pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Amendment, Major**
Facility Type	**Industrial**
Major / Minor	**Minor**

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

Application No.	**PA0090271 - A1**
APS ID	**1091423**
Authorization ID	**1444893**

Applicant and Facility Information

Applicant Name	**Trogon Development LLC**	Facility Name	**Fern Valley Ash Disposal Site**
Applicant Address	PO Box 1636	Facility Address	Route 837
	Canovanas, PR 00729		Clairton, PA 15025
Applicant Contact	Jesse Froh	Facility Contact	Linda Denison
Applicant Phone	(314) 580-6736	Facility Phone	(614) 565-2297
Client ID	361817	Site ID	237533
SIC Code	4953	Municipality	Jefferson Hills Borough
SIC Description	Trans. & Utilities - Refuse Systems	County	Allegheny
Date Application Received	June 22, 2023	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Implements a Major Amendment, relocating Outfall 001 and removing Outfall 006.

Summary of Review

The Department received an NPDES permit amendment application from Trogon Development, LLC (Trogon) through its consultant, GAI Consultants, Inc. (GAI) for its Fern Valley Ash Disposal Site (Fern Valley) on June 22, 2023. The amendment was originally limited to relocation of Outfall 001 from near the site's sedimentation pond treatment to a prior drainage pipeline passing under Dravosburg Clairton Road, PA State Route (SR) 837 and a railway right-of-way which discharges into the Monongahela River. This relocation is being implemented as approved in their Water Quality Management (WQM) Part II permit, as amended in WQM **0287202** – A2 T6. This amendment, approved on May 2, 2023, permitted the installation of modifications to the site's discharge structures and adds a discharge pipeline from near the prior Outfall 001, downhill to the existing drainage pipeline under SR 837.

Although construction of these modifications has not yet been initiated onsite, these are planned to begin in May 2024 and are expected to take less than a month to complete. Although this NPDES permit amendment cannot be issued as final until construction is completed and certified, a draft may be issued and public comments collected and addressed, in parallel with the planned construction activities.

The most recent renewal of permit PA0090271 was issued October 5, 2021 to Trogon. The change in location of Outfall 001 will effectively change the receiving surface water of this outfall from an unnamed tributary (UNT), with PA stream code 39536, to the main channel of the Monongahela River which is on the receiving side of the existing drainage pipeline under SR 837. This change is illustrated in the "Existing" and "Proposed Conditions" flow charts included as Figure 1, below:

Approve	Deny	Signatures	Date
X		John L Duryea, Jr., P.E. / Environmental Engineer	April 16, 2024
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	April 17, 2024

Summary of Review

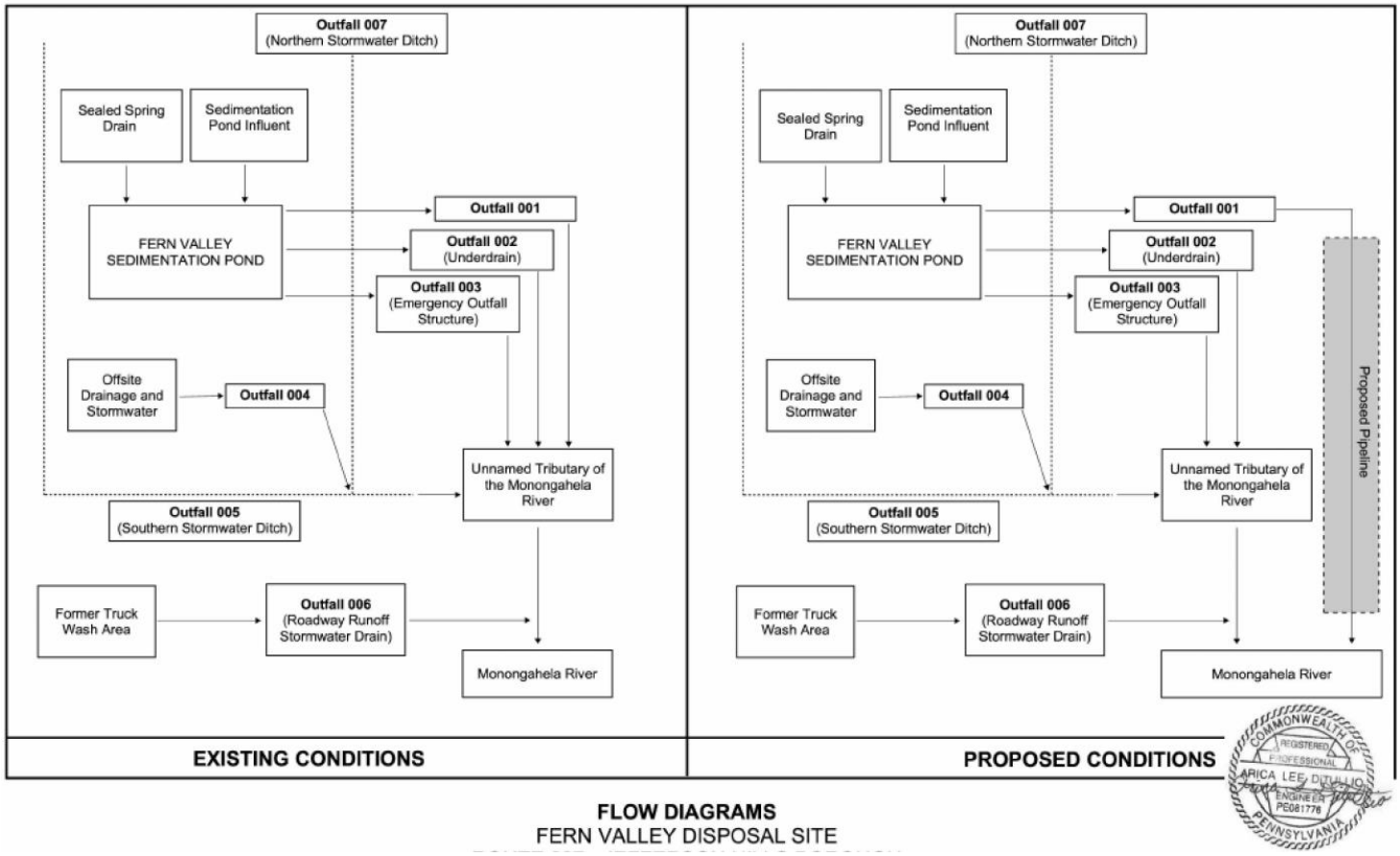

Figure 1: Fern Valley NPDES Amendment Flow Changes

The flow charts shown in Figure 1 above illustrates the straightforward change included in this amendment, relocating the Fern Valley's Outfall 001 from the UNT to the Monongahela River to the main channel of this same river via addition of a pipeline conveyance for this purpose. As a consequence of this change, the application explanation includes a request to remove or recalculate the Water Quality Based Effluent Limitations (WQBELs) for this outfall which will become effective at the end of the current NPDES permit's 47-month compliance schedule, on October 1, 2025.

However, the need to calculate WQBELs requires a sample set. Since none was submitted with the amendment application, the most recent sample results will be used. Note that the bulk of this data for Outfall 001 was submitted with the prior owner's July 31, 2015 update to their prior renewal application, plus the additional sample result for Hexavalent Chromium received via email from Trogon on August 5, 2021. However, since monitoring for the discharge at Outfall 001 has been ongoing, the most recently reported data will be reviewed for possible use in the modeling, as well. This modeling, and its bases, are documented as Attachments A - C.

On March 21, 2024, the permittee sent a letter requesting that closure of Outfall 006 also be included in this amendment and closure activities be included in the allowed activities under their upcoming construction including removing sections of plastic pipeline conveying this stormwater from the prior truck wash station. The removed plastic piping section will be cut flush with the surrounding ground. In addition, the inlet of this truck wash station will be grouted closed. Stormwater falling on this area will then runoff via sheet flow toward the existing drainage ditch. The permittee's letter is included as Attachment D. The relative positions of the site's outfalls before implementation of their WQM Part II amendment are shown in Figure 1 below:

Summary of Review

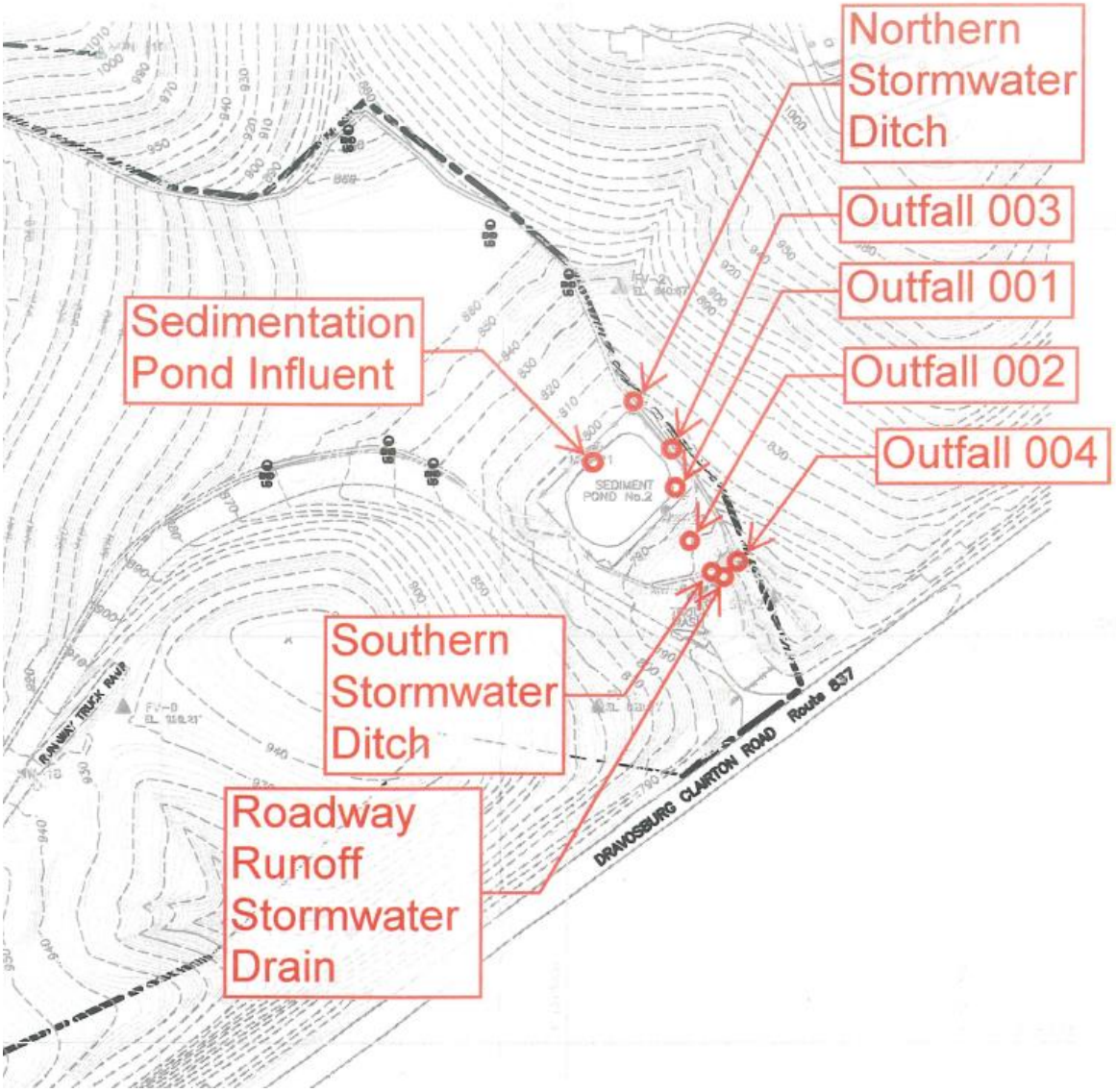

Figure 1: Detail from Fern Valley Ash Disposal Site, Permit Boundary Map

The permittee has supplied evidence of compliance with Act 14 notifications.

It is recommended that a draft permit be published for public comment in response to this application.

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)	.066
Latitude	40º 16' 50.04"	Longitude	-79º 52' 58.75"
Quad Name	Glassport	Quad Code	1606
Wastewater Description:	Coal Combustion Residual (CCR) Landfill Leachate – Sedimentation Pond Supernatant		
Receiving Waters	Monongahela River (WWF)	Stream Code	37185
NHD Com ID	99408468	RMI	22.58
Drainage Area	5350 Sq. Miles	Yield (cfs/mi^2)	0.1028
Q_{7-10} Flow (cfs)	550	Q_{7-10} Basis	U.S. ACOE
Elevation (ft)	725	Slope (ft/ft)	
Watershed No.	19-C	Chapter 93 Class.	WWF
Existing Use	**Aquatic Life**	Existing Use Qualifier	None
Exceptions to Use	None	Exceptions to Criteria	
Assessment Status	Attaining Use(s): Recreational; Fish Consumption is Impaired.		
Cause(s) of Impairment	POLYCHLORINATED BIPHENYLS (PCBs)		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	**Final**	Name	**Monongahela River TMDL**
Nearest Downstream Public Water Supply Intake	PA American Water Co. - Pittsburgh		
PWS Waters	Monongahela River	Flow at Intake (cfs)	92.834
PWS RMI	4.6	Distance from Outfall (mi)	~ 18

Changes Since Last Permit Issuance: Installed HDPE pipeline which moves Outfall 001 to the inlet of the SW pipeline under SR 837 to the Monongahela River.

Other Comments: On November 6,2019 a Point of First Use (POFU) survey was conducted by Department biologists on the UNT 39536 to the Monongahela River. The report documenting the result of this survey was issued on April 17, 2020. The reported maximum flow during production of 0.130 MGD in the July 2015 renewal application update; however, in the more recent years, the electronic Discharge Monitoring Report (eDMR) data has reported a monthly average flow up to 0.342 MGD (Dec. 2018). In December 2018, a daily maximum flow of 0.641 MGD was recorded. The measurement location had been used as the prior outfall location. Since Fern Valley is at the headwaters of unnamed tributary 39536, the drainage areas documented in Table 1 is also the watershed drainage area, as is the accumulation of drainage areas shown in aggregate in Table 1 below:

Table 1: Drainage Area at Outfalls - Fern Valley

Area	Acres
1	88.2
2	22.53
3	50.1
4	7.6
5	17.43
6	6.21
7	20.71
8	8.21
9	7.17
	228.16

0.3565 sq. miles

Discharge, Receiving Waters and Water Supply Information

Outfall No.	006	Design Flow (MGD)	0
Latitude	40º 16' 52"	Longitude	-79º 53' 04"
Quad Name	Glassport	Quad Code	1606
Wastewater Description:	Captured Stormwater Runoff - Roadway Runoff Stormwater Drain		
Receiving Waters	Unnamed Tributary to Monongahela River (WWF)	Stream Code	39536
NHD Com ID	99408526	RMI	0.13
Drainage Area	0.3565	Yield (cfs/mi^2)	0.0194
Q_{7-10} Flow (cfs)	0.0069	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	758	Slope (ft/ft)	
Watershed No.	19-C	Chapter 93 Class.	WWF
Existing Use	**Aquatic Life**	Existing Use Qualifier	None
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired for Aquatic Life		
Cause(s) of Impairment	**Habitat Alteration**		
Source(s) of Impairment	**TDS, Specific Conductivity**		
TMDL Status	**Final**	Name	**Monongahela River**
Nearest Downstream Public Water Supply Intake	PA American Water Co. - Pittsburgh		
PWS Waters	Monongahela River	Flow at Intake (cfs)	92.834
PWS RMI	4.6	Distance from Outfall (mi)	18.1

Changes Since Last Permit Issuance: The latest (2015) renewal application update lists stormwater outfalls for the "Northern" and "Southern Stormwater" ditches and for the "Roadway Runoff Stormwater Drain." The latter two discharge in the vicinity of Outfall 004. All are believed to discharge uncontaminated stormwater. Outfall 006 was added to cover samples taken from the Roadway Runoff Stormwater Drain. As requested, this outfall is being removed in this amendment.

Other Comments: The relative location of the Outfalls 004, 005 and 006 are shown in Figure 1 below. Outfall 006 was conveyed by the black pipeline in Figure 1, below:

Figure 1: Structures at Fern Valley Outfalls 004 (background), 005, 006 and the Receiving Stream

Treatment Facility Summary

Treatment Facility Name: Fern Valley Ash Disposal Site

WQM Permit No.	Issuance Date
0279201	April 27, 1979, expired 4/27/1981.
0287202	February 1, 1989
0287202 – A1 T1	February 7, 1992
0287202 – A2 T6	May 2, 2023

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Industrial		Sedimentation Pond	None	0.13

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
	N/A	N/A	N/A	N/A

Changes Since Last Permit Issuance: Since the last renewal issued October 5, 2021, a WQM Part II amendment was issued on May 2, 2023, permitting the installation of discharge HDPE piping from the prior location of Outfall 001 to a point in close proximity to the stormwater pipeline (or culvert) conveying UNT 39536 under SR 837 and the railway right-of-way to the Monongahela River. This new pipeline installation must be completed before this NPDES permit amendment may be issued as final.

Other Comments: With the relocation of the discharge point of Outfall 001, the requirement from the Point of First Use (POFU) survey, reported on April 17, 2020, to monitor and report boron, lithium, bromide, osmotic pressure, strontium, sulfates and Total Dissolved Solids (TDS) is voided for Outfall 001.

However, the change in the requirements from this POFU report is still applicable to the site's other outfalls that continue to discharge to UNT 39536.

Compliance History

Table 2: DMR Data for Outfall 001 (from February 1, 2023 to January 31, 2024)

Parameter	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23
Flow (MGD) Average Monthly	0.06	0.0475	0.064	0.0625	0.055	0.055	0.0675	0.0425	0.03	0.04855	0.0421	0.047
Flow (MGD) Daily Maximum	0.06	0.05	0.064	0.065	0.055	0.06	0.07	0.045	0.03	0.0501	0.0456	0.0529
pH (S.U.) Instantaneous Minimum	6.72	7.04	7.67	6.87	6.53	6.90	6.98	7.58	6.76	7.21	6.57	7.06
pH (S.U.) Instantaneous Maximum	6.95	7.35	7.75	7.32	6.53	7.61	7.51	7.87	7.41	7.49	6.94	7.43
TSS (mg/L) Average Monthly	< 3.0	< 3.0	< 3.0	< 3.5	< 3.0	< 3.0	< 4.0	4.5	< 3.0	< 3.0	< 3.0	3.0
TSS (mg/L) Daily Maximum	< 3.0	< 3.0	< 3.0	4.0	< 3.0	< 3.0	5.0	5.0	< 3.0	< 3.0	3.0	3.0
Total Dissolved Solids (mg/L) Average Monthly	2030	3505	3510	3155	3475	3370	3325	3345	3335	3045	3095	3070
Total Dissolved Solids (mg/L) Daily Maximum	2140	3560	3530	3470	3490	3470	3390	3360	3340	3070	3150	3100
Osmotic Pressure (mOs/kg) Average Monthly	< 50	54	53.5	< 50	53	51	52.5	51	< 50	< 50	< 50	< 50
Osmotic Pressure (mOs/kg) Daily Maximum	< 50	55	54	50	53	52	55	52	50	50	50	50
Oil and Grease (mg/L) Average Monthly	< 5.0	< 5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5	< 5	< 5
Oil and Grease (mg/L) Instantaneous Maximum	< 5.0	< 5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5	< 5	< 5
Total Aluminum (mg/L) Average Monthly	< 0.115	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aluminum (mg/L) Daily Maximum	0.13	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Total Arsenic (ug/L) Average Monthly	10.5	14	12.5	30	36.5	57	73	51.5	36.5	20	23	28.5
Total Arsenic (ug/L) Daily Maximum	14	14	13	31	41	65	79	75	37	25	23	30
Total Boron (ug/L) Average Monthly	1045	1535	1555	1480	1725	1790	1680	1815	1750	1690	1620	1580
Total Boron (ug/L) Daily Maximum	1120	1540	1580	1660	1730	1850	1690	1880	1780	1730	1660	1670
Total Cadmium (ug/L) Average Monthly	< 2.0	< 2	< 2	< 2	< 2	< 2.0	< 2	< 2	< 2.0	< 2	< 2	< 2
Total Cadmium (ug/L) Daily Maximum	< 2.0	< 2	< 2	< 2	< 2	< 2.0	< 2	< 2	< 2.0	< 2	< 2	< 2
Total Copper (ug/L) Average Monthly	< 10	15	10	15	10	< 10	< 10	< 15	15	15	< 15	15
Total Copper (ug/L) Daily Maximum	< 10	20	10	10	10	10	< 10	20	20	20	20	20
Total Iron (mg/L) Average Monthly	0.65	0.105	0.12	0.23	0.325	0.45	0.66	0.425	0.38	0.375	0.80	0.885
Total Iron (mg/L) Daily Maximum	0.91	0.12	0.12	0.23	0.34	0.47	0.74	0.53	0.39	0.46	0.85	1.01
Total Lithium (ug/L) Average Monthly	1705	3510	3490	3030	3340	2975	2885	2900	2780	2300	2950	2885
Total Lithium (ug/L) Daily Maximum	1710	3520	3540	3260	3520	3200	2920	2950	2890	2300	3060	3120
Total Manganese (mg/L) Average Monthly	0.375	0.29	0.215	0.35	0.47	0.335	0.52	0.385	0.38	0.33	0.295	0.325
Total Manganese (mg/L) Daily Maximum	0.43	0.36	0.22	0.41	0.49	0.35	0.66	0.40	0.44	0.38	0.30	0.34
Total Nickel (ug/L) Average Monthly	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Total Nickel (ug/L) Daily Maximum	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Total Selenium (ug/L) Average Monthly	< 7.5	< 5	< 5.0	< 5	< 5	< 5.0	< 5	< 6	< 5	< 5	7.5	6
Total Selenium (ug/L) Daily Maximum	10	< 5	< 5.0	< 5	< 5	< 5.0	< 5	7	5	5	8	6
Total Strontium (ug/L) Average Monthly	2955	5520	5305	4775	5175	5025	4835	4995	4975	4765	5280	4835
Total Strontium (ug/L) Daily Maximum	3010	5830	5310	5360	5240	5230	4900	5210	5020	4960	5670	5010
Sulfate (mg/L) Average Monthly	559.05	1730	1805	1590	1730	1730	1680	1690	1695	1570	1600	1555

Sulfate (mg/L) Daily Maximum	1090	1750	1820	1760	1750	1760	1700	1710	1700	1600	1610	1590
Total Zinc (ug/L) Average Monthly	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Total Zinc (ug/L) Daily Maximum	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	20
Bromide (mg/L) Average Monthly	< 1.805	7.125	7.12	6.17	6.63	6.445	6.155	6.075	5.93	5.41	5.865	5.92
Bromide (mg/L) Daily Maximum	3.51	7.17	7.13	6.80	6.72	6.52	6.18	6.08	5.96	5.45	6.04	6.15

Table 3: DMR Data for Outfall 006 (from February 1, 2023 to January 31, 2024)

Parameter	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23
pH (S.U.) Daily Maximum		7.05						7.62				
TSS (mg/L) Daily Maximum		15						< 3				
Oil and Grease (mg/L) Daily Maximum		< 5.0						< 5.0				
Total Iron (mg/L) Daily Maximum		0.42						0.04				

Compliance History

Table 4: Effluent Violations for Outfall 004, from: March 1, 2023 To: January 31, 2024

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TSS	04/30/23	Avg Mo	48.0	mg/L	30.0	mg/L
TSS	11/30/23	Avg Mo	< 147.0	mg/L	30.0	mg/L
TSS	07/31/23	Avg Mo	1760.0	mg/L	30.0	mg/L
TSS	01/31/24	Avg Mo	< 43.0	mg/L	30.0	mg/L
TSS	07/31/23	Daily Max	3460.0	mg/L	100.0	mg/L
TSS	11/30/23	Daily Max	291.0	mg/L	100.0	mg/L
Total Iron	07/31/23	Daily Max	307.0	mg/L	7.0	mg/L

Summary of Inspections: Since issuance of the last permit renewal, there has been one inspection onsite, on January 12, 2024. In this inspection the effluent limit exceedances noted above for TSS and Total Iron were cited as in a notice of violation (NOV) of the permit. Trogon sent a letter in reply to this NOV on February 19, 2024 which also address five recommendations. Their corrective actions included contracting to have site stormwater inlets and surrounding areas cleaned and silt fencing installed. These planned actions were documented as completed by the end of March 2024. This violation was later documented as resolved by the Department. Note that all of these exceedances were from sampling at Outfall 004 which is not impacted by this amendment.

Other Comments: The exceedances and the violation associated with sampling at Outfall 004 have no real bearing on the amendment to move Outfall 001 or to eliminate the truck wash station and associated discharges at Outfall 006.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .066
Latitude 40º 16' 50.04" **Longitude** -79º 52' 58.75"
Wastewater Description: Coal Combustion Residual (CCR) Landfill Leachate – Sedimentation Pond Supernatant

Technology-Based Limitations (TBELs)

Federal Effluent Limitation Guidelines (ELGs)

Federal ELGs have been established for effluent from steam electric power plants. Previously under the NPDES permit for the Elrama Generating Station, PA0001571, the associated Fern Valley site should have been subject to Federal ELGs pursuant to 40 CFR § 423.12(b)(3) (Steam Electric Power Generating Point Source Category for low volume waste sources) and should have been required to achieve the limits for total suspended solids (TSS) and oil and grease according to Table 5 below.

Table 5: Federal ELGs (40 CFR Part 423)

Parameter	Monthly Avg. (mg/L)	Maximum Daily (mg/L)
TSS	30	100
Oil and Grease	15	20

In addition, a Federal ELG had been established with specific limits for captive CCR leachate under 40 CFR Part 423, in a final rule published in November 3, 2015. However, ERG Memo (EPA-HQ-OW-2009-0819-6347): Pollutants of Concern Analysis Methodology for FGD Wastewater, Combustion Residual Leachate, and Gasification Wastewater (p.6) states: "Upon further review of the data, EPA excluded samples that represented retired combustion residual leachate management units (49 samples) because the data are not representative of the waste stream regulated by the final rule." This most recent version of these ELGs is therefore not applicable to Fern Valley. This also renders subsequent developments related to the 2015 final rule moot. Further, in the prior renewals of this permit; both in 1999 and also in 1994, the promulgated ELGs were not imposed. In the renewal in 1987, the ELGs were noted, but since the landfill was not yet receiving ash at that time, were also not imposed. Both in the 1999 and in the 1994 renewals, TBELs were established based on BPJ focused on the performance of the onsite system.

As it stands today, Federal ELGs promulgated, and applicable, have not been strictly applied to Fern Valley's NPDES permit. Although prior versions of Federal ELGs promulgated, arguably should have applied, the fact remains, that these were not. However, the 1982 vintage (and prior) ELGs remains relevant as an applicable reference.

Regulatory Effluent Standards and Monitoring Requirements

In addition to considering federal limits, the following Commonwealth regulations pursuant to enacting the Commonwealth's Clean Streams Laws are also applicable.

The pH effluent range for all Industrial waste process and non-process discharges pursuant of 25 Pa. Code § 92a.48(a)(2) and 25 Pa. Code § 95.2 is indicated in Table 6 below. Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1) and 25 Pa. Code § 95.2(1) as indicated in Table 6 below. Pursuant to 25 Pa. Code § 95.2(4) effluent standards for industrial wastes may not contain more than 7 mg/L of dissolved iron as indicated in Table 6 below.

Also, 25 Pa. Code § 95.2(ii) effluent standards for Oil and Grease are shown in Table 6 below, although less restrictive for oil and grease than the reference, prior ELGs, shown in Table 5, above.

Table 6: Regulatory Effluent Standards

Parameter	Monthly Avg.	Daily Max	IMAX	Units
Flow	Monitor/Report		----	MGD
Iron, Dissolved	----	7.0	----	mg/L
pH	6.0 – 9.0 at all times			S.U.
Oil and Grease	15.0	30.0	----	mg/L
TSS	30.0	100.0	----	mg/L

Integral to the implementation of 25 Pa. Code § 95.10 is the principle that existing, authorized mass loadings of TDS are exempt from any treatment requirements under these provisions. Existing mass loadings of TDS up to and including the maximum daily discharge loading for any existing discharge, provided that the loading was authorized prior to August 21, 2010 are exempt. Discharge loadings of TDS authorized by the Department are typically exempt from the treatment requirements of Chapter 95.10 until the net TDS loading is increased, an existing discharge proposes a hydraulic expansion or a change in the waste stream. If there are existing mass or production-based TDS effluent limits, then these are used as the basis for the existing mass loading. As this is a renewal application and this facility is neither new nor expanding waste loading of TDS, the facility may be exempt from 25 Pa. Code § 95.10 treatment requirements. However, the level of treatment provided appears to have been reduced regarding onsite sedimentation pond capacity. Also, the site's prior use of chemical additives as flocculants and for pH adjustment has been discontinued. In addition, the POFU study identified TDS as a source of stream impairment. Therefore, monitoring of TDS related pollutants may be considered.

The renewal application submittal noted that the discharge sample contained 3,570 mg/L of TDS. The treatment system influent sample for the 2015 update submittal contained 3,380 mg/L of TDS. Under the provisions of 25 Pa. Code § 95.10(c) "New and expanding mass loadings of TDS … may not contain more than 2,000 mg/L of TDS as a monthly average…." The TDS discharge sample result noted above is higher than both the limit set in 25 Pa. Code § 95.10(c) and may benefit from the application of treatment technology. However, under the provisions of 25 Pa. Code § 95.10(a)(7) as this discharge is not new, does not discharge more than 5,000 lbs of solids per day, nor can it be demonstrated that it is increasing, therefore, this discharge is exempt under 25 Pa. Code § 95.

Best Professional Judgment (BPJ) Effluent Limitations – Outfall 001

To the extent that Federal ELGs are not directly applicable to Outfall 001's discharges, TBELs, if warranted, are developed based on BPJ. Applicable regulatory effluent standards and monitoring requirements may also be imposed.

Where Federal ELGs do not apply, 40 CFR § 125.3 requires a BPJ determination. This determination evaluates the treatability of pollutants and performance of available treatment technologies. For imposition of effluent limitations based on Best Available Technology Economically Achievable (BAT) requirements, the statute requires consideration of the following factors:

(i) The age of equipment and facilities involved;
(ii) The process employed;
(iii) The engineering aspects of the application of various types of control techniques;
(iv) Process changes;
(v) The cost of achieving such effluent reduction; and
(vi) Non-water quality environmental impact (including energy requirements).

In addition, Technology-based treatment requirements may be imposed in an NPDES permit "on a case-by-case basis under Section 402(a)(1) of the Clean Water Act; to the extent that EPA-promulgated effluent limitations are inapplicable. When effluent guidelines are available for an industrial category, but no effluent guideline requirements are available for a particular pollutant of concern, the permit writer should make sure that the pollutant of concern is not already controlled by the effluent guidelines and was not considered by EPA when the Agency developed the effluent guidelines.

In considering the application of BPJ, the Department reviewed both the basis of US EPA's initial applicable rule in the 1974 Development Document for the Steam Electric Power Generating Point Source Category and the later rule (that may have applied) which is in the 1982 Development Document for Final Effluent Limitations Guidelines. Note that Chromium VI was not considered in these development documents. Relative to this promulgated 1982 ELG, Fern Valley began receiving ash in 1989 and should have been considered a new source and subject to New Source Performance Standards (NSPS) under 40 CFR § 423.15. This, however, was still equivalent to the limits shown in Table 5. The 1982 Development Document does also include in its conclusion that:

> For low volume wastes, the BAT limits for conventional pollutants are withdrawn because they will be covered by BCT (Best Conventional Pollutant Control Technology).

In this case, the prior BCT was the use of surface impoundments, and Fern Valley was previously equipped with a cascade of two sedimentation ponds, one still remaining. In addition, the site was approved for, and has previously used approved chemical additives, employed as flocculants; as well as, innovative treatments (CO_2 addition) to control pH. The infrastructure for this latter treatment has subsequently been removed. Given this history, it would not be unreasonable to

consider chemical precipitation in the remaining sedimentation pond as a baseline for CCR leachate treatment at this site. However, no chemical addition has recently been used at this site.

Pursuant to identifying a focus of the BPJ analysis a review of the 2015 renewal application submittal treatment influent was made compared to the Department's Treatability Table to determine if any pollutants are documented to be present in concentrations that would benefit from further treatment. This comparison is summarized in the Table 7 below:

Table 7: Comparison of Treatment Pond Influent vs. Treatability Tables (all units in $\mu g/L$)

Pollutant	Influent Conc.	BPJ for BAT	Q.L.	Considered in ELG?	BAT Treatment Methodology
Aluminum	58.7	2,000	10.0	Yes	Precipitation as Al(OH)3.
Arsenic	9.2	200	3.0	Yes	Arsenite oxidized to arsenate; lime precipitation, or iron or alum co-precipitation; gravity clarification
Barium	36.0	1,000	2.0	Yes	Sulfite precipitation; coagulation; barium sulfate precipitate; gravity clarification
Cadmium	< 0.1	0.1	0.2	Yes	Chemical precipitation; high pH (10 – 11) precipitation co-ppt Fe(OH)3; and then gravity clarification for lime
Chromium	< 2.0	500	4.0	Yes	Chemical precipitation; (OH ppt); and then gravity clarification for lime
Hexavalent Chromium	< 10.0	50	1.0	No	Acidic reduction for trivalent chromium or iron exchange at pH below 6.0; pH 2-3
Copper	1.5	400	4.0	Yes	Precipitation (OH ppt); pH 8.5; sulfide ppt 10 ug/L; gravity clarification
Fluoride	100.	10,000.	200.	Yes	High pH lime precipitation, gravity clarification
Iron	152.	1,500	20.0	Yes	Oxidation at neutral pH of ferrous to ferric iron; precipitation; gravity clarification or filtration.
Lead	0.2	150	1.0	Yes	High-pH precipitation (OH ppt); pH 11.5; sulfide 10 ug/L; gravity clarification
Manganese	306.	2,000	2.0	Yes	Chemical oxidants used to convert manganese ion to insoluble MnO_2 or manganese hydroxides and coagulation, filtration.
Mercury	< 0.1	3.0	0.2	Yes	Ion exchange or coagulation plus filtration
Nickel	2.5	750	4.0	Yes	High-pH precipitation (OH ppt); pH 9-12; lime and sulfide, 40 ug/L; gravity clarification and/or filtration.
Silver	< 0.1	100	5.0	Yes	Ion exchange or ferric chloride co-precipitation plus filtration
Zinc	31.	500	5.0	Yes	Precipitation at optimized pH; Zn(OH)2 with lime or caustic; pH 9.0-9.5 and 11; gravity clarification and/or filtration.
TDS	3,380,000	2,000,000	2000	Yes	Chapter 95 Ch. 95.10

As can be seen in Table 7 above, the treatment system influent sample for the 2015 update submittal contained 3,380 mg/L of TDS. As noted in the prior section; however, TDS cannot be conclusively demonstrated as increasing. Further, a more general comparison of influent sample values to the Department's treatability table shows that no other pollutant approached the starting point for BAT treatability. This comparison included arsenic and mercury which have been identified as being of interest for CCR landfill leachate. Therefore, the focus of the BPJ will be solely on the inclusion of the prior ELG (Table 5) lower value for the daily maximum effluent limit for oil and grease.

BPJ Analysis – [Oil & Grease]

A stated above, a review of the most recent 2015 application update submittal information suggests that the sedimentation pond treatment influent demonstrated generally better water quality than the treatment discharge. A review of DMR and eDMR data prior to 2015 was conducted, including available data from 2011 through 2014. A review of this data set indicated that the pollutant loading in the leachate has moderated with time since the landfill closure, but also that the

effectiveness of the treatment had diminished with the accumulation of sediment. After the 2020 sedimentation pond cleaning, treatment effectiveness is expected to improve. The focus of this analysis will be confined to consideration of incorporating the prior ELG lower daily maximum effluent limit for the oil and grease shown in Table 5. There were no other pollutants identified at treatable discharge concentrations to justify a BPJ treatability evaluation.

There are now no applicable ELGs for discharges from closed CCR landfills and the leachate these produce. In the absence of any ELG's, technology limitations are developed based on BPJ. In establishing effluent limitations on a case-by-case basis, the appropriate technology for the applicant is considered. When evaluating appropriate BPJ limits for a permittee, the Department considers six factors as required by 40 CFR § 125.3. These six factors are: (1) the age of the equipment and facility, (2) the process employed, (3) the engineering aspects of the application of various types of control technique, (4) process changes, (5) the cost of achieving such effluent reduction and, (6) non-water quality environmental impact (including energy requirements). Factors specific to each level of control technology include costs, pollutant reduction benefits and economic achievability. Each of these factors are discussed below as they relate to Fern Valley.

1. Equipment and Facility Age – The remaining sedimentation pond in use at the Fern Valley site has been recently cleaned and should therefore now be in good working order. The vintage of the facility is that it was conceived in the late 1970's, redesigned and implemented in the 1980's and then operated from 1989 through 2003. Fern Valley has now been closed for well over a decade. The site has no full-time staff. The site has limited or no installed electrical power supply but does currently have sampling and monitoring installed. It appears unlikely that GenOn (or its successor) will need to invest resources into specialized pollution control equipment such as an oil/water separator (OWS) or rope skimmers. The site has been historically able to meet its effluent limits and is expected to be successful in the future using the existing treatment system.

2. The Process Employed – As mentioned in the previous paragraph, the Department anticipates compliance with the proposed effluent limitations through use of the existing Sedimentation Pond and implementation of BMPs and housekeeping. As such, required changes should be minimal. However, until the recent Sedimentation Pond cleaning, GenOn had failed to adequately invest in the operation and maintenance of the site's pollutant controls for some years. To address the daily maximum limit of 20 mg/L for Oil and Grease included in Table 5. this should be achievable based on the review of prior discharge report data. Over the last twenty years, the proposed limit would only have been exceeded once. This was in September 2018 and is shown in bold in Table 2a. This was a month before the overflow incident. The lower limit may have prompted action to investigate the cause prior to this unusual occurrence.

3. Engineering Aspects of Control Techniques – The addition of an OWS, chemical infrastructure or even additional BMPs appears to be unnecessary for the facility to meet its proposed effluent limitations. However, given the Design Engineer's Report no longer describing the onsite treatment process of today, a review of the adequacy is requested. If any treatment system changes are is necessary to meet GenOn's effluent limits or otherwise desired, the Department and the permittee will evaluate the engineering aspects of the project at that time.

4. Process Changes – In order to meet the lower daily maximum oil and grease effluent limitation no changes to operations at the site are expected. Therefore, sample analysis results submitted with the NPDES permit application are expected to be in compliance now and in the future. Implementation of any required measures should have minimal impact on the passive processes employed at the facility. As such, process changes are not expected to significantly add to the overall cost of operating the facility. However, if any changes to the site infrastructure are required, then this would incur implementation costs and also increase maintenance and associated operating expenses.

5. Non-Water Quality Environmental Impacts (Including Energy Requirements) – As no further measures are foreseen, there are no known non-water quality environmental impacts or energy requirements associated with meeting the lower daily maximum effluent limitations for oil and grease. The proposed effluent limits are appropriate and believed to be attainable using the installed technology. No OWS or rope skimmers are required or expected. If in the future this situation changes, as noted above, this would incur a cost impact.

In order to monitor the operation and maintenance of the installed Sedimentation Pond, the Department proposes TBELs based upon BPJ for Outfall 001. These limits are imposed consistent with the more stringent of prior Federal ELGs shown in Table 5, now applied as BPJ, and the Department's TBELs in Table 6 above derived from applicable PA regulations. Implied with the former is also a prohibition of discharge of PCBs and total residual or free chlorine. Since there is; however, no history of discharge for either PCBs or chlorine from Fern Valley, these are not proposed to be monitored.

Note that BAT limits have not been imposed, rather the basis for the Table 5 values is BCT. The factors required to be considered, in this case, may lessen the need of an explicit cost analysis, never-the less, minimal process changes are expected. After consideration the 2015 submittal data, compared with treatability information, no monitoring for arsenic or mercury was imposed as a TBEL at this time.

In the future, TBELs could be considered in line with the performance of the site's Sedimentation Pond treatment. A review of available eDMR data going back to early 2011 indicates that a statistical analysis could be used to establish appropriate effluent limitations; however, with the 2020 Sedimentation Pond maintenance only recently accomplished, this study is deferred until a future permit renewal cycle, as opposed to this permit amendment.

These recommendations for TBELs are included in Table 8 below.

Table 8: Recommended TBELs for Outfall 001

Parameter	Monthly Avg.	Daily Max	IMAX	Units
Flow	Monitor/Report		----	MGD
Total Suspended Solids	30.0	60.0	----	mg/L
Oil and Grease	15.0	20.0	----	mg/L
Iron, Dissolved	---	7.0	----	mg/L
pH	6.0 – 9.0 at all times			S.U.

Water Quality-Based Limitations

Total Dissolved Solids Considerations

Where the concentration of TDS in the discharge exceeds 1,000 mg/L, or the net TDS load from a discharge exceeds 20,000 lbs/day, and the discharge flow exceeds 0.1 MGD, establish a monitoring requirement for TDS, sulfate, chloride, and bromide. For discharges of 0.1 MGD or less establish a monitoring requirement for TDS, sulfate, chloride, and bromide if the concentration of TDS in the discharge exceeds 5,000 mg/L. At Fern Valley the average discharge flowrate is 0.066 MGD (Outfall 001) and reported maximum TDS concentration of 3,570 mg/L. Therefore, TDS monitoring requirements are not imposed as a WQBEL under this provision.

Toxics Screening Analysis – Procedures for Evaluating Reasonable Potential and Developing WQBELs

Pursuant to consideration of the Water Quality Based Effluent Limitations (WQBELs) at Outfall 001, water quality modeling was created following DEP's procedures for evaluating reasonable potential which are as follows:

1. For IW discharges, the design flow used in the modeling is the average flow during production or operation and may be taken from the permit application.

2. All toxic pollutants with discharge concentrations reported in the permit application or on DMRs, are modeled and compared to the most stringent applicable water quality criterion as potential pollutants of concern. [This includes pollutants reported as "Not Detectable" or as "<MDL" where the method detection limit for the analytical method used by the applicant is greater than the most stringent water quality criterion]. The highest reported concentration is entered into the most recent version of the Department's Toxics Management Spreadsheet (TMS) analysis (refer to Attachment A).

3. For any outfall with an applicable design flow, perform TMS modeling for all pollutants reported in the discharge. Use the maximum reported value from the application form or from DMRs as the input concentration for the TMS model.

4. Compare the actual WQBEL from TMS with the maximum concentration reported on DMRs or the permit application. Use WQN data or another source to establish the existing or background concentration for naturally occurring pollutants, but generally assume zero background concentration for non-naturally occurring pollutants

    - Establish limits in the draft permit where the maximum reported concentration equals or exceeds 50% of the WQBEL. Use the average monthly and maximum daily limits for the permit as recommended by TMS. In some cases, establish an IMAX limit at 2.5 times the average monthly limit.

    - For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.

- For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10% - 50% of the WQBEL.

The information described above including the maximum reported discharge concentrations, the most stringent water quality criteria, the pollutant-of-concern (reasonable potential) determinations, the calculated WQBELs, and the WQBEL/monitoring recommendations are displayed in the results presentation from TMS spreadsheet (refer to Attachment A).

Water Quality Modeling Programs

Toxics Management Spreadsheet Version 1.4 is a single discharge, mass-balance water quality modeling program that includes consideration for mixing, first-order decay and other factors to determine recommended WQBELs for toxic substances and several non-toxic substances. Required input data including stream code, river mile index, elevation, drainage area, discharge name, NPDES permit number and discharge flow rate are entered into TMS to establish site-specific discharge conditions. Other data such as low flow yield, reach dimensions and partial mix factors may also be entered to further characterize the conditions of the discharge and receiving water. The modeling approach outlined above is used to determine if any pollutants are present or likely to be present in a discharge at levels that may cause, have the reasonable potential to cause, or contribute to excursions above state water quality standards (i.e., a reasonable potential analysis). Discharge concentrations for the selected pollutants are chosen to represent the "worst case" quality of the discharge (i.e., maximum reported discharge concentrations). TMS evaluates each pollutant by computing a Waste Load Allocation (WLA) for each applicable criterion and associated WQ objective, determining a recommended maximum WQBEL and comparing that recommended WQBEL with the input discharge concentration to determine which is more stringent. Based on this evaluation, TMS output may include recommendations for average monthly and maximum daily WQBELs.

Reasonable Potential Analysis and WQBEL Development for Trogon's Fern Valley site discharge at Outfall 001

Discharge sample analysis results for Outfall 001 were evaluated based on concentrations reported on the prior renewal application. The TMS model was run for Outfall 001 using the modeled discharge and receiving stream characteristics shown in Table 3 with the basis given in Attachments A and B.

Table 9: TMS Inputs

Parameter	**Value**
River Mile Index	25.5765
Discharge Flow (MGD)	0.013
Basin/Stream Characteristics	
Parameter	**Value**
Area (mi^2)	5350
Q_{7-10} (cfs)	550.
Low-flow yield (cfs/mi^2)	0.1028
Elevation (ft.)	725
Slope	0.00038

WQBELs are calculated by TMS by allocating the established Water Quality (WQ) criteria for the receiving surface water from 25 PA Code § 93. The criteria are then converted to a WQ objective. For metals with criteria established for its dissolved form, a translator is used to determine the criteria for the total metal which is then used as the WQ objective.

From this calculated objective for each pollutant concentration the discharge allocation is then reduced by available data of existing pollutant loads in the receiving waters using actual concentration data from instream monitoring. In this case, no upstream water quality data was available, so none was entered. The assumption of zero background concentration is therefore used for non-naturally occurring pollutants or where background data is insufficient to determine the background concentration.

The TMS model calculates and applies partial mixing factors for CFC, THH and CRL. The most limiting criteria is selected and, finally, WLAs are calculated for the IW discharger and compared to its reported discharge concentrations.

Note that the downstream public water intake on the Monongahela River at Becks Run is roughly 18 miles downstream from this site's discharge. This PWS is drawing from the Monongahela, but at almost double the flow, downstream of the confluence with the Youghiogheny River. With this distance and increase flow considered together, it is amply sufficient for PWS related pollutants (e.g. phenolics) to dissipate, therefore, the drinking water criteria do not apply for this limit and Phenols will not be included with the WQBELs.

The TMS model results are included as Attachment C. These results include recommended effluent limits and/or reporting requirements for the parameters shown in Table 10. Note that some undetected parameters' input values were set to the reported testing laboratory MDL. Also included in Table 10 for reference are the Department's target Quantitation Limits (QLs) as specified in DEP's most recent *Application for Permit to Discharge Industrial Wastewater*. The target QLs are the

means by which DEP is implementing EPA's September 18, 2014 revisions to 40 CFR Parts 122 and 136 requiring applicants and permittees to use "sufficiently sensitive" EPA-approved analytical methods that are capable of detecting and measuring the pollutants at, or below, the applicable water quality criteria or permit limits.

Table 10. Outfall 001 WQBELs and Monitoring Requirements (with Governing WQ Criteria and Target QLs)

Parameter	Concentration (µg/L)		Governing Criterion (mg/L)	Target QL (µg/L)
	Monthly Avg	Maximum Daily		
Copper, Total	Report	Report	7.33	4.0
Zinc, Total	Report	Report	62.7	5.0

In Table 10 above, there are no WQBEL recommended to receive Effluent Limitations. Monitoring was recommended only for the metals copper and zinc. Both had protection of aquatic life as the basis for the WQBEL.

WQM 7.0 Model

The computer model WQM 7.0 is run to determine wasteload allocations and effluent limitations for $CBOD_5$, NH_3-N and Dissolved Oxygen for single and multiple point source discharge scenarios. In general, WQM 7.0 is run if the maximum BOD_5/$CBOD_5$ concentrations exceeds 30/25 mg/L respectively in the permit application or the DMRs. The permit application reports BOD_5 concentrations of between 1 - 2 mg/L, therefore, the WQM 7.0 Model is not required to be run.

Total Residual Chlorine (TRC)

This facility does not use public drinking water as a supply source and, it does not currently use chlorination for treatment. In addition, chlorine was not detected in the discharge samples, therefore, no TRC limits are proposed.

Anti-Backsliding

Section 402(o) of the Clean Water Act (CWA), enacted in the Water Quality Act of 1987, establishes anti-backsliding rules governing two situations. The first situation occurs when a permittee seeks to revise a Technology-Based effluent limitation based on BPJ to reflect a subsequently promulgated effluent guideline which is less stringent. The second situation addressed by Section 402(o) arises when a permittee seeks relaxation of an effluent limitation which is based upon a State treatment standard or water quality standard.

Previous limits can be used pursuant to EPA's anti-backsliding regulation 40 CFR § 122.44 (l) Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued. Interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under §122.62). (2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

However, the change piping of the discharge for Outfall 001 to the downstream receiving stream does represent an example of the circumstances on which the permit is based undergoing a material and substantial change versus the last renewal issuance. This basis does, in fact match the situation before the last renewal and therefore that basis will be used once again for comparison against backsliding. These limits are included in Table 12 below.

Table 12: Prior NPDES Permit Effluent Limits (Before Oct. 2021)

Parameter	Monthly Avg.	Daily Max	IMAX	Units
Flow	Monitor/Report		----	MGD
Total Suspended Solids	30.0	60.0	75.0	mg/L
pH	6.0 – 9.0 at all times			S.U.
Oil and Grease	15.0	----	30.0	mg/L
Iron, Total	3.5	7.0	8.75	mg/L
Aluminum	5.0	10.0	12.5	mg/L

Aquatic Life Use Assessment Survey

As noted earlier, a survey was conducted in late 2019 as documented by a report issued on April 17, 2020. This report required that the following parameters be included in this permit as monitor and report: boron, lithium, bromide, osmotic pressure, strontium, sulfates and Total Dissolved Solids (TDS). Although still applicable for other site outfalls, this study no longer applies for Outfall 001.

Effluent Limitations and Monitoring Requirements for Outfall 001

Effluent limits applicable at Outfall 001 are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements as summarized in Table 13. The applicable limits and monitoring requirements provided below are based on the most stringent limits from those listed in Tables 6, 8, 11 and 12 in the prior sections of this Fact Sheet. Note that, although listed in Table 13, Dissolved Iron is effectively redundant with the Total Iron limit and, therefore, will be dropped from the permit.

Table 13: Effluent Limits and Monitoring Requirements for Outfall 001

Parameter	Mass (pounds)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	Report	Report	—	—	—	25 Pa. Code § 92a.61(d)(1)
Oil and Grease	—	—	15.0	20.0	—	40 CFR § 423 & 125.3
Total Suspended Solids	—	—	30.0	60.0	—	40 CFR § 125.3
Dissolved Iron	—	—	—	7.0	—	25 Pa. Code § 95.2(4)
Iron (total)	—	—	3.5	7.0	—	40 CFR § 122.44 (l)
Aluminum (total)	—	—	5.0	10.0	—	40 CFR § 122.44 (l)
Copper (total)	—	—	Report	Report	—	WQBELs, Reasonable Pot.
Zinc (total)	—	—	Report	Report	—	WQBELs, Reasonable Pot.
pH (S.U.)	Within the range of 6.0 to 9.0					25 Pa. Code § 95.2

Monitoring requirements for these parameters of interest were set to match those of the previous permit's requirements for frequency/type and are displayed in Table 14 below.

As noted earlier, a review of the eDMR data reported since the 2021 renewal was conducted. Higher reported values than in the 2015 data set, supplemented in early 2021, were found versus those shown in Attachment C for Arsenic, Boron, Manganese, Selenium and Strontium were found in the various monthly reported data sets. A run of TMS using this data was made, but no additional monitoring or effluent limitations were recommended by the TMS model, so no further action was taken.

Table 14. Monitoring Requirements for Outfall 001

Parameter	Sample Type	Minimum Sample Frequency
Flow (MGD)	Measured	2/Month
Oil and Grease	Grab	2/Month
Total Suspended Solids	Grab	2/Month
Dissolved Iron	Grab	2/Month
Iron (total)	Grab	2/Month
Aluminum (total)	Grab	2/Month
Copper (total)	Grab	2/Month
Zinc (total)	Grab	2/Month
pH (S.U.)	Grab	2/Month

PFAS Monitoring

Per- and poly-fluoroalkyl substances (PFAS) have attracted widespread attention recently because of their characteristic bioaccumulation, toxicity, and wide dispersion in the environment. PFAS are a group of compounds used in a variety of industrial and consumer products such as surfactants for soil/stain resistance, textiles, paper and metals, firefighting foam,

and pesticides. Humans are exposed to PFAS through contaminated drinking water, food, outdoor air, indoor dust, and soil.

On February 5, 2024, the Department updated their standard procedures to include a requirement for monitoring of selected PFAS related compounds. These include:

PFOA – perfluorooctanoic acid
PFOS – perfluorooctanesulfonic acid
PBFS – perfluorobutane sulfonate
HFPO-DA – hexafluoropropylene oxide – dimer acid

For permittees like Trogon's Fern Valley site where no history of use of these chemicals has been indicated, once per annum monitoring will be added to the required monitoring. No effluent limitations have been promulgated at this time. Further, if 4 consecutive samples result in no detections of these substances, further monitoring may be discontinued.

Effluent Limitation Compliance Schedule

Whenever the Department proposes the imposition of water quality based effluent limitations on existing sources, the NPDES permit may include a schedule of compliance to achieve the WQBELs. Any compliance schedule contained in an NPDES permit must be an "enforceable sequence of actions or operations leading to compliance with the water quality-based effluent limitations ("WQBELs"). In accordance with 40 CFR § 122.47(a)(3) and PA Code, Chapter 92a.51, compliance schedules that are longer than one year in duration must set forth interim requirements and dates for their achievement. In order to grant a compliance schedule in an NPDES permit, the permitting authority has to make a reasonable finding, adequately supported by the administrative record and described in the fact sheet, that a compliance schedule is "appropriate" and that compliance with the final WQBEL is required "as soon as possible".

In this case, with the change in bases resulting in the elimination of WQBELs based effluent limitations for Outfall 001, no further compliance schedule is needed, and these limits will go into effect upon permit finalization.

Development of Effluent Limitations

Outfall No.	006	**Design Flow (MGD)**	0
Latitude	40º 16' 52"	**Longitude**	-79º 53' 04"
Wastewater Description:	Captured Stormwater - Roadway Runoff Stormwater Drain		

As noted above, on March 21, 2024 a letter was received from Trogon requesting the elimination of Outfall 006 be considered in this permit amendment review. The letter is included as Attachment D.

Outfalls 005, 006 and 007 were all added in the 2021 renewal as these were called out as separate discharges in the renewal application. Outfall 006 included a stormwater discharge from a pipeline conveyance from an abandoned-in-place prior truck wash station. Trogon proposes to plug and/or remove this discharge piping during the other work onsite, approved under WQM Part II amendment 0287202 A2, approved on May 2, 2023.

The background of the truck wash station is that in the early 1990's, several amendments were made to this site's treatment processes. After then owner Duquesne Light Company entered into a Consent Order and Agreement with the Department, this prior permittee amended the treatment to add neutralization and chemical addition (flocculant) to the treatment process. Documentation of a sealed spring drain and the addition of a sedimentation pond curtain wall was also added. These modifications were focused on mitigating the consequences of this truck wash station that had been installed for use during the landfill's operation. Subsequent permit effluent limit exceedances had prompted these modifications. These changes were incorporated into WQM Part II permit **0287202**, amendment **A1**, which was issued February 7, 1992.

With the removal and/or plugging of conveyance piping, the Department approves the elimination of this outfall from the permit.

Tools and References Used to Develop Permit	
☐	WQM for Windows Model
☒	Toxics Management Spreadsheet (see Attachment A)
☐	TRC Model Spreadsheet
☐	Temperature Model Spreadsheet
☐	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: SOP for Clean Water Program; New and Reissuance Industrial Waste and Individual Stormwater Individual NPDES Permit Applications, SOP No. BPNPSM-PMT-001, Revised February 5, 2024, Version 1.7., Establishing Effluent Limitations for Individual Industrial Permits, SOP No. BPNPSM-PMT-032, Revised February 5, 2024, Version 1.7
☐	Other:

ATTACHMENTS

ATTACHMENT A: USGS STREAMSTATS DATA

ATTACHMENT B: Q_{7-10} FLOWS OF MAJOR RIVERS – MONONGAHELA RIVER

ATTACHMENT C: TOXICS MANAGEMENT SPREADSHEET RESULTS AND INPUTS

ATTACHMENT D: TROGON DEVELOPMENT LETTER, DATED MARCH 21, 2024

ATTACHMENT A

USGS STREAMSTATS DATA: MONONGAHELA RIVER

Monongahela River

StreamStats Report: Alt. Basin Mon. River @ Confluence with UNT 39536 (FVAD)

Region ID:	PA
Workspace ID:	PA20191009183321799000
Clicked Point (Latitude, Longitude):	40.28007, -79.88176
Time:	2019-10-09 14:33:42 -0400

PA0090271 Fern Valley Ash Disposal site NPDES

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	5350	square miles
ELEV	Mean Basin Elevation	1822.8	feet
PRECIP	Mean Annual Precipitation	47.1	inches
CARBON	Percentage of area of carbonate rock	1.6	percent
FOREST	Percentage of area covered by forest	76.1	percent
URBAN	Percentage of basin with urban development	2.6	percent

Low-Flow Statistics Parameters[100 Percent (5340 square miles) Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5350	square miles	2.26	1400
ELEV	Mean Basin Elevation	1822.8	feet	1050	2580

Low-Flow Statistics Disclaimers[100 Percent (5340 square miles) Low Flow Region 4]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report[100 Percent (5340 square miles) Low Flow Region 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	704	ft^3/s
30 Day 2 Year Low Flow	932	ft^3/s
7 Day 10 Year Low Flow	412	ft^3/s
30 Day 10 Year Low Flow	481	ft^3/s
90 Day 10 Year Low Flow	712	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p.

Base Flow Statistics Parameters[100 Percent (5340 square miles) Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5350	square miles	2.26	1720
PRECIP	Mean Annual Precipitation	47.1	inches	33.1	50.4
CARBON	Percent Carbonate	1.6	percent	0	99
FOREST	Percent Forest	76.1	percent	5.1	100
URBAN	Percent Urban	2.6	percent	0	89

Base Flow Statistics Disclaimers[100 Percent (5340 square miles) Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Base Flow Statistics Flow Report[100 Percent (5340 square miles) Statewide Mean and Base Flow]

Statistic	Value	Unit
Base Flow 10 Year Recurrence Interval	4330	ft^3/s
Base Flow 25 Year Recurrence Interval	3900	ft^3/s
Base Flow 50 Year Recurrence Interval	3640	ft^3/s

Base Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p.

Annual Flow Statistics Parameters[100 Percent (5340 square miles) Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5350	square miles	2.26	1720
ELEV	Mean Basin Elevation	1822.8	feet	130	2700
PRECIP	Mean Annual Precipitation	47.1	inches	33.1	50.4
FOREST	Percent Forest	76.1	percent	5.1	100
URBAN	Percent Urban	2.6	percent	0	89
CARBON	Percent Carbonate	1.6	percent	0	99

Annual Flow Statistics Disclaimers[100 Percent (5340 square miles) Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Annual Flow Statistics Flow Report[100 Percent (5340 square miles) Statewide Mean and Base Flow]

Statistic	Value	Unit
Mean Annual Flow	11200	ft^3/s
Harmonic Mean Streamflow	4390	ft^3/s

Annual Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p.

ATTACHMENT B

ARMY CORPS OF ENGINEERS
$Q_{7\text{-}10}$ FLOWS OF MAJOR RIVERS – MONONGAHELA RIVER

Q_{7-10} Flows of Major Rivers

Nicolas Lazzaro, P.E.
U.S. Army Corp of Engineers
Pittsburgh District Water Management
December 1, 2017

UPPER OHIO BASIN LOW FLOWS		
Location		Q7, 10 Flow (cfs)
Monongahela River		
Point Marion L&D (RMI 90.8; Upper Pool El. 797.0)	Cheat River enters at RMI 89.68 Dunkard Creek enters at RMI 87.18	420
Grays Landing L&D (RMI 82.0; Upper Pool El. 778.0)	Tenmile Creek enters at RMI 65.62	530
Maxwell L&D (RMI 61.2; Upper Pool El. 763.0)	Redstone Creek enters at RMI 54.90	530
L&D 4 at Charleroi (RMI 41.5; Upper Pool El. 743.5)		550
L&D 3 at Elizabeth (RMI 23.8; Upper Pool El. 726.9)		550
McKeesport downstream of the Youghiogheny River (RMI 15.53)		1,060
Braddock L&D (RMI 11.2; Upper Pool El. 718.7)		1,230

ATTACHMENT C

TOXICS MANAGEMENT SPREADSHEET RESULTS AND INPUTS

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Trogon Dev. Fern Valley Ash Disposal Site, NPDES Permit No. PA0090271, Outfall 001

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

☑ ***Hydrodynamics***

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

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
22.5765	550		550	0.201	0.00061	25.	617.51	24.7	0.036	0.528	168.547
22.2683	551		551								

Q_h

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
22.5765	1845.29		1845.29	0.201	0.00061	42.579	617.51	14.503	0.07	0.268	75.867
22.2683	1848.227		1848.23								

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

No. Samples/Month: 4

Pollutants	*Mass Limits* AML (lbs/day)	*Mass Limits* MDL (lbs/day)	*Concentration Limits* AML	*Concentration Limits* MDL	*Concentration Limits* IMAX	*Concentration Limits* Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	Report	Report	Report	Report	Report	mg/L	7.33	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	mg/L	62.7	AFC	Discharge Conc > 10% WQBEL (no RP)

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Trogon Dev. Fern Valley Ash Disposal Site, NPDES Permit No. PA0090271, Outfall 001

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

☑ ***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 Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	392,679	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	27,358	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	6,565,972	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	4,240,936	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	740	µg/L	Discharge Conc < TQL
Total Chromium (III)	235,772	µg/L	Discharge Conc < TQL
Hexavalent Chromium	8,531	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	49,739	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	820,747	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	4,103,733	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	8,704	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	2,735,822	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	137	µg/L	Discharge Conc < TQL
Total Nickel	142,709	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	13,649	µg/L	Discharge Conc ≤ 10% WQBEL
Total Silver	1,981	µg/L	Discharge Conc < TQL
Total Thallium	657	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Trogon Dev. Fern Valley Ash Disposal Site, NPDES Permit No. PA0090271, Outfall 001

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

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.298 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	612,643	
Total Antimony	0	0		0	1,100	1,100	898,543	
Total Arsenic	0	0		0	340	340	277,731	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	17,153,995	
Total Boron	0	0		0	8,100	8,100	6,616,541	
Total Cadmium	0	0		0	2.014	2.13	1,743	Chem Translator of 0.944 applied
Total Chromium (III)	0	0		0	569.763	1,803	1,472,833	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	13,309	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	77,601	
Total Copper	0	0		0	13.439	14.0	11,435	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	64.581	81.6	66,692	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	1,345	Chem Translator of 0.85 applied
Total Nickel	0	0		0	468.236	469	383,248	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	3.217	3.78	3,091	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	53,096	
Total Zinc	0	0		0	117.180	120	97,873	Chem Translator of 0.978 applied

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Trogon Dev. Fern Valley Ash Disposal Site, NPDES Permit No. PA0090271, Outfall 001

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

☑ ***CFC*** CCT (min): 168.547 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	601,881	
Total Arsenic	0	0		0	150	150	410,373	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	11,216,869	
Total Boron	0	0		0	1,600	1,600	4,377,315	
Total Cadmium	0	0		0	0.246	0.27	740	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	74.115	86.2	235,772	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	28,439	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	51,981	
Total Copper	0	0		0	8.956	9.33	25,522	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	4,103,733	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.517	3.18	8,704	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	2,478	Chem Translator of 0.85 applied
Total Nickel	0	0		0	52.007	52.2	142,709	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	13,649	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	35,566	
Total Zinc	0	0		0	118.139	120	327,796	Chem Translator of 0.986 applied

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Trogon Dev. Fern Valley Ash Disposal Site, NPDES Permit No. PA0090271, Outfall 001

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

☑ ***THH*** CCT (min): 168.547 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	15,321	
Total Arsenic	0	0		0	10	10.0	27,358	
Total Barium	0	0		0	2,400	2,400	6,565,972	
Total Boron	0	0		0	3,100	3,100	8,481,047	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	820,747	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	2,735,822	
Total Mercury	0	0		0	0.050	0.05	137	
Total Nickel	0	0		0	610	610	1,668,851	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	657	
Total Zinc	0	0		0	N/A	N/A	N/A	

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Trogon Dev. Fern Valley Ash Disposal Site, NPDES Permit No. PA0090271, Outfall 001

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

☑ CRL CCT (min): 75.867 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Trogon Dev. Fern Valley Ash Disposal Site, NPDES Permit No. PA0090271, Outfall 001

Instructions | Discharge | *Stream*

CLEAR FORM | CALCULATE

Receiving Surface Water Name: **Monongahela River**

No. Reaches to Model: **1**

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	037185	22.5765	725	5350			Yes
End of Reach 1	037185	22.2683	724	5360			Yes

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

Location	RMI	LFY (cfs/mi^2)*	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	22.5765	0.1	550			617.51	25					100	7		
End of Reach 1	22.2683	0.1	551			618	25								

Q_h

Location	RMI	LFY (cfs/mi^2)	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	22.5765														
End of Reach 1	22.2683														

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

CLEAR PROJECT | CLEAR FORM | CALCULATE

Facility: **Trogon Dev. Fern Valley Ash Disposal Site** NPDES Permit No.: **PA0090271** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **CCR Leachate**

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
0.13	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		3380									
	Chloride (PWS)	mg/L		533									
	Bromide	mg/L		7.2									
	Sulfate (PWS)	mg/L		1430									
	Fluoride (PWS)	mg/L		0.1									
Group 2	Total Aluminum	µg/L		750									
	Total Antimony	µg/L	<	0.5									
	Total Arsenic	µg/L		9.2									
	Total Barium	µg/L		36									
	Total Beryllium	µg/L	<	0.5									
	Total Boron	µg/L		2000									
	Total Cadmium	µg/L	<	0.1									
	Total Chromium (III)	µg/L	<	2									
	Hexavalent Chromium	µg/L	<	10									
	Total Cobalt	µg/L		0.3									
	Total Copper	mg/L		1.5									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	2									
	Dissolved Iron	µg/L		32									
	Total Iron	µg/L		1552									
	Total Lead	µg/L		0.2									
	Total Manganese	µg/L		306									
	Total Mercury	µg/L	<	0.1									
	Total Nickel	µg/L		2.5									
	Total Phenols (Phenolics) (PWS)	µg/L	<	10									
	Total Selenium	µg/L		4.3									
	Total Silver	µg/L	<	0.1									
	Total Thallium	µg/L	<	0.1									
	Total Zinc	mg/L		31									
	Total Molybdenum	µg/L		13									

ATTACHMENT D

TROGON DEVELOPMENT LETTER, "CLOSURE OF OUTFALL 006," DATED MARCH 21, 2024

March 21, 2024

Mr. John L. Duryea, Jr., P.E.
PA DEP, Clean Water Program
400 Waterfront Drive
Pittsburgh, PA 15222

RE: Closure of Outfall 006
Fern Valley Ash Disposal Site
NPDES Permit #PA0090271

Dear Mr. Duryea,

Trogon Development LLC (Trogon) is requesting permission to close Outfall 006 at the closed Fern Valley Ash Disposal Site. This Outfall is listed in NPDES permit # PA0090271 as the former truck wash station. The truck was station has not been used in at least ten years, so there is no source of potential contamination.

Trogon would like to grout the inlet to the pipe from the former truck wash area. Part of the discharge pipe is in the path of the new leachate pipe planned to be installed this summer, so Trogon would like to remove at least a section of the Outfall 006 pipe. Any remaining pipe will be cut flush with the surrounding ground.

Stormwater that falls in the former truck wash area will become surface runoff and will sheet flow towards the existing drainage ditch that flows into the Monongahela River.

If you have any questions about this project, please contact Linda Denison, Environmental Manager, at 614-565-2297 or via email at LDenison@CommercialLiabilityPartners.com.

Sincerely,

Jesse Froh
Vice President of Operations

PO Box 1636, Canóvanas, Puerto Rico 00729