



Pennsylvania
Department of Environmental Protection

November 21, 2025

Mr. Bradford L. Fish
Energy Transfer
100 Green Street
Marcus Hook, PA 19061

Re: Letter of Deficiency for Interim Site Characterization Report
SPLP Pipeline Release
eFACTS PF No. 881609
eFACTS Activity No. 60986
Glenwood Drive and Walker Road
Upper Makefield Township
Bucks County

Dear Mr. Fish:

The Department of Environmental Protection (DEP) has reviewed the September 2, 2025 document titled “Interim Site Characterization Report” (ISCR) for the Sunoco Pipeline, LP (SPLP) Twin Oaks – Newark 14” diameter pipeline release response. The ISCR was prepared by Verdantas LLC, and it was submitted in accordance with DEP’s March 6, 2025, administrative order (Order) and the approved Implementation Schedule.

DEP also reviewed SPLP’s responses to public comments documented in the September 15, 2025 transcript titled “Public Meeting Regarding Sunoco Pipeline LP Twin Oaks 14” Diameter Pipeline Release Interim Site Characterization Report (ICSR)” (Public Meeting Transcript) and the October 31, 2025 document titled “Comment-Response Document Interim Site Characterization Report (September 2, 2025)” (CRD).

The purpose of the ISCR was defined in Paragraph 2.b.ii of the Order as follows:

...a report describing the interim characterization of the nature, extent, direction, rate of movement, volume and composition of regulated substances released into the environment from the Pipeline Release in accordance with the remediation standard(s) of Act 2.

The purpose of the ISCR was further clarified in Comment 2.a. in DEP’s April 8, 2025 Letter of Deficiency for the Proposed Implementation Schedule, which was acknowledged by SPLP in its April 10, 2025 submission titled “Response to Letter of Deficiency for the Proposed Implementation Schedule,” as follows:

The purpose of the interim site characterization report is to define, in a substantial measure but not completely, the nature, extent, direction, rate of movement, volume, and composition of contamination in affected environmental media. The interim site characterization report should establish the information known, relevant data gaps, plans

for further characterization, and the ability of the data to support development of remedial actions.

Upon review of the ISCR and SPLP's responses to public comments provided in the Public Meeting Transcript and CRD, DEP finds the ISCR deficient and offers the following comments:

1. **Date of Start of Pipeline Leak:**

In response to a public comment regarding the start of the pipeline release, SPLP stated in the CRD that "*SPLP has assessed the likely date when the leak began.*"

If the date that the release began is known to SPLP, it should be shared in the revised ISCR. Understanding when the release first began impacts the conceptual site model and the determination of the nature, extent, direction, rate of movement, volume, and composition of contamination in affected environmental media.

2. **Septic System Evaluation:**

Evaluation of the potential migration of contamination through septic systems was first requested by DEP via comment in DEP's May 13, 2025 Letter of Deficiency for the Site Characterization Work Plan. SPLP provided a response to DEP's comment in SPLP's June 27, 2025 "Response to Letter of Deficiency for the Site Characterization Work Plan".

In DEP's August 29, 2025 Approval of the Site Characterization Work Plan, DEP indicated that "The response provided by SPLP constitutes an initial evaluation of the potential migration of contaminants related to the pipeline release into residential septic systems. DEP requests that SPLP include this evaluation in the Interim Site Characterization Report."

DEP understands that the date of this request so close to the due date of the ISCR prevented SPLP from including this evaluation in the ISCR. SPLP sent a document to DEP titled "Septic System Migration Pathway Evaluation", dated September 29, 2025, that provided the requested evaluation of the pathway.

SPLP should include the September 29, 2025 Septic System Migration Pathway Evaluation as an attachment in the revised ISCR.

3. **Extent of LNAPL:**

DEP acknowledges that, in recent months, light nonaqueous phase liquid (LNAPL) has not been detected in some of the wells that had previously contained LNAPL. However, SPLP's assertion in Section 4.3 of the ISCR that the extent of LNAPL is shrinking is based on data collected from monitoring wells that are, in most cases, hundreds of feet from the release area.

To date, no wells have been installed beneath the release area to characterize groundwater despite soil analytical data from post-excavation samples PE-1 and PE-7 collected at 7 ft below ground surface (bgs) indicating the presence of naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene at concentrations greater than Statewide health standard soil medium-specific concentrations (MSCs).

Recovery wells RW-2 and RW-3 were installed approximately 70 ft southeast and 40 ft east of the release area, respectively. The wells installed by SPLP nearest to recovery wells RW-2 and RW-3 are located approximately 225 ft to the west (MW-1 and MW-2 clusters), approximately 275 ft to the south (MW-6 cluster), approximately 250 ft to the east (MW-11 cluster), and 66 ft to the north (RW-4). Data from the RW-2 and RW-3 pumping tests presented in Appendix N-2 of the ISCR indicate minimal connectivity, if any, between RW-3 and RW-4.

One of the stated goals of the ISCR is that it should “*establish the information known, relevant data gaps, plans for further characterization, and the ability of the data to support development of remedial actions.*” SPLP does not yet have an adequate data set to determine the lateral extent of LNAPL is shrinking, as the full lateral extent of LNAPL is not known. This is a significant data gap that should have been identified in the ISCR and SPLP should have provided plans in the ISCR for further characterization of the extent of LNAPL.

DEP recommends that additional LNAPL delineation wells be installed at the release area and near RW-2, RW-3, and the 128 Walker Road supply well in order to better define the extent of LNAPL and enable SPLP to accurately determine whether the extent of LNAPL is shrinking.

4. **Groundwater Characterization:**

Groundwater samples collected on June 24, 2025 from the deepest packer testing zones within recovery wells RW-2 (48-63 ft bgs) and RW-3 (47-65 ft bgs) contained concentrations of one or more of benzene, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene greater than groundwater MSCs. These samples were collected from intervals that were, in theory, isolated from the shallower portions of the wells overlying the tested zone.

As documented in Appendix N-1 of the ISCR, SPLP also completed packer testing of nine zones within the supply well at 108 Spencer Road, all of which contained concentrations of benzene greater than the groundwater MSC at depths ranging from 24.8 to 460 ft bgs.

Concentrations of VOCs greater than groundwater MSCs have also been identified in the influent from several residential supply wells with pumps at depths of up to 400 ft bgs. SPLP's deepest monitoring wells installed to date are at 75 ft bgs.

The existing monitoring well network is insufficient to characterize the nature and extent of dissolved-phase VOC contamination related to the pipeline release. Additional monitoring wells should be installed to vertically delineate dissolved-phase VOC impacts identified in recovery wells RW-2 and RW-3 and domestic potable supply wells containing VOC concentrations greater than groundwater MSCs.

Furthermore, the monitoring well analytical dataset provided in the ISCR is incomplete, as the submittal of the ISCR occurred prior to the installation and sampling of 13 monitoring well pairs intended for use in horizontal delineation of dissolved-phase VOC contamination. Therefore, the ISCR did not substantially characterize the horizontal extent of groundwater contamination. SPLP should include all available monitoring well analytical data and an interpretation of the results in the revised ISCR.

5. **Groundwater Flow Direction**

The first paragraph of ISCR Section 4.2.2 states, “*groundwater flow is expected to be eastward based on regional recharge-discharge relationships*” and “[g]roundwater flow is expected to be toward the northeast based on the geologic and hydrogeologic literature.”

Interpretation of groundwater flow in the ISCR was limited to a single potentiometric surface map (Figure 4-3) using data from a single round of gauging completed on August 13, 2025. This potentiometric surface map indicated a southeasterly groundwater flow direction, contrary to the assumptions stated in the previous paragraph.

Based on the information provided in the ISCR, SPLP has not generated an adequate dataset to make informed interpretations of the complex hydrogeologic flow conditions within a fractured bedrock aquifer with dozens of active domestic water supply wells. A comprehensive understanding of the complex hydrogeologic flow conditions is essential to support the development of remedial actions.

DEP is aware that SPLP has installed 13 monitoring well pairs and placed pressure transducers in these wells, information not provided in the ISCR. Data from these transducers should be utilized by SPLP to generate a more robust and fuller interpretation of groundwater flow, and SPLP should present these data and interpretations in the revised ISCR.

6. **Professional Geologist Seal**

The report contains information and analysis that constitutes professional geologic work. Therefore, the report must be sealed by a professional geologist in accordance with 49 Pa. Code Section 37.59(2).

Although not a deficiency in the ISCR, DEP offers the following comment:

In response to public comments regarding the inclusion of LNAPL fingerprint analysis data in the ISCR, SPLP stated in the CRD that, “[t]hese questions are not on the content

of the ISCR. Moreover, forensic analysis of hydrocarbons is not required under Act 2, and the absence of inclusion of any forensic analysis in the ISCR does not constitute a technical deficiency or data gap.”

DEP is aware that SPLP has collected LNAPL samples for forensic analysis. These data are important for refining the conceptual site model and in the understanding of the nature, extent, and composition of contamination in affected environmental media. DEP requests that available LNAPL forensic analysis data be included in the revised ISCR.

Please feel free to contact C. David Brown by email at cdbrown@pa.gov or by telephone at 484.250.5792 with any questions or if further clarification is needed regarding this matter.

Any person aggrieved by this action may appeal the action to the Environmental Hearing Board (Board), pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. § 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A. The Board's address is:

Environmental Hearing Board
Rachel Carson State Office Building, Second Floor
400 Market Street
P.O. Box 8457
Harrisburg, PA 17105-8457

TDD users may contact the Environmental Hearing Board through the Pennsylvania Relay Service, 800.654.5984.

Appeals must be filed with the Board within 30 days of receipt of notice of this action unless the appropriate statute provides a different time. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

A Notice of Appeal form and the Board's rules of practice and procedure may be obtained online at <http://www.ehb.pa.gov> or by contacting the Secretary to the Board at 717.787.3483. The Notice of Appeal form and the Board's rules are also available in braille and on audiotape from the Secretary to the Board.

IMPORTANT LEGAL RIGHTS ARE AT STAKE. YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD AT 717.787.3483 FOR MORE INFORMATION. YOU DO NOT NEED A LAWYER TO FILE A NOTICE OF APPEAL WITH THE BOARD.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST BE FILED WITH AND RECEIVED BY THE BOARD WITHIN 30 DAYS OF RECEIPT OF NOTICE OF THIS ACTION.

Sincerely,

C. David Brown, P.G.
Regional Manager
Environmental Cleanup and Brownfields

cc: Mr. Gordon, Energy Transfer
Mr. Ketchum, Verdantas
Upper Makefield Township
Bucks County Health Department
Mr. Langan, Esq.
Mr. Devan, P.G.
Mr. Staron, P.G.
Mr. Lipik, P.G.
Ms. Budnovitch