AE Order Number Banner

Application Number: pMSG2335334976

PMX-340

OCCIDENTAL PERMIAN LTD [157984]

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

November 2, 2023

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. 331; API 30-025-07538
Lea County, NM

Occidental Permian Ltd. respectfully requests administrative approval to inject produced CO2 into the above referenced injector in the North Hobbs Unit per Order No. R-6199-F. The wells are currently authorized to inject water and purchased CO2. 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
- AOR Map

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 injector in this application is located within the expanded Phase I Area of the North Hobbs Unit.

If you have any questions regarding this application, please contact me at 713-215-7827 or email roni_mathew@oxy.com.

Sincerely,

Roni Mathew
Roni Mathew
Regulatory Advisor

DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.

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-6199-G)

[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.

Roni Mathew	Roni Mathew	Regulatory Advisor	10/19/2023
Print or Type Name	Signature	Title	Date

roni_mathew@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 __X__Pressure Maintenance _____Disposal _____Storage
Application qualifies for administrative approval? __X__Yes _____No

II. OPERATOR: OCCIDENTAL PERMIAN LTD

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

CONTACT PARTY: Roni Mathew PHONE: 713-215-7827

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-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: Roni Mathew TITLE: Regulatory Advisor

SIGNATURE: Roni Mathew DATE: 10/19/2023

E-MAIL ADDRESS: roni_mathew@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. 331
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: Roni Mathew, 713-215-7827

III. Injection well data sheet and wellbore schematic has been attached for NORTH HOBBS G/SA UNIT No. 331

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 #331" 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
30-025-07520	NORTH HOBBS G/SA UNIT #221	OCCIDENTAL PERMIAN LTD	PLUGGED
30-025-12504	NORTH HOBBS G/SA UNIT #532	OCCIDENTAL PERMIAN LTD	PLUGGED
30-025-07542	STATE LAND SECTION 32 #008	OXY USA INC	PLUGGED
30-025-07541	STATE LAND SECTION 32 #007	OXY USA INC	PLUGGED

The wellbore diagrams, their tabulated data, and the area of review map are attached.

VII. Proposed Operation

1. Average Injection Rate 3,000 BWPD / 10,000 MCFGPD
   Maximum Injection Rate 8,000 BWPD / 20,000 MCFGPD
2. This will be a closed system.
3. Average Surface Injection Pressure 1,300 PSIG
   Maximum Surface Injection Pressure
   - Produced Water 1,150 PSIG
   - CO2 1,250 PSIG
   - CO2 w/produced gas 1,650 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. Acid stimulate well with ~4,000 gal 15% HCL. Max rate = 4-5 BPM. Flush acid with ~200 bbls off fresh water.

X. Logs were filed at the time of drilling.

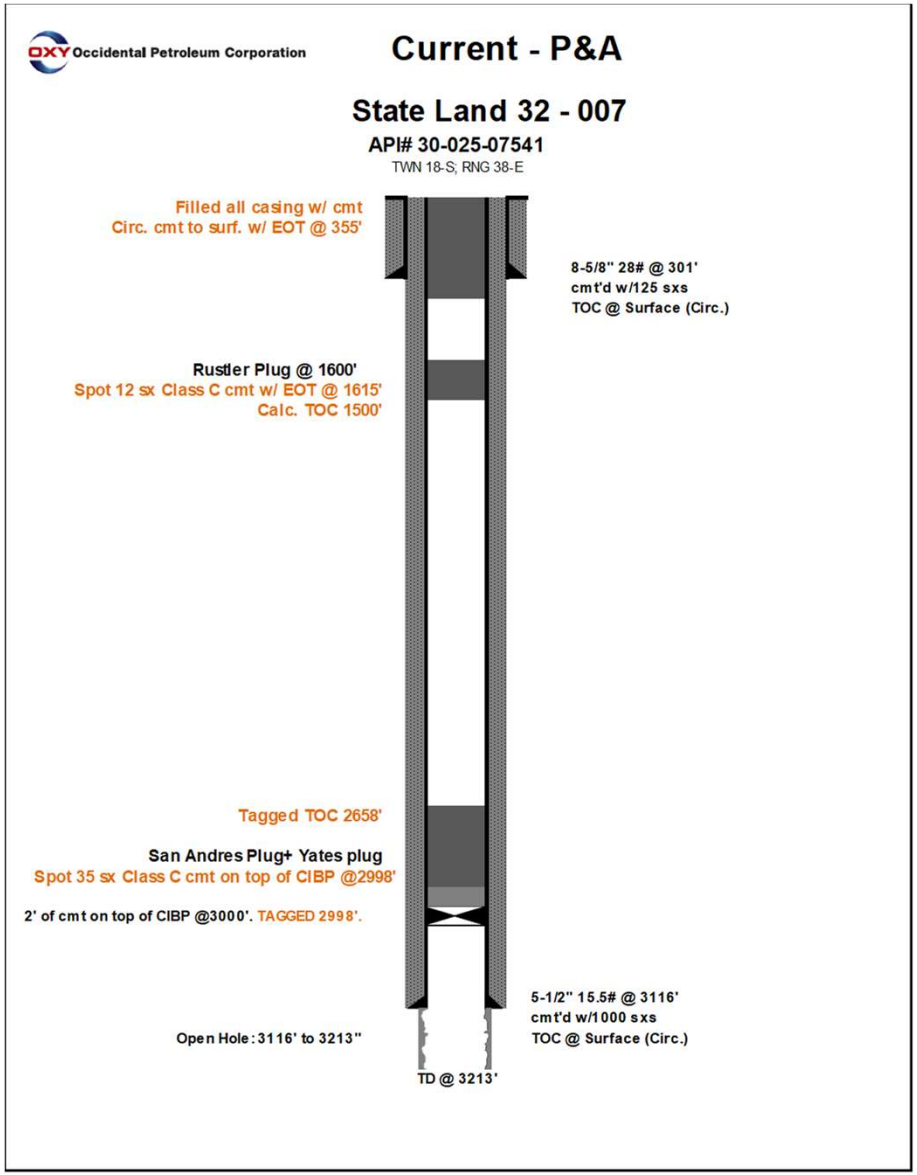
XI. Water analysis from 72697 Going Lane Office and DUNLIN-1 and their location map are included with the application.

WATER WELL NAME	LAT	LONG	Date Collected
72697 Going Lane Office	32°42’18.86”N	103°11’01.82”W	10/31/2013
DUNLIN-1	32°41'33.50"N	103°10'24.76"W	8/30/2019

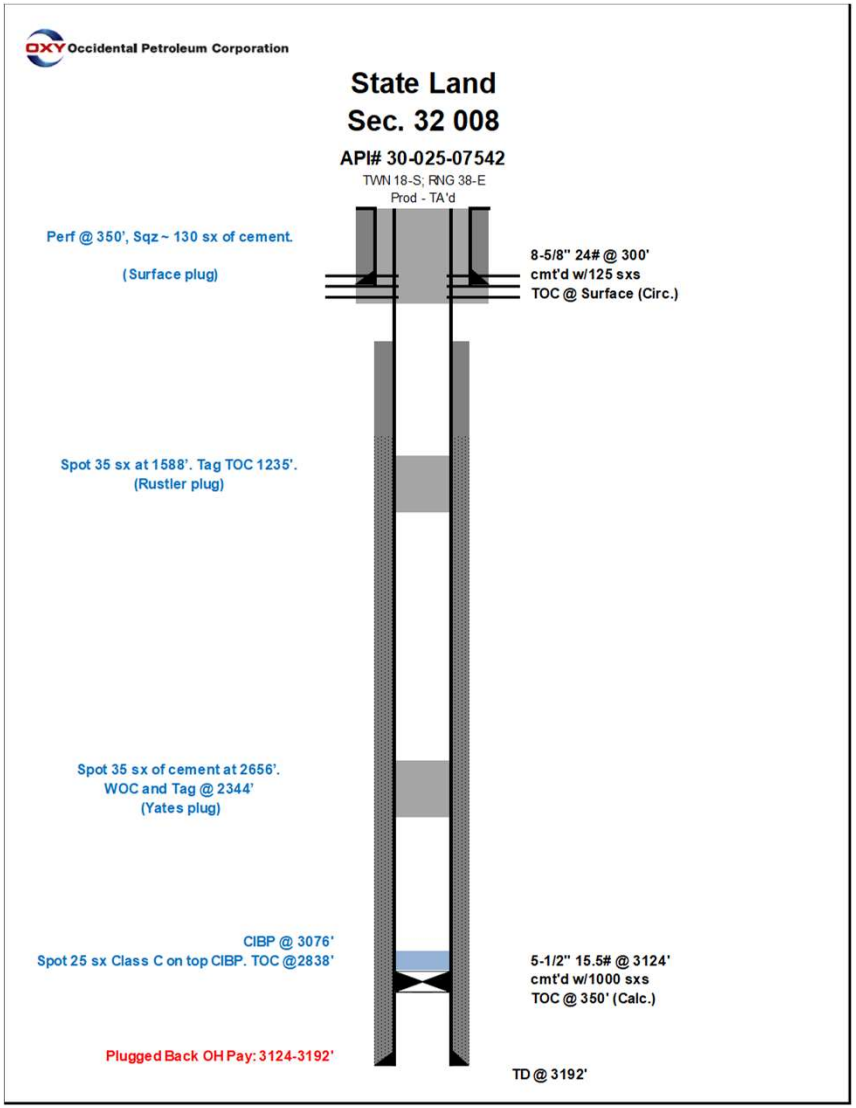
XII. N/A. This is a pressure maintenance project, not a disposal well.

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.

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
30-025-07541	OXY USA INC	STATE LAND SECTION 32	007	Oil	Plugged, Site Released	585	S	585	E	P	32	18S	38E	6/7/1948	3213	11 7.875	8.625 5.5	301 3116	125 3116	Surf Surf	Circ Circ	3116'-3213' BOWERS; SEVEN RIVERS	Well Plugged on 01/31/2020

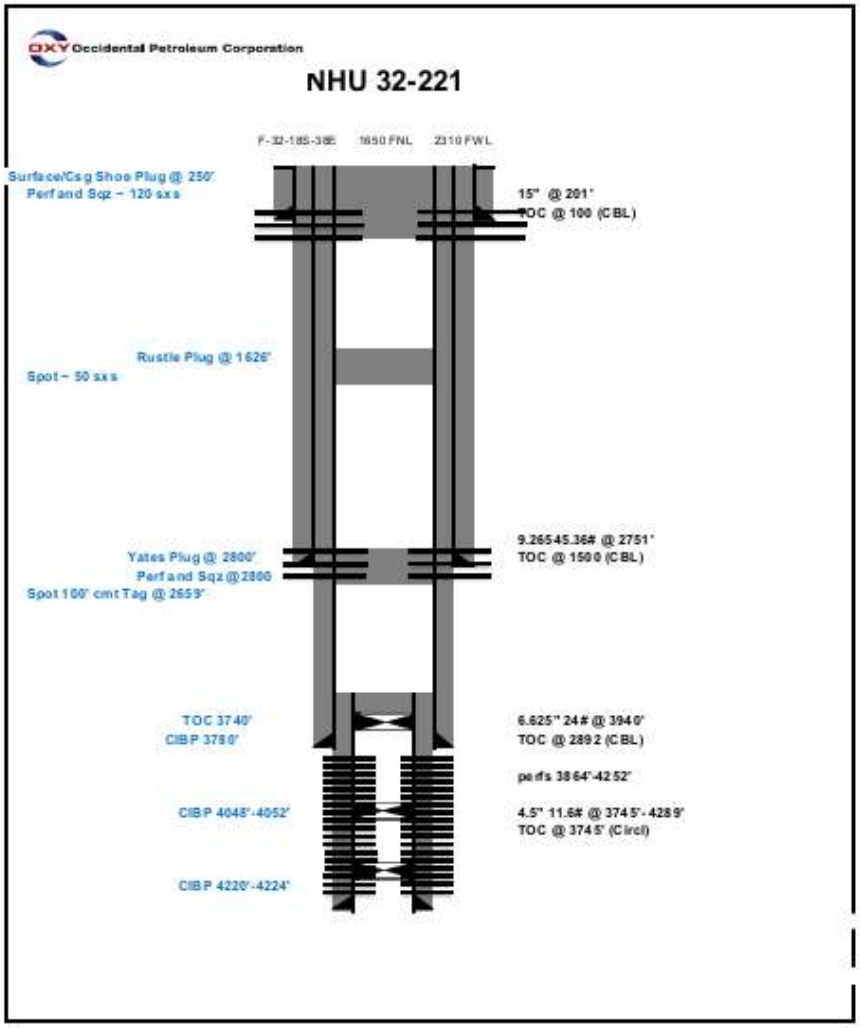


API NUMBER	OPERATOR	LEASE NAME	WELL NO.	WELL TYPE	STATUS	FTG. N/S	N/S	FTG. E/W	E/W	UNIT	SEC.	TSHP.	RNG.	DATE DRILLED	TVD (ft)	HOLE SIZE (in)	CSG. SIZE (in)	SET AT (ft)	SX. CMT.	CMT. TOP (ft)	MTD.	COMPLETION	REMARKS
30-025-07542	OXY USA INC	STATE LAND SECTION 32	008	Oil	Plugged, Site Released	1980	S	660	E	I	32	18S	38E	7/1/1945	3192	11 7.875	8.625 5.5	300 3124	125 1000	Surf 350	Circ Calc	3124'-3192' BOWERS; SEVEN RIVERS	Well Plugged on 09/14/2021

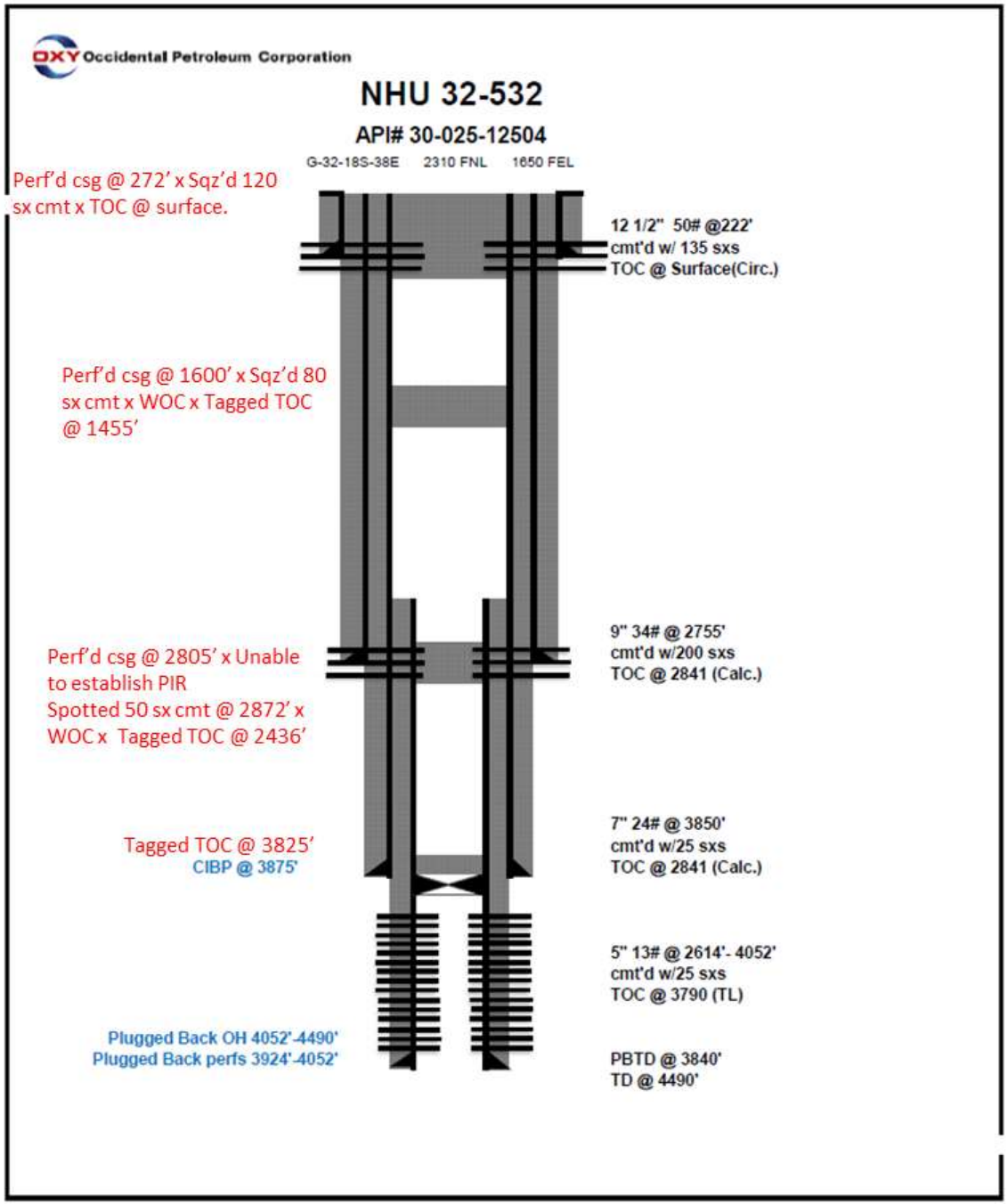


API NUMBER	OPERATOR	LEASE NAME	WELL NO.	WELL TYPE	STATUS	FTG. N/S	N/S	FTG. E/W	E/W	UNIT	SEC.	TSHP.	RNG.	DATE DRILLED	TVD (ft)
30-025-07520	OCCIDENTAL PERMIAN LTD	NORTH HOBBS G/SA UNIT	221	Oil	Plugged, Not Released	1650	N	2310	W	F	32	18S	38E	N/A	4290

HOLE SIZE (in)	CSG. SIZE (in)	SET AT (ft)	SX. CMT.	CMT. TOP (ft)	MTD.	COMPLETION	REMARKS
	15.500	201	200	Surf	Circ	3876-4252	Well Plugged on 10/20/2021
	9.625	2751	600	Surf	Circ	HOBBS; GRAYBURG-SAN ANDRES	
	6.625	3940	200	Surf	Circ		
	4.500	4289	75	3748	CBL		



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
30-025-12504	OCCIDENTAL PERMIAN LTD	NORTH HOBBS G/SA UNIT	532	Oil	Plugged, Not Released	2310	N	1650	E	G	32	18S	38E	11021	4490	12.250	10.250	222	135	Surf	Circ	4052'-4490'	Well Plugged on 05/26/2022
																9.000	8.625	2755	200	2841	Calc	HOBBS; GRAYBURG-SAN ANDRES	
																7.000	5.500	3850	25	2841	Calc		
																	5.000	4052	25	3790	TL		



Side 1

INJECTION WELL DATA SHEET

OPERATOR: OCCIDENTAL PERMIAN LTD

WELL NAME & NUMBER: NORTH HOBBS G/SA UNIT #331

WELL LOCATION:	2315' FSL 2322' FEL	J	32	18S	38E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

See attached

Production Casing 2:
Hole Size = 6-1/4"
Casing Size = 5.0"
Cemented with = 75 sx
TOC = 2440'
Method Determined = CBL
Casing TD = 4247'

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17" Casing Size: 15-1/2"

Cemented with: 250 sx. ***or*** _____ ft^3

Top of Cement: Surface Method Determined: Circulated

Intermediate Casing

Hole Size: 11.0" Casing Size: 9-5/8"

Cemented with: 500 sx. ***or*** _____ ft^3

Top of Cement: Surface Method Determined: Calculated

Production Casing

Hole Size: 8-3/4" Casing Size: 7.0"

Cemented with: 350 (Primary 1930) 360 (Remediation 1955) sx. ***or*** _____ ft^3

Top of Cement: Surface Method Determined: Circulated

Total Depth: 3940'

Injection Interval

4075' (Perforated) feet to Approx. 4217' (Perforated)

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

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

Type of Packer: 5" 11.5-15# ARROWSET 1-X DBL GRIP

Packer Setting Depth: 4027'

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. Yes

   Perf'd 7.0" csg & Sqz'd 140 sx @ 2670'. Perf'd 7.0" csg & sqz'd 220 sx @1414'. Circulated cmt to surface.

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

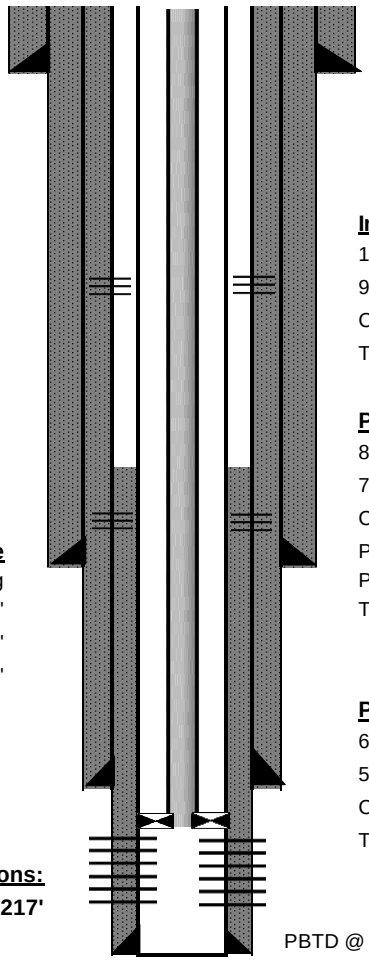
   Queen @ 256' TVDSS

   Glorieta @ -1673 TVDSS

Current WBD

NHSAU 331-32
30-025-07538
Lea County

Current Wellbore
Active Injector



Surface Casing
17" Hole Size
15-1/2" Csg @ 300"
Cemented with 250 sx
TOC @ Surface (Circulated)

Intermediate Casing
11.0" Hole Size
9-5/8" 40# Csg @ 2750'
Cemented with 500 sx
TOC @ Surface (Calculated)

Production Casing 1
8-3/4" Hole Size
7.0" 24# Csg @ 3940'
Cemented with 350 sx (1930)
Perf'd at 1414' & Sqz'd 220 sx cmt (1955). Cmt to surface.
Perf'd at 2670' & Sqz'd 140 sx cmt (1955)
TOC @ Surface (Circulated)

Equipment in the Hole
4019' of 2-7/8" 6.5# J-55 Duoline Tbg
On-Off Tool at 4020'
F Type Profile Nipple at 4021'
5.0" AS1-X Packer set @ ~4027'

Production Casing 2
6-1/4" Hole Size
5.0" Csg @ 4247'
Cemented with 75 sx
TOC @ 2440' (CBL)

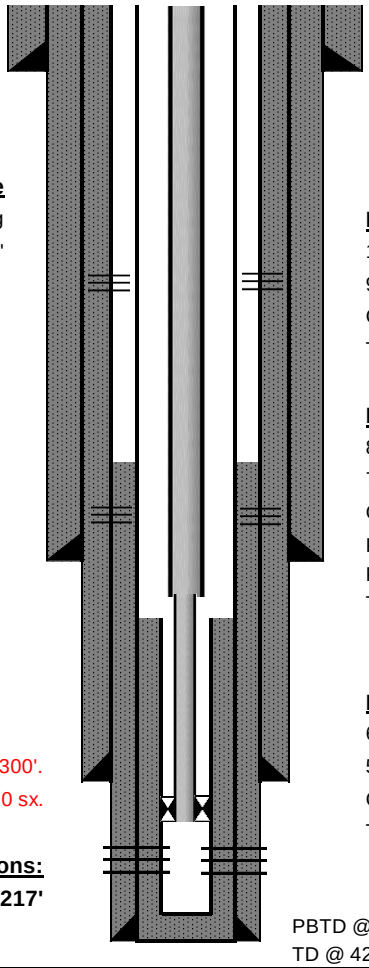
Open SA Perforations:
4,075' - 4,217'

PBTD @ 4220'
TD @ 4277'

Proposed WBD

NHSAU 331-32
30-025-07538
Lea County

Proposed Wellbore
Active Injector



Surface Casing
17" Hole Size
15-1/2" Csg @ 300''
Cemented with 250 sx
TOC @ Surface (Circulated)

Equipment in the Hole
4000' of 2-7/8" & 2-3/8" IPC Tbg
5.0" AS1-X Packer set @ ~4000'

Intermediate Casing
11.0" Hole Size
9-5/8" 40# Csg @ 2750'
Cemented with 500 sx
TOC @ Surface (Calculated)

Production Casing 1
8-3/4" Hole Size
7.0" 24# Csg @ 3940'
Cemented with 350 sx (1930)
Perf'd at 1414' & Sqz'd 220 sx cmt (1955). Cmt to surface.
Perf'd at 2670' & Sqz'd 140 sx cmt (1955)
TOC @ Surface (Circulated)

Production Casing 2
6-1/4" Hole Size
5.0" Csg @ 4247'
Cemented with 75 sx
TOC @ 2440' (CBL)

Proposed 4.0" liner from 4245' to 3300'.
Cmt'd w/ 150 sx.

Open SA Perforations:
4,075' - 4,217'

PBTD @ 4245'
TD @ 4277'

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	Pool Code	Pool Name
30-025-07538	31920	HOBBS; GRAYBURG-SAN ANDRES

Property Code	Property Name	Well Number
19250	NORTH HOBBS G/SA UNIT	331

OGRID No.	Operator Name	Elevation
157984	OCCIDENTAL PERMIAN LTD.	3634.8'

Surface Location

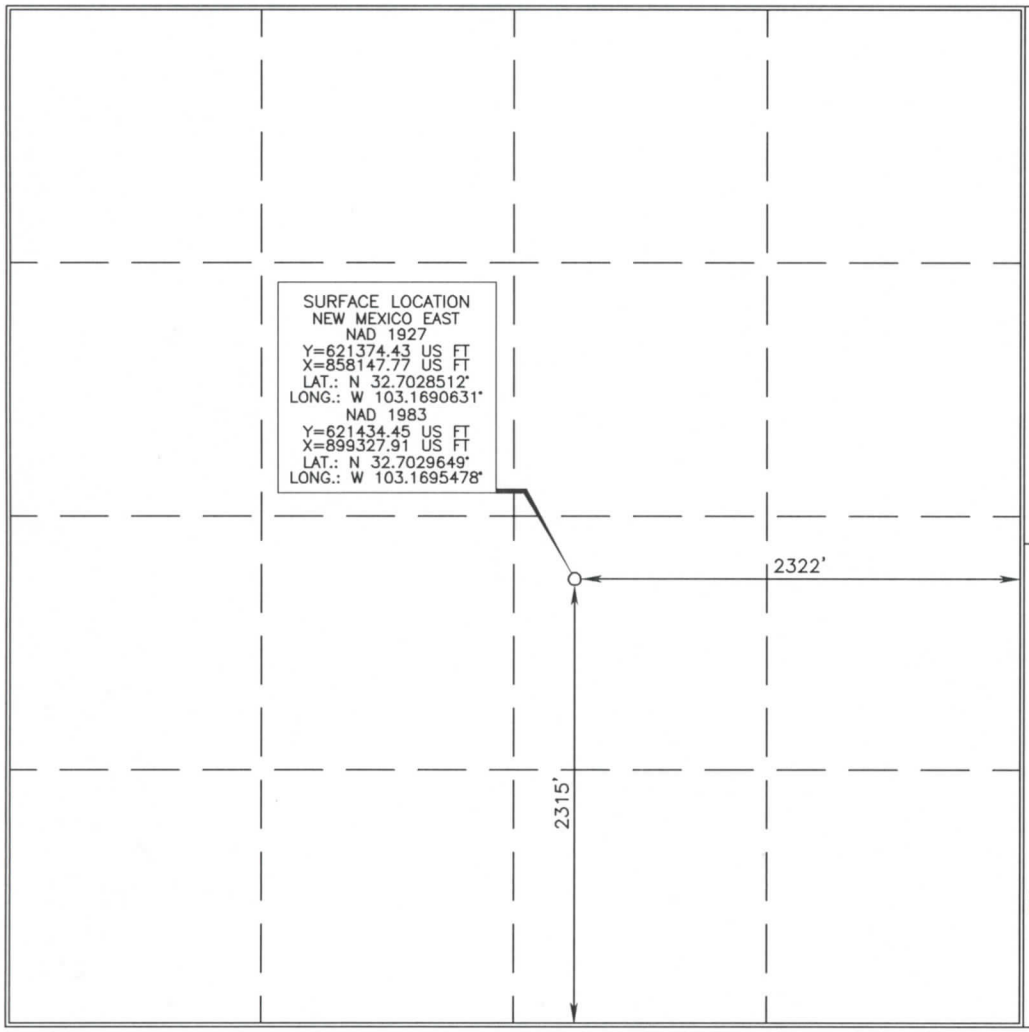
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	32	18 SOUTH	38 EAST, N.M.P.M.		2315'	SOUTH	2322'	EAST	LEA

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.
40			

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.

Roni Mathew 10/19/2023
Signature Date

Roni Mathew
Printed Name

roni_mathew@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 28, 2022
Date of Survey

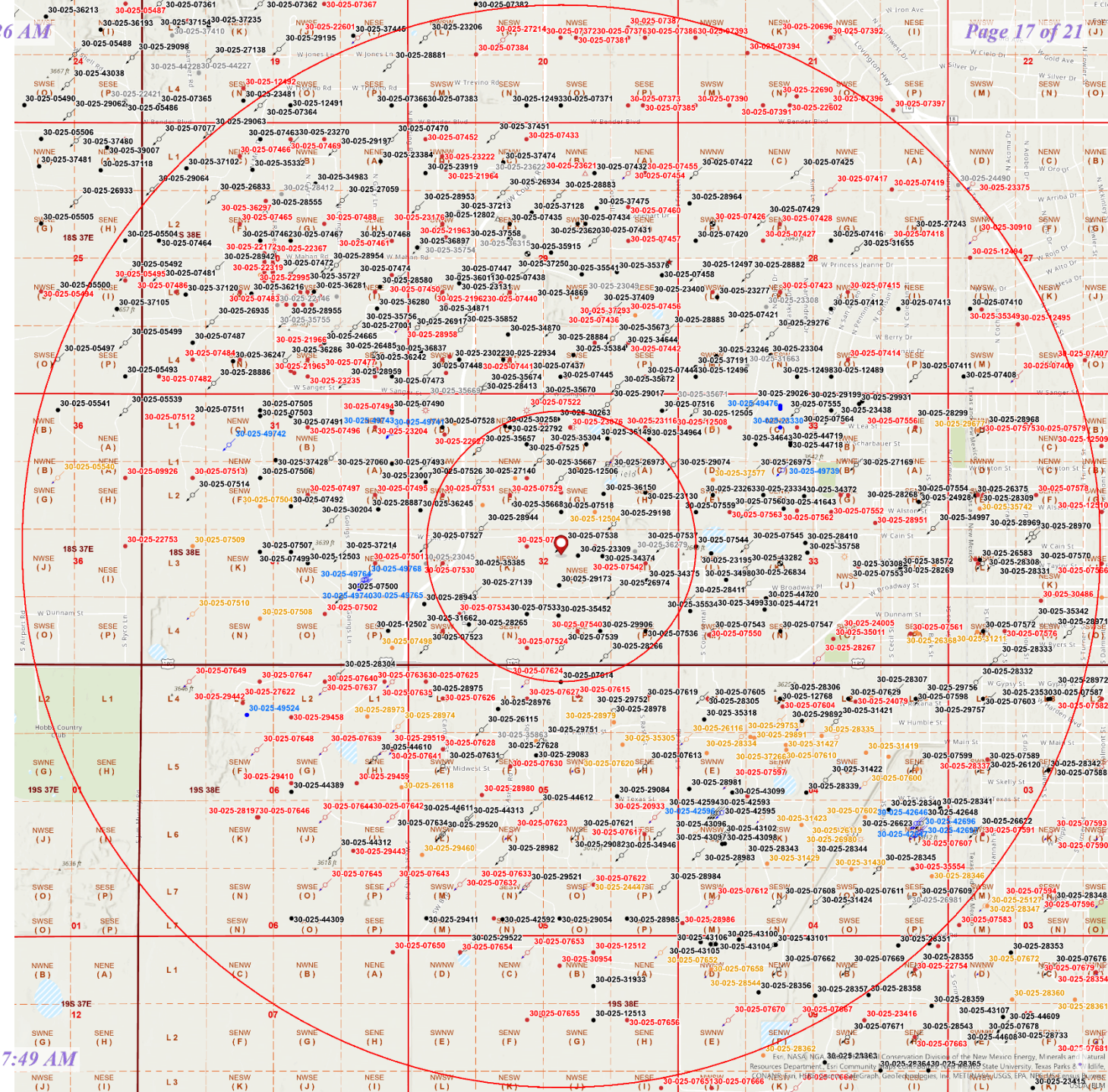
Signature and Seal of Professional Surveyor:

JERRY J. ASEL 15079 REGISTERED PROFESSIONAL LAND SURVEYOR

Jerry J. Asel 8/11/2022
Certificate Number 15079

WO# 220728WL-a (KA)

North Hobbs G/SA Unit 331 AOR



MITCHELL ANALYTICAL LABORATORY

2638 Faudree
Odessa, Texas 79765-8538
561-5579

Company: ***Nalco Company***

Well Number:	Going Lane Office	Sample Temp:	70
Lease:	OXY	Date Sampled:	10/24/2013
Location:		Sampled by:	Bobby Hunt
Date Run:	10/31/2013	Employee #:	27-022
Lab Ref #:	13-nov-n72697	Analyzed by:	GR

Dissolved Gases

			Mg/L	Eq. Wt.	MEq/L
Hydrogen Sulfide	(H2S)		.00	16.00	.00
Carbon Dioxide	(CO2)	**NOT ANALYZED**			
Dissolved Oxygen	(O2)	**NOT ANALYZED**			

Cations

Calcium	(Ca++)		57.89	20.10	2.88
Magnesium	(Mg++)		21.03	12.20	1.72
Sodium	(Na+)		116.11	23.00	5.05
Barium	(Ba++)	**NOT ANALYZED**			
Manganese	(Mn+)		.00	27.50	.00
Strontium	(Sr++)	**NOT ANALYZED**			

Anions

Hydroxyl	(OH-)		.00	17.00	.00
Carbonate	(CO3=)		.00	30.00	.00
BiCarbonate	(HCO3-)		342.16	61.10	5.60
Sulfate	(SO4=)		56.00	48.80	1.15
Chloride	(Cl-)		103.11	35.50	2.90
Total Iron	(Fe)		0	18.60	.00
Total Dissolved Solids			696.30		
Total Hardness as CaCO3			230.95		
Conductivity MICROMHOS/CM			976		

pH 7.600 Specific Gravity 60/60 F. 1.000

CaSO4 Solubility @ 80 F. 19.15MEq/L, CaSO4 scale is unlikely

CaCO3 Scale Index

70.0	-.280	100.0	.070	130.0	.580
80.0	-.150	110.0	.310	140.0	.580
90.0	.070	120.0	.310	150.0	.810

Nalco Company

Goins Lane Office	32°42’18.86”N	103°11’01.82”W

GSI ENVIRONMENTAL

TABLE 1
WATER QUALITY ANALYTICAL RESULTS
Results of Water Supply Well Sampling and Investigation
South Hobbs Grayburg/San Andres Unit, Hobbs, New Mexico
Occidental Petroleum Corporation

						Matrix:	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
						Location ID:	Aldaz-1	Aldaz-1	Cochran D-1	Cochran D-1	Curtis-1	Dulin-1	IWW-1	Levey-1
						Sample Date:	8/29/2019	10/18/2019	9/3/2019	9/3/2019	9/5/2019	8/30/2019	10/23/2019	7/24/2019
						Sample Type:	N	N	N	Dup	N	N	N	N
		USEPA		**NMED**		***Collected By:***	GSI	GSI	GSI	GSI	GSI	GSI	GSI	GSI
Analyte Type	**Analyte**	**Screening Limit**	**Limit Type**	**Screening Limit**	**Limit Type**	**Units**								
Coliform	E. Coli	--	***NS***	--	***NS***	Unitless	-	-	-	-	-	-	-	Absent
Coliform	Fecal Coliforms	--	***NS***	--	***NS***	MPN/100 mL	-	-	-	-	-	-	-	<2
Coliform	Total Coliforms	--	***NS***	--	***NS***	Unitless	-	-	-	-	-	-	-	Present
Inorganic	Alkalinity, Bicarbonate as CaCO3	--	***NS***	--	***NS***	mg/L	242	-	149	102	158	270	-	1040
Inorganic	Alkalinity, Bicarbonate as HCO3	--	***NS***	--	***NS***	mg/L	-	-	-	-	-	-	386	-
Inorganic	Alkalinity, Carbonate as CaCO3	--	***NS***	--	***NS***	mg/L	<20	-	<20	<20	<20	<20	-	<20
Inorganic	Alkalinity, Total as CaCO3	--	***NS***	--	***NS***	mg/L	242	-	149	102	158	270	316	1040
Inorganic	Chloride	***250***	***SMCL***	***250***	***WQS***	mg/L	143	-	78.3	77.4	50.5	174	88	248
Inorganic	Nitrate Nitrite as N	***10***	***MCL***	***10***	***WQS***	mg/L	1.96	-	1.77	1.76	3.46	5.99	0.031	0.334
Inorganic	Sulfate	***250***	***SMCL***	***600***	***WQS***	mg/L	137	-	53.7	53.2	56.1	62.4	94.6	287
Inorganic	Sulfide (Total)	--	***NS***	--	***NS***	mg/L	-	-	-	-	-	-	<0.01	-
Inorganic	Sulfide as H2S, Dissolved-Dissolved	--	***NS***	--	***NS***	mg/L	0.137	-	<0.00954	<0.00954	<0.00954	<0.00954	-	-
Inorganic	Total Dissolved Solids (TDS)	***500***	***SMCL***	***1000***	***WQS***	mg/L	756	-	369	377	355	774	579	1750
Inorganic	Total Organic Carbon	--	***NS***	--	***NS***	mg/L	-	-	-	-	-	-	-	1.3
Metal	Calcium	--	***NS***	--	***NS***	mg/L	111	-	70.5	72.8	72.2	139	48.8	369
Metal	Iron	***0.3***	***SMCL***	***1***	***WQS***	mg/L	2.52	-	<0.027	<0.027	<0.027	<0.027	0.71	11
Metal	Iron, Dissolved	***0.3***	***SMCL***	***1***	***WQS***	mg/L	-	-	-	-	-	-	0.283	-
Metal	Magnesium	--	***NS***	--	***NS***	mg/L	19.1	-	12.5	12.8	12.1	24.4	11.9	64.1
Metal	Manganese	***0.05***	***SMCL***	***0.2***	***WQS***	mg/L	0.133	-	0.0004 J	0.0005 J	0.0005 J	0.0533	0.161	12.5
Metal	Manganese, Dissolved	***0.05***	***SMCL***	***0.2***	***WQS***	mg/L	-	-	-	-	-	-	0.134	-
Metal	Potassium	--	***NS***	--	***NS***	mg/L	3.61 b	-	2.3	2.36	2.28	3.66 b	4.6 Ja	5.77
Metal	Sodium	--	***NS***	--	***NS***	mg/L	132 b	-	47.7	48.9	40.9	95.6 b	160	88.8 b
Field Parameter	Dissolved Oxygen	--	***NS***	--	***NS***	mg/L	7.73	1.12	8.3	8.3	12.5	2.47	1	8.24
Field Parameter	Oxidation-reduction Potential (ORP)	--	***NS***	--	***NS***	mV	-35	53	79	79	101	12	-36	9
Field Parameter	pH, Field	***6.5 - 8.5***	***SMCL***	***6 - 9***	***WQS***	ph Units	7.41	7.26	7.21	7.21	6.86	7.24	7.59	5.96
Field Parameter	Specific Conductance, Field	--	***NS***	--	***NS***	mmhos/cm	1.2	1.26	0.671	0.671	0.65	1.24	0.966	2.51
Field Parameter	Temperature	--	***NS***	--	***NS***	°C	19.83	18.41	19.95	19.95	19.52	20.12	19.96	22.72
Field Parameter	Turbidity	--	***NS***	--	***NS***	NTU	24.3	0	0	0	0	5.6	0	47.6

Notes
1. NS = No standard; "-" = not analyzed.
2. "<" = concentration below the Minimum Detection Limit (MDL); "J" = estimated concentration above the MDL but below the quantitation limit; "b" = compound was found in the blank and the sample.
3. mg/L = milligrams per liter; MPN/100 mL = Most Probable Number of viable cells in 100 milliliters of sample.
3. Samples analyzed at Eurofins TestAmerica, Houston, Texas and Cardinal Laboratories, Hobbs, New Mexico.
4. MCL = Maximum Contaminant Level; SMCL = Secondary Maximum Contaminant Level. These standards are set by the U.S. Environmental Protection Agency (U.S. EPA).
5. WQS = Water quality standards for groundwater presented in 20.6.2 NMAC New Mexico Water Quality Control Comission Regulations, New Mexico Environment Department (NMED).
6. The Levey-1 sample was comprised of water actively expelled from the wellhead at the time of sampling.

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1625 N. French Dr., Hobbs, NM 88240
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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 296092

CONDITIONS

Operator: OCCIDENTAL PERMIAN LTD P.O. Box 4294 Houston, TX 772104294	OGRID: 157984
	Action Number: 296092
	Action Type: [IM-SD] Admin Order Support Doc (ENG) (IM-AAO)

CONDITIONS

Created By	Condition	Condition Date
mgebremichael	None	12/19/2023