December 11, 2017

By Email

ra-eppipelines@pa.gov kyordy@pa.gov



Re: Comments on Report for HDD PA-CH-0421.0000-RD & PA-CH-0421.0000-RD-16

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., the Delaware Riverkeeper Network, and Andover Homeowners' Association, please accept these comments on Sunoco Pipeline L.P.'s ("Sunoco") re-evaluation report ("Report") for the horizontal directional drilling ("HDD") indicated by drawing numbers HDD PA-CH-0421.0000-RD-16 (the "HDD Site").

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 2 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

§ 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.

¹ The Order reads, in pertinent part:

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-CH-0421.0000-RD & PA-CH-0421.0000-RD-16

This HDD site stands out as being in one of the most densely populated areas along the entire pipeline route. It is also far longer than most other drills, at over 6000 feet. The number of potentially impacted residents and vulnerable water supplies is thus especially high. The professional hydrogeologists that Sunoco hired to review plans for the Site have made a number of recommendations geared toward avoiding complications during the construction process and protecting water supplies. Sunoco has not adopted those recommendations, and instead proposes "no significant changes to the HDD plans" besides implementing standard best management practices. The Report provides no explanation as to why Sunoco has rejected its scientists' recommendations. It also appears, as with prior re-evaluation reports, that Sunoco has not provided its scientists with all necessary information regarding well locations and features, and that Sunoco has failed to conduct a meaningful alternatives analysis. For these reasons, and as described in more detail below, the present proposal should be denied.

1. Sunoco has not provided a complete assessment of risks to water supplies nor taken necessary measures to protect water supplies.

Sunoco has identified 217 landowners with parcels within 450 feet of the alignment and indicates that it sent mailers to those residents on October 30, 2017. While taking this most basic step prior to the submission of the Report is a move in the right direction, Sunoco has not yet initiated direct contact with all of these land owners to determine the potable water source for each landowner. Any outreach that has been conducted does not appear to have been considered by, and is not reflected in, the analysis provided by Sunoco's hydrogeologists; that analysis references findings from the PaGWIS system, but does not address any specific well or well production zone locations or features. 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.

Some potentially serious risks to water supplies have been identified in the Report, and those risks need to be addressed in the context of specific and accurate water supply data. For example, the Report explains that differences in topography "could cause excessive groundwater discharges at the entry/exit points during HDD construction and local water table lowering in the area of the topographic high." Even if a well does not run dry permanently, a short-term disruption of the water table could result in bacterial contamination of water supplies. Which wells could be impacted by the drop in the water table and the potential severity and duration of the impact need to be addressed. Simply planning to provide replacement water supplies is insufficient, as the goal of the reevaluation process is to prevent damage.

The vulnerability of water supplies in this area has also already been brought to light in the appeal of the Mariner East 2 Chapter 102 and 105 permits through the affidavit of a local resident and Chairman of the Westtown Township Board of Supervisors, Michael Di Domenico. (Attached as Exhibit A). Mr. Di Domenico lives just over 450 feet from the Site and in his affidavit, he explained that he consulted with multiple hydrogeologists and well drillers who advised him drilling nearby would likely have negative effects on the aquifer on which he relies and his well water. Mr. Di Domenico further explained that in the event of contamination or depletion of his well, he would be left with no water supply, as he is unable to connect to public water. He was also concerned about water supplies for other residents in his township and pointed out most water towers in Westtown store groundwater from wells. Mr. Di Domenico's affidavit demonstrates the need at this Site for Sunoco to consider impacts to wells outside the 450-foot radius. None of Mr. Di Domenico's concerns appear inconsistent with the findings of Sunoco's hydrogeologists, but it is also clear that the Report does not address or resolve these concerns.

Sunoco's hydrologists have made two recommendations specific to groundwater, neither of which appears to have been adopted by Sunoco in its proposed plans for the Site. First, the hydrogeologists recommend monitoring groundwater levels, as this "could provide useful information relative to the potential for lowering water levels and whether the pipe installation actually affects water levels." Second, the hydrogeologists recommended moving the intersection point:

Groundwater flowback to the entry point(s) may be an issue due to the hill near the midpoint of the HDD being higher in elevation he [sic] northwest and southeast entry points. . . . It would be advantageous to intersect north of the intervening hill to better manage the groundwater at the southeast entry point. There is more room at this location and adjacent areas, such as the open cut section and LOD for HDD 560-16 could be utilized.

Sunoco should provide a rationale for not adopting these recommendations, and explain how the plans it is proposing achieve adequate protection.

2. The Street Road Thrust Fault presents a high risk of inadvertent return perpendicular to the HDD alignment.

The HDD Hydrogeologic Reevaluation Report at page 4 identifies a fault known as "the Street Road Thrust Fault at the southern end of HDD S3-0541 that is oriented northeast-southwest," perpendicular to the HDD alignment. The fault is "a zone of smaller, southeast dipping planes that may represent a planar zone of enhanced secondary porosity, permitting fluids to flow more easily and farther along these planes than other discontinuities." (Page 5).

The geologists specifically noted that "monitoring of private domestic wells along the Street Road fault, northeast and southwest of the fault / alignment intersection during HDD installation would be useful for minimizing potential water supply impacts." Sunoco did not implement these measures.

We agree with these suggestions and further recommend that Sunoco cross the fault more deeply than it plans to. As can be seen in Figure 2 of the Hydrogeologic Report, the Street Road Thrust Fault crosses the HDD alignment just northwest of Street Road. The HDD borehole is planned to cross Street Road at a depth of 26 feet. Given the identified "weakness in the overburden materials [and] weakness in the bedrock," this shallow depth of crossing a zone of enhanced porosity is plainly insufficient to protect against inadvertent returns communicated laterally across this thrust fault.

Furthermore, water wells located along the thrust fault should be identified and protected farther out than the 450' minimum, as the groundwater communication will likely be much greater in this zone.

3. The proposed best management practices are insufficient for the geology of the Site, and do not reflect the recommendations of Sunoco's scientists.

The Report argues that "HDD specialists and geologists employed by SPLP have investigated the HDD design and subsurface geologic conditions and concluded that the original HDD design for the 16 and 20 inch pipelines, as summarized in the introduction, have a minimal risk of inadvertent returns (IRs) if implemented." Unfortunately, this is contradicted by the attached HDD Hydrogeologic Reevaluation Report. That report "has identified a few issues that need to be addressed to minimize the risk of IRs and potential adverse effect to the local bedrock aquifer."

As explained in the hydrogeologic report, previous attempts to drill through the gneiss bedrock found in this area for the installation of Mariner East 2 have proven problematic for steering due to the heterogeneous nature of the rock, which can divert the drill bit from the alignment. Sunoco's scientists point out that "plans for the HDD should take steering issues into consideration, **especially if intersect drills are considered**." (emphasis added). The scientists recommend: 1.) governing drilling rates, 2.) using greater than typical alignment checks, 3.) lower bit pressure, 4.) lower mud pressure, and 5.) use of a diamond

bit. According to the scientists, these may be "the only practical solutions for optimizing progress and staying on alignment."

It appears Sunoco does not intend to implement any of these changes. Instead, it proposes to employ the same vague best management practices that it has suggested for each site it has re-evaluated. Not only do these BMPs fail to reflect the recommendations of their scientists, but, as has been pointed out before, Sunoco does not say that these measures are new, or were not employed during its earlier, problematic phase of HDD across the Commonwealth.

Taken together, the geology of the area, and Sunoco's decision not to accommodate that geology in its plans, call into question Sunoco's ability to actually install the pipelines where it intends to install them. Deviating from the planned alignment and course corrections would result in greater disruption underground, increasing risks of IRs, threats to groundwater, and destabilization of the geology.

4. Sunoco has not conducted a meaningful alternatives analysis.

Sunoco's brief, generalized discussion of the re-route alternative does not provide enough information about alternative routes to determine whether re-routing is preferable. It describes a potential route to the southwest as requiring clearing of "new greenfield" and then dismisses that alternative without providing any basis for comparing that route to the planned route. A meaningful alternatives analysis requires quantitative and qualitative details about the potential environmental impacts at each location, as well as the safety of each.

In fact, the "new greenfield" terminology is misleading at best and factually incorrect at worst. The planned alignment involves the acquisition through eminent domain of a greatly expanded easement across the preserved, residential open space owned by the Andover Homeowners' Association. This expanded easement is *next to* an existing twenty-foot wide easement; but because the expanded easement consists of treed, maintained open space, it is in fact "new greenfield" itself. Sunoco's argument that it has chosen the planned alignment for the purpose of avoiding the taking of "new greenfield" fails because it is simply wrong. Sunoco should be required to discuss alternative routings in meaningful detail, accurately quantifying the specific amount of "new greenfield" in each.

In addition, the Andover residential subdivision contains a historic site registered in the Historic Resource Inventory of Thornbury Township, Delaware County. This site contains two structures built during the late 1700s, the foundations of at least four other structures, and a wide field of potential historic or cultural significance which has not been evaluated by Sunoco, the Pennsylvania Historic and Museum Commission, or the U.S. Army Corps of Engineers. This site was previously determined to be eligible for listing in the National Register of Historic Places. The Andover Homeowners' Association believes it is possible that items of significant historic and archeological significance, and possibly human remains as well, may be contained in the area which Sunoco proposes to disturb as part of the planned alignment. In fact, grubbing activities by Sunoco in the vicinity of its proposed

new greenfield easement has brought artifacts to the surface. Sunoco should be required to discuss alternative routings in meaningful detail, evaluating and quantifying the effects on cultural and historic resources of each alternative. Without such analysis, the appropriateness of the proposed route cannot be verified.

Conclusion

For these reasons, we request that this proposal be denied.

Thank you for considering these comments. Please keep us apprised of your next steps on the proposed HDD 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/ Eric Friedman__ Eric Friedman, President Andover Homeowners' Association, Inc. 9 Fallbrook Lane Glen Mills, PA 19342 andoverbod@gmail.com

cc: jrinde@mankogold.com ntaber@pa.gov _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

Exhibit A



AFFIDAVIT OF MICHAEL T. DI DOMENICO

Pursuant to 18 Pa. C.S. §4904, I, Michael T. Di Domenico, state as follows:

- 1. I have personal knowledge of the statements contained herein and could competently testify to them if called as a witness.
- 2. I live with my wife at 1530 Woodland Road, Westtown Township, Chester County. We have lived in Westtown Township since 1985. I have retired from a 35-year career in public education, including as a principal.
- 3. I am the Chairman of the Westtown Township Board of Supervisors.
- 4. I write this declaration to express concerns that I have about the Mariner East 2 pipelines that Sunoco plans to build through Westtown Township.
- 5. The drinking water at my house comes from a 405-foot water well on my property, as is the case with many people in Westtown Township. Survey stakes for the Mariner East 2 pipelines were less than 250 feet from my water well. Sunoco intends to drill underneath Route 352 using horizontal directional drilling where the pipes would be closest to my property.
- 6. At Westtown Township meetings, Sunoco representative Matt Gordon said that the drilling on Route 352 would be at depths between 70 and 180 feet.



- 7. I have been told and believe that the horizontal directional drilling would use 30-inch drill bits for the 20-inch pipes, and be lubricated by drilling fluid. The space between the drill bore and the pipes would be open.
- 8. This drilling in my neighborhood would cut through the aquifer that feeds my well and the wells of others where I live. I have attached a map as Attachment A to this declaration that shows which properties in my area get their water from wells. My property is marked with a "D" toward the bottom of the map. The road which Sunoco would drill under has a red line through it, to the right of my property. As you can see, many of the properties along the pipeline route use well water.
- 9. Concerned about my well water quality, I have spoken with several individuals who know about the effects of drilling on groundwater quality from their professional careers, including two hydrogeologists and three well drillers. They have told me that there is a very good chance the drilling nearby will negatively impact the aquifer and my well water.
- 10. The professionals I spoke with recommended both pre-drilling tests and two post-drilling tests to measure changes in water quality.



- 11. I have spoken to Sunoco representatives several times about doing water testing on my property, and Sunoco has consistently refused to do it. I have attached here as Attachment B a letter I sent to a Sunoco lawyer detailing some of these issues. The letter was sent in 2016, but the date in the document automatically updates and so is not accurate.
- 12. If my water well is contaminated or depleted, I will not be able to connect to public water due to the mismatch between the piping used in my home and the water pressure used by the municipal water supplier, and will have no water supply at my home. Because the value of my property depends on it, I spent \$740 to do well testing on my own.
- 13. My concerns about contamination of the aquifer are not unique to my household. Most Westtown Township water towers store groundwater from wells, and I have heard concerns from many Township residents.
- 14. Water contamination is not my only concern. Westtown Township is largely suburban, not rural. If one of Sunoco's new pipelines were to leak and explode in this area, the consequences would be catastrophic.
- 15. Westtown Township has an emergency plan, but it is designed for incidents like building fires, not for something like a high-pressure transmission



pipeline explosion. There is no emergency or evacuation plan that could handle this.

- 16. If Sunoco moves ahead with drilling its pipelines through my neighborhood using its current plans, I have great concern that the aquifer in my area and my well, as well as the wells of my neighbors, will be contaminated. If that happens, my family's life will be disrupted and our property value will be damaged.
- 17. I also am very concerned that Sunoco is moving ahead with putting these high-pressure transmission pipelines through densely populated areas such as Westtown Township without ensuring that there are plausible plans in place to deal with the type of leaks and explosions that have happened elsewhere.
- 18. It is very disconcerting that the Department of Environmental Protection would issue permits for Sunoco's Mariner East 2 pipelines without adequate regulation, safeguard, and oversight of the construction process, and despite a very high likelihood of contamination of our aquifer. According to the Department, "The Department of Environmental Protection's mission is to protect Pennsylvania's air, land and water from pollution and to provide for the health and safety of its citizens through a cleaner environment. We will work as partners with



individuals, organizations, governments and businesses to prevent pollution and restore our natural resources."

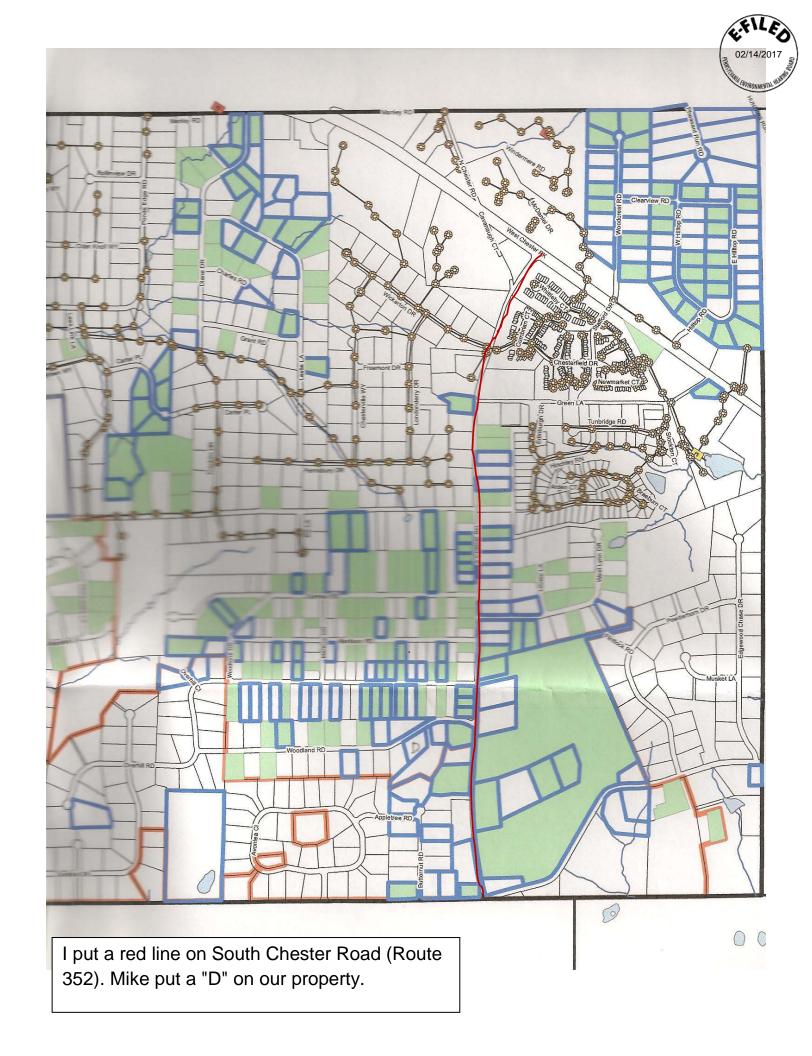
- 19. Sunoco's public relations would like us to believe that its safety record is pretty good. However, previous projects have had smaller pipes. The Mariner East 2 project includes the installation of two pipes up to 20 inches in diameter alongside two existing, smaller pipelines. The percentage of safety issues increases with so many pipelines running in parallel through a densely populated suburban community.
- 20. I support Clean Air Council's efforts to ensure that Sunoco is not allowed to build the Mariner East 2 pipelines in a manner that would break the law.
- I, Michael T. Di Domenico, declare that the foregoing is true and correct to the best of my knowledge, information, and belief. I understand that any false statements made are subject to the penalties of 18 Pa C.S. § 4904 relating to unsworn falsification to authorities.

Executed on January $\cancel{\cancel{18}}$, 2017.

Michael T. Cli Domenico



Attachment A





Legend

- Manhole
- PS Township PS
- Private PS PS
- **Gravity Main**
- Force Main
- Municipal Boundary
- Well Parcels
 - Cesspool Parcels
- Parcels
- Phase Boundary
- Lakes

WELL AND CESSPOOL MAP

ON-LOT SEWAGE MANAGEMENT PROGRAM

SITUATED IN:

WESTTOWN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA

PREPARED FOR:

WESTTOWN TOWNSHIP 1039 WILMINGTON PIKE WEST CHESTER, PENNSYLVANIA 19382

Carroll Engineering Corporation

949 Easton Road Warrington, PA 18976 Phone: 215-343-5700 Fax: 215-343-0875

630 Freedom Business Ctr., 3rd Fl. King of Prussia, PA 19406 Phone: 610-489-5100

105 Raider Boulevard, Suite 206 Hillsborough, NJ 08844 Phone: 908-874-7500 Fax: 908-874-5762

101 Lindenwood Drive, Suite 225 Malvern, PA 19355 Phone: 484-875-3075

www.carrollengineering.com

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DATE: 05/26/16

JOB NO:

15-5703

SCALE: NTS



Attachment B

Di Domenico



1530 Woodland Road West Chester, PA 19382-7836

January 20, 2017

Mr. Curtis Stambaugh, Esq. 212 North 3rd Street, Suite 201 Harrisburg, PA 17101 RE: Well testing

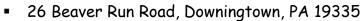
Dear Mr. Stambaugh,

Pursuant to our conversations of May 5 and May 11, 2016, it is my intent to document the pertinent pieces of my conversations with you and Don Zoladkiewicz, Community Relations Representative for Sunoco Logistics, so all parties understand my trepidations and concerns.

Based on information gleaned from numerous telephone conversations with engineers, hydro geologists, and well drillers and due to the close proximity of Sunoco Logistics' horizontal directional drilling along Route 352, in Westtown Township, PA., I present the following particulars, which provide details for an exception of practices in place for pipeline construction project.

- At Westtown Township meetings, Sunoco Logistics Engineer Matt Gordon informed residents the depth of the horizontal drill for the 2 - 20" pipes may range from 70' to 180'.
- Engineers, hydro geologists, and well drillers concur, "The aquifer will be effected, and so will your well."
 - A pretest for current well conditions is absolutely imperative, as it will protect our interests for our 405' well from possible/probable corruption of the aquifer caused by drilling operations.
 - My 405' well is less than 250' from the Sunoco drilling survey stakes, and the closest easement residence at the end of my street - Woodland Road.
 - Additionally, we are unable to connect our home to public water due to the style of PVC piping used during construction in 1985. It will not handle the PSI pressure Aqua pushes through the lines.
- The list of professionals contacted while researching the possibility of having issues with our well as Sunoco Logistics works the project along the Route 352 corridor are:
 - o Steven Read, Senior Hydro geologist at Advantage Engineers, LLC
 - 435 Independence Avenue, Suite C, Mechanicsburg, PA 17055
 - Cell 717-460-1130
 - Office (717) 458-0800





- Cell 484-888-8700
- Office 610-873-6204
- o Edward Powel, Edward Powel Pump & Well Drilling
 - B, 17 Mount Pleasant Rd, Aston, PA 19014
 - Phone 610-459-1098
- o John Myers, Thomas G. Keys, Inc.
 - 453 Lancaster Pike, Frazer, PA 19355
 - Phone 610-644-2886
- o Ken Madron, K.L. Madron Well Drilling & Pump Installer
 - 176 Ewart Road, Avondale, PA 19311
 - West Chester Office 610-692-6090
 - Avondale Office 610-268-8745
- Each of these professionals recommends a **pretest** and post tests of water volume and water quality testing.
 - All stated, it is in the best interests of Sunoco Logistics to want, and pay
 for this initial documentation prior to construction, verifying the condition
 of the aquifer and supply to homes in the construction area.
 - There is precedence, nationally and in Pennsylvania, Sunoco Logistics will pay for testing of wells outside construction easement areas.
 - All stated the necessity of two(2) post tests, as it takes three(3) to six(six) months for water to seep through aquifer fissures.
 - First post test should take place at the conclusion of construction.
 - Second post test should be conducted six (6) months to one (1) year following the conclusion of construction.

This letter documents the steps I have taken to protect the interests of both parties. During our May 11, 2016 conversation, Mr. Stambaugh informed me Sunoco Logistics would not pay for a pretest of water volume and quality.

Based on this verbal declination of any contract/agreement between Sunoco Logistics and myself, be advised, the pretest and post tests will be conducted. Should any variations in data collection present themselves, my lawyer will be contacting Sunoco Logistics for costs associated with reparation of quality and volume of well water supplied to my home at 1530 Woodland Road, West Chester, PA 19382.

Professionally,

Michael T. Di Domenico cc: cnstambaugh@sunocologistics.com donald.zoladkiewicz@sunoco.com

