

**BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.**

IN RE:

JORDAN DEVELOPMENT L.L.C. - CLASS II INJECTION
WELL PERMIT

PERMIT NO. MI-051-2D-0031
GROVE #13-11

PERMIT NO. MI-051-2D-0031
GROVE #13-11

PETITION FOR REVIEW

PERMIT NO. MI-051-2D-0031

TABLE OF CONTENTS

TABLE OF AUTHORITIES.....4-5

STATEMENT OF COMPLIANCE WITH WORD LIMITATION.....6

STATEMENT OF STANDING TO FILE PETITION6

I. Introduction.....7

II. Issues Presented for Review..... 7-16

 A. *Environmental Justice* for this community 7-11

 B. Contradictions in *Environmental Justice* guidelines 11

 C. Risks to Underground Sources of Drinking Water (USDWs) 11-12

 D. Fluid Volume, PSI, Structural Lineament 12-13

 E. Risks from Unknown Composition of Brine, Structural Lineament 14-15

 F. Failure Rates Underreported / GAO Report Cites Bad Monitoring / Jordan
 Development Has Bad Track Record 15-16

 G. Public Audit of Jordan Development L.L.C. to Ensure Proper Financial Standing ... 16

III. Concluding Remarks.....17

IV. Attachment 1 - DEQ Water Testing Fee Schedule.....18

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EAB CASES

In re Envotech, LP, 6 E.A.D. 260 (EAB 1996)11

STATEMENT OF COMPLIANCE WITH WORD LIMITATION

This brief complies with the 14,000-word limitation found at 40 C.F.R. § 124.19 (d)(3).
See 40 C.F.R. § 124.19 (d)(1)(iv).

STATEMENT OF STANDING TO PETITION FOR REVIEW

I, Emerson Joseph Addison, hereby affirm that I submitted comments during the public comment period, and therefore have standing to file this petition.

I. Introduction – Permit to Appeal Injection Permit MI-051-2D-0031

Pursuant to 40 C.F.R. § 124.19(a), Emerson Joseph Addison petitions for review of the conditions of UIC Injection Permit No. MI-051-2D-0031, which was issued to Jordan Development L.L.C. on October 23, 2018, by Linda Holst, Acting Director, Water Division, U.S. Environmental Protection Agency Region 5. Petition contends that certain permit conditions are based on clearly erroneous findings of fact and conclusions of law. Specifically, petitioner challenges the permit on the following matters:

- A. *Environmental Justice* for this community
- B. Contradictions in *Environmental Justice* guidelines
- C. Risks to Underground Sources of Drinking Water (USDWs)
- D. Fluid Volume, PSI, Structural Lineament
- E. Risks from Unknown Composition of Brine, Structural Lineament
- F. Failure Rates Underreported / GAO Report Cites Bad Monitoring / Jordan Development Has Bad Track Record
- G. Public Audit of Jordan Development L.L.C. to Ensure Proper Financial Standing

Because there are a number of serious flaws with this petition, the EPA decision to grant this injection permit should be repealed and the permit should be denied.

II. Points of Appeal

When granting UIC Permit MI-051-2D-0031, the EPA failed to fully consider a number of issues. These issues were brought up during the public comment period. They include both in scope remarks and out of scope remarks.

A. *Environmental Justice for this community*

Based on the EPA criteria cited above, the EPA Environmental Justice screening was erroneous. A number of comments addressed Environmental Justice, either directly or indirectly:

Comment #21 specifically stated concerns that Environmental Justice was not considered when granting this permit.

Comment #7 addressed concerns regarding changes to well water pressure. Considering that residents of Gladwin rely on USDWs and private wells for their fresh water and that many lack the money for

additional water testing or to purchase water from other sources, this is a relevant Environmental Justice concern.

Comment #16 addressed concerns about how this project would impact wildlife. As the outdoor recreation – especially hunting and fishing – is one of the primary industries in Gladwin (and for much of Gladwin County), representing a significant source of income in an impoverished area.

In addition to this, there were several comments deemed “Out of Scope” that were not addressed but should have been. These include a request for money to pay for testing private wells. This request falls under Environmental Justice, as this is a poor community. There was also a request for the EPA to change regulations. Both the EPA and EAB are capable of reviewing internal policy. Moreover, the EAB is capable with discretion in taking cases for review and reviewing permit decisions. This request should also be viewed in light of apparent contradictions and erroneous policies, especially regarding environmental justice. There were also “Out of Scope” Comments expressing concern over a decrease in property values caused by this well. Thus, these “Out of Scope” comments should have been addressed, but were not. Because these comments were not addressed, the permit should be denied.

The EPA Environmental Justice review did not consider that of the 25,234 people estimated to live in Gladwin County Michigan according to the latest census data, 2,316 are veterans (United States Census Bureau, 2017). This information can be found under “Population Characteristics” of the government census website under Gladwin County (United States Census Bureau, 2017). Our veterans have already sacrificed a great deal for our country. Many of them have post traumatic stress disorder, injuries, and other battle scars. It is unfair to ask them to risk their water so that a private company can profit from their risk and sacrifice, keeping the profits, but outsourcing the risk.

It is also important to consider that only 13.4% of the population of Gladwin County has a “Bachelor’s degree or higher.” This information can be found under “Education” section of the census data. Indeed, only 85.1% of the population age 25 and over has a “high school degree or higher.” This means that roughly 15% of the adult population (25 and over) of Gladwin County did not complete high school (United States Census Bureau, 2017). Moreover, the vast majority of residents do not have a college degree.

Another important consideration is that 16.1% of the under-65 population of Gladwin County is considered disabled by the US Census Health data (“With a disability, under age 65 years, percent, 2012-2016”). Even worse, 8.4% of the residents of Gladwin County are considered “Persons without health insurance, under age 65 years, percent” (United States Census Bureau, 2017).

Approximately 4.3% of the population of Gladwin County are members of a minority group. According to government census data - “Race and Hispanic Origin” - there are Native Americans, African Americans, Asian Americans, Hispanic Americans, and immigrants living in this area (United States Census Bureau, 2017).

The “Total retail sales per capita, 2012” of Gladwin County was a meager \$5,533. According to the same government census data, the national average of “Total retail sales per capital, 2012” was \$13,702 (Statista, 2018). This is quite a big difference, and everyone who lives here or has visited here has seen the economic problems up close (United States Census Bureau, 2017). Finally, 18% of residents are considered “Persons in Poverty” (United States Census Bureau, 2017).

Another serious flaw in the EJ evaluation of this project is failure to consider impact on the tourism and recreation industry in this area. Indeed, recreation is one of the major industries that Gladwin County still has. Every year, people from all over the State of Michigan and the rest of America come here to golf, swim, fish, hunt, and enjoy a multitude of other outdoor recreational activities. Because there are many lakes and rivers in the area, aquatic recreation is especially popular. Indeed, the Cedar River literally runs through town and is a popular swimming and tubing destination. Wildlife is an important part of the outdoor recreational industry in Gladwin. This issue were raised in Comment #16.

Injecting an unlimited amount of brine from who-knows-where with who-knows-what chemicals in it puts Gladwin's water at serious risk for contamination and will create a terrible economic burden – regardless of whether or not these operations affect water quality or availability. Just the news that this sort of industrial development is occurring here is enough to scare tourists and hurt local businesses, thereby further harming the economic vitality of this community. This will lead to more poverty. And if there were an accident or a leak, it would destroy this community, which is already struggling.

Consider the abundance of poverty in Gladwin County. According to the census data, the Median household income (in 2016 dollars), 2012-2016 was only \$39,629. This is far below the national average of \$55,322 for the same period. “Per capita income” and “persons in poverty, percent” figures are noticeably lower in Gladwin County than the national average. “Per capital income” in Gladwin County is a mere \$22,255; the National Average is \$29,829. “Persons in poverty, percent” for Gladwin County is 18%; the National Average is 12.7%. (United States Census Bureau, 2017).

In other words, Gladwin County has an awful lot of people who are poor, sick, under-educated, unemployed, uninsured, members of a minority group or immigrant community, or military veterans.

This well could also decrease property values for residents, who have much of their net worth invested in their homes and businesses (if they are lucky enough to own their own homes or businesses). This comment was not addressed at all and should have been.

As a struggling community, every industry in the area plays an important role in simply sustaining the community. Anything that could potentially harm one of the industries in the area would be extremely bad.

And agriculture is one of the few industries that does play an important role in sustaining this community, thus to fully evaluate Environmental Justice, the EPA should consider the Agricultural Industry, its impact on this community, and how operation of this well might affect this industry, and thus this community. Environmental risks are already present in Gladwin due to the presence of the agricultural industry, and these risks already have an economic impact on the residents. Thus, this must be considered as well. These things are important for several reasons:

1. Because it is an agriculture area, the EPA already recommends residents test for the following additional contaminants: Nitrate, nitrite, pesticides, coliform bacteria. Also, the EPA recommends that many residents of this area, due to their proximity to other potential water hazards (“Dump, junkyard, landfill, factory, gas station or dry-cleaning operation nearby”), should test for “Volatile organic compounds, total dissolved solids, pH, sulfate, chloride, metals” (EPA “Protect Your Home’s Water”, 2017).

2. People around here are already recommended to do a lot of expensive testing. Now many of them will need to do even more water testing. Again, this community is full of people who can't afford to pay for these tests. Also, because most of the people in this community do not have college degrees and many of them lack high school diplomas, many residents do not have the research skills necessary to know which tests to request, how to test, or where to learn more about testing. The EPA claimed it considered "environmental justice in its Response to Comment #21, stating:

"It was noted that the site is in an area with potential Environmental Justice concerns based on household income and population having less than a high school education. This information was considered when choosing a location and time for the information session and hearing and when designing outreach materials."

In addition to failing to consider any of the other Environmental Justice factors already described, the EPA acknowledges that there are potential Environmental Justice concerns based on low income and low education levels. Did any of the outreach materials explain how to get more money to pay for testing? Or where and how to test? Or what to test for? One of the big problems is that many of the people in the area do not have enough money to pay for extra testing. The EPA failed to address this.

3. There is a great deal to be concerned with regarding the local agricultural industry and gas and oil development. The farms in the area – and there are a lot of farms in the area – also use aquifer water. Imagine a nightmare scenario where a well failure occurs, toxic brine with who-knows-what in it leaks into the ground water, the farmers unknowingly water their crops with it. Does the poison water kill the crops? Does the farmer lose the whole harvest? Or do the plants live, and now they are shipping vegetables that have been watered with radon or arsenic or who-knows-what to half the grocery stores in the country?

It is also important to consider the cost of the tests. A complete battery of tests can easily run several hundred dollars (Attachment 1 – Water Testing Fee Schedule). The people in this community simply don't have the money to pay for extra testing made necessary by oil and gas industry operations.

Another important consideration is the source of drinking water in this community. Literally the entire community relies on underground wells for their water supply. Indeed, even the cities use underground aquifers. The entire City of Gladwin relies on aquifers for its municipal water. And everyone living outside the city relies on private wells to access aquifer water, as they are too far away for municipal water (which relies on aquifer water, anyway).

There are many risks to oil and gas development. Although the EPA has ruled that these risks are not sufficient to deny the permit, I believe this ruling was in error, as it clashes with the EPA Environmental Justice philosophy of not overburdening struggling communities and with EPA water testing recommendations for residents in the area of oil and gas operations or recent industrial activity. Specifically, the EPA recommends that people test their water whenever "Conditions near your well have changed significantly (i.e. flooding, land disturbances, and new construction or industrial activity)." (EPA "Protect Your Home's Water," 2018).

The EPA also considers “Gas drilling operations nearby” as one of the “Conditions or Nearby Activities” that warrants sufficient reason to test your well water. Specifically, they recommend testing it for “chloride, sodium, barium, and strontium” (EPA “Protect Your Home’s Water”, 2018).

These tests can be expensive, often costing hundreds of dollars a year. This is an impoverished community. The people who live here just don’t have the money to afford the tests that the EPA says they need to protect themselves and their families from the risks of this project, risks such as contamination of their drinking water.

Clearly, this is an Environmental Justice issue that was inadequately addressed.

The EPA has erred with its decision to grant this permit. The permit should be denied.

B. Contradictions in *Environmental Justice* guidelines

Despite assurances that the EPA has considered Environmental Justice for Gladwin and the people who live there, including the people in the immediate vicinity of this well, the EPA has failed to apply any meaningful Environmental Justice guidelines. Worse, according to EPA regulations, it is not actually allowed to do this.

Indeed, in the decision of *Envotech, LP, 6 E.A.D. 260 (EAB 1996)*, it was ruled that the EPA had no authority to deny or condition a permit if the permittee was in full compliance with the statutory and regulatory requirements. The Board further defined this position: “the Agency must issue the permit, regardless of racial or socio-economic composition of the surrounding community and regardless of the economic effect of the facility on the surrounding community.” *Id.*, at 280-281.

The EPA claims it used EJSCREEN to choose “a location and time for the information session and hearing and when designing outreach material.” Is that all they used it for?

And what kind of outreach materials, exactly, would the EPA design to help poor people come up with an extra several hundred dollars to test their water? And if the EPA is not allowed to deny or condition a permit based on socio-economic factors, why even bother with EJSCREEN? It almost seems like the purpose of this EJSCREEN was merely to determine how best to tell poor people that there’s about to be new oil and gas operations and there’s nothing they can really do about it. It’s nothing more than a sick joke.

Claiming to consider Environmental Justice in light of a precedent that denies Environmental Justice considerations can be used in issuing or conditioning a permit is an apparent contradiction in EPA policy and rhetoric. The EPA needs to clarify its Environmental Justice guidelines. This permit should be denied.

C. Risks to Underground Sources of Drinking Water (USDWs)

Concern over risks to USDWs were brought up during the public comment period. The EPA addresses these concerns in its Response to Comment #2 of the In-Scope Remarks.

Concern over USDWs was brought up in the “Out of Scope” Remarks (concern over groundwater contamination elsewhere).

In its response, the EPA wrote that “USDWs are defined based on quantity, current usage, and the concentration of dissolved solids in the aquifer.”

The emphasis on concentration levels is very important. Should there be a serious problem or well failure, which is more likely given the unlimited volume of water injection, area drinking water is at risk.

It is also important to note that there is a structural lineament near to the injection zone. Should Jordan Development L.L.C. inject high volumes, which is likely given that there are no limits to injection volume in this permit, this creates an increased risk for causing seismic activity, which could obviously affect USDWs.

D. Unlimited Fluid Volume, High PSI, Proximity of Structural Lineament, and Possibility of Corrosive Solvents Create Seismicity Risks and Risks to USDWs

Comment #6 expressed concerns over fluid volumes. Comment #7 expressed concerns over pressure changes of subsurface and residential well water. Given the high volume, high PSI, Structural Lineament, and Corrosive Solvents, these concerns are relevant. Comment #10 expressed concerns of injection fluid composition. Comment #11 was concerned with the possibility of radioactive materials in the brine. Comment #12 was concerned about fracking waste in the brine. Comment #15 expressed concerns over seismicity risks.

The EPA failed to properly analyze and consider all the relevant factors that could affect seismicity in the area.

Was the seismicity risk in Oklahoma fully considered? If it was, then it was grossly underestimated, and therefore this permit should not be issued until risks in Michigan are better understood, as most of us do not want to risk a bunch of earthquakes on the act of faith that the EPA has enough data to get it right this time. However, it is obvious that the EPA has not gotten it right this time, as there are a number of problems with the conditions of the permit.

High injection volumes and pressures are both known seismicity risks. This permit fails to limit the injection volume at all, and sets a high psi limit of 973 psig. At this pressure and with no limit to injection volume, there is the potential to fracture rock and cause other unforeseen consequences. This risk is even greater given the close proximity of a structural lineament. This risk becomes greater yet should the brine contain corrosive solvents that can dissolve rock.

High injection volumes were one of the primary factors causing Oklahoma earthquakes. So the question is: Does unlimited qualify as high volume?

Indeed, seismicity risks for injection wells are understood. There are two major known prerequisite factors that contribute to the increased risk of earthquakes. One of these factors is excessively high injection pressures and fluid volumes. The other factor is the existence of fault zones.

Unfortunately, this permit allows for unlimited fluid volumes (the size of the pump appears to be the only real physical limitation), allows a high psig of 973, and failed to account for the close proximity of a structural lineament.

Indeed, in a Guidance Document from Region #7, the EPA even recognizes that “In general, tensile strength for sedimentary rocks is on the order of hundreds of psi.” (<https://www.epa.gov/sites/production/files/2015-09/documents/r5-deepwell-guidance7-determination-maximum-injection-pressure-class1-199401-9pp.pdf>). It is also known that high-rates of fluid injection are associated with the increase in U.S. mid-continent seismicity (M. Weingarten, S. Ge, J.W. Godt, B.A. Bekins, I.L. Rubinstein).

Given the known risks for seismicity and the parameters of this permit, the following problems are evident:

1. **Sedimentary rock is known to fracture in the hundreds of psi; the permit allows for 973 psig.**
2. **High injection volumes are known as a primary seismicity factor; this permit fails to limit injection volume.**
3. **The existence of fault lines is a major risk factor for seismicity; there is a nearby structural lineament.**
4. **The potential use of solvents and corrosive agents increases fracture risks.**

These are serious oversights that demonstrate a clear failure to fully weigh risk factors and incorporate known science.

Even the State of Oklahoma has recently set limits on injection volumes due to earthquakes! Maybe it's because they have recently experienced a massive upsurge in seismicity events.

Indeed, this is also an apparent contradiction in EPA regulatory philosophy, as the EPA asserts that it has fully considered the details of the permit. The EPA is very specific about depth of injection, type of construction, plugging, operation, monitoring, etc. Yet the EPA sets absolutely ZERO limit on the INJECTION VOLUME and FAILS to regulate the COMPOSITION OF THE BRINE, even though it likely contains corrosive solvents that further increase risks of rock fractures.

It seems as if the EPA ought to include limits on the INJECTION VOLUME and BRINE COMPOSITION. Regardless of whether this is an oversight or a policy error, the permit should be denied, or at least held, until the EPA can issue a ruling on volume and, if necessary, create new regulations for injection volume. It should also set a much lower PSI LIMIT. Finally, due to the nearby STRUCTURAL LINEAMENT, this permit should be denied outright.

Given what is at risk, it seems reasonable to, at the very least, ask for a lower limit on injection pressure and at least some limit on the injection volume.

Perhaps this is a matter that requires the discretion of the EAB. Certainly, the issues and contradictions that I just pointed out are a matter for the EAB to review.

E. Unknown Composition of Brine

Because the Brine could contain corrosive solvents that dissolve rock, all of the comments cited in D (Unlimited Fluid Volume, High PSI, Proximity of Structural Lineament, and Possibility of Corrosive Solvents Create Seismicity Risks and Risks to USDWs) apply to concerns over brine composition as well.

In addition, the “Out of Scope” Comments addressing First Responder capacity to handle emergencies and accidents and the comments addressing safety of First Responders are also relevant and should have been addressed. Because the EPA failed to address this comment, the permit should, at the very least, be delayed until it can be addressed. If the EPA cannot address concerns over the safety of First Responders and their ability to handle emergencies and other potential problems at this site, then the permit should be repealed.

There are several serious problems with the unknown composition of the brine that will be injected.

First, because the composition of the brine is unknown, should there be an accident, first responders will be less able to deal with it, as they will not know what chemicals they are dealing with. They will not know what precautions and safety measures to take. Perhaps they will not even know how to respond, or perhaps they will not have the necessary equipment to respond.

First Responders are very brave and they would probably go in anyway, much to their detriment. They would be completely unaware that there could be additional risks. Did they bring the correct gear to deal with the possibility of hydrochloric acid spilling on their clothing? Maybe it's not hydrochloric acid that they should worry about, but one or more of the other hundreds and hundreds and hundreds of chemicals that are present in brine (the exact composition of which is often a closely-guarded secret). Hopefully they have the training and equipment to deal with all of them. It would also help if the First Responders are psychic – that way they'd know what they're dealing with.

In other words, allowing the composition of the brine to be unknown could seriously endanger the lives of our brave fire fighters, police, paramedics, and other first responders. Therefore, this permit should be denied. It's simply unpatriotic to allow it. It is an insult to the lives of America's First Responders.

Or, perhaps, Jordan Development could release a full list of all the chemicals, solvents, and other substances in the brine. Then, Jordan Development could buy the local first responders the necessary equipment to properly deal with any potential problems. Jordan Development could also pay for additional training so first responders are better able to handle potential emergencies related to this project. To do any less would be to endanger their lives for higher profits.

There is another problem with the mysterious nature of the brine. Although the chemicals and solvents of the brine will be unknown, many of the common fluids used in gas and oil exploration, fluids likely go down this well, are corrosive to rock. Indeed, these solvents and chemicals are used in gas and oil exploration specifically because they help break apart rock.

For example, hydrochloric acid is often used in fracking fluids to dissolve the minerals in the rock, soil and sand below the ground. Acid is also used to dissolve parts of the rock to initiate cracking.

Will any of these chemicals be in the brine that Jordan Development L.L.C. wants to inject near a structural lineament, at high pressure and potentially unlimited volumes?

If high injection volumes, high pressures, and close proximity to a structural lineament are all risk factors, than doesn't the potential presence of rock-dissolving chemicals increase the risks even more? This seems like an extremely risky proposal, and as such, the decision to grant this permit should be overturned and the permit should be denied.

F. Failure Rates Underreported / GAO Report Cites Bad Monitoring / Jordan Development Has Bad Track Record

Concerns over Underreported Failure Rates and Jordan Development's Track Record are found in Comment #8, which expressed concerns that Jordan Development was being allowed to self-monitor and that the EPA should perform this duty instead. It also recommend more integrity tests. Comment #13 refers to a collection of comments which cited various statistics on well failure rates. Comment #22 expressed concerns over Jordan Development's track record and history of violations and problems. Additionally, there was an "Out of Scope" Comment demanding public notice in the event of a spill. This should have been addressed. Because it was not addressed, this permit should be delayed until the EPA can address this concern.

The failure rates of wells are underreported according to a recent GAO Report. The study found that between 2008 and 2012, noncompliance with EPA regulations ranged between 2 – 11% (GAO p. 49). The report found two major problems with EPA enforcement:

"First, EPA does not consistently conduct annual on-site state program evaluations as directed in guidance because, according to some EPA officials, the agency does not have the resources to do so. The agency has not, however, evaluated its guidance, which dates from the 1980s, to determine which activities are essential for effective oversight. Without such an evaluation, EPA does not know what oversight activities are most effective or necessary.

"Second, to enforce state class II requirements, under current agency regulations, EPA must approve and incorporate state program requirements and any changes to them into federal regulations through a rulemaking. EPA has not incorporated all such requirements and changes into federal regulations and, as a result, may not be able to enforce all state program requirements. Some EPA officials said that incorporating changes into federal regulations through the rulemaking process is burdensome and time-consuming. EPA has not, however, evaluated alternatives for a more efficient process to approve and incorporate state program requirements and changes into regulations. Without incorporating these requirements and changes into federal regulations, EPA cannot enforce them if a state does not take action or requests EPA's assistance to take action." (What GAO Found)

Compounding these problems with EPA oversight, a number of comments (which were inadequately addressed in Response #22) cited Jordan Development's questionable track record. These comments were cursorily dismissed as not grounds for denying a permit.

Taken together, this means that the EPA is incapable of proper monitoring, failures in the oil and gas industry go underreported, and Jordan Development has a poor record for compliance.

A full audit of Jordan Development's compliance history and record of violations and fines should be made available to the public and addressed.

This is a recipe for disaster. It is within the discretion of the EAB to consider these facts.

G. Public Audit of Jordan Development L.L.C. to Ensure Proper Financial Standing

Comment #19 dealt with financial assurances and noted they only cover the cost of plugging the well, and not environmental costs should an accident occur. Comment #20 addressed concern that Jordan Development is a Limited Liability Company and could not be held liable for potential damages. In addition to these concerns, there were "Out of Scope" comments that addressed potential clean-up costs not being funded. Because these are legitimate concerns that did the EPA failed to respond to, this permit should be denied unless a satisfactory response can be provided.

Overall, the oil industry sits on a mountain of debt. Moody's released a report in October 2018 that put the overall debt of oil producers at \$240 BILLION. About 15 percent of this debt is rated Caa, or the lowest rating possible (Slav). In a May 15, 2018 article, Forbes reported that the Shale Industry sits on a mountain of debt (Wald). Moody's has also documented the dire financial standing of many companies in the oil and gas industry, noting that

"Debt levels at oil field services companies have reached "unsustainable" levels, the debt rating agency Moody's Investors Service said in a new report. With limited options to restructure their debts or bring in new investment, the only option left to many companies is to cut expenses or generate more cash." (Osborne)

Should we trust that Jordan is unaffected by the problems and debt levels in the oil and gas industry? Hopefully Jordan isn't affected by this, and if Jordan Development is, hopefully it will not cut costs by cutting corners in its self-monitoring and self-reporting. If Jordan Development did report a problem, and did report it as required, would knowledge of this problem cause Jordan Development to lose money?

Given the massive amount of debt in the oil and gas industry, a full audit of Jordan Development L.L.C. should be conducted. The \$28,500 letter of credit that Jordan Development L.L.C. has provided is inadequate and only covers the cost of plugging the well. What if the economy turns and Jordan Development goes out of business? Or what if something happens that causes Jordan Development to incur financial liability that it cannot cover?

This permit should be repealed unless Jordan Development L.L.C. can demonstrate financial solvency.

III. Concluding Remarks

It is within the discretion of EAB to review this permit decision:

“the EAB may also elect to review the initial decision on its own initiative, in which case the initial decision would not become final agency action.” 40 C.F.R. § 22.27 (c)

It is also codified in the Environmental Appeals Board Practice Manual (page 55) that:

“The EAB may decide on its own initiative to review any condition of any RCRA, NPDES, UIC or PSD permit issued under part 124, provided that it acts within 30 days of the service date of notice of the permit issuer’s action.” 40 C.F.R. § 124.19(p)

I urge you to give further consider to the concerns I have developed above, concerns which have already been entered into the record as public comments.

I believe that denying this permit is in the best interest of the residents, local businesses, and the United States of America.

Repeal this permit.

Sincerely,

Emerson Joseph Addison
17210 Maple Hill Drive
Northville, MI 48168
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November 21, 2018



TESTING FEE SCHEDULE

- This Fee Schedule is effective January 1, 2016.
- See reverse side for description of sample units and unit ordering information.
- TEST CODE must be indicated in the TESTING REQUEST INFORMATION section of the form submitted with the sample.

MICROBIOLOGY			
TEST DESCRIPTION	FEE	UNIT NUMBER	TEST CODE
Water Coliforms (total & E. coli)	\$16.00	30	BPTC
Heterotrophic Plate Count (MPN/ml)	\$12.00	30	BSPC
Fecal Coliform (Counts 10 - 10,000)	\$15.00	30	NPFC-LO
Fecal Coliform (Counts 10 - 1,000,000)	\$25.00	30	NPFC-HI
E. coli (Counts 10 - 10,000)	\$15.00	30	NPEC-LO
E. coli (Counts 10 - 1,000,000)	\$25.00	30	NPEC-HI
Iron Bacteria	\$40.00	30	BIRON
LT2 E. coli for EPA ESWTR	\$16.00	LT2	BLT2

NOTE: Surface water bacteriology is intended only to estimate bacterial group populations.

INORGANIC CHEMISTRY			
TEST DESCRIPTION	FEE	UNIT NUMBER(S)	TEST CODE
Automated Partial Chemistry (Fluoride, Chloride, Hardness, Nitrate, Nitrite, Sulfate, Sodium, Iron)	\$ 18.00	32, 33	R
Calcium/Magnesium/Sodium	\$ 18.00	33	CPM2
CCON, CTALK, CPO4, Calcium	\$ 51.00	33	CORR
Complete Minerals (TALK, Cl, F, NO3, NO2, SO4, Si, CA, MG, NA, K, CON, PH, Hardness)	\$104.00	33	CMIN
Total Alkalinity as CaCO3	\$ 16.00	32,33	CTALK
Ammonia as N	\$ 30.00	36AC	CNH3
Specific Conductance (µmhos)	\$ 12.00	32,33	CCON
Cyanide (available) (unchlorinated water)	\$ 25.00	36CN	CCN
Cyanide (available) (chlorinated water)	\$ 25.00	36CNa	CCN
Total Organic Carbon	\$ 35.00	36TO	CTOC
Ortho Phosphate as P	\$ 17.00	32,33	CPO4
pH Determination	\$ 13.00	32,33	CPH
Potassium	\$ 13.00	32,33	CK
Silica as SiO2	\$ 14.00	33	CSI

NOTE: Do not request more than **two test procedures** for each unit 32. Unit 33 may be used for more extensive requests.

**For questions regarding testing visit the
 Drinking Water Laboratory website:
www.michigan.gov/deqlab
 click Drinking Water
 or
 call (517) 335-8184 - Lansing**

**Laboratory Hours:
 Monday - Friday: 8:00 am - 5:00 pm
 Closed Saturday - Sunday
 and major Holidays**

ORGANIC CHEMISTRY			
TEST DESCRIPTION	FEE	UNIT NUMBER	TEST CODE
Disinfection Byproducts Rule (TTHM & Haloacetic Acids)	\$175.00	36VO/HA	CXTM CXHA
Volatiles (VOC)			
Volatile Organic Compounds by GC/MS	\$100.00	36VO	CXVO
Total Trihalomethanes (TTHM)	\$ 65.00	36VO	CXTM
1,4 Dioxane by GC/MS	\$115.00	36VO-NP	CXPD
Methane, Ethane, Ethylene	\$ 90.00	36VO-MEE	CXMEE
EDB and DBCP by GC (call to schedule)	\$ 70.00	36VO	CXEV
Semi-Volatiles (SOC)			
Carbamates by HPLC	\$120.00	36LP	CXLP
Chlorinated Acid Herbicides	\$120.00	36HB	CXHB
Pesticides by GC/MS	\$125.00	36PT	CXPT
Dalapon & Haloacetic Acids	\$130.00	36HA	CXHA
Aromatic Compounds by GC/MS	\$110.00	36PT	CXPA

NOTE: Generally each test procedure requires **separate sample unit**. Where possible, all detected substances will be identified by mass spectral examination. Names of specific compounds of concern should be provided with sample and test request(s).

METALS CHEMISTRY			
TEST DESCRIPTION	FEE	UNIT NUMBER	TEST CODE
Aluminum	\$ 18.00	36ME	CAL
Antimony	\$ 18.00	36ME	CSB
Arsenic	\$ 18.00	36ME	CAS
Barium	\$ 18.00	36ME	CBA
Beryllium	\$ 18.00	36ME	CBE
Boron	\$ 18.00	36ME	CB
Cadmium	\$ 18.00	36ME	CCD
Chromium	\$ 18.00	36ME	CCR
Cobalt	\$ 18.00	36ME	CCO
Lead	\$ 18.00	36ME	CPB
Lead/Copper for corrosion control	\$ 26.00	36CC	CCUB
Lead - First draw sample	\$ 18.00	36CC	CPB
Lithium	\$ 18.00	36ME	CLI
Mercury	\$ 18.00	36ME	CHG
Molybdenum	\$ 18.00	36ME	CMO
Nickel	\$ 18.00	36ME	CNI
Selenium	\$ 18.00	36ME	CSE
Strontium	\$ 18.00	36ME	CSR
Thallium	\$ 18.00	36ME	CTL
Titanium	\$ 18.00	36ME	CTI
Uranium	\$ 18.00	36ME	CU
Vanadium	\$ 18.00	36ME	CV
Iron/Manganese/Copper/Zinc	\$ 28.00	36ME	CPM1
Complete Metals for Private Wells (AS, SE, BA, CD, CR, HG, PB, FE, MN, Copper, ZN)	\$ 92.00	36ME	CMET
Complete Metals for Public Supplies (SB, AS, BA, BE, CD, CR, HG, PB, SE, NI, TL)	\$102.00	36ME	CMET2