fax To: (505) 397-3713	Reported: 25-Jun-21 17:23
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**WELL # 2L-4920
H211573-02 (Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Alkalinity, Bicarbonate	224		5.00	mg/L	1	1062105	AC	21-Jun-21	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	1062105	AC	21-Jun-21	310.1	
Chloride*	92.0		4.00	mg/L	1	1061604	GM	21-Jun-21	4500-Cl-B	
Conductivity*	773		1.00	umhos/cm @ 25°C	1	1061814	AC	18-Jun-21	120.1	
pH*	7.49		0.100	pH Units	1	1061814	AC	18-Jun-21	150.1	
Temperature °C	17.7			pH Units	1	1061814	AC	18-Jun-21	150.1	
Resistivity	12.9			Ohms/m	1	1061814	AC	18-Jun-21	120.1	
Specific Gravity @ 60° F	1.001		0.000	[blank]	1	1061801	AC	18-Jun-21	SM 2710F	
Sulfate*	66.9		10.0	mg/L	1	1061811	AC	18-Jun-21	375.4	
TDS*	461		5.00	mg/L	1	1061813	GM	21-Jun-21	160.1	
Alkalinity, Total*	184		4.00	mg/L	1	1062105	AC	21-Jun-21	310.1	
Sulfide, total	<0.0100		0.0100	mg/L	1	1062103	AC	21-Jun-21	376.2	

Green Analytical Laboratories

Total Recoverable Metals by ICP (E200.7)

Barium*	0.067		0.050	mg/L	1	B211388	JDA	25-Jun-21	EPA200.7	
Calcium*	74.4		0.100	mg/L	1	B211388	JDA	25-Jun-21	EPA200.7	
Iron*	<0.050		0.050	mg/L	1	B211388	JDA	25-Jun-21	EPA200.7	
Magnesium*	11.7		0.100	mg/L	1	B211388	JDA	25-Jun-21	EPA200.7	
Potassium*	2.41		1.00	mg/L	1	B211388	JDA	25-Jun-21	EPA200.7	
Sodium*	67.5		1.00	mg/L	1	B211388	JDA	25-Jun-21	EPA200.7	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Laboratory Services, Inc. 2609 W. Marland Hobbs NM, 88240	Project: OXY Project Number: NONE GIVEN Project Manager: Dusty Armstrong Fax To: (505) 397-3713	Reported: 25-Jun-21 17:23
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Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1060808 - General Prep - Wet Chem

Blank (1060808-BLK1)		Prepared & Analyzed: 08-Jun-21								
Alkalinity, Carbonate	ND	1.00	mg/L							
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							

LCS (1060808-BS1)		Prepared & Analyzed: 08-Jun-21								
Alkalinity, Carbonate	ND	2.50	mg/L				80-120			
Alkalinity, Bicarbonate	305	12.5	mg/L				80-120			
Alkalinity, Total	250	10.0	mg/L	250		100	80-120			

LCS Dup (1060808-BSD1)		Prepared & Analyzed: 08-Jun-21								
Alkalinity, Carbonate	ND	2.50	mg/L				80-120		20	
Alkalinity, Bicarbonate	305	12.5	mg/L				80-120	0.00	20	
Alkalinity, Total	250	10.0	mg/L	250		100	80-120	0.00	20	

Batch 1061604 - General Prep - Wet Chem

Blank (1061604-BLK1)		Prepared & Analyzed: 16-Jun-21								
Chloride	ND	4.00	mg/L							

LCS (1061604-BS1)		Prepared & Analyzed: 16-Jun-21								
Chloride	104	4.00	mg/L	100		104	80-120			

LCS Dup (1061604-BSD1)		Prepared & Analyzed: 16-Jun-21								
Chloride	100	4.00	mg/L	100		100	80-120	3.92	20	

Batch 1061801 - General Prep - Wet Chem

Duplicate (1061801-DUP1)		Source: H211562-01		Prepared & Analyzed: 18-Jun-21						
Specific Gravity @ 60° F	1.003	0.000	[blank]		1.010			0.701	20	

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Laboratory Services, Inc. 2609 W. Marland Hobbs NM, 88240	Project: OXY Project Number: NONE GIVEN Project Manager: Dusty Armstrong Fax To: (505) 397-3713	Reported: 25-Jun-21 17:23
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Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1061811 - General Prep - Wet Chem

Blank (1061811-BLK1) Prepared & Analyzed: 18-Jun-21

Sulfate	ND	10.0	mg/L							
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LCS (1061811-BS1) Prepared & Analyzed: 18-Jun-21

Sulfate	23.4	10.0	mg/L	20.0		117	80-120			
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LCS Dup (1061811-BSD1) Prepared & Analyzed: 18-Jun-21

Sulfate	23.3	10.0	mg/L	20.0		116	80-120	0.257	20	
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Batch 1061813 - Filtration

Blank (1061813-BLK1) Prepared: 18-Jun-21 Analyzed: 23-Jun-21

TDS	ND	5.00	mg/L							
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LCS (1061813-BS1) Prepared: 18-Jun-21 Analyzed: 21-Jun-21

TDS	527		mg/L	500		105	80-120			
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Duplicate (1061813-DUP1) Source: H211552-02 Prepared: 18-Jun-21 Analyzed: 23-Jun-21

TDS	571	5.00	mg/L		571			0.00	20	
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Batch 1061814 - General Prep - Wet Chem

LCS (1061814-BS1) Prepared & Analyzed: 18-Jun-21

pH	7.10		pH Units	7.00		101	90-110			
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Conductivity	501		uS/cm	500		100	80-120			
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Duplicate (1061814-DUP1) Source: H211572-01 Prepared & Analyzed: 18-Jun-21

pH	6.83	0.100	pH Units		6.80			0.440	20	
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Conductivity	7450		1.00 umhos/cm @ 25°C		7200			3.41	20	
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Resistivity	1.34		Ohms/m		1.39			3.41	20	
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Temperature °C	17.6		pH Units		17.7			0.567	200	
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Analytical Results For:

Laboratory Services, Inc. 2609 W. Marland Hobbs NM, 88240	Project: OXY Project Number: NONE GIVEN Project Manager: Dusty Armstrong Fax To: (505) 397-3713	Reported: 25-Jun-21 17:23
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Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1062103 - General Prep - Wet Chem

Blank (1062103-BLK1) Prepared & Analyzed: 21-Jun-21

Sulfide, total	ND	0.0100	mg/L							
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Duplicate (1062103-DUP1) Source: H211572-01 Prepared & Analyzed: 21-Jun-21

Sulfide, total	0.0329	0.0100	mg/L		0.0344			4.54	20	
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Batch 1062105 - General Prep - Wet Chem

Blank (1062105-BLK1) Prepared & Analyzed: 21-Jun-21

Alkalinity, Carbonate	ND	1.00	mg/L							
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Alkalinity, Bicarbonate	5.00	5.00	mg/L							
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Alkalinity, Total	4.00	4.00	mg/L							
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LCS (1062105-BS1) Prepared & Analyzed: 21-Jun-21

Alkalinity, Carbonate	ND	2.50	mg/L				80-120			
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Alkalinity, Bicarbonate	292	12.5	mg/L				80-120			
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Alkalinity, Total	240	10.0	mg/L	250		96.0	80-120			
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LCS Dup (1062105-BSD1) Prepared & Analyzed: 21-Jun-21

Alkalinity, Carbonate	ND	2.50	mg/L				80-120		20	
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Alkalinity, Bicarbonate	330	12.5	mg/L				80-120	12.0	20	
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Alkalinity, Total	270	10.0	mg/L	250		108	80-120	11.8	20	
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Matrix Spike (1062105-MS1) Source: H211573-02 Prepared & Analyzed: 21-Jun-21

Alkalinity, Total	264	4.00	mg/L	100	184	80.0	70-130			
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PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Laboratory Services, Inc. 2609 W. Marland Hobbs NM, 88240	Project: OXY Project Number: NONE GIVEN Project Manager: Dusty Armstrong Fax To: (505) 397-3713	Reported: 25-Jun-21 17:23
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Total Recoverable Metals by ICP (E200.7) - Quality Control

Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B211388 - Total Rec. 200.7/200.8/200.2

Blank (B211388-BLK1)

Prepared: 24-Jun-21 Analyzed: 25-Jun-21

Potassium	ND	1.00	mg/L							
Calcium	ND	0.100	mg/L							
Sodium	ND	1.00	mg/L							
Magnesium	ND	0.100	mg/L							
Barium	ND	0.050	mg/L							
Iron	ND	0.050	mg/L							

LCS (B211388-BS1)

Prepared: 24-Jun-21 Analyzed: 25-Jun-21

Potassium	8.22	1.00	mg/L	8.00		103	85-115			
Barium	2.00	0.050	mg/L	2.00		99.8	85-115			
Sodium	2.91	1.00	mg/L	3.24		89.9	85-115			
Magnesium	20.6	0.100	mg/L	20.0		103	85-115			
Calcium	4.00	0.100	mg/L	4.00		100	85-115			
Iron	4.00	0.050	mg/L	4.00		100	85-115			

LCS Dup (B211388-BSD1)

Prepared: 24-Jun-21 Analyzed: 25-Jun-21

Magnesium	20.6	0.100	mg/L	20.0		103	85-115	0.00238	20	
Barium	1.97	0.050	mg/L	2.00		98.6	85-115	1.13	20	
Potassium	8.08	1.00	mg/L	8.00		101	85-115	1.71	20	
Iron	4.03	0.050	mg/L	4.00		101	85-115	0.696	20	
Sodium	2.89	1.00	mg/L	3.24		89.2	85-115	0.817	20	
Calcium	4.00	0.100	mg/L	4.00		100	85-115	0.0699	20	

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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL LABORATORIES SCALE INDEX WATER ANALYSIS REPORT

Company : LABORATORY SERVICES	Date Sampled : 06/18/21
Lease Name : OXY	Company Rep. : DUSTY ARMSTRONG
Well Number : WELL #1 1L-4920 X (H211573-01)	
Location : NOT GIVEN	

ANALYSIS

1. pH	7.49	
2. Specific Gravity @ 60/60 F.	1.0030	
3. CaCO3 Saturation Index @ 80 F.	-0.200	
@ 140 F.	+0.500	'Calcium Carbonate Scale Possible'

Dissolved Gasses

4. Hydrogen Sulfide	0.000	PPM
5. Carbon Dioxide	ND	PPM
6. Dissolved Oxygen	ND	PPM

Cations

		/	Eq. Wt.	=	MEQ/L
7. Calcium (Ca++)	80.30	/	20.1	=	4.00
8. Magnesium (Mg++)	14.20	/	12.2	=	1.16
9. Sodium (Na+)	45	/	23.0	=	2.52
10. Barium (Ba++)	0.064	/	68.7	=	0.00

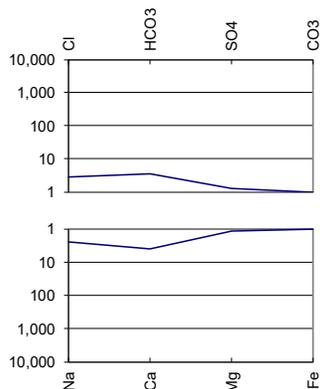
Anions

11. Hydroxyl (OH-)	0	/	17.0	=	0.00
12. Carbonate (CO3=)	0	/	30.0	=	0.00
13. Bicarbonate (HCO3-)	220	/	61.1	=	3.60
14. Sulfate (SO4=)	62	/	48.8	=	1.26
15. Chloride (Cl-)	100	/	35.5	=	2.82

Other

16. Total Iron (Fe)	0.000	/	18.2	=	0.00
17. Total Dissolved Solids	453				
18. Total Hardness As CaCO3	259.0				
19. Calcium Sulfate Solubility @ 90 F.	1,426				
20. Resistivity (Measured)	13.000		Ohm/Meters	@ 77	Degrees (F)

Logarithmic Water Pattern



PROBABLE MINERAL COMPOSITION

COMPOUND	Eq. Wt.	X	MEQ/L	=	mg/L
Ca(HCO3)2	81.04	X	3.60	=	292
CaSO4	68.07	X	0.39	=	27
CaCl2	55.50	X	0.00	=	0
Mg(HCO3)2	73.17	X	0.00	=	0
MgSO4	60.19	X	0.00	=	0
MgCl2	47.62	X	1.16	=	55
NaHCO3	84.00	X	0.00	=	0
NaSO4	71.03	X	0.87	=	62
NaCl	58.46	X	1.65	=	97

ND = Not Determined

CARDINAL LABORATORIES SCALE INDEX WATER ANALYSIS REPORT

Company : LABORATORY SERVICES	Date Sampled : 06/18/21
Lease Name : OXY	Company Rep. : DUSTY ARMSTRONG
Well Number : WELL #2 L-4920 X (H211573-02)	
Location : NOT GIVEN	

ANALYSIS

1. pH	7.49	
2. Specific Gravity @ 60/60 F.	1.0010	
3. CaCO3 Saturation Index @ 80 F.	-0.226	
@ 140 F.	+0.474	'Calcium Carbonate Scale Possible'

Dissolved Gasses

4. Hydrogen Sulfide	0.000	PPM
5. Carbon Dioxide	ND	PPM
6. Dissolved Oxygen	ND	PPM

Cations

		/	Eq. Wt.	=	MEQ/L
7. Calcium (Ca++)	74.40	/	20.1	=	3.70
8. Magnesium (Mg++)	11.70	/	12.2	=	0.96
9. Sodium (Na+)	68	/	23.0	=	2.97
10. Barium (Ba++)	0.067	/	68.7	=	0.00

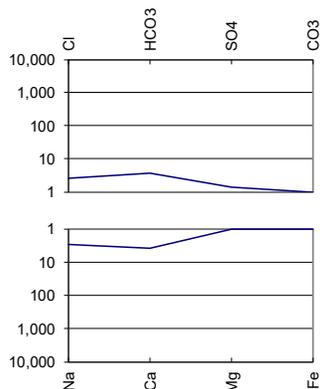
Anions

11. Hydroxyl (OH-)	0	/	17.0	=	0.00
12. Carbonate (CO3=)	0	/	30.0	=	0.00
13. Bicarbonate (HCO3-)	224	/	61.1	=	3.67
14. Sulfate (SO4=)	67	/	48.8	=	1.37
15. Chloride (Cl-)	92	/	35.5	=	2.59

Other

16. Total Iron (Fe)	0.000	/	18.2	=	0.00
17. Total Dissolved Solids	461				
18. Total Hardness As CaCO3	234.0				
19. Calcium Sulfate Solubility @ 90 F.	1,439				
20. Resistivity (Measured)	12.900		Ohm/Meters	@ 77	Degrees (F)

Logarithmic Water Pattern



PROBABLE MINERAL COMPOSITION

COMPOUND	Eq. Wt.	X	MEQ/L	=	mg/L
Ca(HCO3)2	81.04	X	3.67	=	297
CaSO4	68.07	X	0.04	=	2
CaCl2	55.50	X	0.00	=	0
Mg(HCO3)2	73.17	X	0.00	=	0
MgSO4	60.19	X	0.00	=	0
MgCl2	47.62	X	0.96	=	46
NaHCO3	84.00	X	0.00	=	0
NaSO4	71.03	X	1.34	=	95
NaCl	58.46	X	1.63	=	95

ND = Not Determined

District I
 1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720

District II
 811 S. First St., Artesia, NM 88210
 Phone:(575) 748-1283 Fax:(575) 748-9720

District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
 1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 130165

CONDITIONS

Operator: OCCIDENTAL PERMIAN LTD P.O. Box 4294 Houston, TX 772104294	OGRID: 157984
	Action Number: 130165
	Action Type: [C-108] Fluid Injection Well (C-108)

CONDITIONS

Created By	Condition	Condition Date
mgebremichael	None	2/23/2023