HORIZONTAL DIRECTIONAL DRILL RE-ANALYSIS
JOANNA ROAD CROSSING
PADEP SECTION 105 PERMIT NO: E06-701
PA-BR-0181.0000-RD-16
(SPLP HDD No. S3-0250-16)

Comments prepared by Mr. David W. Anspach III
Resident 609 Joanna Road, Morgantown, Pa 19543
324 Feet from HDD Western Entry Point

The analysis will begin by recapping the events which were omitted by SPLP in regard to the Joanna Road 20" HDD reanalysis and will be supported by photographs as well as the PADEP may contact me directly to receive copies of Text message and Email correspondences with land agents and videos of the site, which support the documentation. In keeping with the presentation provided by Mr. Douglas J. Hess's, P.G. report I will begin with a timeline that can be utilized to supplement the previously submitted timeline.

July 16, 2017 the initial drilling began, performed by Ellingson Trenchless as reported and was discontinue by order of the Pennsylvania Governor, Tom Wolfe, on July 21, 2017. At this time the Drill pit was covered by timber mats and "abandoned" or "preserved" until a future date.

February 18, 2018 Looking East along the HDD route.

March 14, 2018 United Piping Inc. (UPI) mobilized to the site removed the timber mats and excavated the drill pit. Drill pit constantly fills with Ground water requiring pumping.

UPI mobilization

Excavation West Side of HDD alignment.

Drill pit constantly fills with ground water, West side of HDD alignment.

March 16, 2018, Per PADEP requirements a Water Buffalo is placed at landowner residence as the residential well is located 324 feet from the HDD Western entry point.

March 20, 2018 Ground water infiltration into the drill pit continues in the off hours.

March 25, 2018 Drilling mud exits the Limit of Disturbance and is cleaned up utilizing a Hydraulic Vacuum (vac) truck (red truck in the rear of left photo) without notification to the Landowner or the PADEP. Turbid conditions are noted in the unnamed tributary (right photo). No note of this cleanup is noted in provided drilling activity log. All staff ignored No trespassing signs and accessed property not granted, Police report filled.


Vermeer

April 12, 2018 Presence of oil and grease sheen as well as billowy orange growth noted in the unnamed tributary to the East branch of the Conestoga River, Thick orange billowy growth noted as well.

April 13, 2018 Samples drawn and photographed depicting condition of the unnamed tributary above the influence of the HDD rig and filter plant.

Left container upstream, Right adjacent to the drill filter plant.

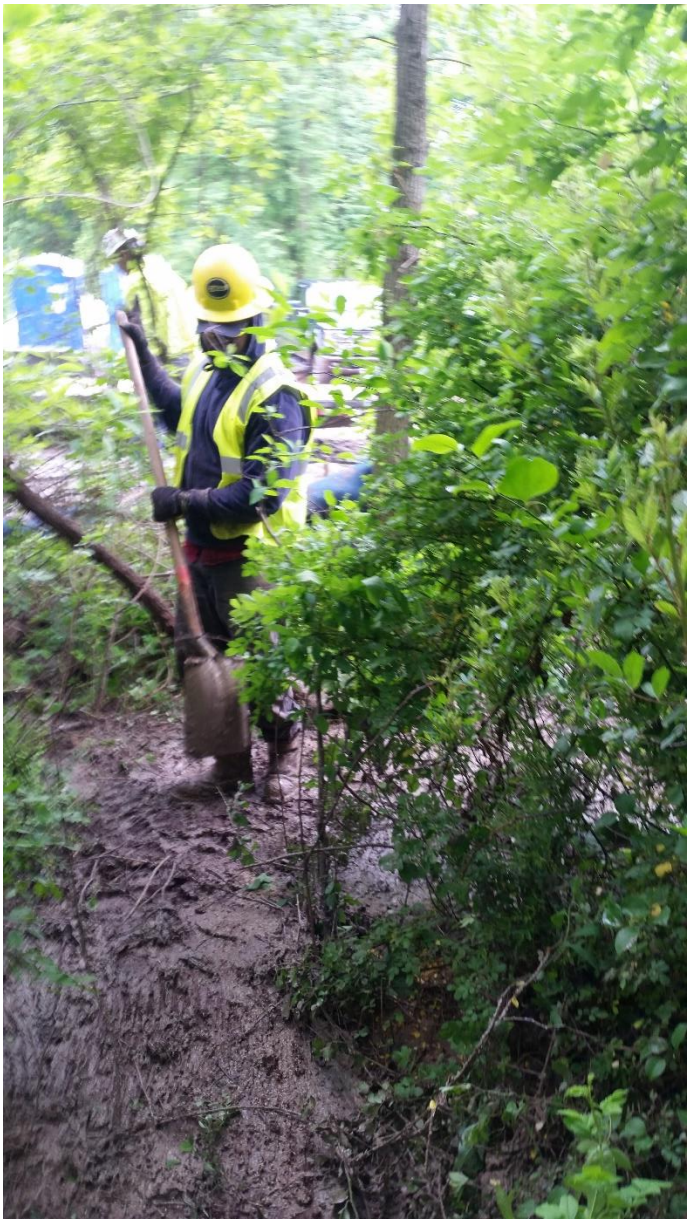
April 18, 2018 Oil and Grease sheen continues to present on the surface of the unnamed tributary. Tributary is turbid and ash like substance is on the surface. No reports to the PADEP nor any mention on the timeline.

April 20, 2018 Workers dam the unnamed tributary and again vac truck contamination out of the tributary. Tributary shows signs of turbid cloudy water. No report is made to PADEP nor is any mention of this made in timeline.

April 22, 2018 Tributary flow is returned to normal flow pattern.

May 13, 2018 Heavy rain fall washes drilling mud out of the pit and into the surrounding emergent wetlands and the unnamed tributary. No event was reported to PADEP nor mentioned in the reanalysis report.

May 28, 2018 Drilling mud is again reported outside the drilling pit, covers surrounding property outside the Limit of Disturbance and enters the unnamed tributary. No report was filed with the PADEP nor mention made in the reanalysis.



June 11, 2018 Significant saturation noted flooding remains consistent around drill western entry point.

June 26, 2018 Drilling strikes Twin Valley School District Wastewater Treatment Plant Effluent pipe previously described as an agriculture building.

July 12, 2018 Ground water consistently fills the drilling pit and must be removed 24 hours a day via vac truck or on site pumping. Drill rig filter plant is removed revealing drill mud leaks under equipment. Soils are removed against landowner's requests and without compensation. Land agent does not provide reason upon request.

July 15, 2018 Drilling mud still present on site up to 3 inches thick in places, thick oil and grease sheen inside LOD while drilling pit continues to fill with water.

August 15, 2018 Vac truck is again observed outside the LOD cleaning up spilled drilling fluids. Again no report made to the PADEP nor mentioned in the provided timeline.

September 15, 2018 This is the only report of drilling mud outside the LOD as recorded by the timeline and reported to the PADEP. The unnamed tributary was again dammed in order to prevent extensive environmental damages.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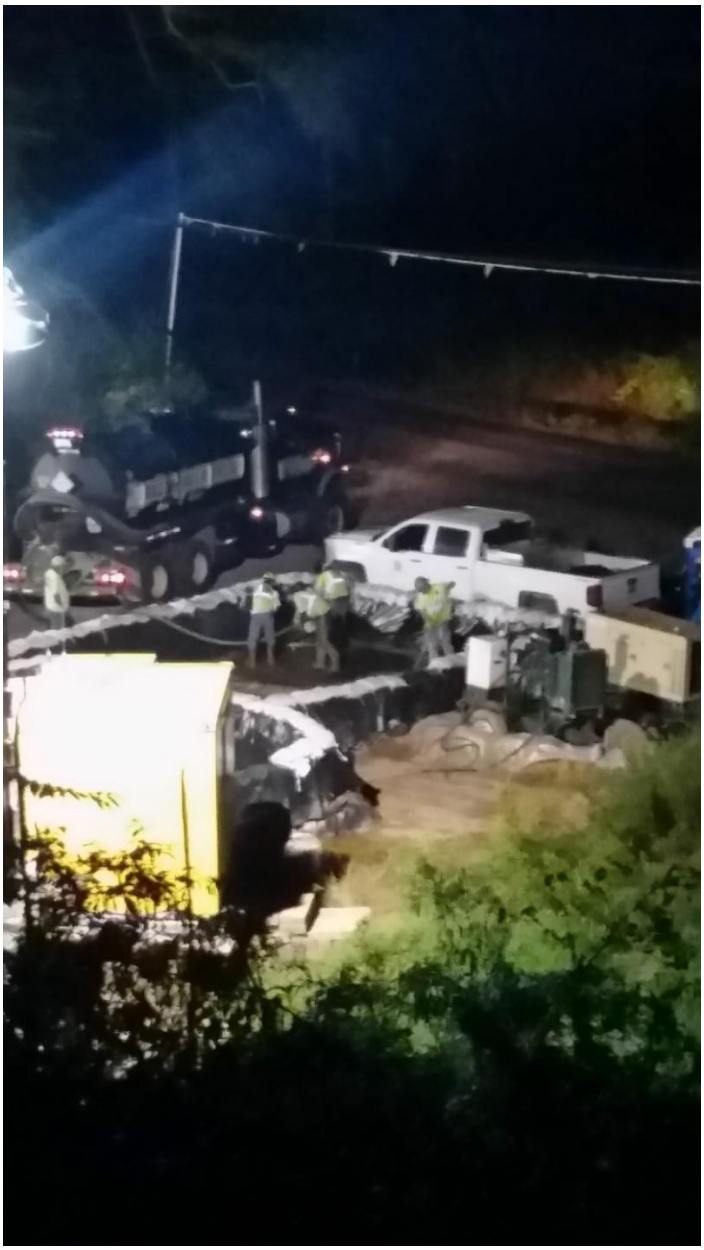
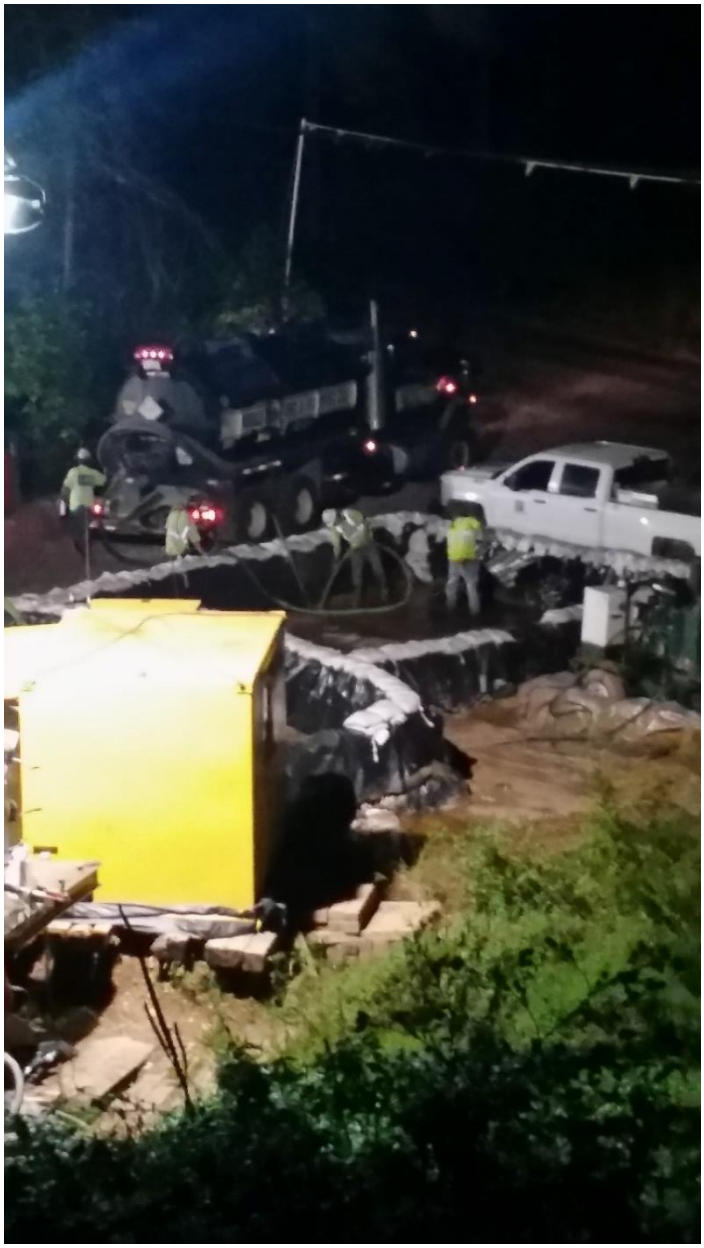
September 22, 2018 Erosion and Sediment (E&S) Controls are increased around the drilling pit.

September 27, 2018 Upon discussion with landowner, Right of Way Agent informs drill staff to increase E&S controls due to understanding that the drill extensively undermined the top soils and additional leak points were observed. Heavy oil and grease presence observed in and ponding persists.

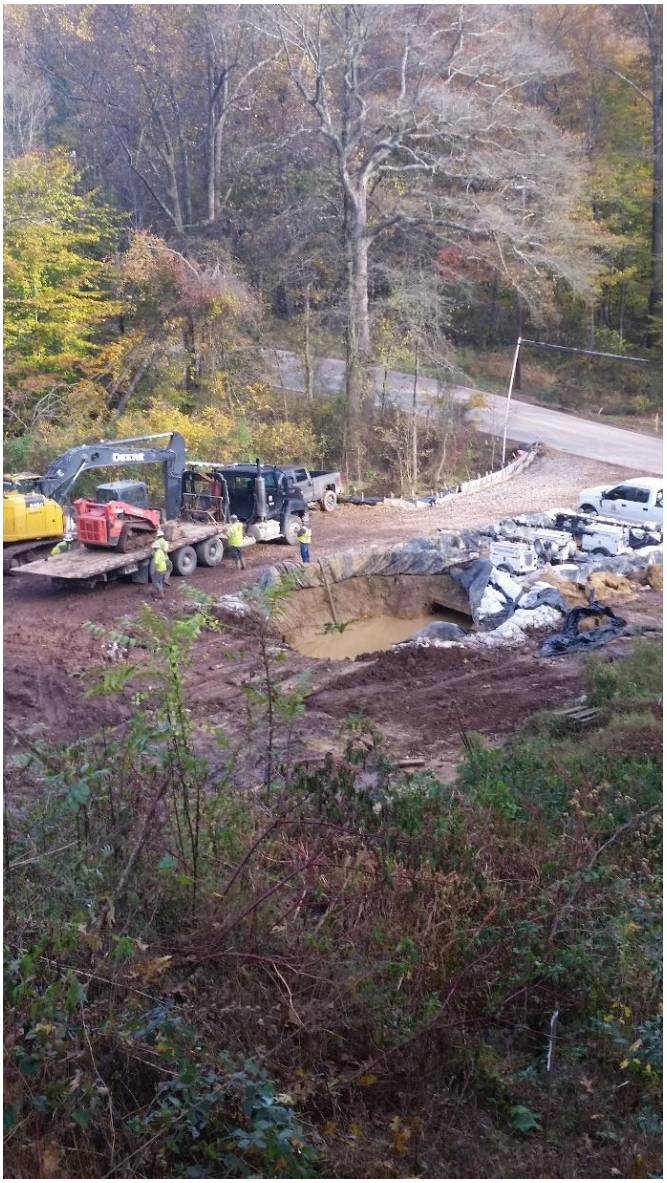
October 2, 2018 Drilling mud observed being cleaned up inside additional containment area recommended by landowner.





October 29, 2018 E&S controls are in complete disarray. Side walls are collapsed and covered in drilling fluid. Unnamed tributary again shows signs of sedimentation. No report to PADEP or mention of conditions in the timeline report.

November 1, 2018 Driller UPI was relieved of duty and the drill was removed. Drill pit continues to be pumped continually and turbidity is again observed in the creek. Drilling fluid is observed throughout the site due to equipment spills during work and careless removal.

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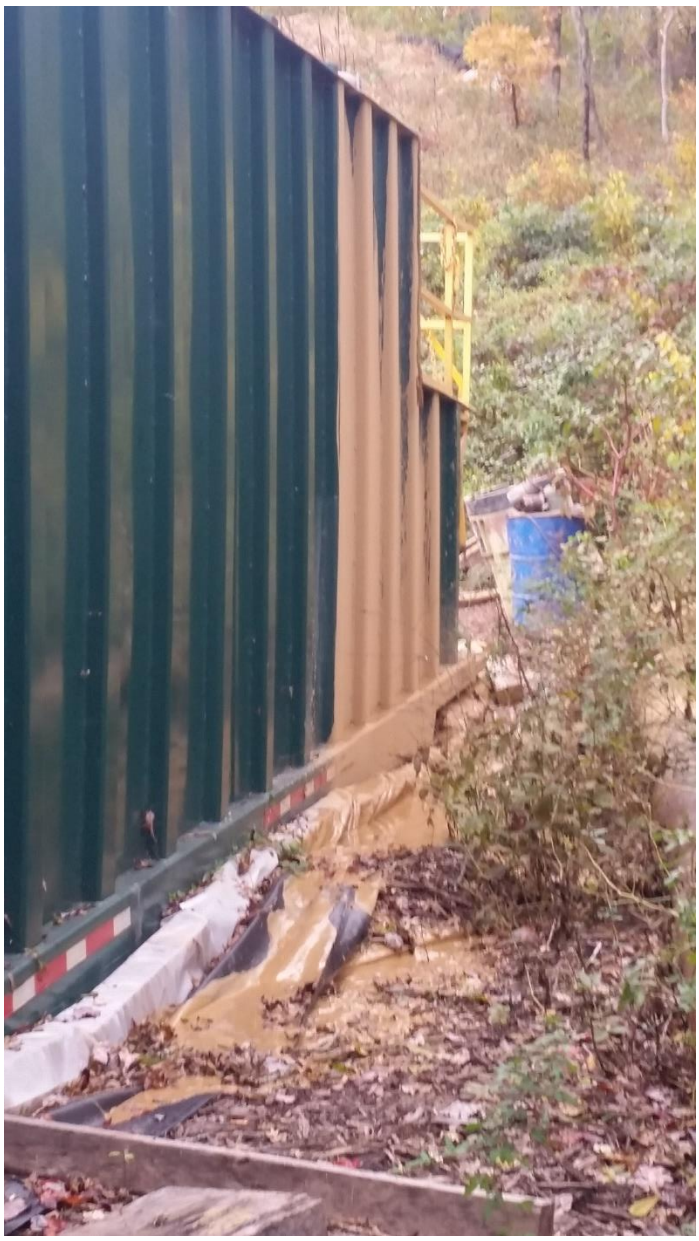
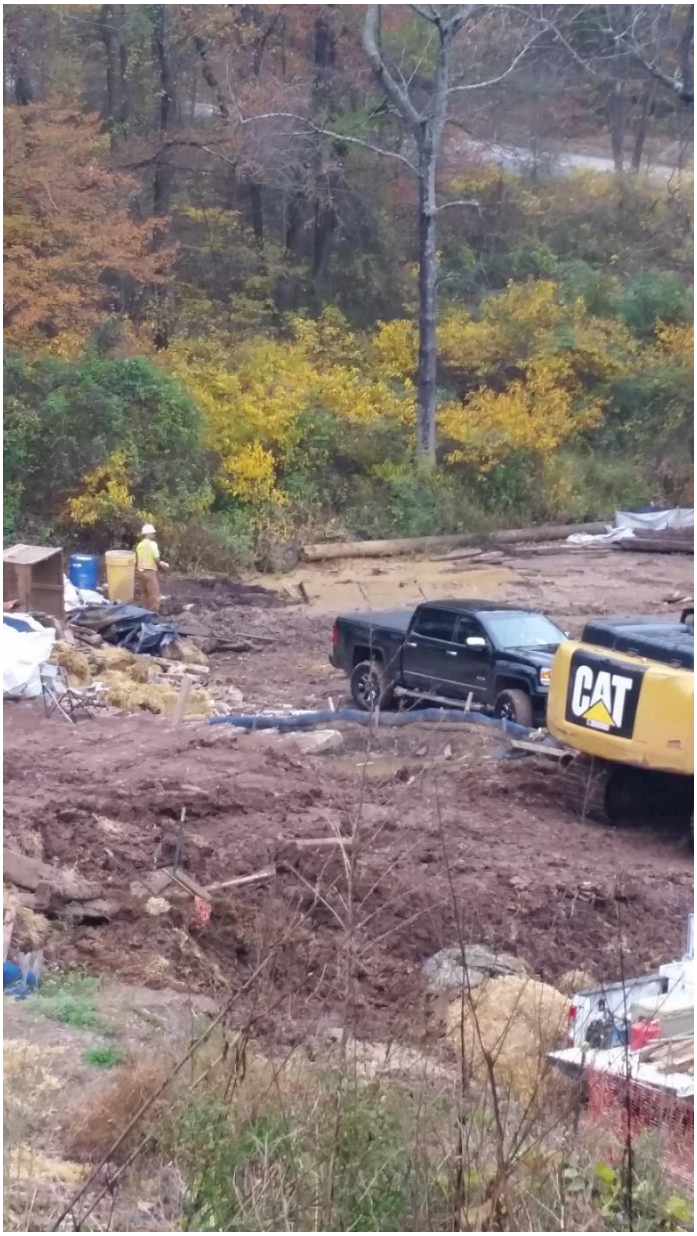
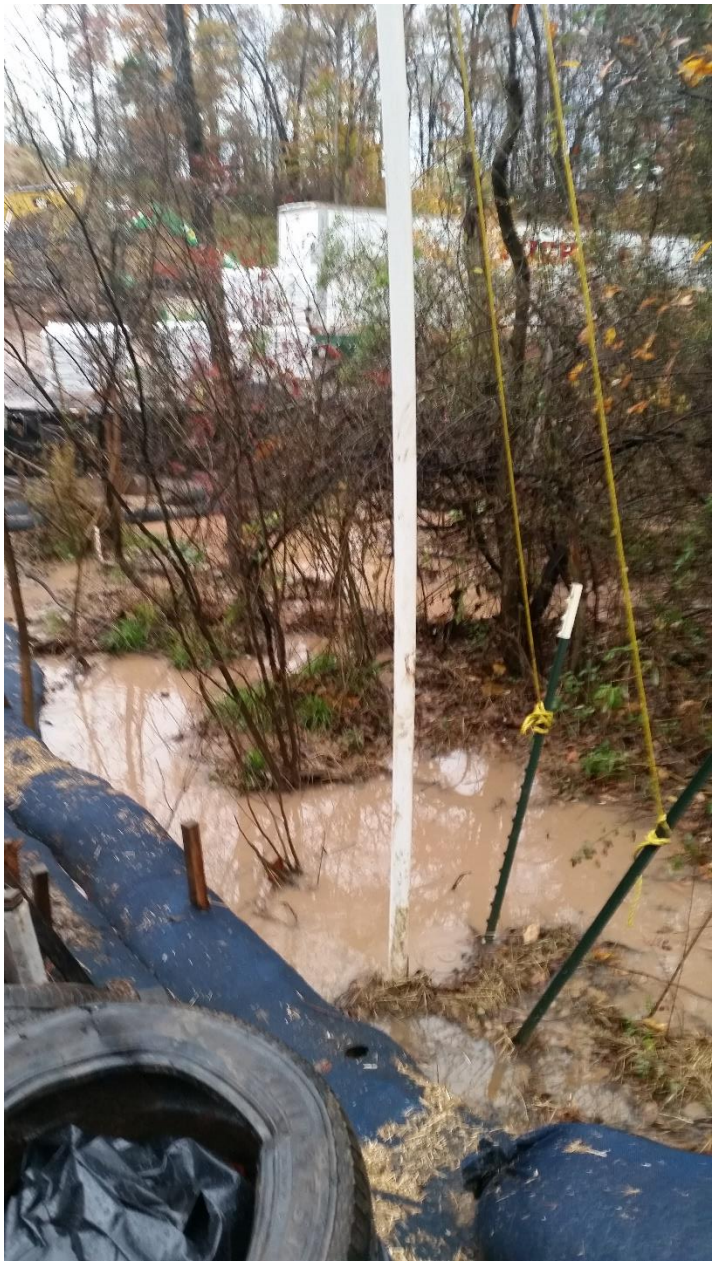



CAT

November 6, 2018 Drill team #3, Michael's, mobilized to the site and afterwards the drill pit again washes out during storm event into unnamed tributary.



November 19, 2018 Pipe is pulled through, both containment areas are full flooded with drilling mud.


MICHELS
CAT


CAT

November 20, 2018 Timber mats removed revealing undermined top soils which landowner warned Land Agent about. Pull through pipe shows extensive damages to coatings. Ground water continues to fill drilling pit, sand bag E&S structure is pushed into soils and presumed buried.

November 24-24, 2018 Additional removal of timber mats is conducted revealing the extent of undermined soils. Drill pit extends nearly to the road, vac truck runs continually to keep pit dry for welding.

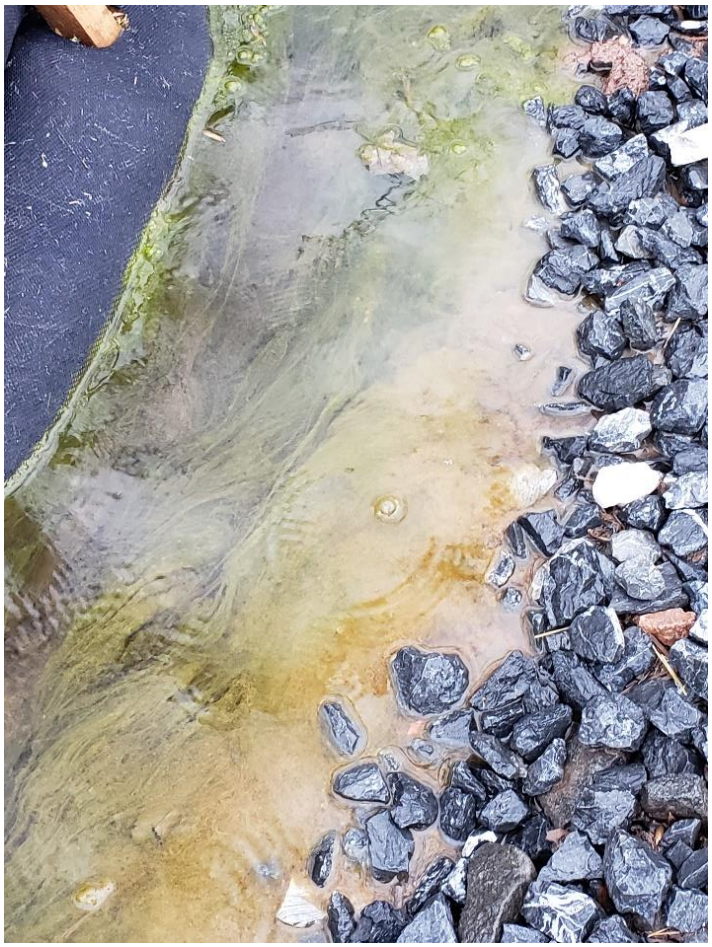
November 28, 2018 The pipe is buried. Michael's demobilizes all equipment stabilizes site to company standards and leave the area.

January 21, 2019 2 months after drilling has been completed and upon having the water buffalo freeze under severe cold weather, Landowner attempted to test home water supply. The water supply was turbid and sediment filled for more than an hour at take-off from pressure tank prior to water buffalo connection point.

February 10, 2019 Landowner observes continued pooling of water as well as formation of algae bloom in the area of the drill pipe entrance. A heavy presence of Oil and grease as well as the previously mentioned orange billowy fluff is observed. The origin of the flow is determined to be under the remaining timber mats covering ME2X. Heavy water flow from under the mats has created a new wetlands on adjacent property off LOD.

February 13, 2019 Upon investigating trespassing four wheeler ATV's on landowners property the continuation of flow is noted. The flow is not freezing indicating a consistent flow at a volume to prevent freezing even in pooled areas.

February 24, 2019 Landowner continues to observe heavy flow and documents. Flow is showing signs of turbid cloudy nature in all streams. Flow without full capture by bucket and stop watch method is determined to be in excess of 14.5 gpm or 21,000 gpd.



All photographs are taken on site and are date and time stamped in the original file. Their purpose is to serve as the visual witness to the events as they occurred. They are not all inclusive as the landowner was not present on site constantly and are only a small portion of not only what was possible to occur but also a small amount of the vast library of documentation the landowner has of the site. The events documented in this time line comprise 6 additional known events of erosion and sediment control failures which resulted drilling mud and/or sedimentation to discharge to a water way of the commonwealth of Pennsylvania. Either scenario of discharge constitutes at a minimum a violation of the Clean Streams Law.

Thus far in the process the landowner has experienced interactions with 6 different land agents and 3 different drill teams. Extensive property damage has occurred outside the limit of disturbance the greatest of which is the puncture of the aquifer, very common in this drilling procedure, creating a new wetlands and stream rendering this portion of the property permanently unusable and unpassable. Soils that were contaminated with drilling mud were removed from the location via excavation and vac truck altering the terrain and remain unaddressed, even with landowner requests. Furthermore, in addressing the evaluation report, there is a significant concern that the remodeling of the HDD alignment did very little to take any consideration for the potential of continued damages on the landowners property. The increased angle of entry will have a higher negative impact on the geology and higher consequences on the aquifer below.

By the reports own admission on Page #5, “no water table mapping was available for review or inclusion in the HDD re-evaluation report” and additionally stated “No groundwater modeling was performed for the area surrounding HDD S3-0250”. This is in direct contradiction to correspondence between Sunoco and PADEP representative Andrea Blosser during the investigation of the Landowners complaint of well water contamination. Sunoco reference they have conducted an analysis and PADEP releases Sunoco from Special Condition 20B of Permit E06-701, regarding water supply contamination, based upon this analysis. The analysis again calls out the confluence of various soil patterns in the area and the extremely high potential of Inadvertent Return (IR) as a result of the geology present. This can also be translated into a high probability of impact to well water in the region.

I again call for significant hydrogeological testing to be conducted on the entire length of this HDD up to and including the impacts of any well within 450 feet of the HDD alignment. The presence of wells, emergent wetlands, forested wetlands, and the crossing of various streams places a significant amount of the areas water supply in a direct impact zone of construction. It would be ill advised not to perform testing to determine the impacts, given that IRs have already occurred on this project.

Addressing the timeline present by Sunoco, there seems to be a math error or an omission of information. Without regard to the East/West side drilling events the loss of underground equipment is summarized in the following chart:

Date	Equipment Lost / Recovered	Total Count
May 18	2 missing roller cones	2
June 2	2 missing roller cones	4
June 26	1 cone recovered	3
August 7	Retrieval basket lost	3 cones 1 basket
August 17	Retrieval basket lost	3 cones 2 baskets
October 28	5 cones missing	8 cones 2 baskets
November 7	Report states 12 missing cones??	11 cones recovered

Also, by review of the analysis, the drilling team drills multiple paths in attempts to advance the drill through the geology creating multiple different underground paths, similar to an ant farm. The description states that the drill team pushes abandoned equipment into these tunnels and then grouts them. This also accounts for the elevation change in the As-Built drawings provided for ME2X. This type of drilling activity could ultimately be the cause of the subsidence

features occurring and subsequently resulting in an IR and the discharge of 30,000 gallons of drilling fluid in to a wetland.

The flow analysis of the puncture aquifer was calculated via watch and bucket method, an industry accepted standard for production. The two streams yielded a production of Flow #1, 5 gallons in 26.52 seconds and Flow #2, .5 gallons on 9.48 seconds without having full capture of the streams, calculated combined to be 14.47 gallon per minute. These yield a calculated volume of Flow #1 16,290 gallons per day and Flow #2 4,557 gallons per day or an annual total of 7,609,155 gallons. Undoubtedly, this will have a significant impact on the landowner's aquifer, well water supply and yield, potentially resulting in a dry well condition and loss of use. It should be noted that this flow is presumed to originate as the drill passed through the aquifer and therefore is now the location of the Mariner East 2X pipe. There is an active pipeline flowing inside this aquifer puncture, a failure of the pipe in this location would yield an immediate contamination event in a local waterway and directly impact downstream users.

Throughout the process thus far, Sunoco has been at best, a bad neighbor. The above photo documentation repeatedly highlights their inability to perform the task correctly, their blatant disregard for landowners and the environment, as well as a lack of communication with regulatory bodies. Their consistent omission of events further exemplifies a dire need for tighter restrictions and strict observation by the regulatory bodies, PADEP, PUC, EPA, and DRBC, whom are tasked with the preservation of our environmental treasures.

Thank you,

David Anspach