BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

MEGHAN FLYNN	:	
ROSEMARY FULLER	:	
MICHAEL WALSH	:	
NANCY HARKINS	:	
GERALD MCMULLEN	:	DOCKET NOS. C-2018-3006116
CAROLINE HUGHES and	:	P-2-18-3006117
MELISSA HAINES	:	
Complainants	:	
v.	:	
	:	
SUNOCO PIPELINE L.P.,	:	
Respondent	:	

FLYNN COMPLAINANTS' POST-HEARING

APPENDIX OF EXHIBITS

PART 2 of 2

Table of Contents

October 23, 2019 Supporting Flynn Lay Testimony Part 2 of 2

September 29, 2020 Supporting Flynn Expert Testimony

October 1, 2020 Supporting Flynn Fuller Surrebuttal

October 9, 2020 Supporting Flynn Garrity Cross Exhibits

Consent Assessment of Civil Penalty August 4, 2020

Marsh Creek Administrative Order September 11, 2020

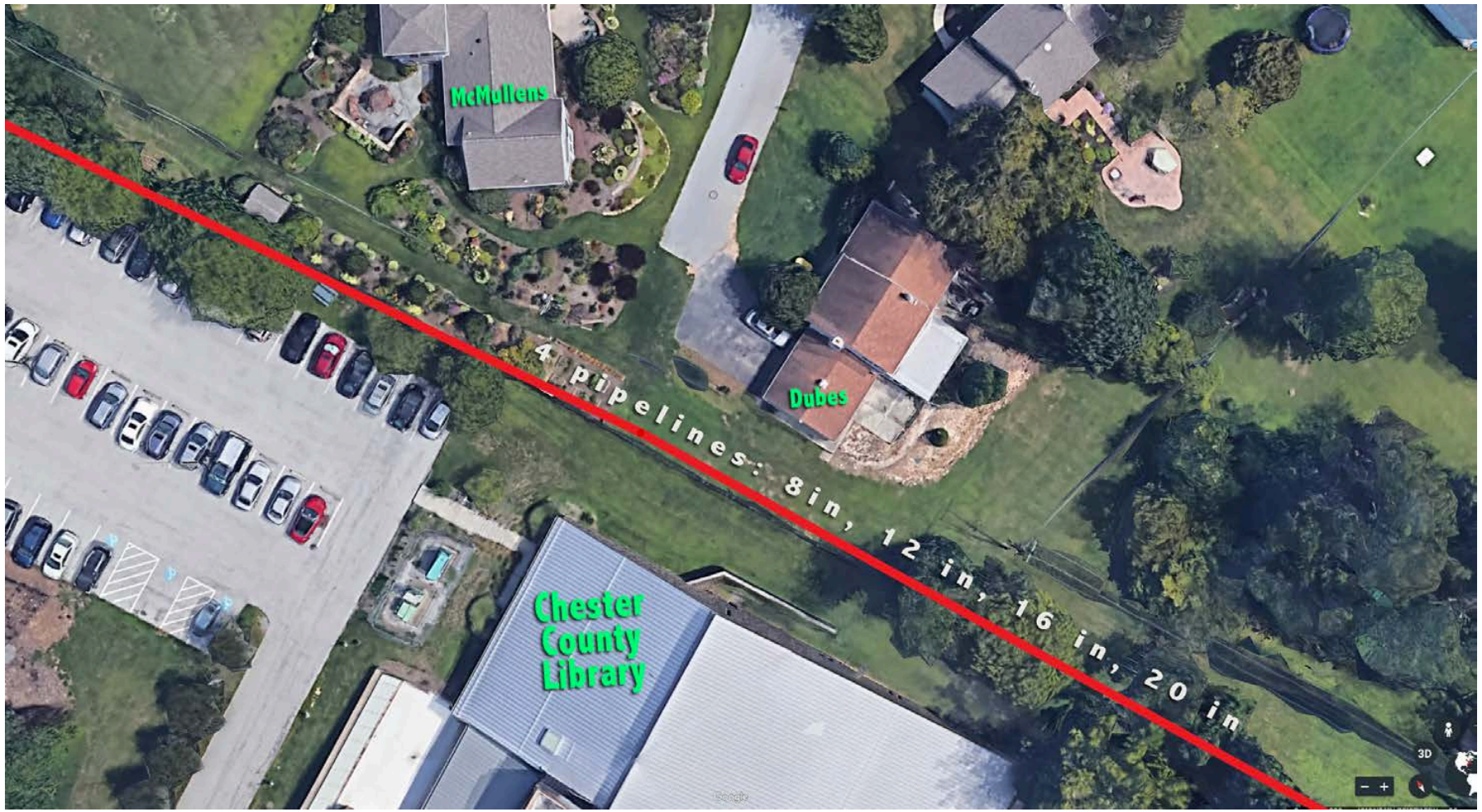
EXHIBITS

October 23, 2019 Supporting Flynn Lay Testimony Part 2 of 2

Gerald McMullen

McMullen_03_Aerial_View of McMullen, Dubes and Chester County Library

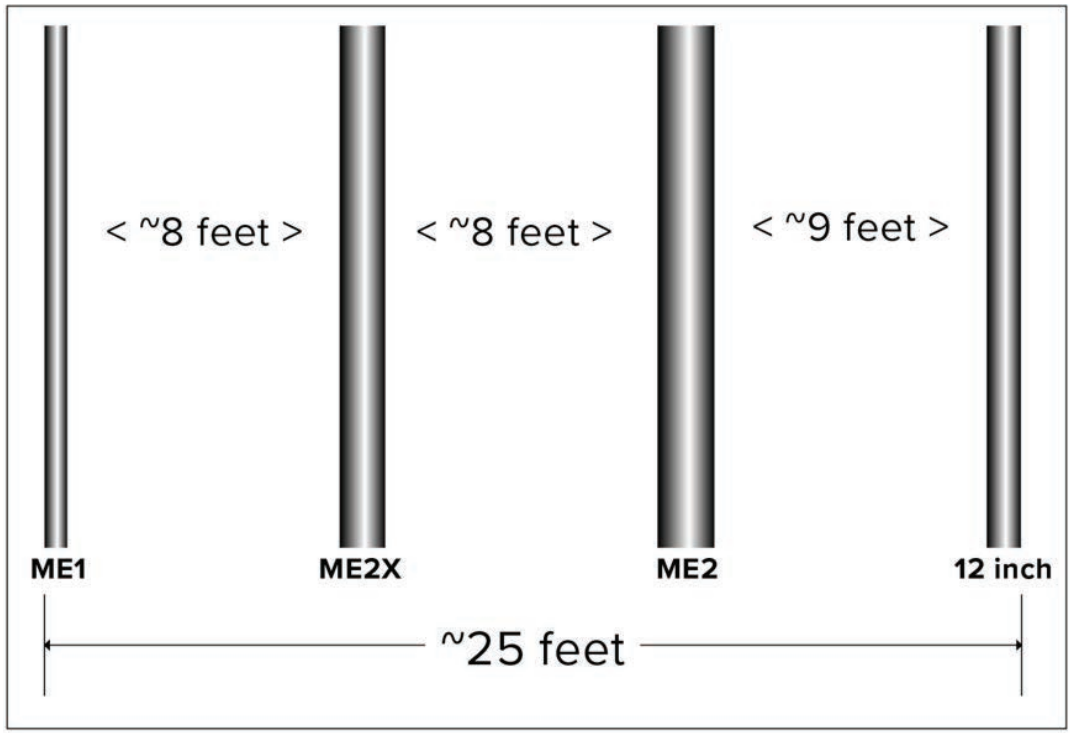
Google Map Aerial View Showing Proximity of Home to Mariner East Pipelines



McMullen 03

McMullen_03

Distances Between Existing and Proposed Mariner East Pipelines Adjacent to McMullen Home and Chester County Library and District Center



McMullen home

Chester County Library and District Center

McMullen 04

McMullen_04

McMullen 04

Corridor for Two Existing and Two Proposed Sunoco Pipelines

McMullen 05

Mariner East's Path Through West Whiteland Township

: https://www.dep.pa.gov/Business/ProgramIntegration/Pennsylvania-Pipeline-Portal/Pages/HDD-Reevaluation-Reports.aspx; https://www.chescoplanning.org/pic/mapping.cfm

McMullen 09

McMullen_09

Exposed Pipes in Stream Near Whiteland West Apartments

Source: Eric Friedman, July 15, 2019
McMullen 15

Aerial View of Fairfield Place Shopping Center and Surrounding Area

Exton Little League Field July 2019

McMullen 20

McMullen_20

Exton Little League Field September 2019

McMullen 21

McMullen_21

Meadowbrook Manor Park September 24, 2019

Source: Eric Friedman

McMullen_35

MOVIE CLIP
Video Link

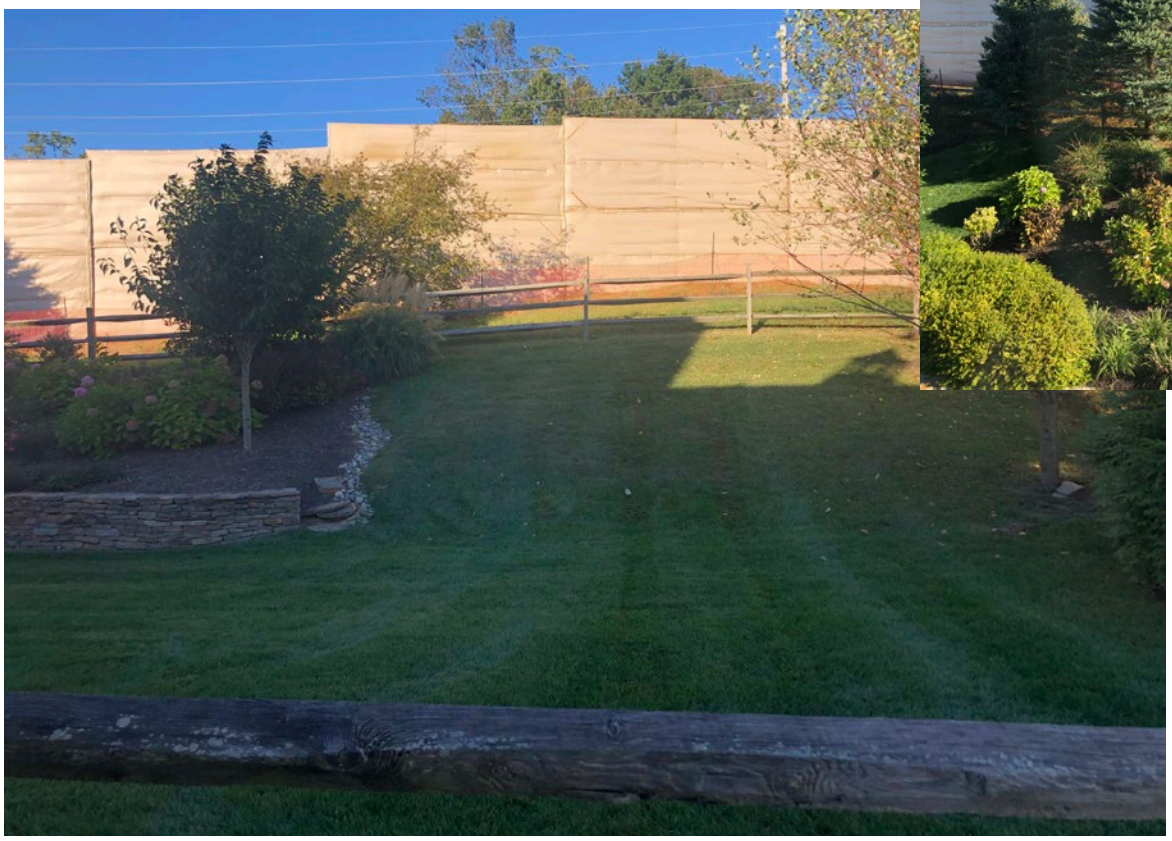
https://www.middletowncoalition.org/

VIEW in MOBILE DEVICE by scanning QR code

McMullen_35_Drone Flyover Exton West Whiteland Township

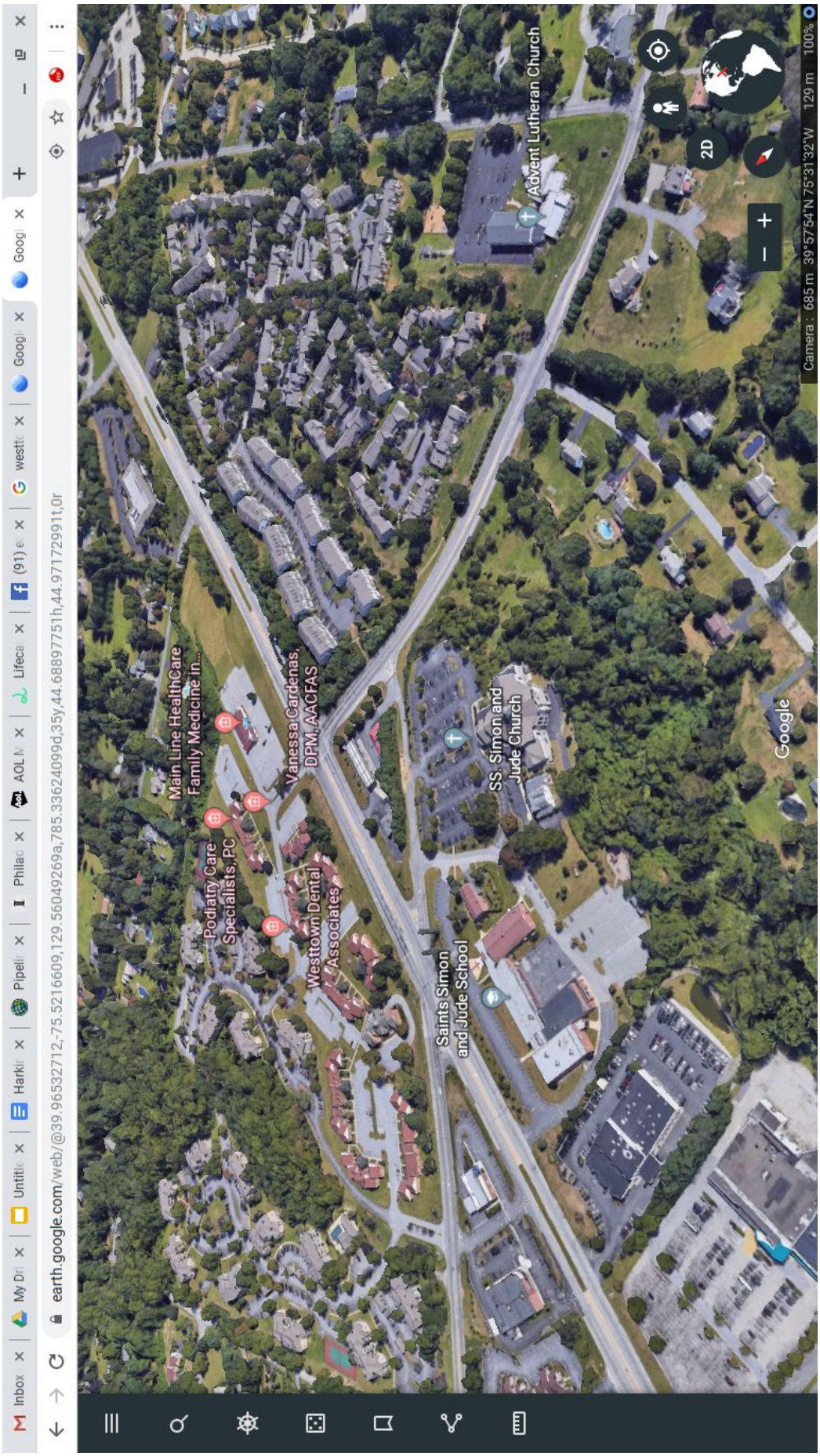
Mike Walsh

Walsh_01



Walsh_01_ Views at my Walsh home
Views from bedroom window and driveway to the back of Walsh home to the ME2 easement where ETP is currently trench digging for ME2 and ME2X.
Shows the proximity from home to pipeline of approx. 50 yards

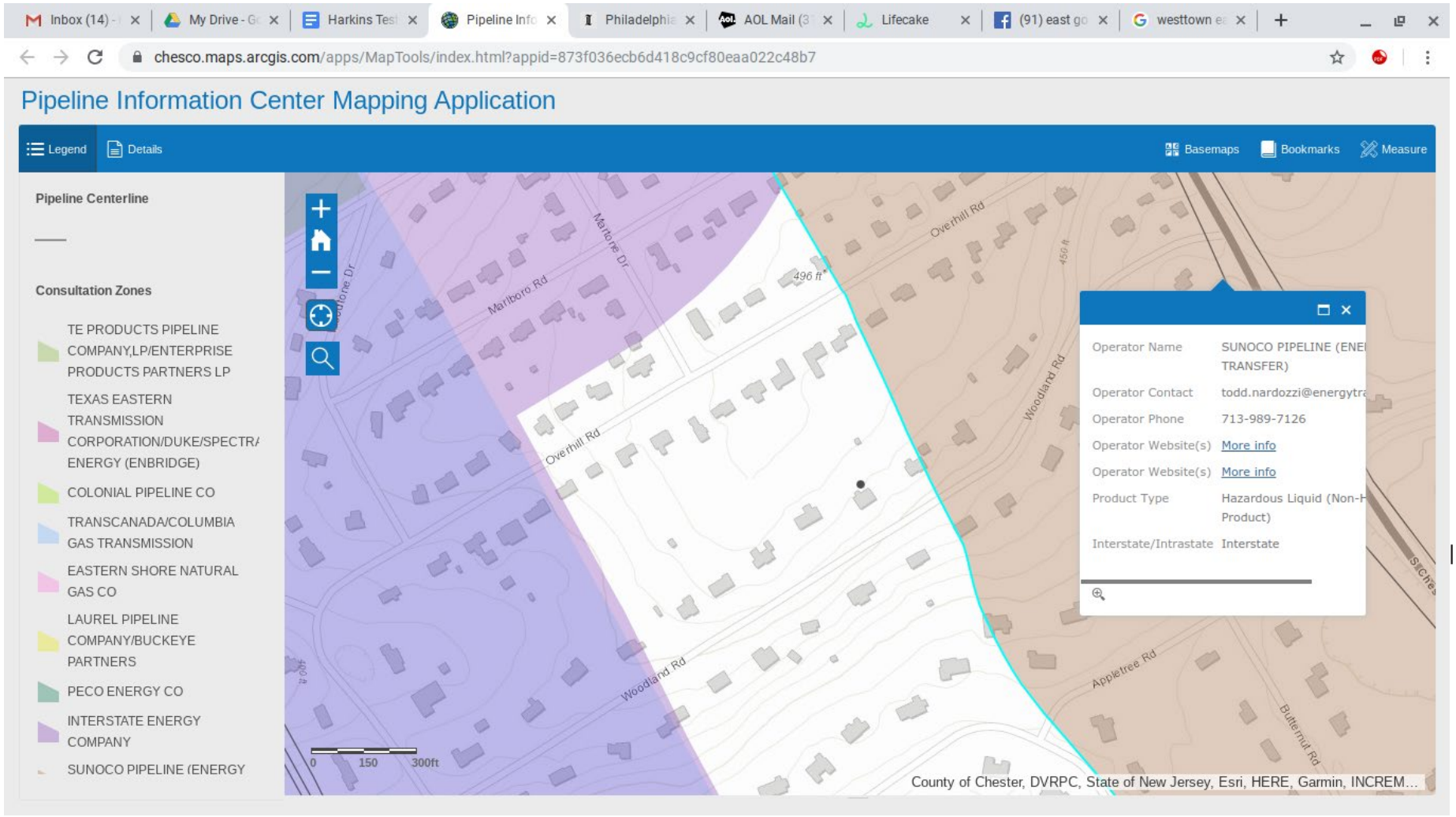
Nancy Harkins



https://earth.app.goo.gl/QVwYAb

Harkins_01_Google Earth map showing area surrounding Rt 3 and 352 Intersection

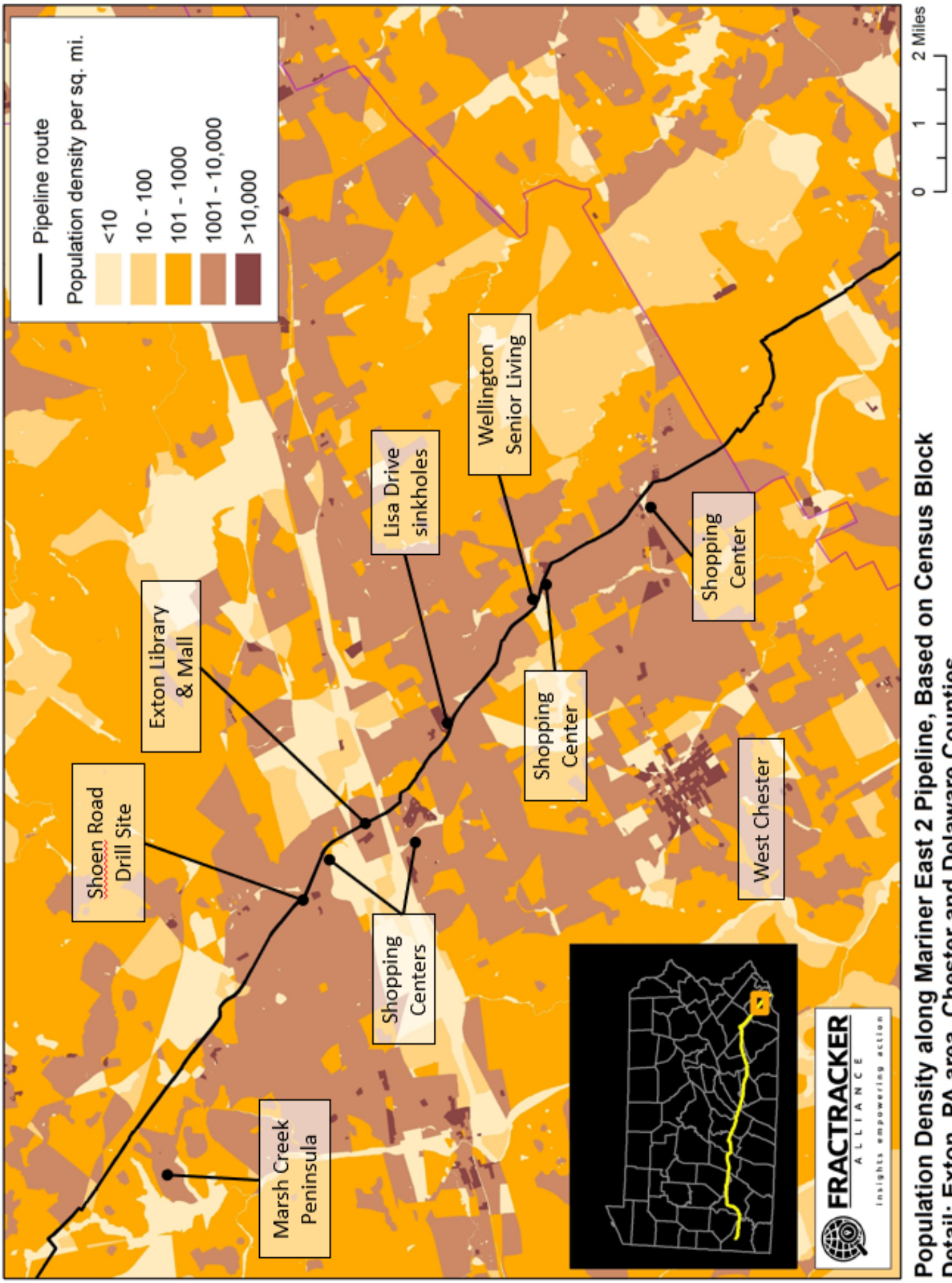
Harkins_02_Houses in relation to pipeline
from Chester County Planning Commission's
Pipeline Information Center Mapping Application



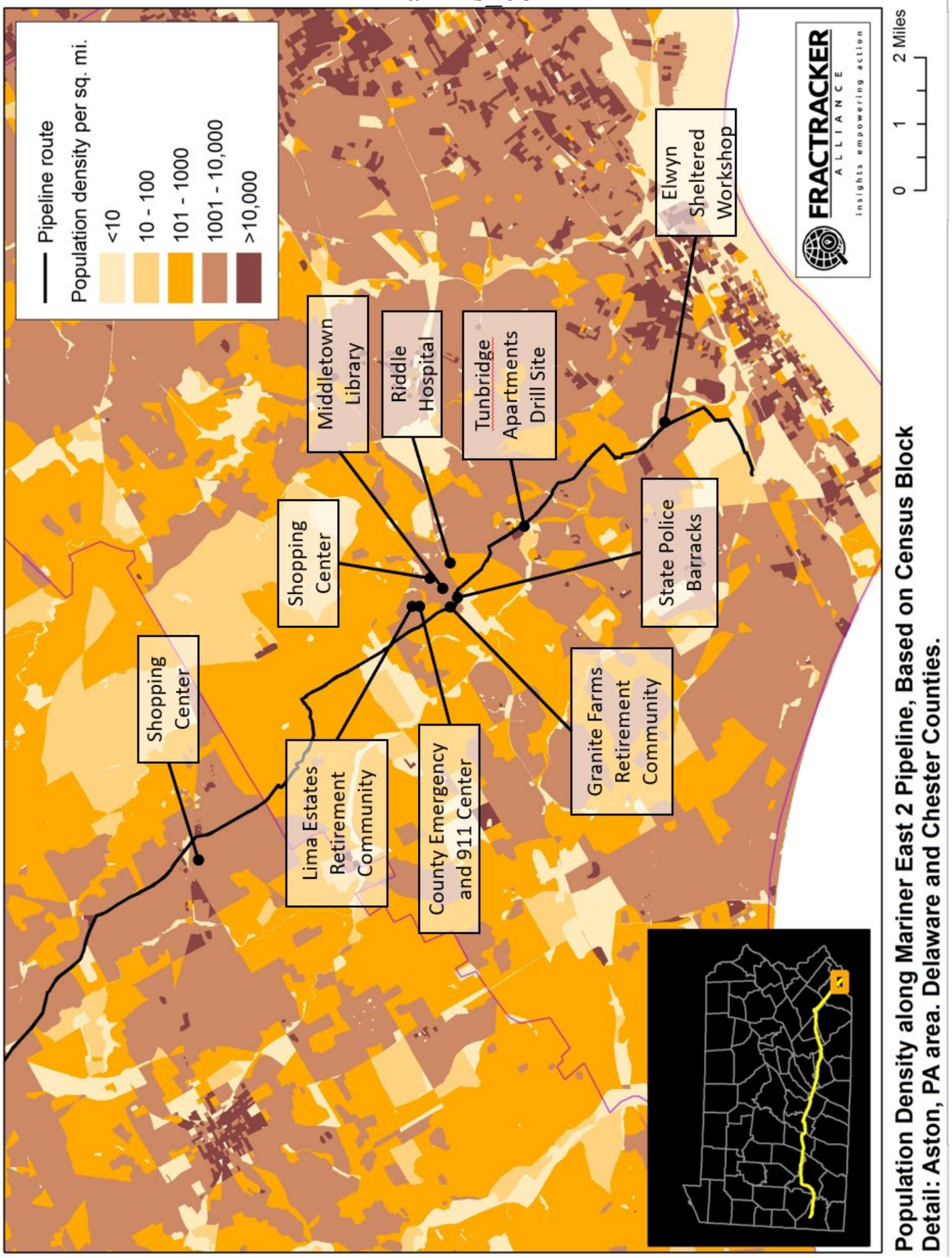
Harkins_02

https://chesco.maps.arcgis.com/apps/MapTools/index.html?appid=873f036ecb6d418c9cf80eaa022c48b7

Harkins_03_Steep Grade From Harkins' House

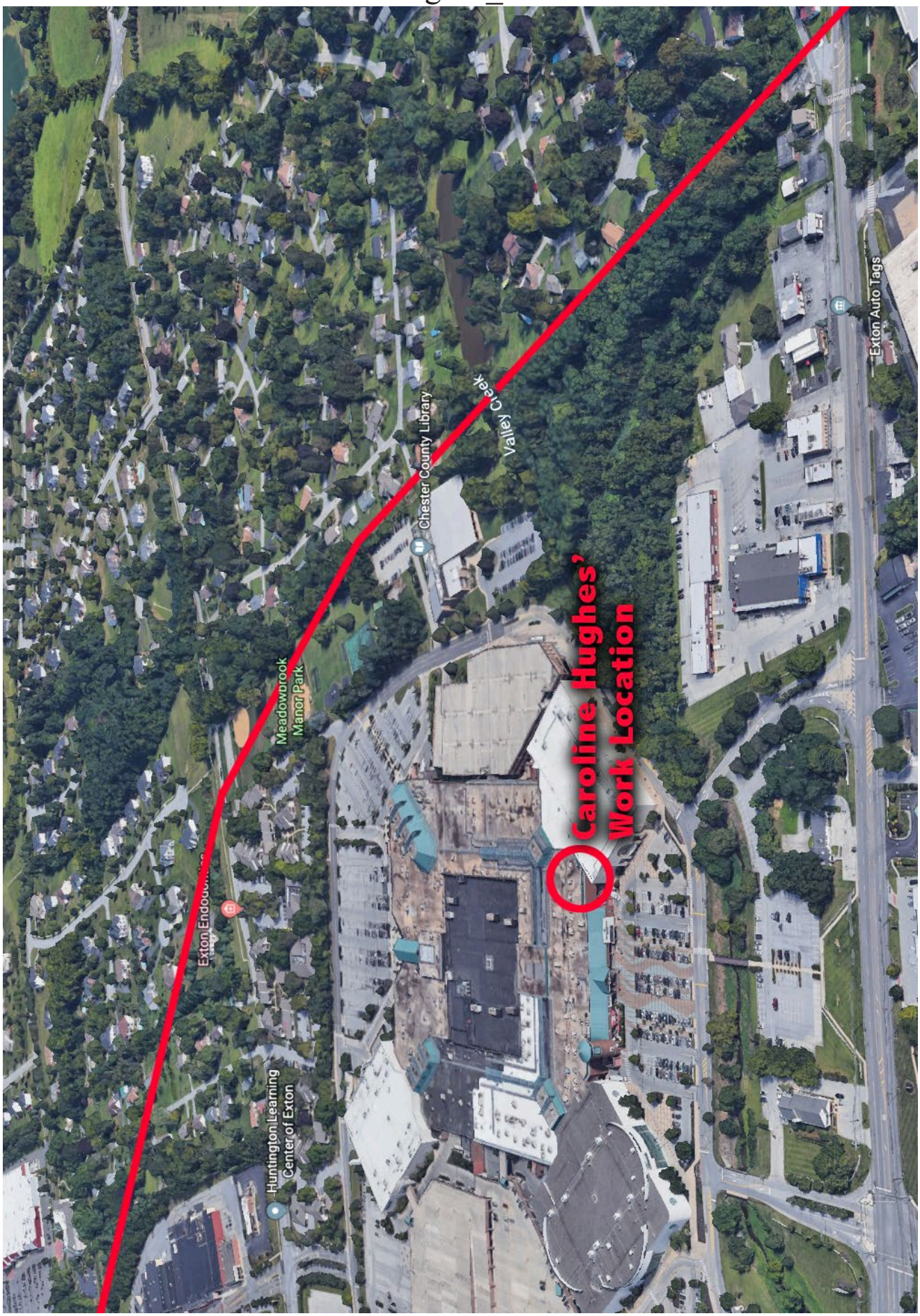


Harkins_05_Annotated "Population density along Mariner East 2" Map (Chester County)
Original map located http://maps.fractracker.org/latest/?appid=f07414bee12a4827a9fc1853ad5e9e7a

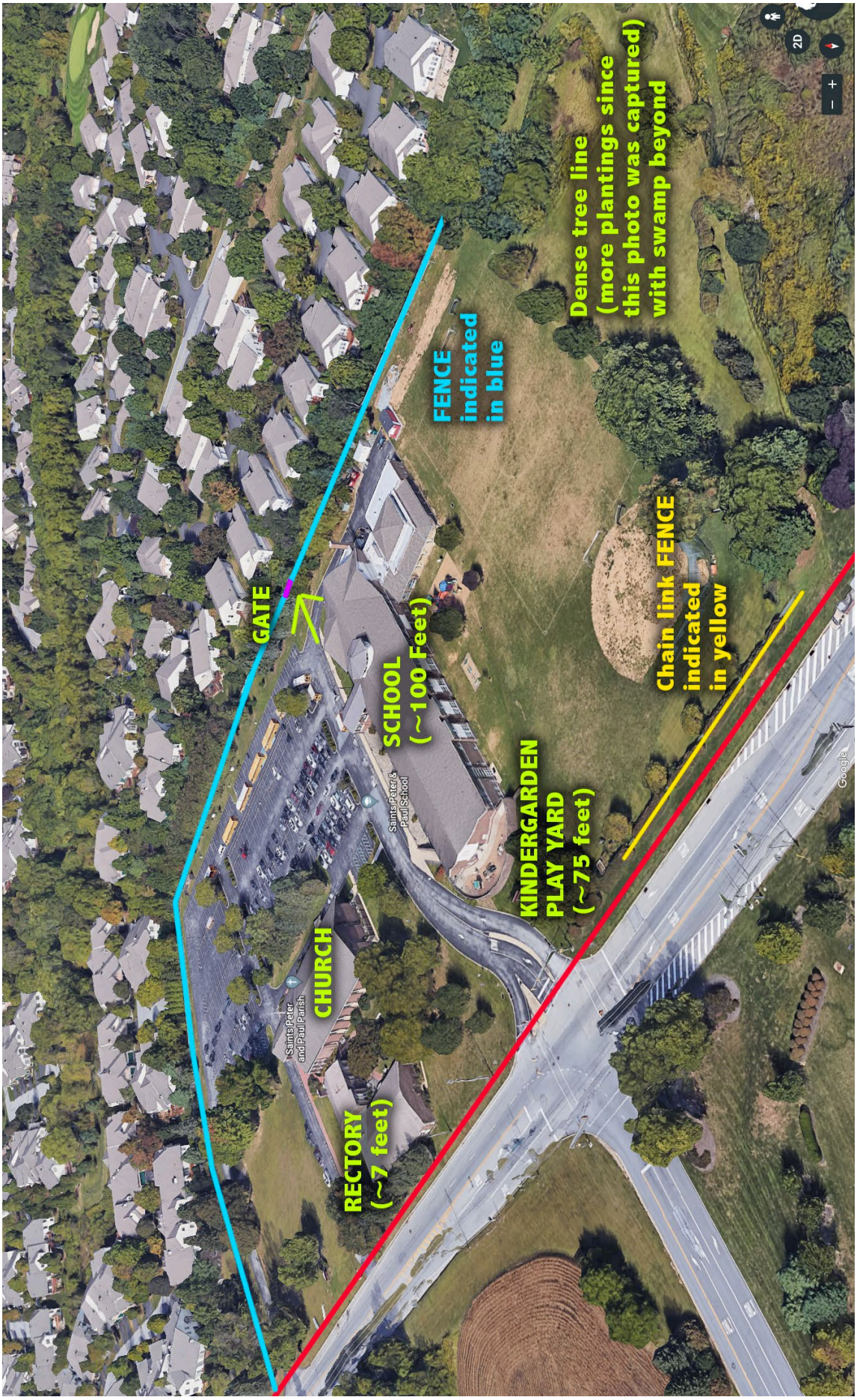


Harkins_06_Annotated "Population density along Mariner East 2" Map (Delaware County)
Original map located http://maps.fractracker.org/latest/?appid=f07414bee12a4827a9fc1853ad5e9e7a

Caroline Hughes



Hughes_01_Google Earth Image of Exton Square Mall/Main Line Health Center



Hughes_02_Overhead picture of Saints Peter & Paul compound showing distances of buildings and landmarks to easement

Hughes_03_Picture of emergency exit gate behind SSPP

Hughes_05

MOVIE CLIP
Video Link

https://www.middletowncoalition.org/

VIEW in MOBILE DEVICE by scanning QR code

Hughes_05_Drone Flyover of SSPP with children at lunch

Accufacts Inc.
"Clear Knowledge in the Over Information Age"

8151 164th Ave NE
Redmond, WA 98052
Ph (425) 802-1200
kuprewicz@comcast.net

Date: September 16, 2019

To: Mr. Casey LaLonde
Township Manager
West Goshen Township
1025 Paoli Pike
West Chester, PA 19380-4699

Re: Accufacts Report on the episode on the evening of 8-5-19 at the Mariner East Boot Road Pump Station ("Event"), Boot Road, West Goshen Township, PA

Introduction

Accufacts Inc. ("Accufacts") was asked by West Goshen Township to provide an independent review of the Event involving the flare at the Boot Road Pump Station ("PS"). The pump station operates as part of the 8-inch Mariner East ("ME") 1 pipeline transporting hazardous volatile liquids, or HVLs, from the Marcellus Shale Region of Pennsylvania to Marcus Hook, Pennsylvania. This Report is based on documents and other information provided by Sunoco Pipelines Limited Partnership ("SPLP") under a Nondisclosure Agreement ("NDA") with SPLP. The NDA prevents disclosure of certain proprietary information but does not preclude Accufacts from forming its own independent conclusions based on many years of operating experience, including investigating numerous incidents involving explosions.

The Event, experienced as a loud noise and resulting in nearby resident windows and homes shaking, was a backfire, a type of minor explosion, involving the PS flare. Based on the available information and testimonials of the Event, this backfire produced no damage to the PS nor to nearby homes. Backfires, however, should be avoided, because as a form of explosion their consequences can be unpredictable. The Event, based on my experience and knowledge of applicable Commonwealth and federal laws and regulations, was not reportable. After a careful review of the documents including PS Piping and Instrument Diagrams ("P&ID's), a video of the Event, and detailed discussions with SPLP, I make the following four key observations.

1. **The PS flare safety equipment worked as designed.**

   Various levels of flare safety equipment designed into the PS operation worked as expected. It is worth noting that the PS flare was placed into initial service in late 2014 and has operated since then without incident. Following maintenance activities placing a segment of PS new piping into propane service, a propane/nitrogen sweep in part of the station piping vented mixed propane/nitrogen gas to the flare, causing a flare pilot "flame out" from lack of sufficient oxygen.[1] Nitrogen is noncombustible, even when mixed with certain amounts of propane. The flare system is designed to go into a rapid series of reignition sequence attempts to relight the pilot, should the pilot go out. After a limited number of reignition attempts, if the pilot does not relight within so many seconds, fuel to the pilot and hydrocarbon supply to the flare are automatically shut off. During the reignition sequence, the relighting of the pilot eventually resulted in the combustion of residual gas within the flare resulting in the "backfire." The backfire was caused by too much purge nitrogen/propane mix within the flare before sufficient oxygen mix could be established.

   This unusual and rare situation can be avoided by reducing the rate of nitrogen to the flare during maintenance pipe purging, or by shutting off hydrocarbon supplies to the flare while delaying the flare reignition relight sequence to permit sufficient oxygen mix to return to the flare. SPLP has instituted additional PS maintenance procedures to avoid snuffing out the flare pilot in the future with nitrogen.

2. **A "backfire" is a type of minor explosion that should be avoided in prudent operations.**

   In reigniting the flare pilot, a minor explosion occurred within the flare which could be heard and felt by some nearby neighbors. Explosions, in simple terms, occur when hydrocarbon combustion energy is converted to mechanical energy under certain circumstances and environments. For hydrocarbons, explosions are a specialized form of combustion that span a wide spectrum of forces and consequences. While it is accurate to characterize this Event as a "backfire," such incidents should be avoided. Due to the inability to reliably predict explosion impacts, my experience indicates that any explosion potential, even backfires, should be avoided through a prudent combination of equipment design as well as operation and maintenance procedures. The flare is intended to be a safety device to prudently burn off certain minor HVL gases produced at the PS during operation and maintenance activities that might otherwise be released to the atmosphere.

[1] To prevent a possible explosive atmosphere within the pipe, inert nitrogen is often utilized in new pipe station piping to test as well as displace oxygen before hydrocarbon is introduced and in this case the hydrocarbon was propane used to displace the nitrogen.

3. **The experiences reported by some residents near the PS suggest atmospheric overpressure was also generated that went beyond the flare and pump station.**

   Residents near the pump station reported the smell of hydrocarbons and houses shaking and windows rattling during the Event, which suggests an atmospheric overpressure, not just a noise, event. The atmospheric overpressure generated in the Event appears relatively minor since, based on the documents, the videos and testimonials, no pump station equipment, including the flare, was damaged, nor was there damage to nearby residences. The Event, however, understandably received Township and public attention and both are justified in raising many questions to understand the difference between a backfire and a serious explosion with blast potential.

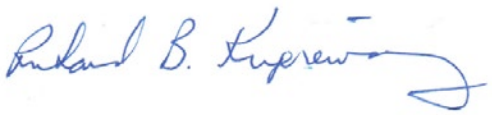
4. **The Event was not a major HVL release explosion or blast.**

   The forces generated from the Event are on the low end of a wide spectrum of possible explosion forces and atmospheric overpressure outcomes from hydrocarbon combustion. Such combustion forces are dependent on many factors, such as the type of hydrocarbon, its release rate and actual release amount, ignition delay, and terrain/location factors. It is inaccurate to characterize the Event as similar to a major pipeline release. After a careful review of Commonwealth and federal reporting requirements, in my opinion, the Event was not reportable to the National Response Center ("NRC"), the Pipeline and Hazardous Materials Safety Administration ("PHMSA"), the Pennsylvania Public Utility Commission nor the Pennsylvania Department of Environmental Protection, considering the source, cause and amount of gas release for this unusual incident.[2] It is recommended, if a similar Event happens in the future, that SPLP immediately notify the Township Police, and appropriate Commonwealth and County officials responsible for emergency response.

Conclusion

Based on the detailed information provided me, I conclude that the Event was preventable and should be avoided in the future. The Event was caused by an operator/maintenance error in routing too much propane/nitrogen to the flare while placing a segment of PS piping into hydrocarbon service. Modifications to the PS maintenance procedures should be implemented to prevent a reoccurrence. The incident did not rise to the level of triggering an emergency response, though I fully appreciate the Township's and public concerns in this matter. SPLP should communicate directly to the Township and the public the actions they have taken to prevent a future occurrence.

[2] See, 49CFR§195.50(a): Reporting accidents if there was a release of hazardous liquid.



Richard B. Kuprewicz,
President,
Accufacts Inc.

Hughes_08

Hughes_08_Photo of 11/11/2017 Sinkhole

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA PUBLIC UTILITY COMMISSION
P.O. BOX 3265, HARRISBURG, PA 17105-3265

IN REPLY PLEASE
REFER TO OUR FILE

March 7, 2018

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
P.O. Box 3265
Harrisburg, PA 17105-3265

Re: Pennsylvania Public Utility Commission, Bureau of Investigation and Enforcement v. Sunoco Pipeline L.P. a/k/a Energy Transfer Partners
Docket No. P-2018-

Dear Secretary Chiavetta:

Enclosed please find the Petition of the Bureau of Investigation and Enforcement of the Pennsylvania Public Utility Commission for the Issuance of an *Ex Parte* Emergency Order Regarding Sunoco Pipeline L.P. a/k/a Energy Transfer Partners.

Should you have any questions, please feel free to contact me.

Sincerely,

Michael L. Swindler
Deputy Chief Prosecutor
PA Attorney ID No. 43319

cc: As per Certificate of Service

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission,	:	
Bureau of Investigation and Enforcement,	:	
Petitioner	:	
	:	
v.	:	Docket No. P-2018-_____
	:	
Sunoco Pipeline L.P. a/k/a Energy Transfer Partners,	:	
Respondent	:	

PETITION OF THE BUREAU OF INVESTIGATION AND ENFORCEMENT OF THE PENNSYLVANIA PUBLIC UTILITY COMMISSION FOR THE ISSUANCE OF AN *EX PARTE* EMERGENCY ORDER

AND NOW, comes the Bureau of Investigation and Enforcement ("I&E") of the Pennsylvania Public Utility Commission ("Commission" or "PUC"), pursuant to 52 Pa. Code § 3.2, and petitions the Commission for the issuance of an *ex parte* emergency order: 1) requiring Sunoco Pipeline L.P. a/k/a Energy Transfer Partners ("Sunoco" or "Company") to immediately suspend operations of its Mariner East 1 pipeline ("ME1") due to safety concerns regarding the integrity of said pipeline as being potentially hazardous to life, property and/or the environment. In support of this Petition, I&E avers as follows:

I. INTRODUCTION

1. On or about On March 3, 2018, the PUC was notified through email communications from a local resident regarding the formation of sinkholes near and/or

above Sunoco's ME1 pipeline facility near 491 Lisa Drive, West Whiteland Township, West Chester, Chester County, Pennsylvania.[1] The sinkholes occurred at three locations within 550 feet along the path of the ME1 pipeline.

2. ME1 is an eight-inch diameter (8") Natural Gas Liquids ("NGL") pipeline with a Maximum Operating Pressure ("MOP") of 1,440 PSI. ME1 is an active pipeline that has been in operation since approximately 1931. ME1 currently operates in a west to east direction pursuant to its intrastate transportation tariffs filed with the Commission and transports liquid propane, butane and ethane at the MOP allowed.

3. Sunoco is installing a new sixteen-inch diameter (16") pipeline in the common right-of-way ("ROW") through a twenty-four inch diameter (24") horizontal directional drill bore ("HDD") in a high consequence area ("HCA"). This new pipeline is referred to as Mariner East 2X (ME2X). Sunoco is also installing a pipeline called Mariner East 2 ("ME2") in the same ROW across the Commonwealth and is twenty (20) inches in diameter.

4. In December 2017, the first sinkhole ("Sinkhole No. 1") was discovered near station 12+00 (HDD station), just south of railroad tracks used by Amtrak. The size of this sinkhole was approximately 8 feet wide and 3 feet deep. On March 1, 2018, the new ME2X was pulled back.[2] During post drilling, Sunoco workers noticed the second sinkhole ("Sinkhole No. 2") near station 13+00, measuring 8 feet wide by 15 feet deep.

---

[1] "Sinkhole" refers to a form of soil collapse.

Sinkhole No. 2 is located 300 feet from Amtrak's facilities. The third sinkhole ("Sinkhole No. 3") was discovered on Saturday, March 3, 2018 at approximately 8:30 a.m. at 491 Lisa Drive, near station 9+00, approximately 10 feet from the house's foundation wall. Sinkhole No. 3 measured approximately 15 feet wide and 20 feet deep and partially exposed the buried ME1 pipeline.

5. Sinkhole Nos. 1 and 2 were located over ME2X and near ME1. Sinkhole No. 3 was located within the path of ME1. ME1 is believed to be approximately 4 to 8 feet deep in the areas of HDD. ME2X varies in depth from 50 feet to 115 feet. The lateral separation between the two pipelines is 10 to 15 feet. ME2X crossed under ME1 in the vicinity of Sinkhole No. 3.

6. On March 3, 2018, Sunoco's Operations Group conducted an inspection of the sinkhole sites and directed that flowable fill (specialty concrete) be introduced into the three known sinkhole areas.

7. Sunoco did not provide any notification to the PUC or PHMSA of these sinkholes. In fact, Sunoco's Compliance Group was also unaware of these events until March 3, 2018.

8. On March 5, 2018, PUC Safety Engineers accompanied by the PUC Safety Division Manager visited Lisa Drive in West Chester, Pennsylvania, at the site of Sunoco's ME1 and ME2X pipelines that are the subject of the above-referenced events.

---

[2] The term "pulled back" refers to a pipeline procedure whereby a welded segment of pipeline is pulled through the pre-bored shaft.

Additionally, an engineer from the federal Pipeline and Hazardous Materials Safety Administration ("PHMSA") joined the inspection.

9. All three sinkholes were filled on March 3, 2018 and construction work had ceased at the time of the PUC Engineers' inspection on March 5, 2018, although Sunoco continued to perform surveys and other geological testing at the site.

10. During their on-site inspection on March 5, 2018, PUC Safety Engineers also discovered that additional sinkholes were developing south of 491 Lisa Drive, also in the path of ME1 and/or in the path of the under construction ME2X.

11. Due to, *inter alia*, the concern for the safety of the public given the unknown effects on the nature of the geological instability of the area and the sinkhole events referenced herein which correspond to the construction of the ME2X pipeline, the close proximity of the ME2X construction to the existing and active ME1 pipeline as well as the close proximity of residential single-family dwellings, apartment buildings, Route 100 and Amtrak lines to the site of ME1 and ME2X, I&E is compelled to bring this Petition for Issuance of *Ex Parte* Emergency Order and requests that the Commission direct: 1) that Sunoco shall immediately suspend operations of its Mariner East 1 pipeline and shall not reinstate transportation service on ME1 until the completion of repairs to I&E's satisfaction at which time Sunoco may then file with the Commission a petition for reinstatement of service; 2) Sunoco shall perform the necessary geo-physical tests and analyses, including but not limited to, i) Resistivity, ii) Seismic, iii) Gravity on the HDD project at the Lisa Drive site from the bore beginning to end; 3) Sunoco shall perform a

drawdown/purge of the hazardous liquid products between the first valve upstream and downstream at the Lisa Drive site within 72 hours of the entry of the Commission's Emergency Order; and 4) upon conclusion of the drawdown/purge, Sunoco shall immediately run an in-line inspection ("ILI") tool at the Lisa Drive site and report the findings to PHMSA and I&E.

II. PARTIES

12. The Pennsylvania Public Utility Commission, with a mailing address of P.O. Box 3265, Harrisburg, PA 17105-3265, is a duly constituted agency of the Commonwealth of Pennsylvania empowered to regulate public utilities within the Commonwealth pursuant to the Public Utility Code, 66 Pa.C.S. §§ 101, *et seq*.

13. Petitioner is the Commission's Bureau of Investigation and Enforcement and is the entity established to initiate proceedings that are prosecutory in nature for violations of the Public Utility Code and Commission regulations. *See Delegation of Prosecutory Authority to Bureaus with Enforcement Responsibilities*, Docket No. M-00940593 (Order entered September 2, 1994), as amended by Act 129 of 2008, 66 Pa.C.S. § 308.2(a)(11).

14. Respondent is Sunoco Pipeline L.P., Utility Code A-14001, a certificated public utility in the Commonwealth of Pennsylvania, with a place of business at 4041 Market Street, Ashton, Pennsylvania, 19014, and a common carrier transporter of hazardous liquids.

III. JURISDICTION

15. The Commission has jurisdiction over this matter pursuant to 66 Pa.C.S. § 501, which provides in pertinent part: "In addition to any powers expressly enumerated in this part, the commission shall have full power and authority, **and it shall be its duty to enforce,** execute and carry out, by its regulations, orders, or otherwise, **all and singular, the provisions of this part, and the full intent thereof** . . ." (emphasis added).

16. Section 1501 of the Public Utility Code states that every public utility shall furnish and maintain adequate, efficient, safe, and reasonable service and facilities and that such service shall be reasonably continuous and without unreasonable interruptions or delay. 66 Pa.C.S § 1501. *See also*, 66 Pa.C.S § 1505.

17. Moreover, 52 Pa. Code § 59.33 reads:

> (a) Each public utility shall at all times use every reasonable effort to properly warn and protect the public from danger, and shall exercise reasonable care to reduce the hazards to which employees, customers and others may be subjected to by reason of its equipment and facilities.
>
> (b) *Safety code.* The minimum safety standards for all natural gas and hazardous liquid public utilities in this Commonwealth shall be those issued under the pipeline safety laws as found in 49 U.S.C.A. § § 60101—60503 and as implemented at 49 CFR Parts 191—193, 195 and 199, including all subsequent amendments thereto. Future Federal amendments to 49 CFR Parts 191—193, 195 and 199, as amended or modified by the Federal government, shall have the effect of amending or modifying the Commission's regulations with regard to the minimum safety standards for all natural gas and hazardous liquid public utilities. The amendment or modification shall take effect 60 days after the effective date of the Federal amendment or modification, unless the Commission publishes

a notice in the *Pennsylvania Bulletin* stating that the amendment or modification may not take effect.

(c) *Definition.* For the purposes of this section, ''hazardous liquid public utility'' means a person or corporation now or hereafter owning or operating in this Commonwealth equipment or facilities for transporting or conveying crude oil, gasoline, petroleum or petroleum products, by pipeline or conduit, for the public for compensation.

(d) *Enforcement.* Each public utility shall be subject to inspections as may be necessary to assure compliance with this section. The facilities, books and records of each public utility shall be accessible to the Commission and its staff for the inspections. Each public utility shall provide the Commission or its staff the reports, supplemental data and information as it shall from time to time request in the administration and enforcement of this section.

IV. STANDARD FOR ISSUANCE OF AN EMERGENCY ORDER

18. Section 3.2 of the Commission's regulations, 52 Pa. Code § 3.2, permits a petition to the Commission for the issuance of an *ex parte* emergency order where supported by a verified statement of facts which establishes the existence of an emergency. The petition must establish facts to demonstrate that:

1. The Petitioner's right to relief is clear.
2. The need for relief is immediate.
3. The injury would be irreparable if relief is not granted.
4. The relief requested is not injurious to the public interest.

52 Pa. Code § 3.2(b).

19. "Emergency" is defined in the Commission's regulations as "[a] situation which **presents a clear and present danger to life or property** or which is uncontested

and requires action prior to the next scheduled meeting." 52 Pa. Code § 3.1 (emphasis added).

20. The person or entity seeking emergency relief bears the burden of proving that the facts and circumstances meet all four of the above requirements. 66 Pa.C.S. § 332; 52 Pa. Code § 3.2(b). The burden of proof must be carried by a preponderance of the evidence. *Samuel J. Lansberry, Inc. v. Pa. PUC,* 578 A.2d 600 (Pa. Cmwlth. 1990). The petitioner's evidence must be more convincing, by even the smallest amount, than that presented by the other party. *Se-Ling Hosiery v. Margulies,* 70 A.2d 854 (1950).

21. The Chairperson, a Commissioner, the Commission's Director of Operations and the Commission's Secretary have the authority to issue an emergency order. 52 Pa. Code § 3.3(a). An emergency order will be issued in writing. 52 Pa. Code § 3.3(b). An emergency order will be ratified, modified or rescinded by the Commission at the next scheduled public meeting after issuance of the order. 52 Pa. Code § 3.3(c). An emergency order will be served by the Secretary as expeditiously as practicable upon the persons directly affected by the decision with copies to the Commissioners and the Director of Operations. 52 Pa. Code § 3.3(d).

22. A person against whom an emergency order is issued ***may*** file a petition for an expedited hearing to be held before a presiding officer within 10 days of receipt of the petition by the Secretary. 52 Pa. Code § 3.4.

A. I&E's Right To Relief Is Clear

23. As a certificated public utility, Sunoco is subject to the jurisdiction of the Commission. Pursuant to 52 Pa. Code § 59.33, there are specific safety standards that must be met by a hazardous liquid public utility, such as Sunoco. Under Section 59.33, the Commission has adopted the federal pipeline safety laws as set forth at 49 CFR Parts 191, *et seq.* Such safety provisions are enforced by the Commission's Bureau of Investigation and Enforcement, Safety Division. It is not necessary to determine the merits of the controversy or dispute in order to find that a petitioner has satisfied the first prong of Section 3.2(b) of the Commission's regulations, 52 Pa. Code 3.2(b), by showing that the right to relief is clear. Rather, the Commission has found that if a petitioner raises "substantial legal questions," then a petitioner has established that its right to relief is clear. *Core Communications, Inc. v. Verizon Pennsylvania, Inc. and Verizon North LLC*, Docket No. P-2011-2253650 (Order entered September 23, 2011); *Level 3 Communications, LLC v. Marianna & Scenery Hill Telephone Company*, Docket No. C-20028114 (Order entered August 8, 2002); *T.W. Phillips Gas and Oil Company v. The Peoples Natural Gas Company*, 492 A.2d 776 (Pa. Cmwlth. 1985).

24. I&E serves as the Commission's prosecutory bureau and enforces compliance with the Public Utility Code and Commission regulations. *Implementation of Act 129 of 2008; Organization of Bureaus and Offices*, Docket No. M-2008-2071852 (Order entered August 11, 2011), p. 5.

25. Section 1501 of the Public Utility Code states, in pertinent part, as follows:

> Every public utility shall furnish and maintain adequate, efficient, safe, and reasonable service and facilities, and shall make all such repairs, changes, alterations, substitutions, extensions, and improvements in, or to such service and facilities as shall be necessary or proper for the accommodation, convenience and safety of its patrons, employees and the public. Such service also shall be reasonably continuous and without unreasonable interruptions or delay.

66 Pa.C.S § 1501.

26. The construction of ME2 and ME2X at or near the location of the active ME1 pipeline, and the resulting sinkhole events that are occurring concomitant to the boring of the ME2X pipeline compromise the safety of the public.

27. Based on its investigation to date, I&E is not able to conclude that Sunoco has met its required threshold of safety pursuant to 66 Pa.C.S. § 1501 and 52 Pa. Code § 59.33 without Sunoco first conducting the necessary and appropriate elements of an integrity management plan and affording an opportunity for I&E to review the results of those integrity management efforts in order to ascertain that the continued operation of ME1 is viable and safe under the circumstances described herein.

28. Permitting the continued flow of hazardous liquid through the ME1 pipeline without the proper steps to ensure the integrity of the pipeline could have catastrophic results impacting the public near or adjacent to the paths of ME1, ME2 and ME2X.

B. The Need For Relief Is Immediate

29. I&E's need for relief is immediate. The very recent sinkhole events witnessed by I&E Safety Engineers establish that the integrity of the ME1 pipeline may

be compromised by these or other similar but yet to-be-discovered sinkholes. It is Sunoco's obligation, pursuant to Section 315(c) of the Public Utility Code, 66 Pa.C.S. § 315, to establish that their pipeline is adequate, safe and reasonable and not a safety hazard to the public.

30. Should Sunoco not immediately suspend operation of ME1 while integrity management steps are taken and then reviewed by I&E to confirm the safety of the pipeline, and should ME1 in fact be compromised by these or other sinkholes while permitting the continued flow of hazardous liquids, the resulting event would have an immediate adverse impact on the operation of ME1, the continued construction of ME2 and ME2X and, most importantly, the health and welfare of the public, property and surrounding environment.

C. The Injury From Respondents' Actions Will Be Irreparable If Relief Is Not Granted

31. By failing to immediately suspend operations of ME1 pending review of integrity steps conducted by Sunoco, the safety of the public would be jeopardized. The pipeline in question transports hazardous liquids in densely populated areas defined by PHMSA as High Consequence Areas. Needless to say, any compromise or failure of the pipeline would have dire results, and the injuries resulting therefrom would most certainly be irreparable.

D. The Relief Requested Is Not Injurious To The Public Interest

32. The relief that I&E requests is certainly not injurious to the public interest. To the contrary, it is clear that it will be injurious to the public interest if the relief requested is ***not*** granted.

V. PRAYER FOR RELIEF

WHEREFORE, the Bureau of Investigation and Enforcement, Petitioner herein, respectfully requests that the Commission enter an Emergency Order that directs that:

1) Sunoco shall immediately suspend operations of its Mariner East 1 pipeline and shall not reinstate transportation service on ME1 until the completion of repairs to I&E's satisfaction at which time Sunoco may then file with the Commission a petition for reinstatement of service;

2) Sunoco shall perform the necessary geo-physical tests and analyses, including but not limited to, i) Resistivity, ii) Seismic, iii) Gravity on the HDD project at the Lisa Drive site from the bore beginning to end;

3) Sunoco shall perform a drawdown/purge of the hazardous liquid products between the first valve upstream and downstream at the Lisa Drive site within 72 hours of the entry of the Commission's Emergency Order;

4) Upon conclusion of the drawdown/purge, Sunoco shall immediately run an in-line inspection ("ILI") tool at the Lisa Drive site and report the findings to PHMSA and I&E; and

5) Any other such relief that the Commission deems appropriate.

Respectfully submitted,

Michael L. Swindler
Deputy Chief Prosecutor
PA Attorney ID No. 43319

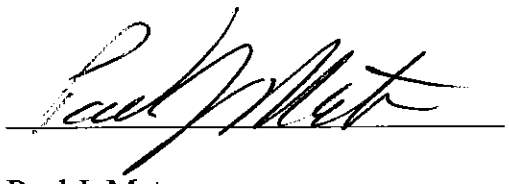
Pennsylvania Public Utility Commission
Bureau of Investigation and Enforcement
P.O. Box 3265
Harrisburg, PA 17105-3265
(717) 783-6369

Date: March 7, 2018

VERIFICATION

I, Paul J. Metro, Fixed Utility Valuation Manager, Safety Division, hereby state that the facts above set forth are true and correct to the best of my knowledge, information and belief and that I expect that the Bureau will be able to prove same at any hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 relating to unsworn falsification to authorities.

Date: March 7, 2018



Paul J. Metro
Fixed Utility Valuation Manager,
Bureau of Investigation and Enforcement
Safety Division

Pennsylvania Public Utility Commission,	:	
Bureau of Investigation and Enforcement,	:	
Petitioner	:	
	:	
v.	:	
	:	Docket No. P-2018-
Sunoco Pipeline L.P. a/k/a Energy Transfer	:	
Partners,	:	
Respondent	:	
	:	

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true copy of the foregoing document, upon the parties, listed below, in accordance with the requirements of 52 Pa. Code §1.54 (relating to service by a party).

Service by First Class Mail:

Curtis N. Stambaugh
Assistant General Counsel
Sunoco Logistics Partners L.P.
212 N. Third Street
Suite 201
Harrisburg, PA 17101

Nels J. Taber
Senior Litigation Counsel
Department of Environmental Protection
Office of Chief Counsel
400 Market Street, 9th Floor
Harrisburg, PA 17101

Robert Burroughs
PHMSA Eastern Region
820 Bear Tavern Road, Suite 103
West Trenton, NJ 08628

Office of Consumer Advocate
555 Walnut Street
5th Floor, Forum Place
Harrisburg, PA 17101-1923

Office of Small Business Advocate
300 North Second Street, Suite 1102
Harrisburg, PA 17101

Michael L. Swindler
Deputy Chief Prosecutor
PA Attorney ID No. 43319

Pennsylvania Public Utility Commission
Bureau of Investigation and Enforcement
P.O. Box 3265
Harrisburg, PA 17105-3265
(717) 783-6369
mswindler@pa.gov

Dated: March 7, 2018

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

November 16, 2017

NOTICE OF VIOLATION

CERTIFIED MAIL NO. 7015 1520 0002 1486 3023

Mr. Matthew L. Gordon
Sunoco Pipeline, L.P.
535 Fritztown Road
Sinking Springs, PA 16908

Re: Violations of the Clean Stream Law
Pennsylvania Pipeline Project (a.k.a. Mariner East 2)
Permit Nos. E15-862 and ESG 01 000 15 001
West Whiteland Township
Chester County

Dear Mr. Gordon:

On November 11, 2017, the Department of Environmental Protection ("DEP" or "Department") received notice of an inadvertent release of drilling solution at Horizontal Directional Drill (HDD) Site S-3-0400 near 479 Lisa Drive in West Whiteland Township, Chester County from a third party. DEP conducted inspections of this area on November 14, 2017; a copy of the inspection report is enclosed. The drilling solution was discharged to an upland area and appears to have caused ground subsidence and the potential to pollute groundwater, a water of the Commonwealth. Drilling solution is an "industrial waste" under Section 301 of the Clean Streams Law, 35 P.S. § 691.301. The discharge of industrial waste to waters of the Commonwealth is a violation of the Clean Streams Law.

There is a history of incidents with this Drill. First, on August 18, 2017, Sunoco contacted DEP and stated that, due to several losses of circulation, the original pilot hole was going to be abandoned and grouted in and a new pilot hole was going to be drilled. Next, on August 24, 2017, Sunoco reported a loss of circulation at the site. Third, on September 21, 2017, DEP received a complaint about a potential "void" under the SEPTA lines in the area of HDD 400. The complainant reported that they had spoken to workers walking the Right-of-Way. The Department performed a field investigation on September 27, 2017. Sunoco was reminded, once again, of the requirement to immediately notify the Department of losses of circulation. Sunoco was also advised to contact Amtrak about the possibility of voids under their tracks and to keep the Department apprised of any ongoing coordination with Amtrak. To date, no notice of any loss of circulation has been received from Sunoco, and Sunoco has not provided the Department with information about

any contacts they may have made with Amtrak on this issue, despite an explicit Department request for such information. Additionally, on October 5, 2017, Sunoco reported a release of drilling solution in uplands. Finally, on November 11, 2017, as indicated above, a second inadvertent return (IR) occurred from the Drill.

DEP Permits E15-862 and ESG 01 000 15 001, and paragraph 15 of the Corrected Stipulated Order ("Order") entered by the Environmental Hearing Board on August 10, 2017, require permittee(s) to implement their revised "*HDD Inadvertent Return Assessment, Preparedness, Prevention and Contingency Plan* (revised August 8, 2017) ("IR PPC Plan") that is part of the approved plans in the aforementioned permits to reduce, minimize, or eliminate a pollution event.

The IR PPC Plan, and DEP Permit E15-862, require "immediate" notification to the Department's Southeast Regional Office 24-hour Response Line. Yet, the Department has no record of receiving any such notice from Sunoco after the November 11, 2017, IR. Moreover, no notification for the above-described losses of circulation has ever been received from Sunoco. The Department is very concerned with Sunoco's continued failure to provide the required notifications for these incidents.

The IR PPC Plan also requires that a written initial report be submitted by Sunoco within one working day of the IR. Sunoco has, to date, failed to provide the required initial IR report for the November 11, 2017, IR to the Department. Sunoco characterizes the incident as a "loss of containment from a previous IR," rather than an IR. The Department disputes this characterization. Whether an IR occurs at a site of containment of a previous IR, or in a new location, it is still an IR. Accordingly, the "incident report" that the Department received from Sunoco on November 15, 2017, fails to satisfy the initial IR report requirement of the IR PPC Plan.

Sunoco's failure to provide required notifications and reports in accordance with the IR PPC Plan, the Order, and DEP Permits E15-862 and ESG 01 000 15 001, constitutes unlawful conduct under Section 611 of the Clean Streams Law, 35 P.S. § 691.611 and Section 18 of the Dam Safety and Encroachment Act, 32 P.S. § 693.18.

The Department requests that you submit the following to the attention of Mr. Frank De Francesco by e-mail at fdefrances@pa.gov by **C.O.B. November 21, 2017:**

1. A detailed description, including photos documenting current site conditions, of the actions taken to contain and remove the IR and a plan for any additional measures necessary to complete remediation, including specifically addressing the subsidence area.

2. An assessment by a qualified professional geologist of the events, circumstances, and/or site conditions that caused or contributed to the IR. The assessment should also

include a discussion and evaluation of the effectiveness of any and all measures that have been employed to prevent or minimize the occurrence of an IR at the site, including, but not limited to, reduced drilling pressures, thickened drilling fluid mixture, and/or addition of pre-approved loss circulation materials. **Finally, this assessment must list the actions or measures that will be taken to prevent or minimize any future IRs to less than 50 gallons.** The assessment must be completed, signed, and sealed by a qualified professional geologist licensed to practice in the Commonwealth of Pennsylvania.

3. Answers to the following questions:

   a. Was the original pilot hole abandoned and grouted?

   b. Was the loss of circulation on August 24, 2017, at the new pilot hole?

   c. Was there any other loss of circulation between August 24, 2017, and October 5, 2017?

   d. Why was the crew walking the right-of-way during the week of September 18, 2017?

   e. Did any other anomaly happen at the site between August 24, 2017, and October 5, 2017?

Please be reminded that Department approval is required before restarting drilling operations for PA-CH-0256.0000-RR-20. Additionally, a reevaluation is required for PA-CH-0256.0000-RR-16 in accordance with paragraph 3 of the August 10, 2017, Corrective Stipulated Order.

Please be advised that DEP and/or the Chester County Conservation District will conduct additional inspections of the site. If future inspections reveal that corrective actions have not been made and/or additional violations have occurred, DEP may initiate enforcement action.

This Notice of Violation is neither an order nor any other final action of DEP. It neither imposes nor waives any enforcement action available to DEP under any of its statutes. If DEP determines that an enforcement action is appropriate, you will be notified of the action.

I look forward to your cooperation in this matter. If you have any questions, please call Mr. Frank De Francesco, Compliance Specialist, at 484.250.5161.

Sincerely,

Domenic Rocco, P.E.
Regional Manager
Waterways and Wetlands

Enclosure(s): DEP Inspection Report

cc: Mr. Embry – Sunoco Pipeline
Mr. Prosceno – TetraTech
Mr. Sofranko – Chester County Conservation District
PA Fish and Boat Commission, Southeast Office
Mr. Caplan – U.S. Army Corps of Engineers, Philadelphia District
West Whiteland Township
Re 30 (GJS17WAW)320-1

3800-FM-WSWM0169A Rev. 1/2002

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY AND WASTEWATER MANAGEMENT

GENERAL INSPECTION REPORT (Non-NPDES)

Type of Inspection	WQM Permit Number	County	Municipality
IR Incident site follow-up	E15-862 & ESG0100015001	Chester	West Whiteland Township

Name and Location of Facility or Pollution Incident	Entry Time/Date
Mariner East II, Exton Bypass HDD 400	0800 11/14/17
479 Lisa Drive, Exton	0930 11/14/17

Name, Address of Responsible Party	Title	
Mr. Matt Gordon Sunoco Pipeline, LP 535 Fritztown Road Sinking Spring, PA 19608	Telephone	Contacted Yes No XX

SUMMARY OF VIOLATIONS/RECOMMENDATION/COMMENTS:

At 1728 on November 11, 2017, DEP received notification of an inadvertent return (IR) and sinkhole/subsidence along the drill path of HDD 400 from a third party. The location of this occurrence was at 479 Lisa Drive Exton, PA.

At 0800 on November 14, 2017, I arrived on site. The cleanup of the drilling solution (DS) had occurred but the hole was still present. I was informed that the occurrence happened on November 11, 2017 at approximately 1330. I was advised that the occurrence happened while running the 24-inch ream operation. As it was explained at the time, the IR happened at the same location as the IR of October 5, 2017, which was in the area of a fault line between 2 different rock formations. The fault area was unconsolidated material so during reaming activity, this material collapsed in to the bore and blocked it causing the DS to be discharged to the surface. Once the IR was discovered, the work was stopped and clean-up commenced. During the clean-up, the hole increased from approximately a 2-foot diameter to a 6-foot dimension. The area was enclosed in orange safety fence and a semi-permanent fence was to be installed around the hole for safety precautions. At the time of the inspection, I had informed the responsible party (RP) that DEP had no record of being notified of the IR event and had not received an initial report of the incident. The RP stated that a phone call was made to the DEP Emergency Response phone line and a message was left but no one from DEP had returned the call.

I left the site at 0930.

Compliance Assistance Provided ☐

Pollution Prevention Activity ☐

Sample No.	Location	Field Measurements and Observations

Inspector Name	Inspector Signature	Title	Date 11/14/17
Frank DeFrancesco	Frank DeFrancesco (DAD)	**EP Compliance Spec.**	Telephone 484-250-5161
Name of Person Interviewed	Signature of Person Interviewed	Title	Date:
Josh Prosceno, Tetra Tech			Telephone

This document is official notification that a representative of the Department of Environmental Protection, inspected the above facility or site. The findings of this inspection are shown above and on any attached pages.

Any violations which were uncovered during the inspection are indicated. Violations may also be discovered upon examination of the results of laboratory analyses of the discharge and review of Department records. Notification will be forthcoming, if such violations are noted.

☐ White - Regional Office ☐ Yellow - Responsible Person ☐ Pink - Inspector

3800-FM-WSWM0169B Rev. 1/2002

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY AND WASTEWATER MANAGEMENT

GENERAL INSPECTION REPORT (Non-NPDES)

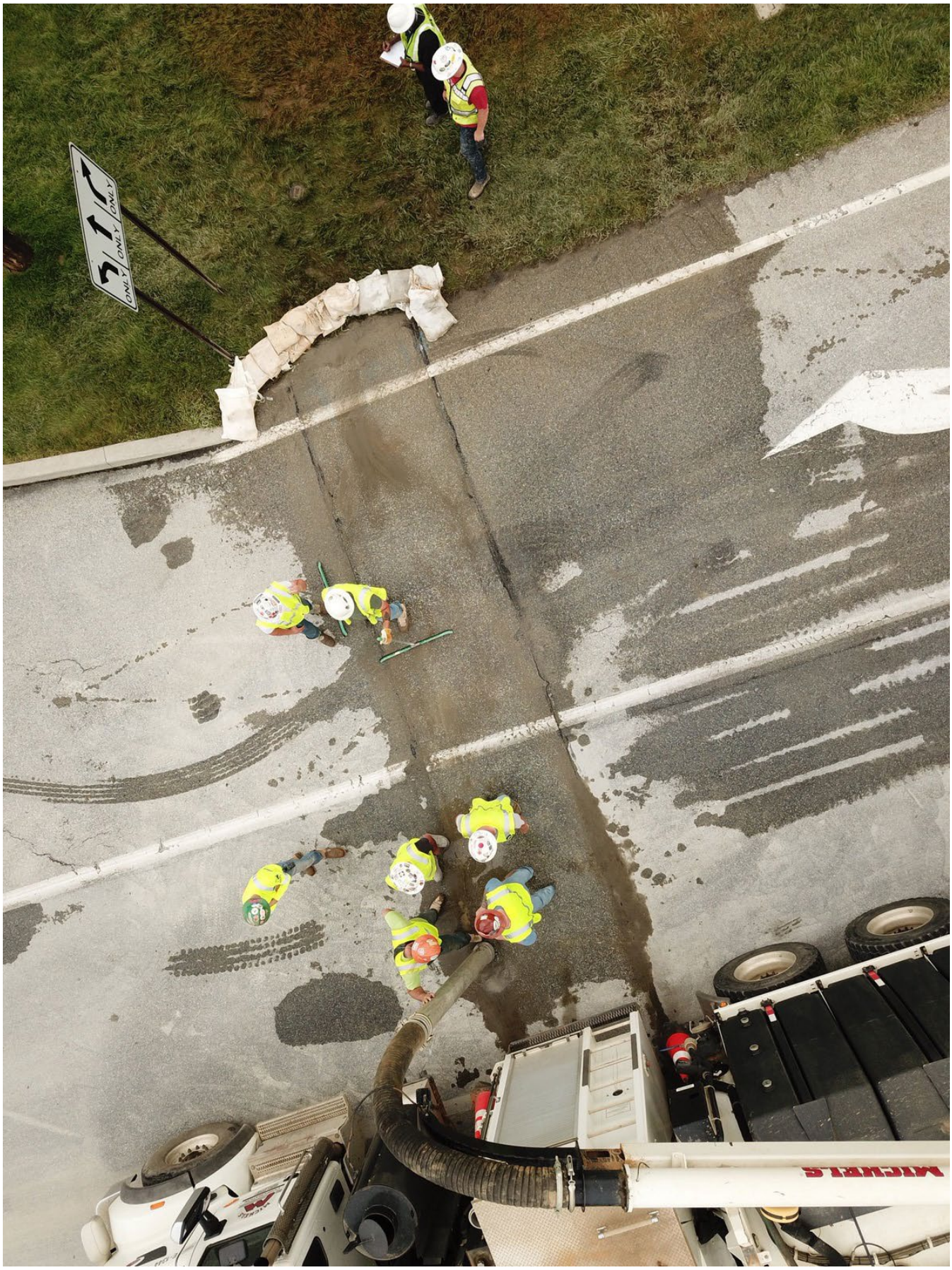
Name and Location of Facility or Pollution Incident	County	Municipality
Sunoco HDD 400 Lisa Drive	Chester	West Whiteland Twp

Subsidence hole and safety fence.

Flow path from discharge point

Close-up of the Hole

Close-up of the bottom of the hole



Hughes_19_Boot and Airport Road Frac Out 2

MOVIE CLIP
DOWNLOAD VIDEO BY CLICKING HERE
https://drive.google.com/file/d/12Hx6anTW7ji9riQIzw7SPoEwBSsJ7_48/view

Hughes_20_MOVIE CLIP: Joe McGinn PA House Committee Testimony

Rosemary Fuller

Testimony for the PUC

I. Background

Name: Rosemary F. R. Fuller

Address: 226 Valley Road, Media, PA 19063

Family: Husband Gordon, 2 children Cameron (26) and Stephanie (21)

Education:

- BA (Hons) from the University of West London (Ealing College) in Modern Languages and South American Politics (1982)
- MBA from the University of Edinburgh (1987)

Career Experience:

1982 – Freight Forwarder with Simar Freight, Poole, Dorset UK

1983- 1984 Management Consultant with Metra Proudfoot, Brussels, Belgium

1984-1986 Signode GmbH, Dinslaken Germany

1988-1996 Financial Adviser, Allied Dunbar, Edinburgh

2008-present Rental Property Owner/Manager

Non-profit volunteer work:

Government relations advocacy work for JDRF (Juvenile Diabetes Research Foundation)

II. Objectives

The goal of my testimony is to share my concerns about the location and siting of the Mariner East pipelines, the risk they pose for my family and community, the lack of a credible and workable Emergency Plan, the concerns about integrity maintenance issues and the lack of transparency and information regarding the pipelines. I would like to show that living within the blast zone of Mariner East presents us with a clear and present danger of catastrophic proportions.

III. Proximity to Mariner East Pipelines

We have lived at 226 Valley Road, Media, PA, since 2003.

ME2, ME2X and the 82-yr old 12" Point Breeze to Montello, which was repurposed to transport highly volatile natural gas liquids, are all 150 ft away from the front of our property along Valley Road. The 88-yr old Mariner East 1, also repurposed to transport highly volatile natural gas liquids, is approx. 1100 ft behind our property along New Darlington Road. In total, therefore, we have 4 highly volatile NGL pipelines around our property. The nearest Mariner East valve stations are at Granite Farms Estates (less than a mile away), Glenwood Elementary School (a mile away) and Duffers Tavern (just over 2 miles away). We are surrounded by a deer fence and have electric gates as the entry/exit point at the front of our property on Valley Road. There is no "uphill" on our property and we don't have a windsock to determine the direction of the wind.

Our Story

In 2015 we were approached by Sunoco and asked to sign a permanent easement as shown in **Fuller exhibit 1**, giving Sunoco Pipeline a stretch of land running along the entire front of our property along Valley Road. The Percheron Field Services agent, who also happened to be a notary public, told us very clearly that "there would be no risk and we would never even know they were there". Subsequently this statement proved to be untrue. After the results of two independent risk assessments we now know there is a huge risk with highly volatile natural gas pipelines. As far as "not knowing they are there" is concerned, we have had to witness our beautiful, quiet, and residential Valley Road being turned into a massive, dirty, noisy, potholed, construction site with a constant flow of water trucks, hazardous waste trucks, diggers, construction vehicles, workers vehicles, geologists, flaggers, not just for a week or a month but for years now since construction began in 2017. Again, we were never informed that this would happen. We bought this property, our home, for many reasons and one was the location. Mariner East construction has changed our environment beyond all recognition. We have had to suffer the dirt, the noise, the drilling fluid spills into the Rocky Run Creek and down Valley Road. Flooding where we had none before. We have had, at any one time, approximately half a dozen pipeline construction sites along this road with the pipelines stretching out along the side of the road. We've had helicopters and airplanes flying low over our property. Our local park, Sleighton Park, has been cordoned off with a huge construction wall surrounding an ME2 and 2X pipeline HDD entry/exit point – right where children play, where our local sports teams are supposed to play their games, where I can no longer take my dogs in a circuitous route but have to walk back and forth because they took that whole section of the park away from us back in

2017. It's a daily and ugly reminder for years now of what's going on and what they didn't tell us would happen when we signed the permanent easement in 2015.

Sleighton Park, is just a half a mile away from our home and also the location of two recent sink holes as reported by StateImpact in **Fuller exhibit 20** that occurred on September 13 and October 17, just last Thursday. In each case the sinkhole, right next to the HDD entry/exit drill hole, exposed a section of the old 12" Point Breeze to Montello which has leaked several times along here when it was transporting gasoline. Last year it was repurposed to transport highly volatile natural gas liquids. This is the park where I walk my dogs every day. The park where children play every day. Now I feel nervous about walking there in case a third one appears and this whole area becomes another Lisa Drive, just one sinkhole after another. Now I'm even wondering whether the geophysical analysis over the length of the profile for Valley Road Crossing S3-0591 HDD was ever carried out, as required by the DEP. John Hohenstein's letter to Matthew Gordon dated 12/5/2018 confirms this requirement in order to minimize the risk of Inadvertent Returns and impacts to public and private water supplies. We have suffered both.

When my husband asked the Percheron field agent "You mean they're inert liquids?" she responded "yes". We signed the document in good faith as, no doubt, many other residents have done along the 350-mile route of the Mariner East project. We obviously now wish, knowing what we do, that we had never signed that document but am then reminded of her statement "we don't have to ask you for this but we're trying to be a good neighbor". Public utility certification gives Sunoco the power to exercise eminent domain. We never really had a choice.

Initially we were never told that the purpose of these new pipelines or the repurposing of the old ones would be for highly volatile natural gas liquids, how dangerous they were or what we should look for or do in the event of a leak or rupture. The bottom of the permanent easement document mentions a whole list of possible products starting with oil, oil products, crude petroleum, etc. I don't understand why the Percheron representative was not as specific about the product that ME2 and ME2X would be transporting when she presented us with the permanent easement to sign as Sunoco was in their permit application to the DEP where they clearly stated it was for natural gas liquids.

Sunoco information leaflets only started to appear once the whole issue of lack of public awareness came up. Even then, we were never informed what our emergency plan would be. Nobody from Sunoco has ever been to our property to tell us what to do in the event of a leak or rupture.

If you go on a cruise one of the first things you go through is the evacuation drill so that, in the event of an incident, you know exactly what to do. When you board an aircraft the cabin crew go through the safety drill, showing passengers how to stay safe during the flight, where the exit doors are and how to evacuate the aircraft in the case of an emergency. Students in schools take part in regular fire drills and practice evacuation. Why is there nothing more informative than "run uphill, upwind" from Sunoco in the event of a leak that could potentially produce an explosion of catastrophic proportions?

We didn't receive any information about the repurposing of ME1 which lies behind us along New Darlington Road, approx. 1600 ft from our property line. This is an old pipeline, installed in 1931, only 8 inches in diameter, and now repurposed for a totally different product at much higher pressure and with the flow in the opposite direction. In September 2014 PHMSA issued an advisory bulletin to alert operators of hazardous liquid and gas transmission pipelines of the potential significant impact flow reversals, product changes and conversion to service may have on the integrity of a pipeline. Failures on natural gas transmission and hazardous liquid pipelines have occurred after these operational changes. The fact that both the old ME1 and 12" Point Breeze to Montello have undergone these changes make us very nervous. We live so close to both of them.

One of the old pipes Sunoco used for the "workaround" is the 12" Point Breeze to Montello which runs along Valley Road 150 ft past our house. This pipe is old (installed in 1937) and corroded and has leaked multiple times in Edgmont Township just along the road from us – namely in 1988, 1992 and on Valley Road in 2015 as the **Fuller Exhibit 14** accident report shows**.** All these leaks were discovered by residents seeing and smelling the product being transported in the pipe which, at that time, was gasoline. All those leaks were NOT detected by Sunoco's leak detection equipment. Now the product in the pipe has been replaced with odorless and colorless highly volatile natural gas liquids through high consequence areas. We no longer have the ability to see or smell a leak when Sunoco's leak detection equipment fails as it did in the previous examples. In other words, we have now been placed at much higher risk.

This old 12" Point Breeze to Montello or, the GRE as it is also referred to, is the very same pipe that Administrator Elliott referred to as "compromised" in his letter to the West Whiteland Board of Supervisors on Sept. 4, 2018 as shown in **Fuller Exhibit 16**. This is the repurposed pipe that runs along Valley Road and in front of our property. This is the very same pipe that leaked 33,000 gallons of petroleum into Darby Creek in June of 2018. On the final page of the letter in Point 6, Administrator Elliott states that "the compromised section … will continue to transport refined products". When I asked Ian Woods, lead Community Liaison for PHMSA to define "compromised" he stated that it meant corroded. Why would a corroded pipe continue to transport refined products? Surely that is unsafe?

What should be of great concern is that despite the leak detection equipment being operational and functional at the time, it failed to detect this leak. Notification came once again from the public noticing a petroleum odor on June 19. On June 16 a private citizen had noticed a sheen on Darby Creek. It took until June 26 for Sunoco to confirm that the source of the leak was the Point Breeze to Montello pipe. One whole week.

Despite undergoing inspections with in-line tools in 2016, despite Sunoco spending $30 million in 2016 to upgrade the 12-inch line, the fact is that this pipeline still failed in a high consequence area in 2018. If this had been a week-long natural gas liquids leak instead of gasoline the consequences would have been very different and far more serious. Sunoco's claim to go "above and beyond" is clearly not guaranteeing the safety of its infrastructure.

Once construction of Mariner East 2 began in 2017 more and more articles started to appear in the news about the Mariner East 2 pipeline. Gradually stories came out about damage to private wells from punctured aquifers, water contamination, inadvertent returns, drilling fluid spills, contamination to wetlands and rivers, the list goes on. Sunoco racked up more than 800 state and federal permit violations and fines for Mariner East have now exceeded $13 million.

I became extremely concerned. I started to do some serious research and spoke with people in the industry. They all told me the same thing. That natural gas liquids shouldn't be brought through densely populated high consequence areas and that the HDD was more than likely going to damage my well. I was devastated. The integrity of our well and maintaining the purity of our water was paramount to the health and safety of my family. I have two members of my family with seriously compromised immune systems. We were never informed this might happen when we signed the permanent easement agreement.

I started receiving Horizontal Directional Drilling Reevaluation Reports from the DEP early 2018. Residents were invited to submit comments. February 1st, 2018 I submitted our first comments to Karen Yordy of the DEP as shown in **Fuller Exhibit 2**. I shared my concerns and asked for answers. I received none. The only thing that was addressed was the incorrect distance of my well to the proposed HDD which Sunoco had measured as 490 ft away when it was, in fact, 150 ft away.

Despite all my concerns I expressed about HDD drilling and the impending damage to our well if the HDD went ahead, despite all my written response comments to each Sunoco Horizontal

Directional Drilling Reevaluation Report to the DEP, despite my letter to Karen Yordy of the DEP, my letter to Mr. John Hohenstein, P.E. of the DEP as shown in **Fuller exhibit 3**, my third set of Reevaluation Report comments in **Fuller exhibit 4** (comment No. 6), the HDD went ahead along Valley Road for ME2 and ME2X.

In July of this year, as predicted, our private water well, our sole source of water, suffered major contamination and we had E Coli and fecal coliform introduced into our internal drinking water system. The test results are shown in **Fuller Exhibit 9.** My daughter sadly became very sick and had to go to the gastroenterology department of our local hospital. We still have no idea what the "undetermined" contaminant is.

I let it be known at the beginning of this project, before the HDD, that two members of my family have seriously compromised immune systems. I asked for a solution to this problem before HDD began because any risk of contamination could be fatal for both. The United States Geological Survey clearly states on page 3 of **Fuller exhibit 5** that consumption of water contaminated with E Coli and fecal coliform may cause death in those with weakened immune systems such as my husband who has stage 4 incurable cancer or my son, who has a life-threatening incurable auto-immune disease. I received no response from either Sunoco or the DEP about my concerns regarding contamination. Now, after contaminating our well, after making our daughter sick, after Sunoco knowingly put my family at risk, they are offering the solution they could have offered us at the beginning which is putting us onto Aqua.

Fuller Exhibit 6 shows that Sunoco made this offer of public water connection to all landowners with private wells within 450 ft of the HDD in Jackson Township, Cambria County. Why were we on Valley Road in Middletown Township not made the same offer? In SPLP's May 21, 2018, response to the DEP (**Fuller exhibit 7),** Points 7 and 28 state that, in accordance with its Chapter 105 permit, Sunoco must provide long-term replacement potable water to the satisfaction of affected water supply owners. They have not done that. This same document also shows that a fracture line passes straight through our property crossing the HDD. This put us at higher risk of well damage and Sunoco knew that from the beginning.

Sunoco's Water Supply Assessment, Preparedness, Prevention and Contingency Plan (**Fuller Exhibit 8**) outlines the risks HDD poses to private groundwater wells and the risks of inadvertent returns. Point 5.2.1 under "Potential HDD Impacts" clearly states that "While the path of least resistance is typically the bore hole itself, it may instead be an existing fracture …When this happens … drilling fluid could enter the groundwater table that could be used by private groundwater wells." It is unconscionable to think that Sunoco was prepared to take a risk with my family's health or rather, lives, that I wasn't prepared to take. This is a total disregard of foreseeable consequences and reckless endangerment of life and totally disproves what Sunoco says about "putting safety first" and "being a good neighbor".

As I started to hear about negative impacts from the Mariner East pipeline project, I also learned that construction had apparently gone ahead without any independent risk assessments having been carried out. The only risk assessment that had been conducted was apparently by Sunoco but no-one was allowed to see it. We had been placed in danger but didn't know how anything

would impact us or what to do in a negative impact situation. All these facts had been kept from us when we signed that Permanent Easement.

For instance, we weren't told that, unlike other pipeline products, these natural gas liquids had no color or odor. When they leak, there are two possibilities. Either the gas escaping from the leak is immediately ignited or they form a ground hugging vapor cloud that can spread along the ground for up to a mile. Any leak immediately becomes an ignition source for any static or electrical spark. This means you cannot have a vehicle driving along the road anywhere near the leak, you cannot use a car to escape, or use your cell phone to call for help, etc. We have cars coming along Valley Road all the time. There's nothing to stop a car pulling out of a cul de sac on Valley Road even if both ends of the road are closed off. What's to stop cars driving into a leak and causing an explosion of catastrophic proportions? Nothing at all. As I found out more, there were only more questions and more concerns.

What was the emergency plan for this? There really is none. Middletown Township has an 82-page Emergency Operations Plan shown in **Fuller Exhibit 17** which I read from front to back. It had nothing to offer me for a highly volatile natural gas liquid leak incident. I met with our Township manager at the time and our zoning officer. They couldn't help me either. I met with Representative Chris Quinn. He couldn't help me either. There was and still is no credible or workable plan in place for us.

I started to speak out at public meetings – Delaware County Council, Middletown Township, Edgmont Township, concerned citizens meetings, etc.- joining other residents calling for

independent risk assessments to be carried out so that we, the residents along the line, understood what danger we had been placed in and, if possible, find out what to do in the event of a leak. This shouldn't have been our responsibility. This should have been the responsibility of our public officials, the regulatory agencies, our Governor and Sunoco. All those overseeing this construction project should have made sure this was available for the public. In the absence of anything for us, we had to initiate this ourselves, for the safety of our families and our communities.

Eventually two independent risk assessments were carried out and the dangers of these NGL pipelines became clear. I was shocked at how this had been allowed to happen. I went to meet with Delaware County Emergency Services Director, Timothy Boyce. He agreed with me that there wasn't much they could do during a leak … they can't bring in fire engines, ambulances, police or EMT's anywhere near a natural gas liquid leak or vapor cloud because it could asphyxiate or cause a catastrophic explosion. He told me the best scenario in the case of a leak would be if it ignited immediately thereby preventing a vapor cloud from spreading. But this is a case of hoping for the best and not preparing for the worst.

Delaware County Emergency Services Director also told me that the situation with the NGL pipelines would be safer if there was an early warning system along the route of the pipeline to indicate a leak or problem. He mentioned discussing this with Chester County Emergency Services. Why isn't there such a system in place? Sunoco's Supervisory Control and Acquisition (SCADA)-based system doesn't work effectively. This system is supposed to assist with alarms, alerts and volume calculations. Although the SCADA system was operational and

fully functional at the time of the April 2015 leak of the old, corroded 12" Point Breeze to Montello on Valley Road where I live, it did not assist with the detection or confirmation of the leak (**Exhibit Fuller 14, page 5**). Neither did Sunoco's Computational Pipeline Monitoring (CPM) System. It, too, was operational and fully functional at the time of the 2015 gasoline leak on Valley Road and did not assist in the detection of confirmation of the leak. The same applies to the 33,500-gallon leak in Darby Creek last year. The leaks were, in fact, detected by local residents in both cases. They could see and smell the gasoline. This would not be the case in the event of an HVL leak. These highly volatile natural gas liquids have no odor or color.

So, if Sunoco's SCADA and CPM systems are ineffective and if the product has no odor or color … how is a leak to be detected and how are we protected from danger? I started looking at the history of other leaks, accidents and incidents near me over the last few years on the PHMSA database. Again, I was shocked. I found a long list of leaks, accidents and incidents near me where these so-called leak detection systems (i.e. the SCADA-based system and the CPM system) only worked in one or two cases:

Fuller Exhibit 11 is a screenshot of PHMSA's NPMS Public Viewer showing Sunoco Pipeline and Pipeline Facility Accidents/Incidents near me in Delaware County, approximately 8 miles down to Marcus Hook and 12 miles across to Darby Creek. By going onto the PHMSA analytics dashboard I was able to pull up the individual accident reports for each accident near me. Exhibit 12 is a snapshot of only some of the accidents. I started at 2002 and this is what I found:

1. Valley Road, very near me, April 10, 2015, Incident Report No. 20150163, gasoline leak due to corrosion on the old 12" Point Breeze to Montello pipeline. The leak detection systems, both SCADA and CPM, failed. It was under cathodic protection at the time.
2. Incident Report No. 20040090, March 19, 2004, leak due to corrosion. No leak detection equipment. This was at Lima, just a mile from me. The leak was detected by the smell of petroleum in the sewer line.
3. Incident Report No. 20020422, November 16, 2002, cause material, weld, equipment failure at Marcus Hook. Gasoline leak. No leak detection equipment.
4. Incident Report No. 20133006, December 16, 2012, cause material, weld, equipment failure. Marcus Hook. High consequence area. Leak detection failed.
5. Incident Report No. 20090152, May 8, 2009, NRC Report No. 905083, cause material, weld, equipment failure. Aston. HCA. Gasoline odors detected by passing motorists.
6. Incident Report No. 20160192, Aston Twin Oaks Valve Station, May 27, 2016, HVL or other flammable commodity, cause material, weld, equipment failure. HCA. Leak detection system failed.
7. Incident Report No. 20150095, Aston Twin Oaks Pump Station, 2015, leak, cause connection failure. HCA. Leak detection system failed.
8. Incident Report No. 20150145, AGAIN Aston Twin Oaks Pump Station, NRC. Report No. 1111777, product overflow, cause material/weld/equipment failure. HCA. Leak detection system failed.
9. Incident Report No. 20170040, Aston Valve Station, a leak due to a crack. HCA. Leak detection system failed.

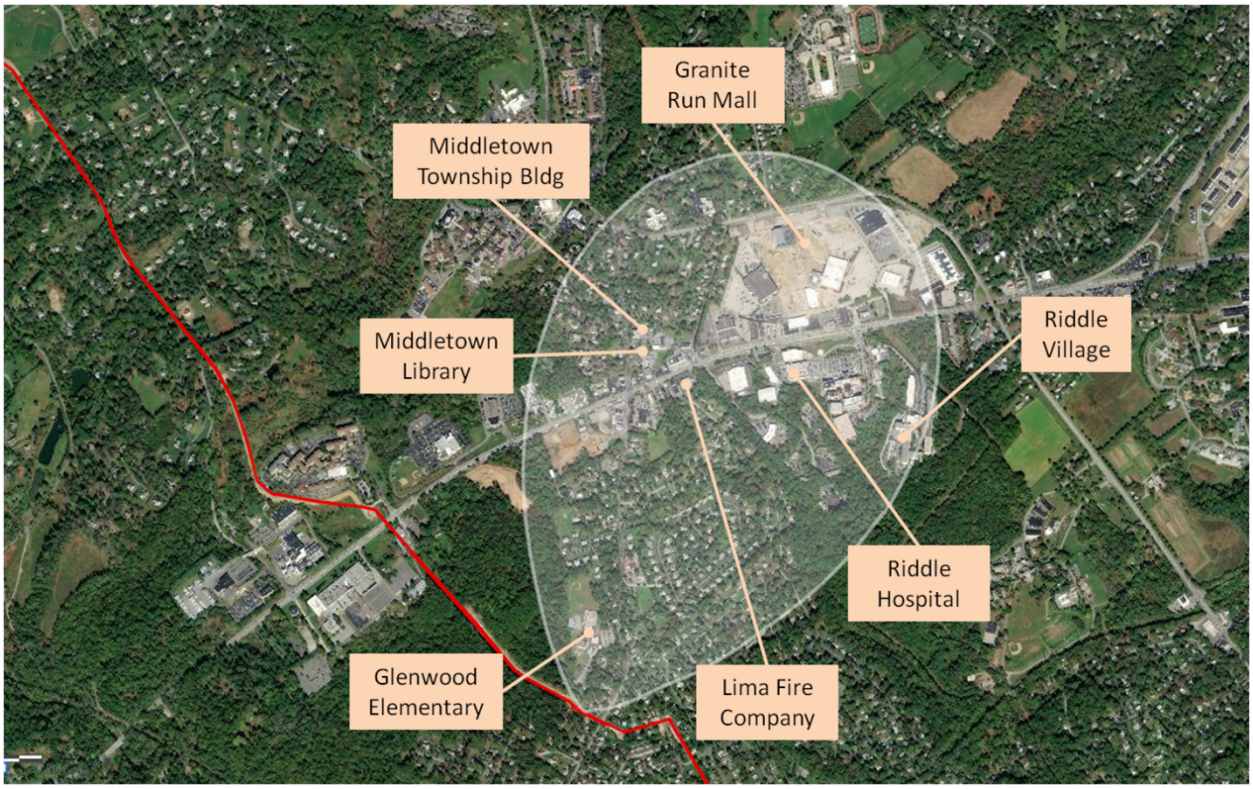
10. Incident Report No. 2013, August 19, 2013, Marcus Hook. Refined and/or petroleum leak due to corrosion. HCA. Discovered by operator not leak detection system.
11. Incident Report No. 20030412, October 29, 2003, Aston, Marcus Hook tank. Gasoline leak due to corrosion. No leak detection system.
12. Incident Report No. 20100193, August 5, 2010, NRC Report No. 950024, refined and/or petroleum leak due to material/weld/equipment failure. This report is missing from the PHMSA analytics dashboard.
13. Incident Report No. 20110401, September 26, 2011, NRC Report No. 990838. Marcus Hook Tank Farm. Refined and/or petroleum leak due to cracked valve. No leak detection system in place.
14. Darby Creek Area, Report No. 20020438, February 21, 2002, NRC Report No. 594688, mixed petroleum products, leak due to corrosion on the 12" Point Breeze to Montello. Odors detected by property owner. No leak detection equipment.
15. Darby Creek, Report No. 201802015, NRC Report No. 1215816, June 16, 2018, over 33,500 gallons of gasoline leaked into the Creek. It took 7 days to determine the source of the leak. It was discovered by a private citizen not the leak detection equipment, caused by a crack in the pipe. **Fuller Exhibit 15** is the accident report. This is again the same 12" Point Breeze to Montello pipe that runs in front of our home, filled with HVL's, that leaked gasoline on Valley Road in 2015 (undetected) and in West Whiteland Township, Chester County spilling 70,000 gallons in 1987. It was constructed in 1937. This was an HCA. Leak detection system failed.

16. Incident Report No. 20110080, February 8, 2011, Darby Township near the John Heinz National Wildlife Refuge, NRC Report 967232, crude oil spill due to corrosion. SCADA and CPM systems failed to detect the leak although both were operational and functional.
17. Incident Report No. 20030077, February 5, 2003, Darby Creek Tank Farm. Crude oil spill due to corrosion. No leak detection equipment.
18. Darby Creek Tank Farm. Incident Report No. 20050373, November 23, 2005, NRC Report No. 780385, bass river crude oil spill due to incorrect operation.
19. Darby Creek Tank Farm. Incident Report No. 20170036, January 10, 2017, cause of incident corrosion. HCA. Leak detection system failed.
20. Darby Creek Tank Farm. Incident Report No. 20120268, August 19, 2012 Crude oil spill due to corrosion. HCA. Leak detection system failed.
21. Darby Creek Tank Farm. Crude oil leak from crack in valve. Incident Report 20150098-21025. Occurred March 2, 2015. HCA. Leak detection system failed.

This is a snapshot of an abysmal record of accidents and equipment failure which can be found on PHMSA's NPMS Public viewer as shown in **Exhibit 12.** I have many more examples – too numerous to mention here. I haven't even touched on Chester County but kept it to my county. These are all high consequence areas near me and near Philadelphia and the sheer number of accidents and equipment failure cannot guarantee public safety whether Sunoco promises to go "above and beyond" or not. "Above and beyond" is obviously not good enough. Existing regulations should be revised and stepped up in order to keep us safe. The facts and the statistics show that the current level of accidents is too high and our safety cannot be guaranteed.

The failure of Sunoco's SCADA and CPM leak detection systems must be addressed.

Delaware County Emergency Services Director told me that a generic evacuation plan is unworkable. Evacuation plans for something like a highly volatile natural gas liquid leak or rupture should be site-specific. For instance, what you would need for Glenwood School would be totally different to what you would need at the Granite Farms Estate location which caters to the elderly. Based on the risk assessment, **exhibit 10** shows what a rupture at Granite Farms Estates would look like:



This shows the flammable cloud from a rupture of the 20-inch line at the entrance to Granite Farms, assuming a gentle wind blowing to the northwest. The dimensions of the cloud are taken

from the Delaware County G2 risk assessment. This would envelope Glenwood Elementary School, Lima Fire Company, Riddle Hospital, Riddle Village, the Granite Run Mall, the Middletown Township Building and Middletown Library along with a multitude of homes, businesses and other public facilities.

There is only one access road, so the ensuing "jet fire" would block the only escape route for Granite Farms survivors for hours, and would prevent would-be rescuers from getting in.

If the breeze were to the northeast, the cloud would envelope the Fair Acres Geriatric Center, the Lima Estates retirement community, the juvenile detention center, and the county's 911 emergency center.

If the breeze were to the east, the cloud would envelope the fire station and Riddle Hospital.

The risk assessments show that the more pipes you have, the greater your risk. We have the 3 NGL pipelines in front of us and the ME1 behind so that immediately quadruples our risk with no credible or workable emergency plan in place.

I thought the “run upwind, uphill for half a mile” emergency plan was a joke until I saw it in Sunoco’s flyer. I thought about my husband after his total knee replacement surgery, or my mother when she was staying with us at the end of her life, or the lady I met at the West Whiteland meeting whose sister is totally paralyzed after being hit by a drunk driver and whose husband now has Parkinson’s. How would any of these people run uphill. And we don’t even

have an uphill. What about the ill and infirm in all the care facilities along the route of the pipeline? How are they supposed to run uphill? There is clearly no consideration of the needs of those who cannot run upwind and uphill for half a mile. According the 1990 American Disabilities Act (**Fuller Exhibit 18**) there is a requirement for local authorities to include the disabled in their Emergency Operating Plans. Neglecting to do this is in violation of the American Disabilities Act. This is a non-discrimination law. Until the disabled are included in a credible, workable Emergency Plan for natural gas liquid leaks or ruptures this project must be halted immediately.

How do we move forward with this? Lawmakers must immediately address the gaps in existing law that have prevented the executive and independent agencies charged with protecting public health, safety and the environment from doing their job. The inability of these agencies to be able to do that has placed the general public in an extremely vulnerable and dangerous position.

During a February 21, 2019 quarterly earnings conference call, Energy Transfer's chief executive, Kelcy Warren, admitted "We've made mistakes and we are correcting those mistakes and will not make those mistakes again". He acknowledged the problems the Mariner East project has faced in Pennsylvania. However, the mistakes are continuing. In June we had the 33,500-gallon undetected leak in Darby Creek. In April a sinkhole opened up at the State Police Barracks close by on Route 1, Middletown Township. Then two more sinkholes a half a mile from us at our local park - one in September and one just last Thursday, October 17. Since July our family has suffered well and water contamination which has made us sick, drilling fluid

spills and inadvertent returns (**exhibit 19**) along Valley Road. Sunoco has become a repeat offender and we don't feel safe.

In his August 2nd, 2018 quarterly earnings conference call Kelcy Warren joked that "A monkey could make money in this business right now." This is hardly the mission statement of a public utility. Don't get me wrong. I have nothing against companies making a profit and passing that on to their shareholders, but not at the expense of people's health, safety and property.

Sunoco's accident history, failure of its leak detection equipment, construction failures, delays, willful and egregious violations not just to precious wetlands but also to people's water sources and fines totaling over $13 million show that this company cannot be allowed to continue. To allow it to do so is placing a vulnerable population at risk.

This project must be halted until these reforms are carried out and people are guaranteed a safe and healthy environment.

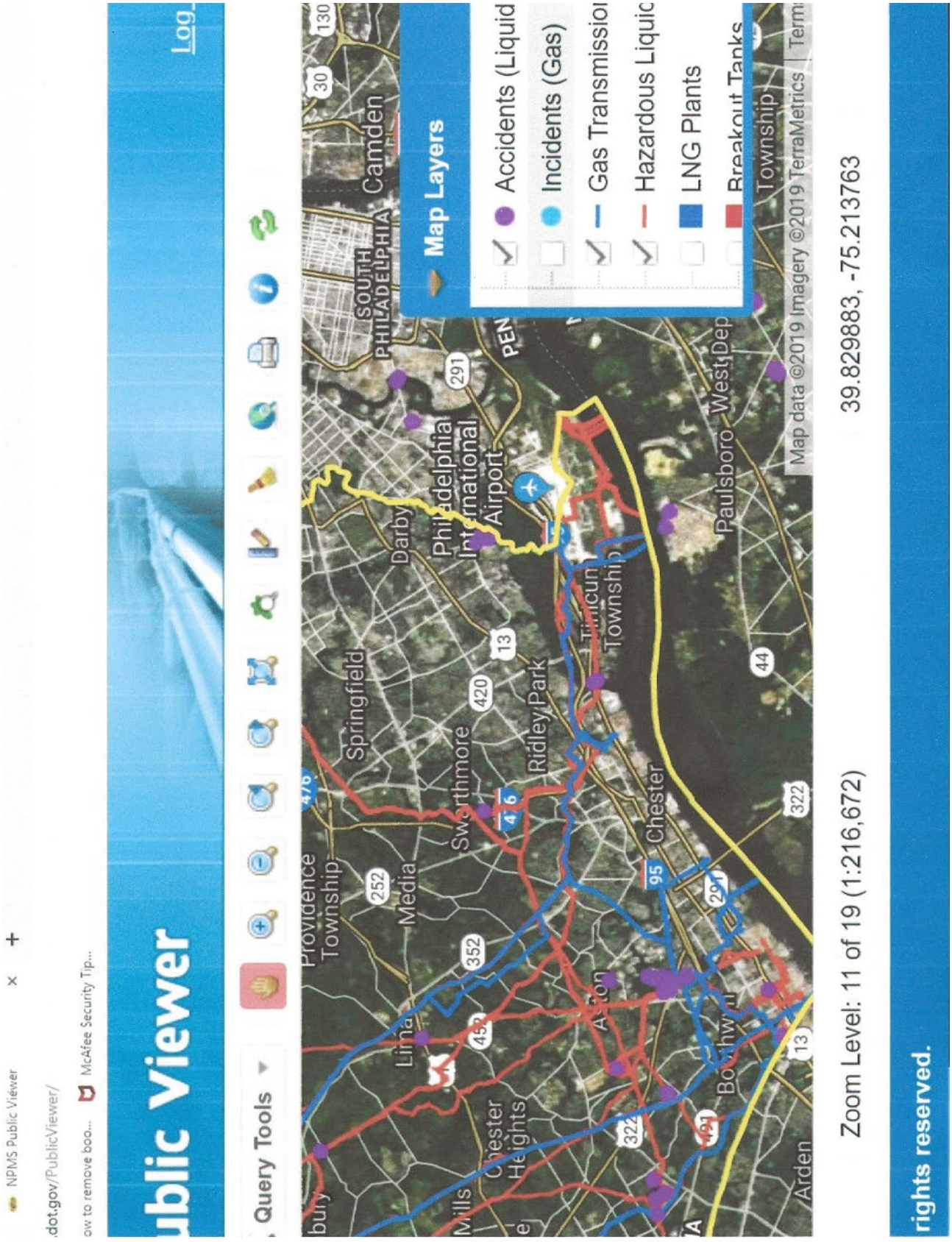
As Sunoco is a public utility it is subject to Title 49, Part 195 of the Code of Federal Regulations. It is required to design, construct, operate and maintain its facilities in a manner that provides for the safety of everyone, including the citizens of Middletown Township. I argue that, based on the above facts regarding lack of a credible, workable, non-discriminatory Emergency Plan that provides for every member of our community, the sheer number of leaks, accidents, equipment failure, failure of detection systems and the lack of physical indications to detect a leak, Sunoco's design, construction, operation and maintenance of its facilities does not provide for

the safety of everyone and therefore does not comply with Title 49, Part 195 of the Code of Federal Regulations.

When I spoke with a public official within the PUC on the phone last year, I discussed all this with him. I expressed how concerned I was for my family's safety and the danger this project presented to the whole community. I have done everything in my power to find the answers I need to make us feel safe. I have researched, met with legislators, public officials, County Council members, Township Council members, Emergency Services Directors, scientists, pipeline specialists, etc. It only seemed like the more I discovered and researched, the worse the situation became. I asked him what he would do if he was in my position. His answer was "file a formal complaint".

So that is what we are doing today. In summary, this court and the people in it are our last resort. On behalf of everybody impacted to date and who will be severely at risk in the future I beg you to use the powers bestowed upon you to send a message to Sunoco/Energy Transfer that in Pennsylvania people's lives matter more than profits and increasing the bank balances of billionaires. When this country was created, it was created as an experiment of how government of the people, by the people and for the people would be of paramount importance and that includes our lives and the quality of the environment that we share rather than the profits of multinational organizations.

Thank you for your time and consideration today.



Fuller_11_Pipeline accidents near Rosemary Fuller in Delaware County

Sunoco Pipeline and Pipeline Facility Accidents/Incidents near me (from PHMSA NPMS Public Viewer 10/2/2019):

1. Valley Road, April 10, 2015, Incident Report No. 20150163, gasoline leak due to corrosion on the old 12" Point Breeze to Montello pipeline. This old, corroded pipe has now been repurposed to carry HVL's.
2. Incident Report No. 20040090, March 19, 2004, leak due to corrosion
3. Incident Report No. 20020422, November 16, 2002, cause material, weld, equipment failure
4. Incident Report No. 20133006, December 16, 2012, cause material, weld, equipment failure
5. Incident Report No. 20090152, May 8, 2009, NRC Report No. 905083, cause material, weld, equipment failure
6. Incident Report No. 20160192, Aston Twin Oaks Valve Station, May 27, 2016, HVL or other flammable commodity, cause material, weld, equipment failure
7. Incident Report No. 20150095, Aston Twin Oaks Pump Station, 2015, leak, cause connection failure
8. Incident Report No. 20150145, AGAIN Aston Twin Oaks Pump Station, 2015, NRC. Report No. 1111777, product overflow, cause material/weld/equipment failure
9. Incident Report No. 20170040, Aston Valve Station, a leak due to a crack
10. Incident Report No. 2013, August 19, 2013, refined and/or petroleum leak due to corrosion
11. Incident Report No. 20030412, October 29, 2003, gasoline leak due to corrosion
12. Incident Report No. 20100193, August 5, 2010, NRC Report No. 950024, refined and/or petroleum leak due to material/weld/equipment failure
13. Incident Report No. 20110401, September 26, 2011, NRC Report No. 990838, refined and/or petroleum leak due to outside force damage
14. Darby Creek Area, Report No. 20020438, February 21, 2002, NRC Report No. 594688, mixed petroleum products, leak due to corrosion
15. Darby Creek, Report No. 201802015, NRC Report No. 1215816, June 16, 2018, over 33,500 gallons of gasoline leaked into the Creek, it took 7 days to determine the source of the leak, it was discovered by a private citizen not the leak detection equipment, caused by a crack in the pipe. This is the same 12" Point Breeze to Montello pipe that runs in front of our home, filled with HVL's, that leaked gasoline on Valley Road in 2015 (undetected) and in West Whiteland Township, Chester County spilling 70,000 gallons in 1987. It was constructed in 1937.
16. Incident Report No. 20110080, February 8, 2011, Darby Township near the John Heinz National Wildlife Refuge, NRC Report 967232, crude oil spill due to corrosion
17. Incident Report No. 20030077, February 5, 2003, crude oil spill due to corrosion
18. Incident Report No. 20050373, November 23, 2005, NRC Report No. 780385, bass river crude oil spill due to incorrect operation
19. Incident Report No. 20170036, January 10, 2017, cause of incident corrosion
20. Incident Report No. 20120268, August 19, 2012 Crude oil spill due to corrosion

Fuller_12_Area approx 9 miles down to Marcus Hook and 16 miles east to Darby Creek

NOTICE: This report is required by 49 CFR Part 195. Failure to report can result in a civil penalty not to exceed $100,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed $1,000,000 as provided in 49 USC 60122.		OMB NO: 2137-0047 EXPIRATION DATE: 8/31/2020
U.S Department of Transportation Pipeline and Hazardous Materials Safety Administration	**Original Report Date:**	05/06/2015
	No.	20150163 - 30182 --- (DOT Use Only)

ACCIDENT REPORT - HAZARDOUS LIQUID PIPELINE SYSTEMS

INSTRUCTIONS

Important: *Please read the separate instructions for completing this form before you begin. They clarify the information requested and provide specific examples. If you do not have a copy of the instructions, you can obtain one from the PHMSA Pipeline Safety Community Web Page at http://www.phmsa.dot.gov/pipeline/library/forms.*

PART A - KEY REPORT INFORMATION

Report Type: *(select all that apply)*	**Original:**	**Supplemental:**	**Final:**
		Yes	**Yes**
Last Revision Date:	04/11/2018		
1. Operator's OPS-issued Operator Identification Number (OPID):	18718		
2. Name of Operator	SUNOCO PIPELINE L.P.		
3. Address of Operator:			
3a. Street Address	1300 MAIN STREET		
3b. City	HOUSTON		
3c. State	Texas		
3d. Zip Code	77002		
4. Local time *(24-hr clock)* and date of the Accident:	04/10/2015 15:05		
5. Location of Accident:			
Latitude:	39.94024		
Longitude:	-75.4799		
6. National Response Center Report Number (if applicable):	1113257		
7. Local time *(24-hr clock)* and date of initial telephonic report to the National Response Center (if applicable):	04/10/2015 19:31		
8. Commodity released: *(select only one, based on predominant volume released)*	Refined and/or Petroleum Product (non-HVL) which is a Liquid at Ambient Conditions		
- Specify Commodity Subtype:	Mixture of Refined Products (transmix or other mixture)		
- If "Other" Subtype, Describe:			
- If Biofuel/Alternative Fuel and Commodity Subtype is Ethanol Blend, then % Ethanol Blend:			
- If Biofuel/Alternative Fuel and Commodity Subtype is Biodiesel, then Biodiesel Blend e.g. B2, B20, B100			
9. Estimated volume of commodity released unintentionally (Barrels):	.40		
10. Estimated volume of intentional and/or controlled release/blowdown (Barrels):			
11. Estimated volume of commodity recovered (Barrels):	.40		
12. Were there fatalities?	No		
- If Yes, specify the number in each category:			
12a. Operator employees			
12b. Contractor employees working for the Operator			
12c. Non-Operator emergency responders			
12d. Workers working on the right-of-way, but NOT associated with this Operator			
12e. General public			
12f. Total fatalities (sum of above)			
13. Were there injuries requiring inpatient hospitalization?	No		
- If Yes, specify the number in each category:			
13a. Operator employees			
13b. Contractor employees working for the Operator			
13c. Non-Operator emergency responders			
13d. Workers working on the right-of-way, but NOT associated with this Operator			
13e. General public			

13f. Total injuries (sum of above)	
14. Was the pipeline/facility shut down due to the Accident?	Yes
- If No, Explain:	
- If Yes, complete Questions 14a and 14b: *(use local time, 24-hr clock)*	
14a. Local time and date of shutdown:	04/10/2015 15:40
14b. Local time pipeline/facility restarted:	04/12/2015 01:22
- Still shut down? (* Supplemental Report Required)	
15. Did the commodity ignite?	No
16. Did the commodity explode?	No
17. Number of general public evacuated:	0
18. Time sequence *(use local time, 24-hour clock)*:	
18a. Local time Operator identified Accident - effective 7- 2014 changed to "Local time Operator identified failure":	04/10/2015 18:45
18b. Local time Operator resources arrived on site:	04/10/2015 16:00
PART B - ADDITIONAL LOCATION INFORMATION	
1. Was the origin of the Accident onshore?	Yes
If Yes, Complete Questions (2-12)	
If No, Complete Questions (13-15)	
- If Onshore:	
2. State:	Pennsylvania
3. Zip Code:	19342
4. City	Glen Mills
5. County or Parish	Delaware
6. Operator-designated location:	Survey Station No.
Specify:	998+54
7. Pipeline/Facility name:	Point Breeze to Montello 12"
8. Segment name/ID:	11001-12" Point Breeze to Montello
9. Was Accident on Federal land, other than the Outer Continental Shelf (OCS)?	No
10. Location of Accident:	Pipeline Right-of-way
11. Area of Accident (as found):	Underground
Specify:	Under soil
- If Other, Describe:	
Depth-of-Cover (in):	36
12. Did Accident occur in a crossing?	No
- If Yes, specify type below:	
- If Bridge crossing –	
Cased/ Uncased:	
- If Railroad crossing –	
Cased/ Uncased/ Bored/drilled	
- If Road crossing –	
Cased/ Uncased/ Bored/drilled	
- If Water crossing –	
Cased/ Uncased	
- Name of body of water, if commonly known:	
- Approx. water depth (ft) at the point of the Accident:	
- Select:	
- If Offshore:	
13. Approximate water depth (ft) at the point of the Accident:	
14. Origin of Accident:	
- In State waters - Specify:	
- State:	
- Area:	
- Block/Tract #:	
- Nearest County/Parish:	
- On the Outer Continental Shelf (OCS) - Specify:	
- Area:	
- Block #:	
15. Area of Accident:	
PART C - ADDITIONAL FACILITY INFORMATION	
1. Is the pipeline or facility:	Interstate
2. Part of system involved in Accident:	Onshore Pipeline, Including Valve Sites
- If Onshore Breakout Tank or Storage Vessel, Including Attached Appurtenances, specify:	
3. Item involved in Accident:	Pipe
- If Pipe, specify:	Pipe Body
3a. Nominal diameter of pipe (in):	12

3b. Wall thickness (in):	.375
3c. SMYS (Specified Minimum Yield Strength) of pipe (psi):	35,000
3d. Pipe specification:	Grade B
3e. Pipe Seam , specify:	Seamless
- If Other, Describe:	
3f. Pipe manufacturer:	National Tube Company
3g. Year of manufacture:	1937
3h. Pipeline coating type at point of Accident, specify:	Coal Tar
- If Other, Describe:	
- If Weld, including heat-affected zone, specify. If Pipe Girth Weld, 3a through 3h above are required:	
- If Other, Describe:	
- If Valve, specify:	
- If Mainline, specify:	
- If Other, Describe:	
3i. Manufactured by:	
3j. Year of manufacture:	
- If Tank/Vessel, specify:	
- If Other - Describe:	
- If Other, describe:	
4. Year item involved in Accident was installed:	1937
5. Material involved in Accident:	Carbon Steel
- If Material other than Carbon Steel, specify:	
6. Type of Accident Involved:	Leak
- If Mechanical Puncture – Specify Approx. size:	
in. (axial) by	
in. (circumferential)	
- If Leak - Select Type:	Pinhole
- If Other, Describe:	
- If Rupture - Select Orientation:	
- If Other, Describe:	
Approx. size: in. (widest opening) by	
in. (length circumferentially or axially)	
- If Other – Describe:	

PART D - ADDITIONAL CONSEQUENCE INFORMATION

1. Wildlife impact:	No
1a. If Yes, specify all that apply:	
- Fish/aquatic	
- Birds	
- Terrestrial	
2. Soil contamination:	Yes
3. Long term impact assessment performed or planned:	Yes
4. Anticipated remediation:	Yes
4a. If Yes, specify all that apply:	
- Surface water	Yes
- Groundwater	
- Soil	Yes
- Vegetation	
- Wildlife	
5. Water contamination:	Yes
5a. If Yes, specify all that apply:	
- Ocean/Seawater	
- Surface	Yes
- Groundwater	
- Drinking water: *(Select one or both)*	
- Private Well	
- Public Water Intake	
5b. Estimated amount released in or reaching water (Barrels):	.10
5c. Name of body of water, if commonly known:	Unnamed intermittent drainage swale
6. At the location of this Accident, had the pipeline segment or facility been identified as one that "could affect" a High Consequence Area (HCA) as determined in the Operator's Integrity Management Program?	Yes
7. Did the released commodity reach or occur in one or more High Consequence Area (HCA)?	Yes
7a. If Yes, specify HCA type(s): *(Select all that apply)*	
- Commercially Navigable Waterway:	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's	

Integrity Management Program?	
- High Population Area:	Yes
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	Yes
- Other Populated Area	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	
- Unusually Sensitive Area (USA) - Drinking Water	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	
- Unusually Sensitive Area (USA) - Ecological	Yes
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	Yes
8. Estimated cost to Operator – effective 12-2012, changed to "Estimated Property Damage":	
8a. Estimated cost of public and non-Operator private property damage paid/reimbursed by the Operator – effective 12-2012, "paid/reimbursed by the Operator" removed	$ 46,550
8b. Estimated cost of commodity lost	$ 24
8c. Estimated cost of Operator's property damage & repairs	$ 230,000
8d. Estimated cost of Operator's emergency response	$ 100,000
8e. Estimated cost of Operator's environmental remediation	$ 75,000
8f. Estimated other costs	$ 40,000
Describe:	Failure Analysis
8g. Estimated total costs (sum of above) – effective 12-2012, changed to "Total estimated property damage (sum of above)"	$ 491,574
PART E - ADDITIONAL OPERATING INFORMATION	
1. Estimated pressure at the point and time of the Accident (psig):	670.00
2. Maximum Operating Pressure (MOP) at the point and time of the Accident (psig):	950.00
3. Describe the pressure on the system or facility relating to the Accident (psig):	Pressure did not exceed MOP
4. Not including pressure reductions required by PHMSA regulations (such as for repairs and pipe movement), was the system or facility relating to the Accident operating under an established pressure restriction with pressure limits below those normally allowed by the MOP?	No
- If Yes, Complete 4.a and 4.b below:	
4a. Did the pressure exceed this established pressure restriction?	
4b. Was this pressure restriction mandated by PHMSA or the State?	
5. Was "Onshore Pipeline, Including Valve Sites" OR "Offshore Pipeline, Including Riser and Riser Bend" selected in PART C, Question 2?	Yes
- If Yes - (*Complete 5a. – 5f below)* effective 12-2012, changed to *"(Complete 5.a – 5.e below)"*	
5a. Type of upstream valve used to initially isolate release source:	Remotely Controlled
5b. Type of downstream valve used to initially isolate release source:	Remotely Controlled
5c. Length of segment isolated between valves (ft):	66,000
5d. Is the pipeline configured to accommodate internal inspection tools?	Yes
- If No, Which physical features limit tool accommodation? (*select all that apply)*	
- Changes in line pipe diameter	
- Presence of unsuitable mainline valves	
- Tight or mitered pipe bends	
- Other passage restrictions (i.e. unbarred tee's, projecting instrumentation, etc.)	
- Extra thick pipe wall (applicable only for magnetic flux leakage internal inspection tools)	
- Other -	
- If Other, Describe:	
5e. For this pipeline, are there operational factors which significantly complicate the execution of an internal inspection tool run?	No
- If Yes, Which operational factors complicate execution? (*select all that apply*)	

- Excessive debris or scale, wax, or other wall buildup	
- Low operating pressure(s)	
- Low flow or absence of flow	
- Incompatible commodity	
- Other -	
- If Other, Describe:	
5f. Function of pipeline system:	> 20% SMYS Regulated Trunkline/Transmission
6. Was a Supervisory Control and Data Acquisition (SCADA)-based system in place on the pipeline or facility involved in the Accident?	Yes
If Yes -	
6a. Was it operating at the time of the Accident?	Yes
6b. Was it fully functional at the time of the Accident?	Yes
6c. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the detection of the Accident?	No
6d. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmation of the Accident?	No
7. Was a CPM leak detection system in place on the pipeline or facility involved in the Accident?	Yes
- If Yes:	
7a. Was it operating at the time of the Accident?	Yes
7b. Was it fully functional at the time of the Accident?	Yes
7c. Did CPM leak detection system information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the detection of the Accident?	No
7d. Did CPM leak detection system information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmation of the Accident?	No
8. How was the Accident initially identified for the Operator?	Notification From Public
- If Other, Specify:	
8a. If "Controller", "Local Operating Personnel", including contractors", "Air Patrol", or "Ground Patrol by Operator or its contractor" is selected in Question 8, specify:	
9. Was an investigation initiated into whether or not the controller(s) or control room issues were the cause of or a contributing factor to the Accident?	No, the Operator did not find that an investigation of the controller(s) actions or control room issues was necessary due to: (provide an explanation for why the Operator did not investigate)
- If No, the Operator did not find that an investigation of the controller(s) actions or control room issues was necessary due to: *(provide an explanation for why the operator did not investigate)*	A review of the accident determined that there were no control room actions that contributed to the event.
- If Yes, specify investigation result(s): *(select all that apply)*	
- Investigation reviewed work schedule rotations, continuous hours of service (while working for the Operator), and other factors associated with fatigue	
- Investigation did NOT review work schedule rotations, continuous hours of service (while working for the Operator), and other factors associated with fatigue	
Provide an explanation for why not:	
- Investigation identified no control room issues	
- Investigation identified no controller issues	
- Investigation identified incorrect controller action or controller error	
- Investigation identified that fatigue may have affected the controller(s) involved or impacted the involved controller(s) response	
- Investigation identified incorrect procedures	
- Investigation identified incorrect control room equipment operation	
- Investigation identified maintenance activities that affected control room operations, procedures, and/or controller response	
- Investigation identified areas other than those above:	
Describe:	
PART F - DRUG & ALCOHOL TESTING INFORMATION	
1. As a result of this Accident, were any Operator employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?	No
- If Yes:	
1a. Specify how many were tested:	

1b. Specify how many failed:	
2. As a result of this Accident, were any Operator contractor employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?	No
- If Yes:	
2a. Specify how many were tested:	
2b. Specify how many failed:	

PART G – APPARENT CAUSE

Select only one box from PART G in shaded column on left representing the APPARENT Cause of the Accident, and answer the questions on the right. Describe secondary, contributing or root causes of the Accident in the narrative (PART H).

Apparent Cause:	G1 - Corrosion Failure
G1 - Corrosion Failure - only one **sub-cause** can be picked from shaded left-hand column	
Corrosion Failure – Sub-Cause:	External Corrosion
- If External Corrosion:	
1. Results of visual examination:	Localized Pitting
- If Other, Describe:	
2. Type of corrosion: *(select all that apply)*	
- Galvanic	Yes
- Atmospheric	
- Stray Current	
- Microbiological	
- Selective Seam	
- Other:	
- If Other, Describe:	
3. The type(s) of corrosion selected in Question 2 is based on the following: *(select all that apply)*	
- Field examination	Yes
- Determined by metallurgical analysis	Yes
- Other:	
- If Other, Describe:	
4. Was the failed item buried under the ground?	Yes
- If Yes :	
□4a. Was failed item considered to be under cathodic protection at the time of the Accident?	Yes
If Yes - Year protection started:	1964
4b. Was shielding, tenting, or disbonding of coating evident at the point of the Accident?	Yes
4c. Has one or more Cathodic Protection Survey been conducted at the point of the Accident?	Yes
If "Yes, CP Annual Survey" – Most recent year conducted:	2017
If "Yes, Close Interval Survey" – Most recent year conducted:	
If "Yes, Other CP Survey" – Most recent year conducted:	
- If No:	
4d. Was the failed item externally coated or painted?	
5. Was there observable damage to the coating or paint in the vicinity of the corrosion?	Yes
- If Internal Corrosion:	
6. Results of visual examination:	
- Other:	
7. Type of corrosion *(select all that apply)*: -	
- Corrosive Commodity	
- Water drop-out/Acid	
- Microbiological	
- Erosion	
- Other:	
- If Other, Describe:	
8. The cause(s) of corrosion selected in Question 7 is based on the following *(select all that apply)*: -	
- Field examination	
- Determined by metallurgical analysis	
- Other:	
- If Other, Describe:	
9. Location of corrosion *(select all that apply)*: -	
- Low point in pipe	
- Elbow	
- Other:	

- If Other, Describe:	
10. Was the commodity treated with corrosion inhibitors or biocides?	
11. Was the interior coated or lined with protective coating?	
12. Were cleaning/dewatering pigs (or other operations) routinely utilized?	
13. Were corrosion coupons routinely utilized?	
Complete the following if any Corrosion Failure sub-cause is selected AND the "Item Involved in Accident" (from PART C, Question 3) is Tank/Vessel.	
14. List the year of the most recent inspections:	
14a. API Std 653 Out-of-Service Inspection	
- No Out-of-Service Inspection completed	
14b. API Std 653 In-Service Inspection	
- No In-Service Inspection completed	
Complete the following if any Corrosion Failure sub-cause is selected AND the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.	
15. Has one or more internal inspection tool collected data at the point of the Accident?	Yes
15a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run: -	
- Magnetic Flux Leakage Tool	
Most recent year:	
- Ultrasonic	
Most recent year:	
- Geometry	
Most recent year:	
- Caliper	
Most recent year:	
- Crack	Yes
Most recent year:	2016
- Hard Spot	
Most recent year:	
- Combination Tool	Yes
Most recent year:	2016
- Transverse Field/Triaxial	
Most recent year:	
- Other	
Most recent year:	
Describe:	
16. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	Yes
If Yes -	
Most recent year tested:	2017
Test pressure:	1,560.00
17. Has one or more Direct Assessment been conducted on this segment?	No
- If Yes, and an investigative dig was conducted at the point of the Accident::	
Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site:	
Most recent year conducted:	
18. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?	No
18a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:	
- Radiography	
Most recent year conducted:	
- Guided Wave Ultrasonic	
Most recent year conducted:	
- Handheld Ultrasonic Tool	
Most recent year conducted:	
- Wet Magnetic Particle Test	
Most recent year conducted:	
- Dry Magnetic Particle Test	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
G2 - Natural Force Damage - only one **sub-cause** can be picked from shaded left-handed column	
Natural Force Damage – Sub-Cause:	
- If Earth Movement, NOT due to Heavy Rains/Floods:	
1. Specify:	

- If Other, Describe:	
- If Heavy Rains/Floods:	
2. Specify:	
- If Other, Describe:	
- If Lightning:	
3. Specify:	
- If Temperature:	
4. Specify:	
- If Other, Describe:	
- If Other Natural Force Damage:	
5. Describe:	
Complete the following if any Natural Force Damage sub-cause is selected.	
6. Were the natural forces causing the Accident generated in conjunction with an extreme weather event?	
6a. If Yes, specify: *(select all that apply)*	
- Hurricane	
- Tropical Storm	
- Tornado	
- Other	
- If Other, Describe:	
G3 - Excavation Damage - only one **sub-cause** can be picked from shaded left-hand column	
Excavation Damage – Sub-Cause:	
- If Previous Damage due to Excavation Activity: Complete Questions 1-5 ONLY IF the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.	
1. Has one or more internal inspection tool collected data at the point of the Accident?	
1a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run: -	
- Magnetic Flux Leakage	
Most recent year conducted:	
- Ultrasonic	
Most recent year conducted:	
- Geometry	
Most recent year conducted:	
- Caliper	
Most recent year conducted:	
- Crack	
Most recent year conducted:	
- Hard Spot	
Most recent year conducted:	
- Combination Tool	
Most recent year conducted:	
- Transverse Field/Triaxial	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
2. Do you have reason to believe that the internal inspection was completed BEFORE the damage was sustained?	
3. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	
- If Yes:	
Most recent year tested:	
Test pressure (psig):	
4. Has one or more Direct Assessment been conducted on the pipeline segment?	
- If Yes, and an investigative dig was conducted at the point of the Accident:	
Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site:	
Most recent year conducted:	
5. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?	
5a. If Yes, for each examination, conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:	
- Radiography	
Most recent year conducted:	
- Guided Wave Ultrasonic	
Most recent year conducted:	

- Handheld Ultrasonic Tool	
Most recent year conducted:	
- Wet Magnetic Particle Test	
Most recent year conducted:	
- Dry Magnetic Particle Test	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
Complete the following if Excavation Damage by Third Party is selected as the sub-cause.	
6. Did the operator get prior notification of the excavation activity?	
6a. If Yes, Notification received from: *(select all that apply)* -	
- One-Call System	
- Excavator	
- Contractor	
- Landowner	
Complete the following mandatory CGA-DIRT Program questions if any Excavation Damage sub-cause is selected.	
7. Do you want PHMSA to upload the following information to CGA-DIRT (www.cga-dirt.com)?	
8. Right-of-Way where event occurred: *(select all that apply)* -	
- Public	
- If "Public", Specify:	
- Private	
- If "Private", Specify:	
- Pipeline Property/Easement	
- Power/Transmission Line	
- Railroad	
- Dedicated Public Utility Easement	
- Federal Land	
- Data not collected	
- Unknown/Other	
9. Type of excavator:	
10. Type of excavation equipment:	
11. Type of work performed:	
12. Was the One-Call Center notified?	
12a. If Yes, specify ticket number:	
12b. If this is a State where more than a single One-Call Center exists, list the name of the One-Call Center notified:	
13. Type of Locator:	
14. Were facility locate marks visible in the area of excavation?	
15. Were facilities marked correctly?	
16. Did the damage cause an interruption in service?	
16a. If Yes, specify duration of the interruption (hours)	
17. Description of the CGA-DIRT Root Cause *(select only the one predominant first level CGA-DIRT Root Cause and then, where available as a choice, the one predominant second level CGA-DIRT Root Cause as well):*	
Root Cause:	
- If One-Call Notification Practices Not Sufficient, specify:	
- If Locating Practices Not Sufficient, specify:	
- If Excavation Practices Not Sufficient, specify:	
- If Other/None of the Above, explain:	
G4 - Other Outside Force Damage - *only one **sub-cause** can be selected from the shaded left-hand column*	
Other Outside Force Damage – Sub-Cause:	
- If Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation:	
1. Vehicle/Equipment operated by:	
- If Damage by Boats, Barges, Drilling Rigs, or Other Maritime Equipment or Vessels Set Adrift or Which Have Otherwise Lost Their Mooring:	
2. Select one or more of the following IF an extreme weather event was a factor:	
- Hurricane	
- Tropical Storm	
- Tornado	
- Heavy Rains/Flood	
- Other	
- If Other, Describe:	
- If Previous Mechanical Damage NOT Related to Excavation: Complete Questions 3-7 ONLY IF the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.	
3. Has one or more internal inspection tool collected data at the point of	

the Accident?	
3a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run:	
- Magnetic Flux Leakage	
Most recent year conducted:	
- Ultrasonic	
Most recent year conducted:	
- Geometry	
Most recent year conducted:	
- Caliper	
Most recent year conducted:	
- Crack	
Most recent year conducted:	
- Hard Spot	
Most recent year conducted:	
- Combination Tool	
Most recent year conducted:	
- Transverse Field/Triaxial	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
4. Do you have reason to believe that the internal inspection was completed BEFORE the damage was sustained?	
5. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	
- If Yes:	
Most recent year tested:	
Test pressure (psig):	
6. Has one or more Direct Assessment been conducted on the pipeline segment?	
- If Yes, and an investigative dig was conducted at the point of the Accident:	
Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site:	
Most recent year conducted:	
7. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?	
7a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:	
- Radiography	
Most recent year conducted:	
- Guided Wave Ultrasonic	
Most recent year conducted:	
- Handheld Ultrasonic Tool	
Most recent year conducted:	
- Wet Magnetic Particle Test	
Most recent year conducted:	
- Dry Magnetic Particle Test	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
- If Intentional Damage:	
8. Specify:	
- If Other, Describe:	
- If Other Outside Force Damage:	
9. Describe:	
G5 - Material Failure of Pipe or Weld - only one **sub-cause** can be selected from the shaded left-hand column	
Use this section to report material failures ONLY IF the "Item Involved in Accident" (from PART C, Question 3) is "Pipe" or "Weld."	
Material Failure of Pipe or Weld – Sub-Cause:	
1. The sub-cause shown above is based on the following: *(select all that apply)*	
- Field Examination	
- Determined by Metallurgical Analysis	
- Other Analysis	
- If "Other Analysis", Describe:	
- Sub-cause is Tentative or Suspected; Still Under Investigation (Supplemental Report required)	

- If Construction, Installation, or Fabrication-related:	
2. List contributing factors: *(select all that apply)*	
- Fatigue or Vibration-related	
Specify:	
- If Other, Describe:	
- Mechanical Stress:	
- Other	
- If Other, Describe:	
- If Environmental Cracking-related:	
3. Specify:	
- If Other - Describe:	
Complete the following if any Material Failure of Pipe or Weld sub-cause is selected.	
4. Additional factors: (*select all that apply*):	
- Dent	
- Gouge	
- Pipe Bend	
- Arc Burn	
- Crack	
- Lack of Fusion	
- Lamination	
- Buckle	
- Wrinkle	
- Misalignment	
- Burnt Steel	
- Other:	
- If Other, Describe:	
5. Has one or more internal inspection tool collected data at the point of the Accident?	
5a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run:	
- Magnetic Flux Leakage	
Most recent year run:	
- Ultrasonic	
Most recent year run:	
- Geometry	
Most recent year run:	
- Caliper	
Most recent year run:	
- Crack	
Most recent year run:	
- Hard Spot	
Most recent year run:	
- Combination Tool	
Most recent year run:	
- Transverse Field/Triaxial	
Most recent year run:	
- Other	
Most recent year run:	
Describe:	
6. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	
- If Yes:	
Most recent year tested:	
Test pressure (psig):	
7. Has one or more Direct Assessment been conducted on the pipeline segment?	
- If Yes, and an investigative dig was conducted at the point of the Accident -	
Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site -	
Most recent year conducted:	
8. Has one or more non-destructive examination(s) been conducted at the point of the Accident since January 1, 2002?	
8a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted: -	
- Radiography	
Most recent year conducted:	
- Guided Wave Ultrasonic	
Most recent year conducted:	
- Handheld Ultrasonic Tool	
Most recent year conducted:	

2. Describe:	
Complete the following if any Incorrect Operation sub-cause is selected.	
3. Was this Accident related to *(select all that apply)*: -	
- Inadequate procedure	
- No procedure established	
- Failure to follow procedure	
- Other:	
- If Other, Describe:	
4. What category type was the activity that caused the Accident?	
5. Was the task(s) that led to the Accident identified as a covered task in your Operator Qualification Program?	
5a. If Yes, were the individuals performing the task(s) qualified for the task(s)?	

G8 - Other Accident Cause - only one **sub-cause** can be selected from the shaded left-hand column

Other Accident Cause – Sub-Cause:	
- If Miscellaneous:	
1. Describe:	
- If Unknown:	
2. Specify:	

PART H - NARRATIVE DESCRIPTION OF THE ACCIDENT

On 4/10/2015 at approximately 15:05 a landowner telephonically reported a petroleum odor to the SPLP Control Center. The line was shutdown and field personnel were dispatched to the area and detected a rainbow sheen on an intermittent drainage swale in a wooded area adjacent to the pipeline ROW. Emergency Response and Incident Command was initiated and the source of the odor was traced to the Point Breeze to Montello 12" refined products pipeline system. This area of the pipeline was excavated and a Plidco repair clamp was used to effect repair at the failure location. Permanent repair via cut out and replacement was planned however the area of the failure was located in a wetland area that is subject to PA DEP permitting. Permit approval process significantly delayed permanent repair. As of 7/10/2017 the failed section was cut out and replaced. The failed section was sent to a laboratory for failure analysis. The failure analysis report confirmed that the cause of the failure was external corrosion. The most likely mechanism for the external corrosion was coating failure which caused localized shielding of the CP. In 2016, Def/MFL/SMFL/LFM and UT Crack ILI tools were run and subsequent repairs and replacement of sections of this pipeline were affected including the cut out and replacement of this failed section of pipe. Subsequent to the repair program a hydrostatic pressure test was completed to requalify the MOP.

PART I - PREPARER AND AUTHORIZED SIGNATURE

Preparer's Name	Todd G. Nardozzi
Preparer's Title	Sr. Manager DOT Compliance
Preparer's Telephone Number	281-637-6576
Preparer's E-mail Address	todd.nardozzi@energytransfer.com
Preparer's Facsimile Number	877-917-0448
Authorized Signer Name	Todd G. Nardozzi
Authorized Signer Title	Sr. Manager DOT Compliance
Authorized Signer Telephone Number	281-637-6576
Authorized Signer Email	todd.nardozzi@energytransfer.com
Date	04/11/2018

NOTICE: This report is required by 49 CFR Part 195. Failure to report can result in a civil penalty not to exceed $100,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed $1,000,000 as provided in 49 USC 60122.	OMB NO: 2137-0047 EXPIRATION DATE: 8/31/2020

U.S Department of Transportation Pipeline and Hazardous Materials Safety Administration	Original Report Date:	07/26/2018
	No.	20180215 - 31167 (DOT Use Only)

ACCIDENT REPORT - HAZARDOUS LIQUID PIPELINE SYSTEMS

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0047. All responses to the collection of information are mandatory. Send comments regarding this burden or any other aspect of this collection of information, including suggestions for reducing the burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

INSTRUCTIONS

Important: *Please read the separate instructions for completing this form before you begin. They clarify the information requested and provide specific examples. If you do not have a copy of the instructions, you can obtain one from the PHMSA Pipeline Safety Community Web Page at*

PART A - KEY REPORT INFORMATION

Report Type: *(select all that apply)*	Original:	Supplemental:	Final:
		Yes	Yes

Last Revision Date:	11/12/2018
1. Operator's OPS-issued Operator Identification Number (OPID):	18718
2. Name of Operator	SUNOCO PIPELINE L.P.
3. Address of Operator:	
3a. Street Address	1300 MAIN STREET
3b. City	HOUSTON
3c. State	Texas
3d. Zip Code	77002
4. Local time *(24-hr clock)* and date of the Accident:	06/16/2018 13:45
5. Location of Accident:	
Latitude:	39.86509
Longitude:	-75.31148
6. National Response Center Report Number (if applicable):	1215816
7. Local time *(24-hr clock)* and date of initial telephonic report to the National Response Center (if applicable):	06/19/2018 20:03
8. Commodity released: *(select only one, based on predominant volume released)*	Refined and/or Petroleum Product (non-HVL) which is a Liquid at Ambient Conditions
- Specify Commodity Subtype:	Gasoline (non-Ethanol)
- If "Other" Subtype, Describe:	
- If Biofuel/Alternative Fuel and Commodity Subtype is Ethanol Blend, then % Ethanol Blend:	
- If Biofuel/Alternative Fuel and Commodity Subtype is Biodiesel, then Biodiesel Blend e.g. B2, B20, B100	
9. Estimated volume of commodity released unintentionally (Barrels):	821.00
10. Estimated volume of intentional and/or controlled release/blowdown (Barrels):	
11. Estimated volume of commodity recovered (Barrels):	530.00
12. Were there fatalities?	No
- If Yes, specify the number in each category:	
12a. Operator employees	
12b. Contractor employees working for the Operator	
12c. Non-Operator emergency responders	
12d. Workers working on the right-of-way, but NOT associated with this Operator	
12e. General public	
12f. Total fatalities (sum of above)	
13. Were there injuries requiring inpatient hospitalization?	No
- If Yes, specify the number in each category:	
13a. Operator employees	
13b. Contractor employees working for the Operator	
13c. Non-Operator emergency responders	
13d. Workers working on the right-of-way, but NOT associated with this Operator	
13e. General public	

Form PHMSA F 7000.1

13f. Total injuries (sum of above)	
14. Was the pipeline/facility shut down due to the Accident?	Yes
- If No, Explain:	
- If Yes, complete Questions 14a and 14b: *(use local time, 24-hr clock)*	
14a. Local time and date of shutdown:	06/18/2018 22:49
14b. Local time pipeline/facility restarted:	07/01/2018 17:57
- Still shut down? (* Supplemental Report Required)	
15. Did the commodity ignite?	No
16. Did the commodity explode?	No
17. Number of general public evacuated:	0
18. Time sequence *(use local time, 24-hour clock)*:	
18a. Local time Operator identified Accident - effective 7- 2014 changed to "Local time Operator identified failure":	06/19/2018 18:05
18b. Local time Operator resources arrived on site:	06/19/2018 18:41
PART B - ADDITIONAL LOCATION INFORMATION	
1. Was the origin of the Accident onshore?	Yes
If Yes, Complete Questions (2-12)	
If No, Complete Questions (13-15)	
- If Onshore:	
2. State:	Pennsylvania
3. Zip Code:	19029
4. City	Essington
5. County or Parish	Delaware
6. Operator-designated location:	Survey Station No.
Specify:	340+84
7. Pipeline/Facility name:	Point Breeze to Montello
8. Segment name/ID:	11001 - Point Breeze to Montello 12"
9. Was Accident on Federal land, other than the Outer Continental Shelf (OCS)?	No
10. Location of Accident:	Pipeline Right-of-way
11. Area of Accident (as found):	Underground
Specify:	Under pavement
- If Other, Describe:	
Depth-of-Cover (in):	48
12. Did Accident occur in a crossing?	No
- If Yes, specify type below:	
- If Bridge crossing –	
Cased/ Uncased:	
- If Railroad crossing –	
Cased/ Uncased/ Bored/drilled	
- If Road crossing –	
Cased/ Uncased/ Bored/drilled	
- If Water crossing –	
Cased/ Uncased	
- Name of body of water, if commonly known:	
- Approx. water depth (ft) at the point of the Accident:	
- Select:	
- If Offshore:	
13. Approximate water depth (ft) at the point of the Accident:	
14. Origin of Accident:	
- In State waters - Specify:	
- State:	
- Area:	
- Block/Tract #:	
- Nearest County/Parish:	
- On the Outer Continental Shelf (OCS) - Specify:	
- Area:	
- Block #:	
15. Area of Accident:	
PART C - ADDITIONAL FACILITY INFORMATION	
1. Is the pipeline or facility:	Interstate
2. Part of system involved in Accident:	Onshore Pipeline, Including Valve Sites
- If Onshore Breakout Tank or Storage Vessel, Including Attached Appurtenances, specify:	
3. Item involved in Accident:	Pipe
- If Pipe, specify:	Pipe Body
3a. Nominal diameter of pipe (in):	12

Form PHMSA F 7000.1

3b. Wall thickness (in):	.375
3c. SMYS (Specified Minimum Yield Strength) of pipe (psi):	35,000
3d. Pipe specification:	API 5L, Grade B
3e. Pipe Seam , specify:	Seamless
- If Other, Describe:	
3f. Pipe manufacturer:	National Tube
3g. Year of manufacture:	1937
3h. Pipeline coating type at point of Accident, specify:	Coal Tar
- If Other, Describe:	
- If Weld, including heat-affected zone, specify. If Pipe Girth Weld, 3a through 3h above are required:	
- If Other, Describe:	
- If Valve, specify:	
- If Mainline, specify:	
- If Other, Describe:	
3i. Manufactured by:	
3j. Year of manufacture:	
- If Tank/Vessel, specify:	
- If Other - Describe:	
- If Other, describe:	
4. Year item involved in Accident was installed:	1937
5. Material involved in Accident:	Carbon Steel
- If Material other than Carbon Steel, specify:	
6. Type of Accident Involved:	Leak
- If Mechanical Puncture – Specify Approx. size:	
in. (axial) by	
in. (circumferential)	
- If Leak - Select Type:	Crack
- If Other, Describe:	
- If Rupture - Select Orientation:	
- If Other, Describe:	
Approx. size: in. (widest opening) by	
in. (length circumferentially or axially)	
- If Other – Describe:	
PART D - ADDITIONAL CONSEQUENCE INFORMATION	
1. Wildlife impact:	No
1a. If Yes, specify all that apply:	
- Fish/aquatic	
- Birds	
- Terrestrial	
2. Soil contamination:	Yes
3. Long term impact assessment performed or planned:	Yes
4. Anticipated remediation:	Yes
4a. If Yes, specify all that apply:	
- Surface water	Yes
- Groundwater	Yes
- Soil	Yes
- Vegetation	
- Wildlife	
5. Water contamination:	Yes
5a. If Yes, specify all that apply:	
- Ocean/Seawater	
- Surface	Yes
- Groundwater	Yes
- Drinking water: *(Select one or both)*	
- Private Well	
- Public Water Intake	
5b. Estimated amount released in or reaching water (Barrels):	246.00
5c. Name of body of water, if commonly known:	Darby Creek
6. At the location of this Accident, had the pipeline segment or facility been identified as one that "could affect" a High Consequence Area (HCA) as determined in the Operator's Integrity Management Program?	Yes
7. Did the released commodity reach or occur in one or more High Consequence Area (HCA)?	Yes
7a. If Yes, specify HCA type(s): *(Select all that apply)*	
- Commercially Navigable Waterway:	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's	

Form PHMSA F 7000.1

Integrity Management Program?	
- High Population Area:	Yes
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	Yes
- Other Populated Area	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	
- Unusually Sensitive Area (USA) - Drinking Water	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	
- Unusually Sensitive Area (USA) - Ecological	Yes
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	Yes
8. Estimated cost to Operator – effective 12-2012, changed to "Estimated Property Damage":	
8a. Estimated cost of public and non-Operator private property damage paid/reimbursed by the Operator – effective 12-2012, "paid/reimbursed by the Operator" removed	$ 1,000,000
8b. Estimated cost of commodity lost	$ 69,785
8c. Estimated cost of Operator's property damage & repairs	$ 1,268,000
8d. Estimated cost of Operator's emergency response	$ 1,700,000
8e. Estimated cost of Operator's environmental remediation	$ 1,200,000
8f. Estimated other costs	$ 433,000
Describe:	Parking Fees
8g. Estimated total costs (sum of above) – effective 12-2012, changed to "Total estimated property damage (sum of above)"	$ 5,670,785
PART E - ADDITIONAL OPERATING INFORMATION	
1. Estimated pressure at the point and time of the Accident (psig):	267.00
2. Maximum Operating Pressure (MOP) at the point and time of the Accident (psig):	950.00
3. Describe the pressure on the system or facility relating to the Accident (psig):	Pressure did not exceed MOP
4. Not including pressure reductions required by PHMSA regulations (such as for repairs and pipe movement), was the system or facility relating to the Accident operating under an established pressure restriction with pressure limits below those normally allowed by the MOP?	No
- If Yes, Complete 4.a and 4.b below:	
4a. Did the pressure exceed this established pressure restriction?	
4b. Was this pressure restriction mandated by PHMSA or the State?	
5. Was "Onshore Pipeline, Including Valve Sites" OR "Offshore Pipeline, Including Riser and Riser Bend" selected in PART C, Question 2?	Yes
- If Yes - (*Complete 5a. – 5f below)* effective 12-2012, changed to *"(Complete 5.a – 5.e below)"*	
5a. Type of upstream valve used to initially isolate release source:	Manual
5b. Type of downstream valve used to initially isolate release source:	Manual
5c. Length of segment isolated between valves (ft):	7,181
5d. Is the pipeline configured to accommodate internal inspection tools?	Yes
- If No, Which physical features limit tool accommodation? (*select all that apply)*	
- Changes in line pipe diameter	
- Presence of unsuitable mainline valves	
- Tight or mitered pipe bends	
- Other passage restrictions (i.e. unbarred tee's, projecting instrumentation, etc.)	
- Extra thick pipe wall (applicable only for magnetic flux leakage internal inspection tools)	
- Other -	
- If Other, Describe:	
5e. For this pipeline, are there operational factors which significantly complicate the execution of an internal inspection tool run?	No
- If Yes, Which operational factors complicate execution? (*select all that apply*)	

Form PHMSA F 7000.1

- Excessive debris or scale, wax, or other wall buildup	
- Low operating pressure(s)	
- Low flow or absence of flow	
- Incompatible commodity	
- Other -	
- If Other, Describe:	
5f. Function of pipeline system:	> 20% SMYS Regulated Trunkline/Transmission
6. Was a Supervisory Control and Data Acquisition (SCADA)-based system in place on the pipeline or facility involved in the Accident?	Yes
If Yes -	
6a. Was it operating at the time of the Accident?	Yes
6b. Was it fully functional at the time of the Accident?	Yes
6c. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the detection of the Accident?	No
6d. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmation of the Accident?	No
7. Was a CPM leak detection system in place on the pipeline or facility involved in the Accident?	Yes
- If Yes:	
7a. Was it operating at the time of the Accident?	Yes
7b. Was it fully functional at the time of the Accident?	Yes
7c. Did CPM leak detection system information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the detection of the Accident?	No
7d. Did CPM leak detection system information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmation of the Accident?	No
8. How was the Accident initially identified for the Operator?	Notification From Public
- If Other, Specify:	
8a. If "Controller", "Local Operating Personnel", including contractors", "Air Patrol", or "Ground Patrol by Operator or its contractor" is selected in Question 8, specify:	
9. Was an investigation initiated into whether or not the controller(s) or control room issues were the cause of or a contributing factor to the Accident?	Yes, specify investigation result(s): (select all that apply)
- If No, the Operator did not find that an investigation of the controller(s) actions or control room issues was necessary due to: *(provide an explanation for why the operator did not investigate)*	
- If Yes, specify investigation result(s): *(select all that apply)*	
- Investigation reviewed work schedule rotations, continuous hours of service (while working for the Operator), and other factors associated with fatigue	Yes
- Investigation did NOT review work schedule rotations, continuous hours of service (while working for the Operator), and other factors associated with fatigue	
Provide an explanation for why not:	
- Investigation identified no control room issues	Yes
- Investigation identified no controller issues	Yes
- Investigation identified incorrect controller action or controller error	
- Investigation identified that fatigue may have affected the controller(s) involved or impacted the involved controller(s) response	
- Investigation identified incorrect procedures	
- Investigation identified incorrect control room equipment operation	
- Investigation identified maintenance activities that affected control room operations, procedures, and/or controller response	
- Investigation identified areas other than those above:	
Describe:	
PART F - DRUG & ALCOHOL TESTING INFORMATION	
1. As a result of this Accident, were any Operator employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?	No
- If Yes:	
1a. Specify how many were tested:	
1b. Specify how many failed:	

Form PHMSA F 7000.1

2. As a result of this Accident, were any Operator contractor employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?	No
- If Yes:	
2a. Specify how many were tested:	
2b. Specify how many failed:	

PART G – APPARENT CAUSE

Select only one box from PART G in shaded column on left representing the APPARENT Cause of the Accident, and answer the questions on the right. Describe secondary, contributing or root causes of the Accident in the narrative (PART H).

Apparent Cause:	G5 - Material Failure of Pipe or Weld

G1 - Corrosion Failure - only one **sub-cause** can be picked from shaded left-hand column

Corrosion Failure – Sub-Cause:	
- If External Corrosion:	
1. Results of visual examination:	
- If Other, Describe:	
2. Type of corrosion: *(select all that apply)*	
- Galvanic	
- Atmospheric	
- Stray Current	
- Microbiological	
- Selective Seam	
- Other:	
- If Other, Describe:	
3. The type(s) of corrosion selected in Question 2 is based on the following: *(select all that apply)*	
- Field examination	
- Determined by metallurgical analysis	
- Other:	
- If Other, Describe:	
4. Was the failed item buried under the ground?	
- If Yes :	
□4a. Was failed item considered to be under cathodic protection at the time of the Accident?	
If Yes - Year protection started:	
4b. Was shielding, tenting, or disbonding of coating evident at the point of the Accident?	
4c. Has one or more Cathodic Protection Survey been conducted at the point of the Accident?	
If "Yes, CP Annual Survey" – Most recent year conducted:	
If "Yes, Close Interval Survey" – Most recent year conducted:	
If "Yes, Other CP Survey" – Most recent year conducted:	
- If No:	
4d. Was the failed item externally coated or painted?	
5. Was there observable damage to the coating or paint in the vicinity of the corrosion?	
- If Internal Corrosion:	
6. Results of visual examination:	
- Other:	
7. Type of corrosion *(select all that apply)*: -	
- Corrosive Commodity	
- Water drop-out/Acid	
- Microbiological	
- Erosion	
- Other:	
- If Other, Describe:	
8. The cause(s) of corrosion selected in Question 7 is based on the following *(select all that apply)*: -	
- Field examination	
- Determined by metallurgical analysis	
- Other:	
- If Other, Describe:	
9. Location of corrosion *(select all that apply)*: -	
- Low point in pipe	
- Elbow	
- Other:	
- If Other, Describe:	
10. Was the commodity treated with corrosion inhibitors or biocides?	

11. Was the interior coated or lined with protective coating?	
12. Were cleaning/dewatering pigs (or other operations) routinely utilized?	
13. Were corrosion coupons routinely utilized?	
Complete the following if any Corrosion Failure sub-cause is selected AND the "Item Involved in Accident" (from PART C, Question 3) is Tank/Vessel.	
14. List the year of the most recent inspections:	
14a. API Std 653 Out-of-Service Inspection	
- No Out-of-Service Inspection completed	
14b. API Std 653 In-Service Inspection	
- No In-Service Inspection completed	
Complete the following if any Corrosion Failure sub-cause is selected AND the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.	
15. Has one or more internal inspection tool collected data at the point of the Accident?	
15a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run: -	
- Magnetic Flux Leakage Tool	
Most recent year:	
- Ultrasonic	
Most recent year:	
- Geometry	
Most recent year:	
- Caliper	
Most recent year:	
- Crack	
Most recent year:	
- Hard Spot	
Most recent year:	
- Combination Tool	
Most recent year:	
- Transverse Field/Triaxial	
Most recent year:	
- Other	
Most recent year:	
Describe:	
16. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	
If Yes -	
Most recent year tested:	
Test pressure:	
17. Has one or more Direct Assessment been conducted on this segment?	
- If Yes, and an investigative dig was conducted at the point of the Accident::	
Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site:	
Most recent year conducted:	
18. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?	
18a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:	
- Radiography	
Most recent year conducted:	
- Guided Wave Ultrasonic	
Most recent year conducted:	
- Handheld Ultrasonic Tool	
Most recent year conducted:	
- Wet Magnetic Particle Test	
Most recent year conducted:	
- Dry Magnetic Particle Test	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
G2 - Natural Force Damage - only one **sub-cause** can be picked from shaded left-handed column	
Natural Force Damage – Sub-Cause:	
- If Earth Movement, NOT due to Heavy Rains/Floods:	
1. Specify:	
- If Other, Describe:	
- If Heavy Rains/Floods:	

Form PHMSA F 7000.1

2. Specify:	
- If Other, Describe:	
- If Lightning:	
3. Specify:	
- If Temperature:	
4. Specify:	
- If Other, Describe:	
- If Other Natural Force Damage:	
5. Describe:	
Complete the following if any Natural Force Damage sub-cause is selected.	
6. Were the natural forces causing the Accident generated in conjunction with an extreme weather event?	
6a. If Yes, specify: *(select all that apply)*	
- Hurricane	
- Tropical Storm	
- Tornado	
- Other	
- If Other, Describe:	
G3 - Excavation Damage - only one **sub-cause** can be picked from shaded left-hand column	
Excavation Damage – Sub-Cause:	
- If Previous Damage due to Excavation Activity: Complete Questions 1-5 ONLY IF the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.	
1. Has one or more internal inspection tool collected data at the point of the Accident?	
1a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run: -	
- Magnetic Flux Leakage	
Most recent year conducted:	
- Ultrasonic	
Most recent year conducted:	
- Geometry	
Most recent year conducted:	
- Caliper	
Most recent year conducted:	
- Crack	
Most recent year conducted:	
- Hard Spot	
Most recent year conducted:	
- Combination Tool	
Most recent year conducted:	
- Transverse Field/Triaxial	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
2. Do you have reason to believe that the internal inspection was completed BEFORE the damage was sustained?	
3. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	
- If Yes:	
Most recent year tested:	
Test pressure (psig):	
4. Has one or more Direct Assessment been conducted on the pipeline segment?	
- If Yes, and an investigative dig was conducted at the point of the Accident:	
Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site:	
Most recent year conducted:	
5. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?	
5a. If Yes, for each examination, conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:	
- Radiography	
Most recent year conducted:	
- Guided Wave Ultrasonic	
Most recent year conducted:	
- Handheld Ultrasonic Tool	
Most recent year conducted:	

- Wet Magnetic Particle Test	
Most recent year conducted:	
- Dry Magnetic Particle Test	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
Complete the following if Excavation Damage by Third Party is selected as the sub-cause.	
6. Did the operator get prior notification of the excavation activity?	
6a. If Yes, Notification received from: *(select all that apply)* -	
- One-Call System	
- Excavator	
- Contractor	
- Landowner	
Complete the following mandatory CGA-DIRT Program questions if any Excavation Damage sub-cause is selected.	
7. Do you want PHMSA to upload the following information to CGA-DIRT (www.cga-dirt.com)?	
8. Right-of-Way where event occurred: *(select all that apply)* -	
- Public	
- If "Public", Specify:	
- Private	
- If "Private", Specify:	
- Pipeline Property/Easement	
- Power/Transmission Line	
- Railroad	
- Dedicated Public Utility Easement	
- Federal Land	
- Data not collected	
- Unknown/Other	
9. Type of excavator:	
10. Type of excavation equipment:	
11. Type of work performed:	
12. Was the One-Call Center notified?	
12a. If Yes, specify ticket number:	
12b. If this is a State where more than a single One-Call Center exists, list the name of the One-Call Center notified:	
13. Type of Locator:	
14. Were facility locate marks visible in the area of excavation?	
15. Were facilities marked correctly?	
16. Did the damage cause an interruption in service?	
16a. If Yes, specify duration of the interruption (hours)	
17. Description of the CGA-DIRT Root Cause *(select only the one predominant first level CGA-DIRT Root Cause and then, where available as a choice, the one predominant second level CGA-DIRT Root Cause as well):*	
Root Cause:	
- If One-Call Notification Practices Not Sufficient, specify:	
- If Locating Practices Not Sufficient, specify:	
- If Excavation Practices Not Sufficient, specify:	
- If Other/None of the Above, explain:	
G4 - Other Outside Force Damage - *only one **sub-cause** can be selected from the shaded left-hand column*	
Other Outside Force Damage – Sub-Cause:	
- If Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation:	
1. Vehicle/Equipment operated by:	
- If Damage by Boats, Barges, Drilling Rigs, or Other Maritime Equipment or Vessels Set Adrift or Which Have Otherwise Lost Their Mooring:	
2. Select one or more of the following IF an extreme weather event was a factor:	
- Hurricane	
- Tropical Storm	
- Tornado	
- Heavy Rains/Flood	
- Other	
- If Other, Describe:	
- If Previous Mechanical Damage NOT Related to Excavation: Complete Questions 3-7 ONLY IF the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.	
3. Has one or more internal inspection tool collected data at the point of the Accident?	
3a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run:	

Form PHMSA F 7000.1

- Magnetic Flux Leakage	
Most recent year conducted:	
- Ultrasonic	
Most recent year conducted:	
- Geometry	
Most recent year conducted:	
- Caliper	
Most recent year conducted:	
- Crack	
Most recent year conducted:	
- Hard Spot	
Most recent year conducted:	
- Combination Tool	
Most recent year conducted:	
- Transverse Field/Triaxial	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
4. Do you have reason to believe that the internal inspection was completed BEFORE the damage was sustained?	
5. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	
- If Yes:	
Most recent year tested:	
Test pressure (psig):	
6. Has one or more Direct Assessment been conducted on the pipeline segment?	
- If Yes, and an investigative dig was conducted at the point of the Accident:	
Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site:	
Most recent year conducted:	
7. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?	
7a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:	
- Radiography	
Most recent year conducted:	
- Guided Wave Ultrasonic	
Most recent year conducted:	
- Handheld Ultrasonic Tool	
Most recent year conducted:	
- Wet Magnetic Particle Test	
Most recent year conducted:	
- Dry Magnetic Particle Test	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
- If Intentional Damage:	
8. Specify:	
- If Other, Describe:	
- If Other Outside Force Damage:	
9. Describe:	
G5 - Material Failure of Pipe or Weld - only one **sub-cause** can be selected from the shaded left-hand column	
Use this section to report material failures ONLY IF the "Item Involved in Accident" (from PART C, Question 3) is "Pipe" or "Weld."	
Material Failure of Pipe or Weld – Sub-Cause:	Environmental Cracking-related
1. The sub-cause shown above is based on the following: *(select all that apply)*	
- Field Examination	
- Determined by Metallurgical Analysis	Yes
- Other Analysis	
- If "Other Analysis", Describe:	
- Sub-cause is Tentative or Suspected; Still Under Investigation (Supplemental Report required)	
- If Construction, Installation, or Fabrication-related:	
2. List contributing factors: *(select all that apply)*	

Form PHMSA F 7000.1

- Fatigue or Vibration-related	
Specify:	
- If Other, Describe:	
- Mechanical Stress:	
- Other	
- If Other, Describe:	
- If Environmental Cracking-related:	
3. Specify:	Other
- If Other - Describe:	Corrosion Fatigue and Hydrogen Cracking
Complete the following if any Material Failure of Pipe or Weld sub-cause is selected.	
4. Additional factors: (*select all that apply*):	
- Dent	
- Gouge	
- Pipe Bend	Yes
- Arc Burn	
- Crack	Yes
- Lack of Fusion	
- Lamination	
- Buckle	
- Wrinkle	
- Misalignment	
- Burnt Steel	
- Other:	Yes
- If Other, Describe:	Disbonded coating on the inner radius of a field bend
5. Has one or more internal inspection tool collected data at the point of the Accident?	Yes
5a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run:	
- Magnetic Flux Leakage	Yes
Most recent year run:	2016
- Ultrasonic	
Most recent year run:	
- Geometry	Yes
Most recent year run:	2016
- Caliper	
Most recent year run:	
- Crack	Yes
Most recent year run:	2016
- Hard Spot	
Most recent year run:	
- Combination Tool	
Most recent year run:	
- Transverse Field/Triaxial	
Most recent year run:	
- Other	Yes
Most recent year run:	2016
Describe:	Spiral and Residual MFL
6. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	No
- If Yes:	
Most recent year tested:	
Test pressure (psig):	
7. Has one or more Direct Assessment been conducted on the pipeline segment?	No
- If Yes, and an investigative dig was conducted at the point of the Accident -	
Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site -	
Most recent year conducted:	
8. Has one or more non-destructive examination(s) been conducted at the point of the Accident since January 1, 2002?	No
8a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted: -	
- Radiography	
Most recent year conducted:	
- Guided Wave Ultrasonic	
Most recent year conducted:	
- Handheld Ultrasonic Tool	
Most recent year conducted:	
- Wet Magnetic Particle Test	
Most recent year conducted:	

Form PHMSA F 7000.1

- Dry Magnetic Particle Test	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
G6 – Equipment Failure - only one **sub-cause** can be selected from the shaded left-hand column	
Equipment Failure – Sub-Cause:	
- If Malfunction of Control/Relief Equipment:	
1. Specify: *(select all that apply)* -	
- Control Valve	
- Instrumentation	
- SCADA	
- Communications	
- Block Valve	
- Check Valve	
- Relief Valve	
- Power Failure	
- Stopple/Control Fitting	
- ESD System Failure	
- Other	
- If Other – Describe:	
- If Pump or Pump-related Equipment:	
2. Specify:	
- If Other – Describe:	
- If Threaded Connection/Coupling Failure:	
3. Specify:	
- If Other – Describe:	
- If Non-threaded Connection Failure:	
4. Specify:	
- If Other – Describe:	
- If Other Equipment Failure:	
5. Describe:	
Complete the following if any Equipment Failure sub-cause is selected.	
6. Additional factors that contributed to the equipment failure: *(select all that apply)*	
- Excessive vibration	
- Overpressurization	
- No support or loss of support	
- Manufacturing defect	
- Loss of electricity	
- Improper installation	
- Mismatched items (different manufacturer for tubing and tubing fittings)	
- Dissimilar metals	
- Breakdown of soft goods due to compatibility issues with transported commodity	
- Valve vault or valve can contributed to the release	
- Alarm/status failure	
- Misalignment	
- Thermal stress	
- Other	
- If Other, Describe:	
G7 - Incorrect Operation - only one **sub-cause** can be selected from the shaded left-hand column	
Incorrect Operation – Sub-Cause:	
- If Tank, Vessel, or Sump/Separator Allowed or Caused to Overfill or Overflow	
1. Specify:	
- If Other, Describe:	
- If Other Incorrect Operation	
2. Describe:	
Complete the following if any Incorrect Operation sub-cause is selected.	

Form PHMSA F 7000.1

3. Was this Accident related to *(select all that apply)*: -	
- Inadequate procedure	
- No procedure established	
- Failure to follow procedure	
- Other:	
- If Other, Describe:	
4. What category type was the activity that caused the Accident?	
5. Was the task(s) that led to the Accident identified as a covered task in your Operator Qualification Program?	
5a. If Yes, were the individuals performing the task(s) qualified for the task(s)?	

G8 - Other Accident Cause - only one **sub-cause** can be selected from the shaded left-hand column

Other Accident Cause – Sub-Cause:	
- If Miscellaneous:	
1. Describe:	
- If Unknown:	
2. Specify:	

PART H - NARRATIVE DESCRIPTION OF THE ACCIDENT

On June 19, 2018 at approximately 18:05 the control center was notified by a private citizen of a petroleum odor in the area of Darby Creek. Both Sunoco Pipeline LP (SPLP) pipelines (8" & 12" refined products) in the area were already shut down due to a planned scheduled outage on June 18, 2018. The control center immediately notified field operations of the report and personnel were dispatched to the area to investigate. After arrival and upon further investigation a petroleum odor and light sheening along the bank of Darby Creek was noted. Additional response personnel were dispatched and OSRO contractors arrived on site at approximately 20:45 and deployed boom to contain the sheen by approximately 21:45 and began collection activities.

Although there were no operational indications of release from either company pipeline crossing of Darby Creek, a company Incident Command team was setup to monitor OSRO activities and perform further investigations into the product source, including establishing geo-probe monitoring locations, potholing to assess for any indications of product, additional excavation, and pressure testing of the two pipelines.

On June 16, 2018, NRC report (1215471) was filed at 13:45 by a private citizen concerning a sheen in Darby Creek, however SPLP was not contacted. On June 19, 2018, upon becoming aware of the sheening and responding, SPLP filed NRC report (1215816) noting that the source of the sheening was undetermined. The 48hr follow up NRC report (1216057) was filed on June 21, 2018 noting the source remained unknown.

At approximately 11:45 on June 26, 2018, the SPLP 12" Point Breeze to Montello pipeline was confirmed as the leak source. NRC report (1216488) was filed at 13:37 confirming such. The 48hr follow up NRC report (1216699) was filed on June 28, 2018 at 13:14 and provided that an estimated volume of 400 bbls of gasoline was released. The pipeline remained shut down from the scheduled shut down on June 18, 2018 through the remainder of the investigation and repair process.

The failed pipe was fully excavated, removed and replaced. The failure was located in an area of disbonded coating on the inner radius of a field bend and appeared to be in a crack located in an area of external corrosion. The failed pipe was preserved and sent to a 3rd party laboratory for metallurgical analysis to fully determine the cause. The 12" Point Breeze to Montello pipeline was refilled on July 1, 2018 at 14:30 and normal operation began at 17:57 that same day.

The third party metallurgical analysis report concluded that the leak was due to external corrosion that formed a corrosion trough whose thinned cross section allowed environmentally assisted cracks to initiate and propagate through-wall due to the elevated hoop stress. Two types of environmentally assisted cracking were observed, corrosion fatigue and hydrogen cracking. The area of external corrosion and ultimate failure were located on the inner radius of a field bend under an area of disbonded coal tar coating.

PART I - PREPARER AND AUTHORIZED SIGNATURE

Preparer's Name	Todd Nardozzi
Preparer's Title	Sr. Manager - DOT Compliance
Preparer's Telephone Number	713-989-7126
Preparer's E-mail Address	todd.nardozzi@energytransfer.com
Preparer's Facsimile Number	877-917-0448
Authorized Signer Name	Todd Nardozzi
Authorized Signer Title	Sr. Manager - DOT Compliance
Authorized Signer Telephone Number	713-989-7126
Authorized Signer Email	todd.nardozzi@energytransfer.com
Date	11/12/2018

STATEIMPACT PENNSYLVANIA
Energy. Environment. Economy.

Crews work at the site of a sinkhole along the Mariner East pipeline route near the Pennsylvania State Police barracks on Route 1 in Delaware County on Thursday, April 25, 2

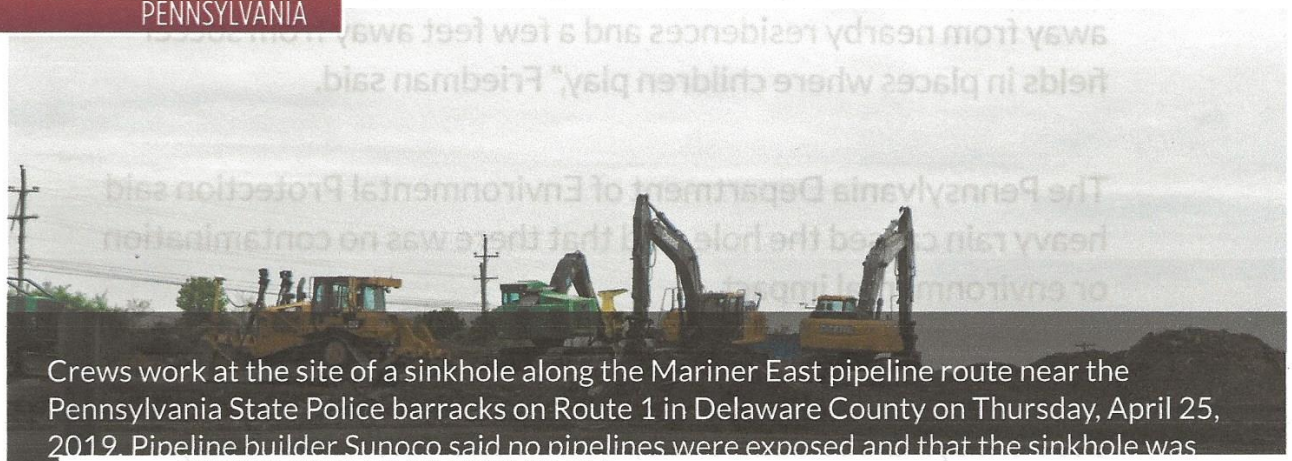
APRIL 25, 2019 | 12:29 PM
UPDATED: APRIL 25, 2019 | 2:54 PM

Sinkhole opens up along ME2 route in Delaware County; no leaks or injuries

Sunoco says hole has been filled and pipeline operations continue

Jon Hurdle

STATEIMPACT PENNSYLVANIA
Energy. Environment. Economy.



Crews work at the site of a sinkhole along the Mariner East pipeline route near the Pennsylvania State Police barracks on Route 1 in Delaware County on Thursday, April 25, 2019. Pipeline builder Sunoco said no pipelines were exposed and that the sinkhole was c

SEPTEMBER 13, 2019 | 9:27 PM
UPDATED: SEPTEMBER 14, 2019 | 8:05 AM

PUC says no leak or damage to line after latest sinkhole along Mariner East 2 in Delaware County

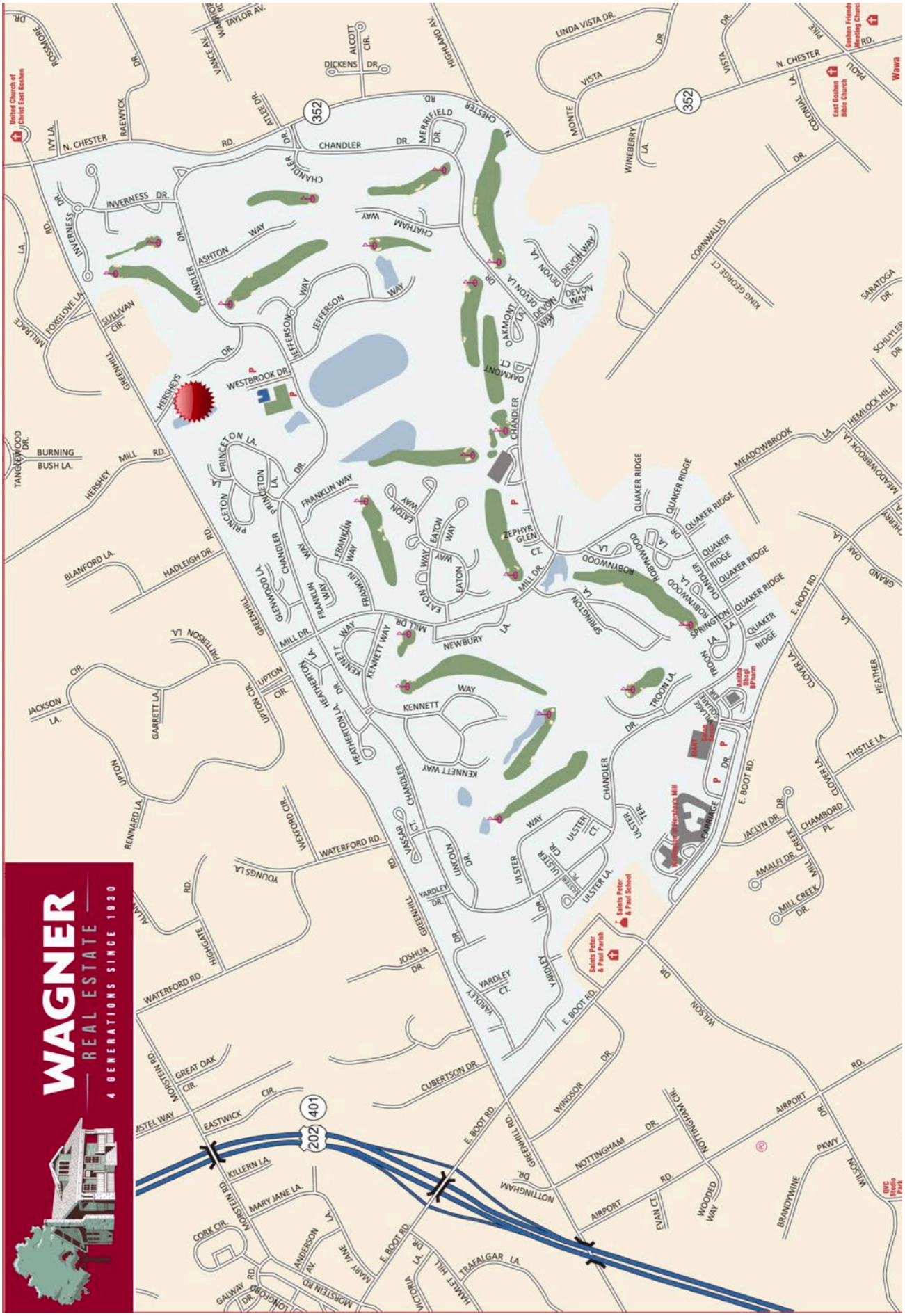
Alan Yu/WHYY

This story has been updated with comment from Sunoco.

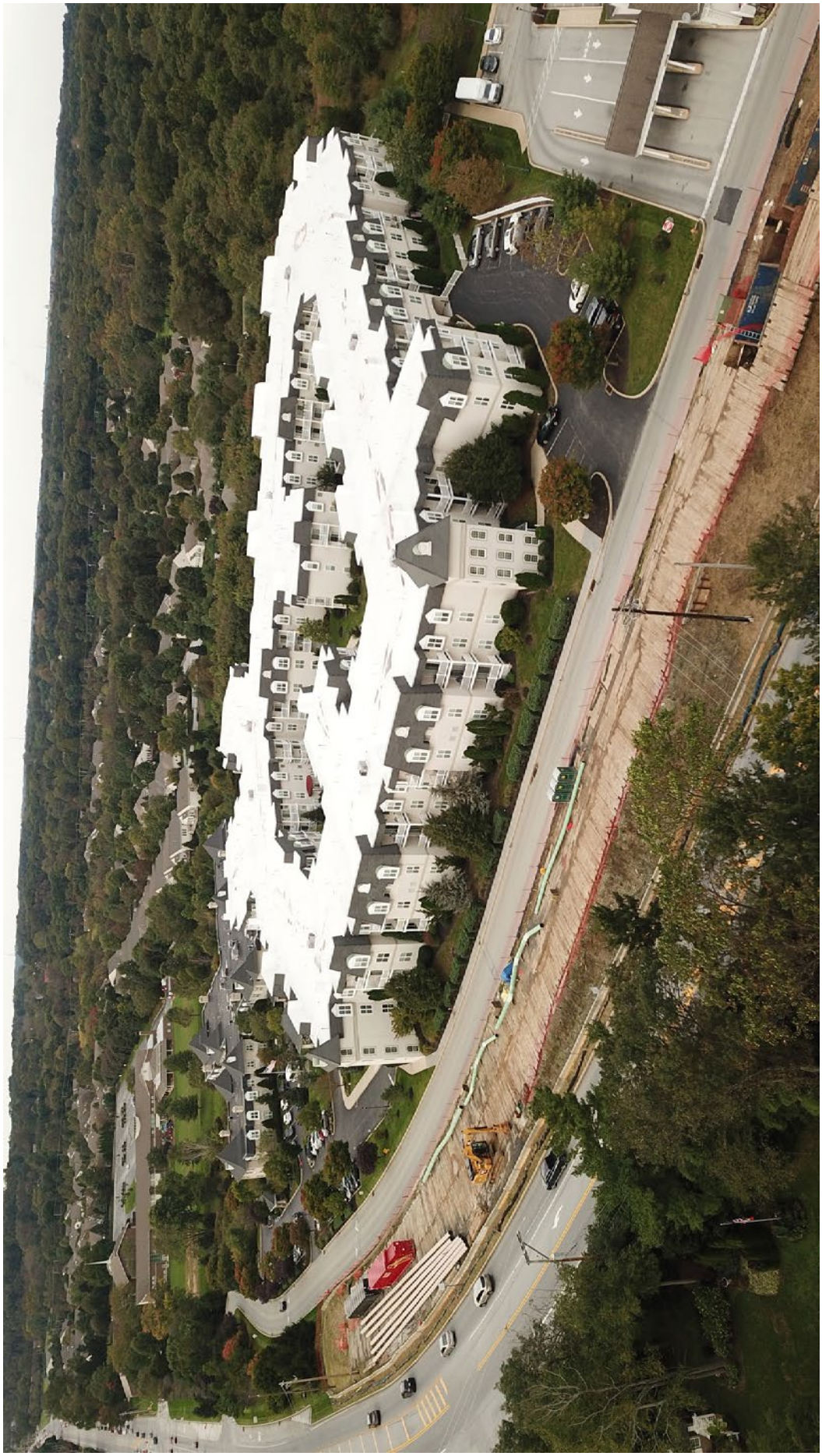
A five foot by eight foot hole in the ground opened up in a park in Middletown Township in Delaware County on Friday, exposing part of the Mariner East pipeline that transports natural gas liquids.

Eric Friedman lives in the area and saw what happened.

Christi Marshall



Marshall_01_Hershey's Mill Map



Marshall_02_Wellington at Hershey’s Mill drone photo

Marshall_03_LLH medical equipment

Marshall_05

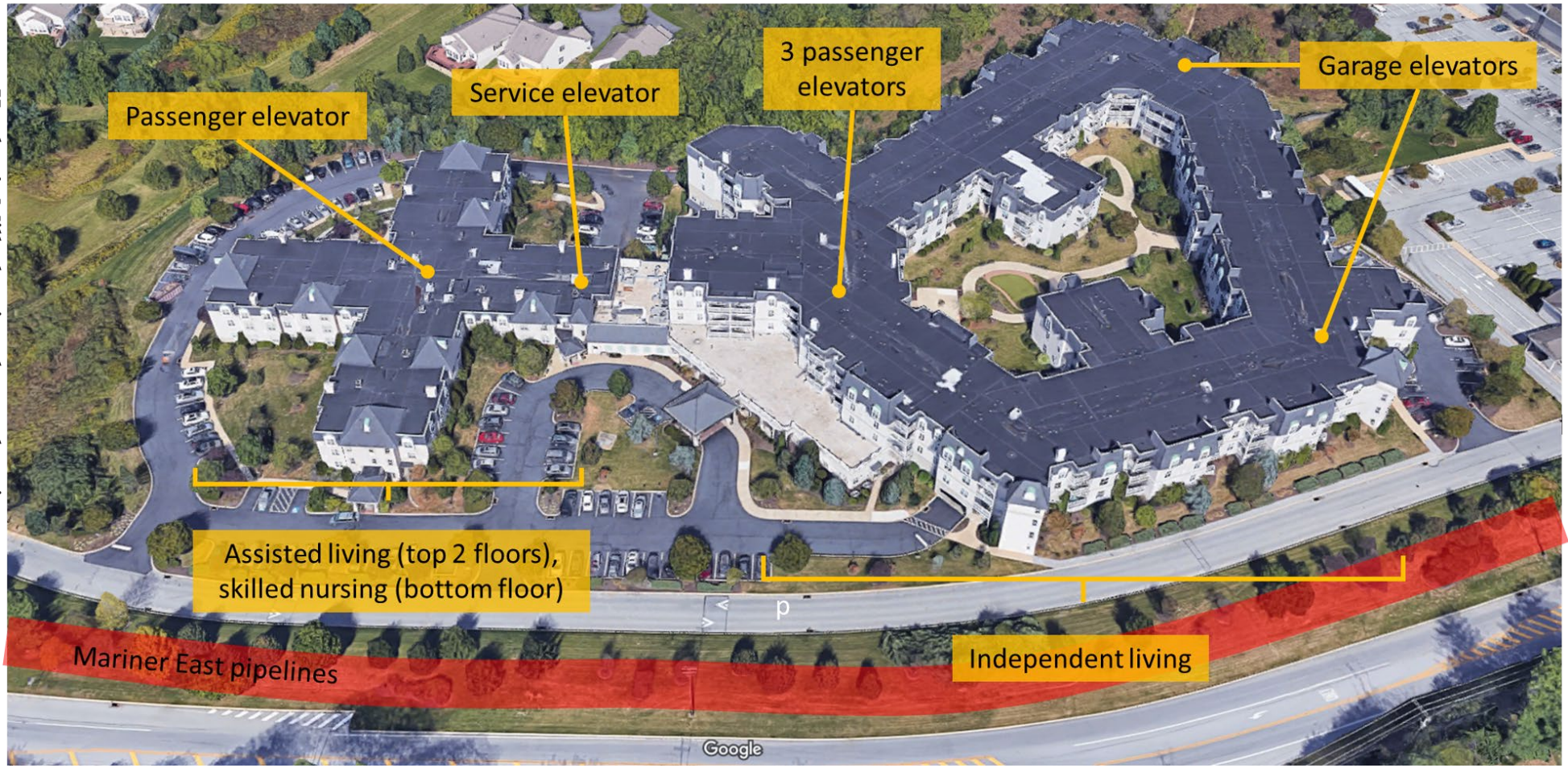
Marshall_05_LLH in wheelchair

Marshall_07_Drone photo: proximity of school to Wellington and Hershey's Mill

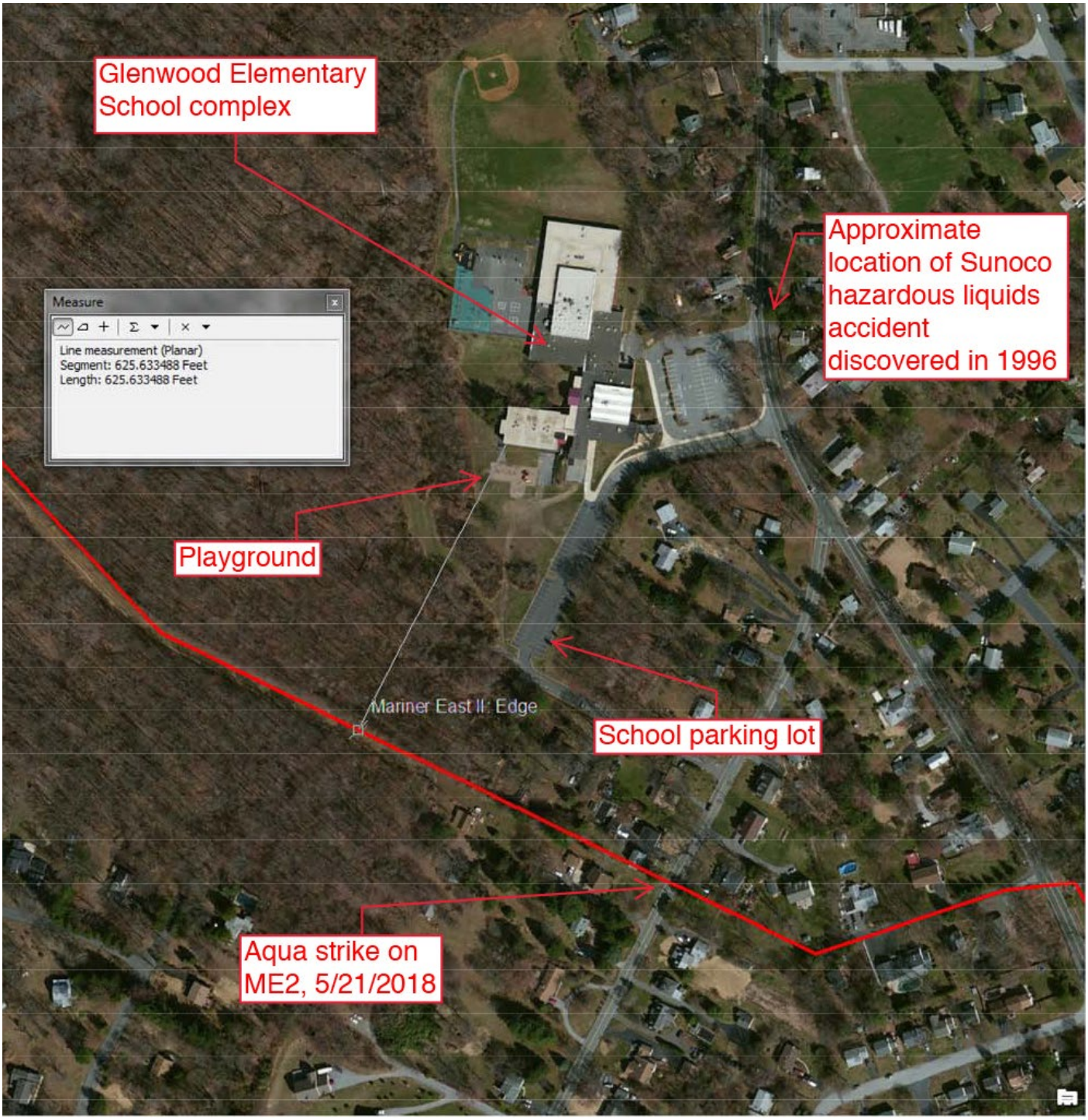
Marshall_10_Goshen Fire House

Tom McDonald

Wellington at Hershey's Mill, showing elevator locations



Bibianna Dussling



Dussling_01_Glenwood Elementary School

Higgins' House for Sale

Dussling_03_Alison Higgins' home for sale
photos taken on October 4, 2019

ME2X at 5.1 Feet from Higgins' Home

Dussling_04_Alison Higgins' home ME2X at 5.1 feet
photos taken on October 4, 2019

Dussling 05

12-inch pipeline 13.7 Feet from Higgins' Home

Dussling_05_Alison Higgins' home 12-inch at 13.7 feet
photos taken on October 4, 2019

ME2 at 25.1 Feet from Higgins' Home

Dussling_06_Alison Higgins' home ME2 at 25.1 feet
photos taken on October 4, 2019

White Property (30 Feet from Higgins) 10-4-19 ME2 at 5.1 Feet from Home

Meghan Flynn, et al. v. Sunoco Pipeline L.P.
Docket Nos. C-2018-3006116 and P-2018-3006117 et al

Sunoco Pipeline L.P.'s Answers to Complainants' Interrogatories, Set I

179. With respect to the property owned by Allison Higgins at 237 Lenni Road, Middletown, Delaware County, what is the horizontal distance between the Higgins house and each Mariner east pipeline that either ships or is planned to ship HVLs?

RESPONSE: ME2X – 5.1'; 12-inch pipeline – 13.7'; ME2 – 25.2'.

DATE: June 17, 2019

BY: Matthew Gordon

Dussling_08_Sunoco's Answer to Interrogatory No. 179 of Complainants' First Interrogatories

EXHIBITS

September 29, 2020 Supporting Flynn Expert Testimony

Jeffrey Marx

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

MEGHAN FLYNN ROSEMARY FULLER MICHAEL WALSH NANCY HARKINS GERALD MCMULLEN CAROLINE HUGHES and MELISSA HAINES Complainants v. SUNOCO PIPELINE L.P., Respondent	: : : : : : : : : : : :	DOCKET NOS. C-2018-3006116 P-2018-3006117

COMPLAINANTS' EXHIBITS
IN SUPPORT OF DIRECT TESTIMONY
OF JEFFREY MARX

Marx_1_Jeffrey Marx Curriculum Vitae

EX. MARX - 1

Jeffrey D. Marx, P.E.
Quest Consultants Inc.®
Senior Engineer

EDUCATION

2002 M.S., Mechanical Engineering
Georgia Institute of Technology, Atlanta, Georgia

1993 B.S., Mechanical Engineering
University of Oklahoma, Norman, Oklahoma

EXPERIENCE

1993 - Present Quest Consultants Inc., Norman, Oklahoma
Staff Engineer, Project Engineer, Senior Engineer

Directs quantitative risk analysis (QRA) studies involving refineries or refinery units, toxic and flammable gas/liquid pipeline systems, oil and natural gas production systems, LPG import/export terminals, LNG import/export terminals, gas treatment and processing plants, reinjection systems, and road/rail transportation systems. Work on these projects included data gathering, accident selection, analysis structuring, consequence calculations, frequency analysis, risk mapping, and risk assessment. Organized and input all data required by the risk quantification software, CANARY+, and presented the results in the form of risk contours and F-N curves. Explained the results and findings of QRA studies in reports for client's internal use, presentation to the public, and for submission to regulatory authorities.

Manages and conducts building siting studies to assess occupied building damage from fires, vapor cloud explosions, and toxic or flammable vapor infiltration. Tasks include accident selection, hazard calculation, and results presentation in the form of overpressure exceedance curves, vulnerability zones, and location-specific risk contours, with building risk assessment and recommendations for hazard mitigations.

Responsible for software package and model development for the consequence modeling package CANARY by Quest®. Responsible for computer codes that model thermal radiation from pool fires, torch fires, flares, and BLEVE fireballs. Directs development and maintenance of the CANARY+ computer codes for risk quantification, as well as numerous supporting tools for risk analysis and assessment.

Conducts and coordinates consequence analysis studies including plant spacing and layout for regulatory compliance, pipeline integrity management program calculations, flare sizing and siting, and explosion impact analyses. Uses the CANARY consequence modeling package to perform vapor dispersion, explosion, and fire radiation calculations for refineries, pipelines, LNG and LPG terminals, chemical plants, and gas plants.

Instructor or co-instructor for several of Quest's short courses, including *Risk Analysis Methodology*, *Liquefied Gas Safety*, *LNG Safety Technology and Inspection* (conducted for the U.S. DOT to train 49 CFR 193 inspectors), and *Introduction to Consequence Analysis*. Instructor for CANARY by Quest® software training.

Facilitated team meetings for HAZOP studies, including the following projects.

RMS Engineering; US PolyCo RDS Asphalt process HAZOP
Bechtel; Driftwood LNG HAZID
Tonmoor International; HAZOP for LPG storage and distribution terminal
Bechtel; SPLNG Vendor Packages HAZOP and SIL assessment
Williams Pipeline; Distribution Lines and Valve/Meter Station HAZOPs
Bechtel; APLNG offsites facilities HAZID
Basic Engineering; Natural Gas Storage Caverns Fill/Withdrawal Systems; HAZOP
Bechtel; Denali Alaska Gas Pipeline Project; HAZID
CB&I; Southern LNG Expansion Projects; HAZOP
SemGas; Natural Gas Treatment and Compression Facilities; HAZOP
BE&K Engineers; LPG Storage, Pipeline, and Delivery Facilities; HAZOP
Keyspan; LNG Peakshaver; HAZOP
Willbros Engineers, Inc.; Unocal Bibyana Gas Plant; HAZOP
Engelhard Corporation; Fuel Cell; HAZOP
Willbros Engineers, Inc.; Explorer Mainline Expansion; "What if?"
Bechtel; Brass Offshore LNG; "What if?"

Co-inventor of a patented community response guideline device. The device allows local emergency response agencies (police, fire department, etc.) to quickly assess the nature and severity of hazards posed by accidental releases of hazardous fluids. It also provides a visual indication of the area in which the public might be told to evacuate or shelter-in-place, based on the specific properties of the material being released, the relative size of the release, and the wind direction.

1990 - 1993 Quest Consultants Inc., Norman, Oklahoma
Engineer Trainee (part-time)

Assisted in scenario definition, case input and results presentation for various consequence analysis studies. Used CAD to prepare technical drawings and illustrations for inclusion in reports, course texts, and presentations.

1990 - 1991 Hilti, Inc., Tulsa, Oklahoma
Co-op Student Intern in Mechanical Engineering

CADD operator for product design, development, and testing. Assisted with implementation and editing of CAD database. Assisted with development and testing of existing construction fastening system products, and the design, testing, and fabrication of new products.

Jeffrey D. Marx

PROFESSIONAL MEMBERSHIPS

American Society of Mechanical Engineers
American Institute of Chemical Engineers
Registered Professional Engineer – Oklahoma
Member of the Technical Committee for CSA Z276: *Liquefied natural gas (LNG) — Production, storage, and handling*
Member of the Industrial Advisory Board, *Fire Protection and Safety Engineering Technology Program*, Oklahoma State University

PUBLICATIONS

Marx, J.D. and B.R. Ishii (2019), "*A New Look at Release Event Frequencies.*" Presented at Mary Kay O'Connor Process Safety Center International Symposium, College Station, Texas, October 22-24, 2019.

Marx, J.D., Ishii, B.R., Wesevich, J.W., and S. Dara (2018), "*Radiant Heat Flux Impact Criteria for API RP 752 Building Siting Studies*". Presented at 2018 AIChE Spring Meeting & 14th Global Congress on Process Safety, Orlando, FL, April 22-25, 2018.

Marx, J.D. and B.R. Ishii, "*Revisions to the QMEFS Vapor Cloud Explosion Model*". 2017 AIChE Spring Meeting & 13th Global Congress on Process Safety, San Antonio, TX, March 2017.

Marx, J. D. and Ishii, B. R., "*A Comprehensive Approach to API RP 752 and 753 Building Siting Studies.*" Journal of Loss Prevention in the Process Industries, Volume 44, November 2016.

Marx, J.D. and C.R. Jimenez (2016), "*Facility Siting Studies – A Comprehensive Methodology.*" Presented at 2016 AIChE 7th Latin America Conference on Process Safety, Lima, Peru, August 22-23, 2016.

Marx, J.D. and A. Nicotra (2016), "*Is a Two-Inch Hole Adequate for a Siting Study?*". Presented at 2016 AIChE Spring Meeting & 12th Global Congress on Process Safety, Houston, TX, April 11-13, 2016.

Marx, J. D. and Ishii, B. R., "*Infiltration hazards for building siting studies.*" Process Safety Progress, Vol. 35, No. 1, 61–67, March 2016.

Marx, J.D. and B.R. Ishii (2014), "*Review of the Risk Analysis Option in NFPA 59A (2013).*" Presented at Mary Kay O'Connor Process Safety Center International Symposium, College Station, Texas, October 28-30, 2014.

Marx, J.D., Werts, K.M., "*Application of F–N curves in API RP 752 building siting studies*". Journal of Loss Prevention in the Process Industries, Vol. 30, 301-306, July 2014.

Marx, J.D., Werts, K.M., "*The Application of Pressure-Impulse Curves in a Blast Exceedance Analysis*". Journal of Loss Prevention in Process Industries, Vol 26, Issue 3, 478-482, May 2013.

Marx, J.D., Werts, K.M., "*The Use of Overpressure Exceedance Curves in Building Siting*". 2011 AIChE Spring Meeting & 7th Global Congress on Process Safety, Chicago, IL, March 2011.

Marx, J.D., Cornwell, J.B., "*The Importance of Weather Variations in a Quantitative Risk Analysis*". Journal of Loss Prevention in the Process Industries, Vol. 22, Issue 6, 803-808, November 2009.

Melton, T.A., Marx, J.D., "*Estimating Flame Speeds for Use with the BST Blast Curves*". Process Safety Progress, Vol. 28, No. 1, 5-10, March 2009.

Marx, J.D., Cornwell, J.B., "*Selection and Evaluation of Release Scenarios for an LNG Import Terminal*". American Institute of Chemical Engineers 2005 Spring National Meeting Process Plant Safety Symposium, Atlanta, GA, April, 2005.

Martinsen, W. E., and J. D. Marx (1999), "*An Improved Model for the Prediction of Radiant Heat from Fireballs.*" Presented at the 1999 International Conference/Workshop on Modeling Consequences of Accidental Releases of Hazardous Materials, San Francisco, California, September, 1999.

Cornwell, J.B., Marx, J.D., and Lee, W.W. (1998), "*Application of Qualitative and Quantitative Risk Analysis Techniques to Building Siting Studies*". Process Plant Safety Symposium, Houston, TX, October 26-27, 1998.

RELEVANT PROJECT EXPERIENCE

LNG Facility Siting Review: ***Project Manager*** for a reviews of various submittals to the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) regarding proposed liquefied natural gas (LNG) projects and compliance with the requirements of 49 CFR Part 193; assistance to PHMSA in reviews; subject matter expert consulting to PHMSA regarding general LNG issues and development of the frequently-asked-questions (FAQs) guidance to assist with compliance with the siting provisions of 49 CFR 193; coordination with the Federal Energy Regulatory Commission (FERC) regarding facility siting issues. *Client: PHMSA*

LNG Facility Siting Safety Study: ***Project Manager*** for a study to demonstrate compliance with the siting provisions of 49 CFR 193 and other PHMSA requirements, as well as requirements of the FERC. The study included design spill selection, vapor dispersion and fire radiation modeling, coordination of a contractor for computational fluid dynamics (CFD) studies, as well as verification of adequate facility layout and assistance with development of regulatory filings. *Client: Bechtel Oil, Gas, and Chemicals*

Buildings Siting Evaluation for Coal Gasification Plant: ***Project Manager*** for a study to evaluate the potential impacts at occupied permanent plant buildings and temporary buildings. Hazard types included toxic vapor exposure (CO, H_2S, SO_2), fire, and vapor cloud explosion. Recommended building mitigation measures. *Client: Duke Energy*

Quantitative Risk Analysis, Siting Study, Fire and Explosion Analysis, and Emergency Systems Survivability Analysis for a Large LNG Export Terminal: ***Project Manager*** for multiple risk studies for a competitive FEED LNG liquefaction and export terminal on the coast of Mozambique. Risk was calculated for workers, public, as well as equipment damage and risk of escalation. Risk studies were submitted as part of the FEED. *Client: Anadarko Petroleum Corporation through Bechtel*

Quantitative Risk Analysis for a Natural Gas Transmission Line: ***Project Manager*** for a QRA of a large diameter gas transmission line in the New Jersey and southern New York areas. The QRA was done to evaluate the risk to the public in sensitive locations along the pipeline route. *Client: Kiefner and Associates/ Spectra*

Quantitative Risk Analysis for a Proposed LPG Storage and Loading Facility: ***Project Manager*** for a full QRA of a facility for receipt, cavern storage, rail loading and truck loading of LPG (propane and

butane) products. The QRA was used to demonstrate acceptable levels of public risk in the areas around the facility. *Client: Inergy Midstream*

LNG Facility Siting Safety Study: ***Project Manager*** for a study to demonstrate compliance with the siting provisions of CSA Z276, Canada's LNG safety code. The study included vapor dispersion and fire radiation, as well as verification of adequate facility layout and generally good engineering design. *Client: Fortis BC and Black & Veatch*

Quantitative Risk Analysis for a Proposed Gas-to-Liquids Facility: ***Lead Process Risk Analyst*** for a full QRA of a new gas-to-liquids facility along the Nigerian coast. QRA was submitted to local and Federal Nigerian authorities. *Client: Chevron Energy and Technology*

Pipeline Hazard Calculations: ***Lead Analyst*** for a study to evaluate the potential hazards associated with accidental NGL pipeline release events to evaluate high consequence area (HCA) impacts. The evaluation included flammable vapor cloud travel, product loss estimation, and blowdown time estimation. *Client: Williams Field Services*

Quantitative Risk Analysis for a Refinery: ***Lead Process Risk Analyst*** for a full QRA of a large refinery in the USA. QRA was conducted to understand the potential risk to the public, as well as to occupied buildings on the site. Analysis included evaluation of flammable and toxic fluids, vapor cloud explosions, and fires from crude units, hydrocrackers, separation and distillation units, sulfur recovery, and product storage and transportation facilities. *Client: Chevron Energy and Technology*

Process Hazards Analysis for Refinery and Petrochemical Facility: ***Lead Process Safety Engineer*** for coarse HAZOP of proposed design of a refinery and petrochemical facility in Malaysia. Facilitated coarse Hazard and Operability Studies (HAZOP) for multiple units of the refinery and integrated petrochemical facility. *Client: Technip, for Petronas (Malaysia)*

Tim Boyce

CURRICULUM VITAE OF TIMOTHY BOYCE

Timothy Boyce holds a Degree in Finance from Temple University and a Master of Science degree in Public Safety from Saint Joseph's University. Mr. Boyce served for 27 years in the Upper Darby Fire Department where he rose to the Rank of Deputy Chief. Concurrently, he served as the District Attorney's Homeland Security Coordinator for 10 years.

In the Fall of 2016, Mr. Boyce was appointed by Delaware County Council to be Director of the Delaware County Department of Emergency Services, where he leads 130 employees and oversees operations of the County 911 Center. The Emergency Services Department has the responsibility to support public safety agencies, programs and initiatives that protect the people, institutions and culture of Delaware County.

In his capacity as Director, Mr. Boyce represents Delaware County on the South East Pennsylvania Regional Terrorism Task Force. His Department also coordinates specialized emergency services like urban search & rescue, mass care, the emergency operations center and the County's certified hazardous materials response teams.

The Delaware County Department of Emergency Services is a 24-hour emergency communications center and emergency management agency that is responsible for the 911 calls of 48 municipalities spread across 184 square miles in Delaware County. These calls can be related to the necessity of police, fire or emergency medical services.

Nearly 2,500 911 calls are answered each day for over 40 law enforcement agencies, 65 fire departments and 31 emergency medical services agencies. There are 12 emergency services that are managed, including the Delaware County Citizen's Corps.

Mr. Boyce's personal and professional interests reflect his commitment to serving the community. He is a founding and sustaining member of the Heroin Task Force, the Law Enforcement Chaplains Association and the Safe Schools Committee. He also serves on several volunteer boards that focus on public safety, education and community health.

U.S. Department
of Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

840 Bear Tavern Road, Suite 300
West Trenton, NJ 08628
609.771.7800

NOTICE OF PROBABLE VIOLATION
and
PROPOSED COMPLIANCE ORDER

OVERNIGHT EXPRESS DELIVERY

May 17, 2019

Greg McIlwain
Senior VP, Operations
Sunoco Pipeline, L.P.
1300 Main Street
Houston, TX 77002

CPF 1-2019-5006

Dear Mr. McIlwain:

On August 1 - 2, October 9-11, October 15-19, and November 5-8 of 2018, a representative from the Pipeline and Hazardous Materials Safety Administration (PHMSA), pursuant to Chapter 601 of 49 United States Code (U.S.C.), performed an inspection of Sunoco Pipeline, L.P. 's (Sunoco) GRE Flow Reversal / Repurposing Project on the Mariner East 2 pipeline system located in Pennsylvania. Sunoco is a subsidiary of Energy Transfer Operating, L.P. (ET).

As a result of the inspection, it is alleged that you have committed probable violations of the Pipeline Safety Regulations, Title 49, Code of Federal Regulations (CFR). The items inspected and the probable violation(s) are:

1. **§ 195.106 Internal design pressure.**

   (b) The yield strength to be used in determining the internal design pressure under paragraph (a) of this section is the specified minimum yield strength. If the specified minimum yield strength is not known the yield strength to be used in the design formula is one of the following:

(1)

(i) The yield strength determined by performing all of the tensile tests of ANSI/API Spec 5L (incorporated by reference, see § 195.3) on randomly selected specimens with the following number of tests:

Pipe Size	No. of Tests
Less than 6 5/8 in (168 mm) nominal outside diameter	One test for each 200 lengths
6 5/8 in through 12 3/4 in (168 mm through 324 mm)	One test for each 100 lengths
Larger than 12 3/4 in (324 mm) nominal outside diameter.	One test for each 50 lengths

Sunoco failed to determine the design yield strength of pipe in accordance with § 195.106(b)(1)(i). Specifically, Sunoco failed to perform ANSI/API Spec 5L tensile tests on a sufficient number of randomly selected specimens of pipe from the Glen Riddle to Elverson segment (GRE Segment) of its 12-inch PTBR to MNTL pipeline to validate the design yield strength utilized for determining internal design pressure.

During review of Sunoco's flow reversal and repurposing project of the GRE Segment, PHMSA evaluated Sunoco's integrity management plan, including pipe material records, in light of a proposed change in transported product from refined petroleum products to highly volatile liquid (HVL) service. The reversal and repurposing project encompassed approximately 25 miles of existing, predominantly 1937 vintage 12-inch diameter pipe in Chester and Delaware counties of PA, and was pursued to mechanically complete serviceability of newly constructed portions of the 20-inch ME2 and 16-inch ME2X pipelines.

ME2 is poised to transport batched propane and butane from Scio, Ohio to Marcus Hook, PA. The proposed re-route and reversal tied new 20-inch diameter ME2 pipe to existing sections of 1937 vintage 12-inch pipeline at the Fairview valve station. It then followed the 12-inch pipeline until the Glen Riddle Junction valve station, where it tied into newly completed 16-inch diameter ME2X pipe and continued to Twin Oaks, where the ME2 pipeline continues as planned as a new dual 12-inch pipeline. The maximum operating pressure (MOP) of the 20-inch pipeline and the 16-inch pipeline is 1,480 psi. The MOP for the existing 12-inch GRE pipeline segment was identified by Sunoco to be 1,248 psi.

During the inspection, PHMSA requested and reviewed pertinent records associated with a 2016-2017 rehabilitation project of the 12-inch PTBR to MNTL pipeline. This project included in-line-inspection, pipe repair and/or replacements, and hydrostatic testing to support a new MOP of 1,248 psi. Prior to the rehabilitation project, the GRE Segment's MOP was limited to 950 psi based on historical operation.

PHMSA's review of integrity management records noted several discrepancies and/or omissions with respect to pipe material records, including validation of pipe grade or specified minimum yield strength for the 1937 vintage pipe that had undergone an MOP upgrade from 950 psi to 1248 psi in 2017. Sunoco attempted to validate material strength records by providing supporting documentation depicting that the only material grades for 12-inch diameter 0.375" wall thickness

pipe manufactured by National Tube during 1937 was API 5L Grade B. The documentation provided included a 1935 catalogue for pipe manufacturing at National Tube, a 1937 Keystone Pipeline letter to National Tube seeking an inventory credit, 1969 Atlantic Pipeline System information, and a 1937 letter depicting delivery receipts for pipe transported to local yards. However, the documentation did not incorporate material testing reports (MTRs), purchase orders or other material certification reports.

Pertinent to the aforementioned is PHMSA Advisory Bulletin ADB-2014-04, issued to alert operators of hazardous liquid and gas transmission pipelines of the potential significant impact flow reversals, product changes, and conversion to service may have on the integrity of a pipeline.

Per the advisory, the section for O&M and Integrity Management Requirements and Considerations summarizes that (emphasis added) "integrity depends on accurate records to make suitable decisions. **Operators should validate material and strength test records for all affected segments of pipe as reminded in an advisory bulletin (ADB-12-06) published on May 7, 2012;** 77 FR 26822 titled: Pipeline Safety: Verification of Records. If the operator is missing records, they should create and implement a plan to obtain material documentation. **If mechanical and/or chemical properties (mill test reports) are missing, the plan should require destructive tests to confirm material properties of pipeline. Certain high risk pipelines merit a greater level of due diligence.** While a new hydrostatic pressure test with a spike test is an important part of confirming the integrity of a pipeline, it may not be advisable to perform flow reversals, product changes or conversion to service under the following conditions:

- Grandfathered pipelines that operate without a Part 192, Subpart J pressure test or where sufficient historical test or material strength records are not available.

- LF-ERW pipe, lap welded, unknown seam types and with seam factors less than 1.0 as defined in Sec. Sec. 192.113 and 195.106.

- Pipelines that have had a history of failures and leaks most especially those due to stress corrosion cracking, internal/ external corrosion, selective seam corrosion or manufacturing defects.

- Pipelines that operate above Part 192 design factors (above 72% SMYS).

- Product change from unrefined products to highly volatile liquids."

Subsequent to the material verification concerns raised by PHMSA during inspection of the proposed flow reversal project in October of 2018, Sunoco ultimately pursued material testing of twelve pipe samples taken from previously removed sections of the 12-inch PTBR-MNTL pipeline. Three of these samples fell outside the limits of the GRE segment reversal project, and two were conducted on 1967/1968 vintage pipe. In addition, Sunoco conducted in-situ material property validation testing for one joint of pipe, which in-line inspection records noted was logged with a wall thickness of 0.432" and material grade (SMYS) of 24000 psi.

As a result, Sunoco conducted material validation which included tensile tests prescribed by ANSI/API Spec 5L or other acceptable method for a total of 7 locations within the 24.5 mile GRE segment affected by the reversal and new MOP. The testing predominantly targeted 1937 vintage, 12.750-inch diameter, 0.375-inch wall thickness pipe and was based upon availability of specimens rather than random selection. Therefore, the representative sampling failed to meet the requirements of § 195.106(b)(1)(i) with respect to the number of tests required.

2. **§ 195.440 Public awareness.**

(c) The operator must follow the general program recommendations, including baseline and supplemental requirements of API RP 1162, unless the operator provides justification in its program or procedural manual as to why compliance with all or certain provisions of the recommended practice is not practicable and not necessary for safety.

Sunoco failed to follow recommended practice API RP 1162 (IBR, see § 195.3). Specifically, Sunoco failed to tailor its communications coverage area (buffer) to fit its particular pipeline, location, and potential impact consequences.

During review of Sunoco's flow reversal and repurposing project involving the 12-inch PTBR to MNTL pipeline segment, PHMSA evaluated Sunoco's Public Awareness Program (Public Awareness Plan HLA.17 and HLI.40 04012018) in light of a proposed change in transported product from refined petroleum products to highly volatile liquid (HVL) service (specifically natural gas liquids mainly comprised of propane and butane). As part of the inspection, PHMSA requested and reviewed pertinent risk assessments, including 3rd party consultant reports completed for the 12-inch reversal section and newly constructed portions of the ME2 project titled Hazard Assessment of the Proposed Mariner East 2 Pipeline (Stantec 03272017), Pipeline Flow Reversal Assessment (Dynamic Risk 10052018) and Mariner East 2 Pipeline Re-Route near Chester and Delaware, Pennsylvania - Butane Spill Assessment (Stantec Final 10152018).

During initial review of the Stantec 03272017 report covering the 20-inch diameter ME2 project, PHMSA noted that dispersion and thermal radiation consequence modelling results for accidental releases under Section 5.4 noted:

> ...the maximum distance to the LFL along the entire pipeline route was predicted to be [redacted]. The maximum predicted distances to thermal radiation consequences along the entire pipeline were: [redacted]

The report also negated the consequence of multiple releases based on the fact that the pipelines are buried and failure of one would require exposure of another, including ignition, to sufficiently heat and damage the adjacent line. Although PHMSA acknowledges the assessment, exception is taken for valve and pump station locations where multiple pipelines transporting various commodities exist aboveground. These locations undoubtedly incorporate a higher potential of risk and increased public impact in the event of multiple pipeline failures.

Further inspection noted that Sunoco's original Public Awareness Plan specified mailings to the affected public located 660 feet on either side of the proposed HVL transmission line, and Sunoco noted that this was to be applicable to the entire ME2 project including the re-purposing/reversal section.

During numerous meetings regarding the project held in August 2018, PHMSA conveyed concerns associated with Sunoco's current 660-foot buffer for the HVL service citing API RP 1162 requirements that clearly state, "The transmission operator should tailor its communications coverage area (buffer) to fit its particular pipeline, location, and potential impact consequences."

In addition, review of the subsequent Dynamic Risk 10052018 report noted that a separate consequence assessment was completed by ET and provided to Dynamic Risk. This analysis showed that any release from nearly any location along the reversal segment would be expected to impact high consequence areas as defined by § 195.450. The report further concluded that:

> ...due to significantly different consequences of a pipeline failure in NGL versus prior service, the prior emergency response plans and public awareness programs for the segment would be inappropriate for application to an NGL pipeline. Energy Transfer should ensure emergency response plans and public awareness programs are updated appropriately, including outreach to both internal and external stakeholders such as local first responders.

The Stantec 10152018 report, focused on consequence modelling of a butane spill for the re-route of a 29-mile section of the ME2 pipeline project between Wallace Township and Aston, Pennsylvania due to the potential risk for the formation of a butane evaporating pool in the vicinity of release.

The report concluded that (emphasis added) "spill modeling used the source characterization to predict the extents of spill areas at 100-foot increments along the re-routed pipeline section. The spill model included evaporative and boiling effects based on the thermo-physical properties of butane and varying meteorology, including changes in wind speed and temperature. [redacted] Sunoco Redaction [redacted]"

During follow-up meetings held in October 2018, Sunoco conveyed that they had modified their Public Awareness Plan coverage area by extending it to a 1000' buffer on either side of the pipeline. Sunoco stated the basis for the increase was solely in response to PHMSA's concern and request conveyed during prior meetings. Due to the statement, PHMSA requested a formal response to support the 1000' communication coverage limit, which was provided in November 2018.

Sunoco's response, dated November 2, 2018, explained the basis for selection of a 1000' buffer and extent of communication with the Affected Public. The response stated, in part (emphasis added) "After **a discussion with representatives from the Pipeline and Hazardous Materials Safety Administration and the Pennsylvania Public Utilities Commission in August 2018, an internal company review was performed and a determination was made to increase the buffer beyond the required 660 feet to 1,000 feet for all company-operated NGL pipelines**

for the 2018 distribution of pipeline safety messages to the Affected Public. The increase to a 1,000 foot buffer is not just in high population areas, but in all areas along NGL pipelines, and exceeds the basic requirements of RP 1162 by more than 50 percent." The response did not include any reference to the aforementioned Flow Reversal and/or Hazard Assessments.

Sunoco's Public Awareness Program should clearly state their buffer(s) and how they were determined and/or rational for selection. Per § 195.440(c), an operator "must follow the general program recommendations of API RP 1162, including baseline and supplemental requirements of API RP 1162, unless the operator provides justification in its program or procedural manual as to why compliance with all or certain provisions of the recommended practice is not practicable and not necessary for safety."

PHMSA takes exception with the fact that no reference to the established risk assessments and/or vapor dispersion modelling reports were included.

The following sections of API RP 1162 state, in part (emphasis added):

> 3 Stakeholder Audiences
>
> ...The operator should consider tailoring its communication coverage area to fit its particular pipeline location and release consequences. The operator would be expected to consider areas of consequence as defined in federal regulations. Where specific circumstances suggest a wider coverage area for a certain pipeline location, the operator should expand its communication coverage area as appropriate.
>
> ...
>
> 6.1 CONSIDERATIONS FOR SUPPLEMENTAL ENHANCEMENTS FOR THE BASELINE PROGRAM
>
> ...
>
> 6.3.1 The Affected Public
>
> Consideration should be given to supplemental program enhancement where:
>
> The **potential for concern about consequences of a pipeline emergency is heightened.** Consideration should be given to **widening the coverage area for:**
>
> **- HVL pipelines in high population areas, extend the coverage area beyond the 1/8th mile minimum distance each side of the pipeline**
>
> - Large diameter, high pressure, high volume pipelines where a pipeline **emergency would likely affect the public outside of the specified minimum coverage area extend the coverage area to a wider distance** as deemed prudent.

Therefore, Sunoco failed to follow the general program recommendations of AP RP 1162 prescribed by § 195.440(b) by neglecting to identify and educate the affected public whose safety could potentially be compromised in the event of an unintended release of product from the ME2 pipeline. Specifically, by not tailoring its communications coverage area (buffer) to areas of consequence recognized in pertinent risk assessment reports, and by not presenting reasonable

justification, Sunoco failed to tailor its buffer to the particular pipeline, location, and potential impact consequences as required by API RP 1162 (IBR, see § 195.3).

Proposed Compliance Order

Under 49 U.S.C. § 60122 and 49 CFR § 190.223, you are subject to a civil penalty not to exceed $213,268 per violation per day the violation persists, up to a maximum of $2,132,679 for a related series of violations. For violation occurring on or after November 2, 2015 and before November 27, 2018, the maximum penalty may not exceed $209,002 per violation per day, with a maximum penalty not to exceed $2,090,022. For violations occurring prior to November 2, 2015, the maximum penalty may not exceed $200,000 per violation per day, with a maximum penalty not to exceed $2,000,000 for a related series of violations.

We have reviewed the circumstances and supporting documents involved in this case, and have decided not to propose a civil penalty assessment at this time.

With respect to items 1 and 2, pursuant to 49 U.S.C. § 60118, the Pipeline and Hazardous Materials Safety Administration proposes to issue a Compliance Order to Sunoco Pipeline L.P. Please refer to the *Proposed Compliance Order*, which is enclosed and made a part of this Notice.

Response to this Notice

Enclosed as part of this Notice is a document entitled *Response Options for Pipeline Operators in Compliance Proceedings*. Please refer to this document and note the response options. All material you submit in response to this enforcement action may be made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. 552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. 552(b).

Following the receipt of this Notice, you have 30 days to submit written comments, or request a hearing under 49 CFR § 190.211. If you do not respond within 30 days of receipt of this Notice, this constitutes a waiver of your right to contest the allegations in this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to you and to issue a Final Order. If you are responding to this Notice, we propose that you submit your correspondence to my office within 30 days from receipt of this Notice. This period may be extended by written request for good cause.

Please submit all correspondence in this matter to Robert Burrough, Director, PHMSA Eastern Region, 840 Bear Tavern Road, Suite 300, West Trenton, New Jersey 08628. Please refer to **CPF 1-2019-5006** on each document you submit, and whenever possible provide a signed PDF copy in electronic format. Smaller files may be emailed to robert.burrough@dot.gov. Larger files should be sent on a USB flash drive accompanied by the original paper copy to the Eastern Region Office.

Additionally, if you choose to respond to this (or any other case), please ensure that any response letter pertains solely to one CPF case number.

Sincerely,

Robert Burrough
Director, Eastern Region
Pipeline and Hazardous Materials Safety Administration

Enclosures: *Proposed Compliance Order*
Response Options for Pipeline Operators in Compliance Proceedings

PROPOSED COMPLIANCE ORDER

Pursuant to 49 United States Code § 60118, the Pipeline and Hazardous Materials Safety Administration (PHMSA) proposes to issue to Sunoco Pipeline, L.P. a Compliance Order incorporating the following remedial requirements to ensure the compliance of Sunoco with the pipeline safety regulations:

1. With respect to Item Number 1 of the Notice pertaining to Sunoco's failure to meet the requirements of § 195.106(b)(1)(i) regarding the number of tests required to validate specified minimum yield strength for the Glen Riddle to Elverson (GRE) segment of its 12-inch PTBR-MNTL pipeline, Sunoco shall complete at a minimum, the following actions:

   a. Evaluate the GRE segment to determine the appropriate representative sampling of pipe joints required under § 195.106(b)(1)(i), and complete tests per ANSI/API Spec 5L in order to, at a minimum, validate that the segment is comprised of Grade B pipe. The order is applicable to all pipe, regardless of vintage, where the specified minimum yield strength is unknown due to inadequate or missing records.
   b. If the GRE pipeline segment affected by Item 1 of this order is in service at the time of receipt of this notice, actions shall immediately be taken to limit operation so that its original MOP of 950 psi or an MOP based on design pressure formula utilizing 24000 psi as the specified minimum yield strength, whichever is less, is not exceeded. The MOP limitation shall stand until such time the finding under 49 CFR 195 has been satisfactorily remediated.
   c. Within 10 days of the issuance of the Final Order, provide a written plan addressing implementation of compliance order Item 1, and the process for any remedial action required by 49 CFR 195, including excavation and testing schedules, if warranted.

2. With respect to Item Number 2 of the Notice pertaining to Sunoco's failure to follow the general program recommendations of API RP 1162 prescribed by § 195.440(b) by neglecting to identify and educate the affected public whose safety could potentially be compromised in the event of an unintended release of product from the ME2 pipeline, Sunoco shall complete at a minimum, the following actions:

   a. Modify its Public Awareness Plan (PAP) applicable to the new ME2 pipeline, including any temporary reversal and repurposed portions of the existing 12-inch PTBR to MNTL pipeline and any components of the new 16-inch ME2X pipeline which will be utilized to facilitate transportation of HVLs. Sunoco shall expand their communication coverage area for Stakeholder Audience Identification, as defined by API RP 1162, consistent with areas of potential impact for their pipeline facilities. Sunoco shall also update their PAP to reflect communication buffer area(s) and information on how buffer(s) were determined and/or rational for selection.
   b. Should the modification be deemed unwarranted, Sunoco shall provide justification in its program or procedural manual as to why compliance with all or certain provisions of the recommended practice is not practicable and not necessary for safety, specifically, education of Stakeholder Audiences that were concluded to be susceptible to product dispersion and/or thermal radiation impact.

c. PAP modifications and/or justifications required under Item 2 shall be submitted to the PHMSA Director of the Eastern Region for evaluation and approval.

3. All items under this order shall be completed within 60 days of the issuance of the Final Order.

4. All documentation demonstrating compliance with each of the items outlined in this Compliance Order must be submitted to Robert Burrough, Director, Eastern Region, PHMSA, 840 Bear Tavern Road, Suite 103, West Trenton, NJ 08628.

5. It is requested (not mandated) that Sunoco maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to Robert Burrough, Director, Eastern Region, Pipeline and Hazardous Materials Safety Administration. It is requested that these costs be reported in two categories: 1) total cost associated with preparation/revision of plans, procedures, studies and analyses, and 2) total cost associated with replacements, additions and other changes to pipeline infrastructure.

EXHIBITS

October 1, 2020 Supporting Flynn Fuller Surrebuttal

Rosemary Fuller Surrebuttal

SURREBUTTAL EXHIBIT FULLER - 1

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

July 15, 2019

Ms. Holly Smoker
Groundwater & Environmental Services, Inc.
1500 Sycamore Road
Suite 340
Montoursville, PA 17754

RE: Project: 07012019-642-02
Pace Project No.: 30311960

Dear Ms. Smoker:
Enclosed are the analytical results for sample(s) received by the laboratory on July 02, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

The sample was subcontracted to RJ Lee Group, Inc., 350 Hochberg Road, Monroeville, PA 15146 for XRD analysis. The results of this analysis are reported on the RJ Lee Group, Inc. data tables.

Revision 1 - This report replaces the July 10, 2019 report. This project was revised on July 12, 2019 to include a revised RJ Lee report. (Greensburg, PA)

Revision 2 - This report replaces the July 12, 2019 report. This project was revised on July 15, 2019 to include a revised RJ Lee report. (Greensburg, PA)

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

Rachel D Christner

Rachel Christner
rachel.christner@pacelabs.com
724-850-5611
Project Manager

Enclosures

cc: Mr. Ryan Bidelspach, Groundwater & Environmental Services, Inc.
Mr. David Demko, GES (Exton)
Ms. Stephanie Grillo, Groundwater & Environmental Services, Inc.

RJ LEE GROUP
DELIVERING SCIENTIFIC RESOLUTION

LABORATORY REPORT-Rev02
Revised to add estimated concentration description

Pace Analytical Services
1638 Roseytown Road, Suites 2, 3, & 4
Greensburg, PA 15601
ATTENTION: Rachel Christner
Telephone: 724-850-5611

Revised Report Date:	July 15, 2019
Samples Received:	July 2, 2019
RJ Lee Group Job No.:	PA020720190016
Client Job No.:	GES Project # 0205254-1116-160-xx Org 1402
Purchase Order No.:	00046339

ANALYSIS: X-ray diffraction (XRD) for crystalline phases
METHOD: Qualitative Phase Identification and Expansive Clay Determination

The as-received sample was filtered to remove the solids. The dried solids were hydrated in water and pipetted onto zero-background holders in order to preferentially orient the platy minerals and exaggerate the (00ℓ) basal spacing. The slide was allowed to air dry at room temperature. After drying, the sample was scanned on a PANalytical X'Pert Pro diffractometer using copper radiation. The sample was next placed in a desiccator filled with ethylene glycol. This step serves to expand any potential swelling clays. After removal from the desiccator, the sample was again scanned by XRD. The various scans were overlaid, the reflections were examined and the evolution of each was compared to the USGS Clay Mineral Identification Flow Diagram to determine which mineral each peak corresponds to. Results are presented below.

A portion of the dried sample was scanned on a PANalytical X'Pert Pro diffractometer using copper radiation and standard run parameters. The resulting diffraction pattern was then search-matched with PANalytical X'Pert HighScore software against phases in the ICDD PDF4+ database. Concentrations presented below are estimated based on peak intensities of identified crystalline phases only. Major concentrations denote phases that are estimated to make up more than 20% of the material by weight, minor concentrations estimate concentrations in the material between 20% and 5% by weight and trace concentration estimates a phases present in the sample at concentrations less than 5% by weight. Estimations may vary, as factors such as preferred orientation and the ability of each material to diffract x-rays, as well as phased concentration will affect peak intensities. Additionally, amorphous material may not necessarily be detected by XRD. In certain cases where amorphous material is present in major concentrations, its presence is evidenced by a broad hump in the background signal of an XRD scan, however minor concentrations of amorphous material may be present in a material with no evidence in the scan. Further, XRD is generally accepted to have a detection limit of approximately a few weight percent, depending on phase. It is possible that trace phases are present in the sample that remain unidentified.

Client Sample No.: 07012019-642-02
RJ Lee Group Sample No.: 001

Phase*	Approximate Composition**	Estimated Concentration+
Quartz	SiO_2	Trace
Montmorillonite/Bentonite	$(Na,Ca)_{0.3}(Al,Mg)_2Si_4O_{10}(OH)_2 \cdot nH_2O$	Major
Mica/Illite	$K(Al,Mg,Fe)_2(AlSi_3O_{10})(F,OH)_2$	Trace
Feldspar	$NaAlSi_3O_8$	Minor

***Amorphous content, crystalline phases present at trace levels and phases that are not currently part of the ICDD PDF 4+ database may remain unidentified.**
****Compositions are approximate and represent an idealized formula for that structure, not including possible elemental substitutions into that crystal structure.**
+Estimated concentration is based off of the dried solid material.

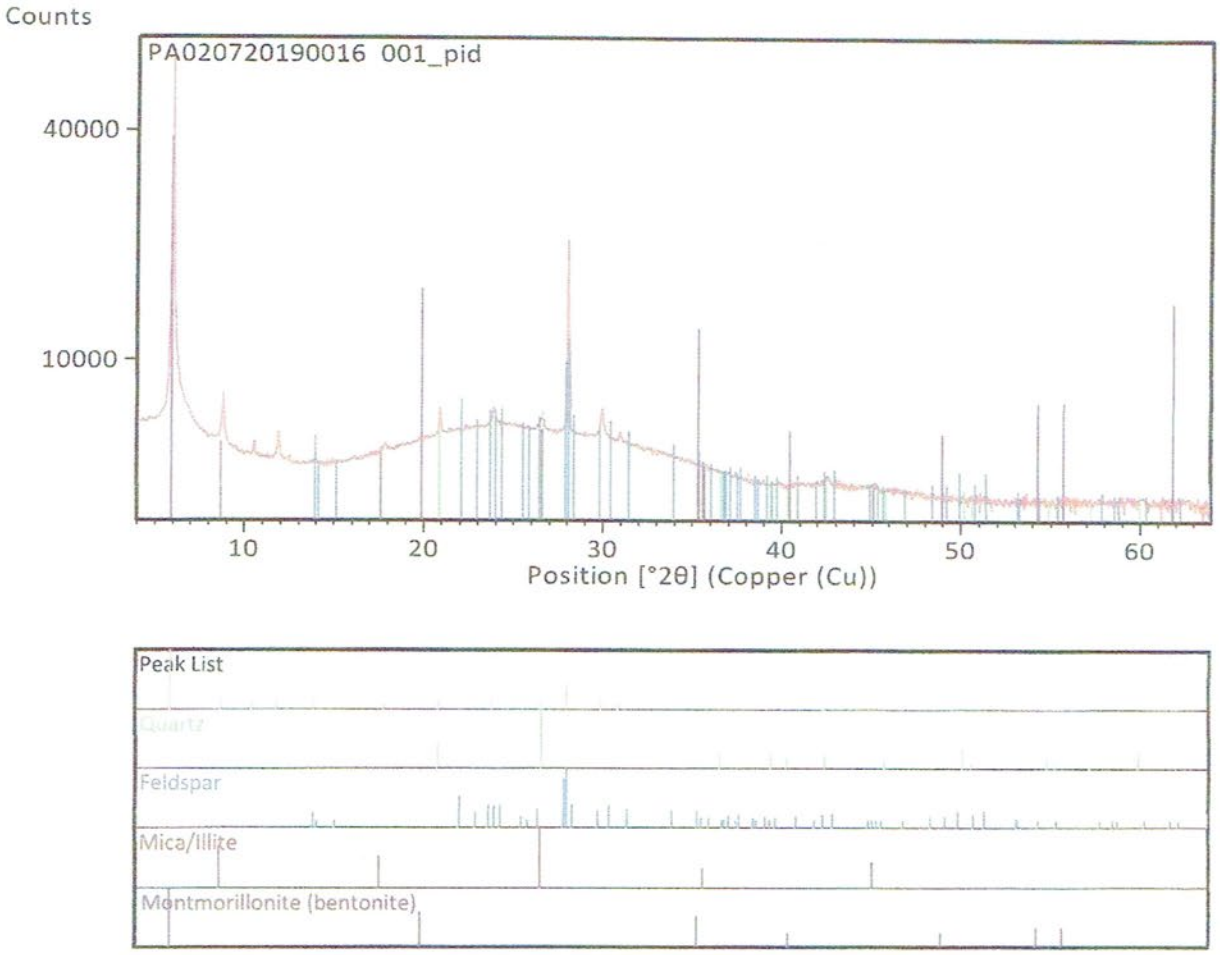


Figure 1 –X-ray diffraction pattern of as-received specimen *"07012019-642-02"*, with position (degrees 2Θ) along the x-axis and intensity (counts) along the y-axis (top). Corresponding legend denoting phase matches (bottom).

EXHIBITS

October 9, 2020 Supporting Flynn Garrity Cross Exhibits

Garrity Cross Exhibits

NACE INTERNATIONAL INSTITUTE

Become Certified | Certification Resources | Renew Your Certification | Business Solutions | Advocacy | About

Become Certified > Specialty > Corrosion Specialist

Corrosion Specialist

NACE Institute's highest level of certification, the Corrosion Specialist certification is geared towards very experienced corrosion control personnel, with broad and extensive expertise, in both the theory and practice of multiple areas of corrosion and corrosion control, and capable of performing work at a very advanced level.

Apply for Certification

Steps to certification

Primary certification path

Exam Preparation Guides

Coming soon:

NOTICE OF PROBABLE VIOLATION
and
PROPOSED COMPLIANCE ORDER

OVERNIGHT EXPRESS DELIVERY

February 4, 2019

Mr. Greg McIlwain
Senior Vice President, Operations
Sunoco Pipeline L.P.
1300 Main Street
Houston, TX 77002

CPF 1-2019-5002

Dear Mr. McIlwain:

From March 19 to March 23, 2018, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA) pursuant to Chapter 601 of 49 United States Code (U.S.C.) inspected Sunoco Pipeline L.P.'s (Sunoco) Mariner East I pipeline system in Honeybrook, Pennsylvania.

As a result of the inspection, it is alleged that you have committed probable violations of the Pipeline Safety Regulations, Title 49, Code of Federal Regulations (CFR). The items inspected and the probable violation(s) are:

1. **§ 195.571 What criteria must I use to determine the adequacy of cathodic protection?**

   Cathodic protection required by this subpart must comply with one or more of the applicable criteria and other considerations for cathodic protection contained paragraphs 6.2.2, 6.2.3, 6.2.4, 6.2.5 and 6.3 in NACE SP 0169 (incorporated by reference, see § 195.3).

Sunoco failed to provide cathodic protection on the Mariner East 1 (ME1) pipeline that complies with one or more of the applicable NACE SP 0169 - 2007 edition (SP 0169) criteria and other considerations. Specifically, Sunoco Pipeline L.P. failed to consider voltage drops other than those across the structure-to-electrolyte boundary (IR drop) when applying SP 0169's Section 6.2.2.1.1 -850 mV criterion during its annual cathodic protection testing**.**

SP 0169 Section 6.2.2.1.1 describes the -850 mV criterion for steel and cast iron piping as follows:

> "A negative (cathodic) potential of at least 850 mV with the cathodic protection current applied. This potential is measured with respect to a saturated copper/copper sulfate electrode contacting the electrolyte. Voltage drops other than those across the structure-to-electrolyte boundary must be considered for valid interpretation of this voltage measurement.

NOTE: Consideration is understood to mean the application of sound engineering practice in determining the significance of voltage drops by methods such as:

6.2.2.1.1.1 Measuring or calculating voltage drops;

6.2.2.1.1.2 Reviewing the historical performance of the cathodic protection system;

6.2.2.1.1.3 Evaluating the physical and electrical characteristics of the pipe and its environment; and

6.2.2.1.1.4 Determining whether or not there is physical evidence of corrosion."

During the inspection, the PHMSA inspectors reviewed annual cathodic protection survey records for 2015-2017 for the ME1 system. The PHMSA inspectors noted that no IR Free readings were provided when utilizing the -850 mV SP 0169 criterion found in Section 6.2.2.1.1. Additionally, Sunoco did not provide a valid explanation for how IR drop was being considered when evaluating the adequacy of the readings that were taken.

Therefore, Sunoco failed to consider voltage drops other than those across the structure-to-electrolyte boundary when utilizing the SP 0169 -850 mV criterion at its test stations along the ME1 pipeline system.

2. **195.589 What corrosion control information do I have to maintain?**

   (c) You must maintain a record of each analysis, check, demonstration, examination, inspection, investigation, review, survey, and test required by this subpart in sufficient detail to demonstrate the adequacy of corrosion control measures or that corrosion requiring control measures does not exist. You must retain these records for at least 5 years, except that records related to Secs. 195.569, 195.573(a) and (b), and 195.579(b)(3) and (c) must be retained for as long as the pipeline remains in service.

Sunoco failed to maintain records in sufficient detail to demonstrate the adequacy of corrosion control measures. Specifically, Sunoco failed to provide records that demonstrate how the cathodic protection measures for the ME1 pipeline complied with the applicable NACE SP 0169 - 2007 edition (SP 0169) criteria at certain test stations.

SP 0169 states the following, in part:

6.2.2.2 Special Conditions

6.2.2.2.1 On bare or ineffectively coated pipelines when long-line corrosion activity is of primary concern, the measurement of a net protective current at predetermined current discharge points from the electrolyte to the pipe surface, as measured by an earth current

technique, may be sufficient.

…

6.2.2.3 PRECAUTIONARY NOTES

6.2.2.3.1 The earth current technique is often meaningless in multiple pipe rights-of-way, in high-resistivity surface soil, for deeply buried pipe, in stray-current areas, or where local corrosion cell action predominates.

…

6.3 Other Considerations

…

6.3.3 When feasible and practicable, in-line inspection of pipeline may be helpful in determining the presences or absence of pitting corrosion damage. Absence of external corrosion damage or the halting of its growth may indicate adequate external corrosion control. The in-line inspection technique, however, may not be capable of detecting all types of external corrosion damage, has limitations in its accuracy, and may report as anomalies items that are not external corrosion. For example, longitudinal seam corrosion and general corrosion may not be readily detected by in-line inspection. Also, possible thickness variations, dents, gouges, and external ferrous objects may be detected as corrosion. The appropriate use of in-line inspection must be carefully considered."

During the inspection, cathodic protection survey records (Annual Survey) for 2015-2017 were provided by Sunoco for the Mariner East 1 (ME1) system. The PHMSA inspectors noted that the recorded pipe-to-soil potential readings were below the SP 0169 -850 mV criterion from 2015 to 2017 at the following test stations:

Pipeline ID 11190

- 2366+30 Rm 96 Twin Valley Road
- 2459+00 Rm 100 Private Lane

Pipeline ID 12124

- 201+87 Rm 5, James Road
- 3058+17 Hempt Valve Outlet Riser
- 3058+42 Hempt Valve Inlet Riser
- 3060+55 Hempt Rd (9)
- 3866+53 Grahman's Woods Rd Rm 32 (CTS)
- 4078+20 Owl Rd (37a)
- 4128+00 Gypsy Road (37b)

In discussions with Sunoco personnel, the PHMSA inspectors established that IR Free readings were not taken when utilizing the -850 mV SP 0169 criterion found in Section 6.2.2.1.1. Instead, Sunoco stated that net protective current surveys were performed at the above locations to establish compliance, due to their inability to achieve a reading that complies with the -850 mV criterion.

In conjunction with these surveys, Sunoco also performed reviews of historical ILI data in the area of the test stations. During a 2017 inspection of this pipeline system, Sunoco had provided a letter dated October 26, 2017, which included data from 2015 side drain readings taken at the test stations listed above during the net protective current surveys, along with a summary of the historical ILI data review.

When requested, Sunoco was unable to explain how the data provided demonstrates adequate cathodic protection that meets the special considerations described in SP 0169 sections 6.2.2.2.1 and 6.3.3, and accounts for the precautionary notes about the earth current technique found in section 6.2.2.3.1.

Therefore, Sunoco failed to maintain records in sufficient detail to demonstrate that the cathodic protection on their ME1 pipeline met applicable SP 0169 criteria at the test stations listed above.

Proposed Compliance Order

Under 49 U.S.C. § 60122 and 49 CFR § 190.223, you are subject to a civil penalty not to exceed $213,268 per violation per day the violation persists, up to a maximum of $2,132,679 for a related series of violations. For violation occurring on or after November 2, 2015 and before November 27, 2018, the maximum penalty may not exceed $209,002 per violation per day, with a maximum penalty not to exceed $2,090,022. For violations occurring prior to November 2, 2015, the maximum penalty may not exceed $200,000 per violation per day, with a maximum penalty not to exceed $2,000,000 for a related series of violations.

We have reviewed the circumstances and supporting documents involved in this case, and have decided not to propose a civil penalty assessment at this time.

With respect to item(s) 1 and 2 pursuant to 49 U.S.C. § 60118, the Pipeline and Hazardous Materials Safety Administration proposes to issue a Compliance Order to Sunoco. Please refer to the *Proposed Compliance Order*, which is enclosed and made a part of this Notice.

Response to this Notice

Enclosed as part of this Notice is a document entitled *Response Options for Pipeline Operators in Compliance Proceedings*. Please refer to this document and note the response options. Be advised that all material you submit in response to this enforcement action is subject to being made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. 552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. 552(b).

Following the receipt of this Notice, you have 30 days to submit written comments, or request a hearing under 49 CFR § 190.211. If you do not respond within 30 days of receipt of this Notice, this constitutes a waiver of your right to contest the allegations in this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to you and to issue a Final Order. If you are responding to this Notice, we propose that you submit your correspondence to my office within 30 days from receipt of this Notice. This period may be extended by written request for good cause.

Please submit all correspondence in this matter to Robert Burrough, Director, PHMSA Eastern Region, 840 Bear Tavern Road, Suite 300, West Trenton, New Jersey 08628. Please refer to **CPF 1-2019-5002** on each document you submit, and whenever possible provide a signed PDF copy in electronic format. Smaller files may be emailed to robert.burrough@dot.gov. Larger files should be sent on a CD accompanied by the original paper copy to the Eastern Region Office.

Additionally, if you choose to respond to this (or any other case), please ensure that any response letter pertains solely to one CPF case number.

Sincerely,

Robert Burrough
Director, Eastern Region
Pipeline and Hazardous Materials Safety Administration

Enclosures: *Proposed Compliance Order*
Response Options for Pipeline Operators in Compliance Proceedings

PROPOSED COMPLIANCE ORDER

Pursuant to 49 U.S.C. § 60118, the Pipeline and Hazardous Materials Safety Administration (PHMSA) proposes to issue to Sunoco Pipeline L.P. (Sunoco) a Compliance Order incorporating the following remedial requirements to ensure the compliance of Sunoco with the pipeline safety regulations:

1. In regard to Item 1 of the Notice pertaining to Sunoco's failure to provide cathodic protection that complies with one or more of the criteria listed in NACE SP0169 – 2007 edition (SP 0169) on its Mariner East 1 (ME1) pipeline, Sunoco shall take the following actions:

   a. Complete a cathodic protection survey of its ME1 pipeline utilizing rectifier interruption, or other acceptable methods, to establish a measured voltage drop (other than those across the structure-to-electrolyte boundary) for all test points. This survey shall be completed within 120 days of issuance of the Final Order.

2. In regard to Item 2 of the Notice pertaining to Sunoco's failure to maintain sufficient records to demonstrate that cathodic protection met one or more SP 0169 criteria at certain test stations, Sunoco shall:

   a. In completing the surveys required by 1.a. above, maintain adequate records to demonstrate that the test stations listed in Item 2 of the Notice satisfy one or more criteria listed in SP 0169.

   b. Develop a written plan to remediate all deficiencies in cathodic protection identified from the survey in 1.a. This plan and the records required by 2.a. shall be provided to PHMSA within 60 days of completion of the survey for review. The plan shall prioritize any of the specific test stations in Item 2 that fail to meet criteria.

3. Sunoco shall complete the items above within 180 days of issuance of the Final Order.

4. It is requested (not mandated) that Sunoco maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to Robert Burrough , Director, Eastern Region, Pipeline and Hazardous Materials Safety Administration. It is requested that these costs be reported in two categories: 1) total cost associated with preparation/revision of plans, procedures, studies and analyses, and 2) total cost associated with replacements, additions and other changes to pipeline infrastructure.

Consent Assessment of Civil Penalty August 4, 2020

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the matter of:

Sunoco Pipeline, L.P. 535 Fritztown Road Sinking Springs, PA 19608	:	Violations of The Clean Streams Law and DEP Chapter 93 and 102 of Title 25 of the Pennsylvania Code, and the Dam Safety and Encroachments Act and DEP Chapter 105 of Title 25 of the Pennsylvania Code
	:	PA Pipeline Project—Mariner East II
	:	E&S Permit Nos. ESCG0300015002; ESG0500015001; ESG0100015001
	:	WO&E Permit Nos. E06-701; E07-459; E11-352; E21-449; E23-524; E38-194; E63-674; E65-973

CONSENT ASSESSMENT OF CIVIL PENALTY

This Consent Assessment of Civil Penalty ("CACP") is entered into this 4th day of August 2020, by and between the Commonwealth of Pennsylvania, Department of Environmental Protection ("Department") and Sunoco Pipeline, L.P. ("Sunoco").

The Department has found and determined the following:

Parties

A. The Department is the agency with the duty and authority to administer and enforce The Clean Streams Law, Act of June 22, 1937, P.L. 1987, *as amended*, 35 P.S. §§ 691.1-691.1001 ("Clean Streams Law"); the Dam Safety and Encroachment Act, the Act of November 26, 1978 P.L. 1375, as amended, 32 P.S. §§ 693.1 et seq. ("Dam Safety and Encroachment Act"); Section

1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, *as amended*, 71 P.S. § 510-17 ("Administrative Code"); and the rules and regulations promulgated thereunder ("rules and regulations").

B. Sunoco Pipeline, L.P. ("Sunoco") is a foreign limited partnership doing business in Pennsylvania and maintains a mailing address of 535 Fritztown Road, Sinking Springs, PA 19608. Sunoco Logistics Partners Operations GP LLC is the general partner of Sunoco Pipeline, L.P. Joseph Colella is Executive Vice President for Sunoco Logistics Partners Operations GP LLC. Mr. Colella has been granted authority by Sunoco Logistics Partners Operations GP LLC to sign documents for Sunoco on behalf of the General Partner.

C. Sunoco owns and operates numerous pipelines in Pennsylvania used to transport petroleum and natural gas products. Sunoco has undertaken an effort to expand existing transportation systems for natural gas liquids in Pennsylvania, which is collectively referred to as the Pennsylvania Pipeline Project – Mariner East II ("PPP-ME2"). As part of PPP-ME2, Sunoco is conducting pipeline installation activities in seventeen counties in Pennsylvania, including Berks, Blair, Cambria, Cumberland, Delaware, Lebanon, Washington, Westmoreland Counties.

Permits

D. Sunoco obtained the following permits from the Department to construct PPP-ME2:

a. Three (3) Erosion and Sediment Control Permits under 25 Pa. Code Chapter 102, Permit Numbers ESG0300015002, ESG0500015001, and ESG0100015001 (Chapter 102 Permits) and;

b. Seventeen (17) Water Obstructions and Encroachment ("WOE") Permits under 25 Pa. Code Chapter 105, Permit Numbers E02-1718, E06-701, E07-459, E11-352, E15-862, E21-449, E22-619, E23-524, E31-234, E32-508, E34-136, E36-945, E38-194, E50-258, E63-674, E65-973, and E67-920 (Chapter 105 Permits). Sunoco obtained one Chapter 105 Permit for each of the seventeen (17) counties in which PPP-ME2 activities will occur.

E. Sunoco obtained Erosion and Sediment Control Permit, Permit Number ESG0300015002, and Water Obstructions and Encroachment Permit, Permit Number E06-701, to construct PPP-ME2 through Berks County.

F. Sunoco obtained Erosion and Sediment Control Permit, Permit Number ESG0300015002, and Water Obstruction and Encroachment Permit, Permit Number E07-459, to construct PPP-ME2 through Blair County.

G. Sunoco obtained Erosion and Sediment Control Permit, Permit Number ESG0500015001, and Water Obstructions and Encroachment Permit, Permit Number E11-352, to construct PPP-ME2 through Cambria County.

H. Sunoco obtained Erosion and Sediment Control Permit, Permit Number ESG0300015002, and Water Obstruction and Encroachment Permit, Permit Number E21-449 to construct PPP-ME2 through Cumberland County.

I. Sunoco obtained Erosion and Sediment Control Permit, Permit Number ESG0100015001, and Water Obstructions and Encroachment Permit, Permit Number E23-524, to construct PPP-ME2 through Delaware County.

J. Sunoco obtained Erosion and Sediment Control Permit, Permit Number ESG0300015002, and Water Obstruction and Encroachment Permit, Permit Number E38-194 to construct PPP-ME2 through Lebanon County.

K. Sunoco obtained Erosion and Sediment Control Permit, Permit Number ESG0500015001, and Water Obstruction and Encroachment Permit, Permit Number E63-674 to construct PPP-ME2 through Washington County.

L. Sunoco obtained Erosion and Sediment Control Permit, Permit Number ESG0500015001, and Water Obstructions and Encroachment Permit, Permit Number E65-973, to construct PPP-ME2 through Westmoreland County.

M. For purposes of this CACP, the terms "Horizontal Directional Drilling" and "Inadvertent Return" are defined as:

a. Horizontal Directional Drilling ("HDD") is any steerable trenchless method used for installation of an underground pipe in an arc along a prescribed path by using a surface launched drilling rig.

b. An Inadvertent Return ("IR") is an unauthorized discharge of drilling fluids to the ground or surface waters, including wetlands, associated with HDD or other trenchless construction methodologies.

Sites

N. The work area for PPP-ME2 in Berks County, Pennsylvania includes the crossing of Wetland BA10 in Caernarvon Township ("Berks HDD Site").

O. The receiving water for the Berks HDD Sites is East Branch Conestoga River, a tributary to the Conestoga River, a water of this Commonwealth. The fishery classification for the

Conestoga River basin in 25 Pa. Code § 93.9o is Warm Water Fishes ("WWF") and Migratory Fishes ("MF").

P. The work area for PPP-ME2 in Blair County, Pennsylvania includes the crossing of Wetland BB58 in Blair Township, and the crossing of Piney Creek in Woodbury Township ("Blair HDD Sites").

Q. The receiving waters for the Blair HDD Sites are an UNT to Juniata River, and Piney Creek, waters of this Commonwealth. The fishery classification for the Juniata River basin in 25 Pa. Code § 93.9n is WWF, MF. The fishery classification for the Piney Creek basin in 25 Pa. Code § 93.9n is High Quality Waters-Cold Water Fishes ("HQ-CWF"), MF.

R. Piney Creek is classified as a wild trout (natural reproduction) water by the Fish and Boat Commission. See

http://www.fishandboat.com/Fish/PennsylvaniaFishes/Trout/Documents/trout_repro.pdf

S. The work area for PPP-ME2 in Cambria County, Pennsylvania includes the crossing of an unnamed tributary ("UNT") to Stewart Run in Cambria Township, the crossing of an UNT to Hinckston Run, Wetland E2, and Wetland N24 in Jackson Township, the crossing of North Branch of Little Conemaugh, Wetland N18, and Wetland N19 in Munster Township ("Cambria HDD Sites").

T. The receiving waters for the Cambria HDD Sites are an UNT to Stewart Run, an UNT to Hinckstown Run, and North Branch of Little Conemaugh, waters of this Commonwealth. The fishery classification for the Stewart Run basin in 25 Pa. Code § 93.9t is HQ-CWF, MF. The fishery classification for Hinckstown Run in 25 Pa. Code § 93.9t is CWF.

U. Stewart Run is classified as a wild trout (natural reproduction) water by the Fish and Boat Commission. See

http://www.fishandboat.com/Fish/PennsylvaniaFishes/Trout/Documents/trout_repro.pdf

V. The work area for PPP-ME2 in Cumberland County, Pennsylvania includes the crossing of Wetland I27 and an UNT to Yellow Breeches Creek in Lower Allen Township, and a crossing of Letort Spring Run in Middlesex Township ("Cumberland HDD Sites").

W. The receiving water for the Cumberland HDD Site is an UNT to Yellow Breeches Creek, and Letort Spring Run, waters of this Commonwealth. The fishery classification for Yellow Breeches in 25 Pa. Code § 93.9o is CWF, MF. The fishery classification for Letort Spring Run basin in 25 Pa. Code § 93.9o is CWF, MF.

X. Letort Spring Run is classified as a wild trout (natural reproduction) water by the Fish and Boat Commission. See

http://www.fishandboat.com/Fish/PennsylvaniaFishes/Trout/Documents/trout_repro.pdf

Y. The work area for PPP-ME2 in Delaware County, Pennsylvania includes the crossing of an UNT to Chester Creek in Middletown Township ("Delaware HDD Site").

Z. The receiving waters for the Delaware HDD Sites are an UNT to Chester Creek and Chester Creek, waters of this Commonwealth. The fishery classification for the Chester Creek basin in 25 Pa. Code § 93.9g is Trout Stocking ("TSF"), MF.

AA. The work area for PPP-ME2 in Lebanon County, Pennsylvania includes the crossing of Snitz Creek in West Cornwall Township ("Lebanon HDD Site").

BB. The receiving water for the Lebanon HDD Site is Snitz Creek, a water of this Commonwealth. The fishery classification for the Snitz Creek basin in 25 Pa. Code § 93.9o is TSF, MF.

CC. The work area for PPP-ME2 in Washington County, Pennsylvania includes the crossings of an UNT to Peters Creek in Nottingham Township ("Washington HDD Site").

DD. The receiving water for the Washington HDD Site is an UNT to Peters Creek, a water of this Commonwealth. The fishery classification for Peters Creek basin in 25 Pa. Code § 93.9v is TSF.

EE. The work area for PPP-ME2 in Westmoreland County, Pennsylvania includes the crossing of an UNT to Conemaugh River in Derry Township ("Westmoreland HDD Site").

FF. The receiving water for the Westmoreland HDD Site is an UNT to Conemaugh River, a water of this Commonwealth. The fishery classification for Conemaugh River in 25 Pa. Code § 93.9v is CWF.

GG. Between August 3, 2018, and April 27, 2019, sixty-seven (67) IRs either occurred within or discharged into waters of the Commonwealth at the sites referenced above and as more fully described in Exhibit A, attached.

HH. The drilling fluids released during each of the IRs described in Exhibit A have been cleaned up at each of those sites.

Violations

II. The drilling fluids that comprised the IRs described in Exhibit A constitute Industrial Waste. Sunoco's discharge of Industrial Waste to waters of the Commonwealth without a permit is a violation of 25 Pa. Code § 92a.1(b) and Section 301 of the Clean Streams Law, 35

P.S. § 691.301, a nuisance under Section 401 of the Clean Streams Law, 35 P.S. § 691.401, and unlawful conduct under Section 611 of the Clean Streams Law, 35 P.S. § 691.611.

JJ. Sunoco's conduct allowing the unauthorized discharge of Industrial Waste to waters of the Commonwealth, constitutes a violation of Section 301 of the Clean Streams Law, 35 P.S. § 691.301 and constitutes unlawful conduct under Section 611 of the Clean Streams Law, 35 P.S. § 691.611 and Section 18 of the Dam Safety and Encroachments Act, 32 P.S. § 693.18.

KK. The violations described in Paragraphs HH and II, above, constitute unlawful conduct under Sections 401 and 611 of the Clean Streams Law, 35 P.S. §§ 691.401 and 691.611; a statutory nuisance under Sections 401 and 601 of the Clean Streams Law, 35 P.S. §§ 691.401 and 691.601; and subject Sunoco to civil penalty liability under Section 605 of the Clean Streams Law, § 691.605. The violations in Paragraph HH also constitute unlawful conduct under Section 18 of the Dam Safety and Encroachments Act, 32 P.S. § 693.18; a statutory nuisance under Section 19 of the Dam Safety and Encroachments Act, 32 P.S. § 693.19; and subject Sunoco to civil penalty liability under Section 21 of the Dam Safety and Encroachments Act, 32 P.S. § 693.21.

After full and complete negotiation of all matters set forth in this CACP and upon mutual exchange of covenants contained herein, the parties desiring to avoid litigation and intending to be legally bound, it is hereby ASSESSED by the Department and AGREED to by Sunoco as follows:

1. **Assessment.** In resolution of the Department's claim for civil penalties, which the Department is authorized to pursue under Section 605 of The Clean Streams Law, 35 P.S. § 691.605 and Section 21 of the Dam Safety and Encroachments Act, 32 P.S. § 693.21, the Department hereby assesses a civil penalty of $355,636.00 which Sunoco hereby agrees to pay.

2. **Civil Penalty Settlement.** Sunoco consents to the assessment of the civil penalty of THREE HUNDRED FIFTY-FIVE THOUSAND SIX HUNDRED AND THIRTY-SIX DOLLARS ($355,636.00), which shall be paid in full upon signing this COA. This payment is in settlement of the Department's claim for civil penalties for the violations set forth in Paragraphs HH through II, above, covering the period from August 1, 2018 to July 31, 2019. The payments shall be by corporate check(s) or the like, made payable to the following: a) THREE HUNDRED FORTY-NINE THOUSAND SEVEN HUNDRED AND TWENTY-FOUR DOLLARS ($349,724.00) to the "**Commonwealth of Pennsylvania**" with an annotation "**Clean Water Fund**" on the memo line, b) ONE HUNDRED AND FORTY-FOUR DOLLARS ($144.00) to the "**Berks County Conservation District**", FOUR HUNDRED AND EIGHTY-SIX DOLLARS ($486.00) to the "**Blair County Conservation District**", FOUR THOUSAND THREE HUNDRED AND EIGHTY-TWO DOLLARS ($4,382.00) to the "**Cambria County Conservation District**", ONE HUNDRED AND SIXTY-NINE DOLLARS ($169.00) to the "**Cumberland County Conservation District**", FOUR HUNDRED AND EIGHTY-FIVE DOLLARS ($485.00) to the "**Washington County Conservation District**", and TWO HUNDRED AND FORTY-SIX DOLLARS ($246.00) to the "**Westmoreland County Conservation District**." All checks shall be sent c/o Ronald C. Eberts, Jr., Environmental Protection Compliance Specialist, DEP-SCRO Waterways and Wetlands Program, 909 Elmerton Avenue, Harrisburg, PA 17110-8200.

3. **Findings.**

a. Sunoco agrees that the findings in paragraphs A. through HH. are true and correct, and in any matter or proceeding involving Sunoco or any of their affiliates and the Department, Sunoco shall not challenge the accuracy or validity of these findings.

b. The parties do not authorize any other persons to use the Findings in this CACP in any matter or proceeding.

4. **Remedies.** In the event that Sunoco fails to make the payment required by this CACP, all remaining payments shall be immediately due and payable. In that event, the Department may pursue any remedy available for failure to pay a civil penalty, including an action for breach of contract or the filing of this CACP as a lien in any county in this Commonwealth.

5. **Reservation of Rights.** The Department reserves all other rights with respect to any matter addressed by this CACP, including the right to require abatement of any conditions resulting from the events described in the Findings. Sunoco reserves the right to challenge any action which the Department may take but waives the right to challenge the content or validity of this CACP.

IN WITNESS WHEREOF, the parties hereto have caused this Consent Assessment of Civil Penalty to be executed by their duly authorized representatives. The undersigned representatives of Sunoco certify under penalty of law, as provided by 18 Pa. C.S. § 4904, that they are authorized to execute this Consent Assessment of Civil Penalty on behalf of Sunoco; that Sunoco consents to the entry of this Consent Assessment of Civil Penalty as a final ORDER of the Department; and that Sunoco hereby knowingly waives its right to appeal this Consent Assessment of Civil Penalty and to challenge its content or validity, which rights may be available under Section 4 of the Environmental Hearing Board Act, Act of July 13, 1988, P.L. 530, 35 P.S. § 7514; the Administrative Agency Law, 2 Pa. C.S. § 103(a) and Chapters 5A and 7A; or any other provisions of law. Signature by Sunoco's attorney certifies only that the agreement has been signed after consulting with counsel.

FOR SUNOCO PIPELINE, L.P.:

Joseph Colella 6/19/2020
Joseph Colella Date
Senior Vice President

6/22/20
Curtis N. Stambaugh, Esq. Date
Attorney for Sunoco Pipeline, L.P.

FOR THE COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION:

8/4/2020
Domenic Rocco, P.E. Date
Environmental Program Manager

Nels J. Taber 8/4/2020
Nels J. Taber Date
Senior Litigation Counsel

EXHIBIT A

County	Municipality	Lat/Long	Resource Impacted (lake, wetland, stream)	Chapter 93 designation	Estimated Quantity of Release	Date Occurred	Date Reported
Berks	Caernarvon Twp.	40.1665°, -75.8577°	Wetland (BA10)	-	30,000 gallons	9/18/2018	9/18/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	Unquantified	10/2/2018	10/2/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	150 gallons	10/6/2018	10/6/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	25 gallons	10/10/2018	10/10/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	Unquantified	10/12/2018	10/12/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	Unquantified	10/14/2018	10/14/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	Unquantified	10/15/2018	10/15/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	3,200 gallons*	10/14/2018	10/14/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	73,400 gallons*	10/15/2018	10/15/2018
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	Unquantified	10/17/2018	10/18/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	Unquantified	10/23/2018	10/23/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	10,100 gallons*	10/23/2018	10/23/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	99,300 gallons*	10/24/2018	10/24/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	44,200 gallons*	10/25/2018	10/25/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	180 gallons*	10/26/2018	10/26/2018
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	2,000 gallons**	10/26/2018	10/26/2018
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	1,800 gallons**	10/27/2018	10/27/2018
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	20 gallons	11/1/2018	11/1/2018
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	850 gallons**	11/1/2018	11/1/2018
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	4,600 gallons**	11/3/2018	11/3/2018
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	4,700 gallons**	11/4/2018	11/4/2018
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	2,060 gallons**	11/7/2018	11/7/2018
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	33 gallons**	11/8/2018	11/8/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	10 gallons*	11/11/2018	11/11/2018
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	1,600 gallons**	11/12/2018	11/12/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	70,280 gallons*	11/19/2018	11/19/2018
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	7,200 gallons**	11/20/2018	11/20/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	39,400 gallons*	11/20/2018	11/20/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	84,300 gallons*	11/21/2018	11/21/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	21,400 gallons*	11/22/2018	11/22/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	78,900 gallons*	11/23/2018	11/23/2018
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	1,000 gallons	11/23/2018	11/23/2018
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	23,900 gallons**	11/23/2018	11/23/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	4,800 gallons*	11/26/2018	11/26/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	121,800 gallons*	11/27/2018	11/27/2018
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	100 gallons**	11/27/2018	11/27/2018
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	25-50 gallons	11/27/2018	11/27/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	116,140 gallons*	11/28/2018	11/28/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	52,600 gallons*	11/29/2018	11/29/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	56,790 gallons*	12/1/2018	12/1/2018
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	30,070 gallons*	12/1/2018	12/1/2018
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	5,850 gallons*	12/2/2018	12/2/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	75,00 gallons*	12/2/2018	12/2/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	80,550 gallons*	12/3/2018	12/3/2018

EXHIBIT A

County	Municipality	Lat/Long	Resource Impacted (lake, wetland, stream)	Chapter 93 designation	Estimated Quantity of Release	Date Occurred	Date Reported
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	2,325 gallons**	12/3/2018	12/3/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	78,100 gallons*	12/4/2018	12/4/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	69,840 gallons*	12/5/2018	12/5/2018
Blair	Blair Twp.	40.4122°, -78.3722°	Wetland (BB-58)	-	21,150 gallons**	12/5/2018	12/5/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	54,350 gallons*	12/6/2018	12/6/2019
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	35,100 gallons*	12/7/2018	12/7/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	34,500 gallons*	12/8/2018	12/8/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	26,900 gallons*	12/9/2018	12/9/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	22,000 gallons*	12/10/2018	12/10/2018
Blair	Woodbury Twp.	40.4315°, -78.2689°	Piney Creek	HQ-CWF	13,750 gallons*	12/11/2018	12/11/2018
Cambria	Munster Twp.	40.4528°, -78.6847°	Wetland (N-18)	-	300-400 gallons	8/3/2018	8/3/2018
Cambria	Munster Twp.	40.4528°, -78.6847°	Wetland (N-19) and North Branch of Little Conemaugh	CWF	2,000-2,500 galoons	8/4/2018	8/4/2018
Cambria	Jackson Twp.	40.416°, -78.866°	Wetland (N-24)	-	10 gallons	8/25/2018	8/25/2018
Cambria	Munster Twp.	40.4528°, -78.6847°	Wetland (N-18)	-	5 gallons	9/16/2018	9/17/2018
Cambria	Jackson Twp.	40.416°, -78.866°	Wetland (E-2) and UNT to Hinckston Run	CWF	11,000 gallons	9/11/2018	9/12/2018
Cambria	Cambria Twp.	40.4372°, -78.7635°	UNT to Stewart Run	HQ-CWF	10 gallons	2/16/2019	2/16/2019
Cambria	Cambria Twp.	40.4372°, -78.7635°	UNT to Stweart Run	HQ-CWF	357 gallons	4/16/2019	4/16/2019
Cumberland	Middlesex Twp.	40.2287°, -77.1399°	Letort Spring Run	CWF	2 gallons	9/13/2018	9/13/2018
Cumberland	Lower Allen Twp.	40.1925°, -76.9386°	Wetland (I-27) and UNT to Yellow Breeches Creek	CWF	20 gallons	4/27/2019	4/27/2019
Delaware	Middletown Twp.	39.8946°, -75.4321°	UNT to Chester Creek	TSF	100 gallons	10/6/2018	10/6/2018
Lebanon	West Cornwall Twp.	40.290°, -76.427°	Snitz Creek	TSF	38 gallons	8/15/2018	8/15/2018
Washington	Nottingham Twp.	40.236°, -80.091°	UNT to Peters Creek	TSF	2 gallons	8/4/2018	8/4/2018
Westmoreland	Derry Twp.	40.445°, -79.304°	UNT to Conemaugh River	CWF	10 gallons	2/26/2019	2/26/2019

**Indicates the estimated quantity of drilling fluids that surfaced in a Department approved containment BMP located in Piney Creek and was then pumped back to the HDD drill pit and recirculated.*

***Indicates the estimated quantity of drilling fluids that surfaced in a Department approved containment BMP located in Wetland BB-58 and was then pumped back to the HDD drill pit and recirculated.*

Marsh Creek Administrative Order September 11, 2020

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the matter of:

Sunoco Pipeline, L.P. 535 Fritztown Road Sinking Springs, PA 19608	:	Violations of The Clean Streams Law and DEP Chapters 93, 102, and 105 of Title 25 of the Pennsylvania Code.
	:	PA Pipeline Project—Mariner East II E&S Permit No. ESG0100015001
	:	WO&E Permit No. E15-862

ADMINISTRATIVE ORDER

Now this 11th day of September, 2020, the Commonwealth of Pennsylvania, Department of Environmental Protection ("Department"), has found and determined the following facts and findings and by this Administrative Order imposes the specified performance obligations upon Sunoco Pipeline, L.P. ("Sunoco").

Findings

Parties

A. The Department is the agency with the duty and authority to administer and enforce The Clean Streams Law, Act of June 22, 1937, P.L. 1987, *as amended*, 35 P.S. §§ 691.1-691.1001 ("Clean Streams Law"); the Dam Safety and Encroachment Act, the Act of November 26, 1978 P.L. 1375, as amended, 32 P.S. §§ 693.1 et seq. ("Dam Safety and Encroachment Act"); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, *as amended*, 71 P.S. § 510-17 ("Administrative Code"); and the rules and regulations promulgated thereunder ("rules and regulations").

B. Sunoco Pipeline, L.P. ("Sunoco") is a foreign limited partnership doing business in Pennsylvania and maintains a mailing address of 535 Fritztown Road, Sinking Springs, PA 19608.

Sunoco Logistics Partners Operations GP LLC is the general partner of Sunoco Pipeline, L.P. Joseph Colella is Executive Vice President for Sunoco Logistics Partners Operations GP LLC. Mr. Colella has been granted authority by Sunoco Logistics Partners Operations GP LLC to sign documents for Sunoco on behalf of the General Partner.

C. Sunoco owns and operates numerous pipelines in Pennsylvania used to transport petroleum and natural gas products. Sunoco has undertaken an effort to expand existing transportation systems for natural gas liquids in Pennsylvania, which is collectively referred to as the Pennsylvania Pipeline Project – Mariner East II ("PPP-ME2"). As part of PPP-ME2, Sunoco is conducting pipeline installation activities in seventeen counties in Pennsylvania, including Chester County.

Permits

D. To construct PPP-ME2 through Chester County, Sunoco obtained:

a. An Erosion and Sediment Control Permit under 25 Pa. Code Chapter 102, Permit Number ESG0100015001 ("Chapter 102 Permit") and;

b. A Water Obstructions and Encroachment ("WOE") Permit under 25 Pa. Code Chapter 105, Permit Number E15-862 ("Chapter 105 Permit").

E. For purposes of this Administrative Order, Horizontal Directional Drilling ("HDD") is defined to include any steerable trenchless technology that controls the direction and deviation to a predetermined underground target or location.

Site

F. The work area for PPP-ME2 in Chester County, Pennsylvania includes the horizontal directional drill ("HDD") installation of a 16-inch diameter pipeline and a 20-inch diameter pipeline that traverses Little Conestoga Road in Upper Uwchlan Township, Chester

County, Pennsylvania ("HDD S-3-0290"). The alignment of HDD S-3-0290 passes from the northwest to the southeast in the Marsh Creek Watershed with groundwater flow in the HDD bore alignment being towards Marsh Creek/Marsh Lake to the south and southwest.

G. The 16-inch pipeline was installed in 2017. During that installation, the HDD had an inadvertent return ("IR") of approximately 100 gallons of drilling fluids to wetland WL-17 and two unnamed tributaries, S-H 10 and S-H 11, to Marsh Creek Lake on June 24, 2017. S-H 10 and S-H 11 are listed as High Quality-Trout Stocked Fisheries. On August 29, 2017, another IR of approximately 40 to 50 gallons occurred in wetland WL-17 along Stream S-H 11 approximately 40 feet from the original IR location during drill ream operations on HDD S-3-0290.

H. In accordance with the Corrected Stipulated Order entered by the Environmental Hearing Board on August 10, 2017 at Docket No. 2017-009-L, Sunoco conducted a re-evaluation of HDD S-3-0290 for installation of the 20-inch pipeline. The HDD S-3-290 re-evaluation report was submitted to the Department on May 28, 2019 and approved by the Department on January 23, 2020 ("Re-evaluation Report").

I. As part of that re-evaluation, Sunoco reported that:

> **A 1.01 mile reroute to the north of the HDD is technically feasible**. This would entail adjusting the project route prior to this HDD's northwest entry/exit point to proceed north, cross under the Pennsylvania Turnpike, then proceed east for 0.7 miles parallel to the turnpike, cross Little Conestoga Road, then turn south, cross under the turnpike, and then re-intersect the existing project route just east of this HDDs southeast entry/exit point. There is no existing utility corridor here, however; therefore, this route would create a Greenfield utility corridor and would result in encumbering previously unaffected properties. The route would still cross two Waters of the Commonwealth and possible forested wetlands, and would pass in near proximity or immediately adjacent to five residential home sites. Both crossings of the turnpike would require "mini" HDD's or direct pipe bores to achieve the required depth of cover under the highway. Considered against the possibility of additional IR's occurring on the proposed HDD, **which are readily contained and cleaned up with minimal affect to natural resources**, the permanent taking of the new

> easement and likely need to use condemnation against previously unaffected landowners results in SPLP's opinion that managing the proposed HDD is the preferred option. (emphasis added). Re-evaluation Report at p. 6 "Re-Route Analysis".

J. The Re-evaluation Report also included an "HDD Hydrogeologic Reevaluation Report – HDD S3-0290 dated May 2019 ("Hydro Report"). It was noted as a conclusion in that report that "[t]he synthesis of regional and local geologic data together with past drilling performance during drilling for the 16-inch pipeline indicate that **installation of the 20-inch line at HDD S3-0290 has a moderate to high risk of drilling fluid loss and IRs**." (emphasis added) Hydro Report at p. 15.

K. In February 2020, Sunoco commenced drilling the pilot hole for the 20-inch pipeline at HDD S-3-0290.

L. In spite of Sunoco's assurances that it could readily contain and clean up any IRs that might occur on HDD S-3-0290 with minimal affect to natural resources, on August 10, 2020, the Department received notice from Sunoco of an IR at HDD Site S-3-0290, PA-CH-0100.0000-RD, in the vicinity of Green Valley Road in Upper Uwchlan Township, Chester County. Sunoco ultimately reported that approximately 8163 gallons of drilling fluids had surfaced in wetland WL-17 and two unnamed tributaries, S-H 10 and S-H 11, the same aquatic resources impacted by the 2017 IRs.

M. At the time of the Department's inspection on August 10, 2020, Sunoco had attempted to contain the IR by deploying various silt fences in wetland WL-17 and unnamed tributaries S-H 10 and S-H 11 and two sets of instream silt containment booms (weighted silt curtains) to reduce the amount of bentonite entering Marsh Creek Lake. There was no sandbag containment in wetland WL-17 to capture drilling fluids. An effort was being made to pump some of the drilling fluids from wetland WL-17. Representatives from Sunoco indicated that they were

still attempting to obtain landowner permission in order to gain access to areas to fully address the IR. Despite Sunoco's efforts to contain and clean up the IR, the IR discharged to wetland WL-17 and two unnamed tributaries, S-H 10 and S-H 11 and then flowed and discharged into Marsh Creek Lake, a water of the Commonwealth. Wetland WL-17 and two unnamed tributaries, S-H 10 and S-H 11 were coated with a thick layer of drilling mud. A plume of drilling mud filled a cove of Marsh Creek Lake.

N. Marsh Creek Lake is in Marsh Creek State Park, one of the most visited state parks in Pennsylvania. Marsh Creek State Park receives more than 1,000,000 visitors each year. Marsh Creek Lake is one of the primary recreational resources in the park. The 535-acre lake is used year-round for fishing and boating. It also provides important habitat for migrating waterfowl. Following the inadvertent return, 33 acres of Marsh Creek Lake had to be closed to the public.

O. On August 11, 2020, the Department received notice of a subsidence event in wetland WL-17 measuring 15 foot in diameter and 8 foot deep. The subsidence event allowed drilling fluids into the underground horizon and the wetland, adversely impacting the functions and values of the wetland, and constituting a discharge of industrial waste to groundwater, a water of the Commonwealth and wetlands, a water of the Commonwealth.

P. Immediately after the inadvertent return the Department conducted inspections of this area on August 10, 2020, August 11, 2020, August 12, 2020, and August 13, 2020.

Q. On August 17, 2020, Sunoco submitted a Restart Report for HDD S-3-290. In that report, Sunoco proposes to construct "unconventional pressure relief points" ("UPRPs"), which consist of sand-bag dams constructed at the location of the two IRs that occurred in 2017 and in wetland WL-17. Sunoco asserts, once again, that if a future IR were to occur at any of those locations, this time the drilling fluids will be collected and transported to either the entry or exit

pits for HDD S-3-0290 and recycled at the mud plant. Sunoco did recognize that placement of the sandbag dam within wetland WL-17 would require additional permitting. The Department has not approved the Restart Report for HDD S-3-0290.

R. On August 20, 2020, the Department issued a Notice of Violation to Sunoco, requesting that Sunoco provide plans to address the impacts of the inadvertent return and subsidence events to waters of the Commonwealth and information regarding various aspects of the HDD. To date the Department has not received all information requested by that Notice of Violation.

S. Sunoco's efforts to clean up the inadvertent return and assess its impacts to waters of the Commonwealth continues as of the date of this order. The Department continues to monitor conditions and cleanup efforts at this site. The 33-acre portion of Marsh Creek Lake referenced in Paragraph M, above, remains closed to recreational boating and fishing and all other public use due to the presence of drilling fluids on the lake bottom.

Violations

T. The drilling fluids described in Paragraphs L, M and O, above, constitute Industrial Waste. Sunoco's discharge of Industrial Waste to waters of the Commonwealth without a permit is a violation of 25 Pa. Code § 92a.1(b) and Section 301 of the Clean Streams Law, 35 P.S. § 691.301 and Section 18 of the Dam Safety and Encroachments Act, 32 P.S. § 693.18.

U. The violations described in Paragraphs L, M and O, above, constitute unlawful conduct under Sections 401 and 611 of the Clean Streams Law, 35 P.S. §§ 691.401 and 691.611; and a statutory nuisance under Sections 401 and 601 of the Clean Streams Law, 35 P.S. §§ 691.401 and 691.601. The violation in Paragraph L constitutes unlawful conduct under Section 18 of the

Dam Safety and Encroachments Act, 32 P.S. § 693.18; and a statutory nuisance under Section 19 of the Dam Safety and Encroachments Act, 32 P.S. § 693.19.

NOW, THEREFORE, pursuant to Section 20 of the Dam Safety and Encroachments Act, 32 P.S. § 693.20; Sections 5, 402, and 610 of The Clean Streams Law, 35 P.S. § 691.5, 691.402, and 691.610; and Section 1917-A of the Administrative Code, 71 P.S. § 510-17, the Department hereby ORDERS the following:

1. Except as specified herein, Sunoco shall immediately suspend all work authorized by the permits described in Paragraph D, above, for HDD S-3-0290 until the Department provides written authorization to resume work, except as is necessary to stabilize the site to prevent erosion and sedimentation in accordance with Paragraph 6, and to prevent additional pollutants from entering waters of the Commonwealth, including wetland WL-17, unnamed tributaries S-H 10 and S-H 11 of Marsh Creek Reservoir, and the Marsh Creek Reservoir, which is located in Marsh Creek State Park. In no event shall Sunoco undertake any pipeline installation activities at the site of HDD S-3-0290, including drilling or drilling-related preparation and drilling support activities, or the installation of casing, unless expressly authorized by the Department in writing.

2. Sunoco shall take all steps necessary, including the submission of appropriate applications and supporting materials for permit amendments, to implement the reroute of HDD S-3-290 that Sunoco previously found to be technically feasible in the Re-evaluation Report.

3. Within 30 days of the effective date of this Administrative Order, Sunoco shall submit a report to the Department that fully explains how the August 10, 2020 inadvertent return described in Paragraph L above, occurred and how the August 11, 2020 subsidence event described in Paragraph N above, occurred. Such report shall also detail the results of all geophysical testing

conducted by or on behalf of Sunoco from January 1, 2010 to the date of this Order for the 2000-foot-long by 50-foot-wide section of the HDD profile centered on the August 10, 2020 IR location areas of the HDD profile, as well as the results of all geophysical testing conducted on behalf of Sunoco from January 1, 2010 to the date of this Order in any other areas or resources that were impacted by the August 10, 2020 IR and subsidence event. The geophysical testing data shall include all results of microgravity, electrical resistivity, seismic refraction and any other geophysical testing. The report shall include analyses of each of the tests, verified by a qualified professional,

4. Sunoco shall address, to the Department's satisfaction, all impacts to waters of the Commonwealth that occurred as a result of the August 10, 2020 inadvertent return and the August 11, 2020 subsidence event by restoring and remediating impacted aquatic life, biota, and habitat, including the functions and values of the impacted wetlands resources, and all impacted recreational uses, to a condition equal to or better than that in place before the incidents occurred.

a. On or before October 1, 2020, unless the Department approves a later date in writing, Sunoco shall submit an impact assessment ("Impact Assessment") and a cleanup and restoration plan for HDD S-3-0290 Drill Site ("Restoration Plan") to the Department for review and approval to address all temporary and/or permanent impacts to waters of the Commonwealth that occurred as a result of the August 10, 2020 inadvertent return and August 11, 2020 subsidence event. The Impact Assessment and the Restoration Plan shall include a detailed resource delineation and function assessment for the wetland, stream, and reservoir in the areas impacted by the IR and subsidence event, as well as reference areas. The Restoration Plan shall provide for at least five (5) years of monitoring after the restoration activities are completed. For the first two (2) years, Sunoco shall submit

monitoring reports under the Restoration Plan to the Department on a quarterly basis with monitoring reports due on January 30th, April 30th, July 30th, and October 30th of each year for the preceding calendar quarter. After the initial two (2) year monitoring period, monitoring reports shall be submitted on an annual basis, with the first annual report due on January 30th following year three (3).

b. If the Department finds that Sunoco's implementation of the Restoration Plan has failed to eliminate impacts to waters of the Commonwealth, then Sunoco shall submit a mitigation plan for the HDD S-3-0290 Drill Site ("Mitigation Plan") to the Department for review and approval to address impacts to waters of the Commonwealth that occurred as a result of the August 10, 2020 inadvertent return and the August 11, 2020 subsidence event. The Mitigation Plan shall provide for replacement of the functions and values of all impacted wetlands at a minimum area of 0.25 acre or at a ratio of 2:1, whichever is greater, within the Marsh Creek watershed. In accordance with Permit No. E15-862, special condition EE, the Mitigation Plan shall provide for at least five (5) years of monitoring after the restoration activities are completed.

c. Sunoco shall conduct the Impact Assessment and implement the Restoration Plan at Paragraph 4.a., above, immediately upon receipt of written approval from the Department unless the Department extends that timeframe in writing. If the Department determines that a Mitigation Plan is needed pursuant to Paragraph 4.b., then Sunoco shall implement the Mitigation Plan at Paragraph 4.b., above, within 90 days of receiving written approval from the Department, unless the Department extends that timeframe in writing.

5. In the event the Department determines that additional information, revisions, modifications or amendments are necessary to any permit, plan, any other submission, or restoration and remediation work required by this Order, then within ten (10) days after receipt of written notice from the Department, Sunoco shall submit to the Department such information, revisions, amendments or modifications, and/or complete the modified work, unless an alternative timeframe is approved by the Department in writing.

6. Effective immediately, Sunoco shall secure the partially constructed borehole with grouting or an equivalent method and stabilize all disturbed areas at HDD S-3-0290 in accordance with the approved E&S Plans and in compliance with 25 Pa. Code § 102.22(a) and/or (b), as appropriate. Sunoco shall continue routine monitoring of the installed BMPs and shall perform all necessary ongoing operation and maintenance activities to ensure the BMPs continue to perform as designed, in accordance with the approved E&S Plan and permit until the disturbed areas along the current alignment for HDD S-3-0290 are permanently stabilized.

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717-787-3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800-654-5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717-787-3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST REACH THE BOARD WITHIN 30 DAYS. YOU DO NOT NEED A LAWYER TO FILE AN APPEAL WITH THE BOARD.

IMPORTANT LEGAL RIGHTS ARE AT STAKE, HOWEVER, SO 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 (717-787-3483) FOR MORE INFORMATION.

FOR THE COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION:

John Hohenstein, P.E.
Environmental Program Manager