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# Murky Waters:

## Wading Through Texas Law and the Future of Produced Water

Speakers:
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# About the Speakers


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# Topics for Discussion

I. Fracking and Produced Water

II. Laws & Regulations Regarding Produced Water

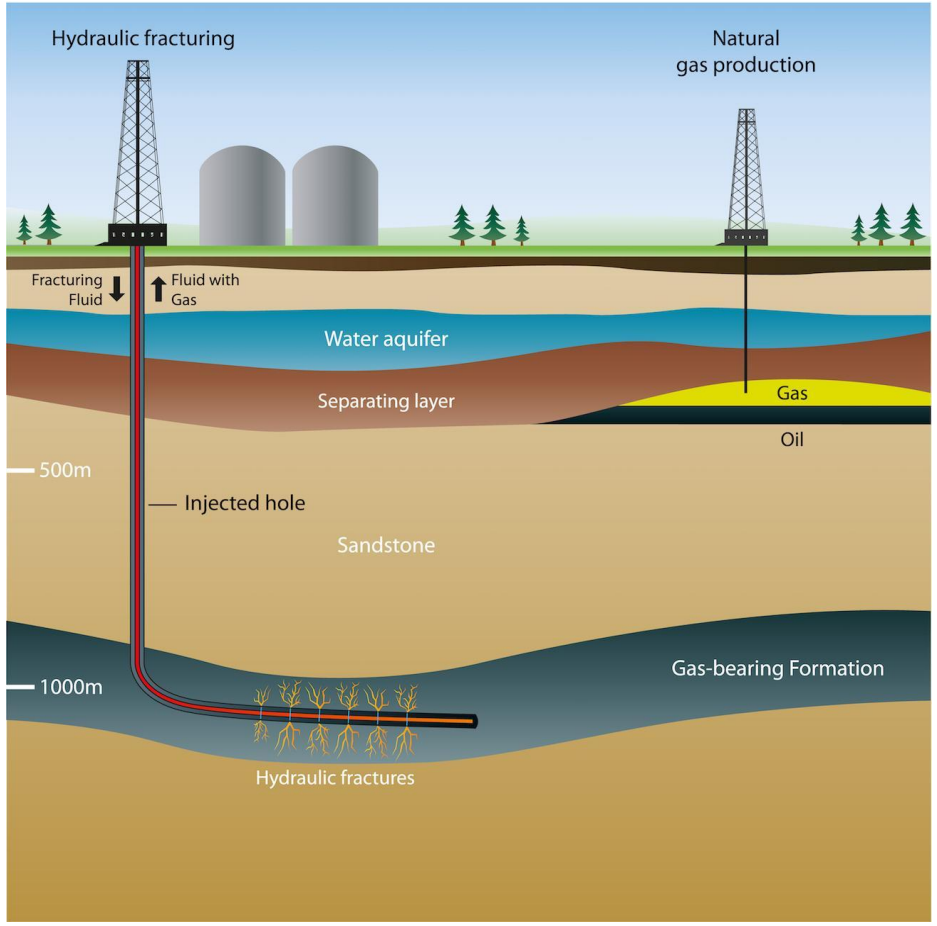
III. *Cactus Water Services LLC v. COG Operating, LLC*

IV. Importance of Produced Water

V. The Possible Uses & Reuses of Produced Water

# What is Produced Water?

# Fracking




Source: GreenMatters

# Produced Water

- Definition
  - Produced water is the water brought up from the subsurface during the extraction of oil and gas
  - Section 122.001(2) of the Natural Resource Code - "fluid oil and gas waste" means waste containing salt or other mineralized substances, brine, hydraulic fracturing fluid, flowback water, produced water, or other fluid that arises out of or is incidental to the drilling for or production of oil or gas

- When fluid oil and gas waste is transferred for beneficial use, it is owned by the person who takes possession of it, until it is transferred again
  - Section 122.002 of the Natural Resource Code

# Permitting

- Statewide Rule 9
  - Governs Disposal Wells
  - Texas Admistrative Code § 3.9
  - Every applicant who proposes to dispose of saltwater or other oil and gas waste into one of these wells must obtain a permit from the Texas Railroad Commission, and the disposal shall be in line with the requirements set forth in the Rule.

- Statewide Rule 46
  - Governs injection into productive reserviors
  - Texas Admistrative Code § 3.46
  - Any person who  engages in fluid injection operations in reservoirs productive of oil, gas, or geothermal resources must obtain a permit from the Railroad Commission.

# Legislation Going into Effect Sept. 1, 2025

## House Bill 49

- Relates to the treatment and beneficial use of fluid oil and gas waste
- Adds new tort immunity for entities involved in the beneficial use

## House Bill 4426

- Changes the permit duration and renewal processes for commercial surface disposal facilities, establishing clearer guidelines

## Senate Bill 1145

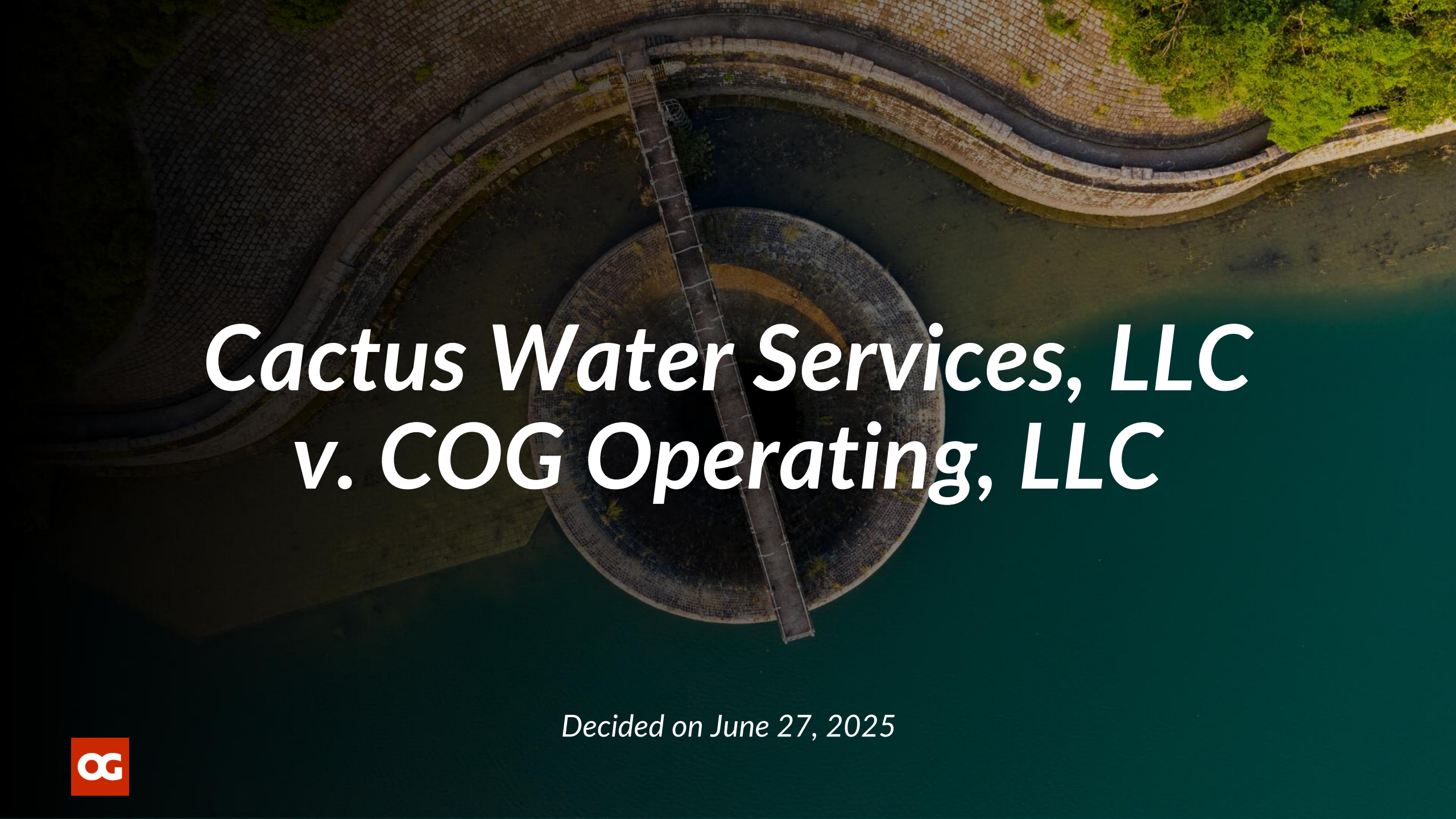
- Authorizes the Texas Commission on Environmental Quality to issue permits for the land application of produced water, tasking the TCEQ with establishing clear regulatory standards that are expected to address application methods, water quality thresholds, monitoring protocols, and site-specific environmental conditions.

# The Texas Produced Water Consortium

*Est. June 18, 2021, by SB 601*

- Purposes:
  - Combine info and resources to study the economics and technologies related to beneficial use
  - Guide the establishment of permitting and testing standards
  - Suggesting changes to law and administrative rules to increase use

Texas Produced Water Consortium



# *Cactus Water Services, LLC v. COG Operating, LLC*

*Decided on June 27, 2025*

# Background

- 2005-2014: COG acquired 4 leases from 2 different surface owners
- 2019-2020: Surface owners executed Produced Water Lease Agreements ("PWLAs") with Cactus
- March 2020: Cactus informed COG of its claim under the PWLAs

COG responded by suing for a declaration that COG, not Cactus, owns and has the exclusive right to possession, custody, control, and disposition of its production stream, including the produced water.

# Competing Viewpoints

**COG**
Under TX law & long-standing practice, the lease language used to convey oil and gas rights included liquid waste byproducts, despite any express reservation or exception. Thus, they were the true owners of the produced water.

**CACTUS**
Once the hydrocarbons were separated, the remaining watery mixture was surface wastewater, and surface/groundwater is owned by the surface owner, absent any express conveyance of water rights.

# Holding

Under the typical deed or lease language conveying oil and gas rights, produced water is a ***part of the conveyance***, even though not expressly addressed, and is therefore owned by the ***operator***, not the surface owner.

# Produced Water and Water are not the Same

- General Rule in Texas – Groundwater is owned by the surface owner, and is not a part of the mineral estate

- Produced Water ≠ Water
  - Toxic & Hazardous
  - Regulated as Waste
  - Needs Specific Infrastructure
  - Just because WATER is IN produced water, it doesn't make it water

- Produced Water = Waste

- Since they are different, they ***must*** be treated different

# Produced Water and Hydrocarbon Production go Hand in Hand

- Produced water is always a part of hydrocarbon production in this method of recovery
- Statutory and regulatory authority that give context to this case confirms the understanding and expectation that waste and hydrocarbon production go hand in hand
- Transaction documents support the construction that COG was transferred the pollution-control responsibilities

# Concurrence

- Emphasizes that the Majority's holding is a narrow one

- Three key issues not resolved:
  - Surface owners' rights to contract differently as to the ownership of groundwater produced and subsequently separated from hydrocarbons
  - The ownership of unleased minerals or other non-hydrocarbon substances that may be produced along with leased minerals
  - The mineral lessee’s obligations to the landowners as to the leased groundwater

# Motion for Rehearing

Reasonable Use Doctrine is repealed?

Interprets SCOTX's use of *Guffey v. Stoud*, 16 S.W.2d 527, 528 (Tex. [Comm'n Op.] 1929) to convey fee title in the way, surface, soil, water, gas, and the like.

In doing so, SCOTX use of Guffey essentially repeals the reasonable use doctrine because COG would get more than what is reasonably necessary.

Claims salt water and produced water are more similar than originally treated

The reason for distinguishing *Robinson v. Robbins Petroleum Corp.*, 501 S.W.2d 865 (Tex. 1973) from the current case does not hold up.

The nature of the resource and the regulatory oversight of the saltwater considered in *Robinson* and produced water are similar.

# The Importance of Produced Water

# Why Should We Care?

The ***two emerging problems*** tied to produced water:

(1) Water Crisis and Persistent Drought; and

(2) Decreasing Viability of Traditional Disposal Methods

# Water Crisis and Drought

- Projected Water Shortage
  - 2022 vs. 2070
- Texas Aquifers
- Managed Depletion
  - Deliberate usage of an aquifer until it is effectively exhausted

# Dwindling Disposal Practicality

- Disposal via Deep Well Injection
  - Injected under extreme pressure at deep depths
- Monetary Expenses and Environmental Concerns
  - Cost via injection is estimated to be between $0.60-0.70/barrel
  - Increased seismic activity
- Shift to Shallow Rock
  - Risks and enhanced guidelines

# Alternative Uses of Produced Water

1. Reuse for Enhanced Oil Recovery
2. Reuse by Irrigation
3. Reuse by Municipalities

# Reuse by Enhanced Oil Recovery

- Waterflooding
  - Secondary recovery method involving the injection of water into reservoir formations to displace residual oil

- Produced Water vs. Freshwater
  - Preserves freshwater for essential uses
  - Reduces overall disposal costs

# Reuse by Irrigation

- Reduce Reliance on Freshwater Resources

- Preliminary Studies Show:
  - Minimal negative effects on plant development
  - Improved carbon levels, pH, and micronutrient availability

- Potential Crops to Target:
  - Cotton, Alfalfa, and Hay
  - Guayule

# Reuse by Municipalities

- Cement Production
- Firefighting
- Dust Suppression
- Cooling of Data Centers

# Extraction of Valuable Minerals

- Trash to Treasure: Recovery of Valuable Minerals
  - ***Lithium***, Cobalt, Nickel, and more

- High Concentrations of Lithium in Texas' Produced Water

# Lithium Takes the Lead

- Demand for Lithium
- Direct Lithium Extraction (DLE)
  - Good alternative to traditional methods
- Future of Lithium in regard to Produced Water

# The Future of Produced Water

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