

**From:** [Montgomery, Kelley A](#)  
**To:** [Murphy, Kathleen A, EMNRD](#)  
**Cc:** [Gago, Jose L](#)  
**Subject:** [EXT] RE: OXY PMXs  
**Date:** Wednesday, June 9, 2021 1:37:05 PM

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Will do.

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**From:** Murphy, Kathleen A, EMNRD <KathleenA.Murphy@state.nm.us>  
**Sent:** Wednesday, June 9, 2021 2:35 PM  
**To:** Montgomery, Kelley A <Kelley\_Montgomery@oxy.com>  
**Cc:** Gago, Jose L <Jose\_Gago@oxy.com>  
**Subject:** [EXTERNAL] RE: OXY PMXs

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So is there someplace in previous NHU case exhibits where the water wells are discussed, and samples taken of wells in the unit, or a discussion of the wells being on city water systems? This would be similar to how you reference the geology section. I just don't know specifically where to find this and it would be useful for the review of the rest of the PMXs.

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**From:** Montgomery, Kelley A <[Kelley\\_Montgomery@oxy.com](mailto:Kelley_Montgomery@oxy.com)>  
**Sent:** Wednesday, June 9, 2021 1:30 PM  
**To:** Murphy, Kathleen A, EMNRD <[KathleenA.Murphy@state.nm.us](mailto:KathleenA.Murphy@state.nm.us)>  
**Cc:** Gago, Jose L <[Jose\\_Gago@oxy.com](mailto:Jose_Gago@oxy.com)>  
**Subject:** [EXT] RE: OXY PMXs

Hi Kathleen,

We pulled all of the historical water wells within 1 mile on the engineering website and attached two excel files. There is a lot of overlap between the two wells as they are located near each other. The majority of these wells are within the city limits or very close and the residents are all on city water. A 2014 city ordinance (below) required all domestic water wells within the city and those residences on city water to be P&A'd. I spoke with our operations personnel and they do not know of any active water wells within 1 mile of the wells. I found two wells on the list (highlighted) that were drilled after 2014 that could potentially still be active. I can have our operations folks check on these two if necessary? Please let me know. Kelley

## **Chapter 13.28 - WATER WELLS**

### **13.28.010 - Restrictions upon drilling of water wells within the City limits.**

A.

It shall be unlawful for any person, firm, or entity to drill, deepen, or cause to be drilled, any water well or any well capable of producing water within the City of Hobbs without written consent of the Hobbs City Commission for good and sufficient cause shown.

B.

Pursuant to the Safe Drinking Water Act (SDWA) and applicable State and Federal rules and regulations governing cross connections, cross contamination, and physical separation of conflicting water systems, all water wells located on premises or property connected to the City's water distribution system shall be properly

plugged and abandoned in accordance with New Mexico Environment Department (NMED) rules and regulations. It shall be unlawful for the owner of any premises or property connected to the City's water distribution system to allow any water well to remain in operation and not properly plugged and abandoned.

C.

Upon violation of this section, any person, firm or entity found guilty shall be punishable by fine not to exceed five hundred dollars (\$500.00) per violation and the City of Hobbs may, at its discretion, seek injunctive relief in a court of competent jurisdiction against any person violating this section.

( [Ord. No. 1079](#), 11-3-2014)

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**From:** Murphy, Kathleen A, EMNRD <[KathleenA.Murphy@state.nm.us](mailto:KathleenA.Murphy@state.nm.us)>

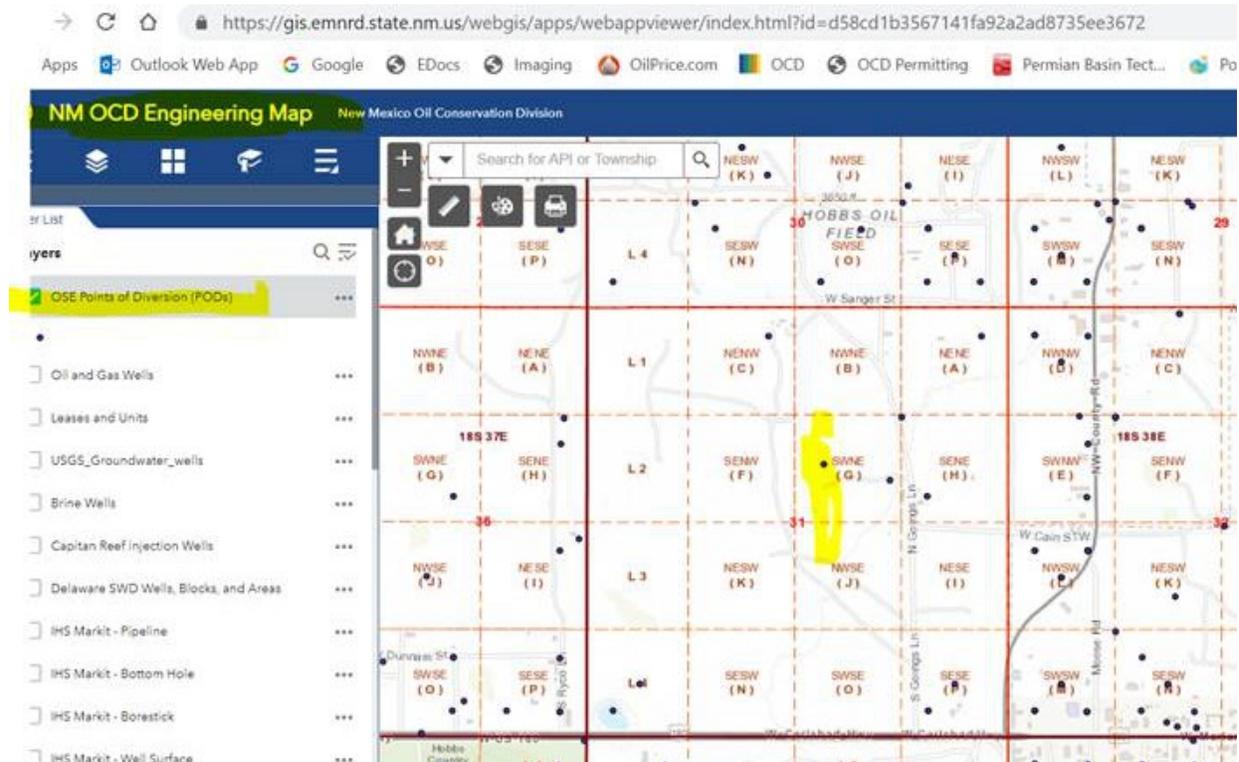
**Sent:** Tuesday, June 8, 2021 10:48 AM

**To:** Montgomery, Kelley A <[Kelley\\_Montgomery@oxy.com](mailto:Kelley_Montgomery@oxy.com)>

**Subject:** [EXTERNAL] RE: OXY PMXs

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I would look at the OCD Engineering webpage and turn on the OSE PODs. I would determine how many water wells are within a mile and then determine if any are active. I thought I saw a couple that were domestic and active.



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**From:** Montgomery, Kelley A <[Kelley\\_Montgomery@oxy.com](mailto:Kelley_Montgomery@oxy.com)>

**Sent:** Tuesday, June 8, 2021 9:26 AM

**To:** Murphy, Kathleen A, EMNRD <[KathleenA.Murphy@state.nm.us](mailto:KathleenA.Murphy@state.nm.us)>

**Cc:** Gago, Jose L <[Jose\\_Gago@oxy.com](mailto:Jose_Gago@oxy.com)>

**Subject:** [EXT] RE: OXY PMXs

Hi Kathleen,

We pulled up the GIS map and did not see any active water wells. Can you tell how you pulled up water well information?

Thank you for your help.

Kelley

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**From:** Murphy, Kathleen A, EMNRD <[KathleenA.Murphy@state.nm.us](mailto:KathleenA.Murphy@state.nm.us)>

**Sent:** Monday, June 7, 2021 4:22 PM

**To:** Montgomery, Kelley A <[Kelley\\_Montgomery@oxy.com](mailto:Kelley_Montgomery@oxy.com)>

**Subject:** [EXTERNAL] RE: OXY PMXs

**WARNING - This message is from an EXTERNAL SENDER - be CAUTIOUS, particularly with links and attachments.**

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Kelly,

I am reviewing PMX 294 which are the NHU SA/G 632 and 312 wells, and applied for in October 2020.

Questions thus far:

On P 9 of the application, the 632 well will need to be edited that it is located in unit J, not B.

Also, the application states (pages 4, 8) there are no fresh water wells within a mile of the injection wells per field personnel. When I look on GIS at the OSE pods there are many wells within a mile, and several that are domestic. Please review this and advise.

Sincerely,

Kathleen Murphy

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**From:** Murphy, Kathleen A, EMNRD

**Sent:** Thursday, June 3, 2021 1:40 PM

**To:** Montgomery, Kelley A <[Kelley\\_Montgomery@oxy.com](mailto:Kelley_Montgomery@oxy.com)>

**Subject:** OXY PMXs

Kelly,

I am going to start working on the OXY PMXs—there are 10 I believe. I will do the NHU 312 and 632 first—PMX-294— as it was submitted in October of last year. Is there any preferred order of the batch that you submitted in April, I believe.

thanks

Kathleen Murphy

Petroleum Specialist- Advanced  
Geologist/GIS Analyst  
New Mexico Oil Conservation Division  
1200 South St Francis Drive  
Santa Fe, New Mexico 87505

505-365-3161

Email: [kathleena.murphy@state.nm.us](mailto:kathleena.murphy@state.nm.us)

\*\* Please use email during this stressful time\*\*



# OXY PMXS

## ENSURING INJECTION IN TARGET INTERVAL

This letter is in response to the question from Phillip Goetze asking, *“how we will know that the well is injecting into the proper interval, since the wells are all at various angles to the formation tops”*.

All proposed injectors will be drilled and completed in a very well-known area with abundance of logs and well top data.

The following steps will be taken to ensure injection on the target formation:

- Casing will be run using centralizers to make sure the casing offsets the drill-hole
- Wells will be fully cemented to surface per NMOCD
- Prior to perforating the injection interval, the following cased-hole logs will be run:
  - CBL to ensure good cement and zonal isolation was achieved
  - GR/SGR for correlation and top identification
  - CNL for porosity and perf interval selection
- Once the well is completed and injection started, periodic Injection Profile Logs (IPLs) will be run to ensure injectant is staying in the desired interval

I will be happy to provide any additional information if needed.

Regards,

Dmitri Pistoun  
Senior Geological Advisor



PMX-316 2



FORM C-108 Technical Review Summary [Prepared by reviewer and included with application; V17]

DATE RECORD: First Rec: \_\_\_\_\_ Admin Complete: \_\_\_\_\_ or Suspended: \_\_\_\_\_ Add. Request/Reply: \_\_\_\_\_

ORDER TYPE: PMX Number: 316 Order Date: \_\_\_\_\_ Legacy Permits/Orders: R-6199

Well No. 981 Well Name(s): North Hoods G/SA Unit (new drill)

API: 30-0 25-pending Spud Date: new (New or Old (EPA): \_\_\_\_\_ (UIC Class II Primacy 03/07/1982)

Footages 900 FNL 1702 FWC Lot \_\_\_\_\_ or Unit C Sec 31 Tsp 185 Rge 38E County lea

Latitude: 32.708417 Longitude 103.1906733 Pool: NH/Gb-SA Pool No: 31920

Operator: Oxy OGRID: 157984 Contact: ICMontgomery Email: \_\_\_\_\_

COMPLIANCE RULE 5.9: Total Wells: 606 Inactive: 0 Fincl Assur:  Compl. Order?  IS 5.9 OK?  Date: 12-29-21

WELL FILE REVIEWED  Current Status: new drill-diagonal

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

Planned Rehab Work to Well: new drill-diagonal well.

Well Construction Details	Sizes (In) Borehole / Pipe	Setting Depths (ft)	Cement Sx or Cf	Cement Top and Determination Method
Planned <input checked="" type="checkbox"/> or Existing <input type="checkbox"/> Surface	<u>13 1/2 - 9 5/8</u>	<u>1600</u>	<u>515</u>	<u>circ to surf.</u>
Planned <input type="checkbox"/> or Existing <input type="checkbox"/> Interm/Prod				
Planned <input type="checkbox"/> or Existing <input type="checkbox"/> Interm/Prod				
Planned <input checked="" type="checkbox"/> or Existing <input type="checkbox"/> Prod/Liner	<u>8 3/4 - 7</u>	<u>4529 MD</u>	<u>725</u>	<u>circ to surf.</u>
Planned <input type="checkbox"/> or Existing <input type="checkbox"/> Liner				
Planned <input type="checkbox"/> or Existing <input type="checkbox"/> OH / PERF	<u>6 1/4</u>	<u>4529 MD</u>		

Injection Lithostratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops	Completion/Operation Details:
Adjacent Unit: Litho <input type="checkbox"/> Struc <input type="checkbox"/> Por. <input type="checkbox"/>				Drilled TD <u>4529</u> PBDT _____
Confining Unit: Litho <input type="checkbox"/> Struc <input type="checkbox"/> Por. <input type="checkbox"/>				NEW TD _____ NEW PBDT _____
Proposed Inj Interval TOP: _____				NEW Open Hole <input type="checkbox"/> NEW Perfs <input checked="" type="checkbox"/>
Proposed Inj Interval BOTTOM: _____				Tubing Size <u>2 7/8</u> in. Inter Coated? <input checked="" type="checkbox"/>
Confining Unit: Litho <input type="checkbox"/> Struc <input type="checkbox"/> Por. <input type="checkbox"/>				Proposed Packer Depth <u>4090</u> ft
Adjacent Unit: Litho <input type="checkbox"/> Struc <input type="checkbox"/> Por. <input type="checkbox"/>				Min. Packer Depth <u>4040</u> (100-ft limit)
				Proposed Max. Surface Press. _____ psi
				Admin. Inj. Press. <input checked="" type="checkbox"/> (0.2 psi per ft)

**AOR: Hydrologic and Geologic Information**

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

USDW: Aquifer(s) \_\_\_\_\_ Max Depth \_\_\_\_\_ HYDRO AFFIRM STATEMENT By Qualified Person

NMOSE Basin: NW Shelf CAPITAN REEF: thru NA adj  NA  No. GW Wells in 1-Mile Radius? \_\_\_\_\_ FW Analysis? \_\_\_\_\_

Disposal Fluid: Formation Source(s) SA-case 14981 Analysis?  On Lease  Operator Only  Commercial

Disposal Interval: Inject Rate (Avg/Max BWPD): \_\_\_\_\_ Protectable Waters? \_\_\_\_\_ Source: \_\_\_\_\_ System: Closed  or Oper

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

AOR Wells: 1/2-M  or ONE-M \_\_\_\_\_ RADIUS MAP/WELL LIST: Total Penetrating Wells: 2 [AOR Hor: \_\_\_\_\_ AOR SWDs: \_\_\_\_\_]

Penetrating Wells: No. Active Wells \_\_\_\_\_ No. Corrective? \_\_\_\_\_ on which well(s)? 2 P+A wells Diagrams?

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

Induced-Seismicity Risk Assess: analysis submitted  historical/catalog review  fault-slip model  probability \_\_\_\_\_

NOTICE: 1/2-M  or ONE-M  : Newspaper Date \_\_\_\_\_ Mineral Owner\* \_\_\_\_\_ Surface Owner \_\_\_\_\_ N. Date \_\_\_\_\_

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

\* new definition as of 12/28/2018 [any the mineral estate of United States or state of New Mexico; SWD operators within the notice radius]

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

Additional COAs: \_\_\_\_\_

\* notice - admin approval R-6199F



## C-108 APPLICATION FOR AUTHORIZATION TO INJECT ADMINISTRATIVE COMPLETENESS FORM

Well Name: \_\_\_\_\_

Applicant: \_\_\_\_\_

PO Number: \_\_\_\_\_

Admin. App. No: \_\_\_\_\_

C-108 Item	Description of Required Content	Yes	No
<b>I. PURPOSE</b>	Selection of proper application type.		
<b>II. OPERATOR</b>	Name; address; contact information.		
<b>III. WELL DATA</b>	Well name and number; STR location; footage location within section.		
	Each casing string to be used, including size, setting depth, sacks of cement, hole size, top of cement, and basis for determining top of cement.		
	Description of tubing to be used including size, lining material, and setting depth.		
	Name, model, and setting depth of packer to be used, or description of other seal system or assembly to be used.		
	Well diagram: Existing (if applicable).		
	Well diagram: Proposed (either Applicant's template or Division's Injection Well Data Sheet).		
<b>IV. EXISTING PROJECT</b>	For an expansion of existing well, Division order number authorizing existing well (if applicable).		
<b>V. LEASE AND WELL MAP</b>	AOR map identifying all wells and leases within 2 mile radius of proposed well, and depicting a 1/2 mile radius circle around any another projected injection well and a 1 mile radius circle around any other projected injection well in the Devonian formation.		
<b>VI. AOR WELLS</b>	Tabulation of data for all wells of public record within AOR which penetrate the proposed injection zone, including well type, construction, date drilled, location, depth, and record of completion.		
	Schematic of each plugged well within AOR showing all plugging detail.		
<b>VII. PROPOSED OPERATION</b>	Proposed average and maximum daily rate and volume of fluids to be injected.		
	Statement that the system is open or closed.		
	Proposed average and maximum injection pressure.		
	Sources and analysis of injection fluid, and compatibility with receiving formation if injection fluid is not produced water.		
	A chemical analysis of the disposal zone formation water if the injection is for disposal and oil or gas is not produced or cannot be produced from the formation within 1 mile of proposed well. Chemical analysis may be based on sample, existing literature, studies, or nearby well.		
<b>VIII. GEOLOGIC DATA</b>	Proposed injection interval, including appropriate lithologic detail, geologic name, thickness, and depth.		
	USDW of all aquifers overlying the proposed injection interval, including geologic name and depth to bottom.		
	USDW of all aquifers underlying the proposed injection interval, including including the geologic name and depth to bottom.		



## C-108 (SWD) APPLICATION FOR AUTHORIZATION TO INJECT ADMINISTRATIVE COMPLETENESS FORM

Well Name: \_\_\_\_\_

Applicant: \_\_\_\_\_

PO Number: \_\_\_\_\_

Admin. App. No: \_\_\_\_\_

C-108 Item	Description of Required Content	Yes	No
<b>IX. PROPOSED STIMULATION</b>	Description of stimulation process or statement that none will be conducted.		
<b>X. LOGS/WELL TESTS</b>	Appropriate logging and test data on the proposed well or identification of well logs already filed with OCD.		
<b>XI. FRESH WATER</b>	Chemical analysis of fresh water from two or more fresh water wells (if available and producing) within 1 mile of the proposed well, including location and sampling date(s).		
<b>XII. AFFIRMATION STATEMENT</b>	Statement of qualified person endorsing the application, including name, title, and qualifications.		
<b>XIII. PROOF OF NOTICE</b>	Identify of all " <i>affected persons</i> " identified on AOR map in Section V, including all affected persons within 1/2 mile radius circle around any another projected injection well and a 1 mile radius circle around any other projected injection well in the Devonian formation.		
	Identification and notification of all surface owners.		
	BLM and/or NMSLO notified per 19.15.2.7(A)(8)(d) NMAC.		
	Notice of publication in local newspaper in county where proposed well is located with the following specific content:		
	<ul style="list-style-type: none"> <li>• Name, address, phone number, and contact party for Applicant;</li> </ul>		
	<ul style="list-style-type: none"> <li>• Intended purpose of proposed injection well, including exact location of a single well, or the section, township, and range location of multiple wells;</li> </ul>		
	<ul style="list-style-type: none"> <li>• Formation name and depth, and expected maximum injection rates and pressures; and</li> </ul>		
<b>XIV. CERTIFICATION</b>	Signature by operator or designated agent, including date and contact information.		

Review Date\*:

Reviewer:

- Administratively COMPLETE  
 Administratively INCOMPLETE

NOTES:

\* The Review Date is the date of administrative completeness determination that commences the 15 day protest period in 19.15.26.8 (C)(2) NMAC.