pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0086291**
Facility Type	**Industrial**	APS ID	**326395**
Major / Minor	**Minor**	Authorization ID	**1394946**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**Texas Eastern Transmission LP (TETLP)**	Facility Name	**Texas Eastern Transmission LP (TETLP) – Perulack Compressor Station**
Applicant Address	PO Box 1642 Houston, TX 77251-1642	Facility Address	Perulack Compressor Station 3318 Pumping Station Road East Waterford, PA 17021-7187
Applicant Contact	Niti Tottempudi	Facility Contact	Ian Ivy
Applicant Phone	(713) 627-5967	Facility Phone	(713) 627-6445
Client ID	82786	Site ID	442911
SIC Code	4922	Municipality	Lack Township
SIC Description	Trans. & Utilities - Natural Gas Transmission	County	Juniata
Date Application Received	May 3, 2022	EPA Waived?	Yes
Date Application Accepted	May 12, 2022	If No, Reason	
Purpose of Application	NPDES Renewal for discharges from a Groundwater Treatment System (GWTS) / Groundwater Remediation System (GRS)		

Summary of Review

This is a renewal application of NPDES Permit No PA0086291 for the Texas Eastern Transmission, LP (Texas Eastern) Perulack Compressor Station for the discharge of treated groundwater from a groundwater treatment system (GWTS).

Compressor engine lubricating oils containing PCBs were disposed of in two former pits within the drainage area of Stream B and upstream of Seep 02. Both of these former pits were remediated in 1991 as part of the USEPA Consent Decree program and Consent Order and Adjudication (CO&A) between Texas Eastern and PADEP.

As part of the CO&A requirements, a stream capture system and associated GWTS (aka Wastewater Treatment system – WWTS) were installed in the 1990's to intercept and treat PCB impacted groundwater. The GWTS discharges at Outfall 001.

Groundwater treatment will continue until pertinent stipulations of the 1991 consent order are fulfilled. On November 21, 2014 **(Attachment A),** the PADEP Environmental Cleanup and Brownfields (ECB) Program approved the request to terminate the Long-Term Groundwater Monitoring Program (LTGMP) at Perulack, leaving only the NPDES permit requirements in force.

The original NPDES Permit application was submitted in 1994. NPDES Permit No. PA0086291 was first issued on November 29, 1995 and has been renewed every 5 years since that date (in 2000, 2005, 2010, 2015, and now in 2024).

PCB-contaminated groundwater is collected at Seep 02 and gravity drained to the collection sump, from there it is pumped through a granulated activated carbon treatment system prior to being discharged at Outfall 001. Outfall 001 discharges to Stream B (downstream of the collection system), which is a dry swale on site that flows to an unnamed tributary to Lick Run.

Approve	Deny	Signatures	Date
x		Brenda J. Fruchtl, P.G. / Licensed Professional Geologist	June 25, 2024
x		*Scott M Arwood* Scott M. Arwood, P.E. / Environmental Engineer Manager	07/02/2024

Summary of Review

The Seep 02 collection and conveyance systems, treatment system, Outfall 001, and Stream B are all located in a ravine. The Outfall location being nearby the other treatment features is due to access and constructability.

During the 2nd half of 2023, the wastewater treatment system (WWTS) (aka Groundwater Treatment System - GWTS) was improved while keeping the treatment technology the same and maintaining a treatment capacity (design flow) of 0.144 MGD. Details of these improvements can be found in the February 15, 2024 Construction Completion Report **(Attachment B).**

Figure 1. **Topographic Map.** This figure shows the location of the site, Outfall 001, wastewater Treatment Building, facility boundary, and streams on a topographic map. (Source: Figure 1 from the 4/28/2022 renewal application)

Figure 2. **Water Balance – Line Diagram.** (Source: Figure 2 from the May 28, 2024 Response to Technical Review Questions)

Figure 3. Site Layout. This figure shows details of the overall site along with an inset showing details of the collection and conveyance system. (Source: Figure 1 from the May 28, 2024 Response to Technical Review Questions)

Figure 4. **Water Treatment System Configuration.** This figure shows details of the treatment process and location of the sample valves. (Source: Figure 2 received 6/25/2024 via email)

Timeline of application

Currently, the facility is covered under NPDES Permit No PA0086291, which expired on October 31, 2022.

May 3, 2022 - The renewal application was received, which was considered timely; therefore, according to PA Code Title 25 §92a.7 (b), the terms and conditions of the expiring permit are automatically continued until a renewal can be issued.

May 12, 2022 – Application was accepted as complete.

May 6, 2024 - PADEP sent a Technical Deficiency (TD) email including the following questions / requests: inquiry if there had been any changes since the application was received on 5/3/2022; request for a table summarizing the quarterly influent and effluent data for the GWTS that discharges to Outfall 001 since the application was submitted April 28, 2022; questions about Outfall 001 coordinates; questions about the 1991 CO&A for the site; general questions about the treatment system including source of the contaminated groundwater and discharge location; and asked about the exceedances during the 1st quarter 2023. **(Attachment C)**

May 28, 2024 – PADEP received an email with a response to Technical Review Questions document to the 5/6/2024 TD email **(Attachment D)**

June 4, 2024 – Upon review of the 5/28/2024 responses, PADEP sent an email with more questions regarding the exact location of Outfall 001 and request for further clarification on some of the 5/28/24 responses. I included a PDF of a screenshot from Google Earth Pro that I marked up to facilitate my questions. I requested a site visit to help visualize the treatment system and path of contaminated groundwater from its source to the point of discharge. **(Attachment E)**

June 4, 2024 – PADEP received an email response from Enbridge to the questions which included updated Outfall 001 coordinates along with plans to schedule a site visit to help facilitate my understanding of the system. **(Attachment F)**

June 11, 2024 – PADEP conducted a site visit. I requested an updated Figure 2 Water Treatment System Configuration (found in the February 15, 2024 Construction Completion Report) that included labels for the sample valves (SV1 and SV6).

June 25, 2024 – PADEP received an email from Enbridge with a revised Figure 2 Water Treatment System Configuration, with all valves labelled, and SV1 and SV6 highlighted to help identify them an email from Enbridge. **See Figure 4**.

Summary of Review

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.144
Latitude	40º 21' 11.589"	Longitude	-77º 39' 17.0355"
Wastewater Description:	Groundwater Cleanup Discharge		
Receiving Waters	Unnamed Tributary to Lick Run (CWF, MF)	Stream Code	12120
NHD Com ID	66209937	RMI	0.33*
Drainage Area*	0.11 sq. mi.	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)*	0.000272	Q_{7-10} Basis	StreamStats* (at point where Stream B enters UNT to Lick Run)
Elevation (ft)		Slope (ft/ft)	
Watershed No.	12-B	Chapter 93 Class.	CWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Newport Borough Water Authority		
PWS Waters	Juniata River	Location	Newport Borough, Perry County
PWS RMI	12.7	Distance from Outfall (mi)	52

*USGS StreamStats Version 4.20.1: Pennsylvania

Changes Since Last Permit Issuance:

- Coordinates for Outfall 001 were revised per June 4, 2024 response email (previous coordinates incorrectly placed the outfall among the compressor station buildings).
- Note: improvements to the treatment system in late 2023 did not affect Outfall 001

Other Comments:

- Effluent samples are collected at the end of the treatment system at sample valve SV6 prior to discharge at Outfall 001. SV6 is shown in **Figure 4 Water Treatment System Configuration**.
- Outfall 001 is the location where the effluent enters Stream B (dry swale) which is located approximately 240 feet northwest of Trib 012120 to Lick Run (receiving water).
- *Stream B (dry swale) enters Trib 12120 to Lick Run at RMI 0.33

See **Figure 1** and **Figure 3** for location of Outfall 001 and stream locations

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	Point of First Use (POFU)	Design Flow (MGD)	---
Latitude	40º 21' 9.34"	Longitude	-77º 38' 53.68"
Wastewater Description:	Groundwater Cleanup Discharge		
Receiving Waters	Lick Run	Stream Code	12119
NHD Com ID	66209967	RMI	0.72
Drainage Area*	9.19 sq. mi.	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)*	0.31	Q_{7-10} Basis	StreamStats* (at point where UNT to Lick Run enters Lick Run)
Elevation (ft)		Slope (ft/ft)	
Watershed No.	12-B	Chapter 93 Class.	CWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Newport Borough Water Authority		
PWS Waters	Juniata River	Location	Newport Borough, Perry County
PWS RMI	12.7	Distance from Outfall (mi)	52

*USGS StreamStats Version 4.20.1; Pennsylvania

Other Comments:

- The TMS utilized the information from the POFU.
- The POFU is approximately 0.4 miles downstream from Outfall 001.

Treatment Facility Summary

Treatment Facility Name: Texas Eastern Transmission LP (TETLP) Perulack Wastewater Treatment System (WWTS) Also referred to as the Groundwater Treatment System (GWTS) and Groundwater Remediation System (GRS)

The Groundwater treatment system (GWTS) at the TETLP Perulack Compressor Station was originally installed in 1994 and has been modified several times in the 1990s and early 2000s.

The GWTS is not covered under a WQM Permit since the design was part of the 1991 COA.

The final solution to treating contaminated Seep 02 flow, as approved by PADEP in 2001, consisted of: Construction of a capture wall across Stream B; intercepting Seep 02 flow and water moving along the bedrock / soil interface through a french drain system; construction of a "treatment unit" adjacent to the capture wall; construction of a surface water diversion berm *to divert* stormwater away from Stream B, and restabilize the Stream B channel with vegetative cover. A diversion berm/swale was constructed on the south side of Stream B valley to divert surface water from entering the collection system.

The current (2023) modifications detailed in the February 15, 2024 Construction Completion Report (**Attachment B**) improved the efficiency and reliability of the polychlorinated biphenyl (PCB) contaminated water treatment system.

The collection system is designed to collect the PCB-contaminated groundwater (Seep 02) and gravity drain it to a collection sump. The collection system consists of a capture wall intercepting the Stream B valley at the location of Seep 02 with a french drain system on the upstream side of the capture wall that is connected to a collection sump through a 6-inch diameter PVC pipe. This pipe conveys, by gravity flow, the collected water northwards to the collection sump.

The collection sump has two submersible pumps each pumping to a separate treatment bank (Bank A and Bank B) located in the treatment building. Each bank has the capacity of treating water at a flow rate of 50 gpm. When groundwater flow is less than 50 gpm, the banks alternate. When flow exceeds 50 gpm into the acceleration pump, both banks treat water at a maximum rate of 100 gpm.

Each treatment bank consists of a prefilter (bag filters), two carbon vessels in series, and a particulate post-filter (bag filter). Effluent piping from the post-filters in both banks are then combined and flow through an 8-inch diameter PVC pipe to Outfall 001 at a drainage ditch south of the treatment building.

*See **Figure 2** Water Balance – Line Diagram, **Figure 4** Water Treatment System Configuration, and **Attachment B** for more details of the GWTS.*

Design flow for the GWTS is 0.144 MGD according to Figure 2. Water Balance – Line diagram included in the 5/28/2024 Technical Review Questions response document. (*Note: this is unchanged from the Design Flow of 0.144 MGD listed in the 4/28/2022 NPDES Permit application).*

Average flow during production / operation is 0.008 MGD according to Figure 2. Water Balance – Line diagram included in the 5/28/2024 Technical Review Questions response document. (*Note: this differs from the average flow of 0.0061 MGD listed in the 4/28/2022 NPDES Permit application).*

The Maximum flow during production / operation is listed as 0.118 MGD according to Figure 2. Water Balance – Line diagram included in the 5/28/2024 Technical Review Questions response document. (*Note: this differs from the maximum flow of 0.097 MGD listed in the 4/28/2022 NPDES Permit application).*

Changes Since Last Permit Issuance: In Late 2023, the Wastewater Treatment System (WWTS) was improved while keeping the treatment technology the same. The treatment capacity was maintained at 144,000 gallons per day (gpd), equivalent to 100 gallons per minute (gpm). The scope of the project included replacing the conveyance, sump, pumps, treatment vessels, etc., with newer and more reliable components. The most notable improvement is the installation of larger carbon vessels, with the same size and type of carbon, allowing for less frequent carbon replacement. Additionally, more reliable submersible pumps replaced the older end-suction style above ground pumps. The existing groundwater collection system was not modified as part of the treatment system upgrade.

Compliance History	
Summary of DMRs: October 2017 to May 2024	Flow. Continuous Measured (period 4th Quarter 2017 through 1st Quarter 2024) • Max Flow ranged from 0.0077 MGD (3rd Qtr 2020) to 0.1183 MGD (1st Quarter 2024) • Average Monthly ranged from 0.0003 MGD (3rd Qtr 2020) to 0.0160 MGD (4th Qtr 2018) PCBs. Limits: • **Daily Max Limit = 0.00166 ug/L (QL = 0.5 ug/L).** ○ **Daily Max was exceeded the 1st Quarter 2023 at 1.65 ug/L** ○ All other quarters were reported as <0.5 ug/L (Note: Daily Max was reported as FF for the 4th Qtr 2017; 1st Qtr 2018; and 2nd Qtr 2018 without any comment) • **Average (monthly) Quarterly Limit = 0.000831 ug/L (QL = 0.5 ug/L).** ○ **Average Quarterly was exceeded the 1st Quarter 2023 at 0.90 ug/L.** ○ All other quarters were reported as <0.5 ug/L (Note: Average Monthly was reported as FF for the 4th Qtr 2017; 1st Qtr 2018; and 2nd Qtr 2018 without any comment) • **IMAX Limit = 0.00208 ug/L (QL = 0.5 ug/L).** ○ IMAX was only reported for 3rd Quarter 2017 through 1st Quarter 2019. pH. Limits: 6.0 and 9.0 S.U. • pH has ranged from 6.9 to 8.48 S.U.
Non-Compliance Notification letters received from the permittee:	March 13, 2023 Non-Compliance Notification letter regarding the exceedance of PCB limits during March 2023 (1st Quarter 2023) sampling. The exceedance was attributed to discharge piping integrity. The Outfall was replaced immediately afterwards. May 5, 2023 and July 27, 2023 Non-Compliance Notification letters regarding sump overflows. The overflow discussed in the May 5 letter was attributed to pump failure. Finally, the overflow detailed in the July 27 letter was attributed to an electrical failure during a rain event. The root cause of all the exceedances were addressed in the 2023 system upgrades.
Summary of Inspections:	DEP conducted a site inspection on 09/15/2021. No violations were noted.
Summary of Violations:	• There have been no Clean Water Program violations related to this NPDES Permit No PA0086291 since the last renewal. • There are multiple open violations for Client 82786 Texas Eastern Trans LP, including one for this facility (different NPDES Permit No) ○ NPDES Permit No PAG103585. TETLP Perulack. Violation Date 5/1/2024. NPDES - Failure by an applicant or permittee to submit the required application or NOI fee. This open violation is being addressed currently.

Influent and Effluent Data

Total PCBs are sampled quarterly in the influent (untreated, SV1) and effluent (treated, SV3 (SV6 with the 2023 modifications)) to the remedial system. SV1 and SV6 are shown in **Figure 4 Water Treatment System Configuration** (received 6/25/24 via email).

A summary of Outfall Flow Data from the 1st quarter 2017 through the 1st quarter 2024 for the Perulack Compressor Station can be found in **Table 1** of **Attachment D** (5/28/2024 Response to Technical Review Questions)

A summary of the influent and effluent quarterly sampling results from April 2017 to April 2024 for the Perulack Compressor Station can be found in **Table 2** of **Attachment D** (5/28/2024 Response to Technical Review Questions)

Summary of quarterly influent data for Total PCBs between April 2017 and April 2024, out of 27 total samples:

- The maximum Total PCBs was 2.55 ug/L, taken on 8/19/2021.
- The minimum Total PCBs was <0.5 ug/L, taken on multiple occasions.
- The Average of Total PCBs was 1.06 ug/L

Development of Effluent Limitations

Outfall No.	001	**Design Flow (MGD)**	.144
Latitude	40º 21' 11.589"	**Longitude**	-77º 39' 17.0355"

Wastewater Description: Groundwater Cleanup Discharge

Chemical Additives. None reported

Development of Effluent Limitations
The treated groundwater is discharged at Outfall 001 to the dry Stream B drainage channel. The dry swale leads to Trib 12120 to Lick Run which is approximately 240 feet to the east southeast of Outfall 001. The POFU is 0.33 miles downstream of UNT to Lick Run at the confluence with Lick Run (at RMI 0.72)

Toxics Management Spreadsheet (TMS) Version 1.4 was used to develop the limits (**Attachment G**). See additional notes below:

Discharge Information Inputs:

Discharge Pollutant Max Discharge Conc: The maximum concentration of parameters listed on the Untreated Groundwater table in Module 2 of the application were entered into the TMS.

Design Flow (MGD) Inputs: The Proposed limits are based on the design flow of 0.144 MGD (as the design flow input in the model). A maximum flow of 0.097 MGD was reported on the 2022 renewal application. Table 1 Outfall Flow Data in the May 28, 2024 Response to Technical Review Questions indicated an updated maximum flow of 0.118 MGD based on flow data from 1Q2017 through 1Q2024. Due to the increase in maximum flow from the 2022 renewal application and the additional flow data received on 5/28/2024, it was decided to use the design flow of 0.144 MGD to take into account any future increases in maximum flow.

Stream / Surface Water Information Inputs:

The stream flow (Q_{7-10}) of 0.31 cfs used was calculated at the POFU (where the UNT of Lick Creek enters Lick Creek 0.4 miles downstream from Outfall 001) using USGS Pennsylvania StreamStats.
The point of discharge drainage area (DA) of 9.19 $mi^{2.}$ used was calculated at the POFU using USGS Pennsylvania StreamStats.

Results:

Dissolved Iron *was listed as Report under Recommended WQBELs since the input of <100 ug/L is greater than 10% WQBEL (no Reasonable Potential) since the QL for Dissolved Iron used in reporting on Module 2 was 0.1 mg/L and the reference QL for Total Iron is 20 ug/L (or 0.02 mg/L). It was decided not to include Dissolved Iron in the effluent limits as there is no reasonable potential and this appears to be an issue with analytical method used.* **It is recommended that they use an analytical method with a lower QL when running samples for Dissolved Iron in the future.**

Total Lead *had limits listed under Recommended WQBELs since the input of <10 ug/L (<0.01 mg/L) is greater than 50% WQBEL (Reasonable Potential) since the QL for Total Lead used in reporting on Module 2 was 0.01 mg/L and the reference QL for Total Lead is 1 ug/L (or 0.001 mg/L). It was decided not to include Total Lead in the effluent limits as there is no reasonable potential and this appears to be an issue with analytical method used.* **It is recommended that they use an analytical method with a lower QL when running samples for Total Lead in the future.**

Since this is a discharge to a dry stream (swale), the development of effluent limitations needs to consider the possible impact of the discharge to groundwater before reaching a flowing stream; therefore, the most stringent limits need to protect water quality (WQBEL) at the point of first use, protect groundwater quality to comply with drinking water standards (MCL), and meet any applicable technology based effluent limits (TBELs). The Table below compares the different limits:

Parameter	MCL	WQBEL (from TMS)	TBEL
Total PCBs	0.5 ug/L	0.0008 ug/L	NONE

Since the WQBEL is the most stringent at 0.0008 ug/L, this will be the average quarterly limit used in the permit. Daily max and instantaneous max limits can be calculated by using the standard IW multipliers (i.e. 2.0 & 2.5).

The slight change in the proposed limits from the 2017 NPDES Permit limits are largely a result of rounding.

It must also be noted that this limit is well below the method detection limit (MDL) of 0.5 ug/l for PCBs (using method 608); consequently, language in the permit must be included for limits below detection limits.

The recommended limits for the Proposed Draft NPDES Permit are taken from the Recommended WQBELs & Monitoring Requirements as follows:

	2017 NPDES Permit Limits Renewal			**Recommended NPDES Permit Limits Renewal**		
Parameter	*Ave Monthly*	*Max Daily*	*Inst. Maximum*	**Ave Quarterly***	**Max Daily**	**Inst. Maximum**
Flow (MGD)	*xxx*	*xxx*	*xxx*	xxx	xxx	xxx
Total PCBs (ug/L)	0.000831	0.00166	0.00208	**0.0008**	**0.001**	**0.002**

**changed limit from Average Monthly to Average Quarterly since the treatment system is only required to be sampled on a quarterly basis.*

Proposed PART C SPECIAL CONDITIONS

I. OTHER REQUIREMENTS

A. The approval herein given is specifically made contingent upon the permittee acquiring all necessary property rights by easement or otherwise, providing for the satisfactory construction, operation, maintenance or replacement of all structures associated with the herein approved discharge in, along, or across private property, with full rights of ingress, egress and regress.

B. Collected screenings, slurries, sludges, and other solids shall be handled, recycled and/or disposed of in compliance with the Solid Waste Management Act (35 P.S. §§ 6018.101 – 6018.1003), 25 Pa. Code Chapters 287, 288, 289, 291, 295, 297, and 299 (relating to requirements for landfilling, impoundments, land application, composting, processing, and storage of residual waste), Chapters 261a, 262a, 263a, and 270a (related to identification of hazardous waste, requirements for generators and transporters, and hazardous waste, requirements for generators and transporters, and hazardous waste permit programs), federal regulation 40 CFR Part 257, The Clean Streams Law, and the Federal Clean Water Act and its amendments. Screenings collected at intake structures shall be collected and managed and not be returned to the receiving waters.

The permittee is responsible to obtain or assure that contracted agents have all necessary permits and approvals for the handling, storage, transport and disposal of solid waste materials generated as a result of wastewater treatment.

C. The terms and conditions of Water Quality Management (WQM) permits that may have been issued to the permittee relating to discharge requirements are superseded by this NPDES permit unless otherwise stated herein.

D. If the applicable standard or effluent guideline limitation relating to the application for Best Available Technology (BAT) Economically Achievable or to Best Conventional Technology (BCT) is developed by DEP or EPA for this type of industry, and if such standard or limitation is more stringent than the corresponding limitations of this permit (or if it controls pollutants not covered by this permit), DEP may modify or revoke and reissue the permit to conform with that standard or limitation.

II. WQBELs BELOW QUANTITATION LIMITS

A. The parameter(s) listed below are subject to water quality-based effluent limits (WQBELs) in Part A of this permit that are necessary to comply with state water quality standards, but may be less than quantitation limits (QLs), as defined in 25 Pa. Code § 252.1, that are generally achievable by conventional analytical technology. The permittee shall analyze the parameter(s) using methods that will achieve the QL(s) as listed below. For the purpose of compliance, a statistical value reported on the DMR that is less than the QL(s) (i.e., "non-detect") will be considered to be in compliance.

Parameter Name	Quantitation Limit
Total PCBs	0.5 ug/L

B. The permittee shall, where determined to be feasible by the permittee, achieve a QL less than the QL identified above to improve the level of confidence that state water quality standards are being met in the receiving waters.

C. The permittee shall manage non-detect values and report statistical results to DEP in accordance with published DMR guidance (3800-BK-DEP3047). Where a mixed data set exists containing non-detect results and "detected" values (i.e., results greater than or equal to the QL), the QL shall be used for non-detect results to compute average statistical results.

III. GROUNDWATER CLEANUP*

A. Sludges and other solids shall be handled and disposed of in compliance with 25 Pa. Code, Chapters 262, 263, and 264 (related to permits and requirements for landfilling and storage of hazardous sludge) and applicable federal regulations, the Federal Clean Water Act, RCRA and their amendments. The permittee is responsible to obtain or assure that contracted agents have all necessary permits and approvals for the handling, storage, transport and disposal of solid waste materials generated as a result of wastewater treatment.

B. Annual Report – The permittee shall submit a complete Annual Report to the DEP office that issued the permit on the anniversary date of this permit using DEP's Annual Report template attached to this permit. The Annual Report shall address activities under the permit for the previous calendar year including groundwater quality data. If modification to the operation is proposed, details must be submitted along with the Annual Report. The permittee shall submit the Annual Report electronically if notified by DEP in writing. (25 Pa. Code § 92a.61(g)).

C. The cleanup operation shall continue until a minimum of one year's data of the untreated groundwater (samples taken at least quarterly) have documented a concentration that is protective of the environment. Written approval to terminate must be received from DEP's Clean Water Program prior to shut-down.

**Note: The Groundwater Cleanup section was not included in Part C of the PA0086291 2017 NPDES Permit. This language is being included to be consistent with other recently renewed NPDES Permits for discharges of treated groundwater including: TETLP Grantville NPDES Permit No PA0086282 renewed in 2022 and TETLP Shermans Dale NPDES Permit No PA0087769 renewed in 2021.*

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Quarterly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report Avg Qrtly	Report Daily Max	XXX	XXX	XXX	XXX	1/quarter	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/quarter	Grab
Total PCBs (ug/L)	XXX	XXX	XXX	0.0008	0.001	0.002	1/quarter	Grab

Compliance Sampling Location: at Outfall 001

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment **G**)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☐	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999.
☐	Design Stream Flows, 386-2000-003, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other:

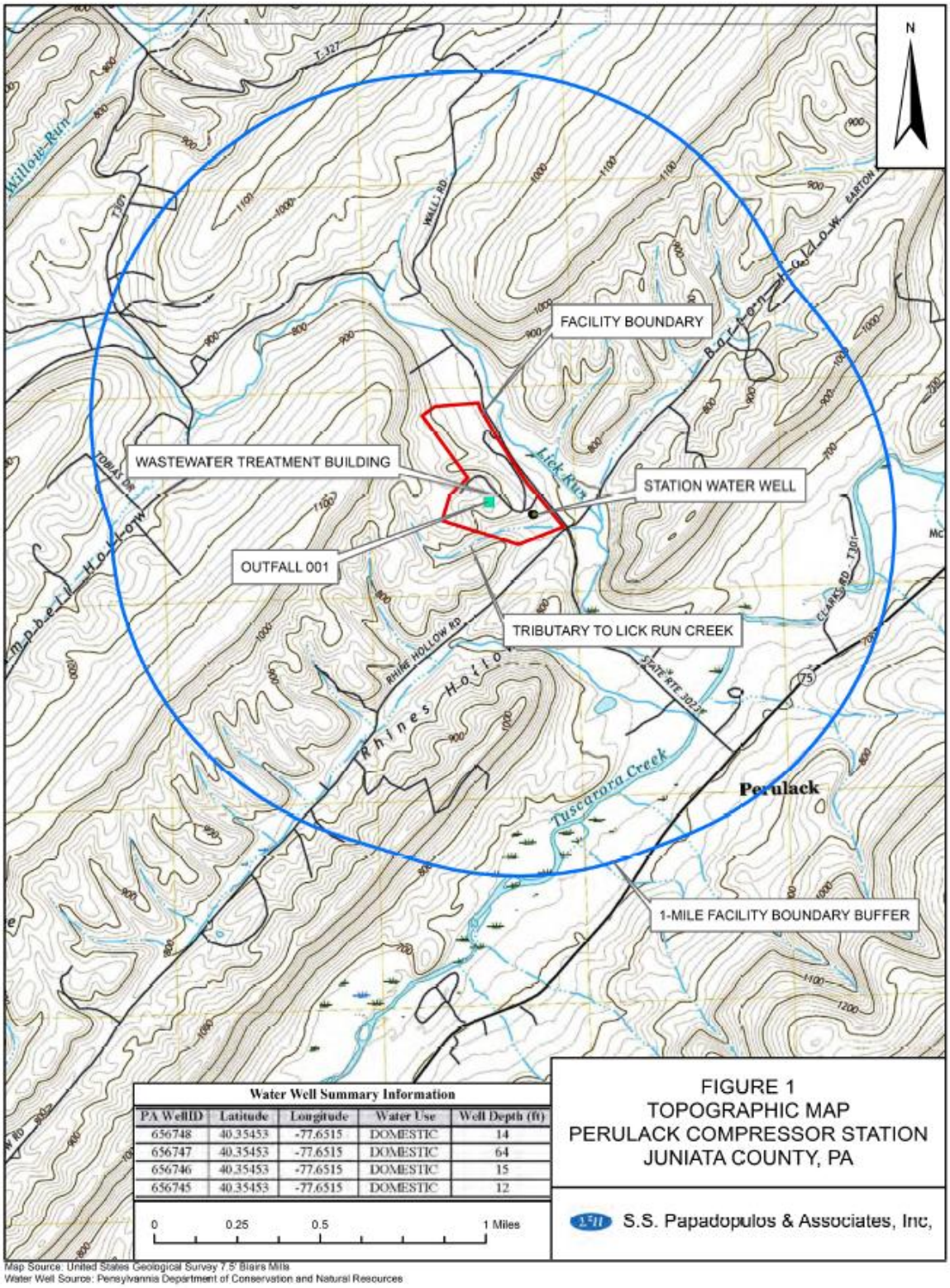

Figure 1. Topographic Map. Location of the site, Outfall 001,and nearby streams. (Source: Figure 1 from the 4/28/2022 renewal application)

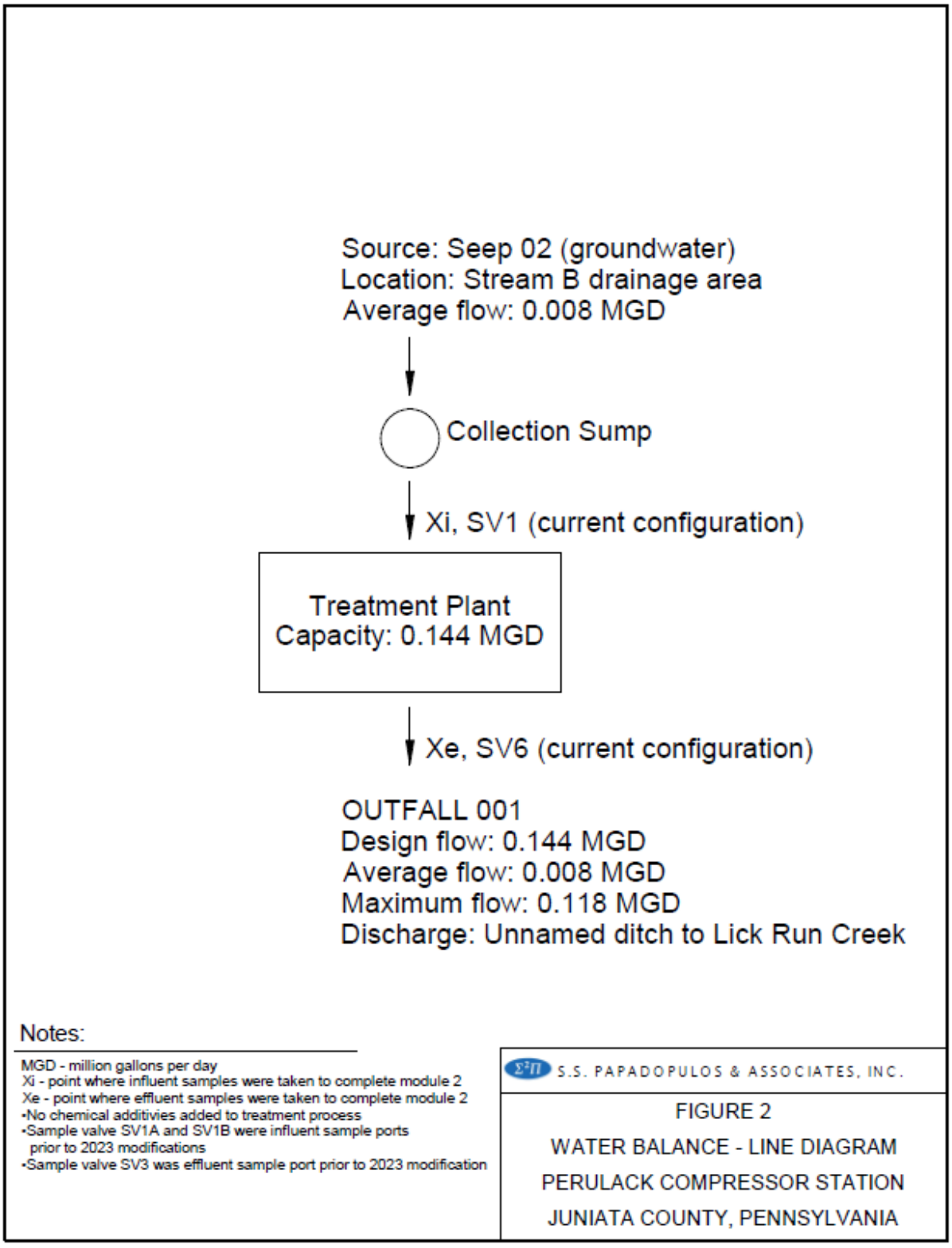

Figure 2. Water Balance – Line Diagram. (Source: Figure 2 from the 5/28/2024 Response to Technical Review Questions document received via email on 5/28/2024)

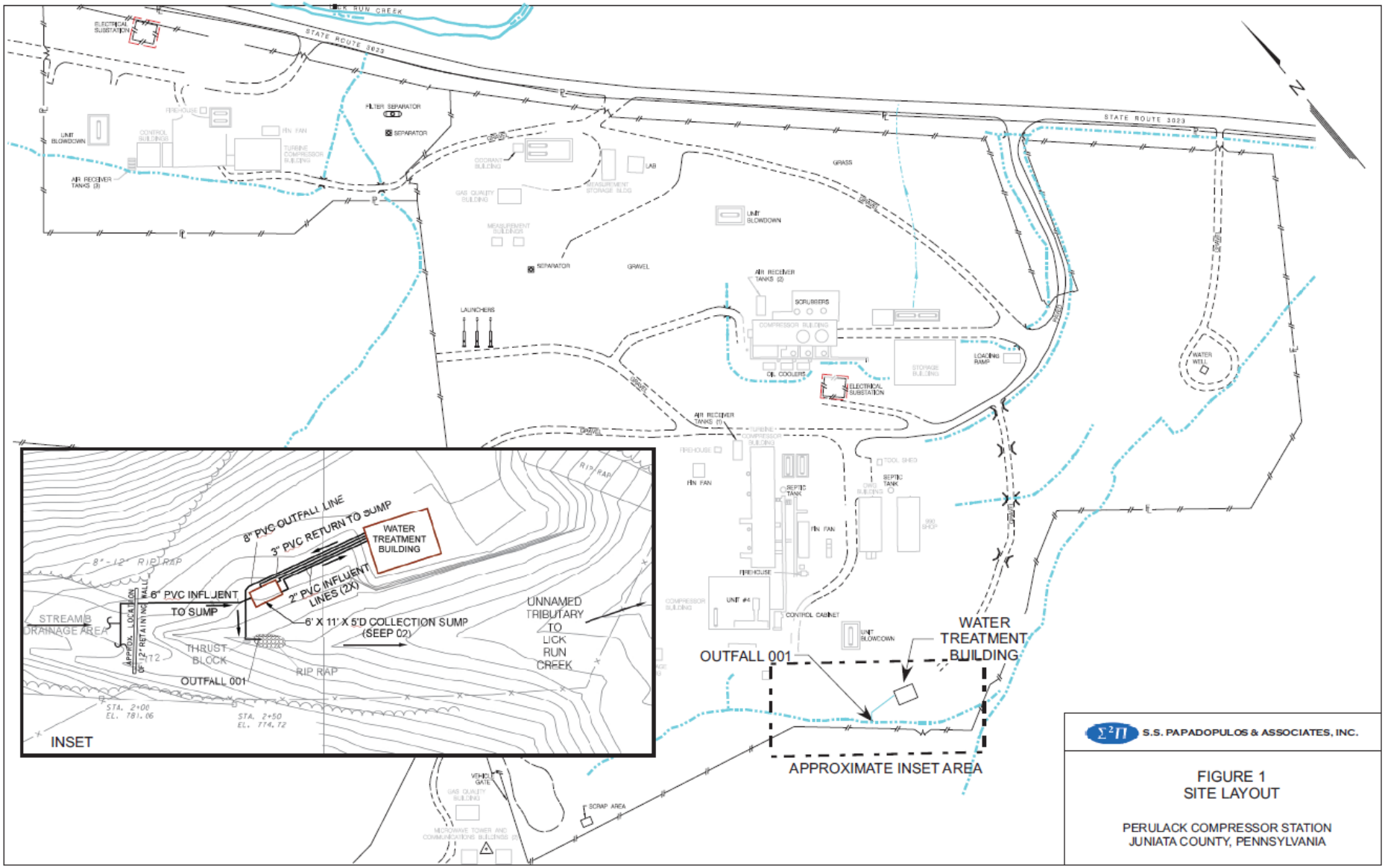

Figure 3. Site Layout. (Source: Figure 1 from the 5/28/2024 Response to Technical Review Questions document received via email on 5/28/2024)

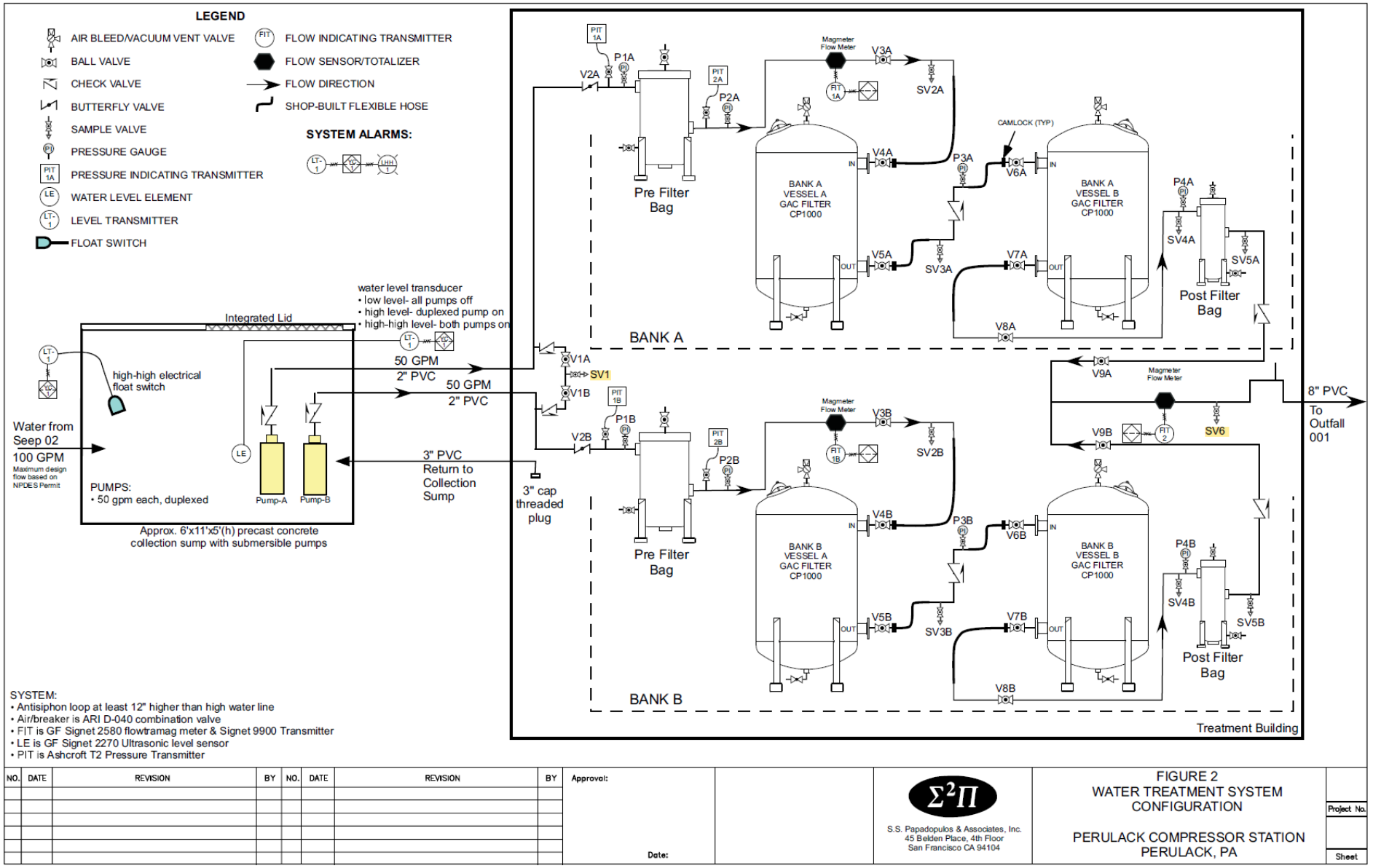

Figure 4. Water Treatment System Configuration. (Source: Figure 2 received via email on 6/25/2024)

ATTACHMENT A

November 21, 2014 Termination of Long-Term Groundwater Monitoring Program at Three Pennsylvania Compressor Station Sites

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL CLEANUP AND BROWNFIELDS PROGRAM

November 21, 2014

Ms. Niti Tottempudi
Spectra Energy
WO-4D64
P.O. Box 1642
Houston, TX 77251-1642

RECD NOV 3 0 2014

Re: Termination of Long-Term Groundwater Monitoring Program at Three Pennsylvania Compressor Station Sites
- Bernville, Berks County
- Perulack, Juniata County
- Shermans Dale, Perry County

Dear Ms. Tottempudi:

The Pennsylvania Department of Environmental Protection (department) has reviewed the September 2014 *Site Summary Reports* for the three referenced compression stations. The reports were prepared by S.S. Papadopulos & Associates, Inc. The department concurs that the requirements in Section VI.C of Appendix A of the June 29, 1991 Consent Order & Agreement have been fulfilled at the three stations; therefore, the department approves the request to terminate the long term groundwater monitoring program (LTGMP) at these stations and has signed the attached Termination Letter. Please date the Termination Letter upon receipt and pdf a copy to my attention for our files.

While the department agrees to termination of the LTGMP at the Bernville, Perulack and Shermans Dale compressor stations, this agreement in no way negates, modifies or terminates the requirements under the NPDES Permit PA0086291 (for the Perulack station) or under the NPDES Permit PA0087769 (for the Shermans Dale station).

Please contact me at 717.705.4866 or khorvath@pa.gov if you have any questions or would like to discuss this in more detail.

Sincerely,

Kathleen G. Horvath, P.G.
Land Recycling Chief
Environmental Cleanup & Brownfields Program

Enclosure: Signed Request for Termination of the LTGMP

cc: Jack Plitt, Spectra Energy Transmission, LLC
email: Walter Harner & Claudia Hacker, DEP

Southcentral Regional Office | 909 Elmerton Avenue | Harrisburg, PA 17110-8200
717.705.4705 | Fax 717.705.4830 Printed on Recycled Paper www.depweb.state.pa.us

Attachment A. Page 2 of 2.

REQUEST FOR TERMINATION OF THE

LONG-TERM GROUNDWATER MONITORING PROGRAM

AT TEXAS EASTERN'S BERNVILLE, PERULACK AND SHERMANS

DALE, PENNSYLVANIA COMPRESSOR STATIONS

Texas Eastern Transmission, LP requests the Pennsylvania Department of Environmental Protection to approve termination of the Long-Term Groundwater Monitoring Program (LTGMP) at the Bernville, Perulack and Shermans Dale, Pennsylvania compressor stations pursuant to Section VI.D of Appendix A of the Consent Order & Adjudication (CO&A), effective June 29, 1991 on the basis of the information contained in the 2014 Long-Term Groundwater Monitoring Data Report submitted on May 12, 2014 and the October 16, 2014 Site Summary Reports, pursuant to Section VI.C of Appendix A.

Please sign and return one copy of this letter if termination of the LTGMP at the above noted, Pennsylvania compressor station meets with your approval. If you should have any questions or comments, please contact Jack Plitt at (713) 627-5920.

Sincerely,

Victoria Wagner

Victoria Wagner
Texas Eastern Project Contact

Date 12/11/2014

AGREED:

Kathleen G. Horvath

Kathleen G. Horvath, P.G.
Land Recycling Chief
Environmental Cleanup & Brownfields
Pennsylvania Department of Environmental Protection
Southcentral Regional Office
909 Elmerton Ave.
Harrisburg, PA 17110

Date 11-21-2014

VW/jep

ATTACHMENT B

February 15, 2024 Construction Completion Report.

Enbridge
915 North Eldridge Parkway
Houston, Texas 77079

February 15, 2024

Brenda Fruchtl
Pennsylvania Department of Environmental Protection
Water Management Program Section
South Central Regional Office
909 Elmerton Ave.
Harrisburg, PA 17110

RE: CONSTRUCTION COMPLETION REPORT
NPDES PERMIT NO. PA0086291
TEXAS EASTERN TRANSMISSION, LP
PERULACK COMPRESSOR STATION
LACK TOWNSHIP, JUNIATA COUNTY, PENNSYLVANIA

Dear Ms. Fruchtl,

Texas Eastern Transmission, LP completed the construction of an improved water treatment system at the Perulack Compressor Station in November 2023. The water treatment system was improved as described to PADEP on June 12, 2023, and on February 15, 2024, in a phone call.

Thank you for your assistance throughout the permit process. If you have any questions or require additional information, please contact me at (713) 627-5967 or via email at Niti.Tottempudi@enbridge.com.

Sincerely,

Niti Tottempudi
Environment Remediation

Construction Completion Report

Texas Eastern Transmission, LP
Perulack Compressor Station
East Waterford, Pennsylvania

Prepared for:

Pennsylvania Department of Environmental Protection
South Central Regional Office
Clean Water Program
in reference to NPDES Permit PA0086291

Prepared by:

S.S. Papadopulos & Associates, Inc.
on behalf of
Texas Eastern Transmission, LP

S.S. PAPADOPULOS & ASSOCIATES, INC.
Environmental & Water-Resource Consultants

February 15, 2024

3100 Arapahoe Ave., Suite 203, Boulder, Colorado 80303 • (303) 939-8880

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Waste Disposal Summary 2

List of Figures

Figure 1 Wastewater Collection System Layout
Figure 2 Wastewater Treatment System Configuration

Executive Summary

The wastewater treatment system (WWTS) at the Texas Eastern Transmission, LP (Texas Eastern) Perulack Compressor Station was originally installed in 1994 and has been modified several times in the 1990s and early 2000s. The current (2023) modifications improved the efficiency and reliability of the polychlorinated biphenyl (PCB) contaminated water treatment system. Historical PCB contamination and resulting agreements with the United States Environmental Protection Agency (USEPA) and Pennsylvania Department of Environmental Protection (PADEP) require that the PCB contaminated water is collected and treated. Additional information regarding the Consent Order and Adjudication (CO&A) between PADEP and Texas Eastern can be found in other documents.

As described to PADEP on June 12, 2023 during a group phone call the Water Treatment System was improved while keeping the treatment technology the same. The treatment capacity was maintained at 144,000 gallons per day (gpd), equivalent to 100 gallons per minute (gpm). The scope of the project included replacing the conveyance, sump, pumps, treatment vessels, etc., with newer and more reliable components. The most notable improvement is the installation of larger carbon vessels, with the same size and type of carbon, allowing for less frequent carbon replacement. Additionally, more reliable submersible pumps replaced the older end-suction style above ground pumps. The existing groundwater collection system was not modified as part of the treatment system upgrade.

Onsite activities began in July 2023 and concluded in November 2023. SSP&A designed and oversaw the implementation of the project. Subcontracted efforts included subsurface utility surveying, hydro-vacuuming, fabrication of the carbon treatment vessels and other treatment system components, and the installation of the system.

Section 1
Water Treatment System Description

The treatment system consists of a new pre-cast concrete collection sump with two submersible pumps each pumping to a separate treatment bank (Bank A and Bank B). This sump replaced a 36-inch diameter steel sump, which was removed. Each treatment bank consists of a prefilter (bag filters), two carbon vessels in series, and a particulate post-filter (bag filter). Effluent piping from the post-filters in both banks are then combined and flow to Outfall 001 at a drainage ditch south of the WWTS building. Flow through each set of carbon vessels is controlled by a flow control valve and measured by a flow meter. Pressure gauges before and after each of the filter vessels monitor the system pressure. System flow rates and accumulated flow total volumes for Bank A, Bank B, and Total Outfall Flow are indicated on a set of three flow meters mounted on the control panel. A fourth meter indicates the current water level in the collection sump.

Pumps

Two Liberty FL204M-2 submersible pumps capable of pumping a minimum of 50 gallons per minute (gpm) to the treatment building uphill of the sump as well as through the system (piping, pre-filter, set of two carbon filters in series, and post-filter). The duplexed pumps are activated at the normal and high flow water levels by an ultrasonic sensor mounted in the collection sump. During normal duplex system operation, one bank initially turns on and pumps down the sump and shuts off, and then when the sump next fills, the second pump operates, and so on. During high-flow system operation one bank initially turns on, and, when the flow into the sump is greater than one pump can achieve and the sump continues to fill, the second pump turns on and the two pumps together pump the sump down. The system operates at 50 gpm (normal flow, one pump) or 100 gpm (high flow, both pumps). The ultrasonic sensor is set with three setpoints corresponding to all pumps off, alternating pump on, and both pumps on. The flow rate through each bank is managed using manual valves and the flowmeters to consistently maintain approximately 50 gpm per train.

Bag-Type Particulate Pre-Filters

The former cartridge-style pre-filters were replaced with bag-style pre-filters for management of solids and protection of the new carbon vessels. Each bank has a bag-type pre-filter, and each pre-filter housing contains five, 5-micron bag filters. Pressure gauges before and after the filter indicate when significant amounts of sediment and particulate matter have accumulated, and the bags need to be changed. Filter maintenance and operating capabilities are outlined in the O&M Manual maintained at the site.

Carbon Adsorption Vessels

After the pre-filters, the water from each train flows through a set of two carbon filters in series. The activated carbon in each will remove PCBs suspended or dissolved in the water. Two carbon filters are placed in series so that should the first one become exhausted, the second one

will continue to absorb PCBs for a short period of time until the lead carbon can be changed out. This is monitored by periodic sampling between the two filters.

Four new TIGG CP-1000 carbon treatment vessels were installed, replacing the previous low pressure, eight-carbon vessel system. The carbon filters are 4 feet in diameter and have a maximum pressure rating of 75 psi. Each vessel is loaded with 1,500 pounds of carbon. Under normal conditions the vessels will operate between 20 and 30 psi and at 50 gpm. The carbon vessel sizing is based on site preference and technical reference documents. Assuming conservative parameters for empty bed contact time, superficial flow velocity and PCB loading rate, each bank is expected to last more than two years.

A valve and hose manifold between the two vessels will allow for switching the lead and lag vessel configuration after carbon changeout, so that the fresh carbon is set in the lag (secondary) position. Filter maintenance and operating capabilities are detailed in the O&M Manual.

Bag-Type Particulate Post-Filters

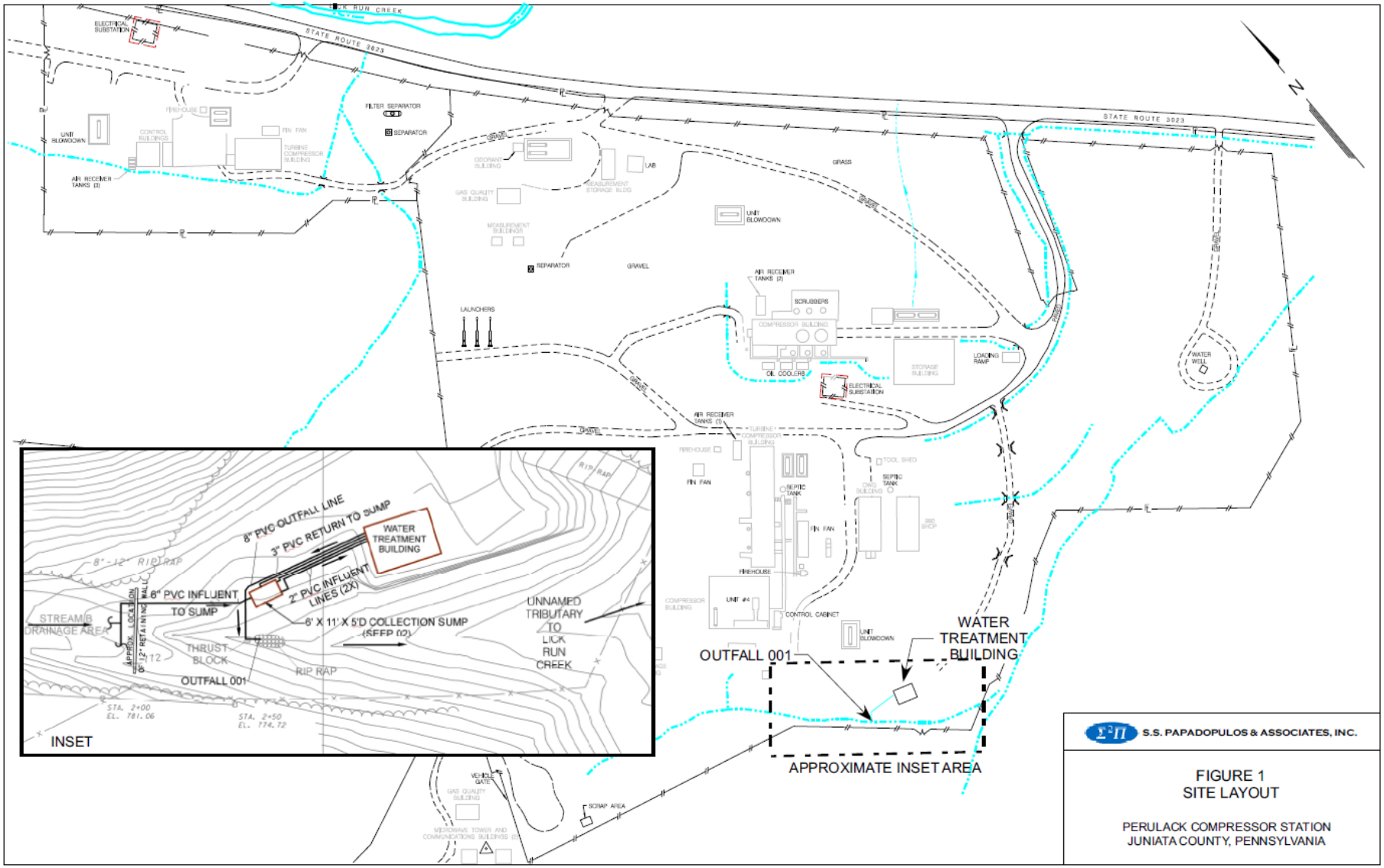
Each bank has a bag-type post-filter with one 1-micron filter. After the water in each bank is treated through the carbon, the effluent is routed to a post-filter where any loose carbon particles with PCBs attached can be filtered from the water. Pressure gauges before the bag filters indicate when the filters begin to fill. Each filter housing has a maximum pressure rating of 150 psi. Filter maintenance and operating capabilities are outlined in the O&M Manual.

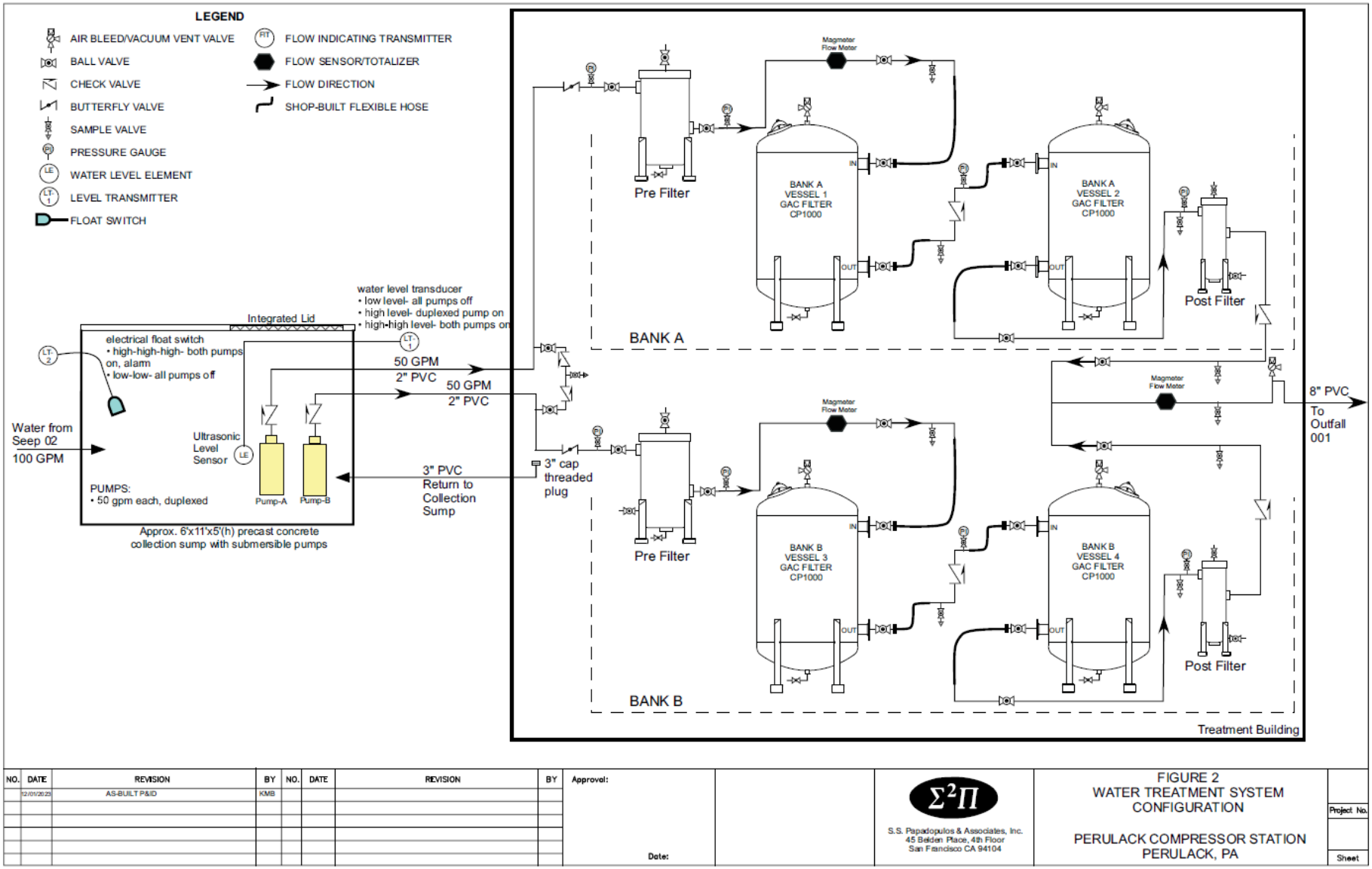
Discharge Piping to Outfall 001

After the post-filters, the treated water flow is combined and routed to a system flow totalizer and then through new piping from the treatment building to Outfall 001 (shown on Figure 2). The location of Outfall 001 discharge was not changed.

Waste Disposal

The components of the decommissioned treatment system, including carbon vessels, filter housings, and associated pipe and hose, were drained into lined containment areas where the water was pumped to the new collection sump and treated. Carbon media was removed from the decommissioned vessels onsite by an Texas Eastern subcontractor. The empty carbon vessels, carbon media, filter housings, pumps, pipes and hoses, and the steel sump will be managed, characterized and disposed of by Texas Eastern at appropriate waste disposal facilities. General construction waste (e.g., wood pallets, boxes, etc.) was placed in debris containers provided by Texas Eastern and was transported to a local landfill.


STATE ROUTE 3023
N
WATER TREATMENT BUILDING
OUTFALL 001
APPROXIMATE INSET AREA
INSET
8" PVC OUTFALL LINE
3" PVC RETURN TO SUMP
2" PVC INFLUENT LINES (2X)
6" PVC INFLUENT TO SUMP
6' X 11' X 5'D COLLECTION SUMP (SEEP 02)
UNNAMED TRIBUTARY TO LICK RUN CREEK
THRUST BLOCK
RIP RAP
STREAM B DRAINAGE AREA
S.S. PAPADOPULOS & ASSOCIATES, INC.
FIGURE 1
SITE LAYOUT
PERULACK COMPRESSOR STATION
JUNIATA COUNTY, PENNSYLVANIA


LEGEND
AIR BLEED/VACUUM VENT VALVE
BALL VALVE
CHECK VALVE
BUTTERFLY VALVE
SAMPLE VALVE
PRESSURE GAUGE
WATER LEVEL ELEMENT
LEVEL TRANSMITTER
FLOAT SWITCH
FLOW INDICATING TRANSMITTER
FLOW SENSOR/TOTALIZER
FLOW DIRECTION
SHOP-BUILT FLEXIBLE HOSE
water level transducer
• low level- all pumps off
• high level- duplexed pump on
• high-high level- both pumps on
Integrated Lid
electrical float switch
• high-high-high- both pumps on, alarm
• low-low- all pumps off
Water from Seep 02
100 GPM
Ultrasonic Level Sensor
PUMPS:
• 50 gpm each, duplexed
Pump-A
Pump-B
Approx. 6'x11'x5'(h) precast concrete collection sump with submersible pumps
50 GPM
2" PVC
50 GPM
2" PVC
3" PVC
Return to Collection Sump
3" cap threaded plug
Magmeter Flow Meter
Pre Filter
BANK A VESSEL 1 GAC FILTER CP1000
BANK A VESSEL 2 GAC FILTER CP1000
Post Filter
BANK A
BANK B VESSEL 3 GAC FILTER CP1000
BANK B VESSEL 4 GAC FILTER CP1000
BANK B
8" PVC
To Outfall 001
Treatment Building
NO. DATE REVISION BY
12/01/2023 AS-BUILT P&ID KMB
Approval:
Date:
S.S. Papadopulos & Associates, Inc.
45 Belden Place, 4th Floor
San Francisco CA 94104
FIGURE 2
WATER TREATMENT SYSTEM CONFIGURATION
PERULACK COMPRESSOR STATION
PERULACK, PA
Project No.
Sheet

ATTACHMENT C

May 6, 2024 PADEP email to Enbridge. Technical Review Questions.

Fruchtl, Brenda

From: Fruchtl, Brenda
Sent: Monday, May 6, 2024 9:20 AM
To: Ian Ivy; mrogers@sspa.com; Niti Tottempudi
Cc: Kopicz, Alana; Trowbridge, Pamela
Subject: Technical Review Questions. RE: NPDES Permit No PA0086291 Texas Eastern Transmission LP (TETLP) Perulack Compressor Station. Permit Renewal application
Attachments: PADEP APPROVAL_Termination GW monitoring Program_ Bernville_ Perulack_ Shermans Dale_ 21Nov2014.pdf; PA0086291_Perulack_Description page_Figure 2 Water Balanc_Figure 3 Site Layout_from the 4-28-2022 App.pdf; PA0086291_Perulack_Figure 1 Site Layout_Figure 2 Water Treatment System_from the 2-15-2024 Construction Completion Rpt.pdf

Tracking:

Recipient	Read
Ian Ivy	
mrogers@sspa.com	
Niti Tottempudi	
Kopicz, Alana	Read: 5/6/2024 9:21 AM
Trowbridge, Pamela	

Good Morning.

I am working on the technical review of the renewal application received 5/3/2022 for NPDES Permit PA0086291 TETLP Perulack Wastewater Treatment System (WWTS) (aka Groundwater remediation system (GRS) / Groundwater treatment system (GWTS)).

I have the following Technical questions / requests which I need addressed:

1. Have there been any changes / updates to the renewal application since it was received on 5/3/2022? FYI.. besides the improvements made late in 2023 which are documented in the 2/15/2024 Construction Completion Report.

2. Please provide updated influent and effluent data tables for Total PCBs and pH for Outfall 001 and Flow Data for Outfall 001 that includes results for the time period since the renewal application was submitted on April 28, 2022 through today.

3. The coordinates provided for Outfall 001 in Application do not appear to be correct (screenshot below). According to our records Outfall 001 is located 40° 21′ 11″ / -77° 39′ 16″. Please provide updated coordinates for Outfall 001.

a.

3800-PM-BCW0008b Rev. 6/2019 **Applicant Name:**
Permit Application

3. List all discharge points (outfalls) and internal monitoring points (IMPs). If numbers were previously assigned in a permit, use those nu additional pages as necessary.

Outfall / IMP No.	LATITUDE			LONGITUDE			RECEIVING WATERS
	Deg	Min	Sec	Deg	Min	Sec	Name of Receiving Waters
001	40	21	15	77	36	16	Tributary to Lick Run Creek

1

4. Please explain the current role of the 1991 COA for this site. I recognize the 1991 COA is the reason the groundwater treatment system (GWTS) was initially installed.
    a. I have attached a copy of the 11/21/2014 letter from DEP – ECB Program terminating the Long-Term Groundwater Monitoring Program (LTGMP) at this site (as well as at Bernville and Shermans Dale). Does this mean that Perulack Compressor Station is no longer part of the 1991 COA? Or simply that the groundwater has met the site specific standards at Perulack and they no longer needs to continue their LTGMP?
    b. Does Texas Eastern Transmission continue to submit any reporting related to the 1991 COA for the Perulack Compressor Station to DEP's ECB Program for review? Or is the Clean Water Program the only program involved at this point for this NPDES Permit under review?

5. I am having a hard time trying to understand how / where / why the water is captured upstream for treatment and subsequently discharged a short distance downstream. Is the water captured at this location since this is where the contaminated groundwater surfaces and does not meet the Water Quality standards even though the groundwater has met a site specific standard? Or has the contaminated groundwater already surfaced, and the retaining wall was installed to dam the stream so all the surface water could be collected for treatment?

6. I have some questions about the treatment system because I am having trouble correlating what is written on the Wastewater Treatment System and Groundwater Collection System Description page (Description page; included with the application); shown on Figure 2 Water Balance – Line Diagram (in the renewal application); what is shown on the Site Layout (Figure 3 in the application; and Figure 1 in the 2/15/2024 Construction Completion Report); and illustrated on Figure 2 Water Treatment System Configuration (in the 2/15/2024 Construction Completion Report). I have attached 2 files: 1 with the Description Page, Figure 2 Water Balance Diagram, and Figure 3 Site Layout from the renewal application; and 1 with Figure 1 Site Layout and Figure 2 water Treatment System from the 2/15/2024 Construction Completion Report.

    a. Is the following still a correct summary (this was copied from the last protection report; yet, it doesn't match exactly with the information in the 2022 renewal application)?

        Currently, groundwater is collected at the Collection Sump (Seep 02) and treated via a granulated activated carbon treatment system prior to being discharged at Outfall 001. Outfall 001 discharges to Stream B (downstream of the collection system), which is a dry swale on site that flows to an unnamed tributary to Lick Run. The receiving stream is considered to be dry at the point of discharge

    b. The Description page states: The wastewater treatment system is designed to remove PCB impacted groundwater from Stream B drainage area (Seep 2). "Stream B Drainage Area" as shown in the INSET of the Site Layout appears to be something separate from Seep 02. Seep 2 isn't shown on the Figure 2 Water Balance Line Diagram (renewal application). And Water from Seep 02 is shown as the input to the collection sump in Figure 2 Water Treatment System Configuration (in the Construction Completion Report)on Is the Stream B drainage area the same or different from Seep 02?

    c. The Description page states: Treated water from the treatment system is discharged to Stream B downstream of the seep water collection system. However the INSET of the Site Layout does not identify a "Stream B" downstream of Outfall 001. Does the Stream B have an "upstream" area (called Stream B Drainage Area) before the water is collected as well as a "downstream" area (simply called Stream B) where Outfall 001 is discharged?

    d. What is the "Collection Sump (Seep 02)" labeled in the INSET of the Site Layout? Is the "Collection Sump" different or the same as "Seep 02"? Is "Stream B Drainage Area" the same or separate from Seep 02?

e. In the INSET of the Site Layout, Stream B Drainage area leads to the retaining wall. Is the retaining wall where the groundwater (or is it surface water?) captured and sent to the Collection Sump which is then "pumped" to the Treatment Plant?

f. What does the discharge location for Outfall 001 look like? Does it discharge to "Stream B" below the collection area? Is this a dry stream, intermittent stream, wet area? Is this where Stream B "reforms" after it is collected for treatment and discharged at Outfall 001?

7. Exceedances. According to the DMR data, Total PCBs exceeded the Daily maximum permit limit and Average quarterly permit limit (and was above the 0.5 ug/L MDL) for the 1st quarter 2023 reporting period. Daily Maximum was reported at 1.65 ug/L and Average monthly (quarterly) was reported as 0.90ug/L. Please provide an explanation for this exceedance including measures put into place to prevent future exceedances.

Please confirm you received this email along with an approximate timeline for responding to the questions.

Thank you
Brenda Fruchtl, P.G. | Licensed Professional Geologist
Department of Environmental Protection | Clean Water Program
Southcentral Regional Office Building
909 Elmerton Avenue | Harrisburg, PA 17110
Phone: 717.705.4812 | Fax: 717.705.4760
www.dep.pa.gov

24-hour toll free Emergency Response number for SCRO: 1-800-541-2050

From: Ian Ivy <Ian.Ivy@enbridge.com>
Sent: Tuesday, May 3, 2022 10:14 AM
To: Fruchtl, Brenda <bfruchtl@pa.gov>
Cc: Niti Tottempudi <Niti.Tottempudi@enbridge.com>
Subject: [External] Perulack NPDES PA0086291 permit renewal application

Dear Ms. Fruchtl,

Please see attached Texas Eastern's renewal application for Perluack Compressor Station, NPDES Permit No. PA0086291. We have mailed the original hard copy and two copies as well.

Thank you for your assistance,

Ian Ivy
Environmental Scientist – Environment Remediation

ENBRIDGE
TEL: 713-627-6445 | CELL: 346-306-4407 | Ian.Ivy@enbridge.com
5400 Westheimer Court, Houston, TX 77056
enbridge.com
Safety. Integrity. Respect.

3

ATTACHMENT D

May 28, 2024. Response from Enbridge to 5/6/2024 Technical Review Questions (received via email).

Enbridge
915 North Eldridge Parkway
Houston, Texas 77079

May 28, 2024

Brenda Fruchtl
Clean Water Program
Southcentral Regional Office
909 Elmerton Ave.
Harrisburg, PA 17110

RE: Response to Technical Review Questions
Texas Eastern Transmission, LP
Perulack Compressor Station, NPDES Permit No PA0086291

Dear Ms. Fruchtl,

The purpose of this letter is to provide answers to the questions posed by the Pennsylvania Department of Environmental Protection (PADEP) in an email dated May 6, 2024, in reference to the NPDES permit PA0086291 application for Texas Eastern Transmission, LP's (Texas Eastern's) Perulack Compressor Station. Texas Eastern has reviewed the questions from the technical review of the permit application and has prepared the following answers. Each question is presented directly as written, followed by Texas Eastern's response below:

Question 1: Have there been any changes / updates to the renewal application since it was received on 5/3/2022? FYI.. besides the improvements made late in 2023 which are documented in the 2/15/2024 Construction Completion Report.

Q1 Answer: The only changes to the renewal application can be found in the attached revised General Information Form, due to changed contact information and site Mailing Address.

Question 2: Please provide updated influent and effluent data tables for Total PCBs and pH for Outfall 001 and Flow Data for Outfall 001 that includes results for the time period since the renewal application was submitted on April 28, 2022 through today.

Q2 Answer: Flow and analytical data have been updated in the attached Tables 1 and 2, to include data from April 28, 2022 through today.

Question 3: The coordinates provided for Outfall 001 in Application do not appear to be correct (screenshot below). According to our records Outfall 001 is located 40º 21' 11" / -77º 39' 16". Please provide updated coordinates for Outfall 001.

Q3 Answer: The correct coordinates of the Outfall are 40º 21' 15" / -77º 39' 16". The Outfall location has not moved.

Question 4: Please explain the current role of the 1991 COA for this site. I recognize the 1991 COA is the reason the groundwater treatment system (GWTS) was initially installed.

4a. I have attached a copy of the 11/21/2014 letter from DEP – ECB Program terminating the Long-Term Groundwater Monitoring Program (LTGMP) at this site (as well as at Bernville and Shermans Dale). Does this mean that Perulack Compressor Station is no longer part of the 1991 COA? Or simply that the groundwater has met the site-specific standards at Perulack and they no longer needs to continue their LTGMP?

4b. Does Texas Eastern Transmission continue to submit any reporting related to the 1991 COA for the Perulack Compressor Station to DEP's ECB Program for review? Or is the Clean Water Program the only program involved at this point for this NPDES Permit under review?

Q4a Answer: Most conditions of the 1991 COA have been met, except for requirements pertaining to the Operational Consideration Areas, which require limited remediation when considerations no longer exist. The OCA remediation is conducted under the DEP's ECB review. As indicated in the 11/21/2014 letter from DEP – ECB Program, all groundwater monitoring requirements were met and the long-term groundwater monitoring program (LTGMP) requirements under the COA were terminated for Perulack, leaving only the NPDES permit requirements in force.

Q4b Answer: There are no regular reports due to PADEP under the COA for the Perulack Compressor Station. The Clean Water Program is the only program for this NPDES Permit.

Question 5: I am having a hard time trying to understand how / where / why the water is captured upstream for treatment and subsequently discharged a short distance downstream. Is the water captured at this location since this is where the contaminated groundwater surfaces and does not meet the Water Quality standards even though the groundwater has met a site-specific standard? Or has the contaminated groundwater already surfaced, and the retaining wall was installed to dam the stream so all the surface water could be collected for treatment?

Q5 Answer: Stream B, the Seep 02 collection and conveyance, treatment system and Outfall are located in a ravine. The treatment system is located north of the collection sump. The collection system is designed to collect the PCB-contaminated groundwater and gravity drain it to a collection sump, from where it is then pumped through the treatment vessels.

The collection system consists of a capture wall intercepting the Stream B valley at the location of Seep 02 with a french drain system on the upstream side of the capture wall that is connected to a collection sump through a 6-inch diameter PVC pipe. This pipe conveys, by gravity flow, the collected water through the wall to the treatment system collection sump. The final solution to Seep 02 flow, as approved by PADEP in 2001, consisted of: Construction of a capture wall across Stream B; intercepting Seep 02 flow and water moving along the bedrock / soil interface through a french drain system; construction of a "treatment unit" adjacent to the capture wall; construction of a surface water diversion berm to divert stormwater away from Stream B, and restabilize the Stream B channel with vegetative cover. A diversion berm/swale was constructed on the south side of Stream B valley to divert surface water from entering the collection system. The Outfall location nearby the other treatment features is due to access and constructability.

Question 6: I have some questions about the treatment system because I am having trouble correlating what is written on the Wastewater Treatment System and Groundwater Collection

System Description page (Description page; included with the application); shown on Figure 2 Water Balance – Line Diagram (in the renewal application); what is shown on the Site Layout (Figure 3 in the application; and Figure 1 in the 2/15/2024 Construction Completion Report); and illustrated on Figure 2 Water Treatment System Configuration (in the 2/15/2024 Construction Completion Report). I have attached 2 files: 1 with the Description Page, Figure 2 Water Balance Diagram, and Figure 3 Site Layout from the renewal application; and 1 with Figure 1 Site Layout and Figure 2 water Treatment System from the 2/15/2024 Construction Completion Report.

6a: Is the following still a correct summary (this was copied from the last protection report; yet, it doesn't match exactly with the information in the 2022 renewal application)?

Currently, groundwater is collected at the Collection Sump (Seep 02) and treated via a granulated activated carbon treatment system prior to being discharged at Outfall 001. Outfall 001 discharges to Stream B (downstream of the collection system), which is a dry swale on site that flows to an unnamed tributary to Lick Run. The receiving stream is considered to be dry at the point of discharge.

6b: The Description page states: The wastewater treatment system is designed to remove PCB impacted groundwater from Stream B drainage area (Seep 2). "Stream B Drainage Area" as shown in the INSET of the Site Layout appears to be something separate from Seep 02. Seep 2 isn't shown on the Figure 2 Water Balance Line Diagram (renewal application). And Water from Seep 02 is shown as the input to the collection sump in Figure 2 Water Treatment System Configuration (in the Construction Completion Report) on Is the Stream B drainage area the same or different from Seep 02?

6c: The Description page states: Treated water from the treatment system is discharged to Stream B downstream of the seep water collection system. However the INSET of the Site Layout does not identify a "Stream B" downstream of Outfall 001. Does the Stream B have an "upstream" area (called Stream B Drainage Area) before the water is collected as well as a "downstream" area (simply called Stream B) where Outfall 001 is discharged?

6d: What is the "Collection Sump (Seep 02)" labeled in the INSET of the Site Layout? Is the "Collection Sump" different or the same as "Seep 02"? Is "Stream B Drainage Area" the same or separate from Seep 02?

6e: In the INSET of the Site Layout, Stream B Drainage area leads to the retaining wall. Is the retaining wall where the groundwater (or is it surface water?) captured and sent to the Collection Sump which is then "pumped" to the Treatment Plant?

6f: What does the discharge location for Outfall 001 look like? Does it discharge to "Stream B" below the collection area? Is this a dry stream, intermittent stream, wet area? Is this where Stream B "reforms" after it is collected for treatment and discharged at Outfall 001?

Q6a Answer: Seep 02 is collected as described above in A5 and then gravity drained to the collection sump. The sump only receives Seep 02 water. The remainder of the description is correct.

Q6b Answer: Stream B is not the same as Seep 02. Stream B is a dry drainage channel that only carries surface stormwater runoff. Seep 02 is the historical expression of groundwater in the Stream B drainage channel. Seep 02 does not express at the surface, since the groundwater is

collected and gravity drained to the collection sump. The water line diagram has been updated to clarify the source is only Seep 02 (Figure 2).

Q6c Answer: There is no regularly flowing water upstream of Outfall 001, or immediately downstream of the Outfall. Stream B is a stormwater drainage channel and flow produced by treatment typically absorbs into the ground within approximately 50-feet.

Q6d Answer: The collection sump is immediately hydrologically downgradient of the "barrier wall" and is the collection point for all Seep 02 water. Since the collection sump is a physical and easily identifiable feature, it is often labeled as Seep 02 as a matter of convenience. Strictly however, they are not the same. Seep 02 is the area of expressed groundwater, and the collection sump is the single collecting structure for all Seep 02 groundwater. Refer to answer A6b for further information regarding Stream B Drainage Area and Seep 02.

Q6e Answer: There is no surface water collected by the system, and Stream B is commonly dry. There is a diversion at the "barrier wall" to divert stormwater away from Refer to answer A5 for further information regarding the retaining "barrier wall."

Q6f Answer: The Outfall discharges to the dry Stream B drainage channel (Attachment 2). Outfall 001 is an 8" Schedule 80 PVC pipe with high density polyethylene (HDPE) rodent guard cover. The exit pipe is encased in a concrete support structure for stability and support. Immediately downgradient of the pipe end is a riprap apron, approximately 5- to 10-feet wide and 10-feet long. As described in the responses to above questions, Stream B is not collected for treatment.

Question 7: Exceedances. According to the DMR data, Total PCBs exceeded the Daily maximum permit limit and Average quarterly permit limit (and was above the 0.5 ug/L MDL) for the 1st quarter 2023 reporting period. Daily Maximum was reported at 1.65 ug/L and Average monthly (quarterly) was reported as 0.90ug/L. Please provide an explanation for this exceedance including measures put into place to prevent future exceedances.

Q7 Answer: The exceedance discussed in the March 13 letter was attributed to discharge piping integrity. The Outfall was replaced immediately afterwards. Two other notifications were made to PADEP on May 5, and July 27 regarding sump overflows (Attachment 3, letters). The overflow discussed in the May 5 letter was attributed to pump failure. Finally, the overflow detailed in the July 27 letter was attributed to an electrical failure during a rain event. The root cause of all three exceedances were addressed in the 2023 system upgrades.

If you have any questions or comments, please feel free to contact me at 713-627-5967 or by email at niti.tottempudi@enbridge.com.

Sincerely,

Niti Tottempudi

Environment Remediation

Attachment D. Page 5 of 16

0210-PM-PIO0001 Rev. 10/2020
Application

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

GENERAL INFORMATION FORM – AUTHORIZATION APPLICATION

Before completing this General Information Form (GIF), read the step-by-step instructions provided in this application package. This form is used by the Department of Environmental Protection (DEP) to inform our programs regarding what other DEP permits or authorizations may be needed for the proposed project or activity. This version of the General Information Form (GIF) must be completed and returned with any program-specific application being submitted to the DEP.

Related ID#s (If Known)				DEP USE ONLY
Client ID#	82786	APS ID#	326395	Date Received & General Notes
Site ID#	442911	Auth ID#	331235	
Facility ID#				

CLIENT INFORMATION

DEP Client ID#	Client Type / Code	Dun & Bradstreet ID#
82786	NPACO	00-699-6052

Legal Organization Name or Registered Fictitious Name	Employer ID# (EIN)	Is the EIN a SSN?
Texas Eastern Transmission, LP	72-0378240	☐ Yes ☒ NO

State of Incorporation or Registration of Fictious Name	
Delaware	☐ Corporation ☐ LLC ☐ Partnership ☐ LLP ☒ LP ☐ Sole Proprietorship ☐ Association/Organization ☐ Estate/Trust ☐ Other

Individual Last Name	First Name	MI	Suffix

Additional Individual Last Name	First Name	MI	Suffix

5-23-24 NT

Mailing Address Line 1	Mailing Address Line 2
PO Box 1642	

Address Last Line – City	State	ZIP+4	Country
Houston	TX	77251-1642	USA

Client Contact Last Name	First Name	MI	Suffix
Tottempudi	Niti	M	

Client Contact Title	Phone	Ext	Cell Phone
Specialist, Env Remediation	713-627-5967		

Email Address	FAX
Niti.Tottempudi@enbridge.com	

SITE INFORMATION

DEP Site ID#	Site Name
	Perulack Compressor Station

EPA ID# PAD981937501 Estimated Number of Employees to be Present at Site 10-19

Description of Site
Natural Gas Compressor Station

Tax Parcel ID(s):

County Name(s)	Municipality(ies)	City	Boro	Twp	State
Juniata	Lack Township	☐	☐	☒	PA
		☐	☐	☐	
		☐	☐	☐	
		☐	☐	☐	

Site Location Line 1	Site Location Line 2
3318 Pumping Station Road	

Site Location Last Line – City	State	ZIP+4
East Waterford	PA	17021

Detailed Written Directions to Site
From East Waterford, PA take State Road 75 South approximately 3 miles and turn right on State Road 3023. Station is located on the left, approximately 1 mile.

Page 1 of 8

0210-PM-PIO0001 Rev. 10/2020
Application

Site Contact Last Name	First Name	MI	Suffix
Tottempudi	Niti	M	

Site Contact Title	Site Contact Firm
Specialist, Env Remediation	Enbridge

5-23-24 NT

Mailing Address Line 1	Mailing Address Line 2
PO Box 1642	

Mailing Address Last Line – City	State	ZIP+4
Houston	TX	77251-1642

Phone	Ext	FAX	Email Address
713-627-5967			niti.tottempudi@enbridge.com

NAICS Codes (Two- & Three-Digit Codes – List All That Apply)	6-Digit Code (Optional)
48-49, 486 (SIC Code 4922)	486210

Client to Site Relationship
OWNOP

FACILITY INFORMATION

Modification of Existing Facility	Yes	No
1. Will this project modify an existing facility, system, or activity?	☐	☒
2. Will this project involve an addition to an existing facility, system, or activity?	☐	☒

If "Yes", check all relevant facility types and provide DEP facility identification numbers below.

	Facility Type	DEP Fac ID#		Facility Type	DEP Fac ID#
☐	Air Emission Plant		☐	Industrial Minerals Mining Operation	
☐	Beneficial Use (water)		☐	Laboratory Location	
☐	Blasting Operation		☐	Land Recycling Cleanup Location	
☐	Captive Hazardous Waste Operation		☐	Mine Drainage Treatment / Land Recycling Project Location	
☐	Coal Ash Beneficial Use Operation		☐	Municipal Waste Operation	
☐	Coal Mining Operation		☐	Oil & Gas Encroachment Location	
☐	Coal Pillar Location		☐	Oil & Gas Location	
☐	Commercial Hazardous Waste Operation		☐	Oil & Gas Water Poll Control Facility	
☐	Dam Location		☐	Public Water Supply System	
☐	Deep Mine Safety Operation -Anthracite		☐	Radiation Facility	
☐	Deep Mine Safety Operation -Bituminous		☐	Residual Waste Operation	
☐	Deep Mine Safety Operation -Ind Minerals		☐	Storage Tank Location	
☐	Encroachment Location (water, wetland)		☐	Water Pollution Control Facility	
☐	Erosion & Sediment Control Facility		☐	Water Resource	
☐	Explosive Storage Location		☒	Other: Natural Gas Transmission	

Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
Outfall 001	40	21	15	-77	39	16

Horizontal Accuracy Measure	Feet 10	--or--	Meters	
Horizontal Reference Datum Code	☐ North American Datum of 1927 ☒ North American Datum of 1983 ☐ World Geodetic System of 1984			
Horizontal Collection Method Code	GISDR			
Reference Point Code	LWTU			
Altitude	Feet 775	--or--	Meters	
Altitude Datum Name	☐ The National Geodetic Vertical Datum of 1929 ☒ The North American Vertical Datum of 1988 (NAVD88)			
Altitude (Vertical) Location Datum Collection Method Code	SRVEY			
Geometric Type Code	POINT			
Data Collection Date	March 11, 2002			
Source Map Scale Number	1 Inch(es)	=	2000 Feet	
--or--	Centimeter(s)	=	Meters	

Page 2 of 8

Note: The only updates to the GIF were to the client and site mailing addresses on Pages 1 and 2 of the GIF (compared to the GIF submitted as part of the April 28, 2022 renewal application))

Perulack Compressor Station **Applicant**: Texas Eastern Transmission, LP
Table 1
Outfall Flow Data

Outfall 001

Year, Quarter	Daily Maximum (MGD)	Average Monthly (MGD)
2017, Q1	0.038	0.008
2017, Q2	0.098	0.010
2017, Q3	0.036	0.004
2017, Q4	0.109	0.007
2018, Q1	0.062	0.012
2018, Q2	0.068	0.010
2018, Q3	0.097	0.011
2018, Q4	0.071	0.016
2019, Q1	0.054	0.015
2019, Q2	0.049	0.008
2019, Q3	0.034	0.003
2019, Q4	0.029	0.004
2020, Q1	0.046	0.010
2020, Q2	0.042	0.008
2020, Q3	0.008	0.000
2020, Q4	0.077	0.006
2021, Q1	0.057	0.009
2021, Q2	0.036	0.005
2021, Q3	0.098	0.007
2021, Q4	0.039	0.005
2022, Q1	0.075	0.011
2022, Q2	0.094	0.010
2022, Q3	0.015	0.002
2022, Q4	0.052	0.007
2023, Q1	0.049	0.010
2023, Q2	0.064	0.005
2023, Q3	0.045	0.006
2023, Q4	0.027	0.005
2024, Q1	0.118	0.012
Design (MGD)	0.144	
Average, all years (MGD)		0.008
Max, all years(MGD)	0.118	

Notes
1. Flow data from 2017, Q1 through 2024, Q1 per PADEP request

Perulack Compressor Station
Table 2
Laboratory Analytical Results

Applicant: Texas Eastern Transmission, LP

Sample Location **Effluent**	Date	pH S.U.	Total PCBs (ug/L)	TSS (mg/L)	Oil and Grease (mg/L)	Dissolved Iron (mg/L)	Dissolved Lead (mg/L)	Dissolved Mercury (mg/L)
SP-001	04/06/17	6.7	< 0.50					
	08/01/17	7.2	< 0.50					
	10/30/17	7.1	< 0.50					
	01/16/18	7.1	< 0.50					
	05/21/18	7.0	< 0.50					
	07/25/18	7.0	< 0.50					
	10/30/18	7.3	< 0.50					
	01/08/19	7.1	< 0.50					
	04/10/19	6.9	< 0.50					
	09/28/19	7.0	< 0.50					
	10/28/19	6.9	< 0.50					
	01/15/20	7.0	< 0.50					
	06/04/20	7.1	< 0.50					
	09/16/20	7.7	< 0.50					
	10/20/20	7.6	< 0.50					
	03/08/21	7.7	< 0.50					
	05/20/21	6.9	< 0.50					
	08/19/21	7.2	< 0.50					
	11/17/21	7.1	< 0.50					
	Jan 2022	7.4	< 0.50					
	03/22/22			< 0.5	< 5	< 0.1	< 0.01	< 0.0002
	03/29/22			< 0.5	< 5	< 0.1	< 0.01	< 0.0002
	04/05/22			< 1	< 5	< 0.1	< 0.01	< 0.0002
	May 2022	7.1	< 0.50					
	Jun 2022		< 0.50					
	Jul 2022	7.1	< 0.50					
	Oct 2022	7.1	< 0.50					
	Feb 2023	7.0	1.65					
	Mar 2023	7.9	0.865					
	Mar 2023	7.9	< 0.217					
	Apr 2023	8.3	< 0.5					
	Jul 2023	7.2	< 0.5					
	Nov 2023	8.5	< 0.5					
	Jan 2024	7.7	< 0.5					
	Apr 2024	7.0	< 0.381					

Notes:

1) Sample locations are shown on Figure 1, Water Balance - Line Diagram and are summarized below:
   SP-001: Post treatment
   SP-001-SV1A: pre-treatment bank 1
   SP-001-SV1B: pre-treatment bank 2
2) "<" indicates value less than laboratory reporting limit, with the reporting limit shown.
4) Samples collected in March and April of 2022 in support of Module 2 requirments only.

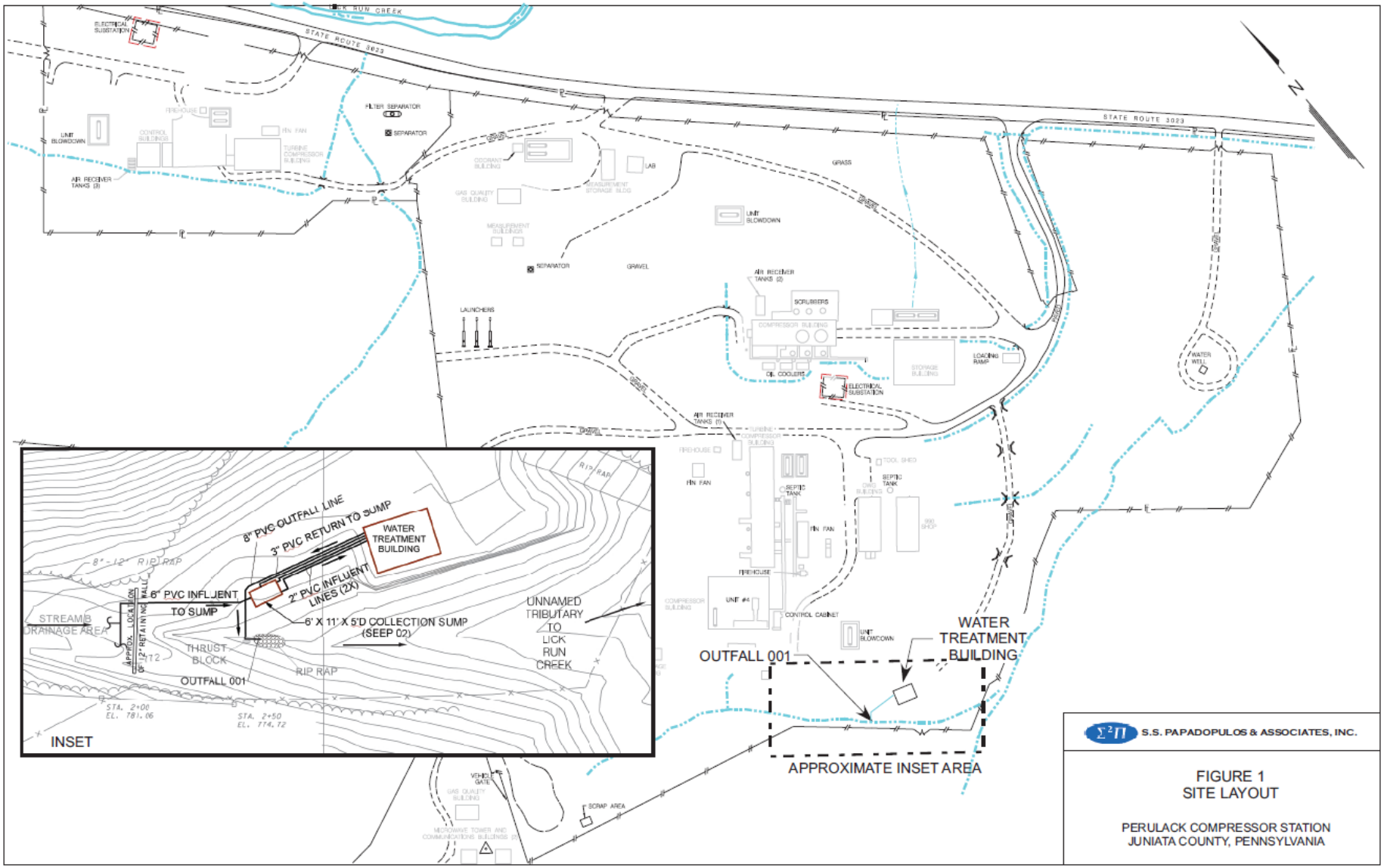
TSS -Total suspended solids

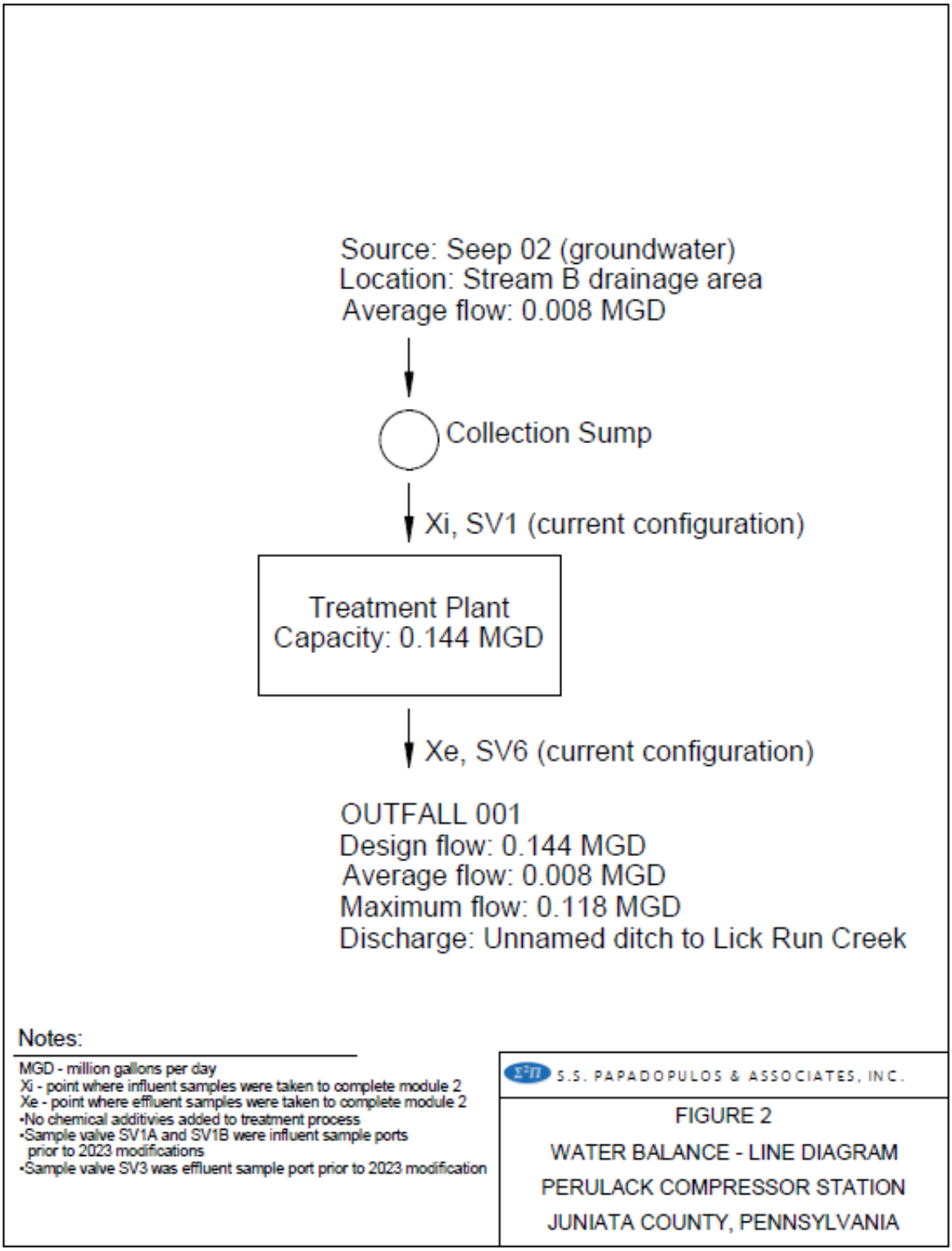
Perulack Compressor Station
Table 2
Laboratory Analytical Results

Applicant: Texas Eastern Transmission, LP

Sample Location **Influent**	Date	pH S.U.	Total PCBs (ug/L)	TSS (mg/L)	Oil and Grease (mg/L)	Dissolved Iron (mg/L)	Dissolved Lead (mg/L)	Dissolved Mercury (mg/L)
SP-001-SV1B	04/06/17	6.7	1.19					
SP-001-SV1B	08/01/17	7.2	1.42					
SP-001-SV1A	10/30/17	7.1	1.36					
SP-001-SV1B	01/16/18	7.1	0.85					
SP-001-SV1B	05/21/18	7.0	0.64					
SP-001-SV1B	07/25/18	7.0	0.50					
SP-001-SV1A	10/30/18	7.3	1.27					
SP-001-SV1A	01/08/19	7.1	0.94					
SP-001-SV1B	04/10/19	6.9	0.75					
SP-001-SV1A	09/28/19	7.0	< 0.50					
SP-001-SV1A	10/28/19	6.9	0.79					
SP-001-SV1A	01/15/20	7.0	0.80					
SP-001-SV1A	06/04/20	7.1	1.69					
SP-001-SV1B	09/16/20	7.7	1.24					
SP-001-SV1B	10/20/20	7.6	1.67					
SP-001-SV1A	03/08/21	7.7	< 0.50					
SP-001-SV1B	05/20/21	6.9	1.44					
SP-001-SV1A	08/19/21	7.2	2.55					
SP-001-SV1B	11/17/21	7.1	0.97					
SP-001-SV1A	03/22/22			1.2	< 5.1	< 0.1	< 0.01	< 0.0002
SP-001-SV1A	03/29/22			< 0.5	< 5.1	< 0.1	< 0.01	< 0.0002
SP-001-SV1A	04/05/22			< 0.5	< 5.1	< 0.1	< 0.01	< 0.0002
SP-001-SV1A	May 2022	7.1	1.47					
SP-001-SV1A	Jul 2022	7.0	1.08					
SP-001-SV1B	Oct 2022	7.1	1.44					
SP-001-SV1A	Feb 2023	7.0	0.622					
SP-001-SV1A	Apr 2023	8.3	1.61					
SP-001-SV1A	Nov 2023	8.5	< 0.5					
SP-001-SV1A	Jan 2024	7.7	< 0.5					
SP-001-SV1A	Apr 2024	7.1	0.398					

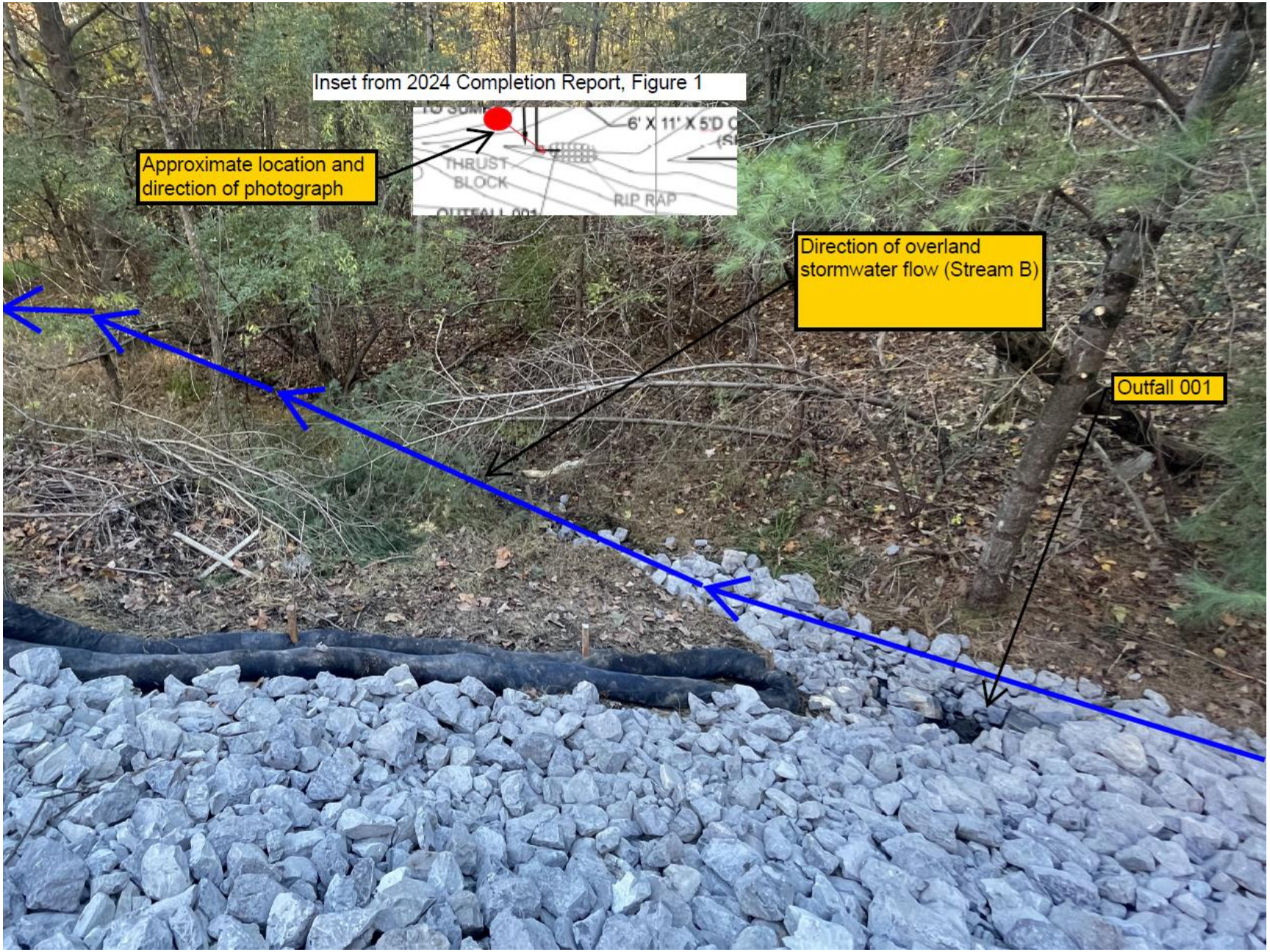
Notes:
1) Sample locations are shown on Figure 1, Water Balance - Line Diagram and are summarized below:
SP-001: Post treatment
SP-001-SV1A: pre-treatment bank 1
SP-001-SV1B: pre-treatment bank 2
2) "<" indicates value less than laboratory reporting limit, with the reporting limit shown.
3) Samples collected in March and April of 2022 in support of Module 2 requirments only.
TSS -Total suspended solids

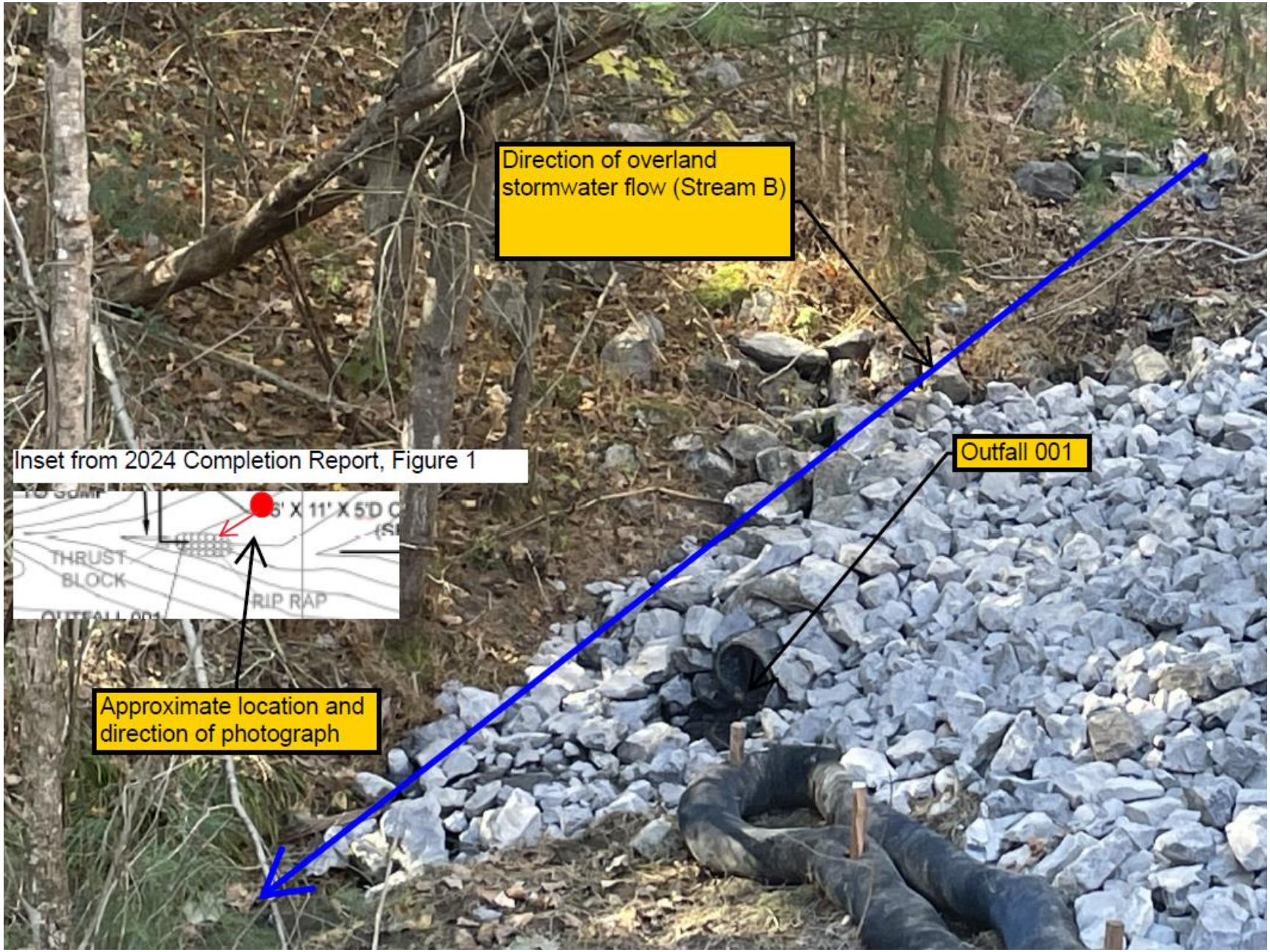

STATE ROUTE 3023
GRASS
GRAVEL
LAUNCHERS
SCRUBBERS
COMPRESSOR BUILDING
OIL COOLERS
LOADING RAMP
STORAGE BUILDING
ELECTRICAL SUBSTATION
AIR RECEIVER TANKS (2)
AIR RECEIVER TANKS (3)
UNIT BLOWDOWN
SEPARATOR
FILTER SEPARATOR
FIN FAN
FIREHOUSE
CONTROL BUILDING
TURBINE COMPRESSOR BUILDING
LAB
GAS QUALITY BUILDING
MEASUREMENT STORAGE BLDG
WATER WELL
SEPTIC TANK
TOOL SHED
SHOP
UNIT #4
CONTROL CABINET
VEHICLE GATE
SCRAP AREA
MICROWAVE TOWER AND COMMUNICATIONS BUILDING
OUTFALL 001
WATER TREATMENT BUILDING
APPROXIMATE INSET AREA
INSET
8" PVC OUTFALL LINE
3" PVC RETURN TO SUMP
WATER TREATMENT BUILDING
2" PVC INFLUENT LINES (2X)
6" PVC INFLUENT TO SUMP
6' X 11' X 5'D COLLECTION SUMP (SEEP 02)
8"-12" RIP RAP
RIP RAP
STREAM B DRAINAGE AREA
APPROX. LOCATION OF 12" RETAINING WALL
THRUST BLOCK
OUTFALL 001
STA. 2+00 EL. 781.06
STA. 2+50 EL. 774.72
UNNAMED TRIBUTARY TO LICK RUN CREEK
S.S. PAPADOPULOS & ASSOCIATES, INC.
FIGURE 1
SITE LAYOUT
PERULACK COMPRESSOR STATION
JUNIATA COUNTY, PENNSYLVANIA


Source: Seep 02 (groundwater)
Location: Stream B drainage area
Average flow: 0.008 MGD
Collection Sump
Xi, SV1 (current configuration)
Treatment Plant
Capacity: 0.144 MGD
Xe, SV6 (current configuration)
OUTFALL 001
Design flow: 0.144 MGD
Average flow: 0.008 MGD
Maximum flow: 0.118 MGD
Discharge: Unnamed ditch to Lick Run Creek
Notes:
MGD - million gallons per day
Xi - point where influent samples were taken to complete module 2
Xe - point where effluent samples were taken to complete module 2
•No chemical additivies added to treatment process
•Sample valve SV1A and SV1B were influent sample ports prior to 2023 modifications
•Sample valve SV3 was effluent sample port prior to 2023 modification
S.S. PAPADOPULOS & ASSOCIATES, INC.
FIGURE 2
WATER BALANCE - LINE DIAGRAM
PERULACK COMPRESSOR STATION
JUNIATA COUNTY, PENNSYLVANIA

Attachment 2

Outfall Pictures


Inset from 2024 Completion Report, Figure 1
6' X 11' X 5'D
THRUST BLOCK
RIP RAP
Approximate location and direction of photograph
Direction of overland stormwater flow (Stream B)
Outfall 001


Direction of overland stormwater flow (Stream B)
Outfall 001
Inset from 2024 Completion Report, Figure 1
THRUST BLOCK
RIP RAP
Approximate location and direction of photograph

Attachment 3

Written Notifications

Enbridge
915 North Eldridge Parkway
Houston, Texas 77079

March 13, 2023

Maria Bebenek
Program Manager, Clean Water Program
Southcentral Regional Office
909 Elmerton Ave.
Harrisburg, PA 17110

RE: Texas Eastern Transmission, LP
Perulack Compressor Station
NPDES Permit Non-Compliance Notification (Permit # PA0086291)

Dear Ms. Bebenek:

On March 9, 2023, at 8:22 pm, a verbal notification was made to the Pennsylvania Department of Environmental Protection (PADEP) via the PADEP After-Hour line (1-800-541-2050) of a non-compliance of the NPDES Permit No. PA0086291 (Outfall 001) at the Texas Eastern Transmission, LP (Texas Eastern) Perulack Compressor Station in Lack Township, Juniata County at 3318 Pumping Station Road, East Waterford PA 17021. Texas Eastern reported that a lab report was received late after hours on March 8th, and reviewed the morning of March 9th that identified an exceedance of the NPDES permit limits for Total PCBs. Texas Eastern received a call back from PADEP representative (Kyle) at 8:37 PM the same day to verify the information reported. This is the five-day Written Report as required per Part A, Section III(C)(4)(b)(ii) of the NPDES Permit.

As provided in the verbal notification, results for a confirmation sample collected at the Outfall 001 on March 2, 2023, were received from the laboratory on March 8-9 that indicated Total PCBs at 0.834 µg/L. On February 24, 2023, Texas Eastern was notified by the laboratory of Total PCBs at 1.65 µg/L in an initial sample at Outfall 001 collected on February 16, 2023, which exceeded the permit limits. The quality assurance/control (QA/QC) data (RPD> 40%) for that analytical batch also exceeded the criteria.

It should be noted that the post-treatment samples from each filter bank, inside the building and prior to combining at the discharge pipe, collected at the same time as the effluent sample on February 16, 2023, were non-detect (<0.5 µg/L) for PCBs.

Ms. Maria Bebenek
March 13, 2023
Page 2 of 2

Due to the QA/QC issues and to confirm the presence of PCBs in the effluent, a confirmation sample was collected on March 2, the sample results of which are reported above. Upon review of the data exceedance, the discharge was stopped on March 10, 2023, and all treated water is being contained in temporary frac tanks stored onsite. No water has been discharged since then.

Post-treatment samples and intermediate samples (between the carbons) collected on March 10 and 11 to confirm that the treatment system is operating properly have been non-detect (<0.5 µg/L) for PCBs. Therefore, Texas Eastern believes that the treatment system is operating as designed, and potentially the integrity of the discharge pipe from the building to the Outfall location maybe compromised. As a corrective action, in the interim, Texas Eastern will install temporary replacement pipe from the treatment building to the Outfall location. Carbon and other filter media are also being replaced in the treatment system components. Prior to resuming discharge, corrective actions will be completed. Texas Eastern will further investigate the discharge pipe integrity and implement a permanent fix as necessary.

If you have any questions or comments, please feel free to contact me at 713-627-5967 or by email at niti.tottempudi@enbridge.com.

Sincerely,

Niti Tottempudi
Environment Remediation

Note: The May 5, 2023 and July 27, 2023 NPDES Permit Non-Compliance Notifications are not included since they have been identified by Enbridge as Privileged and Confidential.

ATTACHMENT E

June 4, 2024. PADEP follow up email to Enbridge. More questions.

Fruchtl, Brenda

From: Fruchtl, Brenda
Sent: Tuesday, June 4, 2024 4:17 PM
To: Ian Ivy
Cc: mrogers; Niti Tottempudi
Subject: More Questions. RE: 5/28/2024 Response. NPDES Permit No PA0086291 TETLP Perulack Compressor Station.
Attachments: Google Earth Map with 2007 imagery_created 6-4-2024.pdf

Follow Up Flag: Follow up
Due By: Friday, June 7, 2024 11:00 AM
Flag Status: Flagged

Good afternoon,

I have read over your 5/28/2024 responses to my questions from 5/7/2024.

I have some questions on the attached PDF that I saved from Google Earth Pro, which gave me better perspective on the topography (I used imagery from 3/2007 because it was the easiest image for me to see the topography – less trees in bloom).

1. Please confirm that I have properly identified the **Water Treatment Building (Plant)** on the attached PDF. Marked with a yellow pushpin.

2. **Outfall 001 Coordinates**:
   a. The RED CIRCLE (around a yellow push pin) on the attached PDF indicate the location of the coordinates you provided for Outfall 001 (40° 21' 15" / -77° 39' 16").
   b. According to the Figure 1 Site Layout included with the responses, Outfall 001 is located somewhere to the east of the Water Treatment Plant Building.
   c. Please indicate the location of Outfall 001 on the attached PDF; along with the associated coordinates.

3. **RED ARROW drawn on attached PDF**:
   a. Please verify if the RED ARROW is in the approximate location of the Stream B Drainage Area (Stream B Valley).
   b. Does the RED ARROW indicate the location of the ravine mentioned in Q5 Answer?
   c. Per Q6b Answer, Stream B is a dry drainage channel that only carries surface stormwater runoff. Does the RED ARROW on the attached PDF correctly represent Stream B?

4. Could you indicate the approximate **location of the Retaining (capture) wall (aka barrier wall) intercepting Stream B Valley** on the attached PDF (as noted in Q5 Answer)?

5. Per Q5 Answer, the Treatment system is located north of the collection sump. Could you indicate the approximate **location of the Collection Sump** on the attached PDF?

6. Per Q5 Answer, **A diversion berm / swale was construction on the south side of Stream B Valley to divert surface water**. Where on the attached PDF would this be located? Is it diverting surface water from flowing into the Stream B Valley from the eastern side (where the treatment plan and compressor station are located) or more from the western side (of the RED ARROW)?

1

7. Do the **BLUE AND BRIGHT GREEN ARROWS** I drew on the attached PDF represent the approximate location of the UNT to Lick Run Creek?

I hadn't realized until looking at Google Earth Pro how steep the topography really was at the site. It helped me better visualize what you were explaining in your responses.

Thank you for your further clarifications to help me put this altogether better in my head. As I had indicated in an earlier email, it would be helpful to get out and see the site in the next week or so if possible.

If it is easier, I can schedule a Teams Meeting so I can share my screen and we can look at the Google Earth Pro app together.

Brenda Fruchtl, P.G.
DEP - SCRO | Clean Water Program - Permitting
Ph: 717.705.4812

From: Ian Ivy <Ian.Ivy@enbridge.com>
Sent: Tuesday, May 28, 2024 2:28 PM
To: Fruchtl, Brenda <bfruchtl@pa.gov>; mrogers <mrogers@sspa.com>; Niti Tottempudi <Niti.Tottempudi@enbridge.com>
Cc: Kopicz, Alana <akopicz@pa.gov>; Trowbridge, Pamela <ptrowbridg@pa.gov>
Subject: RE: [External] RE: Technical Review Questions. RE: NPDES Permit No PA0086291 Texas Eastern Transmission LP (TETLP) Perulack Compressor Station. Permit Renewal application

Brenda,

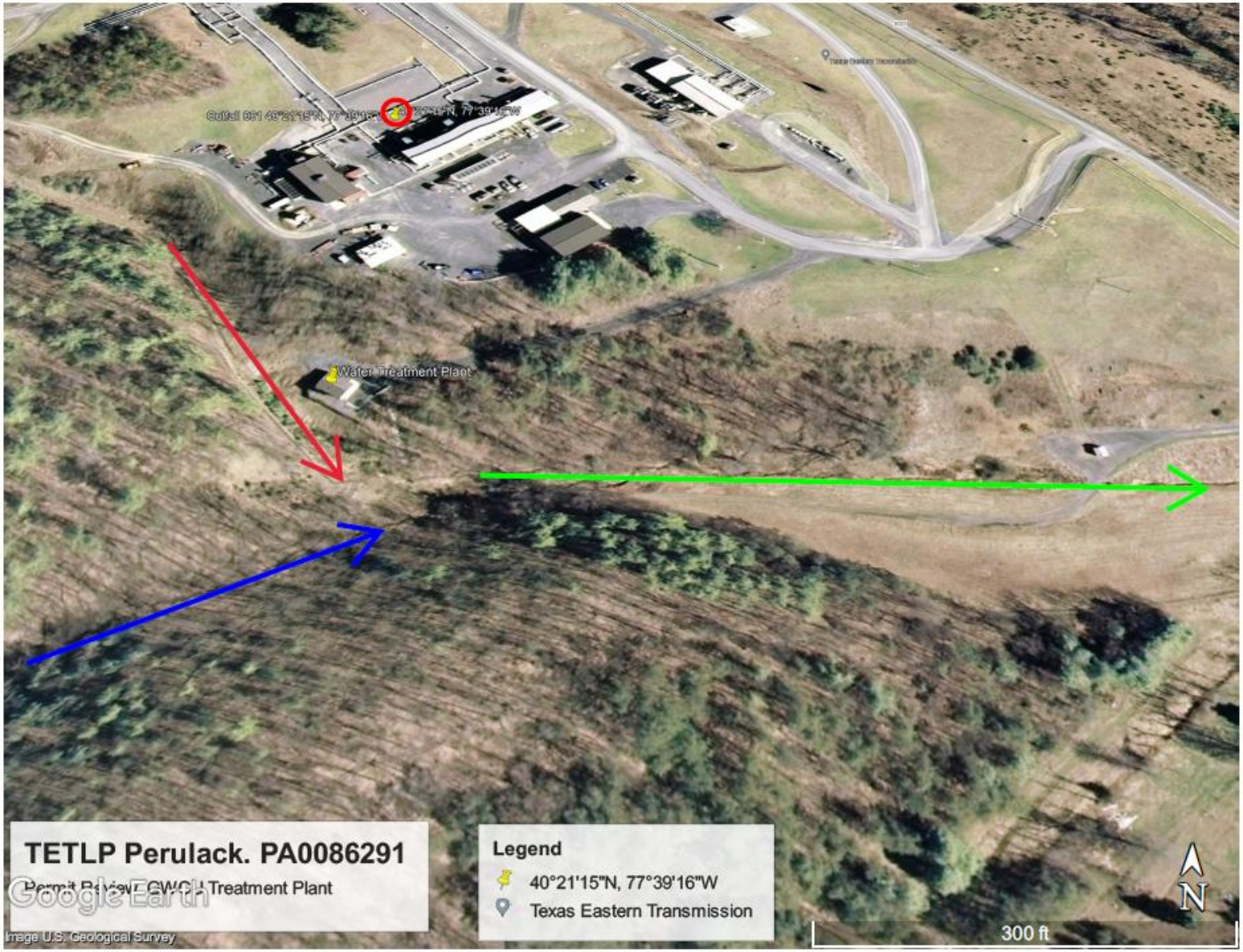
Please see attached letter as response to your questions. I have also pulled out the 2 pages of the general form that were changed as an attachment, the only edits to that were updates to the client and mailing address.

Thanks,

Enbridge's Westheimer Office in Houston, Texas Moved – Please note our new address below.
Ian Ivy (he/him)
Environmental Advisor – Environment Remediation
ENBRIDGE
TEL: 713-627-6445 | CELL: 346-306-4407 | Ian.Ivy@enbridge.com
Suite 1100, 915 North Eldridge Parkway, Houston, TX 77079
enbridge.com
Safety. Integrity. Respect. Inclusion.

From: Fruchtl, Brenda <bfruchtl@pa.gov>
Sent: Tuesday, May 7, 2024 9:30 AM
To: Ian Ivy <Ian.Ivy@enbridge.com>; mrogers <mrogers@sspa.com>; Niti Tottempudi <Niti.Tottempudi@enbridge.com>
Cc: Kopicz, Alana <akopicz@pa.gov>; Trowbridge, Pamela <ptrowbridg@pa.gov>
Subject: RE: [External] RE: Technical Review Questions. RE: NPDES Permit No PA0086291 Texas Eastern Transmission LP (TETLP) Perulack Compressor Station. Permit Renewal application

Attachment E. Page 3 of 3.



ATTACHMENT F

June 4, 2024. Enbridge email response to PADEP. More questions.

Fruchtl, Brenda

From: Niti Tottempudi <Niti.Tottempudi@enbridge.com>
Sent: Tuesday, June 4, 2024 6:55 PM
To: Fruchtl, Brenda; Ian Ivy
Cc: mrogers
Subject: [External] RE: More Questions. RE: 5/28/2024 Response. NPDES Permit No PA0086291 TETLP Perulack Compressor Station.

ATTENTION: This email message is from an external sender. Do not open links or attachments from unknown senders. To report suspicious email, use the Report Phishing button in Outlook.

Good afternoon Brenda,

Yes of course, we can schedule a site visit for you to look at the collection and treatment system components. As you suggested, it will probably be best to visit the site which will help clarify the layout and the location of Stream B, the weir, collection sump, outfall, etc. and answer most of your questions. Please propose couple of dates for the site visit as per your schedule and convenience, we will check with the site operations supervisor and confirm with you.

The Outfall coordinates in decimal degrees (as surveyed) are listed below, hopefully this correctly provides the outfall location on your map. We can follow-up with a call after the site visit.

Outfall location: 40.35321917, -77.65473207

Have a great evening.

Thanks.

Niti Tottempudi (she/her)
(knee-thee thotem-poo-dee)
Environment Remediation
—
ENBRIDGE
TEL: 713-627-5967 | CELL: 832-370-5069 | Niti.Tottempudi@enbridge.com
EC 9-117D, 915 North Eldridge Parkway Houston, TX 77079
enbridge.com
Safety. Integrity. Respect. Inclusion. HighPerformance

From: Fruchtl, Brenda <bfruchtl@pa.gov>
Sent: Tuesday, June 4, 2024 3:17 PM
To: Ian Ivy <Ian.Ivy@enbridge.com>
Cc: mrogers <mrogers@sspa.com>; Niti Tottempudi <Niti.Tottempudi@enbridge.com>
Subject: [External] More Questions. RE: 5/28/2024 Response. NPDES Permit No PA0086291 TETLP Perulack Compressor Station.

CAUTION! EXTERNAL SENDER
Were you expecting this email? TAKE A CLOSER LOOK. Is the sender legitimate?
DO NOT click links or open attachments unless you are 100% sure that the email is safe.

Good afternoon,

I have read over your 5/28/2024 responses to my questions from 5/7/2024.

1

ATTACHMENT G

Toxics Management Spreadsheet, Version 1.4, May 2023. Inputs and Results

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Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: TET Perulack NPDES Permit No.: PA0086291 Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: GW Contamination

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.144	100	7						

					0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L											
	Chloride (PWS)	mg/L											
	Bromide	mg/L											
	Sulfate (PWS)	mg/L											
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L											
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L											
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L											
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L											
	Total Copper	mg/L											
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L	<	100									
	Total Iron	µg/L											
	Total Lead	µg/L	<	10									
	Total Manganese	µg/L											
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	mg/L											
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										
	Carbon Tetrachloride	µg/L	<										
	Chlorobenzene	µg/L											
	Chlorodibromomethane	µg/L	<										
	Chloroethane	µg/L	<										
	2-Chloroethyl Vinyl Ether	µg/L	<										

Attachment G. Page 2 of 5.

Note: There were no applicable discharge pollutants on Page 2 of the TMS Discharge input; so it was not included

	Isophorone	µg/L	<											
	Naphthalene	µg/L	<											
	Nitrobenzene	µg/L	<											
	n-Nitrosodimethylamine	µg/L	<											
	n-Nitrosodi-n-Propylamine	µg/L	<											
	n-Nitrosodiphenylamine	µg/L	<											
	Phenanthrene	µg/L	<											
	Pyrene	µg/L	<											
	1,2,4-Trichlorobenzene	µg/L	<											
Group 6	Aldrin	µg/L	<											
	alpha-BHC	µg/L	<											
	beta-BHC	µg/L	<											
	gamma-BHC	µg/L	<											
	delta BHC	µg/L	<											
	Chlordane	µg/L	<											
	4,4-DDT	µg/L	<											
	4,4-DDE	µg/L	<											
	4,4-DDD	µg/L	<											
	Dieldrin	µg/L	<											
	alpha-Endosulfan	µg/L	<											
	beta-Endosulfan	µg/L	<											
	Endosulfan Sulfate	µg/L	<											
	Endrin	µg/L	<											
	Endrin Aldehyde	µg/L	<											
	Heptachlor	µg/L	<											
	Heptachlor Epoxide	µg/L	<											
	PCB-1016	µg/L	<											
	PCB-1221	µg/L	<											
	PCB-1232	µg/L	<											
	PCB-1242	µg/L	<											
	PCB-1248	µg/L	<											
	PCB-1254	µg/L	<											
	PCB-1260	µg/L	<											
	PCBs, Total	µg/L		2.5										
	Toxaphene	µg/L	<											
	2,3,7,8-TCDD	ng/L	<											
Group 7	Gross Alpha	pCi/L												
	Total Beta	pCi/L	<											
	Radium 226/228	pCi/L	<											
	Total Strontium	µg/L	<											
	Total Uranium	µg/L	<											
	Osmotic Pressure	mOs/kg												

Attachment G. Page 3 of 5.

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

TET Perulack, NPDES Permit No. PA0086291, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: UNT to Lick Run

No. Reaches to Model: 1

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	012119	0.7	686	9.19			Yes
End of Reach 1	012119	0	645	9.36			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.7	0.1	0.31									100	7		
End of Reach 1	0	0.1	0.31									100	7		

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	0.7														
End of Reach 1	0														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

TET Perulack, NPDES Permit No. PA0086291, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☐ *Hydrodynamics*

☑ *Wasteload Allocations*

☑ *AFC* CCT (min): 1.878 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	64.581	81.6	195	Chem Translator of 0.791 applied
Total Mercury	0	0		0	1.400	1.65	3.94	Chem Translator of 0.85 applied
PCBs, Total	0	0		0	N/A	N/A	N/A	

☑ *CFC* CCT (min): 1.878 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	2.517	3.18	7.61	Chem Translator of 0.791 applied
Total Mercury	0	0		0	0.770	0.91	2.17	Chem Translator of 0.85 applied
PCBs, Total	0	0		0	0.014	0.014	0.033	

☑ *THH* CCT (min): 1.878 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Dissolved Iron	0	0		0	300	300	717	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.050	0.05	0.12	
PCBs, Total	0	0		0	N/A	N/A	N/A	

☑ *CRL* CCT (min): 1.547 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Dissolved Iron	0	0		0	N/A	N/A	N/A	

Model Results 4/27/2024 Page 5

Total Lead	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
PCBs, Total	0	0		0	0.000064	0.00006	0.0008	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	717	THH	Discharge Conc > 10% WQBEL (no RP)
Total Lead	0.009	0.014	7.61	11.9	19.0	µg/L	7.61	CFC	Discharge Conc ≥ 50% WQBEL (RP)
PCBs, Total	9.98E-07	0.000002	0.0008	0.001	0.002	µg/L	0.0008	CRL	Discharge Conc ≥ 50% WQBEL (RP)

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Mercury	N/A	N/A	Discharge Conc < TQL