

July 3, 2019



By Email

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Re: Comments on Report for HDD PA-CH-0127.0000-RD (HDD# S3-0320)

To whom it may concern:

Pursuant to the Corrected Stipulated Order entered on EHB Docket No. 2017-009-L on August 10, 2017 (“Order”), and on behalf of Clean Air Council, Mountain Watershed Association, Inc., and the Delaware Riverkeeper Network (“Appellants”), please accept these comments on Sunoco Pipeline L.P.’s (“Sunoco”) re-evaluation report (“Report”) for the horizontal directional drilling (“HDD”) indicated by drawing number PA-CH-0127.0000-RD (the “HDD Site”).

1. This reevaluation is premature and incomplete because the installation of the 16-inch pipe is ongoing and has been significantly delayed without explanation.

Drilling for the installation of the 16-inch line at the Site began in early September, 2017. Nearly two years later, the Report reveals that “[t]he HDD of the 16-inch pipeline is yet to be completed.” The Hydrogeologic Report describes 95% of the pilot hole for the 16-inch HDD being finished, meaning the reaming phase has not even begun. The extreme delay in the construction at this Site warrants thorough analysis and should be central to this reevaluation. Yet Sunoco barely acknowledges the delay. The brief chronology for the Site that Sunoco provides describes “insignificant” loss of circulation and a 15-gallon inadvertent return during the first attempt at drilling for the 16-inch line. In the greater scheme of Sunoco’s construction messes, these incidents appear on their face to be quite minor, and certainly do not seem to explain abandonment of the pilot hole and a very lengthy delay in construction. It is critical that Sunoco fill in the gaps in this story. Without a thorough analysis of what happened – and is happening – with the construction of the 16-inch HDD, this reevaluation is incomplete and premature. Such an analysis is the starting point for understanding how to prevent similar problems during the installation of the 20-inch line.

2. Sunoco's plans do not account for the challenges associated with drilling through the heterogeneous rock found at the Site.

The Hydrogeologic Report describes in depth the challenging characteristics of the three rock types encountered along the proposed profile, yet Sunoco fails to acknowledge this assessment at all in its plans for the redesign. The Site is underlain by felsic and intermediate gneiss, banded mafic gneiss, and diabase. The Hydrogeologic Report characterizes each rock type as “[d]ifficult to excavate,” and Sunoco should proceed with “slow drilling rates.” The felsic and intermediate gneiss and the diabase both have large boulder inclusions, which “can create difficulty.” The banded mafic gneiss has “[j]oints / fractures of an irregular pattern, moderately to poorly formed, of moderate abundance, widely to moderately spaced, irregular, steeply dipping and open.” These qualities, particularly the heterogeneousness of the gneiss, could pose serious problems for drilling. Unless Sunoco drills at an especially slow rate, the drill bit can become unwieldy and difficult to steer when encountering a boulder which has a different hardness than the surrounding rock. As a result, the bit can steer off the planned alignment.

In the summary portion of the Report, Sunoco merely acknowledges that the three types are “present” without going into detail about the difficulty posed by their irregularity and the impaired ability to navigate through them. Sunoco’s hydrogeologists have made suggestions for this exact situation in past reevaluations. Their proposed recommendations have included governing drilling rates and using greater than typical alignment checks to maintain alignment. They also prescribe that Sunoco should lower bit and mud pressures, given that higher bit pressures can slow the advancement of the HDD. If an area has a particularly high amount of hard rock zones, another suggestion involves the use of diamond bits to maintain the cutting surface and steer through hard rock zones.

Not only does Sunoco not consider the past recommendations from its hydrogeologists for drilling through similar types of rock, Sunoco does not specify any plan for addressing the problems posed by the three rock types. The Department should require Sunoco to develop such a plan.

3. Sunoco needs to justify the depth of the redesigned profile.

Although Sunoco’s redesign of for the Site includes deepening the drilling profile, Sunoco has not explained why it has chosen the specific depth it proposes to pass through, or why that depth is preferable to any other depth. At this Site, deeper depths appear to correlate with higher rock integrity with some variability. See Figure 1 Graph of RQD Results by Depth (below). Drilling deeper to access the higher quality and more granite-like material could be a good strategy to avoid inadvertent returns, LOC, and another abandoned pilot hole so long as the appropriate depth is chosen. The Department should require Sunoco to justify the depth of its redesigned profile by contrasting it with the possibility of drilling at other depths.

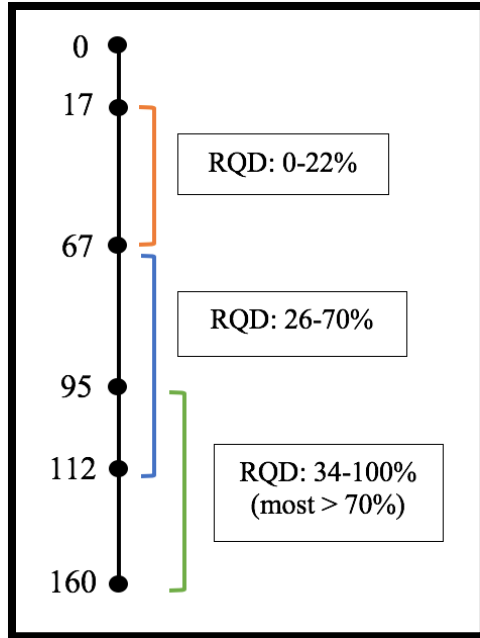


Figure 1 Graph of RQD Results by Depth (bgs)
 (higher RQD appears to correlate with depth at this site)

4. Sunoco cherry-picks results from the rock coring samples and excludes the information about the coring sample taken near the location of the IR (B6-8W).

It appears Sunoco attempted six geotechnical cores at the Site. The first four attempts encountered early auger refusal with the bores only reaching tens of feet; they did not even reach half the depth of the proposed HDD profile. Two additional test bores were able to reach deeper, but produced differing results. Regarding the results of geotechnical boring, the Report states, “Most core recoveries were in a range from 74 to 100 percent.” This statement is not attributed to an individual boring site but stated as a general description for all boring sites. The numbers, however, only correspond to one bore. The Hydrogeologic Report provides some detail about the two successful test bores: bore B6-8W had “most core recovery at 42 to 50 percent,” B6-8E had “[m]ost core recoveries...in a range from 74 to 100 percent” that also included a fault zone with a recovery of 20 to 30 percent. Sunoco cherry-picks only the results from B6-8E, omitting entirely the results from B6-8W. This omission is especially significant because B6-8W was taken only 100 feet away from the site of the prior IR and B6-8E was taken almost 2,100 ft away from the prior IR, and these points correspond roughly with the entry/exit points of the HDD. Sunoco has not provided data on the expanse in between and ignoring half the data that is available. Sunoco should be required to fill in this significant gap in information and to discuss the implications of all test bore results on its redesign.

5. The Department should require Sunoco to generate a credible plan to handle groundwater discharge.

Sunoco should have in place a plan to deal with the expected groundwater discharge at the Site. The Hydrogeologic Report states that “A theoretical hydraulic head difference of approximately 30 feet exists between the southeastern part of the drill and the northwestern entry/exit on profile HDD S3-0320. As such, the drilling plan for HDD S3- 00320 should account for a potential groundwater discharge when the pilot boring is complete.” The Report, however, nowhere appears to account for the risk of groundwater discharge.

This is a consequential risk. Elsewhere in Chester County, as of this writing, Sunoco’s work is causing groundwater discharge to run across a neighbor’s yard and into a pond which it is polluting. The Department has not required Sunoco to abate the harm. That is unacceptable.

The Department cannot allow Sunoco to continue to breach groundwater and simply let it out to run outside the limits of disturbance onto other people’s property and into waters of the Commonwealth. The time to plan to prevent that is now.

Thank you for considering these comments. Please keep Appellants apprised of any next steps.

Regards,

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