

July 22, 2021

Daniel Counahan
Environmental Program Manager, Oil & Gas
Department of Environmental Protection
400 Waterfront Drive
Pittsburgh, PA 15222

Re: Fracking Operations In the Source Water Protection Area of Beaver Run Reservoir

Dear Mr. Counahan:

The residents of Southwestern Pennsylvania urgently call on the Pennsylvania Department of Environmental Protection (PADEP) to withdraw the permits for any and all wells and pads not currently in production within the Beaver Run Source Water Protection Area. Under 25 Pa. Code § 93, Beaver Run Reservoir (BRR) is a protected watershed by Pennsylvania Water Quality Standards.¹ Despite this classification, there has been a disturbing and dangerous pattern of incidents threatening the drinking water and health of over 150,000 residents, including impacts to aquatic life and natural vegetation.

FREQUENCY OF SPILLS

According to Municipal Authority of Westmoreland County (MAWC) incident reports,² five incidents have occurred in the last year and a half, yet the PADEP continues to permit well sites in this source water protection area. The danger associated with these spill incidents involving brine and other harmful toxic substances, and PADEP's lackluster efforts to notify the public and municipalities of spills, **we must advocate for an immediate cessation of all fracking activity around the reservoir.**

¹ Pennsylvania Title 25 Chapter 93 Water Quality Standards are available at <https://www.pacodeandbulletin.gov/Display/pacode?file=/secure/pacode/data/025/chapter93/chap93toc.html&d=reduce>.

² <https://www.mawc.org/incident%20reports>

Speer Well

- On September 25, 2020,³ Diversified Production LLC reported a 38 gallon brine spill from the Speer Well to the PADEP. The incident occurred within 350 feet of the stream, and within 900 feet from the edge of the reservoir on Fox Road in Saltsburg, PA. However, according to the report, **MAWC was never provided with notice of the incident.** In fact, it was only because of MAWC's due diligence in reviewing PADEP reports that it discovered the brine spill on January 13, 2021. **Because both the operator and PADEP failed to notify MAWC of the spill as is required⁴, MAWC could not complete an incident report or collect samples until nearly four months after the initial spill incident.**

Germroth Well

- On February 25, 2021⁵, notification that an unknown quantity of brine leaked from the MAWC TR 23 Germroth 4 Well was given to MAWC after the PADEP's February 8th inspection that led to multiple violations. On February 8th, the PADEP investigated and found a leak in the pipe extending from the brine tank at the site of the well. The PADEP assigned four violations: 91.34(A), 78.57(a), SWMA 301, and 78.54 relating to residual waste processing, prevention of substances reaching waters, failure to collect brine, and failure to dispose of fluids and residual waste. The pipe was not replaced until February 9th. The Germroth Well is operated by Diversified Prod. LLC, the same operator of the MAWC TR Speer 3 Well, showing the repetitive dangerous behavior exhibited by the operator.

Other

- On November 2, 2020,⁶ sampling took place at the Hutchinson well due to an incident involving a dump valve malfunction that resulted in surfactant-laden fluid being aerated with gas to produce large amounts of foam. While the incident was not reported due to the spill volume being less than the reportable quantity, an aggregation of smaller incidents could result in irreversible water damage over time.
- On January 8, 2020,⁷ a surfactant used at the Hutchinson well to increase gas recovery, caused a 5' x 8' x 6" volume of foam to overflow out of a secondary containment area. **No samples were taken.** Likewise, this incident was also

³ https://www.mawc.org/sites/default/files/2021-01-18_speer3brine_spill_incidentreportprelim.pdf

⁴ [58 Pa.C.S. § 3218.1](#)

⁵ https://www.mawc.org/sites/default/files/2021-03-02_germroth4_incidentreport_brine_leakupdated_0.pdf

⁶ https://www.mawc.org/sites/default/files/2020-11-2_incident_reporthutchinsonfoamagentspill_br_mawc_finalupdate.pdf

⁷ https://www.mawc.org/sites/default/files/2020-01-07_surfactant_spill_hutchinson_br_sds.pdf

not reported due to the volume being less than the required reporting limit. However, this was not the only foam spill in 2020 as reported by the aforementioned incident. Each individual foam spill may not pose a significant impact on the water quality of the region, however, over time the repetition of incidents could lead to something greater if not monitored properly or taken seriously.

- On September 24, 2019,⁸ <1 gal of motor oil was spilled into the well access road by the reservoir.

The oil spills and ongoing failures resulting in contamination are of the nature that will likely contaminate drinking water and damage water treatment plant activities such as the George R. Sweeney Water Treatment Plant. Mitigation costs associated with these types of discharges are expensive and endanger not only the health and safety of humans and aquatic life, but also jeopardize the vitality of this essential watershed.

RESPONSE TIME

Despite the frequency of reported spills, PADEP has failed to prioritize the health and safety of residents of the Commonwealth of Pennsylvania, oftentimes neglecting to notify residents or necessary parties. For example, on September 25, 2020, a 38 gallon brine spill occurred and DEP did not notify MAWC of the incident. MAWC--through its own due diligence--did not discover the incident until it stumbled upon the spill incident in the oil and gas reports in mid-January the following year. MAWC immediately did testing at the Speer Well site and reported no apparent impacts on the drinking water after reviewing intake data. However, in the event this incident contaminated the reservoir at great lengths, the damage could have been irreversible without notifying MAWC or associated parties.

Over the course of this four-month period, the wastewater brine may have irreversibly damaged soil quality, hindered plant growth, and offset the concentration of total dissolved solids within the reservoir -- in many cases, the TDS present in brine can measure up to 10 times greater⁹ than oceanic contents. Additionally, the PADEP's failure to notify MAWC of this incident, which could have jeopardized the drinking water of 150,000 residents, is an exemplary case for why oil and gas operations in the Beaver Run Source Water Protection Area must cease.

⁸ https://www.mawc.org/sites/default/files/2019-09-24_less_than_1_gal_motor_oil_spill_beaver_run.pdf

⁹ <https://www.ag.ndsu.edu/publications/environment-natural-resources/environmental-impacts-of-brine-produced-water#:~:text=Brine%2C%20or%20produced%20water%2C%20is.to%20produce%20crops%20and%20forage>

The speed at which MAWC was notified of this spill is unacceptable, and absent the water purveyor's diligence, they may have never learned of the spill. This incident was serious enough for the PADEP to administer four violations at the first site inspection and an additional violation upon the second inspection for failure to prevent indirect pollution, collect brine, control fluids, and residual waste. However, the PADEP failed to notify MAWC.

MISUSE OF DISCRETIONARY AUTHORITY

Given PADEP's pattern of slow or nonexistent response time, operators have and will continue to fail to meet their permit requirements at operations around the reservoir. MAWC's Source Water Protection Map¹⁰ indicates a large number of active oil and gas wells near BRR from operators like CNX Resources and Diversified Production, LLC. The following well pads are among those sites:

Mamont 28 Well Pad

- The Mamont 28 Well Pad, operated by CNX, is estimated to disturb an area of approximately 28.7 acres. According to CNX's Post Construction Stormwater Management Plan,¹¹ the Mamont 28 Well Pad 'requires impacts to [the nearby] riparian buffers' despite CNX's claims that there would be 'minimal impacts to the nearby area'. Yet, this proposal has not been denied despite the previous failures of CNX at the Shaw Well Pad.

Shaw Well Pad

- The Shaw Well Pad, operated by CNX, is associated with the following active permit numbers: 129-28823, 129-28822, 129-28976, 129-28821, 129-28963, 129-28964, and 129-29056. On January 26th, 2019, at 5,200 feet below the surface, the steel casing used in the Shaw IG well operations failed due to a 'pressure anomaly¹².' To remedy this failure resulting in sudden pressure spikes, flaring within the nine nearby wells was required. Despite filing a notice of intent after this accident, CNX prolonged the well plugging process for over six months. With knowledge of these incidents and public health considerations in mind, the PADEP should not have let the operator resume operations at any site. The report by Matergenics regarding this incident concludes that hydrogen stress cracking

¹⁰<https://www.google.com/url?q=https://gis.mawc.org/portal/apps/View/index.html?appid%3D3a1c5510fo3848fd923dd7daa8ee0513%26extent%3D-81.5470,39.1108,-77.1909,40.9839&sa=D&ust=1611631074267000&usg=AOvVawoMoLwXrFu35NWpO-L3hfbC>

¹¹ https://drive.google.com/file/d/1N-kz9zf3J-5fmPCywP7YtWS8W31A1K_2/view

¹² "Drilling Activity and Shaw Pad Incident Response at the Beaver Run Reservoir" *Municipal Authority of Westmoreland County (MAWC)* https://www.mawc.org/sites/default/files/marcellus_drilling_panel_3-1-19_1.pdf

that occurred in this incident was at the extreme high end or beyond the expected range¹³.

- Additionally, **benzene** and **methylene chloride** were detected at every air monitoring site, but CNX reported that the methylene chloride was due to consumer use of propellants and/or paint stripping operations. Benzene and methylene chloride are both carcinogenic, highly volatile compounds that can cause adverse, irreversible health effects. The World Health Organization argues that there is no safe level of benzene¹⁴.
 - In a study published in the *Petroleum & Coal, International Journal for Petroleum Processing, Petrochemistry, and Coal Processing*, benzene is cited as a pollutant of flaring that influences the nervous system and can result in blood abnormalities¹⁵.
 - In a study published in the journal *Science Advances* in 2017 looking for a link between hydraulic fracturing and infant health, Pennsylvania was studied in great depth. Over 1.1 million births from 2004-2013 in PA were analyzed and compared, and evidence was found for the most negative effects in utero exposure when the mother's residence was within 1km of a fracking site, and that there were still negative effects at 3km from the fracking site.. The effects of fracking are highly localized, and the babies born closest to the wells had significant declines in average birth weight in addition to several other measures of infant health. The article cites that in a year-long study that took weekly air measurements near a newly fractured well, that methylene chloride was among the pollutants seen, which is a toxic solvent also affecting fetal outcomes¹⁶.
 - *Human and Ecological Risk Assessment: an International Journal* cites a year-long study that studies the air quality within one mile of 130 shale gas wells in Colorado, reporting 61 airborne chemicals. The study cites methylene chloride to be one of the most concerning reported chemicals, which can cause 'memory loss, nausea, and respiratory symptoms.' It stated that methylene chloride was found in 73% of the weekly samples taken, spiking above 563 ppb at some points in time. There is no national standard acceptable level for methylene chloride, and the Wisconsin

¹³ Bayer, G.; Zamanzadeh, M. "Assessment of Additional Information and Data Received Concerning the CNX Gas Company Shaw 1GHSU Well Control Incident" *Matergenics Materials and Energy Solutions*. Project Number J191119. Jan. 2020. <https://drive.google.com/file/d/1BQ9uwr1Z9FBWPJUOj1Uk1Fe4sX8SbHiB/view?usp=sharing>

¹⁴ <https://apps.who.int/iris/bitstream/handle/10665/329481/WHO-CED-PHE-EPE-19.4.2-eng.pdf?ua=1>

¹⁵ Emam, E. "Gas Flaring in Industry: An Overview" *Petroleum & Coal*, 2015, 57(5), 532-555.

¹⁶ Currie, J. Greenstone, M.; Meckel, K.; "Hydraulic fracturing and infant health: New evidence from Pennsylvania" *Science Advances*, 2017, 3(12), doi:10.1126/sciadv.1603021

Department of Natural Resources has started to take action if indoor methylene chloride levels exceed 15 ppb.¹⁷

Additional Wells

In addition to the aforementioned wells, both CNX and Diversified Productions, LLC operate additional well sites, including Hutchinson Well, Kuhns 3 Well, Gaut 4 Well, Bell Point Well, Dearthmitt 1 Well, and Aikens Well. All of these wells are located anywhere from 750 feet to a quarter-mile away from the reservoir and operate as unconventional fracking wells. According to PA Oil and Gas Compliance Records dating back to January 2010¹⁸ CNX and Diversified Productions, LLC have received 689 and 364 notices of violations, respectively. Despite the demonstrated patterns of noncompliance, the PADEP continues to grant both companies permits in high-risk areas, including the Beaver Run Source Water Protection Area. The PADEP is blatantly failing to protect the water quality of BRR. Because the PADEP has failed to take preventative action, or at the very least mitigation efforts, failure to properly resolve a future incident may result in BRR and nearby residents being at greater risk for irreversible damage to human health, water quality, and native vegetation.

The PADEP's issuance of permits to CNX, Diversified Productions, LLC, and other operators around BRR fail to consider the potentially dangerous outcomes--many of which have materialized and are evidenced by reports on the PADEP and MAWC websites. While a single spill or incident may be considered insignificant, the frequency of these incidents is unsettling and the compound effects of multiple incidents can be serious.

Reporting Requirements

Federal and State law requires immediate reporting of spills following the hazardous materials release.¹⁹ More specifically, when spills associated with Oil and Gas storage tanks are at issue, 25 Pa. Code § 245.305(a) requires operators to “notify the appropriate regional office of the [PADEP] as soon as practicable, but no later than 24 hours, after the confirmation of a release.” Many of the operations performed in drilling well sites are very risky and have resulted in hazardous material spills, yet operators have continually failed to report such incidents.

As discussed, these incidents occur within a 750 feet to a quarter-mile distance between the storage tanks associated with the wells and BRR. As expressly stated in 35 P.S. § 6021.1311(a), owners or operators of storage tanks “shall be liable, without proof of fault, negligence or causation, for all damages, contamination or pollution within 2,500

¹⁷ Glauser, W. “New legitimacy to concerns about fracking and health” *CMAJ*, 2014, 186(8), E245-E246. doi.org/10.15013.cmaj.109-4725

¹⁸ <https://www.depgreenport.state.pa.us/ReportExtracts/OG/OilComplianceReport>

¹⁹ <https://www.pema.pa.gov/Preparedness/Hazardous-Material/Spill-Reporting/Pages/default.aspx>

feet of the perimeter of the site of a storage tank containing or which contained a regulated substance of the type which caused the damage, contamination or pollution.” Because the operators refuse to comply with statutorily required notice provisions, these companies face minimal, if any, repercussions. Further, such lack of notices often results in continued ease of permit renewal to the detriment of BRR and the local community.

PADEP MUST PRIORITIZE PUBLIC WATER SOURCES AND HUMAN HEALTH OVER OIL AND GAS PROFITS

Due to these failures, it is crucial that the PADEP immediately takes greater action to preserve the water quality of the region and better address incidents that threaten the Beaver Run Source Water Protection Area. As the enforcement agency for our Commonwealth, prioritizing the health and safety of our residents by protecting a drinking water source for over 150,000 people is a **minimum requirement**. Residents of the Commonwealth have a constitutional right to clean air and water pursuant to Article I, Section 27 of Pennsylvania’s Constitution²⁰, yet your agency has failed to protect these rights and rendered residents voiceless.

It is imperative that the PADEP denies future permits for hydraulic fracturing within the vicinity of the Beaver Run Reservoir to protect the drinking water of residents within Westmoreland, Allegheny, and Indiana counties. Detailed monitoring and investigation of incidents regardless of their reported spill volume should be taken care of properly to minimize long term effects. In cases of repetitive incidents by the same operator, it is crucial to revoke their permits associated with their risky operations at the reservoir. Pursuant to 35 P.S. Code § 6021.1301, the PADEP does have the authority to revoke permits when operators continuously fail to comply with storage tank and spill regulations. With this enforcement, you will protect our families and our communities from the hazards of the oil and gas industry.

Sincerely,



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²⁰ <https://www.legis.state.pa.us/WU01/LI/LI/CT/HTM/00/00.001.027.000..HTM>

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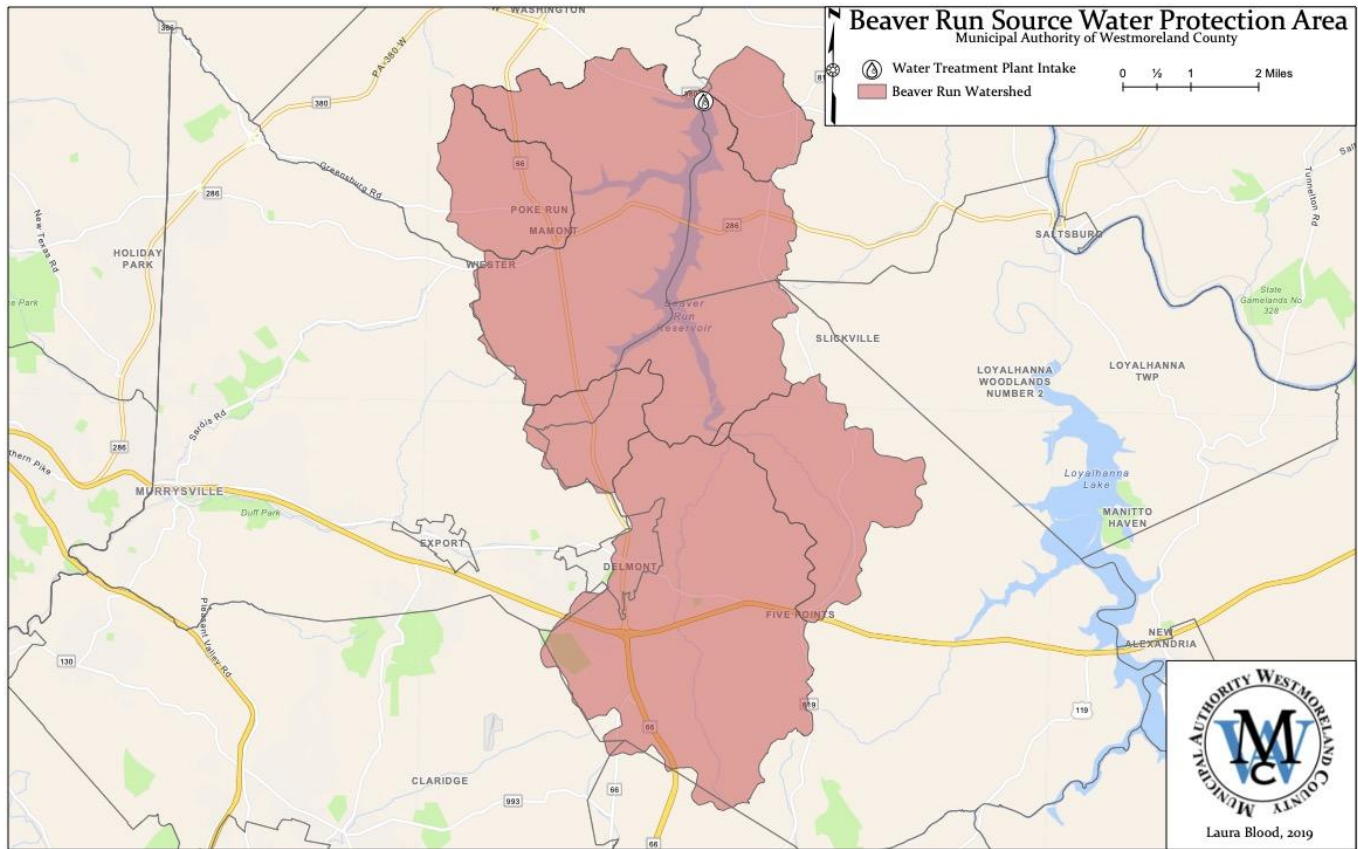
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Appendix A



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Cc: Secretary Patrick McDonnell
Cc: Attorney General Josh Shapiro
Cc: Lt. Governor Fetterman
Cc: Governor Tom Wolf