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CELEBRATING OVER 80 YEARS

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July 14, 2014

Sharon Wilson
Advising Member: Denton Stakeholder Drilling Advisory Group
Organizer, Earthworks' Oil & Gas Accountability Project
101 N. Greenville Ave.
Allen, TX 75002

Re: Comments Regarding the City of Denton's Proposed Hydraulic Fracturing Ordinance

Dear Ms. Wilson:

We have been asked to review the City of Denton's proposed ordinance that would ban hydraulic fracturing within the boundaries of the City.¹ It is our conclusion that the proposed ordinance validly seeks to address the risks and uncertainties current hydraulic fracturing technology poses.² The ordinance reasonably seeks to protect the character of residential neighborhoods in Denton; public health, safety, and the environment; and it fosters quality of life and future economic development.

People with gas leases sometimes level the threat that it would be an unconstitutional "taking" to limit unconventional gas development and that municipalities cannot prevent anyone with a lease from having his/her minerals developed. This is simply untrue. Local governments have the authority and responsibility to enact regulations to protect the public health, safety, and welfare; the character of the community; property values; and local water supplies against the already-experienced negative impacts of hydraulic fracturing. Exercising that authority and

¹ The undersigned has served as lead counsel to the municipalities and citizens in Pennsylvania who successfully defended their ability to regulate oil and gas activities at the local level. See Robinson Township v. Commonwealth of Pennsylvania, 83 A.3d 901 (Pa. 2013). In Robinson Township, the Pennsylvania Supreme Court struck down portions of Act 13 of 2012 (amending the Pennsylvania Oil & Gas Act), and adopted our arguments to uphold the role of local governments in land use and environmental matters, and revitalized the Pennsylvania Constitution's Environmental Rights Amendment. We have lectured and published widely on the role of local governments in regulating oil and gas activities. More information is available at www.curtinheefner.com and <https://www.linkedin.com/in/jordanyeager>.

² We are offering an opinion on the validity of the ordinance generally, based on the facts available to us, and are not opining on how the ordinance might be applied to any particular property owner or activity.
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meeting those responsibilities as proposed would not constitute an unconstitutional taking. Indeed, “[a]ll property ... is held subject to the valid exercise of the police power, and a municipality is not required to compensate a landowner for losses resulting therefrom. . . . A city may enact reasonable regulations to promote the health, safety, and general welfare of its people.” Trail Enterprises, Inc. v. City of Houston, 957 S.W.2d 625, 630 (Tex. Ct. App. 1997) (citations and footnotes omitted). “The right of an entity to conduct oil and gas activities in [Texas] is not an absolute right, but a qualified right subject to reasonable restriction by the state.” Id. at 635.

As a general rule, in order to prove that a governmental action is an unconstitutional “taking” under federal law and currently under Texas law, the proponents of this industrial activity would have to show either: 1) that the regulation eliminates *all* economically beneficial or productive use of the property; Lucas v. South Carolina Coastal Council, 505 U.S. 1003 (1992); or 2) that the regulation constitutes a taking under the factors set forth in Penn Central Transp. Co. v. City of New York, 438 U.S. 104, 125 (1978). See also Palazzolo v. Rhode Island, 533 U.S. 606 (2001); City of Houston v. Trail Enterprises, Inc., 377 S.W.3d 873, 878-79 (Tx. Ct. App. 2012). The Penn Central test, as succinctly described by the Texas Court of Appeals, consists of the following analysis:

Under Penn Central, determining whether regulation becomes too much like a physical taking, and thus necessitates compensation for an individual property owner, requires balancing the public's interest against the private landowner. Three nonexclusive factors have been highlighted as important in striking this balance: (1) the character of the governmental action; (2) the extent to which the regulation has interfered with reasonable and distinct investment-backed expectations; and (3) the economic impact of the regulation on the claimant. Generally, no one single factor should be considered paramount. The analysis *focuses on the parcel of land as a whole and not discrete segments of the parcel*. Here, the parties do not claim that there are any other relevant factors other than those given in Penn Central.

City of Houston v. Trail Enterprises, Inc., 377 S.W.3d at 879 (citations and footnotes omitted) (emphasis added).

In City of Houston v. Trail Enterprises, Inc., the Texas Court of Appeals upheld as valid a *more* restrictive ordinance than the proposed Denton ordinance. The Houston ordinance prohibited all *drilling* within a certain distance of Lake Houston, not just hydraulic fracturing. The Court of Appeals agreed that protecting the City's public water supply from pollution was an important government interest. “Given the importance of protecting the community's drinking water and possible pollution from new drilling near Lake Houston, we conclude that the first factor weighs heavily in favor of the City and against a finding of a compensable taking.” Id. at 879. The second factor – reasonable investment-backed expectations – also favored the

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City because the challengers to the ordinance presented little to no evidence of investments in their properties and the challengers had producing wells on their properties already that were not impacted by the ordinance. On the third factor, the Court noted that “diminution in property value, standing alone, cannot establish a taking.” *Id.* at 883. Although it ultimately determined that the third factor favored the challengers, the Court determined that the City’s strong interest in protecting its water supply and the lack of reasonable investment-backed expectations in the properties at issue supported a claim that no taking had occurred.

In the case of Denton’s proposed ordinance, it is far less restrictive than Houston’s valid ordinance. The proposed Denton ordinance only prohibits hydraulic fracturing within the Denton city limits. Wells may still be drilled to target oil and gas; they simply may not use hydraulic fracturing as defined under the proposed ordinance. Further, wells that have already been hydraulically fractured and are producing may continue to produce; these wells simply could not be re-fracked. Further, the Barnett Shale does not even underlie the entire City of Denton, leaving many in the City unaffected by the proposed ordinance. Also, the mineral wealth from shale development barely trickles into the City, either through mineral rights owners or companies in the City. As a result, the City bears the extensive costs of fracking without receiving a concomitant share of any benefits. In particular, the City bears public health, infrastructure, and environmental costs of hydraulic fracturing activity, including the impact on businesses and residents who might otherwise locate in the City, but go elsewhere due to hydraulic fracturing activity. Indeed, hydraulic fracturing activity actually threatens property values, to the detriment of the local economy.

Further, as a home-rule municipality, Denton’s authority to enact this type of ordinance is not preempted unless the Legislature states its intention to preempt authority “with unmistakable clarity.” *City of Santa Fe v. Young*, 949 S.W.2d 559, 560 (Tex.App. Houston [14 Dist.], 1997); *Dallas Merchant’s and Concessionaire’s Ass’n v. City of Dallas*, 852 S.W.2d 489, 490-91 (Tex., 1993)

As the City of Denton has recognized through its own experience and the research of many of its residents, unconventional gas development is a heavy industrial use. It brings round-the-clock noise and light, dust, flaring, truck traffic, risks of explosion and industrial-scale emergencies, including evacuations, with which Denton is already too familiar. It is not alone in its recognition; for instance, the Pennsylvania courts have recognized the incompatibility of industrial unconventional gas development with residential, agricultural, and other non-industrial areas of a municipality. *See, e.g., Robinson Twp., Washington Cnty. v. Com.*, 83 A.3d 901, 979 (Pa. 2013) (plurality) (“... permitting industrial uses as a matter of right in every type of pre-existing zoning district is incapable of conserving or maintaining the constitutionally-protected aspects of the public environment and of a certain quality of life. . . . [T]he provision compels exposure of otherwise protected areas to environmental and habitability costs associated with this particular industrial use: air, water, and soil pollution; persistent noise, lighting, and heavy vehicle traffic; and the building of facilities incongruous with the surrounding landscape.”); *id.* at 1005, 1006-07 (Baer, J., concurring); *Robinson Twp. v. Com.*, 52 A.3d 463, 484-85 (Pa.

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Indeed, the nature and extent of unconventional shale gas development is markedly different than the development of vertical ("conventional") wells. In contrast to the relatively small footprint and simple process involved in conventional well drilling,³ shale gas well development requires at least five (5) or more acres, multiple laterals, repeated hydraulic fracturing, staging areas, and all the equipment necessary to that development, including trucks, cranes, numerous compressors to supply the required horsepower for the fracking operations, chemicals, and explosives. There is significantly more waste and wastewater to handle because of the number of wellbores and the hydraulic fracturing process. Further, due to laterals, more opportunity exists for accidents involving intersection with faults and other pathways.

The hydraulic fracturing process on an unconventional shale gas well requires explosive charges to perforate the well casing, and a mixture of millions of gallons of water, fine sand (or another type of "proppant") to hold open the fractures, and large quantities of different chemicals, including many carcinogenic, toxic and hazardous substances. One unconventional well may use several million gallons of water. The process also requires an extraordinarily large amount of hydraulic horsepower⁴ in order to pump the toxic fracturing mixture into the approximately mile-deep wellbore and out through the perforated casing at a pressure high enough to fracture the shale and to allow gas to flow.

An unconventional well can be fractured multiple times, and this process is then multiplied by the number of wells on a particular wellpad. Further, an operator may decide to return several years later to drill a well deeper and engage in additional high-volume hydraulic fracturing to gather more gas from an already-drilled well, creating disruptions well into the future. As a result, a single unconventional gas site with multiple wellbores may require, over the entire development process, thousands of water trucks, hundreds of chemical storage trailers, numerous compressor engines, storage of explosives, sand-mixing trucks, monitoring equipment, and other vehicles and equipment in order to execute the fracturing process and fully develop all the wells on the wellpad. During that time, the site may also contain storage facilities for hazardous wastewater. A shale gas wellpad could take *at least* a year, if not two or more, to develop from start to finish. The well site remains indefinitely with various pipes, valves, and tanks that require servicing throughout the life of each well.

Unconventional gas development has a lasting impact on the landscape and the community. This industrial activity causes the fragmentation and destruction of agricultural and

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These greater horsepower requirements mean more emissions and noise per wellpad, given the compressor engines required for horsepower generation during the fracturing process.

other open space land; the removal of land from other types of development or preservation; the continued ability to return to the well to frack it years later given the sharp decline of natural gas from unconventional gas wells; and a negative impact on property values, especially for those who rely on local groundwater supplies. It also contributes substantially to local air pollution, and Denton County already has some of the worst air quality in the state.⁵ Further, the Barnett shale does not even underlie the entire City, leaving some residents more at risk than others simply by virtue of geography.

The City of Denton is all too familiar with the heavy industrial nature of unconventional development, as it has seen the detrimental effects of hydraulic fracturing in both its own neighborhoods and in other places. As only one example, in spring 2013, an EagleRidge well located in Denton caused a blowout that released natural gas and volatile organic compounds (including benzene) into the community at such concentrations that residents had to evacuate and not do anything that could make a spark, due to concerns about a flash fire.⁶ It also caused the diversion of flights at the Denton airport.⁷

Against this background, and the fact that the proposed ordinance still allows oil and gas development, the proposed ordinance demonstrates a reasonable approach to addressing the risks and impacts of hydraulic fracturing activity on Denton residents while still allowing development. Even when hydraulic fracturing is completely prohibited, property owners could still use and enjoy their property in other ways, including conventional oil and gas development. Even mineral estate-only owners are left with *some* economic use of the estate with hydraulic fracturing prohibited. A property owner who cannot engage in unconventional development of oil and gas could still engage in conventional development. Further, those who also own the surface estate have myriad other types of development available to them. Having limitations on hydraulic fracturing does not eliminate *all* economically beneficial or productive use of the properties. Indeed, it does not even eliminate all mineral extraction uses, or impact the existing production from wells that have been fracked already. See City of Houston v. Trail Enterprises, Inc., 377 S.W.3d at 878-79. Many other lawful uses of the property will remain, including residential, agricultural, and commercial uses, depending on the district. No one has a right to put their land to the most profitable one. See Trail Enterprises, Inc. v. City of Houston, 957 S.W.2d at 635. Even more fundamentally, no one has a constitutional right to pollute the earth with toxic chemicals.

Turning then to the Penn Central factors, the City's interest in protecting its water supply would be a strong basis by itself for the prohibition. See City of Houston v. Trail Enterprises, Inc., 377 S.W.3d at 879. The other legitimate and well-grounded bases for the City's proposed action, including its own experience with hydraulic fracturing operations in the City, only serve to strengthen the City's governmental interest in the proposed hydraulic fracturing prohibition.

⁵ http://blogs.dallasobserver.com/unfairpark/2013/11/not_ready_why_does_denton_coun.php

⁶ <http://www.dentonrc.com/local-news/local-news-headlines/20130727-few-answers-in-april-gas-well-blowout.ece;>
<http://www.cityofdenton.com/departments-services/departments-g-p/gas-well-inspections/news-notice>

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Further, the U.S. Supreme Court has upheld an ordinance that prohibited brick kilns in a city without requiring evidence of nuisance. Hadacheck v. Sebastian, 239 U.S. 394 (1915). Here, Denton can show that hydraulic fracturing *has and continues to pose* serious impacts on “the health and comfort of the community” that strongly suggest that hydraulic fracturing is a nuisance. Id. Denton is legitimately concerned about the impacts of hydraulic fracturing on neighborhood character, local water supplies, public health, the City’s already-poor air quality, and future economic growth in the City. It is knowledgeable of the current uncertainty in the scientific literature that points to great risks that have not been fully studied.⁸ Lastly, it has witnessed the inadequacy of various legal and other methods of regulation to control the known risks and to keep up with the science on the risks that have not been fully studied. Taken all together, the City’s governmental interests are significant.

As for reasonable investment-backed expectations and economic impact, the situation is both similar to and different from City of Houston v. Trail Enterprises, Inc. in important ways. First, as in Houston, property owners are not prohibited from enjoying the fruits of the wells they’ve already developed. The existing royalty streams flowing from already-producing wells, which evidenced investments *already made and realized* favored the City of Houston and not the challengers. The same situation would likely apply in Denton, where unconventional wells have already been developed. This said, unlike the Houston ordinance, which banned all drilling within in a certain distance of Lake Houston, the proposed Denton ordinance *would still allow drilling*, such as for conventional oil and gas development. Like in Hadacheck, Denton is not prohibiting the extraction of oil and natural gas. Mineral rights owners may continue to extract oil and gas, but simply may not use hydraulic fracturing to do it. This results in less interference with any investment-backed expectations that do exist, and in less economic impact on mineral rights owners. Indeed, Denton’s proposed ordinance is less restrictive than the two New York municipal ordinances recently upheld in Wallach v. Town of Dryden, --- N.E.3d ----2014 N.Y. Slip Op. 04875, 2014 WL 2921399 (N.Y. Ct. App. June 30, 2014).

Also, here, the City can persuasively argue that no one has a reasonable expectation to invest in an activity that is inherently polluting and injurious to the community, and that, at a minimum, carries uncertain risks due to the current state of science. As duly noted by the Court in the Houston case, “the purpose of the investment-backed expectation requirement is to assess whether the landowner *has taken legitimate risks* with the reasonable expectation of being able to use the property, which, in fairness and justice, would entitled him or her to compensation.” 377 S.W.3d at 883 (emphasis added). Given both the known risks associated with hydraulic

⁸ See, e.g., Council of Canadian Academies, “Environmental Impacts of Shale Gas Extraction in Canada,” http://www.scienceadvice.ca/uploads/eng/assessments%20and%20publications%20and%20news%20releases/Shale%20gas/ShaleGas_fullreportEN.pdf; John L. Adgate, Bernard D. Goldstein, and Lisa M. McKenzie, “Potential Public Health Hazards, Exposures and Health Effects from Unconventional Natural Gas Development,” *Env. Sci. Technol.*, February 24, 2014; Fort Worth League of Neighborhoods, “Recommendations for Policy Changes for Gas Drilling Near Schools,” <http://www.fwlina.org/documents/ISDRReport.pdf>; Brown, et al., “Understanding exposure from natural gas drilling puts current air standards to the test,” *Reviews on Environmental Health*, March 2014, <http://www.environmentalhealthproject.org/wp-content/uploads/2014/04/reveh-2014-0002-Brown-et-al.pdf>.

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fracturing and those risks that are not even fully understood by the scientific and public health community, there is a serious question about whether those who have invested in hydraulic fracturing have taken a "a legitimate risk."

Given the overall situation in which Denton finds itself, and its prudently tailored approach to address the impacts of hydraulic fracturing via the proposed prohibition, the proposed ordinance is a valid and reasonable approach to protect the community, the City's quality of life and economy, and future growth opportunities. Municipalities must balance the property rights of *all* those in a community, as *all* community members – not just those with gas leases – have a right to the use and enjoyment of their property and to a healthy environment in which to live, work and play.

Sincerely,

A handwritten signature in black ink, appearing to read "Jordan B. Yeager". The signature is fluid and cursive, with a large initial "J" and "Y".

Jordan B. Yeager

For Curtin & Heefner LLP


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City because the challengers to the ordinance presented little to no evidence of investments in their properties and the challengers had producing wells on their properties already that were not impacted by the ordinance. On the third factor, the Court noted that “diminution in property value, standing alone, cannot establish a taking.” *Id.* at 883. Although it ultimately determined that the third factor favored the challengers, the Court determined that the City’s strong interest in protecting its water supply and the lack of reasonable investment-backed expectations in the properties at issue supported a claim that no taking had occurred.

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other open space land; the removal of land from other types of development or preservation; the continued ability to return to the well to frack it years later given the sharp decline of natural gas from unconventional gas wells; and a negative impact on property values, especially for those who rely on local groundwater supplies. It also contributes substantially to local air pollution, and Denton County already has some of the worst air quality in the state.⁵ Further, the Barnett shale does not even underlie the entire City, leaving some residents more at risk than others simply by virtue of geography.

The City of Denton is all too familiar with the heavy industrial nature of unconventional development, as it has seen the detrimental effects of hydraulic fracturing in both its own neighborhoods and in other places. As only one example, in spring 2013, an EagleRidge well located in Denton caused a blowout that released natural gas and volatile organic compounds (including benzene) into the community at such concentrations that residents had to evacuate and not do anything that could make a spark, due to concerns about a flash fire.⁶ It also caused the diversion of flights at the Denton airport.⁷

Against this background, and the fact that the proposed ordinance still allows oil and gas development, the proposed ordinance demonstrates a reasonable approach to addressing the risks and impacts of hydraulic fracturing activity on Denton residents while still allowing development. Even when hydraulic fracturing is completely prohibited, property owners could still use and enjoy their property in other ways, including conventional oil and gas development. Even mineral estate-only owners are left with *some* economic use of the estate with hydraulic fracturing prohibited. A property owner who cannot engage in unconventional development of oil and gas could still engage in conventional development. Further, those who also own the surface estate have myriad other types of development available to them. Having limitations on hydraulic fracturing does not eliminate *all* economically beneficial or productive use of the properties. Indeed, it does not even eliminate all mineral extraction uses, or impact the existing production from wells that have been fracked already. See City of Houston v. Trail Enterprises, Inc., 377 S.W.3d at 878-79. Many other lawful uses of the property will remain, including residential, agricultural, and commercial uses, depending on the district. No one has a right to put their land to the most profitable one. See Trail Enterprises, Inc. v. City of Houston, 957 S.W.2d at 635. Even more fundamentally, no one has a constitutional right to pollute the earth with toxic chemicals.

Turning then to the Penn Central factors, the City's interest in protecting its water supply would be a strong basis by itself for the prohibition. See City of Houston v. Trail Enterprises, Inc., 377 S.W.3d at 879. The other legitimate and well-grounded bases for the City's proposed action, including its own experience with hydraulic fracturing operations in the City, only serve to strengthen the City's governmental interest in the proposed hydraulic fracturing prohibition.

⁵ http://blogs.dallasobserver.com/unfairpark/2013/11/not_ready_why_does_denton_coun.php

⁶ <http://www.dentonrc.com/local-news/local-news-headlines/20130727-few-answers-in-april-gas-well-blowout.ece;>
<http://www.cityofdenton.com/departments-services/departments-g-p/gas-well-inspections/news-notices>

⁷ <http://www.dentonrc.com/local-news/local-news-headlines/20130727-few-answers-in-april-gas-well-blowout.ece>
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Further, the U.S. Supreme Court has upheld an ordinance that prohibited brick kilns in a city without requiring evidence of nuisance. Hadacheck v. Sebastian, 239 U.S. 394 (1915). Here, Denton can show that hydraulic fracturing *has and continues to pose* serious impacts on “the health and comfort of the community” that strongly suggest that hydraulic fracturing is a nuisance. Id. Denton is legitimately concerned about the impacts of hydraulic fracturing on neighborhood character, local water supplies, public health, the City’s already-poor air quality, and future economic growth in the City. It is knowledgeable of the current uncertainty in the scientific literature that points to great risks that have not been fully studied.⁸ Lastly, it has witnessed the inadequacy of various legal and other methods of regulation to control the known risks and to keep up with the science on the risks that have not been fully studied. Taken all together, the City’s governmental interests are significant.

As for reasonable investment-backed expectations and economic impact, the situation is both similar to and different from City of Houston v. Trail Enterprises, Inc. in important ways. First, as in Houston, property owners are not prohibited from enjoying the fruits of the wells they’ve already developed. The existing royalty streams flowing from already-producing wells, which evidenced investments *already made and realized* favored the City of Houston and not the challengers. The same situation would likely apply in Denton, where unconventional wells have already been developed. This said, unlike the Houston ordinance, which banned all drilling within in a certain distance of Lake Houston, the proposed Denton ordinance *would still allow drilling*, such as for conventional oil and gas development. Like in Hadacheck, Denton is not prohibiting the extraction of oil and natural gas. Mineral rights owners may continue to extract oil and gas, but simply may not use hydraulic fracturing to do it. This results in less interference with any investment-backed expectations that do exist, and in less economic impact on mineral rights owners. Indeed, Denton’s proposed ordinance is less restrictive than the two New York municipal ordinances recently upheld in Wallach v. Town of Dryden, --- N.E.3d ----2014 N.Y. Slip Op. 04875, 2014 WL 2921399 (N.Y. Ct. App. June 30, 2014).

Also, here, the City can persuasively argue that no one has a reasonable expectation to invest in an activity that is inherently polluting and injurious to the community, and that, at a minimum, carries uncertain risks due to the current state of science. As duly noted by the Court in the Houston case, “the purpose of the investment-backed expectation requirement is to assess whether the landowner *has taken legitimate risks* with the reasonable expectation of being able to use the property, which, in fairness and justice, would entitled him or her to compensation.” 377 S.W.3d at 883 (emphasis added). Given both the known risks associated with hydraulic

⁸ See, e.g., Council of Canadian Academies, “Environmental Impacts of Shale Gas Extraction in Canada,” http://www.scienceadvice.ca/uploads/eng/assessments%20and%20publications%20and%20news%20releases/Shale%20gas/ShaleGas_fullreportEN.pdf; John L. Adgate, Bernard D. Goldstein, and Lisa M. McKenzie, “Potential Public Health Hazards, Exposures and Health Effects from Unconventional Natural Gas Development,” *Env. Sci. Technol.*, February 24, 2014; Fort Worth League of Neighborhoods, “Recommendations for Policy Changes for Gas Drilling Near Schools,” <http://www.fwlina.org/documents/ISDReport.pdf>; Brown, et al., “Understanding exposure from natural gas drilling puts current air standards to the test,” *Reviews on Environmental Health*, March 2014, <http://www.environmentalhealthproject.org/wp-content/uploads/2014/04/reveh-2014-0002-Brown-et-al.pdf>.

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fracturing and those risks that are not even fully understood by the scientific and public health community, there is a serious question about whether those who have invested in hydraulic fracturing have taken a "a legitimate risk."

Given the overall situation in which Denton finds itself, and its prudently tailored approach to address the impacts of hydraulic fracturing via the proposed prohibition, the proposed ordinance is a valid and reasonable approach to protect the community, the City's quality of life and economy, and future growth opportunities. Municipalities must balance the property rights of *all* those in a community, as *all* community members – not just those with gas leases – have a right to the use and enjoyment of their property and to a healthy environment in which to live, work and play.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Yeager". The signature is fluid and cursive, with a large initial "J" and a long, sweeping underline.

Jordan B. Yeager

For Curtin & Heefner LLP