

**DEP Permit # E31-234
 DEP Permit HDD Reference # PA-HU-0110.0000-SR-16
 DEP HDD # S2-0155
 Township – Tell
 County - Huntingdon
 HDD Site Name – Campbell Creek / George Creek Crossing**

1st Public Comment Period

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1. Comment

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-HU-0110.0000-SR-16 (the “HDD Site”).

1. The Report contains contradictory statements on whether karst is present at the Site.

The Hydrogeologic Report has contradictory statements on whether karst is present at the Site. On the one hand, in Section 6.0, it says,

No karst geology was observed during the field reconnaissance, mapped as being present at this HDD

location, no carbonate bedrock was observed in the geotechnical borings, and no evidence of subsidence was observed during the completion of the 20-inch HDD. Based on the lack of karst geologic features, and lack of thick carbonate sequences at the depths anticipated for the proposed 16-inch HDD, the use of geophysical surveys during re-evaluation was considered but was ultimately not implemented at the George Creek HDD location.

On the other hand, in Section 8.0, it says

Based on published geologic and hydrogeologic information, geotechnical investigation results, and field observations during completion of the 20-inch HDD and pipe installation, the George Creek HDD location is underlain by carbonate and clastic sedimentary rocks of the Onondaga Formation and Hamilton Group. The hydrogeologic setting is dominated by groundwater flow that occurs in secondary openings formed long geologic features that include bedding planes, joints, and fractures. These secondary openings may be enlarged or enhanced to some degree by dissolution of any carbonate rocks.

Topography molded by the dissolution of carbonate rocks is karst. As a result of these contradictory statements, it is unclear whether karst is present at the Site. Obviously, the presence of karst has implications for the design of the 16-inch HDD. Additionally, the purported lack of karst was Sunoco's reason for not implementing geophysical surveys at the Site.

The Department should require Sunoco to clarify whether markers of karst are present at the Site and to what extent Sunoco investigated the presence of karst. If markers of karst are present, geophysical surveys should be used and the 16-inch HDD should be redesigned accordingly.

2. The Department should require Sunoco to consider a deeper profile embedded in the significantly stronger rock detected just below the planned revised profile.

Sunoco does an analysis for re-routing, but fails to do any analysis of alternative HDD profiles. Sunoco should have analyzed the possibility of a deeper profile that crosses sensitive features in more competent bedrock. Deeper profiles tend to need to be longer, otherwise the angle of entry must be steepened, and 16 degrees is already towards the steeper end of what the equipment can handle. However, the profile could be made to go longer. West of the planned western exit pit is open farmland for several hundred more feet, and east of the planned eastern exit pit is another couple

hundred feet still within the area of temporary workspace. The reason for considering a deeper profile is apparent from the Hydrogeologic Report.

Boring B-01 was the only deep geotechnical boring done. It noted a sharp jump in strength between around 56 feet bgs and 77 feet bgs. See Hydrogeologic Report at Section 5.0. It is curious, then, that Sunoco deepens the profile, but only to a maximum depth bgs of 75'. It would seem sensible to bore the pipe to a depth where it is solidly embedded in stronger rock. The Department should ask Sunoco to evaluate conducting a deeper bore so as to ensure the bore is solidly within that stronger rock at least below the wetlands and creek.

Appellants urge the Department to require Sunoco to do deeper coring and for the Department to evaluate the potential benefits of a deeper profile that would likely reduce inadvertent returns.

Sunoco's alternatives analysis also suffers from reliance on a statement that contradicts its other statements. The Report says that "[c]onventional auger bores are technically limited to less than 200 linear feet varying by the underlying substrate." Sunoco's Trenchless Construction Feasibility Analysis states at Section 4.1.2, however, that "the current maximum extent for a CAB installation of a 16" or 20" diameter pipeline is approximately 390 feet." See [http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/MarinerEast II/Cambria/11%20-%20EAF/Encl%20E%20-%20Comp%20Env%20Eval/Part%203%20-%20Alternatives%20Analysis/Appendix%20B%20-%20Trenchless%20Feasibility%20Analysis%20%202016-11-29-FINAL.pdf](http://files.dep.state.pa.us/ProgramIntegration/PA%20Pipeline%20Portal/MarinerEast%20II/Cambria/11%20-%20EAF/Encl%20E%20-%20Comp%20Env%20Eval/Part%203%20-%20Alternatives%20Analysis/Appendix%20B%20-%20Trenchless%20Feasibility%20Analysis%20%202016-11-29-FINAL.pdf). And Sunoco has elsewhere in a letter to the Department dated August 24, 2018 stated "conventional auger bore is technically limited to less than 300 linear ft of relatively flat land surface at a single attempt." Which one is it?

3. The Department should to take enforcement action on Sunoco's unauthorized drill of the 16-inch before re-evaluation.

Section 7.0 of the Hydrogeologic Report states "The 16-inch pilot boring was started on December 12, 2017 and had reached a trajectory length of 658.9 feet when drilling was stopped for the holiday break and never resumed as a result of the January 3, 2018 project-wide shut down ordered by the Pennsylvania Department of Environmental Protection." As Sunoco acknowledges at the beginning of the Report, however, "The 20-inch HDD was initiated after July 25, 2017 and an IR occurred during its installation, thereby necessitating a reanalysis before the installation of the second pipe (16-inch) can commence." Indeed, per Section 7.0, that IR occurred on November 8, 2017. Another, "punch out," IR occurred afterwards. *Id.*

Sunoco by its own omission violated the Order. The Department accordingly should take enforcement action.

Thank you for considering these comments. Please keep us apprised of your next steps on the HDD Site. (1-5)
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