

**BEFORE THE
OHIO OIL & GAS COMMISSION**

K&H PARTNERS LLC,
Appellant,

Appeal No. 1025
Review of Chief's Order 2023-139

-v-

DIVISION OF OIL & GAS RESOURCES
MANAGEMENT,
Appellee.

**FINDINGS OF FACT, CONCLUSIONS OF LAW, AND FINAL
ORDER OF THE COMMISSION**

Appearances: Jonathan Olivito, Chad Ziepfel, Michael Meyer, William Braff, Counsel for Appellant K&H Partners LLC; Kara Hernstein, Aaron Bruggeman, Counsel for Appellee Division of Oil & Gas Resources Management

Date Issued: _____

BACKGROUND

In 2015 and 2016, the Division of Oil and Gas (“the Division”) received complaints about brine water migration at the S. Moore #1 and M Dunfee #1 production wells. The Division conducted an investigation of alleged brine water migration at two of the production wells at issue. At that time, the Division determined that the K&H Partners LLC (“K&H”) Wells Nos. 1, 2, & 3 located in Athens County (“K&H Wells”) were not the cause of any brine water issues. However, three years later, in 2019, the Division asserted that they found evidence that brine was migrating through fractures in the Ohio Shale formation from certain injection wells in Washington County, affecting nearby production wells.

In 2020, K&H had a dispute with Diversified Production LLC, the previous owner of the S. Moore #1 and M Dunfee #1 production wells. K&H performed its own investigation, using a consulting firm, ALL Consulting LLC, to investigate any possible effects of K&H’s wells on Diversified’s wells. That report concluded that the K&H wells were not causing any impacts to the surrounding oil and gas production wells.

On June 2, 2023, the Division issued Suspension Order 2023-122, Chief’s Order 2023-139, concluding that K&H’s wells were impacting nearby production wells and that such impacts endangered or were likely to endanger public health, safety, and the environment. That Order asserted that the K&H wells were likely to contaminate the land, surface waters, or subsurface waters and that brine or other substances from the operation of the K&H wells were outside the area of review. On that basis, the Division suspended K&H brine injection operations pursuant to Ohio Adm.Code 1501:9-3-07(N) and R.C. 1509.03.

The parties held an informal hearing at the Division on June 16, 2023, during which K&H argued that its disposal wells were not the source of brine water observed at the allegedly affected wells, and that K&H’s wells were not causing brine water migration endangering the environment or the public.

On June 26, 2023, the Chief of the Division issued the Final Order, Chief’s Order 2023-139, which suspended all injection activity at the K&H facility, subject to conditions set forth in the Order. The Final Order required K&H to immediately suspend all operations at the K&H Injection Wells and associated surface facility and mandated that operations shall not resume

until the Appellant submitted sufficient evidence to the Division that the conditions that cause the brine water migration had been corrected.

K&H first sought relief by seeking a Temporary Restraining Order and Preliminary Injunction from the Franklin County Court of Common Pleas. (*K&H Partners LLC v Ohio Department of Natural Resources*, Case No. 23CV-004105) In that case, Judge Serrott granted and extended a Temporary Restraining Order prohibiting enforcement of the Final Order, which allowed K&H to resume injection operations. However, the Court vacated the Temporary Restraining Order finding that the Court did not have subject matter jurisdiction for an appeal of an administrative order.¹ With the Temporary Restraining Order dissolved, K&H again had to stop its injection operations.

On July 13, 2023, K&H filed a Notice of Appeal with the Oil and Gas Commission. This appeal is taken from Chief's Order 2023-139, which, as noted above, ordered K&H to suspend injection operations at the K&H Wells Nos. 1, 2, & 3 until conditions for resuming operations were met. K&H sought a Stay of execution of the Chief's Order on July 13, 2023.

After briefing by the parties, an oral argument was held on August 8, 2023. On October 3, 2023, the Oil & Gas Commission granted K&H's Petition to Stay. The K&H injection wells have been operating since that time.

This matter was initially scheduled for a merits hearing on October 10, 2023. The Division submitted a Motion for Continuance, which was opposed by K&H. On October 3, 2023, the Division's Motion for Continuance was granted. The Commission continued the merits hearing until December 5, 2023. Prior to the merits hearing, due to the imminent expiration of the term of his appointment to the Commission, then-Chair of the Commission, Andrew R. Thomas, recused himself from the hearing and took no part in its presentation or consideration. The parties did not object to Mr. Thomas' recusal.

Prior to the commencement of the merits hearing on December 5, 2023, the Commission heard arguments regarding the Division's motions *in limine*. The Commission made a ruling on

¹ While the Complaint for the TRO and Preliminary Injunction was pending, K&H filed another attempted appeal of the Final Order in Franklin County Common Pleas Court. *K&H Partners LLC v. Ohio Department of Natural Resources*, Case No. 23CV-004624, K&H dismissed this appeal voluntarily on July 13, 2023, the same day it filed the appeal in this case.

those motions on the record. The Commission considered the arguments of counsel and determined that we would allow all relevant evidence and give the appropriate weight to the testimony of all witnesses called by the parties, expert or not.

ISSUE

Whether Chief's Order 2023-139 is lawful and reasonable.

FINDINGS OF FACT

1. Pursuant to R.C. 1509.05, R.C. 1509.06 and R.C. 1509.22(D), the Division issued permits to K&H authorizing K&H to drill K&H Partners LLC No. 1 Well, K&H Partners LLC No. 2 Well, and K&H Partners LLC No. 3 Well as saltwater injection wells in Troy Township, Athens County. Those wells are the subject of this Order.
2. K&H operates the K&H wells and holds valid permits issued by the Division which are the subject of this Order. After multiple investigations, the first being in 2016, the Division concluded that the brine was not migrating. However, in 2023, after another investigation, the Division ordered K&H's operations suspended in June 2023.
3. Tallgrass Company has purchased K&H, however; K&H continues to operate the wells.
4. The K&H wells were permitted to be constructed into Devonian- aged shale formations. The Chief's Order indicates expert evidence and testing established that the brine flows and pressure increases described do not occur naturally in Devonian- aged Oriskany Sandstone wells. K&H operates the only injection wells in the area and the brine injection volumes are large enough to create brine migration.
5. K&H presented two witnesses at the merits hearing before the Commission on December 5-6, 2023: Tom Tomastik and Mike Stahl. Mr. Tomastik is a former ODNR supervisor who worked in the Underground Injection Control ("UIC") program.

6. Mr. Stahl, CEO of Tallgrass Energy, the parent company of K&H, testified as a fact witness. He testified to his experience with sampling the brine water injected into saltwater disposal wells, and to how water sampling is utilized by the operator of the well to ensure compliance with permitting requirements. Mr. Stahl also testified that, to his knowledge, K&H has operated within the conditions of its permits. He further testified that because K&H did not see communication between the K&H wells, they did not believe that the wells were impacting the oil and gas production wells.
7. The Division filed a motion *in limine* to exclude Mr. Stahl's testimony on geochemical analysis, and Mr. Stahl was not identified as an expert witness. He admitted that fluids change in complex ways within a rock system and that he is not qualified to opine in this area.
8. Mr. Tom Tomastik testified as an expert witness for K&H. He testified that the oil and gas production wells at issue in this case were at the end of their productive lives and were being "watered out", as he believes is typical for the life cycle of Oriskany sandstone production wells. Mr. Tomastik also testified that he did not believe that brine water could have entered the Oriskany sandstone formation through the ratholes drilled into the Onondaga because he is of the opinion that the Onondaga limestone would prevent any of the brine water from migrating all the way down from below the Onondaga to the Oriskany. His expert report specifically relied on the assumption that K&H wells are injecting mainly into fracture porosity. K&H, however, has now taken the contrary position in this case that there is no evidence of fractures and that they are injecting radially into matrix porosity.
9. The Division called Michael Dolan as a witness. Mr. Dolan, a geochemist with over twenty years of experience, opined on the relationship of water chemistry in near surface aquifers and the deep subsurface brine in proximity of water injection systems operated by K&H and nearby oil and gas production wells. Mr. Dolan's expert report concluded that Mr. Stahl's methodology and conclusion are not scientifically valid.

He opined that Total Dissolved Solids (“TDS”) in a fluid can increase or decrease during migration and variable mixing, diffusion, dissolution of salts and precipitation of salts. He concluded that dilution of these brines in matrix flow and/or fracture flow as they move in the subsurface makes interpretation or fingerprinting the genetics of the fluid impossible based upon just TDS. He opined that the resulting fluids sampled at any location might show variable concentrations of TDS. He also concluded that the use of TDS as a geochemical fingerprint is not a scientifically supported approach.

10. Mr. Dolan explained that barium is unstable, soluble, can be impacted by barite and other naturally occurring minerals through the whole rock record, and its concentration in a fluid could vary at any given point during migration. Mr. Dolan testified that when comparing the barium concentrations of two water samples, one cannot confidently conclude that they are or are not related to the same source. Mr. Dolan opined that this method is not scientifically valid. In Mr. Dolan’s professional opinion, K&H partners never presented reliable chemical evidence to support its assertion that the fluids from the injected and production wells are not linked.
 11. The Division called ODNR employee Andrew Adgate as an expert witness. Mr. Adgate, a geologist, has worked with the UIC section of the Division of Oil and Gas Resources Management for over a decade and is currently the UIC Program Administrator. During his tenure, he has been directly involved in several Division investigations of injection well brine migration in Ohio.
 12. In his expert report, Mr. Adgate explained how his experience with similar cases of migration informed his review of the K&H wells. He explained that the Division’s recent experience with the Redbird No. 4 Well and the subsequent Redbird No. 4 Report (Division Exhibit B) and that Report’s observations regarding brine migration, production well impacts, and maximum allowable injection pressures were all considered prior to deciding that the K&H injection wells should be suspended. Mr. Adgate testified that K&H’s argument that it was impossible for brine being
-

injected into the K&H wells to migrate and impact the nearby production wells was not supported by the evidence.

13. The Division called Dan Goins to testify at the hearing. Mr. Goins has been employed by ODNR since 1985 and has approximately 38 years of experience drilling and plugging oil and gas wells. His current position is Natural Resources Administrator. He is responsible for overseeing the Oil and Gas Division field enforcement section. This section ensures compliance with Ohio's oil and gas laws and rules when wells are decommissioned. Mr. Goins personally observed the pressure at one of the impacted wells, the S. Moore Well, in June 2023. Mr. Goins testified that he has never observed a production well with the amount of brine and pressure on the casings as those that were present at the S. Moore Well. Mr. Goins further testified that, based upon his observations and experience, what he observed at the Moore Well was not natural and could only be caused by over-pressurizing the formation. Mr. Goins opined that the fluid was coming into the S. Moore Well from the Oriskany and the Ohio Shale. His observations were part of the basis for the Division's position that brine injected into K&H's wells migrated to and impacted the S. Moore Well.
14. Brandon Mitchell, an inspector with the Division since 2011, did not testify at the hearing, but submitted a report which was admitted into evidence (State's Exhibit L). In his report, Mr. Mitchell explained that he had never seen a production well with the pressured brine at surface like what he personally observed at the S. Moore Well in June 2023.
15. When the K&H wells were shut down as a result of the Chief's Order, the pressure at the two unplugged production wells stopped rising and fell to near zero. Mr. Adgate testified that more recent pressure measurements from the two remaining impacted production wells owned by Diversified, the R. Dunfee and M Dunfee, also contradict K&H's theory that the production wells are not impacted. Surface pressure readings at these two wells show that pressure stopped rising and fell back following the shut-down period of August 2, 2023, to October 3, 2023. Both wells dropped

approximately 160 pounds per square inch (psi) of pressure on the surface casing while the K&H injection wells were mostly out of operation.

16. The Division submitted evidence that since the time that the K&H wells have begun injecting brine again, the pressure at the nearby production wells is rising again. Since the K&H wells resumed operations in early October 2023, the pressure at one of the production wells, the H. Dunfee, has risen by approximately 100 psi, and water is again flowing to the surface. There is a documented correlation between the timing of K&H's operations, or lack of operations, and the pressures at these production wells.
17. K&H had in its control for years but only produced an expert report prepared by Schlumberger (Division Exhibit C) to the Division when K&H responded to discovery served in this case. Upon review, the Division discovered that the Schlumberger reports documented that K&H has been injecting out of their permitted zone, the Devonian Shale, and into the Onondaga formation for years. This out-of-zone injection conclusively establishes that K&H is injecting outside of its permitted area of review.
18. Michael Davis, of the Davis Engineering Company, provided an expert report and testified as an expert on behalf of the Division. Mr. Davis had investigated the prospects of pressure communication between injection wells and nearby production wells. Mr. Davis testified about a similar set of circumstances he investigated in Oklahoma of a saltwater injection well having impacted production wells and causing the Oklahoma Corporation Commission to shut down disposal operations for a 17 square mile area and required numerous operators to plug existing production wells.
19. Mr. Davis focused on the operations of the three K&H wells and three offset production wells: the H Dunfee #1, R Dunfee #1 and the now-plugged S. Moore 1.
20. Mr. Davis modeled the expected migration from the K&H wells. His model showed that there had been sufficient volume of water injected into the three injectors to raise

the reservoir pressure at the three producing wells, with said increases ranging from 421 psi to 521 psi.

21. Davis testified that K&H appears to be injecting into the Onondaga formation, consistent with the Schlumberger Report. He noted that there could be fractures present in the Ohio Shale, which would enhance the ability for brine to flow to the production wells and increase pressure in the area of the reservoir. In addition, he testified that the data and analysis reflected that the cumulative injection time and volumes were sufficient to raise the reservoir pressure in the vicinity of the producing wells.
22. Mr. Davis testified that he found no other reasonable explanation for the increase in pressure noted in the production wells other than the saltwater injection in the K&H wells. He opined that ongoing injection in the K&H wells constituted an increasing threat not only to nearby production wells, but to drinking water wells.
23. The Division called Dr. Neal Nagel as an expert witness. Dr. Nagel has over forty years of experience in oilfield and mining geomechanics. He reviewed the data provided by K&H, including testing that was completed for the K&H wells by Schlumberger Services in 2014, 2017 and 2018. Based on his review of this data, Dr. Nagel concluded that it is highly unlikely that the K&H wells are injecting into the Ohio Shale given its porosity. Dr. Nagel found that K&H's claims that fluid injection into their wells is limited to the permitted area of review is not supported by the data. He further found that the Division reasonably concluded that the K&H wells are allowing brine migration outside of the intended injection zone and impacting the Diversified production wells.
24. Dr. Nagel testified that test results and Reports by Schlumberger in 2014, 2017 and 2018 strongly suggested that the K&H wells are injecting into the unpermitted Onondaga limestone. He explained that the data and tests, including tracer surveys, first discussed in the 2014 Report, makes it clear that the injected fluid entered the

Onondaga limestone at the base of the open-hole section of the K&H #2 wellbore. Dr. Nagel explained that the Reports should have alerted K&H that it was injecting outside its permitted injection zone.

25. Dr. Nagel testified that, because there is insufficient porosity throughout K&H's possible injection zones, both permitted and nonpermitted, the brine from K&H wells is most likely traveling primarily into natural fractures.
26. Dr. Natalie Kruse Daniels testified as an expert witness on behalf of the Division. Dr. Kruse Daniels is a civil engineer, a geoscientist, and the Director of the Environmental Studies Program at Ohio University in Athens. Dr. Kruse Daniels explained that freshwater resources in Athens County are critical because many rural households have no access to a public drinking water supply. She testified that the water level at private wells is routinely low and variable due to a fractured aquifer. She explained that the presence of fractures means that the potential speed of transport of K&H's injectate to depths used for drinking water would be significantly shorter than would have been expected.
27. In addition, Dr. Kruse Daniels testified that water contamination may not be quickly discovered. She said that private drinking water wells in this area are not regularly tested. Since it is difficult to pinpoint a source of contamination and households may have many years without resolution.
28. In her opinion, the K&H wells pose a real threat to the limited freshwater resources relied on by Athens County residents.

STANDARD OF REVIEW

Chapter 1509 of the Ohio Revised Code governs the requirements to apply for and obtain a permit to drill an oil or gas well in Ohio. In obtaining a permit to engage in oil and gas disposal activities, an operator submits to the regulatory authority of the Chief, including the authority to

suspend or revoke permits where continued operation under an issued permit could have adverse impacts to health, safety, or the environment.

Under R.C. 1509.36, entities affected by an order of the Chief of the Division may appeal to this Commission for an order vacating or modifying the Chief's order. The Commission may reverse, modify, or vacate such an order when, upon consideration of the record, the appellant proves that the order was unlawful or unreasonable. *Simmers v. N. Royalton*, 10th Dist. No. 15AP-900, 2016-Ohio-3036, ¶ 21, citing *Martz v. Division of Mineral Resources Mgt.*, 10th Dist. Franklin No. 08AP-12, 2008-Ohio-4003, ¶ 13, and *Johnson v. Kell*, 89 Ohio App.3d 623, 625 (10th Dist.1993). Unlawful means that which is not in accordance with law, and unreasonable means that which is not in accordance with reason or has no factual foundation. *Id.*

The burden for establishing that the Suspension Order is "not in accordance with reason" and has "no factual foundation" is on the Division. The Division has the authority to grant, suspend, or revoke permits. *See, generally*, R.C. 1509.04. Where continued operation under an issued permit could cause adverse impacts to health, safety, or the environment, it is proper for the Chief to order an injection well to pause its operations until it can conduct a full investigation, make changes that may be necessary to ensure safe operation, and get the Division's concurrence on resuming operations. *AWMS Water Solutions*, Appeal No. 997, at p.24.

Consistent with its past rulings, it is the Commission's position that the General Assembly does not require the Chief of the Division to sit back and wait for calamity to occur before acting. *AWMS Water Solutions*, Appeal No. 997, at p.222. However, when the Division does act to suspend or revoke a permit, it must do so lawfully and reasonably. Because it is suspending or terminating an existing permit, rather than issuing a new permit, the Division has the burden to establish the lawfulness and reasonableness of its actions.

DISCUSSION

As an initial matter, K&H has challenged the Commission's authority to consider evidence that was generated after the issuance of the Order and up to the date of the hearing. Because hearings before the Commission are not on the basis of an administrative record but are *de novo*, the Commission can consider evidence occurring after the issuance of an Order pursuant to R.C. 1509.04. The Commission can consider any evidence regarding the Chief's

Order. *AWMS Water Solutions, LLC v. Div. of Oil & Gas Resources Mgmt.*, Appeal No. 997 (June 30, 2022). The Commission must consider all evidence offered on the question of the lawfulness or reasonableness of the Order. Ohio Adm.Code 1509-1-20(C). The authority to consider evidence after the issuance of an order is also consistent with the Commission's authority to modify orders of the Chief if it finds such action necessary. See R.C. 1509.36, ¶ 1.

Further, R.C. 1509.03(D) states that the Chief may issue orders to enforce R.C. Chapter 1509 or any rule adopted thereunder. Such an order enforcing Chapter 1509 and its rules is an adjudication for purposes of R.C. Chapter 119. Ohio Administrative Code 1501:9-1-07(A) provides that all persons engaged in any phase of operation of any well or wells shall conduct such operations in a manner which will not contaminate or pollute the surface of the land or water on the surface.

Ohio Administrative Code 1501:9-3-07(N)(1) authorizes the Chief to immediately suspend, by order, operations of a class II disposal well or surface facility under many circumstances, including the following:

- A class II disposal well is causing or likely to cause contamination of the land, surface waters or subsurface waters;
- The Chief determines that operation or continued operation of the well is likely to endanger public health or safety;
- The Chief determines that brine or other water substances from class II disposal well injection operations may be outside of the permitted injection zone or area of review; or
- Any violation of Chapter 1509 of the Revised Code or Division 1501:9 of the Administrative Code.

K&H received test results and reports in 2014, 2017 and 2018 from Schlumberger Services, which should have alerted K&H that it may have been injecting outside its permitted injection zone. K&H knew or should have understood the import of the Schlumberger reports.

Dr. Nagel's expert report and testimony concluded that, because there is insufficient porosity throughout K&H's permitted injection zone, the K&H wells are most likely injecting into natural fractures, outside of their permitted formation, or both. Injecting outside the

permitted formation was the conclusion of the Schlumberger Reports and is in violation of Ohio Adm.Code 1501:9-3-07(N)(1)(g) and (k).

In addition, the well site pressure data taken before and after the resumption of injection operations in October 2023 is compelling. These data demonstrate a significant drop in pressure after operations were suspended in June 2023. Once operations were resumed in October 2023, the pressure began to rise again showing a direct correlation between brine disposal at K&H and production well impacts.

Based upon that evidence, the Division has established by a preponderance of evidence that:

- K&H's class II disposal wells are causing or likely to cause contamination of the land, surface waters, or subsurface waters in violation of Ohio Adm.Code 1501:9-3-07(N)(1)(a);
- The operation or continued operation of K&H's wells are likely to endanger public health or safety in violation of Ohio Adm.Code 1501:9-3-07(N)(1)(f);
- Brine or other water substances from K&H's class II disposal well injection operations is outside of the permitted injection zone or area of review in violation of Ohio Adm.Code 1501:9-3-07(N)(1)(g); and
- K&H is violating Section 1509.03(D) of the Ohio Revised Code and Section 1501:9-3-07(N)(1)(k) of the Ohio Administrative Code.

The Division has presented substantial reliable and credible scientific evidence that the K&H wells are injecting, or their injectate is migrating, outside the zone in which it is permitted to operate.

The Chief's Order was reasonably based in scientific fact, and the suspension was in accordance with applicable law including R.C. 1509.03, R.C. 1509.04(C), and Ohio Adm.Code 1501:9-3-07.

CONCLUSIONS OF LAW

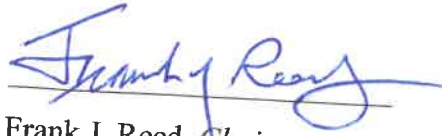
It is the Commission's obligation to admit and consider only reliable, credible, and probative evidence. The power to grant or deny a motion *in limine* is within the sound discretion of the

Commission. While the Commission is not bound by Ohio's Rules of Evidence, it should not act upon evidence which is not competent or probative of the matter which it is to determine.

As such, we hold that:

1. R.C. 1509.22(A) requires injection operations associated with the disposal of oilfield waste may only occur pursuant to a permit for an injection well.
2. R.C. 1509.03 provides that no person shall act in violation of rules adopted by the Division Chief and the Chief is authorized to issue orders to enforce Chapter 1509, rules adopted thereunder, and terms or conditions of permits issued thereunder.
3. R.C. 1509.04 allows the Chief to enforce the provisions to enforce the provisions of the law and the terms and conditions of permits through the issuance of orders.
4. R.C. 1509.22(E) holds the owner, assignee, or transferee holding the permit liable for the obligations and liabilities imposed by R.C. 1509 and any rules or orders applicable to the permit.
5. The protection of ground water is part of the basis for the Chief's authority to issue permits and orders governing the injection of wastes by means of wells.
6. The Chief had the authority to issue Order 2023-139 pursuant to R.C. 1509.04 and Ohio Adm.Code 1501:9-3-07(N).
7. K&H properly appealed Chief's Order 2023-139 to this Commission pursuant to R.C. 1509.36.
8. Hearings before the Commission are *de novo* in nature.

9. The reliable, probative, and substantial evidence presented to the Commission established by a preponderance of the evidence that the Chief did not act in an unlawful or unreasonable manner in suspending K&H injection operations at K&H Injection Wells Nos. 1, 2, & 3 in Athens County, because brine is migrating outside the permitted zone of injection for those wells, and continued injection operations could be reasonably anticipated to cause damage or injury to public health, safety, or to the environment.



Frank J. Reed, *Chair*



Phillip Parker, *Secretary*



Christine Shepard- Desai, *Vice Chair*



DATE

DISTRIBUTION:

Jonathan Olivito, Chad Ziepfel, Michael Myer, William Braff, via email: uolivito@taftlaw.com; cziepfel@taftlaw.com; mmeyer@taftlaw.com; bbaff@taftlaw.com

Kara Herrnstein, Aaron Bruggeman, via e mail: kherrnstein@brickergraydon.com;

Division of Oil & Gas Resources Management, via certified mail

K&H Partners via certified mail