pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**New**	Application No.	**PA0285056**
Facility Type	**Industrial**	APS ID	**1081201**
Major / Minor	**Minor**	Authorization ID	**1427415**

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

Applicant and Facility Information

Applicant Name	**Duquesne Light Co.**	Facility Name	**Cheswick Emergency Ash Pond**
Applicant Address	2825 New Beaver Avenue	Facility Address	100 Pittsburgh Street
	Pittsburgh, PA 15233		Springdale, PA 15144
Applicant Contact	John Bigi	Facility Contact	John Bigi
Applicant Phone	(412) 373-8119	Facility Phone	(412) 373-8119
Client ID	33626	Site ID	245779
SIC Code	4911	Municipality	Springdale Borough
SIC Description	Trans. & Utilities - Electric Services	County	Allegheny
Date Application Received	February 16, 2023	EPA Waived?	Yes
Date Application Accepted	February 21, 2023	If No, Reason	

Purpose of Application: Discharge of treated underdrain seepage from the former Cheswick Emergency Ash Pond landfill

Summary of Review

The Department received new applications for both this NPDES permit (**PA0285056**) and an associated Water Quality Management (WQM) Part II permit (0223203) from Duquesne Light Company (DLC) for its Cheswick Emergency Ash Pond (CEAP) site on February 16, 2023. The CEAP facility is a closed coal combustion residuals ash pond and later a landfill in Springdale Township, Allegheny County.

This facility was operated by DLC under WQM permit **0270201** roughly from 1970 through sometime prior to 2000. This site had been closely associated with the operation of the Cheswick Generating Station which was a circa 560 MW coal-fired power plant built around 1970 along the descending right bank of the Allegheny River in Springdale Borough. Department permits associated with Cheswick Generating Station included NPDES coverage under **PA0001627** among others. The initial approval of WQM **0270201** was circa 1971. A transfer application for this NPDES permit was received in 2000, along with transfers for all the associated, active WQM permits that same year. Most were approved, but WQM **0270201** was returned without further Department action. The transferred Cheswick Generating Station was later permanently closed in March 2022. The Cheswick plant was subsequently transferred to decommissioning and remediation companies, which are subsidiaries of Charah Solutions.

DLC informed that the landfill associated with CEAP had coverage under Solid Waste Management (SWM) Permit No. **301302**. DLC added, “The residual ash was removed, and the topography was restored to natural grade.” However, underdrain piping from these prior facilities remain. A satellite image of the CEAP from 1993 is shown in Figure 1 below:

Approve	Deny	Signatures	Date
X		John L Duryea, Jr., P.E. / Environmental Engineer	March 1, 2024
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	March 1, 2024

Summary of Review

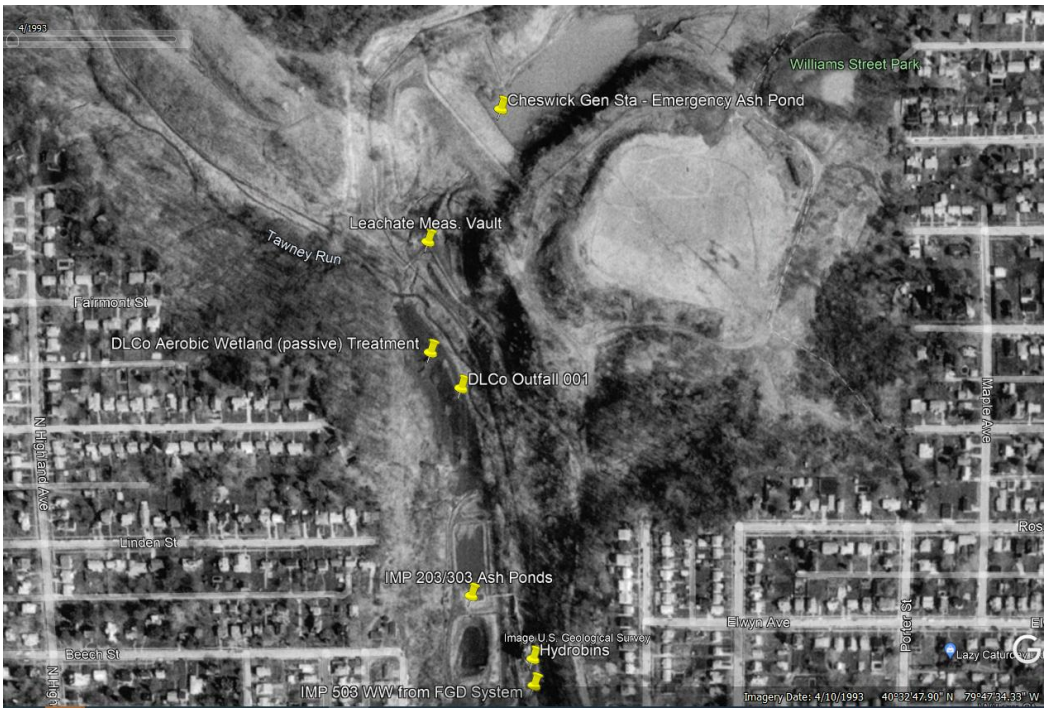

Figure 1: Satellite Image from 1993 Showing CEAP, its Flume Vault and the Treatment Ponds to the South

The historic image from 1993 above in Figure 1, shows CEAP when in operation, supporting then DLC's Cheswick Generating Station which is located out of this image, toward the south (bottom). Also shown is the then, and continuing today, location of ash ponds used to treat leachate from CEAP underdrain piping (PA0001627, IMPs 203/303); as well as, the location of DLC's passive treatment wetland approved under WQM 0223203 on April 25, 2023 and the location of its discharge at Outfall 001 to Tawney Run. Another satellite image of this same area, but about a decade later is shown in Figure 2 below:

Figure 2: Satellite Image from 2002 Showing CEAP filled in and regraded.

Summary of Review

As can be seen from the two figures above, the CEAP was filled, regraded, covered and planted prior to DLCo's sale of the Cheswick Generating Station in 2000. Underdrain collection from the CEAP is captured, directed through a flume measurement vault and subsequently conveyed to the ash ponds for treatment and then further conveyed across Pittsburgh Street toward the south for further treatment at the former Cheswick Generating Station before ultimately being discharged.

As noted above, the CEAP leachate continued to be treated in these ash treatment ponds with monitoring under PA0001627, per agreements between DLC and the subsequent Cheswick Generating Station owner/operators. However, in August 2022, in meetings between DLC, their consultant, Civil & Environmental Consultants, Inc. (CEC) and the Department, DLC informed that they were considering implementing a separate treatment for this small flow of underdrain seepage on property still retained by DLC toward the north of the ash ponds. This meeting can be considered a pre-application meeting both for this new WQM Part II permit and for the associated new NPDES permit. The current situation is shown in Figure 3 below:

Figure 3: A Contemporary Satellite Image of the CEAP Passive Wetland Treatment Area

In Figure 3, the present is essentially unchanged from the 2002 image in Figure 2. Note that Tawney Run flows toward the east and passes between the existing flow measurement vault and the wetland treatment area and then turns toward the south with the proposed wetland treatment area on its right descending bank; as well as, Outfall 001.

The primary design treatment element proposed for the new system is an aerobic passive wetland with a subsequent aerobic limestone discharge channel. The primary focus of this design is the removal of manganese, iron and other metals in the wetlands with a downstream, aerobic limestone channel component intended as a Manganese Removal Bed (MRB) to augment the wetland treatment. The reduction in the concentrations of manganese before discharge being the key focus of this design.

Summary of Review

The proposed new treatment system is shown in a CEC drawing excerpt included below as Figure 4. Treated effluent is conveyed to Outfall 001 where the effluent is then discharged to Tawny Run.

In a phone call in early April 2023 with DLCo's representative, they confirmed their intention to obtain this NPDES permit on the basis of the sampling analysis supplied with their application, despite the fact that this effluent had not been treated before samples were collected. Therefore, the samples are of essentially untreated CEAP underdrain seepage.

Emails with questions and responses were exchanged with the client and their consultant in early March 2023 inquiring about design aspects of this treatment system's components. In reply, DLCo submitted a revision, received on April 4, 2023 which added details on an emergency overflow at the initial piping conveyance manhole and more details on the forebay design. This update also provided further evidence of compliance with Act 14 and public notifications. Note that approval of the associated WQM Part II permit **0223203** for this treatment system occurred on April 25, 2023.

On January 4, 2024 the Department contacted DLCo and they confirmed that the passive treatment system construction was completed in December 2023. Logistics on issuance of the NPDES permit were discussed. DLCo agreed to take a partial set of influent samples, analyzed to meet the Department's target quantitation limits before the issuance of this permit draft. On January 23, 2024, the Department received DLCo's upload of their WQM 0223203, post-construction completion certification. On January 24, 2024, DLCo's consultant submitted additional sampling results.

The client has complied with Act 14 notifications.

Draft permit issuance for public comment is recommended.

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.

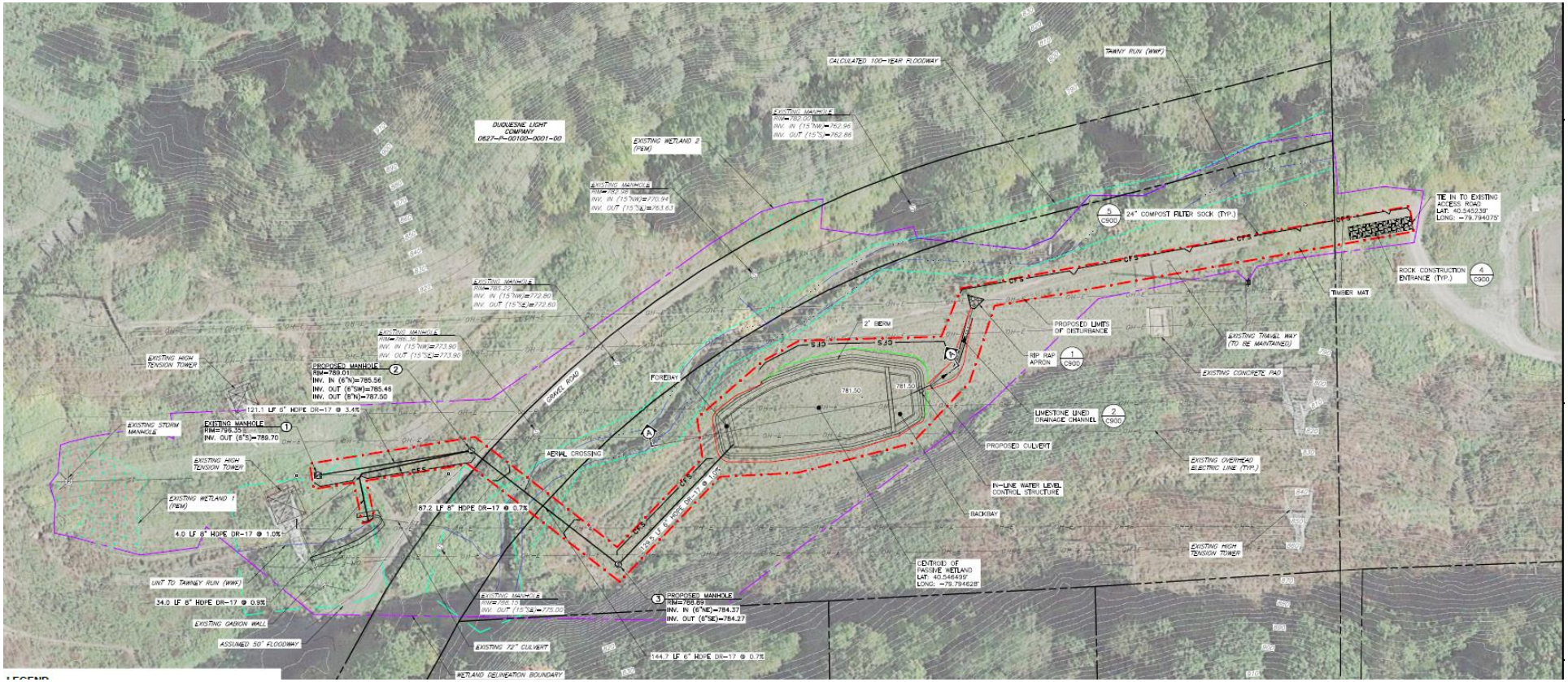

Figure 4: Excerpt from CEC Drawing Excerpt Showing CEAP Treatment Elements

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.011
Latitude	40º 32' 58"	Longitude	-79º 47' 30"
Quad Name	1407	Quad Code	New Kensington West
Wastewater Description:	Treated, closed landfill underdrain seepage		
Receiving Waters	Tawney Run	Stream Code	42370
NHD Com ID	123972656	RMI	0.76
Drainage Area	2.34 Sq. Miles	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	0.0219	Q_{7-10} Basis	StreamStats
Elevation (ft)	772	Slope (ft/ft)	
Watershed No.	18-A	Chapter 93 Class.	WWF
Existing Use	WWF – Warm Water Fishery	Existing Use Qualifier	
Exceptions to Use	None	Exceptions to Criteria	
Assessment Status	Supporting		
Cause(s) of Impairment	None		
Source(s) of Impairment	None		
TMDL Status	None	Name	N/A
Nearest Downstream Public Water Supply Intake	Oakmont Borough		
PWS Waters	Allegheny River	Flow at Intake (cfs)	9.2
PWS RMI	13	Distance from Outfall (mi)	~3.1

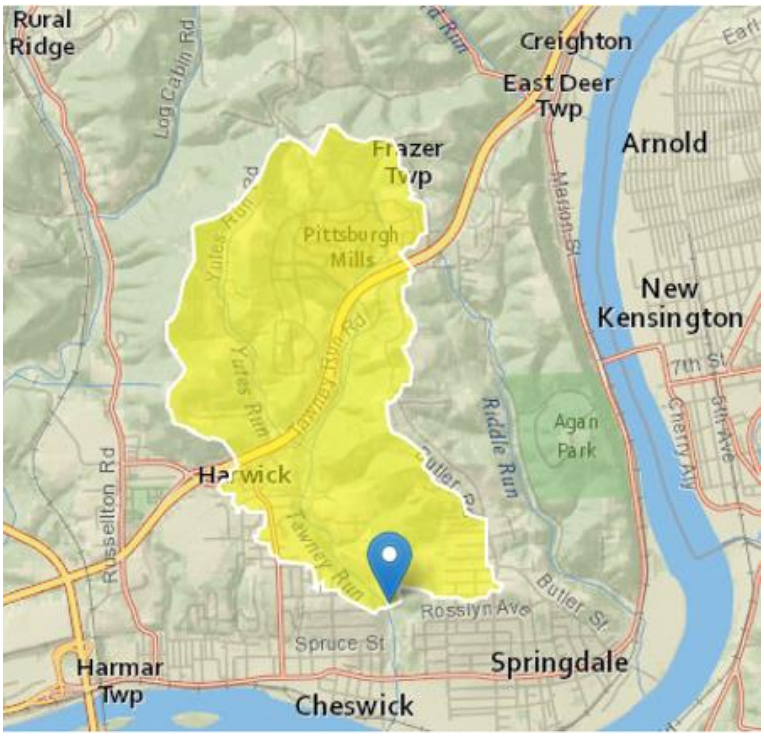

Figure 5: Drainage Area of Tawney Run at Outfall 001

Treatment Facility Summary				
Treatment Facility Name: Former Cheswick Emergency Ash Pond				
WQM Permit No.	**Issuance Date**			
0223203	Pending			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial	Tertiary	Passive Wetland	N/A	0.011
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.0288	N/A	Not Overloaded	N/A	N/A

Changes Since Last Permit Issuance:

The primary design treatment element proposed for the new system is an aerobic passive wetland with a subsequent aerobic limestone discharge channel. The primary focus of this design is the removal of manganese, iron and other metals in the wetlands with a downstream, aerobic limestone channel component intended as a Manganese Removal Bed (MRB) to augment the wetland treatment. The reduction in the concentrations of manganese before discharge being the key focus of this design.

The hydraulic design flow rate of the CEAP underdrain seepage is documented in DLCo's application as 20 gallons per minute (gpm) or 0.0288 MGD. The annual average flow rate is noted in the application as 0.011 MGD (7.7 gpm). CEC documents as their basis for this design, the Federal Office of Surface Mining Reclamation and Enforcement (OSMRE) model AMDTreat (version 5.0.2). This model was used for the initial sizing of the wetland component based on flow rates and metal deposition rates. The major components of the design include:

1. Gravity sewer line conveyance piping from the existing measurement vault to the wetland treatment inlet, crossing over Tawney Run;

2. Passive wetland treatment area, consisting of
    a. a forebay pool to evenly spread the inlet flow separated with a limestone filled gabion,
    b. the wetland substrate area and
    c. the back bay area separated via a limestone rock berm and

3. A culvert and an aerobic limestone channel intended as an MRB, before a riprap transition to the discharge outfall.

The proposed new treatment system is shown in a CEC drawing excerpt included previously as Figure 4.

Other Comments: None.

Development of Effluent Limitations

Outfall No.	001	**Design Flow (MGD)**	.0288
Latitude	40º 35' 46.23"	**Longitude**	-79º 47' 39.63"

Wastewater Description: Treated, closed landfill underdrain seepage

Technology-Based Limitations

Federal Effluent Limitation Guidelines (ELGs)

Previously under NPDES permit PA0001627, the CEAP site may have been subject to Federal Effluent Limitation Guidelines (ELGs) pursuant to 40 CFR 423.12(b) (11) (Steam Electric Power Generating Point Source Category) and may have been required to achieve the limits for total suspended solids (TSS) and oil and grease according to Table 1 below.

Table 1. Federal ELGs

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

In addition, Effluent Standards for total dissolved solids (TDS) may have been applied pursuant to 25 Pa. Code § 95.10, and further requirements for oil and grease from 25 Pa. Code § 95.2(2); as well as, limits for dissolved iron per 25 Pa. Code § 95.2(4) and pH pursuant to 25 Pa. Code § 95.2(1). Flow monitoring requirements may also be imposed from 25 Pa. Code § 92a.61(d)(1).

However, under this permit, the CEAP landfill has been cleaned of coal combustion residuals. Discharges of leachate via the remaining underdrain seepage will be conveyed to the downstream passive treatment system before discharge at Outfall 001. With these developments, Federal ELGs no longer apply.

Leachate

The leachate from the landfill area's underdrain piping is conveyed to the passive treatment system. During or after extreme precipitation events, the emergency overflow may be conveyed, untreated, directly to Tawny Run. This possibility will be included as a Part C condition and not as a separate outfall.

Untreated release of landfill leachate to surface waters of the Commonwealth is not permitted. Any overflows from the containment structure constitute a permit exceedance and must be reported under the provisions of Part A.III.C.4 of this permit.

Following completion of the installation and startup of the passive treatment system, discharges to Outfall 001 will be considered as an industrial effluent discharge. Although some amount of stormwater may also be captured in the treatment area, this will be considered incidental.

Other Regulatory Effluent Standards and Monitoring Requirements

The pH effluent range for all IW process and non-process discharges pursuant of 25 Pa. Code § 92a.48(a)(2) and 25 Pa. Code § 95.2 is indicated in Table 2 below.

Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1); effluent standards for pH are also imposed on industrial wastes by 25 Pa. Code §§ 95.2(1). These limits are displayed in Table # 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 # below.

Pennsylvania regulations at 25 Pa. Code § 92a.48(b) require the imposition of technology-based Total Residual Chlorine (TRC) limits for facilities that use chlorinated sources and that are not already subject to TRC limits based on applicable federal ELGs or a facility-specific Best Professional Judgement (BPJ) evaluation which is displayed in Table 2 below. As Outfall 001 treatments have not documented the use to chlorine, no TRC limitations will be applied.

Table 2. Applicable Pennsylvania Regulatory Effluent Standards

Parameter	Monthly Avg.	Daily Max	IMAX
Flow (MGD)	Monitor	Monitor	----
Iron, Dissolved	----	----	7.0 mg/L
pH (S.U.)	6-9 at all times		

Total Dissolved Solids (TDS)

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 discharges, 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. With the documented history of this facility, it is neither new nor expanding its waste loading of TDS, therefore, the facility is exempt from 25 Pa. Code § 95.10 treatment requirements.

Water Quality-Based Effluent Limitations (WQBELs)

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 1.3 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 recommends average monthly and maximum daily WQBELs.

Reasonable Potential Analysis and WQBEL Development for the DLCo's CEAP site discharge at Outfall 001

Discharges from Outfall 001 were evaluated based on concentrations reported on the application. The TMS model was run for Outfall 001 using the modeled discharge and receiving stream characteristics shown in Table 3

Table 3: TMS Inputs

Parameter	**Value**
River Mile Index	0.76
Discharge Flow (MGD)	0.011
Basin/Stream Characteristics	
Parameter	**Value**
Area (mi^2)	2.34
Q_{7-10} (cfs)	0.0219
Low-flow yield (cfs/mi^2)	0.00936
Elevation (ft.)	772
Slope	0.0138

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 Allegheny River at Oakmont Borough is greater than 3 miles downstream from this DLCo site discharge. This PWS is drawing from a much larger river, crossing over a lock and dam and crossing over from the opposite bank from the mount of Tawney Run. Taken together, it is considered sufficient for PWS related pollutants (e.g. phenolics) to dissipate.

The TMS model results are included as Attachment A. These results include recommended effluent limits and/or reporting requirements for the parameters shown in Table 4. Note that some undetected parameters' input values were set to the reported testing laboratory MDL. Also included in Table 4 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 4: Outfall 001 WQBELs (with Governing Criteria and Target QLs) Based Solely on the Application

Parameter	**Concentration (µg/L)**		**Governing WQBEL (µg/L)**	**Target QL (µg/L)**
	Monthly Avg	**Maximum Daily**		
Arsenic, Total	Monitor	Monitor	22.9	3.0
Boron, Total	Monitor	Monitor	3659.6	200
Cadmium, Total	**0.69**	**1.08**	0.69	**0.2**
Hexavalent Chromium	**Monitor**	**Monitor**	23.8	**1.0**
Copper, Total	23.6	36.8	23.6	4.0
Iron, Dissolved	Monitor	Monitor	686	20
Iron, Total	3,430	5,352	3,430	20
Lead, Total	8.79	13.7	8.79	1.0
Manganese, Total	2,287	3,568	2,287	2.0
Mercury, Total	**0.11**	**0.18**	0.11	**0.2**
Selenium, Total	11.4	17.8	11.4	5.0
Silver, Total	**Monitor**	**Monitor**	7.16	**0.4**

The approach taken was to use the reported laboratory MDL values if supplied data indicated the pollutant was not detected. If the data indicated that the parameter was detected, then the highest reported value was used in the TMS analysis spreadsheet. Shown in Table 4 are the model's recommended limits or monitoring. Some pollutants were included based solely on the February 16, 2023 permit application sample data, analysis laboratory MDL not meeting the Department's target QLs. In these cases, the pollutant, target QL and, if applicable, limits are shown in **bold** in Table 4.

As can be seen in Table 4, for some pollutants establishing WQBELs is required. In other cases, only monitoring is required as the results did not exceed the most stringent WQBEL value, but the reported results were too high to rule out the possibility that discharges will result in excursions above Pennsylvania's water quality standards

Note that the applicant was informed via a telephone communication of the need for WQBELs in April 2022. Initial modeling was done using the application sample results which did not benefit from any treatment. Given the recent approval of the WQM Part II and the amount of construction time required to complete the passive treatment system, a Pre-Draft Survey (included as Attachment B) was sent to the applicant prior to draft publication to allow them time to consider both resampling and/or their ability to meet these limits. The Department received the applicant's survey response on July 7, 2023. It is included as Attachment C.

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 a peak BOD_5 concentration of 4.2 mg/L, and a peak COD concentration as undetectable at an MDL of 10 mg/L. As this industrial discharger does not approach the criteria requiring the use of the WQM 7.0 Model, no run was made, and no related effluent limitations imposed.

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, as this permit is technically new, anti-backsliding is considered not applicable.

Effluent Limitations and Monitoring Requirements for Outfall 001

Effluent limits applicable at Outfall 001 are the more stringent of the TBELs (Table 2) from other regulatory effluent standards and WQBELs (Table 4). Prior to publishing this draft permit, the Department provided a Pre-Draft Survey (Attachment B) to the applicant to initiate their review of the proposed new effluent limits. The proposed effluent limitations for Outfall 001 at the time the Pre-Draft Survey was transmitted are shown in Table 5 below:

Table 5: Effluent Limitations and Bases for Outfall 001 – Mid-2023

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)
Arsenic, Total	—	—	Report	Report	—	WQBELs, Reasonable Pot.
Boron, Total	—	—	Report	Report	—	WQBELs, Reasonable Pot.
Cadmium, Total	—	—	**0.00069**	**0.00108**	—	WQBELs, Reasonable Pot.
Hexavalent Chromium	—	—	**Report**	**Report**	—	WQBELs, Reasonable Pot.
Copper, Total	—	—	0.0236	0.0368	—	WQBELs, Reasonable Pot.
Iron, Dissolved	—	—	Report	Report	—	WQBELs, Reasonable Pot.
Iron, Total	—	—	3.430	5.352	—	WQBELs, Reasonable Pot.
Lead, Total	—	—	0.00879	0.0137	—	WQBELs, Reasonable Pot.
Manganese, Total	—	—	2.287	3.568	—	WQBELs, Reasonable Pot.
Mercury, Total	—	—	**0.00011**	**0.00018**	—	WQBELs, Reasonable Pot.
Selenium, Total	—	—	0.0114	0.0178	—	WQBELs, Reasonable Pot.
Silver, Total	—	—	**Report**	**Report**	—	WQBELs, Reasonable Pot.
pH (S.U.)	Within the range of 6.0 to 9.0					25 Pa. Code § 95.2

In Table 5 above, items in **bold** were included based solely on the fact that the provided sample analysis MDL was greater than the Department's target QLs. Also note that the Table 2 limit for dissolved iron was eliminated as unnecessary in light of the more stringent limit on total iron. As noted, based on the Table 5 values, a Pre-Draft Survey was sent to DLCo on June 13, 2023 in order to determine if the applicant believes current controls are sufficient to meet these new limits. A copy of the Pre-Draft Survey is included as Attachment B.

In response to this survey, received via email on July 7, 2023, DLCo replied, "We choose to resample and will submit the information to you for evaluation when it becomes available." A copy of their completed survey is included as Attachment C. On January 24, 2024 additional sample information was received from DLCo's consultant. An excerpt of the sample results, received by the Department on January 24, 2024 are included as Attachment D. This new, partial data set was used to create an updated TMS model.

The approach taken (as before) was to use the reported laboratory MDL values if supplied data indicated the pollutant was not detected in either of the data sets submitted. In this case the lowest MDL was used. If the data indicated that the parameter was detected, in any dataset, then the highest reported value either from the Feb. 2023 application or from the Jan. 2024 data was used in the TMS analysis spreadsheet. Also of note, is the fact that the TMS spreadsheet version changed in between the two model runs. Shown in Table 6 are the new model's recommended limits or monitoring. As before, some pollutants were included based solely on the February 16, 2023 permit application sample data, analysis laboratory MDL not meeting the Department's target QLs. In these cases, the pollutant, target QL and, if applicable, limits are shown in **bold** in Table 6.

Table 6: Outfall 001 WQBELs (with Governing Criteria and Target QLs) Based on All Data

Parameter	Concentration (µg/L)		Governing WQBEL (µg/L)	Target QL (µg/L)
	Monthly Avg	Maximum Daily		
Arsenic, Total	Monitor	Monitor	22.9	3.0
Boron, Total	Monitor	Monitor	3659.6	200
Hexavalent Chromium	**Monitor**	**Monitor**	23.8	1.0
Copper, Total	24.	37.	24.	4.0
Iron, Dissolved	Monitor	Monitor	686	20
Iron, Total	3,430	5,352	3,430	20
Lead, Total	8.79	13.7	8.79	1.0
Manganese, Total	2,287	3,568	2,287	2.0
Selenium, Total	11.4	17.8	11.4	5.0

Note that the result of the submittal of the partial data set on January 24, 2024 resulted in the elimination of monitoring for cadmium, mercury and silver. Unfortunately, the MDL for Hexavalent Chromium still did not meet the Department's target QL, therefore it remains on the list.

Effluent Limitations and Monitoring Requirements for Outfall 001

Effluent limits applicable at Outfall 001 are the more stringent of the TBELs (Table 2) from other regulatory effluent standards and WQBELs (Table 6). The proposed effluent limitations for Outfall 001 are shown in Table 7 below:

Table 7: Effluent Limitations and Bases 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)
Arsenic, Total	—	—	Report	Report	—	WQBELs, Reasonable Pot.
Boron, Total	—	—	Report	Report	—	WQBELs, Reasonable Pot.
Hexavalent Chromium	—	—	**Report**	**Report**	—	WQBELs, Reasonable Pot.
Copper, Total	—	—	0.0236	0.0368	—	WQBELs, Reasonable Pot.
Iron, Dissolved	—	—	Report	Report	—	WQBELs, Reasonable Pot.
Iron, Total	—	—	3.430	5.352	—	WQBELs, Reasonable Pot.
Lead, Total	—	—	0.00879	0.0137	—	WQBELs, Reasonable Pot.
Manganese, Total	—	—	2.287	3.568	—	WQBELs, Reasonable Pot.
Selenium, Total	—	—	0.0114	0.0178	—	WQBELs, Reasonable Pot.
pH (S.U.)	Within the range of 6.0 to 9.0					25 Pa. Code § 95.2

In Table 7 above, items in **bold** were included based solely on the fact that the provided sample analysis MDL(s) was/were greater than the Department's target QLs. Also note that the Table 2 limit for dissolved iron was eliminated as unnecessary in light of the more stringent limit on total iron.

Monitoring requirements for the parameters of interest has been set to twice monthly and the sampling has been set to grab samples to allow ease of data acquisition but also enough data to reasonably monitor the performance of the new passive treatment system. The applicant should consider if a manganese sample should also be taken before the MRB. Monitoring is shown in Table 8 below:

Table 8: Monitoring Requirements for Outfall 001

Parameter	Sample Type	Minimum Sample Frequency
Flow (MGD)	Estimate	2/Month
Arsenic, Total	Grab	2/Month
Boron, Total	Grab	2/Month
Hexavalent Chromium	Grab	2/Month
Copper, Total	Grab	2/Month
Iron, Dissolved	Grab	2/Month
Iron, Total	Grab	2/Month
Lead, Total	Grab	2/Month
Manganese, Total	Grab	2/Month
Selenium, 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 DLCo and their CEAP location 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 WQBELs 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, a treatment system has been constructed and is ready to treat the influent with a reasonable expectation of achieving the discharge effluent limitations for some of the pollutants expected in the discharge. However, based on the responses in DLCo's Pre-Draft Survey (see Attachment C), there remains uncertainty about the efficacy of the passive treatment to reduce other pollutants that will have new effluent limits. Therefore, since DLCo may be unable to meet the new effluent limits at Outfall 001 using the installed treatment, the Department proposes a compliance schedule be established providing a 1-year interim period before the new effluent limits become effective. Monitoring for all parameters will be required in the interim

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, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 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, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 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, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: Standard Operating Procedure (SOP)1 for Clean Water Program, Establishing Effluent Limitations for Individual Industrial Permits, SOP No. BCW-PMT-032, Final, October 1, 2020, Version 1.6
☐	Other:

ATTACHMENTS

ATTACHMENT A: TOXICS MANAGEMENT SPREADSHEET (TMS), VERSION 1.3
ATTACHMENT B: PRE-DRAFT SURVEY LETTER AND ATTACHMENTS
ATTACHMENT C: COMPLETED DLCO PRE-DRAFT SURVEY
ATTACHMENT D: EXCERPTS FROM SUBMITTED SAMPLE ANALYSIS (JAN. 2024)
ATTACHMENT E: REVISED TMS, VERSION 1.4

ATTACHMENT A

TOXICS MANAGEMENT SPREADSHEET, VERSION 1.3

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Toxics Management Spreadsheet
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☑ ***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
Total Arsenic	Report	Report	Report	Report	Report	µg/L	22.9	THH	Discharge Conc > 10% WQBEL (no RP)
Total Boron	Report	Report	Report	Report	Report	µg/L	3,659	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Cadmium	0.00006	0.0001	0.69	1.08	1.73	µg/L	0.69	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Hexavalent Chromium	Report	Report	Report	Report	Report	µg/L	23.8	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	0.002	0.003	23.6	36.8	59.0	µg/L	23.6	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	686	THH	Discharge Conc > 10% WQBEL (no RP)
Total Iron	0.31	0.49	3,430	5,352	8,576	µg/L	3,430	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Lead	0.0008	0.001	8.79	13.7	22.0	µg/L	8.79	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Manganese	0.21	0.33	2,287	3,568	5,717	µg/L	2,287	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Mercury	0.00001	0.00002	0.11	0.18	0.29	µg/L	0.11	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Selenium	0.001	0.002	11.4	17.8	28.5	µg/L	11.4	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Silver	Report	Report	Report	Report	Report	µg/L	7.16	AFC	Discharge Conc > 10% WQBEL (no RP)

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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	1,099	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Barium	5,489	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Chromium (III)	223	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	43.5	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Total Nickel	135	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Thallium	0.55	µg/L	Discharge Conc < TQL
Total Zinc	199	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS

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Redlands Quarries NY, Duquesne Slag, NPDES Permit No. PA0004278, Outfall 001

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☑ ***Hydrodynamics***

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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)
4.09	0.01		0.01	0.492	0.011	0.452	7.515	16.617	0.148	0.365	0.001
3.206	0.02		0.022								

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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)
4.09	0.14		0.14	0.492	0.011	0.502	7.515	14.984	0.169	0.32	0.108
3.206	0.465		0.47								

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☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 1.007 PMF: 1 Analysis Hardness (mg/l): 115.97 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	1,715	
Total Antimony	0	0		0	1,100	1,100	2,516	
Total Arsenic	0	0		0	340	340	778	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	48,026	
Total Boron	0	0		0	8,100	8,100	18,524	
Total Cadmium	0	0		0	2.326	2.48	5.67	Chem Translator of 0.938 applied
Total Chromium (III)	0	0		0	643.265	2,036	4,655	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	37.3	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	217	
Total Copper	0	0		0	15.452	16.1	36.8	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	75.857	98.6	225	Chem Translator of 0.769 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	3.77	Chem Translator of 0.85 applied
Total Nickel	0	0		0	530.759	532	1,216	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	4.150	4.88	11.2	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	149	
Total Zinc	0	0		0	132.853	136	311	Chem Translator of 0.978 applied

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☑ *CFC* CCT (min): 1.007 PMF: 1 Analysis Hardness (mg/l): 116 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	503	
Total Arsenic	0	0		0	150	150	343	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	9,376	
Total Boron	0	0		0	1,600	1,600	3,659	
Total Cadmium	0	0		0	0.273	0.3	0.69	Chem Translator of 0.903 applied
Total Chromium (III)	0	0		0	83.676	97.3	223	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	23.8	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	43.5	
Total Copper	0	0		0	10.164	10.6	24.2	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	3,430	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.956	3.84	8.79	Chem Translator of 0.769 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	2.07	Chem Translator of 0.85 applied
Total Nickel	0	0		0	58.951	59.1	135	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	11.4	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	29.7	
Total Zinc	0	0		0	133.940	136	311	Chem Translator of 0.986 applied

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☑ ***THH*** CCT (min): 1.007 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	12.8	
Total Arsenic	0	0		0	10	10.0	22.9	
Total Barium	0	0		0	2,400	2,400	5,489	
Total Boron	0	0		0	3,100	3,100	7,090	
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	686	
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	2,287	
Total Mercury	0	0		0	0.050	0.05	0.11	
Total Nickel	0	0		0	610	610	1,395	
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	0.55	
Total Zinc	0	0		0	N/A	N/A	N/A	

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

☑ *CRL* CCT (min): 0.465 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 1.3, March 2021

Stream / Surface Water Information

DLCo CEAP, NPDES Permit No. PA0285056, Outfall 001

Instructions | Discharge | *Stream*

CLEAR FORM | CALCULATE

Receiving Surface Water Name: **Tawney Run**

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	042370	0.76	772	2.34			Yes
End of Reach 1	042370	0.54	756	2.41			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	0.76	0.1	0.0219			16.5	1					100	7		
End of Reach 1	0.54	0.1	0.0227			16.35	2								

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	0.76		0.645												
End of Reach 1	0.54		0.669												

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

CLEAR PROJECT | CLEAR FORM | CALCULATE

Facility: DLCo CEAP | NPDES Permit No.: PA0285056 | Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste | Wastewater Description: Landfill Underdrain Seepage

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
0.011	136.52	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		1052									
	Chloride (PWS)	mg/L		91.1									
	Bromide	mg/L	<	0.1									
	Sulfate (PWS)	mg/L		451.1									
	Fluoride (PWS)	mg/L		0.563									
Group 2	Total Aluminum	µg/L	<	100									
	Total Antimony	µg/L	<	2									
	Total Arsenic	µg/L		5.1									
	Total Barium	µg/L	<	250									
	Total Beryllium	µg/L	<	1									
	Total Boron	µg/L		770									
	Total Cadmium	µg/L	<	5									
	Total Chromium (III)	µg/L		9									
	Hexavalent Chromium	µg/L	<	10									
	Total Cobalt	µg/L		0.6									
	Total Copper	µg/L		15									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	10									
	Dissolved Iron	µg/L		260									
	Total Iron	µg/L		13310									
	Total Lead	µg/L		26									
	Total Manganese	µg/L		6340									
	Total Mercury	µg/L	<	1									
	Total Nickel	µg/L		2.4									
	Total Phenols (Phenolics) (PWS)	µg/L	<	10									
	Total Selenium	µg/L		61									
	Total Silver	µg/L	<	1									
	Total Thallium	µg/L	<	1									
	Total Zinc	µg/L		19									
	Total Molybdenum	µg/L	<	1.4									

ATTACHMENT B

PRE-DRAFT SURVEY LETTER

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

VIA ELECTRONIC MAIL

June 13, 2023

John Bigi
Environmental Lead I
Duquesne Light Company
2825 Beaver Avenue, N6-TNG
Pittsburgh, PA 15233

Re: Pre-Draft Survey NPDES Permit- Industrial Waste
Cheswick Emergency Ash Pond (CEAP) Site
Application No. PA0285056
Authorization ID No. 1427415
Springdale Twp., Allegheny County

Dear Mr. Bigi:

The Department of Environmental Protection (DEP) has reviewed your NPDES permit application and has reached a preliminary finding that new water quality-based effluent limitations (WQBELs) for toxic pollutant(s) should be established in the permit. This finding is largely based on DEP's assessment that Tawney Run has limited assimilative capacity in the area of the site's discharge at Outfall 001. This limited capacity impacted Department modeling results indicating that WQBELs are required at Outfall 001 to support aquatic life downstream of the plant. These proposed WQBELs are detailed in the proposed effluent limits as follows:

Outfall No.	Pollutant	Monthly Average (mg/L)	Maximum Daily (mg/L)	IMAX (mg/L)
001	Cadmium, Total *	0.00069	0.00108	—
001	Copper, Total	0.0236	0.0368	—
001	Iron, Total	3.430	5.352	—
001	Lead, Total	0.00879	0.0137	—
001	Manganese, Total	2.287	3.568	—
001	Mercury, Total *	0.00011	0.00018	—
001	Selenium, Total	0.0114	0.0178	—

Please note that the pollutants marked with an Asterisk (*) were included although reported as "none detected" on the basis of chemical analyses MDLs that exceeded the Department's target Quantitation Limits (QLs). In addition, the Department's modeling indicates that monitoring is required for arsenic, boron, dissolved iron, hexavalent chromium*, and silver*. Of these, the latter two were also included, although below detection limits on the application submittal sampling results since the lab MDLs did not meet the Department's target QLs.

Attached are separate surveys for each of the pollutants of concern noted in the tables above. The Department requests that you complete and return these surveys to DEP within 30 days. Completion of these surveys will help DEP to progress toward issuing the draft NPDES permit for public comment and

Southwest Regional Office
400 Waterfront Drive | Pittsburgh, PA 15222-4745 | 412.442.4000 | Fax 412.442.5885
www.dep.pa.gov

allow DEP to understand your current capabilities or plans to treat or control these pollutants. If you decide not to complete and return the survey, DEP will proceed with developing the draft and final NPDES permits based on all available information and certain assumptions.

Also note that this permit will not be finalized before your confirmation that the permitted passive treatment system construction has been completed and the system is in operation.

Your response to this notice does not constitute an official comment on the DEP draft permit but your response will be taken under consideration. When the draft NPDES permit is formally noticed in the *Pennsylvania Bulletin*, you may make official comments for DEP's further consideration and response.

Please contact me at 412.442.4183 if you have any questions about this information or the attached survey.

Sincerely,

John L. Duryea, Jr., P.E.
Environmental Engineer
Clean Water Program

Enclosures

cc:
Civil & Environmental Consultants, Inc.

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Clean Water

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **Duquesne Light Company (DLCo), Cheswick Emergency Ash Pond (CEAP), Allegheny County** Permit No.: **PA0285056**

Pollutant(s) identified by DEP that may require WQBELs: **Outfall 001 - Total Iron**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☐ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **DLCo, CEAP, Allegheny County** Permit No.: **PA0285056**

Pollutant(s) identified by DEP that may require WQBELs: **Outfall 001 - Total Manganese**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☐ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have <u>not</u> been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **DLCo, CEAP, Allegheny County** Permit No.: **PA0285056**

Pollutant(s) identified by DEP that may require WQBELs: **Outfall 001 - Total Cadmium**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☐ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have <u>not</u> been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **DLCo, CEAP, Allegheny County** Permit No.: **PA0285056**

Pollutant(s) identified by DEP that may require WQBELs: **Outfall 001 – Total Lead**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☐ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have <u>not</u> been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **DLCo, CEAP, Allegheny County** Permit No.: **PA0285056**

Pollutant(s) identified by DEP that may require WQBELs: **Outfall 001 - Total Copper**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☐ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **DLCo, CEAP, Allegheny County** Permit No.: **PA0285056**

Pollutant(s) identified by DEP that may require WQBELs: **Outfall 001 - Total Mercury**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☐ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have <u>not</u> been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **DLCo, CEAP, Allegheny County** Permit No.: **PA0285056**

Pollutant(s) identified by DEP that may require WQBELs: **Outfall 001 - Total Selenium**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☐ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have <u>not</u> been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

ATTACHMENT C

DUQUESNE LIGHT COMPANY, COMPLETED PRE-DRAFT SURVEY

DUQUESNE LIGHT CO.

ENVIRONMENTAL,
HEALTH & SAFETY

VIA ELECTRONIC MAIL

July 7, 2023

Mr. John Duryea
Environmental Engineer
PADEP-Clean Water Program
400 Waterfront Drive
Pittsburgh, PA 15222-4745

Re: Pre-Draft Survey NPDES Permit- Industrial Waste
Cheswick Emergency Ash Pond (CEAP) Site
Application No. PA0285056
Authorization ID No. 1427415
Springdale Twp., Allegheny County

Dear Mr. Duryea:

In response to the Pre-Draft Survey request for NPDES Permit PA0285056, and dated June 13, 2023, the Duquesne Light Company (DLC) submits the attached survey responses for pollutants of concern for the Cheswick Emergency Ash Pond site. The survey responses cover all of the constituents which have proposed Water Quality Based Effluent Limits (WQBELs) noted in the table included in your June 13, 2023 letter. DLC's consultant, CEC, Inc. has begun resampling and will use a laboratory or laboratories that meet the Department's quantitation limits (QLs) for cadmium and mercury.

Your letter also noted that monitoring and reporting of hexavalent chromium and silver concentrations will be required in the new NPDES permit because the Method Detection Limits used by the lab in the previous water sampling did not meet the Department's QL's. These two metals will also be included in the re-sampling effort. Based on the results of the re-sampling, these two metals may be able to be removed from the permit's sampling requirements. CEC, Inc. will compile the new results and forward the appropriate information to you as soon as the laboratory data is available and has been reviewed.

DLC appreciates this opportunity and should you have any questions about the attached surveys, please contact me at 412-393-8119.

Sincerely,

John S. Bigi
Environmental Lead

Enclosures

Cc: Scott Rasmussen – CEC, Inc.

2825 New Beaver Avenue, N6-TNG Pittsburgh, PA 15233 DuquesneLight.com

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Clean Water

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **Duquesne Light Company (DLCo), Cheswick Emergency Ash Pond (CEAP), Allegheny County** Permit No.: **PA0285056**

Pollutant(s) identified by DEP that may require WQBELs: **Outfall 001 - Total Iron**

Is the permittee aware of the source(s) of the pollutant(s)? ☒ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Residual flyash from the closed CEAP

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☒ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☒ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

A Passive Aerobic Wetland treatment system is proposed to be constructed in 2023 and fully operational by 12/31/2024. While the system was designed to treat manganese, it will also remove iron.

Estimated date by which the permittee could achieve the proposed WQBELs: **12/31/2024** ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☒ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **DLCo, CEAP, Allegheny County** Permit No.: **PA0285056**

Pollutant(s) identified by DEP that may require WQBELs: **Outfall 001 - Total Manganese**

Is the permittee aware of the source(s) of the pollutant(s)? ☒ Yes ☐ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Residual Flyash from the closed CEAP

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☒ Yes ☐ No

If Yes, describe prior studies and results:

Design of the Passive Aerobic Wetland treatment system. The system has been sized and designed to remove manganese from the CEAP leachate to less than the Chapter 93 criteria

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☒ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

A Passive Aerobic Wetland treatment system is proposed to be constructed in 2023 and fully operational by 12/31/2024.

Estimated date by which the permittee could achieve the proposed WQBELs: **12/31/2024** ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☒ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **DLCo, CEAP, Allegheny County** Permit No.: **PA0285056**

Pollutant(s) identified by DEP that may require WQBELs: **Outfall 001 - Total Cadmium**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☒ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☒ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☒ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☒ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☒ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **DLCo, CEAP, Allegheny County** Permit No.: **PA0285056**

Pollutant(s) identified by DEP that may require WQBELs: **Outfall 001 – Total Lead**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☒ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☒ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☒ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☒ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **DLCo, CEAP, Allegheny County** Permit No.: **PA0285056**

Pollutant(s) identified by DEP that may require WQBELs: **Outfall 001 - Total Copper**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☐ No ☒ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Residual flyash from the closed CEAP

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☒ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☒ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☒ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☒ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **DLCo, CEAP, Allegheny County** Permit No.: **PA0285056**

Pollutant(s) identified by DEP that may require WQBELs: **Outfall 001 - Total Mercury**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☒ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☒ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☒ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☒ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☒ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **DLCo, CEAP, Allegheny County** Permit No.: **PA0285056**

Pollutant(s) identified by DEP that may require WQBELs: **Outfall 001 - Total Selenium**

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☒ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☒ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☒ Yes ☐ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☐ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☐ Yes ☒ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP SWRO that is reviewing the permit application within 30 days of receipt.

ATTACHMENT D

EXCERPTS FROM:
"L2401817 CHESWICK ADDITIONAL METALS SAMPLE RESULTS 011824.PDF"
RECEIVED JANUARY 24, 2024

Serial_No:01182416:04

Project Name: CHESWICK
Project Number: 312-964

Lab Number: L2401817
Report Date: 01/18/24

SAMPLE RESULTS

Lab ID: L2401817-01
Client ID: 001
Sample Location: Not Specified

Date Collected: 01/10/24 16:00
Date Received: 01/11/24
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.9324		ug/l	0.5000	0.1650	1	01/13/24 07:32	01/14/24 18:57	EPA 3005A	1,6020B	WKP
Boron, Total	929.		ug/l	100.	4.80	10	01/13/24 07:32	01/15/24 13:14	EPA 3005A	1,6020B	EJF
Cadmium, Total	ND		ug/l	0.2000	0.0599	1	01/13/24 07:32	01/14/24 18:57	EPA 3005A	1,6020B	WKP
Copper, Total	0.5410	J	ug/l	1.000	0.3840	1	01/13/24 07:32	01/14/24 18:57	EPA 3005A	1,6020B	WKP
Iron, Total	615.		ug/l	50.0	19.1	1	01/13/24 07:32	01/14/24 18:57	EPA 3005A	1,6020B	WKP
Lead, Total	ND		ug/l	1.000	0.3430	1	01/13/24 07:32	01/14/24 18:57	EPA 3005A	1,6020B	WKP
Manganese, Total	1914.		ug/l	1.000	0.4400	1	01/13/24 07:32	01/14/24 18:57	EPA 3005A	1,6020B	WKP
Mercury, Total	ND		ug/l	0.2000	0.0915	1	01/16/24 12:03	01/17/24 23:27	EPA 7470A	1,7470A	GMG
Selenium, Total	2.51	J	ug/l	5.00	1.73	1	01/13/24 07:32	01/14/24 18:57	EPA 3005A	1,6020B	WKP
Silver, Total	ND		ug/l	0.4000	0.1630	1	01/13/24 07:32	01/14/24 18:57	EPA 3005A	1,6020B	WKP
Dissolved Metals - Mansfield Lab											
Iron, Dissolved	208.		ug/l	50.0	19.1	1	01/15/24 14:25	01/15/24 19:13	EPA 3005A	1,6020B	EJF

Serial_No:01182416:04

Project Name: CHESWICK
Project Number: 312-964

Lab Number: L2401817
Report Date: 01/18/24

SAMPLE RESULTS

Lab ID: L2401817-01
Client ID: 001
Sample Location: Not Specified

Sample Depth:
Matrix: Water

Date Collected: 01/10/24 16:00
Date Received: 01/11/24
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		ug/l	10.0	3.00	1	01/12/24 06:15	01/12/24 07:08	1,7196A	CAR

ATTACHMENT E

TOXICS MANAGEMENT SPREADSHEET, VERSION 1.4

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

DLCo CEAP, NPDES Permit No. PA0285056, Outfall 001

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

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
Total Arsenic	Report	Report	Report	Report	Report	µg/L	22.9	THH	Discharge Conc > 10% WQBEL (no RP)
Total Boron	Report	Report	Report	Report	Report	µg/L	3,659	CFC	Discharge Conc > 10% WQBEL (no RP)
Hexavalent Chromium	Report	Report	Report	Report	Report	µg/L	23.8	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	0.002	0.003	23.6	36.8	59.0	µg/L	23.6	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	686	THH	Discharge Conc > 10% WQBEL (no RP)
Total Iron	0.31	0.49	3,430	5,352	8,576	µg/L	3,430	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Lead	0.0008	0.001	8.79	13.7	22.0	µg/L	8.79	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Manganese	0.21	0.33	2,287	3,568	5,717	µg/L	2,287	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Selenium	0.001	0.002	11.4	17.8	28.5	µg/L	11.4	CFC	Discharge Conc ≥ 50% WQBEL (RP)

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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	1,099	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Barium	5,489	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Cadmium	0.69	µg/L	Discharge Conc < TQL
Total Chromium (III)	223	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	43.5	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Total Mercury	0.11	µg/L	Discharge Conc < TQL
Total Nickel	135	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Silver	7.16	µg/L	Discharge Conc < TQL
Total Thallium	0.55	µg/L	Discharge Conc < TQL
Total Zinc	199	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS

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DLCo CEAP, NPDES Permit No. PA0285056, Outfall 001

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

☑ ***Hydrodynamics***

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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)
0.76	0.02		0.02	0.017	0.014	1.	16.5	16.5	0.002	5.7	1.007
0.54	0.02		0.023								

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)
0.76	0.65		0.65	0.017	0.014	3.48	16.5	4.742	0.012	1.166	0.465
0.54	0.669		0.67								

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DLCo CEAP, NPDES Permit No. PA0285056, Outfall 001

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☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 1.007 PMF: 1 Analysis Hardness (mg/l): 115.97 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	1,715	
Total Antimony	0	0		0	1,100	1,100	2,516	
Total Arsenic	0	0		0	340	340	778	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	48,026	
Total Boron	0	0		0	8,100	8,100	18,524	
Total Cadmium	0	0		0	2.326	2.48	5.67	Chem Translator of 0.938 applied
Total Chromium (III)	0	0		0	643.265	2,036	4,655	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	37.3	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	217	
Total Copper	0	0		0	15.452	16.1	36.8	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	75.857	98.6	225	Chem Translator of 0.769 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	3.77	Chem Translator of 0.85 applied
Total Nickel	0	0		0	530.759	532	1,216	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	4.150	4.88	11.2	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	149	
Total Zinc	0	0		0	132.853	136	311	Chem Translator of 0.978 applied

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

DLCo CEAP, NPDES Permit No. PA0285056, Outfall 001

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

☑ ***CFC*** CCT (min): 1.007 PMF: 1 Analysis Hardness (mg/l): 115.97 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	503	
Total Arsenic	0	0		0	150	150	343	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	9,376	
Total Boron	0	0		0	1,600	1,600	3,659	
Total Cadmium	0	0		0	0.273	0.3	0.69	Chem Translator of 0.903 applied
Total Chromium (III)	0	0		0	83.676	97.3	223	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	23.8	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	43.5	
Total Copper	0	0		0	10.164	10.6	24.2	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	3,430	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.956	3.84	8.79	Chem Translator of 0.769 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	2.07	Chem Translator of 0.85 applied
Total Nickel	0	0		0	58.951	59.1	135	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	11.4	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	29.7	
Total Zinc	0	0		0	133.940	136	311	Chem Translator of 0.986 applied

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

DLCo CEAP, NPDES Permit No. PA0285056, Outfall 001

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

☑ ***THH*** CCT (min): 1.007 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	12.8	
Total Arsenic	0	0		0	10	10.0	22.9	
Total Barium	0	0		0	2,400	2,400	5,489	
Total Boron	0	0		0	3,100	3,100	7,090	
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	686	
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	2,287	
Total Mercury	0	0		0	0.050	0.05	0.11	
Total Nickel	0	0		0	610	610	1,395	
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	0.55	
Total Zinc	0	0		0	N/A	N/A	N/A	

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☑ CRL CCT (min): 0.465 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	

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Toxics Management Spreadsheet
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Stream / Surface Water Information

DLCo CEAP, NPDES Permit No. PA0285056, Outfall 001

Instructions | Discharge | *Stream*

CLEAR FORM | CALCULATE

Receiving Surface Water Name: **Tawney 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	042370	0.76	772	2.34			Yes
End of Reach 1	042370	0.54	756	2.41			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	0.76	0.1	0.0219			16.5	1					100	7		
End of Reach 1	0.54	0.1	0.0227			16.35	2								

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	0.76		0.645												
End of Reach 1	0.54		0.669												

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Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

CLEAR PROJECT | CLEAR FORM | CALCULATE

Facility: DLCo CEAP | NPDES Permit No.: PA0285056 | Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste | Wastewater Description: Landfill Underdrain Seepage

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
0.011	136.52	7						

	Discharge Pollutant	Units	Max Discharge Conc		0 if left blank: Trib Conc	0 if left blank: Stream Conc	0.5 if left blank: Daily CV	0.5 if left blank: Hourly CV	0 if left blank: Stream CV	0 if left blank: Fate Coeff	0 if left blank: FOS	1 if left blank: Criteria Mod	1 if left blank: Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		1052									
	Chloride (PWS)	mg/L		91.1									
	Bromide	mg/L	<	0.1									
	Sulfate (PWS)	mg/L		451.1									
	Fluoride (PWS)	mg/L		0.563									
Group 2	Total Aluminum	µg/L	<	100									
	Total Antimony	µg/L	<	2									
	Total Arsenic	µg/L		5.1									
	Total Barium	µg/L	<	250									
	Total Beryllium	µg/L	<	1									
	Total Boron	µg/L		929									
	Total Cadmium	µg/L	<	0.06									
	Total Chromium (III)	µg/L		9									
	Hexavalent Chromium	µg/L	<	3									
	Total Cobalt	µg/L		0.6									
	Total Copper	µg/L		15									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	10									
	Dissolved Iron	µg/L		260									
	Total Iron	µg/L		13310									
	Total Lead	µg/L		26									
	Total Manganese	µg/L		6340									
	Total Mercury	µg/L	<	0.0915									
	Total Nickel	µg/L		2.4									
	Total Phenols (Phenolics) (PWS)	µg/L	<	10									
	Total Selenium	µg/L		61									
	Total Silver	µg/L	<	0.163									
	Total Thallium	µg/L	<	1									
	Total Zinc	µg/L		19									
	Total Molybdenum	µg/L	<	1.4									