ENVIRONMENTAL HEALTH PROJECT
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April 13, 2026

Allegheny County Health Department
Board of Health
Public Hearing, 6:00 p.m. (EDT)
836 Fulton Street
Pittsburgh, PA 15233

Comments regarding public health risks associated with the proposed Tri-ethylene glycol (TEG) dehydration unit and related components at the Leto Well Pad

Thank you for the opportunity to provide comments on EQT Production's permit application 1027-I001, regarding the installation of a Tri-ethylene glycol (TEG) dehydrator, reboiler, and enclosed combustor at the Leto Well Pad in West Deer, Pennsylvania. My name is Talor Musil and I am the Field Manager of the Environmental Health Project (EHP), a Pittsburgh-based, nonpartisan, nonprofit organization committed to defending public health in the face of oil and gas development.

The public health and environmental risks posed by this permit, combined with the recent violations of emergency preparedness protocols at this site, raise enough questions about the negative impacts to delay a final decision about the installation permit. EHP recommends that Allegheny County Health Department (1) conduct a cumulative assessment of the potential air quality impacts of existing and anticipated facilities within a 10-miles radius of the Leto Well Pad, (2) evaluate EQT's readiness to operate this facility safely, and (3) explore the use of better health-protective alternatives to the proposed dehydrator.

The West Deer community is vulnerable to oil and gas pollution.

EHP utilized an emissions dispersion modeling tool from the National Oceanic and Atmospheric Administration (NOAA) called HYSPLIT[1] to map out where airborne pollutants will travel after being emitted from the Leto Well Pad (*Figure 1*). This model utilizes High Resolution Rapid Refresh (HRRR) weather data, which is derived from radar stations, ground, airborne, and buoy-based weather stations, and weather satellites. Using HRR data from May 1, 2023 to May 1, 2024, we modeled how wind patterns, topography, temperature, and other geographic factors would impact where pollution from the well pad will disperse on average over the course of a year.

The white box in *Figure 1* is the area that would receive the maximum average concentration of primary air emissions from the well pad. Each of the shaded areas, shown in red, orange, yellow, and green, represents an area that will experience a percentage of the maximum average concentration. For example, those living in Bairdford will be exposed to at least 10 percent (yellow) and up to 100 percent (red) of the maximum annual concentration. Most of the emissions will disperse within approximately one third of a mile of the well pad, but community members living as far as 5.5 miles from the site are likely to be exposed to emissions from the facility.

While the dispersion map does not quantify emissions, the dispersion ratios can be applied to a hypothetical exposure scenario. For example, benzene, one of the volatile organic compounds that will be emitted from the Leto Well Pad, has been measured at the fenceline of similar shale gas operations. This research[2] found daily benzene averages of 18.5 ppb, or .059 mg/m³, which is higher than the Reference Concentration (RfC) for benzene (.03 mg/m³),[3] the daily exposure level that is likely to produce health symptoms over a lifetime. This means that if benzene concentrations next to the Leto Well Pad are regularly reaching a daily average of .059 mg/m³, then community members living in the red circle in *Figure 1* may develop symptoms over the course of their lives.

In this hypothetical scenario, individuals living in the orange area or further are not likely to be exposed to benzene levels above the RfC. Still, two individuals' responses to the same exposure level will vary depending on their existing health conditions and cumulative exposure to all sources of benzene in their environment, such as vehicle exhaust, other industrial operations, or household products. Because Reference Concentrations are focused on symptom onset in the general population, vulnerable populations who are more susceptible to air pollution may experience symptoms at exposure levels below a Reference Concentration. For example, a young child with severe asthma who lives miles from the Leto Well Pad in the green-shaded areas may experience asthma exacerbations before a 25-year-old with no chronic health concerns living less than a mile from the facility would develop respiratory symptoms. When cumulative exposures are considered, emissions that reach communities closer to the edge of this dispersion map are likely to add to existing health and pollution burdens.

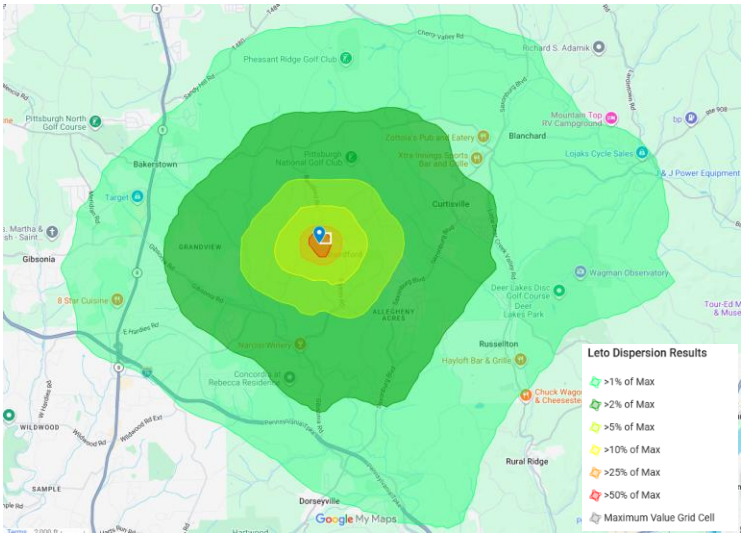

Figure 1. *HYSPLIT emissions dispersion model for primary airborne pollutants released from the Leto Well Pad. Map created by EHP (2026)*

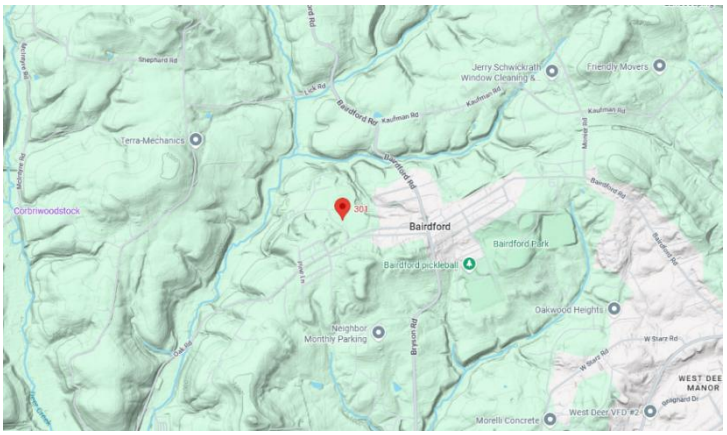

Figure 2. *Local topography near the Leto Well Pad and Compressor Station. Courtesy of Google Maps (2026).*

The complex topography of the Appalachian region combined with weather patterns like inversions can concentrate pollution in valleys and near ground level. West Deer topographical variability, shown in *Figure 2*, could facilitate the pooling of pollution near homes, schools, or churches located in valleys and low points. For example, there are populated areas in valleys to the east and west of the facility. Steep hills may also increase the total amount of trucking pollution[4] that fracking operations introduce to a community as more fuel is combusted to ensure trucks can clear the inclines.

West Deer's vulnerability to the impacts of the Leto Well Pad's emissions cannot be assessed by relative pollution exposure alone. The characteristics of the people living, playing, and breathing near the facility play an important role in the frequency and severity of health impacts experienced. Children, older adults, pregnant individuals, and people with existing chronic health conditions are more susceptible to air pollution than the general population, meaning that they may experience a faster onset of symptoms and/or more frequent or severe symptoms than the general population.

Within five miles of the facility, which is approximately the same as the dispersion area shown in *Figure 1*, there are 13 schools, where elementary, middle, and high school students spend approximately 1,000 hours per year. According to the United States Census Bureau's American Community Survey, this area has a disproportionately large population of young children: six percent of the population is under the age of five, which is higher than 62 percent of Pennsylvania communities. There is also a disproportionately large number of older adults in this area: 22 percent of the population is over the age of 64, which is higher than 64 percent of Pennsylvania communities. Rates of chronic health conditions are also elevated in this area. Nine percent of the population has received a non-skin cancer diagnosis (close to 1 in 11 people), which is worse than 78 percent of Pennsylvania communities.

PennEnviroScreen offers additional information about the vulnerabilities of the communities near the Leto Well Pad. People in the same block group (420034070014) as the facility, an area smaller than 5-mile radius considered in the previous paragraphs, experience more heart disease and cancer than 78 and 91 percent of Pennsylvania communities, respectively.[5] This block group also has a higher concentration of older adults and a lower concentration of children than the area within 5 miles of the facility. There are more older adults than 98 percent of Pennsylvania communities and more children under the age of five than 53 percent of Pennsylvania communities.[6]

Permitting oil and gas development in West Deer will increase public health risks.

Dozens of epidemiological studies and hundreds of supporting reports and investigations have thoroughly linked proximity to fracking operations to a range of negative health impacts.[7] 27 studies, including three conducted at the request of Pennsylvania's Governor, found statistically significant correlations with health impacts among those living half a kilometer to 16 kilometers (10 miles) from fracking operations like the Leto Well Pad. Based on this research, we can reasonably expect community members living within 10 miles of the facility to be at greater risk of experiencing:

- upper and lower respiratory issues,[8] including asthma attacks,[9]
- adverse birth outcomes,[10] birth defects,[11] and pregnancy-related complications,[12]
- adulthood cancer;[13] childhood cancer diagnoses[14] and mortality,[15]
- atrial fibrillation (heart arrhythmia) in older adults and females,[16]
- COVID-19 infection, decreased COVID-19 survival,[17]
- skin rashes,[18]
- headaches and migraines,[19]
- fatigue,[20]
- stress,[21] anxiety,[22] depression,[23] and
- stroke.[24]

Preventing or reducing exposure to oil and gas pollution will lower these risks. As it currently stands, approving this permit will increase the risk of these potential health impacts becoming reality for community members living near this facility.

If approved, the Leto Well Pad will have the potential to emit 67.4 tons of toxic air pollutants, as well as 8,849.04 tons of greenhouse gases, annually. This includes emissions from three generators, produced water tank, condensate tank, gun barrel tank, methanol tank, truck loading, gas processing units, dehydrator, reboiler, enclosed combustor pilot, vapor destruction pilots, pigging, blowdowns, and fugitive components. The health risks associated with each of the permitted pollutants are:

- **Volatile Organic Compounds (VOCs), 39.94 TPY:** eye, nose, throat, and skin irritation; headaches, nausea; loss of coordination, dizziness; damage to liver, kidneys, and central nervous system; increased risk of cancer, fatigue, confusion, rapid heart rate, nausea, memory difficulties, and poor coordination;[25]
- **Hazardous Air Pollutants (HAPs), 3.56 TPY:** similar symptoms to those observed after VOC exposure because the HAPs included in this permit are VOCs[26]
    - **Benzene**, .06 TPY
    - **Toluene**, .32 TPY
    - **Ethylbenzene**, .10 TPY
    - **Xylene**, .49 TPY
    - **Formaldehyde**, .01 TPY
    - **n-Hexane**, 2.37 TPY
    - **2,2,4-Trimethylpentane**, .06 TPY
    - **Methanol**, .14 TPY;
- **Nitrogen Oxides (NO_x), 7.90 TPY:** respiratory irritation and infections; exacerbation of respiratory diseases, such as asthma;[27]

- **Carbon Monoxide (CO), 18.38 TPY:** decreased exercise tolerance, decreased vigilance, and increased risk for cardiac ischemia in individuals with heart disease;[28]
- **Sulfur Oxides (SO_x), 16 TPY:** breathing difficulties, particularly during exercise; aggravation of existing respiratory illnesses;[29]
- **Particulate Matter 2.5 ($PM_{2.5}$), .51 TPY:** impaired lung function, asthma exacerbation, irregular heartbeat and heart attacks; can lead to premature death in those with heart and lung diseases, such as chronic obstructive pulmonary disease (COPD);[30]
- **Particulate Matter 10 (PM_{10}).51 TPY:** similar symptoms to those experienced after exposure to $PM_{2.5}$;[31]
- **Greenhouse Gases:** climate change-induced health impacts, such as insect-borne diseases, heat-related illnesses, and injuries and deaths from storms, floods, and wildfires, due to greenhouse gasses,[32] including
    - **Carbon Dioxide (CO_2), 8,787.39 TPY**
    - **Methane (CH_4), 61.51 TPY**
    - **Nitrous Oxide (NO), .14 TPY**.

West Deer cannot accommodate additional air pollution without undue burden on local air quality.

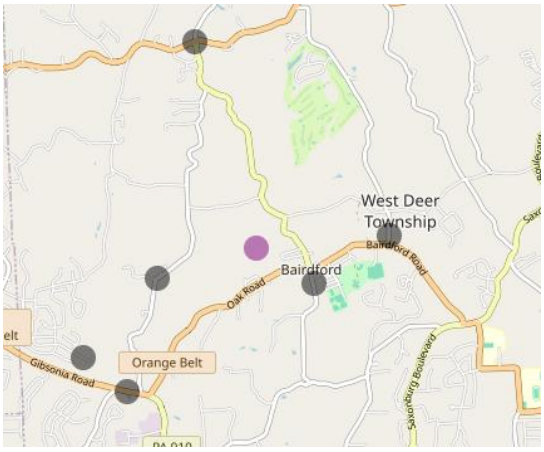

Figure 3. *PurpleAir monitors locations in West Deer. This map was produced used EHP's AirView application.*

The Environmental Health Project, Protect Penn Trafford, and Concerned Residents of West Deer installed six PupleAir Flex monitors in West Deer in summer 2026 to establish a baseline understanding of air quality in light of the three fracking well pads under development in West Deer. The Leto Well Pad and the PurpleAir monitors are shown in *Figure 3*, left, as purple and greys dots, respectively.

In preparation for this public hearing, EHP analyzed data from August 6, 2025 to March 27, 2026. The key findings are summarized below.

Finding 1: Concerning short-term exposures to fine particulate matter (PM2.5)

Short-term, or sub-daily, exposures to $PM_{2.5}$ are increasingly linked to negative health outcomes. For example, peak 1-hour concentrations of particulate matter are linked to notable increases in cardiovascular mortality,[33] and respiratory infant mortality,[34] and overall mortality.[35] Even a 10 $\mu g/m^3$ increase is associated with .9 percent increase in mortality and 1.2 percent increase in cardiovascular mortality.[36]

Because oil and gas facilities' particulate matter emissions can be episodic, exposure levels can change rapidly, sometimes within minutes. For this reason, EHP examined 15-minutes averages to understand

local exposure patterns. When comparing 15-minute averages to the daily Air Quality Index (AQI) categories, all the monitors remained in the Good AQI category for the entirety of a single day once per week (14 percent of the monitoring period). On the other six days per week, at least one monitor in the network had at least one 15-minute average in the Moderate, Unhealthy for Sensitive Populations, Unhealthy, or higher AQI category. More than half of the days (54 percent) had at least one monitor with at least one 15-minute average high enough to produce health symptoms.

High, short-term spikes shown in the graph, *Figure 4*, below were likely to produce acute health symptoms among the monitor host households and their neighbors. Many of these spikes reached well over 55 µg/m^3, the point at which health symptoms are expected across the general population.

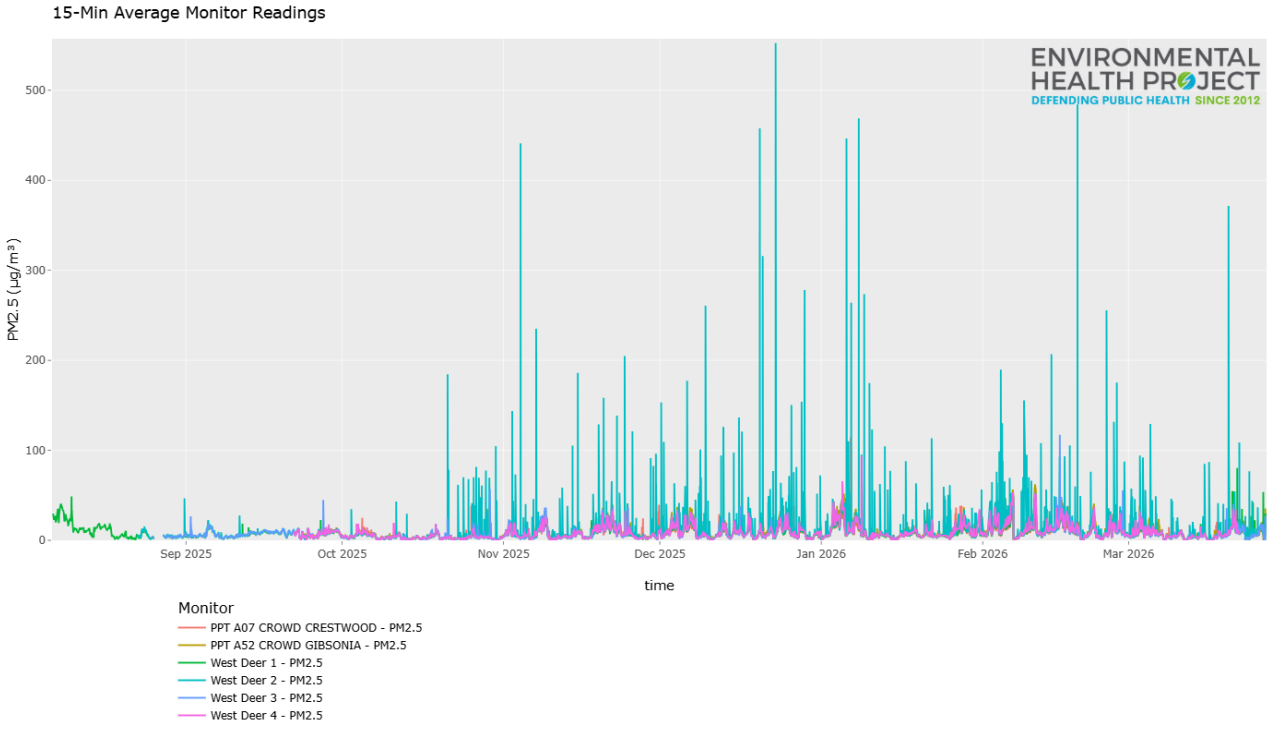

Figure 4. *15-minute averages near the Leto Well Pad between 8/6/25 – 3/27/26. The graph was produced using EHP's AirView application.*

To understand how construction and pre-production activities at the facility may be impacting particulate matter pollution exposures in West Deer, EHP referenced the same HRRR data used in the dispersion model in *Figure 1* to identify the monitors may have been in the path of emissions from the Leto Well Pad. Readings potentially associated with the facility are shown with a solid line in *Figure 5*, below. Readings collected when the monitor was not likely encountering air that passed over the facility are shown with a dotted line. Some, but not the majority, of the spikes were likely associated with operations at the Leto Well Pad. This variation in association is expected, as there are many sources of particulate matter pollution. Importantly, emissions from the Leto Well Pad do and will contribute to West Deer's total exposure. Examining the health impacts linked to the facility cannot be done by isolating individual sources—baseline levels from household activities and commuter traffic, as well as emissions from future operations the Leto Compressor Station, Tyche Well Pad, Caro Brandon Well Pad, and Interconnect pipeline) must be considered as well.

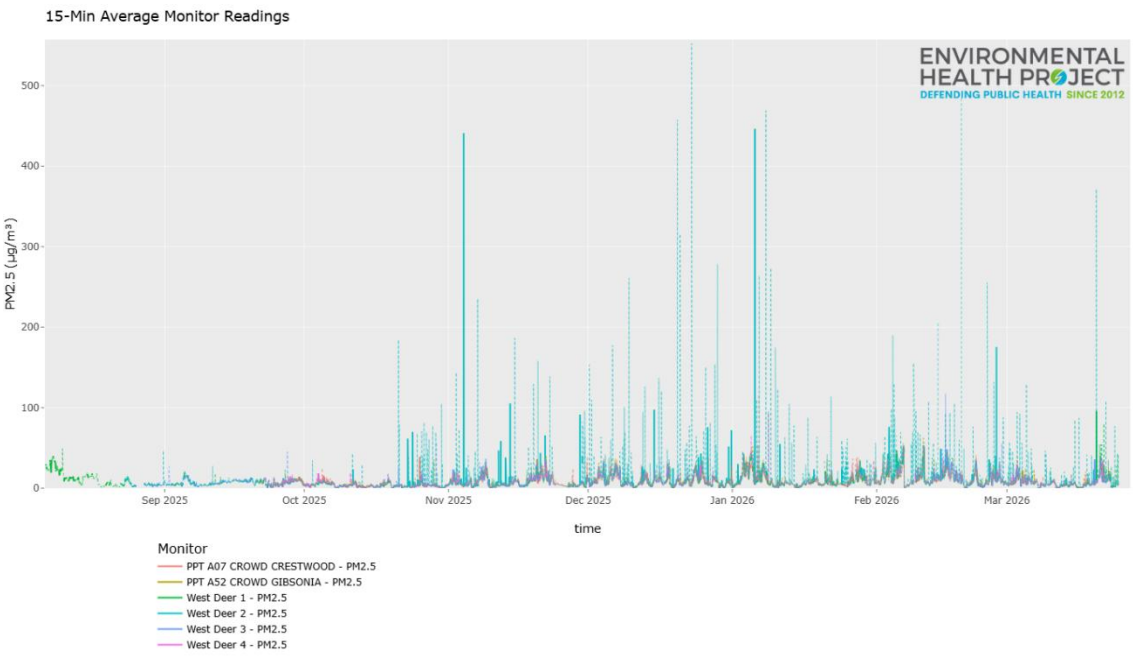

Figure 5. *Modeled impact of the Leto Well Pad on 15-minute average readings. This graph was produced using EHP's AirView application.*

Finding 2: Concerning long-term exposures to fine particulate matter ($PM_{2.5}$)

The average of all readings collected in this community air monitoring network exceeded the World Health Organization's public health recommendation for $PM_{2.5}$ (5 µg/m^3). One monitor, West Deer 2, exceeded the EPA standard by .6 µg/m^3, and another, A52, had an average of exactly 9 µg/m^3. These findings are exhibited in *Table 1* on the right. While this is not a formal evaluation of compliance with the annual EPA standard, which requires regulatory-grade monitoring equipment and at least three years of data, it provides a preliminary assessment of the average exposure levels West Deer residents are experiencing. Based on this assessment, introducing additional particulate matter from the dehydrator, associated infrastructure, and heavy truck traffic could put this community at increased risk of health impacts and regulatory noncompliance.

Monitor Readings to Compare to All EHP Data

	Avg. of All Readings
All Selected Data	**8.09**
PPT A07 CROWD CRESTWOOD - PM2.5	7.3
PPT A52 CROWD GIBSONIA - PM2.5	8.9
West Deer 1 - PM2.5	7.5
West Deer 2 - PM2.5	**9.6**
West Deer 3 - PM2.5	6.9
West Deer 4 - PM2.5	8.1
EPA Standards*	**9**
WHO Guidelines	**5**

Table 1. *West Deer data compared to the WHO Guidelines and EPA annual standard. This table was produced using EHP's AirView application.*

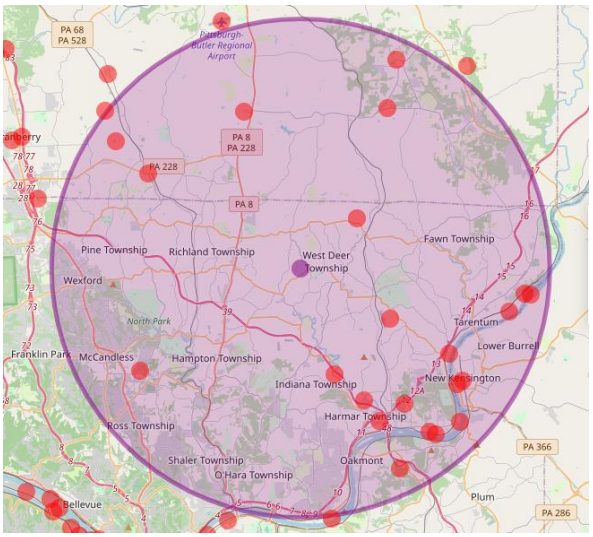

Figure 6. *2020 NEI Emitters within 10 miles of the Leto Well Pad. This map was produced using EHP's AirView application.*

In addition to the oil and gas development slated for West Deer, there are 22 other 2020 National Emissions Inventory emitters within a 10-mile radius of the Leto Well Pad. These sites are shown as red dots in *Figure 6* on the left. Emissions from these facilities combine and expose community members simultaneously and cumulatively over time.

Assessing emissions cumulatively is not only important for assessing local exposure levels, but also for strategies to achieve and maintain compliance with the National Ambient Air Quality Standards. The current federal administration has attempted to weaken the implementation of the 2024 new annual particulate matter standard of 9 µg/m^3, but should the standard be used to measure compliance, Allegheny County is at risk of being in nonattainment.[37] From 2021-2023, five of the nine ambient monitoring locations exceeded 9 µg/m^3. Reducing, not increasing, emissions is imperative to meeting this new standard.

More health-protective technology exists to reduce emissions from the gas dehydration process.

The proposed enclosed combustors, or flares, for the glycol dehydrator and four Vapor Destruction Units are intended to destroy 98 percent of emissions produced by the dehydrator and six associated tanks. This level of efficiency has not been observed in the field where these enclosed combustors have been installed. Certified thermographers with the non-profit EarthWorks have captured significant fugitive emissions[38] coming from these devices using optical gas imaging (OGI) technology. This puts into question the effectiveness of enclosed combustion devices and their ability to successfully control the dehydrator's emissions to meet the federal limit of .9 megagrams of benzene per year.

Fortunately, there are alternative dehydration devices that would reduce the total amount of emissions and avoid the need for a combustor. For example, desiccant dehydrators[39] are simple dehydrators recommended by the U.S. EPA STAR program that run wet gas through moisture-removing salt tablets. The only emissions from these dehydrators are released when the device is refilled with tablets approximately once a week. They do not require an external power source and typically require much less material, disposal, and maintenance costs than a glycol dehydrator.

EQT has a concerning track record of violating emergency management protocols, putting the nearby community at an increased risk of danger.

In addition to the public health and air quality risks outlined above, EQT's history of violations across their Allegheny County sites and recent emergency management violation at the Leto Well Pad are another reason for ACHD to further consider this permit application before making a final decision. In the last five years, EQT Production received 131 violations at their Allegheny County sites and 1,492 violations across all their facilities in Pennsylvania. Most of these violations (1,411) were related to health and safety.

In October 2025, ACHD responded to a complaint about a leak at the Leto Well Pad. The EQT representative reported that 1.5 gallons of synthetic base oil leaked out of a hose and onto gravel outside the secondary containment area. When ACHD requested the facility's secondary containment logs, the EQT representative said they were unsure how to access them. When ACHD inquired about the logs with a different EQT representative, the logs were promptly shared by email. Every EQT staff on site at the facility should be able to easily access and share containment logs.

Even more concerningly, EQT demonstrated a lack of preparation for pollution events in this ACHD inspection. EQT failed to record the spill in the Pollution History of their onsite Preparedness, Prevention, and Contingency Plan. This violated the Guidelines for the Development and Implementation of Environmental Emergency Response Plans, #400-2200-001 that require operators to record the details of pollution events and actions taken to remediate the situation. EQT also did not have any local emergency phone numbers listed in their onsite plan. EQT's failure to meet fundamental emergency management procedures within the facility's first year of operations does not inspire confidence among community members living as few as 750 feet away.

Recommendations

Further scrutiny of the air quality and public health impacts of this facility are required before approving the first air quality permit for the Leto Well Pad.

The Allegheny County Health Department has the authority to go beyond the minimal environmental and health protections afforded by existing state and federal regulations. EHP urges the ACHD Air Quality program to require a cumulative assessment of the potential air emissions from facilities within a 10-mile radius of the Leto Well Pad before making a final decision about the installation permit. This assessment should include the existing Tyche Well Pad and Interconnect, and the anticipated Caro Brandon Well Pad and Leto Compressor Station.

If this impact assessment produces results contrary to the extensive body of literature on the health impacts associated with proximity to oil and gas operations, then EHP recommends the inclusion of better health protective technology, such as desiccant dehydrators, in the final permit.

Additionally, EHP recommends an evaluation of EQT's readiness to operate this facility safely and an extensive review of EQT Production's emergency response plan to ensure proper management and communication protocols will be followed should another unexpected pollution event occur.

Thank you for the opportunity to provide these recommendations. We hope the Allegheny County Health Department adheres to its mission to "protect, promote, and preserve the health and well-being of all Allegheny County residents" by exercising their authority to ensure adequate precautions are taken at the Leto Well Pad.

Please do not hesitate to contact the Environmental Health Project with any further questions about the concerns we have presented.

Talor Musil, Field Manager
Environmental Health Project

About the Environmental Health Project

The Environmental Health Project (EHP) is a nonpartisan, nonprofit public health organization that defends public health in the face of shale gas development. EHP provides frontline communities with timely monitoring, interpretation, and guidance while engaging diverse stakeholders: health professionals, researchers, community organizers, policy makers, and others.

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