

Water and Oil Don't Mix:

The Need to Remove the Drilling or Exploration Exemption in Texas

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I. Introduction

At least in Texas—water and oil regulation don’t mix. While oil and gas regulation is centralized and comprehensive, groundwater regulation is localized and deferential. The reasons for the different regulatory regimes mostly deal with the different uses for the two resources. Whereas oil and gas are commodities bought and sold within one industry, groundwater provides multiple functions for municipalities, farmers, and oil and gas producers. The Texas Legislature must ensure that water regulation effectively and sustainably balances different parties’ access to groundwater. Unfortunately, the current permit exemption for water wells drilled for oil and gas rigs inappropriately mixes oil and gas regulation with groundwater regulation and ultimately undercuts groundwater conservation efforts.

Texas has historically given surface owners unlimited access to the groundwater beneath their property, subject to the rule of capture.¹ As oil and gas operations increase in the state, the surface owner’s unlimited access is threatened by oil and gas operators’ unregulated access to the same groundwater for drilling and fracking. For example, oil and gas operators who obtain a mineral interest on the land may use groundwater to the extent reasonably necessary to develop the minerals, without the permission of the surface owner.² Most recently, under section 36.117 of the Texas Water Code, oil and gas operators who drill a water well on the surface owner’s land for the purpose of “drilling or exploration” need not obtain a permit for the well or adhere to production limitations.³

¹ *See, e.g.*, *Houston & T.C. Ry. Co. v. East*, 81 S.W. 279 (Tex. 1904); *Texas Co. v. Burkett*, 296 S.W. 273, 273–74 (Tex. 1927).

² *Sun Oil Co. v. Whitaker*, 483 S.W.2d 808, 810 (Tex. 1972).

³ Tex. Water Code Ann. § 36.0017(b)(2).

Whether the drilling or exploration exemption applies to water wells drilled for hydraulic fracturing (fracking) is not resolved.⁴ If it does, then operators do not need to secure permits for groundwater withdrawal. If it does not, then operators may need to secure a permit depending on the local GCD's rules. Fracking requires significantly more groundwater than the traditional methods of oil and gas production that were used when the exemption was written into the Texas Water Code.⁵ In 2013, a bill was proposed in the Texas Senate that would remove the drilling or exploration exemption as applied to wells drilled for fracking.⁶ The bill passed in the Senate but did not receive a hearing in the House.⁷ There has been no legislation proposed since.

The focus on whether fracking is included in the exemption, however, is misguided. There is evidence that oil and gas development in Texas is using more water, not solely because fracking requires more water, but because fracking has led to increased overall oil production.⁸ Further,

⁴ See generally, Tiffany Dowell Lashmet & Amber Miller, *Texas Exempt Wells: Where Does Fracking Fit?*, 55 NAT. RESOURCES J. 2 (2015) (discussing the debate over whether fracking is included in the exemption).

⁵ Fracking requires an average of 1.5 million gallons of water per well, compared to 160,000 gallons of water per well used for conventional methods. U.S. E.P.A., *Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States (Final Report)* 4 (2016).

⁶ S.B. No. 873, A Bill to be Enacted <https://capitol.texas.gov/tlodocs/83R/billtext/html/SB00873S.htm> (last visited Dec. 9, 2019).

⁷ Tiffany Dowell, *Water Bills – Summary of the 2013 Texas Legislative Session*, Texas A&M AgriLife Extension (July 1, 2013) <https://agrillife.org/texasaglaw/2013/07/01/water-bills-summary-of-the-2013-texas-legislative-session/>.

⁸ B. R. Scanlon et. al., *Comparison of Water Use for Hydraulic Fracturing for Unconventional Oil and Gas versus Conventional Oil*, 48 ENVIRON. SCI. TECHNOL. 12386, 12392 (2014).

most oil and gas production occurs in areas of high-water stress.⁹ Most importantly, the exemption allows oil and gas operators to bypass centralized oil and gas regulation and enter the world of localized groundwater regulation. Via the permit exemption, oil and gas producers are effectively free from regulation when it comes to drilling water wells.

This paper focuses on the growing need to remove the drilling or exploration exemption entirely and allow GCDs to require that oil and gas producers obtain a permit before drilling a water well. Part II discusses the history of groundwater rights in Texas, the development of GCDs, and the Texas Water Code—focusing on how surface owners’ rights to access groundwater have been limited while oil and gas producers’ rights have expanded. Part III compares oil and gas regulation to groundwater regulation and examines the drilling or exploration exemption. Part IV then explains the need to remove the drilling or exploration exemption in light of changing oil and gas operations, the principles behind the state’s groundwater regulatory system, and growing population and environmental concerns.

II. History of Groundwater Rights in Texas

a. From Absolute Ownership to Judicial Deference and Legislative Regulation

The development of groundwater jurisprudence highlights how Texas courts treat oil and gas and groundwater differently. It also highlights that as oil and gas operations increase in the state, the surface owner’s access to the groundwater beneath their land is threatened by oil and gas producers’ unregulated access to the same groundwater for drilling and fracking.

⁹ *Id.* For example, water use for both conventional methods of exploration and fracking is expected to drastically increase in the Permian and Eagle Ford Shale regions—regions which already experience extreme water scarcity. Andrew J. Kondash et. al., *The intensification of the water footprint of hydraulic fracturing*, 4 SCIENCE ADVANCES no. 8, 6 (2018).

Prior to 1904, there were no rules or regulations governing groundwater use.¹⁰ In *Houston & T.C. Ry. Co. v. East*, the Texas Supreme Court established the “absolute ownership” doctrine for groundwater.¹¹ The absolute ownership doctrine says that the land owner “may divert percolating water, consume or cut it off, with impunity.”¹² The absolute ownership doctrine goes hand in hand with the Rule of Capture, under which “landowners have the right to take all the water they can capture under their land and do with it what they please, and they will not be liable to neighbors even if in doing so they deprive their neighbors of the water’s use.”¹³ Initially, the only limitation was that the groundwater use may not be malicious or willfully wasteful.¹⁴

Shortly after the *East* decision, the Texas Legislature began regulating groundwater use and, in effect, limiting the rule of capture. After severe droughts in 1910 and 1917,¹⁵ Texas voters passed a constitutional amendment granting the Legislature the duty to preserve Texas’s natural resources.¹⁶ The amendment’s purpose was to create a regulatory regime capable of balancing the needs of the water-scarce regions in West Texas with the water-rich regions in the East.¹⁷ In 1949,

¹⁰ Amy Hardberger, *World’s Worst Game of Telephone: Attempting to Understand the Conversation Between Texas’s Legislature and Courts on Groundwater*, 43 Tex. Env’tl. L.J. 257, 265 (2013).

¹¹ *Houston & T.C. Ry. Co. v. East*, 81 S.W. 279, 281 (Tex. 1904).

¹² *Id.*

¹³ *Sipriano v. Great Spring Waters of Am., Inc.*, 1 S.W.3d 75, 83 (Tex. 1999).

¹⁴ *East*, 81 S.W. at 281.

¹⁵ *Sipriano*, 1 S.W.3d at 78.

¹⁶ “The conservation and development of all of the natural resources of this State . . . and the preservation and conservation of all such natural resources of the State are each and all hereby declared public rights and duties; and the Legislature shall pass all such laws as may be appropriate thereto.” TEX. CONST. art. XVI, § 59(a).

¹⁷ Gerald Torres, *Liquid Assets: Groundwater in Texas*, 122 YALE L.J. ONLINE 143, 149–150 (2012).

the Legislature created GCDs “to provide for the conservation, preservation, protection, recharging, and prevention of waste of groundwater.”¹⁸ The number of GCDs remained small until 1997—when Texas passed its first omnibus water bill (Senate Bill 1) in response to a severe three-year drought and concerns about an increasing population.¹⁹ The bill consolidated the GCD rules into Chapter 36 of the Texas Water Code, increased GCDs’ statutory authority to manage withdrawals, and required landowners to obtain permits before drilling water wells.²⁰

Over the next few decades, Texas courts continued to endorse absolute ownership and the rule of capture, while simultaneously adding limitations and broadening the Texas Legislature’s regulatory authority.²¹ For example, in *Barshop v. Medina County Underground Water*

¹⁸ Tex. Water Code Ann. § 36.0015.

¹⁹ *Sipriano*, 1 S.W.3d at 81 (Hecht, J., concurring). The Lieutenant Governor’s general counsel described “the seriousness of the situation:” recurring droughts, population growth, and scarce water supplies. *Id.*; Martin Hubert, *Senate Bill 1, the First Big and Bold Step Toward Meeting Texas’s Future Water Needs*, 30 TEX. TECH L. REV. 53, 55–56 (1999).

²⁰ Act of June 2, 1997, 75th Leg., R.S., ch. 1010, 1997 Tex. Gen. Laws 3610 (codified in various sections of Tex. Water Code Ann., Tex. Gov’t Code Ann., Tex. Agric. Code Ann., Tex. Tax Code Ann., and Tex. Health & Safety Code Ann.).

²¹ See *Texas Co. v. Burkett*, 296 S.W. 273, 277–78 (Tex. 1927) (emphasizing that percolating water was the “exclusive property of the owner of the surface of the soil”); *City of Corpus Christi v. City of Pleasanton*, 276 S.W.2d 798, 799 (Tex. 1955) (confirming the surface owner’s absolute ownership of groundwater but leaving definition of waste to the legislature); *Friendswood Development Co. v. Smith-Southwest Industries, Inc.*, 576 S.W.2d 21, 22, 25–26 (Tex. 1978) (upholding the rule of capture, but modifying it to recognize that the surface owner may be liable for negligent water withdrawal); *South Plains LaMesa R.R., Ltd. V. High Plains Underground Water Conservation District No. 1*, 52 S.W.3d 770, 778–79 (Tex. App.—Amarillo 2001, no pet. h.) (noting that GCD permitting rules can contravene the rule of capture).

Conservation Dist., the Texas Supreme Court upheld the constitutionality of the Edwards Aquifer Act, which placed caps on permissible groundwater withdrawals within the Edwards Aquifer Authority and granted the Edwards Aquifer Authority power to regulate groundwater withdrawals.²² Three years later, in *Sipriano v. Great Spring Waters of America, Inc.*, the Texas Supreme Court was asked to abandon the rule of capture and replace it with a reasonable use rule.²³ The court refused to abandon the rule of capture, not out of respect for the rule of capture, but out of legislative deference.²⁴ Specifically, the court was concerned about how a reasonable use rule would conflict with Senate Bill 1 and GCDs ability to regulate groundwater use.²⁵ In his concurrence, Justice Hecht advocated for abandoning the rule of capture entirely since no other states still follow the rule in its original form and that the original purposes behind the rule no longer apply.²⁶ Ultimately, Justice Hecht concluded that “it is not the regulation that threatens progress, but the lack of it.”²⁷

b. GCDs’ Absolute Regulatory Authority

²² 925 S.W.2d 618, 623 (Tex. 1996).

²³ 1 S.W.3d 75 (Tex. 1999).

²⁴ *Id.* at 78–81.

²⁵ *Id.* (“Given the Legislature’s recent actions to improve Texas’s groundwater management, we are reluctant to make so drastic a change as abandoning our rule of capture and moving into the arena of water-use regulation by judicial fiat.”).

²⁶ *Id.* at 81–83 (Hecht, J., concurring).

²⁷ *Id.* at 82 (“The extensive regulation of oil and gas production proves that effective regulation of migrant substances far below the surface is not only possible but necessary and effective.”).

Today, there are 99 GCDs in Texas overlaying 72% of the major and minor aquifers.²⁸ These GCDs are localized authorities charged with governing groundwater use by the Texas Legislature.²⁹ GCDs are responsible for managing groundwater resources within the district by: (1) permitting non-exempt water wells; (2) developing a comprehensive management plan to efficiently use groundwater and prevent waste; and (3) adopting rules necessary to implement the management plan.³⁰ Additionally, each GCD has the authority to regulate groundwater production based on “a method that is appropriate based on the hydrogeological conditions of the aquifer or aquifers of the district, including enacting spacing regulations, set production limits, require pumping quantity reporting, and various other rules.”³¹ Importantly, a water well located in a GCD cannot be drilled without a permit unless it falls into one of the recognized exemptions.³²

The landowner’s right to use the groundwater beneath his or her property is statutorily recognized in Section 36.002 of the Texas Water Code, which explicitly states that nothing in the code “shall be construed as granting the authority to deprive or divest a landowner, including a landowner’s lessees, heirs, or assigns, of the groundwater ownership and rights described in this section.”³³ The statute also, however, explicitly says that such ownership does not prohibit a GCD from limiting or even prohibiting a landowner from drilling a well if that landowner does not

²⁸ Groundwater Conservation District Facts, Texas Water Development Board, http://www.twdb.texas.gov/groundwater/conservation_districts/facts.asp (last visited Oct. 13, 2019).

²⁹ *Id.*

³⁰ Texas Groundwater Protection Committee (TGPC), Frequently Asked Questions, <https://tgpc.state.tx.us/frequently-asked-questions-faqs/> (last visited Dec. 3, 2019).

³¹ Tex. Water Code Ann. § 36.116(e).

³² *Id.* at § 36.113.

³³ Tex. Water Code Ann. § 36.002(c).

comply with the GCD's well spacing or tract size requirements.³⁴ Thus, the surface owner's "absolute" ownership of the groundwater is ultimately subject to the GCDs regulatory requirements and authority.

c. The Subservient Servient Estate

There is an additional limit to the surface owner's absolute ownership of the groundwater when the surface estate and mineral estate are not owned by the same person.³⁵ In Texas, when an estate is severed, the groundwater remains part of the surface estate unless it is expressly severed by conveyance or reservation.³⁶ Upon severance of the minerals from the surface, the surface estate becomes the "servient" estate and the mineral estate becomes the "dominant" estate.³⁷ The dominant estate has an "implied right to use as much of the surface estate as reasonably necessary to produce and remove minerals," including use of groundwater.³⁸ When the mineral owner leases the mineral estate for oil and gas production, the Texas Supreme Court has expressly recognized "the right of the oil and gas lessee to drill water wells on said land and to use water from such wells to the extent *reasonably necessary* for the development and production of such minerals."³⁹

Texas courts interpret "reasonably necessary" broadly and, under the accommodation doctrine, the surface owner may only block the mineral owner's use if the surface owner can prove

³⁴ *Id.* at § 36.002(d).

³⁵ Texas courts allow landowners to "split" the estate and "sever the mineral and surface estates." *Coyote Lake Ranch, LLC v. City of Lubbock*, 498 S.W.3d 53, 60 (Tex. 2016).

³⁶ *Sun Oil Co. v. Whitaker*, 483 S.W.2d 808, 810 (Tex. 1972).

³⁷ *Id.*

³⁸ *Id.* The surface owner may also sell the groundwater to a third party, including to an oil and gas operator.

³⁹ *Id.* at 811 (emphasis added). The dissent in *Sun Oil* described this right as the right to "completely consume and destroy the surface owners' fresh water supply." *Id.* at 818 (Daniel, J., dissenting).

that: (1) the mineral owner’s use “completely precludes or substantially impairs” the surface owner’s existing surface use; and (2) the surface owner has no “reasonable alternative method . . . by which the existing use can be continued.”⁴⁰ For example, in *Sun Oil Co. v. Whitaker*, the Texas Supreme Court permitted the oil lessee to deplete the surface owner’s groundwater—even though a nearby river could have been used.⁴¹ How the accommodation doctrine apply to groundwater used for fracking has not yet been tested.⁴² Further, the accommodation doctrine does applies only to protect the surface owner at issue, and thus does not address the growing environmental issues surrounding oil and gas development.⁴³ Where oil and gas development potentially substantially impairs the existing use of an entire aquifer, the accommodation doctrine is likely inapplicable.⁴⁴ Today, the only common law restrictions on groundwater withdrawal from one’s land are that it must not (1) be malicious, (2) be wasteful, or (3) cause negligent water withdrawal.⁴⁵

III. Oil and Gas Regulation and the Drilling or Exploration Exemption

⁴⁰ *Merriman v. XTO Energy, Inc.*, 407 S.W.3d 244, 249 (Tex. 2013).

⁴¹ *Sun Oil*, 438 S.W.2d at 812

⁴² Taelor A. Allen, *The South Texas Drought and the Future of Groundwater Use for Hydraulic Fracturing in the Eagle Ford Shale*, 44 St. MARY’S L.J. 487, 511 (2013).

⁴³ Andrew D. Lewis, *The Ever-Protruding Stick in the Bundle: The Accommodation of Groundwater Rights in Texas Oil and Gas*, 2 TEX. A&M L. REV. 79, 88–90 (2014).

⁴⁴ *Id.*

⁴⁵ *Sipriano v. Great Spring Waters of Am., Inc.*, 1 S.W.3d 75, 77 (Tex. 1999); *Friendswood Dev. Co. v. Smith-Sw. Indus., Inc.*, 576 S.W.2d 21, 22 (Tex. 1978); Gabe Collins, *Blue Gold: Commoditize Groundwater and Use Correlative Management to Balance City, Farm, and Frac Water use in Texas*, 55 NAT. RESOURCES J. 441, 452 (2016).

Compared to groundwater, oil and gas production has been extensively litigated in the courts and regulated by the State.⁴⁶ Whereas groundwater jurisprudence and regulation has mostly developed in response to droughts and environmental needs, oil and gas regulation has developed largely in response to economic and industrial needs.⁴⁷

There are key differences between oil and gas and groundwater which have led to differences in how the two resources are regulated. Where oil and gas is regulated by one agency, the Railroad Commission of Texas;⁴⁸ groundwater is regulated by many localized GCDs.⁴⁹ The regulatory goals for the two resources also differ greatly.⁵⁰ Oil and gas is exclusively a commodity and sold once it is produced.⁵¹ Thus, the goal in regulating oil and gas is maximizing recovery and protecting mineral owner's correlative rights.⁵² In contrast, groundwater is a renewable resource with many uses, both public and private. More so than oil and gas, there is significant value in leaving groundwater in-place and preserving for future use.⁵³ Thus, the goal in regulating

⁴⁶ While oil and gas law was settled by the early 1900s, groundwater jurisprudence did not even start until 1904 with the *East* decision. Shauna Fitzsimmons Sledge, *The Evolution of Groundwater Law Compared to Oil and Gas Law in Texas: The Rule of Capture, Ownership, and Regulation*, State Bar of Texas, 2019 Changing Face of Water Rts. 8.2-II (2019).

⁴⁷ *Id.*

⁴⁸ Tex. Nat. Res. Code Ann. § 81.051.

⁴⁹ Tex. Water Code Ann. § 36.0015.

⁵⁰ *Edwards Aquifer Authority v. Day*, 369 S.W.3d 814, 840–41 (Tex. 2012).

⁵¹ *See id.*

⁵² *See* Tex. Nat. Res. Code Ann §§ 85.202(a), 91.002.

⁵³ Sledge, *supra* note 46. Groundwater availability gives surface owners agricultural support and often determines the value of the surface estate. *Id.*

groundwater is to sustainably manage its long-term viability, balancing conservation and development to meet the State's water needs.⁵⁴

While Texas courts and the Texas Legislature narrowed the rule of capture for groundwater rights and absolute ownership of groundwater for surface owners, oil and gas producers gained increasing rights to unpermitted groundwater access. Initially enacted in 1971 but amended to its modern version in 2001,⁵⁵ section 36.117(b) of the Texas Water Code requires that a GCD provide an exemption from the permitting requirements for: (1) drilling or operating a well for livestock; (2) “drilling a water well used solely to supply water for a rig that is actively engaged in drilling or exploration operations for an oil or gas well permitted by the Railroad Commission of Texas;” and (3) drilling a well for mining activities.⁵⁶ A GCD may implement more exemptions than those in the Water Code.⁵⁷

With respect to the oil and gas drilling or exploration exemption for oil and gas producers, GCDs are explicitly restricted from requiring a permit for drilling such a well—referred to as a

⁵⁴ Tex. Water Code Ann. § 36.0015(b); Sledge, *supra* note 46.

⁵⁵ The 2001 amendment removed the permit exemption for “water wells to supply water for hydrocarbon production” and replaced it with the current exemption for drilling water wells for an oil rig engaged in drilling or exploration. Act of June 15, 2001, ch. 966, § 2.51, Development and Management of the Water Resources of the State, Including the Ratification of the Creation of Certain Groundwater Conservation Districts; Providing Penalties (relating to the development and management of the water resources of the state and providing penalties) (current version at Tex. Water Code Ann. § 36.117).

⁵⁶ Tex. Water Code Ann. § 36.117(b).

⁵⁷ *Id.* at § 36.117(a).

“temporary rig supply well” by the Railroad Commission.⁵⁸ A GCD may require the well be registered with the GCD and conform to the GCD’s rules requiring installation of casing, pipe, and fittings.⁵⁹ While GCDs can generally limit production for permitted wells, a GCD cannot limit production on exempt wells.⁶⁰

Whether the drilling or exploration exemption includes water wells drilled for fracking is not resolved. If yes, then GCDs cannot require permits or impose production limits for water wells used for fracking; if no, then they can. Traditionally, GCDs have broadly interpreted the exemption, leaving the oil and gas industry to regulate itself.⁶¹ As concerns about population growth and droughts increase, many GCDs are taking a more aggressive approach and asserting that fracking is not included in the exemption.⁶² Today, 29 out of 99 GCDs require a permit for a water well drilled for fracking.⁶³ Even in the 29 GCDs that require the permit, however, oil and gas producers are not incentivized to follow the rule since there is no legally binding authority from either the courts or the legislature that such an interpretation is enforceable.

⁵⁸ *Id.* at § 36.117(b)(2); Water Use in Association with Oil and Gas Activities, FAQs, R.R. Comm’n. of Tex., <https://www.rrc.state.tx.us/about-us/resource-center/faqs/oil-gas-faqs/faq-water-use-in-association-with-oil-and-gas-activities/> (last visited Oct. 20, 2019).

⁵⁹ Tex. Water Code Ann. § 36.117(h).

⁶⁰ *Id.* at § 36.116(2).

⁶¹ Lashmet & Miller, *supra* note 4, at 254.

⁶² *Id.* at 255.

⁶³ Margaret A. Cook et. al., *Who regulates it? Water policy and hydraulic fracturing in Texas*, 6 TEX. WATER J. 45, 48 (2015). Which GCDs exempt water wells drilled for fracking will be discussed in Section IV of this paper.

The oil and gas industry, including the Texas Railroad Commission,⁶⁴ argues that “exploration” includes completion operations, and that completion operations include fracking.⁶⁵ Thus, fracking is part of “exploration” and water wells drilled for fracking are exempt under Section 36.117(b)(2).⁶⁶ In 2008, the Texas Supreme Court noted that “[t]he Water Code requires permits for most wells, although the exemption is made for certain exempt wells, which generally include wells used for domestic purposes, livestock, and oil and gas *production*.”⁶⁷ Whether the Supreme Court meant to read the exemption to include fracking or simply summarize the law is unclear.

On the other hand, those against exempting water wells drilled for fracking argue that fracking is included under production and thus not exploration.⁶⁸ This definition is supported by

⁶⁴ Water Use in Association with Oil and Gas Activities, FAQs, R.R. Comm’n. of Tex.,

<https://www.rrc.state.tx.us/about-us/resource-center/faqs/oil-gas-faq/faq-water-use-in-association-with-oil-and-gas-activities/> (last visited Oct. 20, 2019).

⁶⁵ *Exemption of a Water Well from Certain Permitting by and Compliance With Rules of a Groundwater*

Conservation District: Hearing on H.B. 1377 Before the S. Comm. on Nat. Res., 2013 Leg., 83rd Sess. at 00:57:12

(Tex. 2013) (testimony of Corey Pomeroy, General Counsel for Texas Oil and Gas Association),

http://tlcsenate.granicus.com/MediaPlayer.php?view_id=9&clip_id=389.

⁶⁶ *Id.* at 56:50.

⁶⁷ *Guitar Holding Co., L.P. v. Hudspeth County Underground Water Conservation Dist. No. 1*, 263 S.W.3d 910, 912 n. 2 (Tex. 2008) (emphasis added).

⁶⁸ Lashmet & Miller, *supra* note 4, at 257.

the Environmental Protection Agency (EPA),⁶⁹ the national chemical registry, FracFocus,⁷⁰ and the Texas Administrative Code.⁷¹ Another argument is that water wells drilled for fracking should not be exempt since oil and gas operations are drastically different and require significantly more water than when the Texas legislature enacted the exemption in 1971.⁷² Further, there is evidence to suggest that exempting wells drilled for fracking from permitting requirements makes it more difficult for GCDs to enforce reporting requirements and implement their planning duties.⁷³ I will expand upon these arguments in Section IV and explain how they actually weigh in favor of eliminating exemption entirely.

IV. The Texas Legislature Should Remove the Drilling or Exploration Exemption Entirely

The Texas Legislature should remove the drilling or exploration exemption for oil and gas producers and allow GCDs to require oil and gas producers obtain a permit prior to drilling a water well. The main reasons advanced by proponents of interpreting the exemption to exclude fracking

⁶⁹ The EPA defines fracking as part of the “process of unconventional natural gas *production*.” *The Process of Unconventional Natural Gas Production*, EPA, <https://www.epa.gov/uog/process-unconventional-natural-gas-production#main-content> (last visited Oct. 20, 2019) (emphasis added).

⁷⁰ FracFocus describes fracking as a technology “designed to stimulate the *production* of oil and gas.” *A Historic Perspective*, FracFocus, <http://fracfocus.org/hydraulic-fracturing-how-it-works/history-hydraulic-fracturing> (last visited Oct. 20, 2019).

⁷¹ The Texas Administrative Code defines fracking as a method used to “enhance *production* of oil and/or natural gas.” 16 Tex. Admin. Code § 3.29(a)(16) (emphasis added).

⁷² *See, e.g.*, Lashmet & Miller, *supra* note 4, at 257.

⁷³ *See* Jesse Backstrom, *Groundwater Regulations and Hydraulic Fracturing: Reporting Water Use in the Permian*, STRATA 16 (2018).

weigh in favor of instead eliminating the exemption entirely. Since the majority of oil and gas production that occurs in Texas occurs using fracking, reading the exemption to exclude fracking would essentially render the exemption moot. Additionally, there is evidence that Texas oil and gas development is using more water, not because fracking requires more water, but because fracking has led to increased overall oil production.⁷⁴ Accordingly, an exclusive emphasis on how fracking fits into the exemption is misguided.

Specifically, the exemption should be removed since: (1) oil and gas operations in Texas have changed dramatically since the creation of GCDs and the drilling or exploration exemption; (2) the exemption creates a contradictory system at odds with the fundamental principles behind the Texas's groundwater regulatory system; and (3) to better adapt to changing environmental concerns and growing population needs.

a. Oil and Gas Operations in Texas Have Changed Dramatically Since the Creation of GCDs and the Drilling or Exploration Exemption

Oil and gas operations in Texas have dramatically increased since GCDs were created in 1949 and exemptions were first enacted in 1971. In 2001, the year the drilling or exploration exemption was created, crude oil production was 378,849,000 barrels; in 2018, that number was 1,274,569,000.⁷⁵ This was an increase of 800 million barrels from 2017, and is the largest increase

⁷⁴ Cook, *supra* note 63, at 48.

⁷⁵ Crude Oil Production and Well Counts (since 1935), R.R. Comm'n. of Tex., <https://www.rrc.state.tx.us/oil-gas/research-and-statistics/production-data/historical-production-data/crude-oil-production-and-well-counts-since-1935/> (last visited Oct. 23, 2019).

in the state's history.⁷⁶ This increase in production is attributable to horizontal drilling and fracking.⁷⁷ Though fracking was introduced in the 1940s, it was not utilized in Texas on a widespread scale until the early 2000s.⁷⁸ Today, hydraulically fractured horizontal wells account for over two thirds of all crude oil and natural gas wells.⁷⁹ Much of this growth is in South and West Texas—already water scarce and drought-prone regions.⁸⁰

Fracking requires significantly more water than conventional oil and gas extraction methods. Fracking occurs after the oil or gas well has been drilled and involves forcing fluid against rock formations at a high enough pressure to break up—“fracture”—the rock.⁸¹ In Texas, this fluid is typically groundwater that comes from water wells drilled on the surface owner's land.⁸² Conventional methods require around 160,000 gallons of water per well, but fracking requires an average of 1.5 million gallons of water per well (and up to 8 million depending on the geological makeup of the region).⁸³ From 2011 to 2016, the amount of water used per well in the

⁷⁶ *Id.*; State of Energy Report, Texas Independent Producers & Royalty Owners Association (2019), http://tipro.org/index.php?option=com_content&view=article&id=258.

⁷⁷ Cook, *supra* note 63, at 48.

⁷⁸ U.S. Energy Info. Admin., Annual Energy Outlook 2011 2 (2011), [https://www.eia.gov/outlooks/archive/aeo11/pdf/0383\(2011\).pdf](https://www.eia.gov/outlooks/archive/aeo11/pdf/0383(2011).pdf).

⁷⁹ U.S. Energy Info. Admin., *Hydraulically fractured horizontal wells account for most new oil and gas natural wells* (Jan. 30, 2018) <https://www.eia.gov/todayinenergy/detail.php?id=34732>.

⁸⁰ U.S. E.P.A., *Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States (Final Report)* 4 (2016).

⁸¹ *Id.*

⁸² *Id.*; Allen, *supra* note 42, at 496.

⁸³ U.S. E.P.A., *Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States (Final Report)* 4 (2016).

United States increased 770%.⁸⁴ The largest increase in water usage per well occurred in the Permian basin, and water usage is predicted to increase in both the Permian and Eagle Ford basins.⁸⁵ The amount of water used per well during the fracking process is also increasing.⁸⁶ Further, studies show that fracking has led to increased overall oil and gas production, and increased total water usage for both conventional production methods and fracking.⁸⁷

Texas is the largest oil and gas producer in the United States, with over 286,000 active oil and gas wells, and more being drilled every day.⁸⁸ While drilling and production has undoubtedly led to increased economic growth and prosperity for Texas, we should make efforts to ensure that good economics do not jeopardize other important resources. Moreover, the exemption was written into the Texas Water Code before oil and gas production required such drastically large amounts of water. Requiring GCDs exempt water wells drilled for oil and gas production from permitting, and thus production limits, is at least arguably inconsistent with legislative intent.

b. The Exemption Creates a contradictory System, at Odds with the Fundamental Principles Behind the State’s Groundwater Regulatory System

⁸⁴ Kondash, *supra* note 9, at 1.

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Id.*; Cook, *supra* note 63, at 48.

⁸⁸ Natural Gas Production and Well Counts (since 1935), R.R. Comm’n. of Tex., <https://www.rrc.state.tx.us/oil-gas/research-and-statistics/production-data/historical-production-data/natural-gas-production-and-well-counts-since-1935> (last visited Dec. 4, 2019); Crude Oil Production and Well Counts (since 1935), R.R. Comm’n. of Tex., <https://www.rrc.state.tx.us/oil-gas/research-and-statistics/production-data/historical-production-data/crude-oil-production-and-well-counts-since-1935/> (last visited Dec. 4, 2019).

Exempting water wells drilled for oil and gas production from permitting, and thus production limits, allows oil and gas producers to avoid regulation and exploit groundwater resources in a way that is inconsistent with the principles behind the State's groundwater regulatory regime. The oil and gas industry is heavily regulated with a well-established body of common law. Conversely, groundwater law is relatively sparse and still developing. Oil and gas regulation is comprehensive and centralized; groundwater regulation is circumscribed and localized.⁸⁹ Most importantly, the regulatory goals for the two resources are vastly different.⁹⁰ Oil and gas regulation is focused on maximizing recovery; groundwater regulation is focused on protecting the resource's long-term viability for a variety of both public and private benefits.⁹¹ The reasons for the two different regulatory regimes are not compatible. Allowing oil and gas producers to bypass the regulation they are required to conform to in every other circumstance allows for the exploitation of a resource in a way that is inconsistent with both oil and gas regulation and the purpose for the Texas Water Code and GCDs.

The exemption is also inconsistent for fundamental fairness reasons. Consider the following hypothetical: A GCD with a population of 10,000 where 9,750 people live on 2% of the district's land, and the other 250 people live on large ranches making up 98% of the district. The water supply for all 10,000 people, however, comes from an aquifer located under the rural area. If the surface owners from the rural area were to drill water wells on their property and sell the water to oil and gas producers, the oil and gas producers could overuse the available groundwater

⁸⁹ Whether the Texas Legislature should change the groundwater regulatory regime to a more centralized, state-wide regulatory regime like oil and gas regulation is beyond the scope of this paper.

⁹⁰ See *Edwards Aquifer Authority v. Day*, 369 S.W.3d 814, 840–41 (Tex. 2012).

⁹¹ Tex. Water Code Ann. § 36.0015(b); Sledge, *supra* note 46.

resources to impact all 10,000 people. Further, if any of the estates in the rural areas are split estates, it would be possible for a mineral owner not even living in the district to lease out his or her mineral rights for oil and gas development. The lessees would then have the right to drill water wells for fracking on the surface owner's land and deplete the groundwater, potentially impacting all 10,000 people in the district.⁹² GCDs were created to ensure conservation of groundwater for all users, especially those with limited access to groundwater. Allowing oil and gas producers to bypass oil and gas regulations and escape the regulation of GCDs is at odds with the purpose behind the GCDs.

The exact hypothetical described here is currently happening in the Eagle Ford, with McMullen GCD and the Carrizo Aquifer. While most of the GCDs in the Eagle Ford require a permit for water wells drilled for fracking, McMullen County, a small county in the heart of the Eagle Ford and just underneath the Evergreen GCD, does not.⁹³ McMullen GCD and the Evergreen GCD both lay on top Carrizo Aquifer.⁹⁴ Thus, an oil and gas producer could drill a water well for fracking without a permit in the McMullen GCD and impact the groundwater resources in the Evergreen GCD and undermine the Evergreen GCD's rules.

c. The Exemption is Unsustainable in Light of Changing Environmental Concerns and Growing Population Needs

⁹² See *Sun Oil Co. v. Whitaker*, 483 S.W.2d 808, 818 (Tex. 1972) (Daniel, J., dissenting).

⁹³ *McMullen Groundwater Conservation District Rules* (Sept. 26, 2012) available at [Mullen_GCD_approved_rules_9_26_2012.pdf](#).

⁹⁴ Peter G. George, et. al., *Aquifers of Texas*, Tex. Water Dev. Bd. (2011).

http://www.twdb.texas.gov/publications/reports/numbered_reports/doc/R380_AquifersofTexas.pdf?d=4503.430000011576.

The drilling or exploration exemption is unsustainable in light of Texas's growing population and increasing drought conditions. Over the next 50 years, Texas's population is predicted to increase 73%, and Texas's water needs are predicted to increase 87%.⁹⁵ Municipal water use is expected to grow from 5.2 million acre-feet per year in 2020 to 8.4 million in 2070.⁹⁶ Manufacturing and livestock demands are similarly expected to increase.⁹⁷ Groundwater supplies, however, are expected to decrease 24%, from 7.2 million acre-feet per year in 2020 to 5.4 million in 2070.⁹⁸ At this rate, if a drought were to occur in Texas in 2070, Texas would need an additional 8.9 million acre-feet of water to meet its population's needs.⁹⁹

Especially alarming, many areas where horizontal drilling and fracking are occurring are also areas where water resources are most scarce, such as the Eagle Ford and Permian basins.¹⁰⁰ In these areas, droughts are common and detrimental, and especially aggravated by increased oil and gas production.¹⁰¹ Most of the GCDs in the Permian Basin exempt water wells drilled for fracking.¹⁰² Most of the GCDs in the Eagle Ford require a permit for water wells drilled for

⁹⁵ Tex. Water Dev. Bd., *Water for Texas: 2017 State Water Plan 1*, 5 (2017),

<https://www.twdb.texas.gov/waterplanning/swp/2017/doc/SWP17-Water-for-Texas.pdf>.

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ *Id.*

⁹⁹ *Id.*

¹⁰⁰ Kondash, *supra* note 9, at 6.

¹⁰¹ See Tracy Idell Hamilton, *Drought Spurring Fracking Concerns*, SAN ANTONIO EXPRESS NEWS (July 2, 2011).

<https://www.mysanantonio.com/news/energy/article/Drought-spurring-fracking-concerns-1450808.php>.

¹⁰² For example, the Permian Basin GCD, Santa Rita GCD, and Glasscock GCD all exempt water wells drilled for fracking. *Rules of Permian Basin Underground Water Conservation District* (Feb. 8, 1993), available at

fracking. Yet, as discussed above, McMullen GCD's could potentially frustrate other GCD's rules. The Texas Legislature must act to protect water scarce areas, balance growing municipal groundwater needs, and allow for effective GCD management.

V. Conclusion

Access to groundwater is a contentious issue in Texas, and a landowner's ownership of the resources beneath his or her land is an issue close to many Texans' hearts. Oil and gas and groundwater are different in many ways: the nature of the resource, the use of the resource, the regulatory histories, and the purposes behind regulation. It is important that the Texas Legislature not allow oil and gas producers to treat groundwater regulation as a backdoor entry to unpermitted drilling and regulation free operations. Allowing oil and gas producers to bypass the regulation they are required to conform to in most other circumstances creates a contradictory system at odds with the purposes for which GCDs were created. Further, it is unsustainable in light of changing population and increasing drought conditions. For these reasons, the current exemption in the Texas Water Code for oil and gas producers should be removed.

http://www.pbuwcd.com/files/Rules_10-1-19.pdf; *Santa Rita Underground Water Conservation District Rules* (May 24, 2016) available at <http://nebula.wsimg.com/40b983c7517e1e108ef0a217e64995f2?AccessKeyId=F1C5EE0257BA576060CA&disposition=0&alloworigin=1>; *Rules of the Glasscock County Underground Water Conservation District* (Apr. 15, 1986) available at <http://glasscock-groundwater.org/rules-by-laws.html>.