



December 11, 2017

By Email

ra-eppipelines@pa.gov

Re: Comments on Report for HDD PA-WM1-0023.0000-RD

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 this comment on Sunoco Pipeline L.P.'s ("Sunoco") re-evaluation report ("Report") for the horizontal directional drilling ("HDD") indicated by drawing number PA-WM1-0023.0000-RD (the "Site").¹

The Department's Review

Pennsylvanians rely on the Department of Environmental Protection to protect them from dangerous activities that threaten their air, water, land, and health. The Department has recognized that the construction of Mariner East II has done damage to the public already. The purpose of Sunoco's re-evaluations of certain HDD sites is so that it does a better job avoiding

¹ The Order reads, in pertinent part:

§ 6(ii) "For all recommendations for which a minor permit modification is required, including, but not limited to, certain changes from HDD to an open cut or certain changes to the Limit of Disturbance ("LOD"), the Department will have 21 days to review the submission and render a determination with respect to such minor permit modification, unless Sunoco agrees to extend the 21-day time period.

Appellants and private water supply landowners, who have received notice pursuant to Paragraph 7 below, shall submit comments, if any, within 14 days of the Department's posting of Sunoco's Reports on the Department's Pennsylvania Pipeline Portal website...The Department shall consider comments received and document such consideration." Emphasis added.

§ 6(iii) "For all other recommendations, including, but not limited to, recommendations of no change or of changes that do not require a minor permit modification, the Department will have 21 days to review the submission and render a determination with respect thereto, unless Sunoco agrees to extend the 21-day time period. *Appellants and private water supply landowners who have received notice pursuant to Paragraph 7 below, shall submit comments, if any, within 14 days of the Department's posting of Sunoco's Reports on the Department's Pennsylvania Pipeline Portal website...The Department shall consider comments received and document such consideration."* (Emphasis added).

harm to the public and the environment in its HDD construction. The Department's role is to review and assess Sunoco's Report before deciding what action to take on it.

It is the Department's duty to review and assess the Report with protecting the public and the environment placed first and foremost. Looking at the individual circumstances at the site in question is key. Critically important is accounting for input from those who live nearby, who have a deeper connection with and greater knowledge about the land than the foreign company building the pipelines through it.

A meaningful, objective and substantive review and assessment by the Department will ensure that new or further HDD operations at the re-evaluated sites will cause minimal, if any, harm to the public and the environment. Anything less than a full, careful, and objective review would endanger the public and the environment. Pennsylvanians place their trust in the Department to do a thorough, science-based assessment, taking into account these and other comments, and approving Sunoco's recommendation only if it would protect the public and the environment from any further harm.

Comments on HDD PA-WM1-0023.0000-RD

Sunoco's revised plan to dig the borehole through more competent bedrock is an improvement in its reduction of the likelihood of an inadvertent return. However, the HDD Site is in an area crisscrossed with third-party piping, mining, and drilling. Given these nearby activities, additional information should be gathered, and precautions taken, to ensure that the HDD does not pose a danger either in construction or during operation.

I. Sunoco's re-evaluation report is difficult to assess due to a lack of information on nearby discharges and/or inadvertent return(s).

It is common practice for professional geologists and engineers to review similar activity that occurred nearby when developing or evaluating proposed permit plans. This is because there is often shared geology at nearby sites which can help engineers and geologists to predict whether there will be any issues at a proposed site. Yet even though the Report includes a section titled "On Other HDD Alignments in Similar Hydrogeologic Settings" it makes no mention of 1) an issue that arose during construction of the ME II Sewickley Creek HDD site or 2) an inadvertent return that spilled large amounts of drilling fluid into Sewickley Creek in the neighboring West Newton area.

Sunoco's ME II Sewickley Creek HDD site is roughly 0.3 miles from the Hildenbrand Rd. HDD site. In June of 2017, a Mountain Watershed Member documented a discharge of reddish water at the Sewickley Creek Site. (See photo included as "Attachment A"). Because this area is so thoroughly undermined, it is likely that the water's reddish tinge was caused by exposure to minerals from the underground mine before it was forced to the surface as a result of either construction activity or inadvertent returns which occurred during HDD activity.

The Department is aware of the discharge at the Sewickley Creek HDD Site (see email

included as “Attachment B”) but the incident was not included in the table of inadvertent returns or any other discussion of ME II violations of which Appellants are aware. There is no indication that the incident at the Sewickley Creek Site was reviewed or analyzed in Sunoco’s re-evaluation of the Site. It is difficult to assess the proposed re-evaluation when there is little to no information on the circumstances that likely resulted in illegal acid mine discharge at the neighboring HDD site.

Additionally, there is no mention in the Report of a very large inadvertent return in June of 2017 that was caused by Tenaska Inc.’s use of horizontal directional drilling underneath Sewickley Creek in nearby West Newton.¹ The inadvertent return resulted in a significant but undisclosed amount of bentonite slurry released into Sewickley Creek. Mention of this inadvertent return in a “similar hydrogeologic setting” and very physically close to the Site is absent from the Report and so the cause of the inadvertent remains unknown to Sunoco. Lacking this information, it is impossible for Sunoco’s engineers to consider and ultimately avoid repeating similar mistakes.

II. The Adjacent Features Analysis fails to include oil and gas features.

In the section entitled “Adjacent Features Analysis” there is no mention of the nearby gas development which, if unidentified or improperly identified, could lead to extraordinarily dangerous outcomes.

According to the Department’s eMaps website, there is an active unconventional gas well (“Shoaf 8 Well”) which has a center point roughly 600 feet from the western entry/exit point for the Site.² There is no discussion of the Shoaf 8 Well in the re-evaluation and consequently, no analysis of where the associated horizontal drill lines are located, and obviously no discussion of whether those horizontal lines could intersect or pass very near to the Site’s HDD route.

The Report additionally does not include mention of the presence of a conventional well located within 400 feet of the western entry/exit point.³ Conventional and unconventional gas wells in highly fractured areas such as this are known to “communicate” with nearby underground activity. This communication can result in dangerous highly volatile gas being forced to the surface.

Furthermore, water well #647547 which was identified by Sunoco as being very close to the HDD line (~50 feet) could cause additional gas communication that results in flammable gas being forced to the surface. Well #647547 is described as being 200ft deep with casing only

¹ <http://pittsburgh.cbslocal.com/2017/06/05/west-newton-drilling-clay-sewickley-creek/>

² The unconventional gas well pad is described on eMaps, in part, with the following identifiers: Permit Number: 129-27431; Well Name: SHOAF 8; Operator: ATLAS RESOURCES LLC; Well Type: GAS; Well Status: Active.

³ The conventional gas well is described on eMaps, in part, with the following identifiers Permit Number: 129-26621; Well Name: SHOAF 3; Operator: ATLAS RESOURCES LLC; Well Type: GAS; Well Status: Active.

around the top 20 feet. If communication between the existing gas wells and Mariner II HDD occurred, it could not only force gas to be released via the entry and exit points of the HDD but could also force gas to the surface via the water well. This could lead to methane contamination of the water and could create an explosive water well. Methane contamination of private water near gas wells is a well-documented occurrence in the Marcellus region and has even resulted in fatalities when large explosions have occurred within drinking water wells.

Lastly, the Laurel Mountain Midstream Hermine compressor station is also located within 450 feet from the ROW at the Site.⁴ The existence of a compressor station so close indicates a larger-than-average number of gas transmission lines in the area. This is partly reflected in the permit plan, which identifies at least eleven gas or petroleum line crossings above the drill. However, there is no discussion of what has been done to accurately identify and locate each gas line. Sunoco recently revealed that they were unable to accurately locate their own Mariner East I line to such an extent that operations at the Norfolk Southern Railway HDD Site had to be shut down and the site plans reassessed. Considering the extraordinary number of gas lines that run above of and adjacent to the drill—and considering Sunoco’s inability to locate its own gas line—the Department should require Sunoco to thoroughly explain its procedure for accurately identifying all lines above the drill as well as in the adjacent area.

III. The Report does not explain the significance of the engineer’s discovery of conditions that increase the likelihood of inadvertent returns such as “unidentified open bedrock structural features” and “fracture traces”.

The Report notes the presence of various conditions that, according to the professionals that created the Report, increase the likelihood of inadvertent returns. Yet the Report does not address how exactly these conditions impact the possibility of returns and does not explain what steps can or have been taken to avoid them.

For example, in the section entitled “Observations To Date” the Report states that

In general, the IRs have been related to shallow overburden (especially under water bodies), large elevation changes between entries and exits, coarse grained unconsolidated materials near the surface (such as alluvium and mine spoil), deep coal mines, and the interconnectivity of open bedrock structural features that is difficult to predict. The revised boring for S1B-0190 is not associated with these conditions, **except for the potential for unidentified open bedrock structural features.**⁵

⁴ The compressor station is described on the Department’s eFacts website, in part, with the following identifiers: Site ID: 682289; Site Name: HERMINIE COMP STA; Address: 348 Apples Mills Rd., West Newtown, PA 15089; Status: Active.

⁵ The conclusion of this last statement also fails to acknowledge that it is incorrect by Sunoco’s own admission. It is plainly stated later on in the Report that the Site is located above a deep coal mine. The sentence should more accurately read: “The revised boring for S1B-0190 is not associated with these conditions, except for *the presence of deep coal mines and* the potential for unidentified open bedrock structural features.

(Emphasis added).

This suggests that “unidentified open bedrock structural features” still pose a risk that has not been addressed by the proposed plan. Sunoco provides no discussion regarding the extent of this risk, or what can or has been done to avoid it. Even if these features are, as Sunoco describes, difficult to predict, that does not mean meaningful information on these features cannot be gathered and utilized, or that the risk cannot be mitigated. Use of additional geotechnical surveying methods may be helpful in this regard, but was not conducted by Sunoco.

The Report also includes a fracture trace analysis which found that the revised drill profile will cross over three fracture traces. The Report states that the “three fracture traces [which] intersect the alignment for the revised boring and may represent locations of increased fracturing and associated higher risk for fluid loss and IRs.”

The Report qualifies and seemingly discounts this concerning finding by saying that such analysis “is partly subjective therefore, every mapped fracture trace does not necessarily represent a zone of bedrock fracture concentration.” However, it seems safe to assume that the analysis is a relatively good indicator that a fracture concentration exists because such analysis has been commonly and historically used by geologists and, obviously, it was deemed accurate enough to be used and included in the Report. As such, Sunoco should either provide an explanation, supported by data, as to why it does not believe the increased fracturing presents a risk under its new proposal, or discuss how it is mitigating those risks.

The Report’s Re-route Analysis also fails to address these concerns. There is no analysis of whether even a slight re-route of the ROW at this site would yield a safer drill due to a decreased amount of open bedrock structural features or avoidance of the three fracture traces.

IV. The Report fails to identify the danger of horizontal directional drilling in an area at risk for mine subsidence.

The Report addresses the issue of subsidence and past mining in regards to their potential impacts on groundwater which is a very important step. Yet the Report does not acknowledge the inherent risks of placing 1,651 feet of pipeline below the earth’s surface in an area that is at risk of subsiding.

All areas that are undermined, despite any amount of overburden that remains, will likely experience some amount of subsidence. The pressure and stress that subsidence places on existing pipelines can cause them to rupture or explode. When a pipeline is 50-60 feet below ground like it is proposed to be at the Site, it is even more difficult to remedy such damage. This drill plan does nothing to address or prevent pipeline failure in the event of subsidence.

The Report states that “the Pittsburgh coal has been deep mined beneath HDD S1B-0190.” The Site appears on the Department’s subsidence insurance map as being in an area that is “at risk for mine subsidence or a mine water breakout. Mine Subsidence Insurance is recommended.”

The professional engineers who prepared the Report also identified an area near the eastern entry/exit point as one that may have already experienced past or ongoing subsidence: “Rock coring at B1-6E was initiated at a depth of 12 ft bgs) and advanced to a final depth of 127 ft bgs RQDs varied over a range from 20 to 96 % with no apparent trend with depth **which may be indicative of some degree of mine subsidence along the east side of the profile.**” (Emphasis added).

Yet the plan does not suggest additional vertical supports or any other method to help prevent rupture or explosion in the event of damage from subsidence. Because the pipeline will be so far underground and is proposed to contain odorless, highly volatile natural gas liquids, there will be few opportunities to promptly identify and repair leaks and ruptures. Protection and prevention measures in areas that are undermined should be submitted by Sunoco and considered by the department before drilling is allowed to commence.

V. Sunoco has not taken necessary measures to protect water supplies.

Sunoco’s search of the PaGWIS system revealed two private water supplies within 150 feet of the alignment at the Site. One of the wells, number 647547, is extremely close to the alignment is at extraordinary risk of contamination. In regards to well number 647547, the report states: “At this location, the revised bore could intersect the reported waterbearing zones of the residential well increasing the chances of hydraulic communication with drilling fluids.”

In the “Conclusions and Recommendations” section, the Report finds that: “Given the increased depth of the bore **there is an increased risk that drilling fluid could enter the water producing zone of a residential well proximal to the alignment and the drilling plan should recognize this potential.**” (Emphasis added).

Yet it appears Sunoco has entirely ignored this express recommendation as there is no mention in the drilling plan of Sunoco acknowledging or taking steps to prevent drilling fluid contamination from entering the water producing zone of the residential well. It is merely mentioned that “the landowners with private water wells determined to be at risk during the HDD will be offered alternative water supplies until the HDD is complete.”

Simply planning to provide replacement water supplies is insufficient, as the goal of the re-evaluation process is to prevent damage. Considering the increased risk to the water supply that was identified, Sunoco should be required to engage in direct contact with all 8 nearby landowners and increase efforts to ensure that all water wells are located.

Until the effort to make direct contact with landowners has been completed and all information gathered from that process is fully considered by Sunoco’s scientists, DEP, and the public, the proposal for this Site cannot be considered complete or determined to be safe.

Conclusion

For these reasons, Appellants request that the Department refrain from approval of this re-evaluation recommendation for the Site until additional documentation and analysis have been received and reviewed by Appellants and the Department.

Thank you for considering these comments. Please keep us apprised of your next steps on the Site.

Sincerely,

s/ Melissa Marshall, Esq.
Melissa Marshall, Esq.
PA ID No. 323241
Mountain Watershed Association
P.O. Box 408
1414-B Indian Creek Valley Road
Melcroft, PA 15462
Tel: 724.455.4200
mwa@mtwatershed.com

s/ Aaron J. Stemplewicz
Aaron J. Stemplewicz, Esq.
Pa. ID No. 312371
Delaware Riverkeeper Network
925 Canal Street, 7th Floor, Suite 3701
Bristol, PA 19007
Tel: 215.369.1188
aaron@delawareriverkeeper.org

s/ Joseph Otis Minott, Esq.
Joseph Otis Minott, Esq.
Executive Director & Chief Counsel
PA ID No. 36463
joe_minott@cleanair.org

Alexander G. Bomstein, Esq.
PA ID No. 206983
abomstein@cleanair.org

Kathryn L. Urbanowicz, Esq.
PA ID No. 310618
kurbanowicz@cleanair.org

Clean Air Council
135 South 19th Street, Suite 300
Philadelphia, PA 19103
Tel: (215) 567-4004

cc: jrinde@mankogold.com
dsilva@mankogold.com
mamurphy@pa.gov
ntaber@pa.gov

Attachment A



Photo taken by Mountain Watershed Association member on June 14, 2017 from Angelcyk Rd. of Sewickley Creek HDD site.

Attachment B



Melissa Marshall <melissa@mtwatershed.com>

Fwd: Sewickley creek complaint- mariner 2

Eric Harder <eric@mtwatershed.com>
To: Melissa Marshall <melissa@mtwatershed.com>

Tue, Dec 5, 2017 at 12:13 PM

Eric Harder
Youghiogheny Riverkeeper



WATERKEEPER ALLIANCE
Mountain Watershed Association
eric@mtwatershed.com
262-716-7151

----- Forwarded message -----

From: **Chris Droste** <chris@wcdpa.com>
Date: Mon, Nov 6, 2017 at 2:32 PM
Subject: Sewickley creek complaint- mariner 2
To: eric@mtwatershed.com

hi eric. is this on Angelcyk court near sewickley creek? I was there on oct 27. I noticed spring water coming from middle of where they HDD was. some iron dropped out. looked at sewickley creek and it was not red. was this the location?

chris

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Christopher E. Droste, CESCO
Senior erosion control specialist
Westmoreland Conservation District
J.Roy Houston Conservation Center
[218 Donohoe Road, Greensburg PA 15601](https://www.wcdpa.com)
phone: [724-837-5271](tel:724-837-5271)
Fax : [724-837-4127](tel:724-837-4127)
Email: chris@wcdpa.com
website: www.wcdpa.com