

October 23, 2020

By email to: ra-eppipelines@pa.gov

Re: Public Comments on Report for HDD PA-CH-0199.0000-RD (HDD #S3-0360)

To whom it may concern:

I am writing to express my concerns over Sunoco's plans for the HDD 360 20" pipe installation, submitted to the Department of Environmental Protection for re-evaluation. I live directly across the road from the worksite on Shoen Road, on the property where the groundwater seeps that first appeared in July 2017 after the pilot hole was abandoned and grouted. I am acutely aware of what has occurred during this construction over the past three and a half years, and have a Masters degree in Soil Science and Geology.

HDD 360, currently being referred to by Sunoco as Biddle Crossing, has been problematic since drilling began here in 2017 and had two failed attempts before the most recent. The problems include the discharge of massive amounts of groundwater from the aquifer, inadvertent returns of drilling mud, and ongoing seeps on the north side of Shoen Road at our property. **This October 2020 HDD Analysis ignores, downplays or falsifies these concerns and consequences which will continue to be of significance for the 20" installation.**

Discharge of Groundwater

Sunoco's Drill Analysis claims that groundwater discharge at the southeast entry/exit began on August 10 and that it only varied between 25 and 50 gpm. This is FALSE: The discharge begun on Aug 3 (if not earlier) and until grouting, was an estimated 264,000 gallons per day (183 gmp).

- Groundwater discharge began on August 3 (if not earlier), evidenced by water trucks coming and going from Shoen Road drill site to haul this water away as waste. (See attached timestamped Video August 3,2020)
- Several times between 7pm and 7am on August 4 through August 7, Sunoco violated West Whiteland Township's noise ordinance in order to haul water offsite after allowable hours, disturbing residents and requiring township police intervention.

- Twenty-two 18,000 gallon frac tanks were installed at the worksite to handle the discharge from Saturdays 7pm to Monday's 7am



- This frac tank capacity amounts to a discharge of 183 gpm. This is corroborated by the frequency of 5,000 gallon water trucks coming and going from the worksite.

Although no private wells are left to be impacted along this segment, this does not mean the DEP, which recognizes water conservation as a principal component in the protection of our state's natural resources, should not be deeply concerned about this impact to groundwater. Such a loss of clean freshwater should not be acceptable to the Department which is charged with protecting this limited resource.

The DEP must require Sunoco to submit a plan to ensure drilling the 20" will not impact the aquifer again, discharging large amounts of groundwater.

Inadvertent Return of Drilling Mud

In its August 17, 2020 Restart Report (Exhibit 9 [here](#)), Sunoco-contracted GES geologists claimed that on August 8 mud first appeared in the seep on the north side of Shoen Rd at approximately 3pm and flowed for only approximately five minutes and at that time the sand bag dam was constructed. This is FALSE: The flow begun as grey mud around 9:15am, the sandbag dam was constructed around 1:25pm and around 3:30pm it failed.

- Mud started emerging from the seep at approximately 9:15am. It was grey. (See attached timestamped Video Aug 8 9:16am)
- By 12:38 pm the flow had turn to a thicker mud, orange in color, presumably from iron oxidizing bacteria as is regularly seen in this seep water (See attached timestamped Video Aug 8 12:38pm).
- At about 1:25pm (not 3pm as claimed) Sunoco constructed the sandbag: dam:



- At approximately 3:30pm the mud flow suddenly increased, the sandbag dam failed and mud was headed toward the creek. It was only then that Sunoco stopped drilling, over six hours after mud first emerged
- Sunoco states that they did not stop drilling when mud appeared because while it met the field criteria for pH and conductivity, the color was not grey. However, when the mud first emerged it clearly was grey.

In addition to this failure of the Seep Monitoring Plan, it is deeply concerning that Sunoco submitted a false report, signed by GES geologists, to the Department of the events that occurred at Shoen Road on August 8.

The DEP must require Sunoco to submit a plan to better contain inadvertent returns at this site as well as avoiding them altogether.

Seeps at Shoen Road

When Sunoco grouted the borehole in July 2017 after the first failed HDD attempt at this location, a seep was created on the north side of Shoen Road. In its HDD Analysis Sunoco again attempts to falsely claim this is naturally occurring seep, after previously acknowledging that the seeps were created by their drilling activities.

The Department received letters in January 2020 refuting this false claim from West Whiteland Township, Senator Dinniman, Rep Friel Otten and myself detailing:

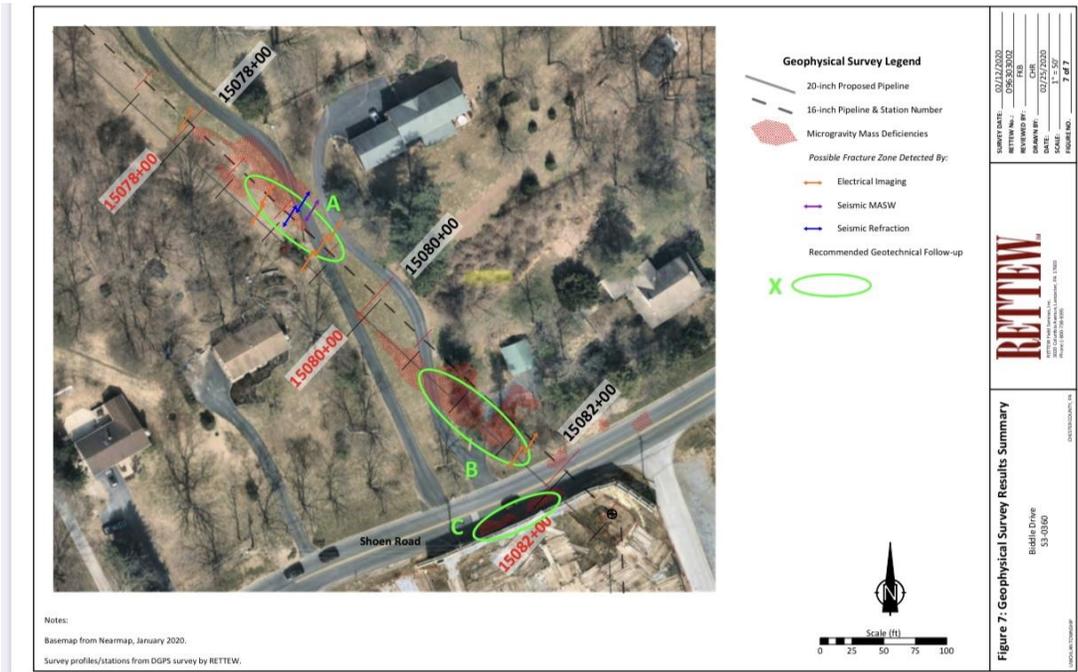
- Sunoco's September 1, 2017 Hydrogeological Investigation concluded the seeps were the result of a "groundwater mound" created when the pilot hole was grouted.
- In Senator Dinniman's Petition for Emergency Relief hearing in May 2018, Sunoco testified under oath that they were responsible for the seeps
- In July 2017 I met with West Whiteland Township staff and Sunoco to develop an agreement for how Sunoco would temporarily handle the flow from the seeps.
- In December 2018 Sunoco did further work on the north side of Shoen Road to keep water from flowing on the road and creating an ice hazard
- The seeps were never present at any time in the 16 years we have lived here. Our neighbors who have lived in their home for past 38 years and whose family owned this property state that the seeps were never here prior to July 2017.
- The Seep Investigation by Skelly and Loy dated July 2, 2018 (which was introduced by Sunoco in January 2020) is inaccurate, speculative and inconclusive. And it claims that soil pits were dug in the area of the seeps for the investigation. As a soil scientist, I am very familiar with this field work. I state unequivocally that no soil pits were dug and the entire Skelly and Loy report should be considered suspect and stricken from all submissions from Sunoco.
- Not included in these letters is the more recent finding of a geophysical survey conducted by Rettew in February 2020 (Attachment D in Sunoco's HDD Analysis) that water is emerging from where the HDD leaves rock and following the grouted pilot hole through soil to the location of the seeps.

Since July 2017, the seeps have emerged on the north side of Shoen Road on our property or the road allowance below. On October 3, 2020 after grouting was complete, flow from the seeps increased in the rock swale and uphill on our property and briefly turned muddy. Since then, they have run clear and emerge from the ground on our private property on the slope above Sunoco's temporary workspace (See attached timestamped Video Aug 23)

In their September 1, 2017 Hydrogeologic Investigation, Sunoco predicted that once the grouting was complete (as per Scenario 4), the seeps would no longer occur. Grouting

is now complete and yet the seeps continue on our property: The plan in Sunoco's Hydrogeologic Investigation has failed.

There is no plan to stop these seeps and no plan to ensure seeps will not occur on other homeowners' property with construction of the 20" pipeline. Geophysical testing performed by Rettew (included as Attachment D in the HDD Analysis) in February 2020 identified two areas on the hillside across from the Shoen Road worksite and along Shoen Road that are at increased risk of subsidence and seeps from this construction. These areas include all four private properties on the hillside:



In addition to impacting private property, the current seeps present a public safety concern because the water emerges along the path of Mariner East 1 buried just a few feet underground in soil near the transition from phyllite to karst geology. The water could be undermining Mariner East 1, risking a rupture.

In addition to concerns about the seeps themselves, the water from the seeps has had an elevated pH since grouting and cannot even be diverted to the creek. Instead, the water is being pumped under the road to frac tanks requiring pumps, generator and personnel in front of our property 24/7. It has been three weeks now, and the pH remains elevated. What if this pH does not return to acceptable levels? This has not been addressed in the submitted HDD Analysis

The DEP must require Sunoco submit plans to:

- 1. Mitigate the seeps that continue to have an elevated pH three weeks after grouting**
- 2. Stop the seeps their drilling activities created at Shoen Road**

3. Ensure drilling the 20'' does not create seeps on other homeowners' property

Finally, any plans Sunoco submits to address the above concerns related to ground water discharge, seeps and inadvertent returns, must be based on science. **In addition to conducting a more thorough hydrogeologic investigation, further geologic investigation is required:** The Drilling Analysis claims that there is no known or mapped karst geology along HDD 360, but the September 1, 2017 Hydrogeologic Investigation stated that the geologic structure in the area is complex and that a drill log on the Shoen Road worksite "shows limestone where one would expect phyllite" and another boring drilled near this entry/exit pit indicated a karst formation. And in Rettew's geophysical survey report (HDD Analysis Attachment D) there is a recommended for further geotechnical investigations in the three areas of concern at Shoen Road shown in Figure 7. This HDD Analysis contains no report on such follow-up investigation and to the best of my knowledge, this work has not been conducted.

Finally, these investigations must be conducted by independent geologists not influenced by Sunoco: The false information submitted for HDD 360 on multiple occasions now, and the allegations recently come to light by a geologist formerly employed on the project should make this requirement clear to the Department. **The DEP should not be granting any further approvals without a review of Sunoco's policies and ensuring that all reports are based on sound science.** Too much is at stake - our water resources, people's properties, well-being, health and very lives.

A public meeting on this re-evaluation is requested.

Virginia Marcille-Kerslake

West Whiteland Township, Chester County

