Oil and Gas Division

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www.dmr.nd.gov/oilgas/

February 19, 2015

Statement from the Oil and Gas Division in response to a Dickinson Press article stating the Oil and Gas Division does not follow EPA Guidance on saltwater disposal wells:

A recent article published by the Dickinson Press incorrectly reported that the North Dakota Department of Mineral Resources, Oil and Gas Division doesn't follow guidance established by the Environmental Protection Agency (EPA) in its oversight of saltwater disposal wells.

The fact is that the state does follow EPA guidance and continues to work with EPA staff from the Region 8 office to manage our disposal well program. It is very concerning that Dickinson Press reporter Andrew Brown never cited the EPA in an effort to verify this information or to find out how the EPA interprets North Dakota's management of disposal wells.

In addition, Mr. Brown relied upon sources with no regulatory experience or understanding of North Dakota's geology while choosing to ignore the actual experts at the Oil and Gas Division who have more than 30 years of experience regulating underground injection in North Dakota.

The Oil and Gas Division defends the statement that the Underground Injection Control (UIC) program is highly technical and complex with guidance that evolves over time. Mr. Brown incorrectly reported the details surrounding conditional approval of saltwater disposal wells.

The Oil and Gas Division correctly stated that conditional approvals are not considered failures, but are operations that require substantial additional monitoring. It should also be noted, fluid is still being properly injected into the disposal zone for wells that have been conditionally approved and that these conditional approvals follow EPA guidance as the requirements are not considered burdensome to our regulatory program.

Monthly inspections rates of all saltwater disposal wells have improved to 81%. Currently, out of 449 actively injecting saltwater disposal wells, seven have been conditionally approved, and those seven wells are our UIC staff's top inspection and enforcement priority.

The Oil and Gas Division maintains that all of the wells mentioned in the article fall within the purview of EPA guidance.

The Oil and Gas Division reiterates that all of the wells mentioned in the article have been repaired or required to be shut in and there is no endangerment of underground sources of drinking water.

The Oil and Gas Division stands by the implementation of UIC guidance and is proud of our UIC program.

In all, the Oil and Gas Division found 20 errors of fact throughout Mr. Brown's article.

It's important for the public to receive factual information about these and other important issues so that they can become well informed. Please scroll down to see the complete list of errors of fact.

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Error: State regulatory officials don't follow EPA guidance on saltwater disposal wells.
Fact: The Oil and Gas Division does follow EPA guidance on saltwater disposal wells.

Error: mechanical integrity tests — meant to detect weaknesses in the well's construction — have indicated leaks in parts of the wells multiple layers of casing.
Fact: Mechanical integrity tests are meant to test the integrity of the wellbore, consisting of casing tubing and packer. The tubing and packer are the primary containment system that is monitored continuously in wells with conditional approval and inspected monthly by oil and gas division field inspectors. The casing and cement are the backup containment system. Mechanical integrity tests are meant to insure that this back up system will hold if the primary system (tubing and packer) fail between monthly inspections.

Error: A review of 449 well files and more than 2,090 mechanical integrity test reports show how state officials conditionally approve disposal wells even after they don't meet widely accepted pressure testing standards.
Fact: 449 wells are the total number of active disposal wells in the state and not the number of wells that have received conditional approval. There are currently 7 wells operating under conditional approvals. If you read the standards of the other states cited in the article, you will find there is no "widely accepted pressure testing standards". The pressure testing standards vary from state to state, which is the purpose of EPA primacy programs, to allow for adaptability based on the state's geology and UIC program.

Error: The agency has allowed wells with structural problems to operate, sometimes for years, even though guidance documents from the U.S. Environmental Protection Agency recommend wells with significant pressure losses be repaired within 270 days and that wells with less than two viable layers of casing be shut down during that time.
Fact: The guidance does allow for continued use, with additional monitoring, which is how North Dakota runs its regulatory program.
The EPA Guidance does not say two viable layers of casing. It says two viable layers of protection, i.e. casing and cement.
The EPA Guidance document goes on to say; "however, under provisions set forth in [40 CFR 144.28 (f)(4)], the Director can allow operations to resume if the operator can demonstrate that there is and will be no movement of fluids into a USDW." EPA guidance is not a regulation and is designed to allow State decision makers the discretion to adapt approaches on a case-by-case basis.

Error: (U.S. drinking water) acronym
Fact: It is not United States drinking water. USDW stands for underground sources of drinking water.

Error: "suggests the agency is loosely interpreting guidance and protocols that are meant to maintain the multiple layers of protection that separate aquifers from the toxic saltwater."
Fact: The agency utilizes EPA guidance as it applies to North Dakota within the program designed to protect USDW. This is not a loose interpretation, although it differs from Mr. Brown's incorrect interpretation.

Error: Scientists have found that saltwater contamination of an aquifer can last for decades, with no economically feasible way to clean it up.
Fact: In North Dakota, there are no known cases of USDW contamination due to underground injection.

Error: While medical researchers have only begun to analyze how low levels of continued exposure to these oil and gas contaminants through the environment can affect people, medical science has already shown that high concentrations of these elements can cause cancer, neurological disorders and birth defects.
Fact: The study linked within the story is a general study of shale gas development. It is not specific to shale oil development, North Dakota or the Bakken formation, or underground injection for that matter.

Error: The agency has the authority to choose which EPA guidelines to follow.
Fact: The agency has the authority to apply the guidance as it relates to North Dakota, and adapt the guidance to fit differing circumstances.

Error: The integrity reports raise questions about the agency's criteria for pressure testing and conditional approvals.
Fact: It was made very clear to Mr. Brown that the criteria for pressure testing and for conditional approval, which requires continuous monitoring of the casing-tubing annulus pressure through use of a chart recorder, annual mechanical integrity tests (MIT), and no annulus pressure allowed. In North Dakota, conditional approval stipulations remain in effect until the well is repaired and passes an MIT.

Error: Strict guidance regarding injection wells is in place to eliminate any chance of the steel and concrete tubing becoming pathways through which saltwater leaks into or near an underground source of drinking water.
Fact: There is no such thing as concrete tubing.
Federal UIC program rules, and/or State rules and regulations are structured to protect USDW, guidance is not. EPA guidance must be strictly adhered to by Direct Implementation programs, but is used to assist primacy programs, such as North Dakota to interpret and implement state specific UIC regulations.

Error: In order for the Division of Oil and Gas to take over the underground injection control program in 1983, the state had to adopt rules that met minimum standards for construction, permitting, monitoring, enforcement and plugging of the wells.
Fact: North Dakota did not adopt minimum standards. North Dakota was required to adopt a program designed to be as effective as the Federal program to protect USDWs.

Error: Officials with the Division of Oil and Gas took issue with the comparison of rules and guidance in other parts of the country, because those states don't have the same geology as North Dakota, which they said is well suited for underground injection.
Fact: The Oil and Gas Division took issue with the statement because EPA approval of a primacy program allows states to differ from federal rules and guidance, as well as other states, as long as the program is as effective in protecting USDWs. The states cited within the story all have different testing standards, rules and/or guidance.

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Error: During an interview, the Division of Oil and Gas' staff referenced an EPA guidance document from 1992 to show it had the authority to allow wells to continue operations after significant pressure losses, but when it was pointed out in follow-up emails that the guidance document calls for wells to be repaired or plugged within 270 days, the agency stated the document didn't apply because conditional approvals were not failures.
Fact: The agency actually stated that the guidance document also states that if officials can't handle the "administrative burden" of "additional inspections" and data monitoring, they shouldn't allow wells to operate within those 270 days.
Fact: In North Dakota, a conditionally approved well is not significant non-compliance, so the 270 days does not apply. Conditional approvals are not considered failures, but require substantial additional monitoring including; continuous monitoring of the casing-tubing annulus pressure through use of a chart recorder, annual MIT's and no annulus pressure allowed. These requirements are not considered burdensome to our regulatory program, as we already inspect all UIC wells at least monthly and witness all MIT's. As previously stated in our interview, if the UIC staff determines there is an endangerment to USDWs, wells will be ordered shut-in immediately.

Error: When state inspectors conditionally approve an injection well for use in North Dakota, it requires integrity tests to be performed annually instead of every five years and mandates that annulus pressure readings be checked monthly, like the wells' permitted surface injection pressure.
Fact: State inspectors do not conditionally approve wells. That determination is made by the UIC Supervisor after evaluation of the testing procedure, the well testing and operational history, as well as the geology and the well bore construction. Pressure readings are not mandated to be checked monthly, they are required to be monitored continuously, however, they are checked by field inspection staff as a part of our inspection routine.

Error: around 75 percent of the injection wells in the state were being visited on a monthly basis.
Fact: 81 percent of injection wells in the state are being visited on a monthly basis, with the seven conditionally approved wells receiving higher priority.

Error: But the 1987 EPA document states that "if the outer casing is breached, even if there is cement behind the casing," the well should be considered a significant non-compliance and be shut in until it is repaired or plugged. In the cases of the Pan Am 501 and Klandl 26-31X disposal wells, pressure testing indicated leaks in the casings, and since both wells only had one outer layer of casing near the aquifers and the location of leaks cannot be determined by pressure testing, it left them with only one verifiable layer of protection remaining — the inner production tubing.
Fact: the document goes on to say to proceed with step three for further evaluation. Step three says to determine the location of the leak in respect to USDWs.
In the case of the Pan Am 501, agency staff determined the leaks occurred in the casing at a depth that did not pose a risk to USDWs, in compliance with the guidance document.
In the case of the Klandl, the location of the leak occurred at the disposal zone depth, and therefore did not pose a risk to USDWs, in compliance with the guidance document.

Error: "The issue is whether the state is going to enforce it and live up to the responsibility of protecting the citizens and the natural resources of the state."
Fact: The Department of Mineral Resources takes the protection of our citizens and our environmental resources very seriously. The premise of our entire department is to fully protect all stakeholders for the greatest possible good of our natural resources. The issue is how the EPA guidance documents and the North Dakota administrative code are interpreted.

Error: Bohrer said those business and economic realities and the state's effort to reach and exceed 1 million barrels of oil produced per day doesn't play any part in the agency's decisions to conditionally approve disposal wells for use.
Fact: The state did not have a goal to reach and exceed 1 million barrels of oil per day. The state's goal was to enforce responsible development.

Error: The Oil and Gas Division is shutting in wells based on concerns raised by the Northwest Landowner's Association.
Fact: The Oil and Gas Division specifically stated that there was no correlation between open records requests filed by members of the Northwest Landowner's association and the decision to shut in wells.

Conditionally Approved Wells:

The Oil and Gas Division agreed to the interview to make sure every well included in the story was reviewed and explained to Mr. Brown by staff, as each conditional approval is granted on a case-by-case basis. We were not given that opportunity. Several wells are mentioned within the conditionally approved section of the story that were not discussed in the interview. Three wells within this section remain on conditional approval status.

Schmid Estate 1-36: Not discussed within the interview. This well is under a two-year conditional approval due to problems at the surface detected during the 2010 MIT. There were no risks in the subsurface. This well passed two subsequent MITs and the problem at the surface has been repaired.

Johnson 41-1: Not discussed within the interview. The well is under conditional approval because it was determined the location of the leaks between 3,715-3,725 feet posed no risk to USDWs, in compliance with EPA guidance.

Hausauer 22-2: Not discussed within the interview. The pressure test performed showed the well was capable of holding pressure despite the initial drop. The permit allows for the well to inject at 1,370 psi, therefore the fact that the well is injecting at 1,200 psi is irrelevant. Injection pressures are determined by geology and engineering and our UIC program uses the most conservative calculation when approving injection pressures. This well is now shut in.

Hofflund 3: Allowed conditional approvals based on test results from 2002-2007. The well was repaired in 2007.

CMNU A-108: Approvals granted based on the operational history. It operates at a low injection pressure and even operates on a vacuum (formation takes in the water with no surface pressure, no need for pumps). There

was no pressure on the tubing-casing, annulus, otherwise the well would have been shut-in. The well was repaired in 2010, and while not on conditional approval status, the state still requires annual testing.

Wike 2-24-2D: Approvals granted based on the operational history. It operates at a low injection pressure and even operates on a vacuum (formation takes in the water with no surface pressure, no need for pumps). There was no pressure on the tubing-casing, annulus; otherwise the well would have been shut-in. This well remains on conditional approval.

State 1-16-2B: Not discussed within the interview. Mr. Brown suggests the loss in pressure caused the leak to get worse, when in fact the company submitted paperwork stating there was no leak in the casing. The well was repaired in August 2014 and still remains on conditional approval.

Robert Tvedt: Not discussed within the interview. This well predates our electronic database which notifies staff members when annual testing is due. This well was repaired in 2010.

Eightmile 1: Not discussed within the interview. This well was six months receiving an annual test. The well was repaired in 2013.