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The Emerging Estate of "Produced" Water: The Intersection of Ownership, Disposal, Pore Space and Storage

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INTRODUCTION.

With the rise of water treatment technology and facilities capable of treating produced fracking water into a substance able to be used for beneficial purposes, the value of produced water has risen exponentially in recent years. The increase in value of produced water have allowed owners to benefit greatly in how they beneficially use that water. Owners now have a financial incentive when choosing the method of how they dispose of produced water. Whether by deep saltwater disposal wells, treatment for beneficial use, or treatment for storage in geothermal pore spaces, each method presents legal ownership issues. Texas statutory, RRC regulations, and recent Texas case law have given ownership of produced water new financial opportunities, but also new legal considerations. The intersection of the mineral estate, surface estate, and even the "produced water" estate have the possibility to meet, and even conflict, in the arena of produced water. This paper will discuss what practitioners should be mindful of with clients having interests related to produced water or its treatment.

The expansion of hydrologic fracking has made Texas not only the industry leader, but the legislative vanguard of oil and gas exploration and extraction. Over and over again, it is to Texas to which other states mirror their fracking regulations. With the "hydrologic fracturing revolution" the Texas Legislature in

2013, 2019, and 2021 has tried to be proactive in maintaining the integrity of the oil and gas industry in relation to surface and mineral estate owners.[1]

Texas jurisprudence and regulatory governance dictates a balance between correlative rights and the rule of capture. The delicate dance created by correlative rights in the use of groundwater have limited the outright exploitation of hydrocarbons at the expense of the surface estate. However, the technology to recycle and store produced water has complicated the balance between the competing estates.

These technological advancements are incentivized by the recent Texas droughts as well as the prospect of government incentives to use less fresh groundwater in fracking operations. Researchers at the University of North Dakota are testing a pilot program in which produced water is injected into a formation around 5,000 feet. The formation is then used as a natural filter as the produced water migrates back to a recapture well. This process, known as Geologic, Homogenization, Conditioning, and Reuse (GHCR) hopes to reduce the use of saltwater disposal wells and the need for continuous use of fresh groundwater. In a

[1] *See* Act of May 28, 2013, 83rd Leg., R.S., ch. 201, § I, 2013 Tex. Gen. Laws 209 (amended 2015 and 2019) (current version at Tex. Nat. Res. Code Chapter 122.002) (understanding the evolution offracing technology, the Texas Legislature has amended this code three times in the past 6 years); *see also* Yes, No, Maybe So: Uncertainty in Texas Groundwater Withdrawal for Hydrologic Fracturing, 52 Hous. L. Rev. 1227, 1236 (2015) ("The Texas legislature made numerous unsuccessful attempts to address this ambiguity"); Blythe Lyons, John Tintera, Kylie Wright, Executive Summary: Sustainable Produced Water Policy, Regulatory Framework, and Management in the Texas Oil and Gas Industry: 2019 and Beyond, (Sept. 16, 2019), https://texasalliance.org/white-paper/ (last visited Dec. 30, 2019) ("Texas took an early lead in recognizing the potential value of recycling and began updating its regulatory framework in 2013").

Title search: “Produced” Water: The Intersection of Ownership, Disposal, Pore Space and Storage

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