



Comment-Response Document
April 18, 2025 Site Characterization Work Plan
eFACTS PF No. 881609; eFACTS Activity No. 60986
Twin Oaks – Newark 14”-Diameter Pipeline
Upper Makefield Township, Bucks County

Sunoco Pipeline LP (“SPLP”) provides this comment-response document for the public comments that SPLP received for the Site Characterization Work Plan (“SCWP”) that SPLP submitted to the Department on April 18, 2025, in accordance with paragraph 2.b.i of the Department’s March 6, 2025 Administrative Order (the “Order”).

SPLP received only one set of public comments on the SCWP in the form of a letter from Berger Montague (the “Berger Letter”) that SPLP received from the Department via email on May 18, 2025. As a reminder, Berger Montague represents and has commenced litigation against SPLP on behalf of certain residents in Upper Makefield Township. While the Department’s May 18th email to SPLP directs us to address these comments, SPLP disputes the premise of many comments and assertions made in the Berger Letter. We further note that SPLP reserves the right to contest all aspects of the Berger Letter including the propriety of plaintiffs’ counsel involved in active litigation against SPLP submitting comments on the SCWP. Nevertheless, SPLP is providing a response to each of the comments provided in the Berger Letter which are included verbatim below:

Commenter	Public Comment	SPLP Response
Berger Montague	1) Recovery and Monitoring Wells Sunoco represented in its April 16, 2025, Letter to the DEP that: SPLP’s diligent efforts to locate and install additional recovery and/or monitoring wells have been hampered by the filing of private litigation on behalf of certain residents in the Mt. Eyre neighborhood, and by the public disclosure of potential locations of recovery and/or monitoring	SPLP will not provide a point-by-point response to this portion of the Berger Montague letter, which is not an appropriate comment or directly relevant to the scientific or technical considerations contained in the SCWP for which public comment may be appropriate. Nevertheless, it is important to note that SPLP strongly disagrees with Berger Montague’s characterization of SPLP’s repeated (but to date unsuccessful) efforts to secure access to the private property of Berger Montague’s clients

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wells in the neighborhood. Indeed, SPLP had prepared detailed drilling plans and specifications for the installation of additional recovery/monitoring wells to be located on private property along Glenwood Drive, and was in the process of obtaining site access to promptly install the well(s), when those efforts were thwarted as a result of the public disclosure of the potential locations. Sunoco’s position above is false. Indeed, all our clients desire the full and complete remediation of Sunoco’s release of jet fuel into the local environment, including the optimal placement of monitoring and recovery wells. Sunoco, however, has treated our clients wrongly and has withheld basic information that has been requested. During the May 6, 2025, Upper Makefield Township Board of Supervisors Meeting, the residents at 121 Glenwood Drive clarified (as has been their position) that if Sunoco offers reasonable terms and simply answers basic questions, they have been willing to immediately have recovery wells placed and operated on their property. The owners even offered to put the issue of compensation aside for the time being to allow this to take place. We ask that you please review the video of the owner of 121 Glenwood Drive at [hyperlink]¹	for the purpose of installing recovery and/or monitoring wells as a part of SPLP’s ongoing investigation, remediation, and response efforts. The letter also appears intended to create a false narrative in the public record about SPLP’s response to the release. To ensure the public record is clear and accurate, SPLP notes that it offered Berger Montague’s clients compensation for recovery well installation that was significantly more generous than what SPLP ultimately agreed to with the Township, offers that Berger Montague rejected on behalf of their clients. In addition, counsel for SPLP has provided Berger Montague with available information regarding proposed recovery well installation locations, and explained that SPLP cannot provide comprehensive information about how the wells will be potentially utilized until after they are installed, for the reasons previously provided in SPLP’s April 16, 2025 Response to Letter of Deficiency for the Interim Remedial Action Plan – which plan the Department subsequently approved by letter dated May 9, 2025. Furthermore, the redactions made to certain figures appended to the SCWP are necessary to ensure confidentiality of information regarding private property, which the Department typically does not, and should not, release publicly.
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¹ “https://videoplayer.telvue.com/player/vNOm_m5Xk9aa_rCiUhvShuRa9opWn3/playlists/11153/media/950390 starting at 1:38:28.”

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Similarly, our clients at 128 Walker Road have repeatedly requested that Sunoco provide basic information, such as where on the property any recovery/monitoring well would be located, and what type of well it would be, so that they can respond to Sunoco. We have emphasized these basic requests repeatedly to Sunoco, but, to date, Sunoco has refused to provide such information. Relatedly, Sunoco has requested from the DEP, “in light of the actions to attempt to prevent the installation of additional wells that has already occurred,” – which is untrue – that it should not be required to initially disclose the locations of its proposed monitoring wells to the public. As indicated above, the premise of this request is false. The public has not foreclosed any installations, and it is preposterous and nonsensical that Sunoco has taken this position that providing basic information to the people who live in the affected neighborhood would be detrimental. As such, we respectfully request and urge the DEP to ensure that Sunoco makes public any proposed well locations—a request that would not hinder their placement but facilitate it in a more expeditious manner. Sunoco’s false narrative about property owners should not allow it to conceal what should be public information. We also question why Sunoco has kept figures (such as Figure 8) of the SCWP confidential. We ask that the DEP	Nevertheless, the revised SCWP submitted to the Department includes a map that is not redacted, and which depicts the locations of the four (4) recovery wells that have been installed to date, as well as the proposed locations of monitoring wells in the neighborhood, which are currently located within the public roadway. The locations of the proposed monitoring wells are preliminary and subject to being finalized as additional data and field information is obtained.
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	immediately require Sunoco to disclose all figures so that the public can provide complete and adequately informed input into Sunoco’s proposed plans for their neighborhood. Again, no one is interested in slowing the recovery efforts down – just the opposite – but the public is entitled to Sunoco providing complete information.	
Berger Montague	<u>2) Site Characterization</u> Another primary concern is that Sunoco conduct a site characterization and remediation as quickly, safely, and thoroughly as possible. However, we write to express concern in connection with the SCWP proposed by Sunoco and, specifically, how Sunoco plans to geologically characterize the site and delineate the extent of LNAPL and contaminated groundwater. In that regard, and at this juncture, we have two specific concerns as follows:	SPLP acknowledges the Berger Montague comment and notes that SPLP is in the process of conducting site characterization and interim remedial response efforts in a prompt, efficient, and throughout manner, in accordance with the Department’s Technical Guidance Manual and related regulations under the Act 2 program. SPLP disagrees that its “plans to geologically characterize the site and delineate the extent of LNAPL and contaminated groundwater” are insufficient or otherwise not in conformance with the Department’s Technical Guidance Manual and related regulations under the Act 2 program.
Berger Montague	<u>A. Use of electrical resistivity.</u> Between February 20 and March 7, 2025, Sunoco’s consultant completed five electrical resistivity imaging (ERI) lines. One reported objective was to identify fractures/fracture zones within the bedrock. Near-vertical “inferred fractures” were interpreted by Sunoco from the ER data. These interpreted fractures were purportedly used to help select the location of a recovery well at 108 Spencer Drive, a property that was purchased by Sunoco. The validity of the inferred fractures is highly questionable. Interpretation of fractures within bedrock	SPLP acknowledges the Berger Montague comment and respectfully disagrees with the assertions that SPLP’s Electric Resistivity (“ERI”) work was improperly performed, interpreted, or relied upon. SPLP further notes the overlap between the Berger Montague comment at comment K from the Department’s May 13, 2025 letter on the SCWP, and SPLP has made revisions to the SCWP in response to that comment. In addition, SPLP’s consultants ensured that all interference, including potential utility interference was accounted for in its ERI work. More specifically, several contractors have

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	from ERI models are commonly based on low resistivity features in the bedrock (because fractures within bedrock typically contain more water than surrounding rock and, therefore, conduct electricity relatively better). Interpreting low resistivity zones in bedrock as fractures may be appropriate if data quality is good and there is no infrastructure (such as buried metallic pipes) distorting the data. However, as is common in urban or suburban settings, the ERI models collected in the Mt. Eyre Manor neighborhood show numerous “low resistivity anomalies” that are consistent with the anomalies produced by buried metallic pipes or electrically grounded equipment/powerlines. Based on the limited data that we have seen, a number of these anomalies have wrongly been interpreted as inferred fractures based on utility interference. For example, a low resistivity feature is found beneath every single road crossing in the five models. Since asphalt roads should produce a high resistivity anomaly, the sources of the low resistivity features may likely be infrastructure, such as utilities running beneath or beside the roadways. A number of these low-resistivity features at roadways were likely interpreted as “inferred fractures.”	completed subsurface utility engineering surveys on the roadways and selected properties in the Mt. Eyre Manor neighborhood. These surveys demonstrate that there are few metallic utilities that could interfere with a resistivity survey. There are no gas, sewer, or water mains, and active communications cables are fiber optic. Water lines on the properties have been found to be black plastic. There are underground electrical lines that run 10 to 15 feet from the edges of roadways, but the resistivity survey lines are oriented almost perpendicular to these electric lines – minimizing their influence on the field resistivity readings. Of the 29 resistivity anomalies identified by the ERI survey, only 6 could be considered to be close to subsurface utilities. The remaining 23 anomalies are not in proximity to subsurface utilities. Interpretive linear connection of these anomalies to produce inferred fracture traces resulted in features that do not follow the alignment of subsurface utilities as would be expected if they were truly influenced by those utilities.
Berger Montague	Figure 1. ERI Profile 1 taken from Figure 2 of the Electrical Resistivity Imaging Report by RETTEW, with red text and arrows added for explanation. Likely areas of utility interference in the models beneath Walker and Spencer Roads were interpreted as “inferred fractures (pink dashed lines) in the report. The left side of the figure shows the start of the large, low-resistivity feature	See response above regarding the ERI survey data analysis. In addition, while the published geologic reference literature for the area and geological formation describes near-vertical fractures in the local geology, the field data obtained to date indicates the bedding dips approximately 10 degrees to the northwest. This bedding dip means that a stratigraphic bed

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	which is present in all five (5) resistivity lines. An inferred fracture interpreted at Distance 100 feet is potentially due to a change in geology (e.g. higher clay content) rather than an actual fracture.	with enhanced clay content would not appear as a near-vertical feature. Instead, a near-vertical low resistivity feature is indicative of a weathering of feldspars or accumulation of clay particles along a water-bearing fracture, which is consistent with the analysis of the ERI data.
	Initial packer testing results also suggest the ERI results may not have been useful in identifying an appropriate location for the 108 Spencer recovery well. According to the “Recovery Well Installation Workplan” for 108 Spencer Road, “Electrical Resistivity Imaging (ERI) data was used to adjust the location of the proposed recovery well to better align with bedrock structural features identified by the recently completed ERI survey.” The previous paragraph, however, suggested “limited to no hydraulic communication or effect is expected in the neighboring supply wells resulting from the proposed drilling activities at 108 Spencer Road” based on packer testing.” These two statements appear to conflict. Interpretations from the ERI data imply connections to “structural features” (e.g., fractures), but packer testing suggests there appears to be limited or no hydraulic connection among fractures near 108 Spencer Road. Based on the packer testing results, the inferred fractures interpreted from the ERI data were not predictive of hydraulic connectivity around 108 Spencer Road. In short, the SCWP places significant reliance on ERI, including both the initial ERI Survey discussed above, and a “Planned Supplemental ERI Survey.” We ask that	The precise placement of RW-1 at 108 Spencer was constrained by site features. Ultraviolet (“UV”) logging of the RW-1 borehole does show fluorescence consistent with the released jet fuel product from the base of casing of RW-1 to a depth of 66 feet, despite the fact that RW-1 is not currently producing recoverable jet fuel product and does not currently appear to have a strong hydrogeologic connection to the nearby residential well. The effectiveness of RW-1 to recover jet fuel product will be further evaluated once the well is operational and interacting with the local hydrogeologic conditions. The ERI survey is one step in an iterative scientific process to evaluate geological and hydrogeological conditions in the Mt. Eyre Manor neighborhood. The scientific processes that have been utilized to develop a conceptual hydrogeologic site model include: 1) A review of published geologic reference literature; 2) A review and analysis of remote sensing/aerial photographic/LiDAR topographic photolinears to evaluate the dominant joint/fracture pattern of the aquifer;

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	DEP ensure that appropriate data support any ERI used, and that Sunoco ensures that all interference, including utility interference, be fully and properly accounted for.	3) Completion of borehole geophysical logging and imaging to confirm the inferred joint/fracture orientations; 4) Completion of ERI surveys laid-out perpendicular to the dominant joint/fracture strike; 5) Completion of UV geophysical logging of the boreholes of wells to trace the presence of fluorescence indicative of jet fuel product; and, 6) Completion of seismic refraction profiles in the same locations as the ERI profiles. Furthermore, three additional recovery wells (RW-2, RW-3, and RW-4) have been installed in locations that were selected based on the data described above, and two of the three are currently producing and recovering jet fuel product.
Berger Montague	<u>B. Well Depth</u> Sunoco’s Recovery Well Installation Work Plans (March 14, 2025, and May 6, 2025) and the SCWP indicate that monitoring/recovery wells will only be installed to depths of approximately 70-75 feet below ground surface (bgs). We maintain that the depths of these proposed wells are inadequate to either monitor or recover contaminated groundwater beneath the Mt. Eyre Manor neighborhood for the following reasons: • Publicly available records of residential wells (https://gis.dcnr.pa.gov/pageode/) show that some wells in the Mt. Eyre Manor neighborhood reach depths exceeding 500 feet. Additionally, records show that drawdowns during specific	SPLP acknowledges the comment and respectfully disagrees that the recovery wells that have been installed to date (RW-1, RW-2, RW-3 and RW-4) are not constructed to proper depths. SPLP further notes that no monitoring wells have been installed to date since planning activities for the installation of monitoring wells are still ongoing. Moreover, UV logging of the boreholes of the recovery wells has demonstrated fluorescence that is consistent with the released jet fuel product at a maximum depth of 70 feet, confirming that a 75-foot depth recovery and/or monitoring well is appropriate. In addition, SPLP notes that the UV logging of the domestic well at 108 Spencer Road went to

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	capacity testing of wells in the Mt. Eyre Manor neighborhood lowered water levels up to 360 feet bgs. Drawdowns such as these have the potential to move NAPL from shallow to deeper depths within fractured bedrock. • A PADEP Field Narrative Form from March 14, 2025, stated that GES observed a petroleum odor from water in a bedrock fracture between 237 and 247 feet bgs at 108 Spencer Road. • To our knowledge, NAPL has been discovered in at least five supply wells in the Mt. Eyre Manor neighborhood: two wells near the identified leak (121 Glenwood, 128 Walker) and three wells over 1000 feet to the northeast of the identified leak (105 Spencer, 107 Spencer, and 108 Spencer), suggesting the potential for an uncharacterized NAPL transport pathway. The potential for water-level drawdowns in wells greater than 300 feet, the observation of petroleum odors at ~240 feet depth, and the absence of free NAPL detections between the two identified NAPL areas suggests a possible pathway for NAPL to migrate along relatively deep fractures. By only installing shallow wells, Sunoco limits the ability to effectively delineate and recover deeper contaminated groundwater. Additionally, the shallow wells will not provide aquifer information necessary to understand the fate and transport of leak related constituents in the subsurface.	300 feet, and found no potential product-related response deeper than 73 feet. The necessity of recovery or monitoring wells to characterize or recover dissolved phase product that may potentially be present in deeper strata will be evaluated pursuant to the SCWP. With respect to the portion of the comment alleging a potential for NAPL to be drawn-down during residential well use, the commenter’s use of the term NAPL is imprecise and potentially misleading. More specifically, the jet fuel product is present as LNAPL, rather than DNAPL. Because the product is present as LNAPL it will float on the top of the water column as the well recovers from any draw down. Furthermore, as noted above, the domestic well at 108 Spencer was UV logged to 300’ with no fluorescence below 73’.
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