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Did the Division of Oil and Gas review DeepRock Disposal LLC's application under the old rules because DeepRock is owned by a state legislator? Why does a state legislator get special treatment?

Any application that was received prior to the effective date of the new rules was reviewed under the rules (the previous permitting rules) that were effective at the time the application was received. The Division of Oil and Gas does not give special treatment to elected officials or anyone else. Examples of other applications, the Fox and Hound #1 and #2 class II well permit applications were received in 2021. The Division issued permits for these wells in February of 2022 to Loud Minerals, LLC. Those permit applications were evaluated under the previous permitting rules as the applications were received when those rules were in effect.

Will the new rules govern the operation of Class II wells, including those permitted under the previous rules?

Yes, the new rule provisions that govern operation of Class II wells apply to all Class II wells, including the DeepRock's Stephan #1 well. Some of the new operational requirements in the updated rules include:

- Cement bond logs are required on casing strings below surface casing. These logs are used to verify well construction requirements.
- Water wells within 1,500 feet of the proposed location of the Class II injection well must be sampled prior to commencement of drilling the injection well.
- Surface facilities may only be altered by following the amendment process in rule. Any amendment must be reviewed and accepted by the Division before alterations to the surface facility may be constructed.
- The owner must perform a verification of integrity prior to commencement of operations to ensure facility, equipment, and piping has integrity.
- Annual testing of automatic shut-off devices required for every well to ensure the shut-off device stops injection if the maximum allowable injection pressure is exceeded.
- The owner must continuously monitor and record injection pressures and volumes. Records of that monitoring must be provided to the Division upon request.
- Injection pipeline testing prior to operation, every five years, and after any replacement or repair to the pipeline.
- Additional enforcement provisions include broad suspension authority and increased suspension periods for certain violations if they recur.
- Plugging requirements for suspended wells when the owner does not address the cause of the suspension and for wells that do not inject for 5 years.

Would the new permitting rules have resulted in DeepRock Disposal's Stephan #1 application being denied?

The Division does not have enough information to determine whether the Stephan #1 would be permitted under the new permitting rules. The new rules include new siting criteria that may have resulted in the location of the proposed Stephan #1 being altered or the subject tract being enlarged. The Division does not know whether the applicant would have been able to satisfy those new criteria.

Specific provisions in the new permitting rules require that proposed class II wells not be within 1,000 feet of the five-year time of travel distance for a public drinking water well. The permitted location of Stephan #1 is compliant with that requirement.

Another new rule that may have affected the permitting of the Stephan #1 well is the area of review process. Wells with proposed volumes of greater than 1,000 barrels per day, like the Stephan #1 well, are assigned an area of review radius of two miles. This radius is larger than the area of review radius required by the previous rules. This larger radius could include additional wells that may require corrective action if they penetrated the proposed injection zone and were not properly constructed or properly plugged and abandoned. The Division is not able to determine whether corrective action would be required under the new rules because the applicant may change the surface location to comply with siting requirements.

The new rule limits injection into the Devonian-aged Ohio Shale formation would not have affected this application. The Stephan #1 well is proposed to inject into deeper formations and does not include the Ohio Shale.

The Marietta City Council says that "settled law" requires the Division of Oil and Gas to use the new rules. Is that true?

This issue is currently in litigation before the Oil and Gas Commission. Copies of filings are attached.

Are five wells too many in one area? Are the wells too close to water wells? Is the Stephan #1 well too close to Marietta City limits?

There is no specific provision in law that limits the number of Class II injection wells in a geographic area. The applicant's choice of location for a new injection well is a private business decision. However, the location proposed must be compliant with the law. In the current rules, the setback distance from an individual's water well is 100 feet and 1,000 feet from the five-year time of travel distance from a municipal water supply well. The permitted location of the Stephan #1 well and the locations of other class II wells owned by DeepRock in Washington County comply with these setback rules. There is also no specific prohibition against locating a class II well in a city or near a city boundary.

What is going on with the Class II wells owned by Carper Well Service? Were there violations at those wells? Did the wells operate without integrity? Was the surface impact related to the wells?

The Davis-Huffman class II injection wells were suspended in February 2024 because the wells failed mechanical integrity tests. The suspension orders require the owner to develop a plan to correct the issues and submit it to the Division for acceptance. The owner did not submit a plan to correct the issues within the required timeframe. As a result, the Division issued plug orders in July 2024. Carper Well Service has not complied with the plug orders and could be subject to escalated enforcement. While there have been allegations to the contrary, the Division's records show that the wells have not injected brine since 2022, and historically injected a few hundred barrels to few thousand barrels of brine a month, not 10,000 barrels per day

Additionally, the suspected surface release of brine was investigated by the Division's environmental staff and was not believed to be related to the loss of mechanical integrity in the wells but was related to the surface storage facility.

We found PFAS and/or PFOA in samples we collected from producing wells near injection wells. Does that mean they are impacted by injection?

The Division of Oil and Gas is not aware of a scientific basis to conclude that the presence of PFAs and/or PFAOs indicates brine contamination. The United States Environmental Protection Agency has noted that PFAS are "widely used" and "[t]here are thousands of PFAs chemicals" that "are found in many different consumer, commercial and industrial products." United States Environmental Protection Agency, PFAS explained, available at https://www.epa.gov/pfas/pfas-explained. Additionally, according to 2023 USGS study, PFAS chemicals are found in approximately 45% of the US tap water. https://www.usgs.gov/news/national-news-release/tap-water-study-detects-pfas-forever-chemicals-across-us

Is it true that the Class II injection wells near the Washington County Career Center were permitted without any public input? And that the school superintendent wasn't personally notified of the wells?

The class II wells near the Washington County Career Center were permitted ten years ago pursuant to the regulations in effect at the time the applications were submitted. The regulations required the applicant to publish newspaper notice of the applications. The notice was published in the Marietta Times newspaper. Other than the general newspaper publication, neither the Division nor the permit applicant were required to specifically notify school officials. The Marietta City Council and Washington Career Center held a meeting to discuss the proposed wells in early 2015. Dennis Blatt, the superintendent of the Washington County Career Center at the time, is quoted in a Marietta Times article about that meeting. Marietta City Council submitted objections.

Is it true that the American Growers #1 well exceeds its maximum allowable injection pressure routinely?

No. The American Growers #1 has a current maximum allowable injection pressure of 1050 psi. The information table submitted by Marietta City Council that indicates the American

Growers #1 well operated above its maximum allowable pressure is incorrect. The Division is not aware of any instance when the American Growers# 1 well operated at a pressure above its maximum allowable injection pressure. None of the Division's inspection reports or compliance notices indicate that the maximum allowable injection pressure at this well was exceeded.

Why didn't the Division hold a public hearing?

The law in effect at the time the application was received required the Chief of the Division to review each objection received during the public notice period and rule on the validity of each objection. If the Chief determines that the objections do not warrant a hearing, the Chief must issue the permit within 21 days of receiving proof of notice. The chief reviewed all objections received during the public comment period and determined that a hearing was not necessary under the governing law and, therefore, issued the permit within the required timeframe.

Why did the Division grant this permit when it has suspended other injection wells in Southeast Ohio?

The Division's orders suspending operations at Southeast Ohio injection wells demonstrate the Division's resolve in acting to correct any problematic injection and stopping it *before* any harm to public or environment occurs. The Division has led the way for other state oil and gas regulatory agencies by identifying and addressing injection well issues. Other states have enacted rules or are considering enacting rules modeled on the Division's current rules. While the permitting provisions of these new rules do not apply to the Stephan #1 well, other provisions of the new rules, including operational requirements do apply.

The Division's investigations identified common features of problematic injection wells. Among them are injection pressures that likely resulted in fracturing of the injection zone, and high-volume injection into the Ohio shale. The Division implemented specific measures to protect against these known problematic features. The Stephan #1 well does not inject into the Ohio shale. As for injection pressure, the Division imposed a requirement in the permit to drill the Stephan #1 that DeepRock conduct a step-rate test before seeking authorization to inject. The Division uses the step-rate test data and analysis of that date to ensure that it sets a maximum allowable injection pressure that will not fracture the injection zone.

Why did the Division allow the Arrowhead Road Services Well to operate for three years without a properly conducted step-rate test?

Arrowhead Road Services was the first company required to conduct a step-rate test after the Redbird Report was issued. Arrowhead Road Services performed the required test in 2021 and submitted analysis of the test data prepared by a third-party geological consultant. The Division authorized injection and set a maximum allowable injection pressure based on the analysis provided by that consultant. Based on the Division's experience evaluating other step-rate tests and analyses submitted by permit applicants, the

Division requested that Arrowhead provide the test data so the Division could evaluate that data. Arrowhead Road Services did not have the requested data, so the Division required it to conduct another step rate test. Arrowhead Road Services submitted that data and an analysis of that data prepared by a different third-party consultant. The Division also retained a petroleum engineer who analyzed that data. Based on those analyses, the Division concluded that the originally permitted maximum allowable injection pressure was too high. The Division subsequently issued an order lowering the maximum allowable injection pressure.

What is the Division doing about reports that production wells are being flooded out by injection wells?

The presence of brine at the surface of a production well alone does not demonstrate that a well has been impacted by an injection well. Brine in a production well or at the surface of a production well can be naturally occurring or have other causes. Samples of fluid from a production well indicating the presence of brine, PFAS, and/or PFOAs are also insufficient bases to conclude that injection well activity is impacting that production well. A proper investigation requires analysis of more information and elimination of other potential causes. The Division is providing the attached expert reports that discuss the Division's conclusion that other injection wells were impacting production wells and the validity of various approaches to investigating alleged production well impacts. The Division has investigated reports that injection wells are impacting production wells and has suspended injection wells when warranted.

While the Division appreciates being made aware of concerns about potential injection wells impacts, it needs more information to conduct a proper investigation and reach valid conclusions. Anyone who believes their production well has been impacted is encouraged to contact the Division, provide substantiating documentation, and any additional information the Division requests to facilitate an investigation. The Division is aware of reports that production wells are being impacted based on reports that brine was flowing from the wells. As noted above, this information is insufficient to conclude that the brine flows are caused by injection well activity. Information from these public reports is also difficult to verify.