

Janette Jansen
U.S. EPA, Water Division
UIC Branch (WU016J)
77 W. Jackson Blvd.
Chicago, IL 60604-3590

10/30/17

RE: Grove#13-11, Permit #MI-051-2D-003

Dear Ms. Hansen,

With the following statements in mind, please consider allowing a public hearing on the issue of fracking waste being injected in Gladwin County Michigan, via the EPA permit application filed by Jordan Development Company, LLC.

The area being considered for dumping of toxic waste is in the Cedar River Watershed and very close to a string of lakes where the majority of the county's population resides. I am vehemently opposed to this practice and I believe anyone aware of this in the community would be also. The operative word here is "aware". These companies and this practice of waste disposal purposefully "fly below the radar". Subsequently 99% of the population is unaware that this well even exists; let alone the proposed waste depot. No other businesses are allowed to drive commercial vehicles without a company name or DOT registration number prominently displayed. From the gathering of the mineral rights ("that you'll probably never even see us back here as there is no plan to use them but our company is allowing us to make this one time offer...."), to the sale and development of our state land and subsequently dumping of the waste. This process has been purposefully misleading as well as enveloped in secrecy obviously hiding the facts from the people it will undoubtedly affect the most. I am suspicious of such activities. There are a multitude of reasons that fortify this suspicion.

One does not have to look far to find an ever increasing number of catastrophic events directly associated with injecting fracking waste into the earth. It does not take any scientific background to come to the depressing realization that the only reason this practice is considered is because of how it was legislated and certainly has nothing to do with its documented safety record. There is not a scientist alive today that would argue in favor of this practice unless of course they were directly or indirectly subsidized by the oil and gas industry. In fact, research published in long standing scientific peer reviewed journals, questioning this practice since its inception, have ballooned with research and subsequent journal entries in recent years. The evidence is overwhelming that this practice should be illegal. Simple logic would tell you that to think you could pump hundreds of thousands of gallons of waste underneath viable communities with zero consequences "indefinitely" is simply ludicrous. The idea that a liquid substance

considered toxic can be pumped into the earth as a "holding tank for eternity" defies logic to me.

The fact that huge amounts of money were spent to drill a well one mile from two all sports lakes (in the Cedar River Watershed) and did not return the investments does not make this an ideal spot for injecting waste in the void left behind in the earth.

The simple fact that these chemical solution formulas are exempt from the clean air and water act and are unavailable to the public is reason alone for suspicion. Again, the only reason for this is how it was legislated, not the proven track record of safety. In fact quite the opposite. The chemicals involved are known toxins, some of the worst ever developed. These chemicals and their breakdown by-products are carcinogenic and highly toxic. These chemical solutions hide under the guise of "trade secrets" citing "Coca-Cola" as an example of "a company that does not have to divulge its formula". If we apply this same logic to the mystery liquids disposal we should get "Coca-Cola" to run the advertising campaign to convince millions of unsuspecting Americans to consume a gallon or so of the liquid each day to facilitate its disposal...we may be doing just that if this practice continues and contaminates the water table.

As an aside, I would hope that if Coca-Cola wanted to pump 20,000 gallons a day of its product into the earth somewhere off of Chapel Dam Road in Gladwin County, MI, that it would indeed be illegal. Unfortunately, even if it were illegal today, the sad reality is, if Coca-Cola wanted to, they too could subsidize legislature and influence decisions in grand ball-room settings that ultimately would make it legal for them also, regardless of the potential environmental impact. Sounds just as ridiculous to pump Coke into the earth without consequences but remember people consume this formula.

Stated from my perspective of the facts as simply as possible:

- The liquids are too toxic and expensive to dispose of above ground.
- The proposed well for a disposal is a lined casing that stops at some point in the earth. That end is open leaving the earth as "the container for eternity".
- No well casings placed today will keep their integrity forever. It's not even feasible to suggest otherwise.
- Hydrologists agree that any change to the integrity, temperature or pressure in the hydrology of a system will lead to unpredictable changes in that system.
- An artesian well is an example of a system that found its way to the surface from natural changes to that system's hydrology.
- Drilling a well punches a hole through the systems integrity. Drilling multiple holes punches multiple holes through that system.
- Pumping fluids into the ground affects the systems pressure.

- The temperature is affected by both.
- With layers of rock formations as the “container for eternity, all 3 variables for change of the hydrology of a system affected, a well casing with forever as the expected service life...It’s not really a question of will it leak? It becomes a question of where will it go?
- The more daunting question is...What “it” is?

I’m sorry, but I am scared. I’m scared not only for myself and my family but for the community as a whole. I’m scared for the consequences of our short-minded, profit driven decisions that will irreversibly affect the next curators of this fragile system known as life on Earth.

Respectfully,

Ronald J. Kruske, DDS
4887 Anglers Lane
Gladwin, MI 48624
(989) 426-4215

Hansen, Janette

From: Ronald Kruske <ronandamy1@gmail.com>
Sent: Friday, June 22, 2018 7:17 PM
To: Hansen, Janette
Subject: EPA Draft Permit Gladwin Co.
Categories: EZ Record - Shared

Dear Ms. Hansen,

I attended the EPA Public Hearing at the Gladwin High School concerning the permit for the injection of fluids into the Grove Well in Gladwin County Michigan. First of all I would like to thank you for granting the local community the chance to be heard and also apologize for any verbal attacks and finger-pointing or foul language that you may have received that evening. Although unnecessary in my eyes, it does suggest the level of emotion in the community over the issue.

However, what was the most remarkable thing about the meeting was the amount of confusion and misrepresentation of information the public had concerning the issue.

Shockingly that level of confusion only escalated after the meeting. As the number of simple questions that were not answered or only partially answered begin to mount, the level of frustration at the meeting also continued to build. The lack of transparency became obvious as the crowd began to call them lies. I, on the other hand being a scientist, would not accuse the EPA of lying. I believe the EPA used calculated truths. I would however pointedly accuse the EPA of "cherry picking" the facts. Also the EPA stretched definitions of terms and worst of all completely leaving out facts from the real answer which if the truth were known and confirmed no one would allow this in their community.

I strongly feel that the public was grossly and purposefully misled at this meeting. The use of misleading terms, presenting incomplete facts and not acknowledging other facts has lead to more, not less confusion over this permit.

I would like to provide a few blatant examples where I believe that the public has been purposefully misled surrounding the injection permit. First let's look at the what the substances proposed to be injected into the Grove Well are being called.

The energy company Jordan, LLC refers to the substance as "water". The EPA refers to it as "brine". The permit however refers to it as "fluid". This is stated under Part 1 General Compliance, section E ...Duties and Requirements number 18 ...Restriction on Injected Substances, found on page 10 which clearly states, "The permittee shall be restricted to the injection of fluids brought to the surface in connection with oil or natural gas production OR those fluids used in the enhancement of oil and gas production as specified in 40 C.F.R. § 146.5(b). Further, no fluids other than those from sources noted in the administrative record for this permit and approved by the Director shall be injected". The insinuation from the term "water" is that it is a harmless substance that could be used to cook or bathe. The insinuation drawn from the EPA term of "brine" would be a salty solution, again a harmless liquid mixture of salt and water. Some members of the community posted on social media that the salt in the water could actually be used on your dining table! Remarkably misinformed.

I doubt we can classify this fluid as water as Jordan Co. LLC would suggest. Water may be the vehicle (the liquid the salts are dissolved in) but this is far from just water. In fact, water would have a hard time even mixing with this fluid. The EPA description of "brine" is much more accurate as it is definitely a salty solution. However, while presenting the slide provided by the EPA on the chemical make up of "brine" Ms. Hanson, you only listed and discussed a few of the inorganic salts commonly found in these liquids. You did throw in the non-inclusive statement of "and other things" as you quickly moved onto the next slide. This is far from accurate, seriously incomplete, and obviously purposefully misleading. If we just stick to the facts that the EPA is willing to admit with regards to the saltiness of this "brine"

solution, every biologist would agree that this solution is incompatible with life. It is toxic. Unequivocally toxic to all but a few of the most highly adapted chemosynthetic unicellular organisms. If we add in just the salts not listed on the EPA slide that accompany this brine, the toxicity only increases. The organic salts and metal halide salts are significantly more toxic than just the inorganic salts listed on the slide presentation. As if "incompatible with life" wasn't enough, we have yet to discuss the real hazardous chemicals associated with these fluids. Of greatest concern are the radioactive isotopes, volatile organic compounds, and aromatic hydrocarbons such as benzene and toluene. These are some of the most aggressive carcinogens on the planet. This is only the brine component of what comes up during the extraction but the permit clearly states, "OR those fluids used in the enhancement of oil and natural gas production". I am assuming this to be fracking waste. Now we enter into the twilight zone of chemistry associated with this fluid. This is where the entire industry was exempt from the Clean Air and Water Act by the Bush/Cheney administration. The energy companies are exempt from reporting the chemistry of these solutions. The chemistry of these substances are not disclosed to the public like every other company doing business in the United States is required to do. The public does not have access to this information, it is hidden under the guise of "trade secrets" citing Coca-Cola as an example. I question the validity of that argument and would call this purposely misleading the public. If water is inaccurate and brine is incomplete, what should we be calling it? It is toxic to nearly every form of life, it was generated by industry for profit and has no known current use. So let's call it what it is..."Toxic Industrial Waste".

Another example of presenting incomplete facts to purposefully mislead the public would be when the process of using the formula for establishing the injection pressure into the well was discussed. You were sure to repeat a specific point. You stated that there was a formula which allowed you to set the injection pressure so as to "prevent" any fracturing of the rock formation. You continued by saying, "Let me repeat that"... to be sure to stress that point. As if anyone or anything could prevent geologic change. To my knowledge there is no human activity that can prevent geologic change, only those that can contribute to it. This activity certainly could be one of those contributors. Anytime you change the temperature, pressure or volume of a hydrologic system most experts would agree that the resultant change is unpredictable, not preventable. Injection of the volume of fluid allowed in the permit would undoubtedly change all three of these variables.

More examples of no information provided to basic questions would be when asked what were the failure rates of the injection wells used for this process, there was no data or information provided. How can this be? We have a formula for prevention but with no idea of the current failure data. As a scientist I am bewildered by the claims of this magical formula. As a citizen I am concerned that the people ultimately responsible for this decision concerning this injection well do not know the percentage of wells that have failed.

Lastly an example of a total lack of factual information would be when Ms. Hanson was posed with the question of ultimately how much fluid (toxic industrial waste) would be injected into the well? Mr. Reese from the audience mentioned 20,000 gallons per day times 365 days per year to which Ms. Hanson, you replied that you "hadn't done the math". If you didn't do the math, who is going to? After looking into this number myself I reread the permit only to discover that it's actually 20,000 barrels per day! His staggering total was off by a factor of 42. (Using 42 gallons per barrel) I would assume that you were aware of this fact Ms. Hanson and you chose not to correct him. If you aren't aware of this fact then shame on you. To be sure that everyone is aware of the facts as best we could to decipher them from the selective information provided at the meeting, I will do the math.

Assuming Jordan Company, LLC utilizes the maximum this coveted permit allows, we have 20,000 barrels per day times 42 gallons per barrel which amounts to 840,000 gallons per day! If we multiply this by 365 days per year that's 306,600,000 gallons per year! If we multiply this number by the five years between the times that the well is inspected, we come up with 1.5×10^9 to the ninth power, gallons injected into this well before this well will even be inspected again. That is a staggering number!

If you honestly think that this volume of toxic industrial waste, and it's round-trip journey from the depths of the earth and back, as well of all of the so-called trade secret chemical formulas, the shallow pipeline carrying the fluids, the overworked and profit driven employees, good old Mother Nature, and my favorite.. the inevitable human error in any of the above plus countless others. If there is absolutely zero risk to our community, our valuable water resources

above and below the ground, our vegetation, wildlife, food supply and most of all our children's children then by all means grant this permit. But you and I both know Mrs. Hanson the risk is real! Unintended consequences can, and have happened. If the risk to our waters is not enough to justify denying this permit, then certainly the targeting of economically challenged areas for this process has to be grounds for denial. Gladwin and Clare counties consistently rank as two of the most economically depressed counties in the state. Set forth in the 2010 EPA Environmental Justice Guidelines, waste sites cannot be forced into a community that opposes it but simply cannot afford to fight it.

If you look at the community response on the evening of June 19th, 2018 at the Gladwin High School it is painfully obvious that the citizens oppose this permit.

My final thoughts on the topic would have to include my own personal meditations on an answer I received from you Ms. Hanson, and also from a very delayed response to another audience participant. When I pressed you about the other things besides the shortlist of an organic salts on the proposed fluid you finally admitted that it would be a long list and to use my imagination. You said, "If it's down there it can come up". Ms. Hanson that is part of the problem for me, I'm forced to use my imagination because the facts are unavailable. I'm using my imagination on my list of facts. I'm using my imagination on what I learned at the meeting and my imagination is filled with skulls and cross bones, Mr. Yuk and the word "contaminated" blinking relentlessly... in my imagination.

Unfortunately for me I have something that weighs so much more heavily on my conscience than my imagination. That something is my gut instinct. My gut instinct tells me in the strongest sense when something is wrong. When transparency turns opaque my gut instinct is awakened.

My gut instinct tells me that giving straight answers and not "cherry picking" the facts at these meetings would cause public opinion to quickly eliminate the practice of this process of waste disposal. Without a change to the misleading and misrepresented information by the EPA the process will continue until the mountain of scientific evidence will allow almost anyone affected by the unintended consequences to bring their suit against the energy companies or regulatory agencies. Only after the profits are affected enough by litigation will the energy companies alter their course and develop new methods of recovery and energy generation.

It seems shameful that a process so shrouded in secrecy has to take this course of action to change. Its time to "fess up" with the public. The fact that this process has been practiced for decades does not mean that its practice is without risk. The fact that "we are just putting something back where we took it from" is not an acceptable answer to what is the chemical make up of this fluid, nor does it guarantee that its round-trip ticket will be uneventful. There are risks. Risks to our water as well as biological systems including humans yet to be conceived.

Excuse my candidness Ms. Hanson but I do not trust the EPA to protect me or our freshwater supply. That trust has been lost in the recent experiences in our beautiful state. After attending the meeting and public hearing I am convinced that the EPA is only protecting themselves. Protecting themselves by limiting their potential for future litigation.

Please, deny this permit and renew our faith in the EPA as the government protection agency it was intended to be by protecting the interests of the people, not the profit driven special interests of the gas and oil industries.

Respectfully,
Dr. Ronald J Kruske

Sent from my iPhone