

April 30, 2019

Mr. Matthew Gordon  
Sunoco Pipeline, L.P.  
535 Fritztown Road  
Sinking Spring, PA 19608

Re: Hydrogeological HDD Re-Evaluation Report  
Everett Railroad Crossing 16" Horizontal Directional Drill Location (S2-0121-16)  
Permit No. E07-459  
Blair Township, Blair County

Dear Mr. Gordon:

The Pennsylvania Department of Environmental Protection (DEP) is requesting more information from Sunoco Pipeline, L.P. (SPLP) related to the HDD Re-Evaluation for the Everett Railroad (RR) site, HDD# S2-0121-16 and permitted under Permit E07-459, posted on the DEP Mariner East II pipeline portal webpage on March 6, 2019.

1. As required by Paragraph 4 and 5 of the Environmental Hearing Board's August 10, 2017 Corrected Stipulated Order (Order), SPLP failed to fully utilize information gathered during the HDD of the 20-inch bore as part of the HDD Re-evaluation for the 16-inch pipeline. Several inadvertent returns (IRs) and losses of circulation (LOC) occurred during the HDD activities for the 20-inch bore. While SPLP made changes to the proposed 16-inch pipeline profile based on information gathered during the 20-inch pipeline, the HDD re-evaluation doesn't adequately tie the 20-inch information into a geologic analysis. Additionally, there is no discussion of the three areas of subsidence that occurred during completion of the 20-inch FlexBor. Please gather geologic and drilling information collected by various site personnel during the 20-inch bore which can be used to synthesize a comprehensive history of each or groupings of events. The HDD re-evaluation report should discuss the operational or geologic cause of each IR, the magnitude of the IRs and associated losses of circulation, the best management practice used to contain and minimize the IRs, and the drilling procedure or technique used to progress the boring. The re-evaluation should describe how the 20-inch "as-built" was used in determining the proposed 16-bore path.

The type of information described above, and any other relevant data gained in the intervening time period since the 20-inch HDD began to present, should be used to describe and support why the chosen bore path for the 16-inch pipeline was determined. Include how such information has been used to minimize the potential for IRs or the potential for water supply impacts to occur. Part of the discussion of construction alternatives, including why

HDD activity is still the preferred and chosen methodology for pipeline construction at this location, should be included in the re-evaluation report.

2. Relating to the overall *HDD Re-evaluation Analysis* and the *Geology and Hydrogeological Evaluation Report*:

- a. There is no evaluation of the data and no data-based correlation for why the revised 16-inch pathway was chosen. Please provide a discussion of how the data presented was used in designing and as support for this proposed HDD bore path and profile.
- b. Supplemental drilling and sampling of earth materials provided -
  - i. Please explain why boring B3-4W was terminated at 71 feet.
  - ii. Please explain why no geotechnical data was collected between the 20-inch exit and the proposed 16-inch exit? What is the depth-to-bedrock in this area? How was the IR potential of this area assessed since a portion of it appears to be underlain by limestone?
- c. *Section 2.0 Geology and Soils* of the “Geologic Report” states that the Frankstown Branch of the Juniata River discharges into the Little Juniata River. The Frankstown Branch joins with the Raystown Branch downstream of Huntingdon, forming the main stem Juniata River.
- d. In the *Regional Geology Summary* table:
  - i. Boring SB-02 (S2-0120), under the column “Regional Geology Description”, the description of the Tonoloway Formation is not given. “Dark-gray, highly fossiliferous, crystalline to nodular limestone with shaley limestone near its top” describes the Keyser Formation. Under the column “General Rock Type”, there is no description of the Keyser Formation. Please revise the description.
  - ii. Boring SB-01 (S2-0121), under the columns “Regional Geology Description” and “General Rock Type”, there is no description of the Old Port Formation, just the Onondaga Formation. Please revise the description.
- e. *Section 6.0 Geophysical Survey/Geologic Analysis* The core boring logs contain numerous references to highly-weathered limestone, highly-fractured limestone, and voids in the vicinity of the proposed 16-inch profile as it ascends to the exit point. The Keyser Formation is one of the most cavern-prone formations in Central Pennsylvania and underlies a portion of western half of the proposed 16-inch HDD. Please explain in much greater detail why no geophysical surveys were performed.

- f. *Section 5.0 Geotechnical Evaluation* presents a synopsis of the core borings.
- i. The section ends with the statement “Skelly and Loy and RETTEW relied on these reports and incorporated their data into the general geologic and hydrogeologic framework of the analysis of the proposed 16-inch drill at HDD S2-0121-16 for this report.” Please specify where this data was incorporated into the re-evaluation? The data is presented but is not further discussed.
  - ii. Additionally, this section of the report presents information and data, but no evaluation of the data and information is made in relation to the re-design the proposed 16-inch bore path.
  - iii. Please explain the value of data collected from core borings B-1 and B-1A, relative to the HDD, when they are not located along the HDD pathway.
- g. *Analysis of geologic strength at profile depth:*  
There is no analysis in the re-evaluation report specifically tying the revised drill path to any specific zones noted on the core boring logs as having high RQDs, or why the revised 16-inch path was chosen. Please provide a discussion addressing the use of this data in designing the bore path.
- h. The wetlands, geologic contacts, locations and depths of the core borings, and locations and depths of nearby private water supplies should be included on Fig. 2 Revised 16-inch HDD Plan and Profile.
- i. The section *Geologic Analysis* states “the bore of Reservoir Road will be within the overburden of the Clinton Group of the Rose Hill Formation”. That should be the Rose Hill Formation of the Clinton Group. Please review and revise the bedrock geologic descriptions within the HDD re-evaluation.
- j. The *Alternatives Analysis* references a reanalysis of HDD S3-0011-16. Please revise to reference S2-0121-16 and revise as necessary to ensure the alternatives analysis narrative is for S2-0121-16 and not another HDD site.
3. Relating to the *Analysis of well production zones* and use of information obtained during construction of the 20-inch pipeline;

The re-evaluation report fails to include evaluation of the information and data collected for the twelve private water supplies within 450 feet of the proposed HDD or the water supplies that are in the vicinity of the proposed HDD. The re-evaluation report also fails to consider any water supply complaints that SPLP received in the vicinity of the 20-inch HDD. It is also unclear whether any of the private water supplies identified within 450 feet are the same as any of the water supplies within 0.5 miles that were identified from the PaGWIS database.

In addition, *Attachment 3 Well Location Map* has parcels marked in blue and identified in the map legend as “public water supply/landowner confirmed no well”, yet there are blue dots on a few of those parcels which identify “GES testing locations”. Please clarify.

Any private or public water supply information and data obtained within 450 feet, or otherwise obtained in the vicinity of the 20-inch or proposed 16-inch HDD, should be used and discussed as part of this HDD re-evaluation. This data should include, but not be limited to, any applicable water supply sampling data obtained and any water supply complaints that SPLP received for water supplies within 450 feet of the HDD or within the general vicinity during construction of the 20-inch pipeline. The results of the SPLP’s water supply sampling program, investigation and disposition of any complaints, and any correlation or non-correlation to SPLP’s construction activities should be evaluated and discussed in the HDD re-evaluation report. Use of this information should be used to demonstrate that the proposed 16-inch HDD activity will minimize the potential for IR’s and impacts to water supplies. Please revise the re-evaluation report to include this information.

4. Related to Pipe Stress Radius: Provide further explanation of how the following statement applies to this HDD re-evaluation: “Pipe stress allowances are an integral part of the design calculations performed for each HDD.”
5. SPLP is reminded that drilling of any sort in a karst environment can induce subsidence sinkholes. The site geologist should be reminded to exercise vigilance for surface indications of sinkhole formation.

Upon receipt, DEP will post SPLP’s response to this letter on the DEP pipeline portal webpage for public comment. The public will have 5 additional business days from the date of posting on the website to provide DEP any additional comment.

If you have any questions or would like to discuss this letter, please contact me at [scwilliams@pa.gov](mailto:scwilliams@pa.gov) or 717.705.4799.

Sincerely,



Scott R. Williamson  
Program Manager  
Waterways & Wetlands Program

cc: Larry Gremminger, Energy Transfer Partners/Sunoco Pipeline, L.P. (pdf copy)  
Monica Styles, Sunoco Pipeline, L.P. (pdf copy)  
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