



# From Boom to Bust and Back Again: Taking Stock of Changes in Oil and Gas Law and Regulation

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# Road Map

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1. Basics of Contemporary Oil and Gas Production
2. Natural Gas Waste Rules
3. Federal Methane Regulation and *West Virginia v. EPA*
4. OCD Seismicity Initiative
5. Produced Water Act
6. Federal Leasing Update
7. Recent State Land Office Initiatives

# Basics of Contemporary Oil and Gas Production

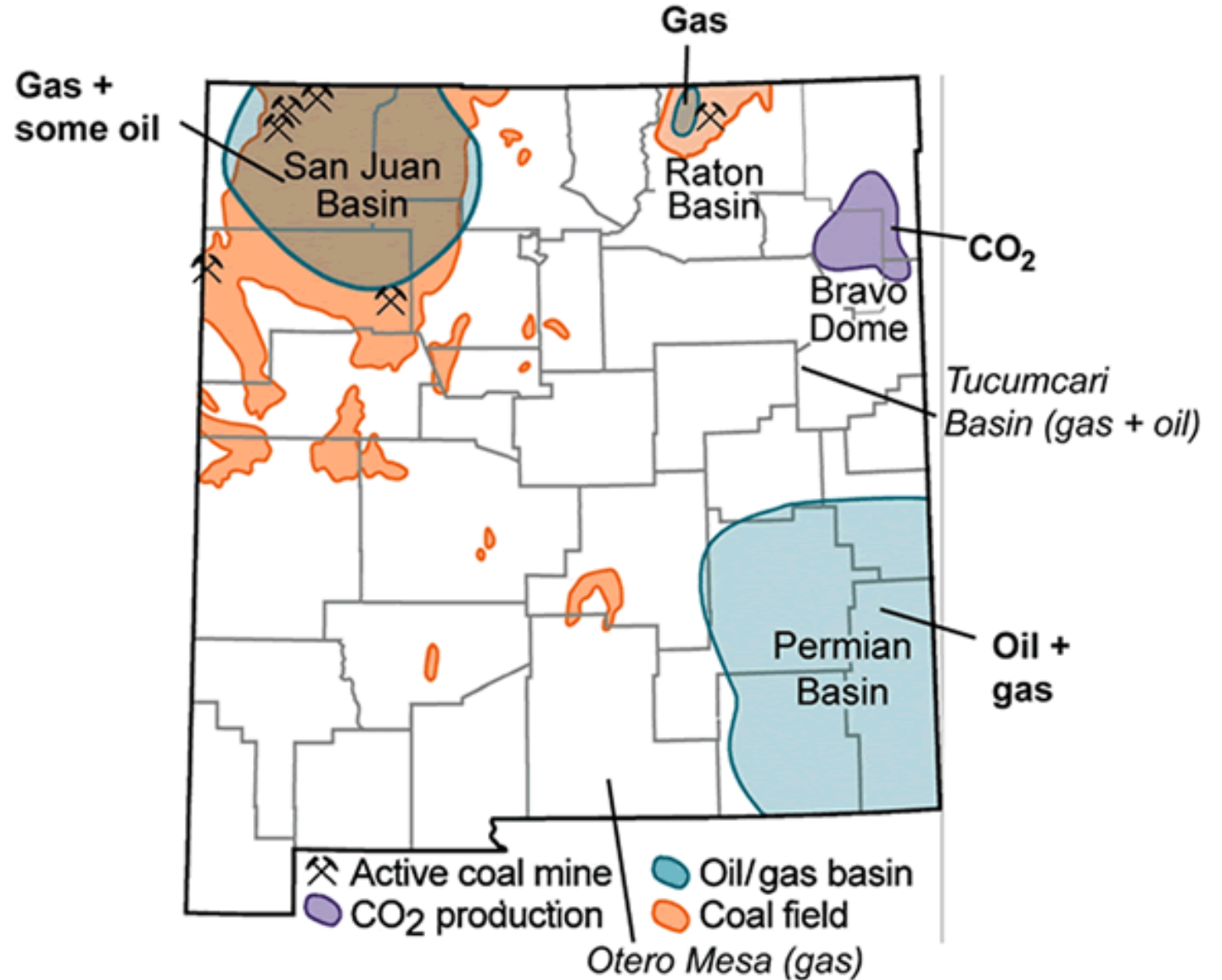
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Horizontal Drilling & Hydraulic Fracturing

# Main Oil & Gas Areas in New Mexico

(no shale)

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# Hydraulic Fracturing (fracking) is nothing new

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- First patent for torpedoing oil wells issued in 1866.
- Gunpowder, then nitroglycerine, used to expand fractures in source rock.
- High pressure water fracturing used no later than 1940's in NM.

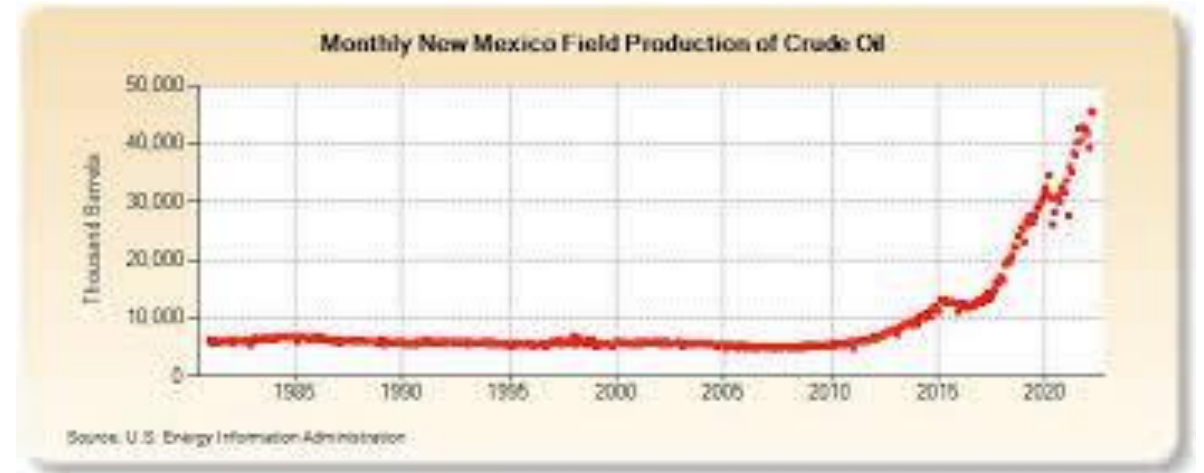
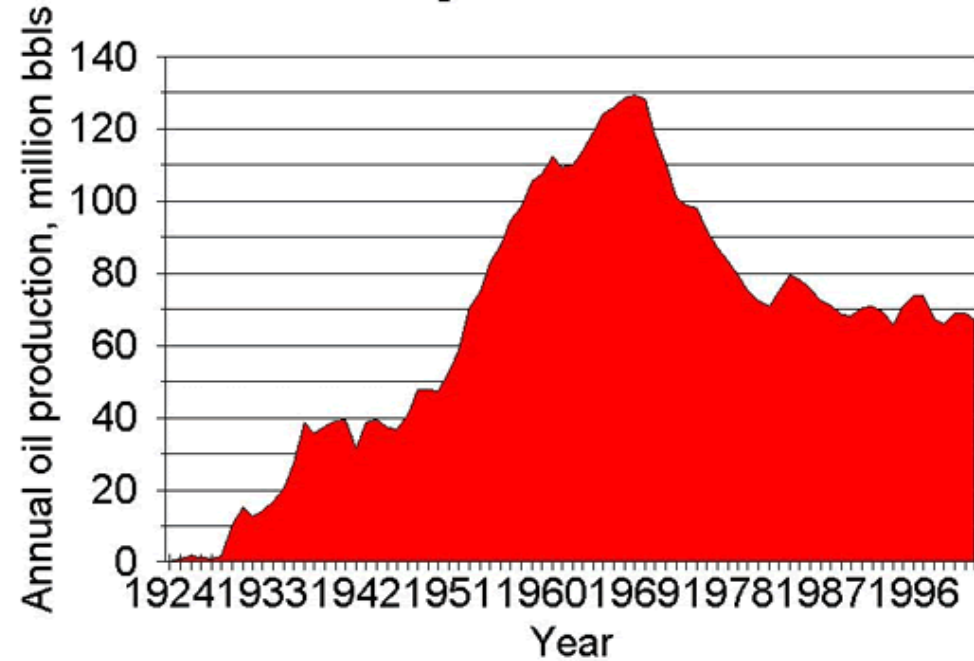
# Horizontal Drilling & Geo- Steering: the Technologies Driving Production

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## NM Oil production



NM Oil Production is Increasing: Currently Producing 3x 1969  
“Peak”.

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# New Mexico Natural Gas Waste Rules

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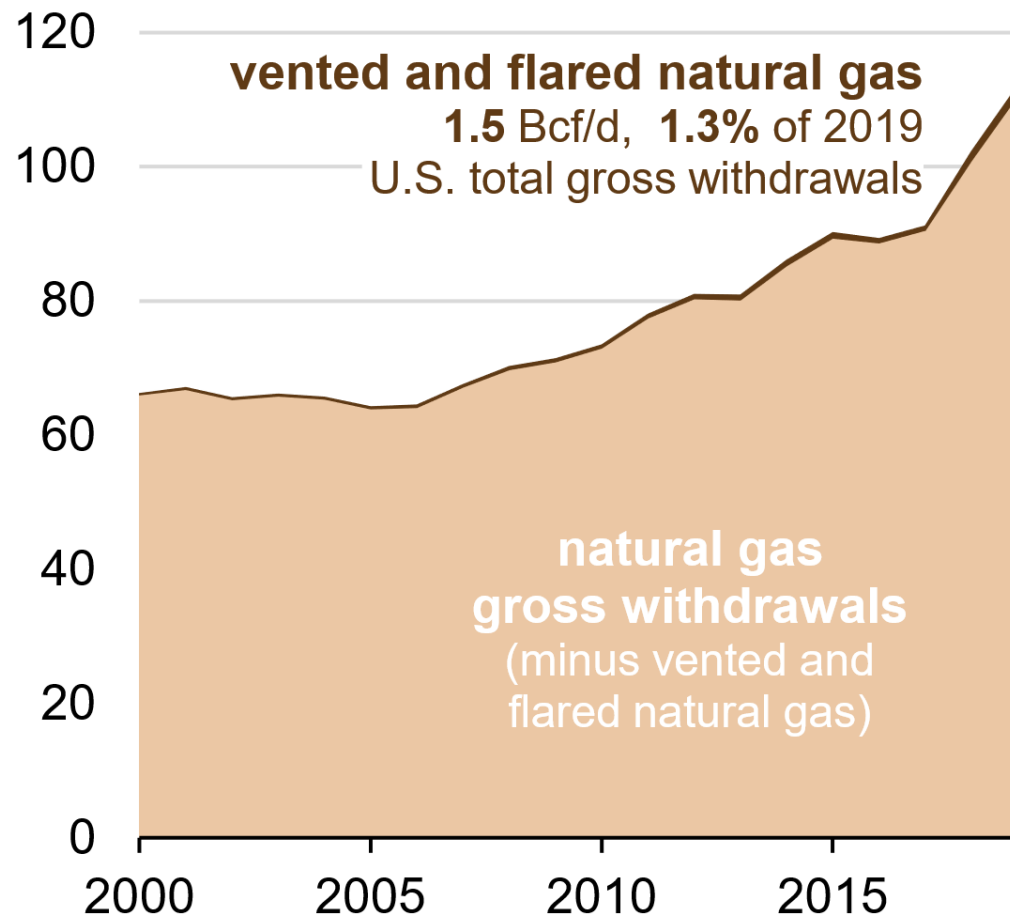
# Venting and Flaring

- Venting: release of natural gas (mostly methane) into the atmosphere
- Flaring: combustion and release of natural gas
- Big increases from 2011-2020; trending down since
  - Horizontal drilling and fracking
  - Underdeveloped pipeline infrastructure
  - Historically low natural gas prices
- N.M. Exec. Order No. 2019-003 (Jan. 29, 2019): “emissions, venting, flaring, and leaks of natural gas by New Mexico’s oil and gas industry results in the waste of an important source of domestic energy to the tune of an estimated \$244 million per year.” That would be \$43 million in annual royalty and tax income to the state.

# Venting and Flaring

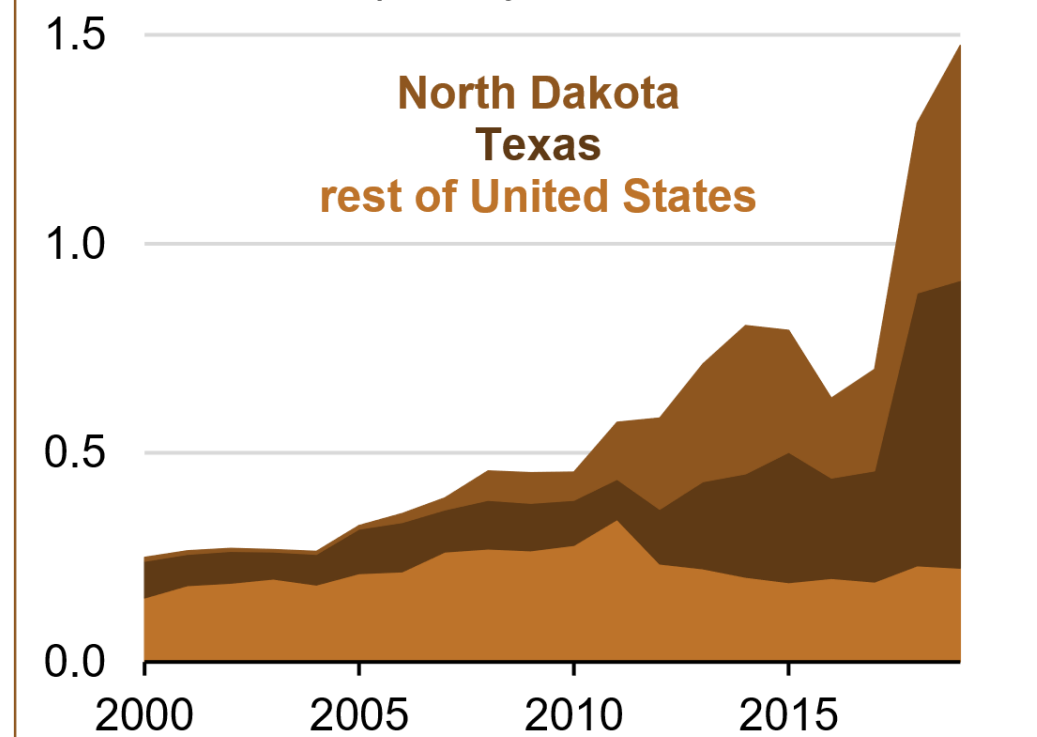
## Annual U.S. natural gas gross withdrawals (2000–2019)

billion cubic feet per day (Bcf/d)



## Vented and flared natural gas (2000–2019)

billion cubic feet per day



# The “Waste Rule,” 19.15.27.8 NMAC

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- May 25, 2021
- Declares venting and flaring to be waste with narrow exceptions
  - Mandates use of systems and components to minimize fugitive emissions
  - Routine AVO inspections
  - Monthly venting and flaring reports
- April 1, 2022: operators must capture no less than 98% of produced gas by December 31, 2026
  - Baseline calculated from 2021 and 2022 reports
  - Requires annual progress toward 98% target
  - Enforced through compliance plans and APD suspensions
- Natural gas management plans for new and recompleted wells

A large, solid orange oval with a thin white border, centered on a white background. Inside the oval, the text "Federal Methane Regulation and *West Virginia v. EPA*" is written in white. The text is centered and has a thin white horizontal line underneath it.

# Federal Methane Regulation and *West Virginia v. EPA*

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# Clean Air Act New Source Performance Standards (NSPS)

- OOOO (2012) imposes emissions reduction requirements for VOC emissions from new and modified onshore natural gas wells
- OOOOa (2016) imposes emissions reduction requirements for VOC and methane from new and modified onshore oil and gas wells
- OOOOb (proposed Nov. 2021)
  - New emissions reduction requirements for storage vessels, pneumatic controllers, and liquids unloading activities
  - More frequent optical gas imaging inspections (OGI inspections) to find and fix fugitive emissions
  - Prohibits flaring of natural gas unless sales line is not “accessible.”

# Existing Sources: CAA 111(d) and *West Virginia v. EPA*

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- CAA 111(d)
  - Requires NSPS for pollutants from *existing* source categories when (1) the pollutant is not covered by NAAQS, (2) the pollutant is not emitted from a source category that is subject to CAA hazardous air pollutant regulations, and (3) an NSPS would apply to the source it were new or modified.
  - EPA must require best system of emissions reduction (BSER)
- *West Virginia v. EPA* (US 2022)
  - Whether 111(d) authorized EPA to impose GHG emissions caps and require “generation shifting” in electricity generation, transmission, and distribution under EPA’s 2015 Clean Power Plan.
  - Held: No, applying the “major questions doctrine” to find that Congress did not authorize EPA to decide “how Americans will get their energy.”



# Existing Sources: CAA 111(d) and *West Virginia v. EPA*

Under CAA 111(d), EPA proposed OOOOoc (Nov. 2021)

- Would impose emissions guidelines for *existing* oil and natural gas facilities.
- Emissions guidelines (EG) “are designed to inform States in the development, submittal, and implementation of State plans that are required to establish standards of performance for GHGs from their designated facilities in the Crude Oil and Natural Gas source category.”
- Once finalized, states must develop and submit plans to EPA to meet the EG. The process of obtaining approval of these plans is expected to extend into 2025 or beyond.
- The comment period closed on these proposed rules on January 31

# OCD Seismicity Initiative

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Salt-Water Disposal (SWD) or Underground Injection Control (UIC)—  
injection of briny produced water from oil and gas operations into  
deep formation either for disposal or to “flood” a producing zone

# November 23, 2021—OCD Announces New Seismicity Initiative

- OCD Responding to earthquakes detected over prior two years
  - 7 between M2.5 and M4.0 between March and September 2021 in “County Line” area—roughly where Texas state line converges with line between Eddy and Lea Counties
  - 13 roughly 6 miles northeast of Jal, NM between M1.8 and M2.7, Augus 2020-November 2021
  - 21 between M2.3 and M3.3 over three days in June 2020 about 12 miles southwest of Lovington
  - Three in October 2021—M 3.2 in Lea County and a M4.0 and M2.5 in Colfax County
- Humans generally feel earthquakes at M3.0

# Three-Step Response to Seismic Events

1. If two M2.5+ events within 30 days and in a 10 mile radius, all wells –all UIC operators must report daily injection volumes weekly, digitally measure pressure and volumes hourly, and report injection intervals.
2. If one M3.0+ event, in addition, UIC operators within 3 miles reduce injection 50% (prior 6 month average), and 25% reduction in 3-6 mile radius
3. If M3.5+, shut in all UIC in 3 mile radius, 50% reduction in 3-6 mile radius, and 25% reduction in 6-10 mile radius

# Produced Water Act

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Produced water is a by-product of oil and gas production and completion operations.

# Produced Water: Background

- Key Statistics

- In 2019, NM produced 1.253 billion bbls of produced water (PW)
- Vertical wells average appx. 7 bbl of produced water for every 1 bbl of oil (Permian)
- Horizontal wells: appx. 1.7 bbl PW to 1 bbl oil
- 60% is disposed in SWDs, 30% is used in EOR, and 10% is thought to be recycled/reused

- Treatment and Reuse?

- Up to 40% salt content (sea water is 3.5%) (Permian)
- At 10% salinity, 130k AF/year will produce 18 B kg/yr of dry salt—imagine a pile 1/3 mile in diameter and 560 feet high (Bruce Thomson, 2019)
- May have hazardous and radioactive constituents



# 2019 Produced Water Act

- Authorizes OCD to regulate the disposition, handling, transportation, storage, recycling, treatment, and disposal of produced water in oil and gas operations in a manner that protects public health, the environment, and fresh-water resources.
- WQCC regulates the reuse of produced water outside of the industry.
- Section 4:
  - No water rights in produced water
  - “Possessory interest” granted to WI owners and well operator
- Section 5
  - No contracts requiring use of freshwater or prohibiting use of produced water

# Implementation and Notes from Practice

- Increased recycling of produced water.
  - Drilling mud
  - Completion fluid (hydraulic fracturing)
- Act has created certainty, resulting in construction of modern infrastructure to move and recycle/treat produced water.
  - Remove heavy metals brought up from sub-surface
  - Sometimes need to reduce salinity

# Federal Leasing Update

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What is happening with the Biden  
Administration in charge?

# A Condensed Timeline

- January 27, 2021: Executive Order 14008 “pausing” new oil and gas leasing
- June 15, 2021: Louisiana v. Biden (W.D. La.): PI issued blocking leasing moratorium
- June 30, 2022: First lease sales since Q1 2021. In New Mexico: 6 parcels were sold (totaling 535.72 acres in Chaves, Lea, and Dewey Cos.) for \$632, 385; first-ever sale of leases at 18.75% royalty rate
- July 28, 2022: Schumer & Manchin agree on the “Inflation Reduction Act of 2022”; awaiting votes in Senate and House; would require BLM to offer at least 2 million acres a year for onshore and offshore leasing; unless it holds those sales, it may not offer ROWs for solar and wind

# New Litigation to Watch

- *Dakota Resource Council v. Department of the Interior*, Docket No. 1:22-cv-01853 (D.D.C. June 18, 2022) (challenging DOI's proposed sale of leases of 173 parcels)
- *Wilderness Soc'y v. Haaland*, 1:22-cv-01871 (D.D.C. June 29, 2022) (challenging BLM's proposed sale of leases of parcels in WY)
- *Center for Biological Diversity v. Dep't of Interior*, 1:22-cv-01716 (D.D.C. June 15, 2022) (challenging 3,500 drilling permits in NM's Permian Basin and WY's Powder Basin)

# Recent State Land Office Initiatives

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**Commissioner of Public Lands, assisted by the State Land Office (SLO), manage lands held in trust by the State for the benefit the public school system and 18 other state institutions.**



# Requiring Clean up activities

- ▶ Past Commissioners relied on OCD to see that well sites were restored
- ▶ Also focusing on ongoing activities.
- ▶ Looking to operator and record title owner
- ▶ Withholding required approvals to leverage clean up/restoration.



# Record Title Owner (RTO) Generally

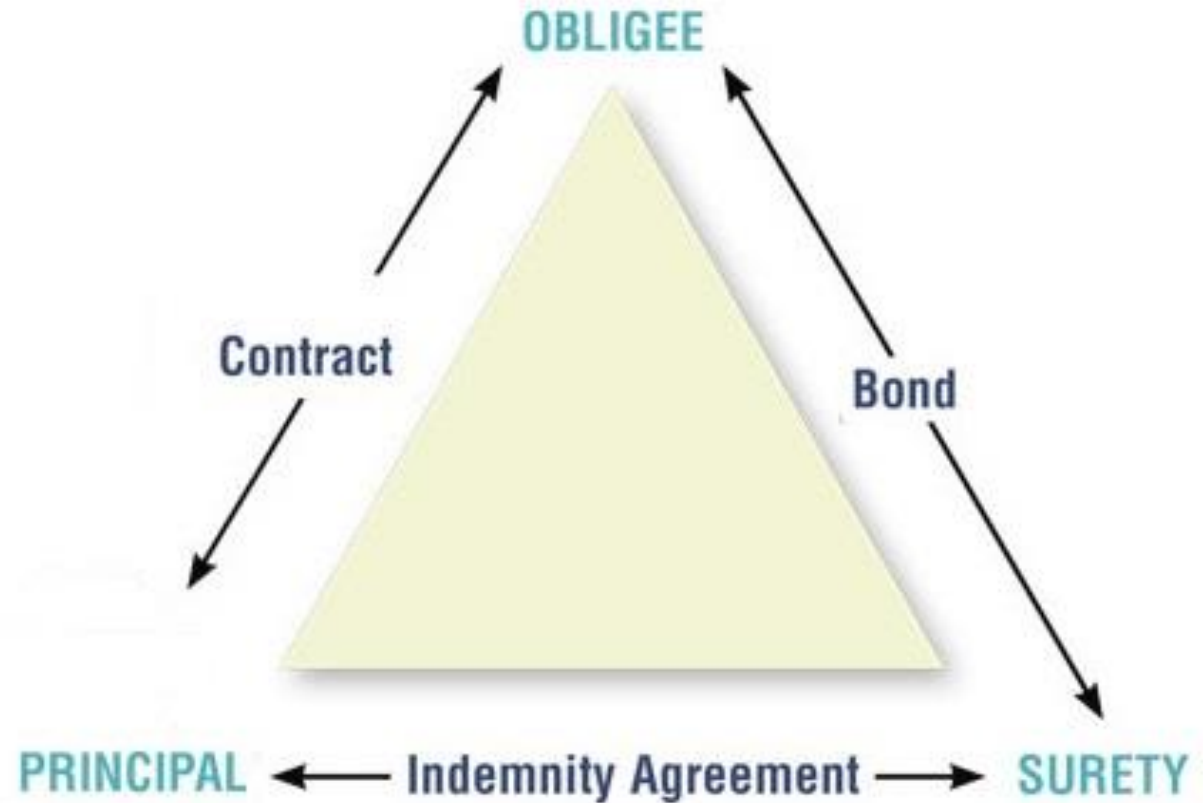
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- State oil and gas leases can be divided up fractionally, vertically, and horizontally. §19-10-13 NMSA. Partial assignments not file or approved by Commissioner. Id.
- Record title is generally not divisible and only one (some rare instances where there are two on a 50-50 basis).
- RTOs have duty to pay annual rentals on state oil & gas leases (may delegate it contractually)
- SLO historically has only accepted assignments of RT, other subdivisions of lease filed only in County records
- RTO often does not operate wells on lease

# Bonding of RTOs

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- --Traditionally, operator of wells on state leases is bonded to guarantee clean up and restoration.
- --Changing decades of practice, SLO is now requiring RTO to be bonded too.
- --Cancelling leases where RTO does not respond
- --Decades of indifference to RT means that there are defunct RTOs.



# Business Leases unless you are RTO?

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State oil and gas lease allows reasonable use of surface for production and related functions.



As noted, leases may be subdivided and RTO can enter into contracts to develop lease. §19-10-13



SLO issues business leases for development activities that occur off-lease.



Recently, some operators who are not RTO have been told by the SLO that they need a business lease for on-lease development activities.



# THE END!

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