pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0082881**
Facility Type	**Industrial**	APS ID	**312508**
Major / Minor	**Minor**	Authorization ID	**1335891**

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

Applicant and Facility Information

Applicant Name	**Howmet Aerospace Inc.**	Facility Name	**Howmet Aerospace Former Alcoa Lancaster Works**
Applicant Address	201 Isabella Street	Facility Address	1660 Fruitville Pike
	Pittsburgh, PA 15212-5872		Lancaster, PA 17601
Applicant Contact	Henk Van Der Meyden	Facility Contact	
Applicant Phone	(843) 296-3359	Facility Phone	
Client ID	74657	Site ID	237366
SIC Code	4959	Municipality	Lancaster City
SIC Description	Trans. & Utilities - Sanitary Services, Nec	County	Lancaster
Date Application Received	December 8, 2020	EPA Waived?	Yes
Date Application Accepted	December 16, 2020	If No, Reason	

Purpose of Application: NPDES Renewal for discharges from a Groundwater Remediation System (GRS)

Summary of Review

This is a renewal application of NPDES Permit No PA0082881 for Howmet Aerospace (f/k/a Arconic Inc.) – former Lancaster Works for the discharge of treated groundwater from a groundwater treatment system (GWTS).

The Howmet Aerospace (Howmet) Former Lancaster Works metal fabrication plant operated from the mid-1950s to 1987 which occupied an 80-acre property. TCE was originally found in groundwater at the site in 1982 as a result of sampling monitoring wells installed to monitor groundwater near the surface sludge impoundments. The primary source of the release of trichloroethylene (TCE) to soil and groundwater at the site was from a vapor degreaser unit and associated degreaser sump in the main plant building. In 1986 a source investigation was conducted. The plant closed in 1987. Also, in 1987 the impacted soil and concrete were removed from the site and properly disposed of offsite. During 1987 to 1989, a remedial action plan was developed for cleanup of groundwater and containment of the TCE plume. In 1988 the property was subsequently subdivided and redeveloped into a retail shopping plaza (Red Rose Commons). The remaining Howmet Aerospace 8-acre portion of the former plant property contains the groundwater withdrawal and treatment (VOC removal via air stripper) facility. The treatment system began operation in 1989 with effluent discharge to surface water covered by NPDES Permit No PA0082881. In 1998, the treatment system was relocated on the site due to redevelopment and a new extraction well was installed. From 1998 to 2012, groundwater remediation was accomplished with the groundwater extraction and treatment system, which generally functioned continuously.

There are two outfalls at the site, both of which receive effluent from the air stripper. According to the previous protection report, Outfall 002 was established in 2002 with support from a local organization in order to divert a portion of the treated groundwater to Diller Swamp, which was disappearing from a continuing loss of recharge due to commercial development. Upon discharging to the swamp/pond area, flow from Outfall 002 reaches UNT 07573 at RMI 1.42, approximately 0.20 river miles downstream of the discharge point. When the treatment system is operational, approximately one-seventh (or 14%) of the total discharge flow is typically sent to Outfall 002. The flow split was previously documented by the permittee's

Approve	Deny	Signatures	Date
x		*Brenda J Fruchtl* Brenda J. Fruchtl, P.G. / Licensed Professional Geologist	August 28, 2023
x		*Scott M Arwood* Scott M. Arwood, P.E. / Environmental Engineer Manager	9/11/2023

Summary of Review

consultant as 250 gpm (86%) to Outfall 001 and 40 gpm (14%) to Outfall 002; the November 2020 application provides the same information (see Figure 3).

The treatment facility has been offline for a trial shutdown since May 2012.

According to the renewal application, Howmet is planning to resume operation of the treatment facility in the 1st quarter of 2021 after completing an extraction well pump replacement and outfall pipe rehabilitation / replacement.

Per an update received via email on 3/11/2022, the extraction pump was replaced in March 2021. The outfall pipes have not yet been rehabilitated/replaced. The initial plan to perform acid cleaning for the pipe was ultimately not viable. Howmet is proceeding with open cut pipe replacement in Spring/Summer 2022. The plan is to restart the treatment system following completion of the outfall pipe replacement to restore the necessary capacity, which is anticipated for Summer 2022.

Per an update received via email on 07/26/2023 email, the outfall replacement project was completed in November of 2022. The outfall was replaced in the same alignment with a 10-inch SDR-35 PVC pipe. The GWTS was recently evaluated in June 2023 to determine what mechanical and electrical repairs are needed to get the GWTS back into operation. Based on these evaluations, repairs to the GWTS should be completed by Aug/Sept 2023 with the intention to start the station sometime in the 4th quarter of 2023.

Figure 1. Site Location Map. Location of the site on a topographic map.

Figure 2. Site Plan. This figure shows the locations of the extraction well, groundwater treatment facility, Outfall 001, and Outfall 002.

Figure 3. Process Flow Diagram.

Timeline of application

Currently, the facility is covered under NPDES Permit No PA0082881, which expired on May 31, 2021.

December 8, 2020 - The renewal application was received, which was considered timely; therefore, according to PA Code Title 25 §92a.7 (b), the terms and conditions of the expiring permit are automatically continued until a renewal can be issued.

December 16, 2020 – Application was accepted as complete.

February 18, 2022 - PADEP sent a Technical Deficiency (TD) email including questions about the status of the groundwater remediation system; request for updated outfall locations; and request for information about the additional sampling mentioned in the application. [**Attachment A** – saved as a PDF]

March 11, 2022 – PADEP received responses to the February 18, 2022 email including updated latitudes and longitudes for Outfalls 001 and 002. [**Attachment B** – saved as a PDF]

April 9, 2022 – PADEP sent an email acknowledging the responses and requested a site visit.

April 21, 2022 – Conducted a site visit. Consultant relayed that Howmet would prefer to wait for permit to be drafted until they are able to collect newer samples once the system is operational.

June 27, 2023 – PADEP sent an email outlining the items discussed and requested during the site visit. Outlined items needed for me to continue my review. [**Attachment C** – saved as a PDF]

July 6, 2023 – Consultant provided the following update to PADEP ECB Program: The outfall replacement was completed in Nov. 2022. However, the air stripper has not yet been repaired. We've just received quotes for mechanical and electrical upgrades. The upgrades should be completed by Aug/Sept 2023 and the system will start-up. Howmet then plans to install MW-3 and conduct an as-built survey of the updated site features

Summary of Review

July 6, 2023 – PADEP received a response to the June 27, 2023 email indicating the following: The GWTS has not been restarted. It is Howmet's intention to restart the GWTS. The GWTS was recently evaluated in June 2023 to determine what mechanical and electrical repairs are needed to get the GWTS back into operation. Based on these evaluations, repairs to the GWTS should be completed by Aug/Sept 2023 with the intention to start the station sometime in Q4-2023. [**Attachment D** – saved as a PDF]

Public Participation

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

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	86% of 0.42 MGD or 0.36 MGD
Latitude	40º 3' 47.6"	Longitude	-76º 19' 13.3"
Wastewater Description:	Discharge of treated groundwater from air stripper (groundwater remediation system)		
Receiving Waters	Unnamed Tributary to Little Conestoga Creek (WWF)	Stream Code	07573
NHD Com ID	57463711	RMI	1.39
Drainage Area	1.19	Yield (cfs/mi^2)	0.067
Q_{7-10} Flow (cfs)	0.0794	Q_{7-10} Basis	StreamStats
Elevation (ft)	327	Slope (ft/ft)	
Watershed No.	7-J	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	CAUSE UNKNOWN, NUTRIENTS, PATHOGENS, SILTATION		
Source(s) of Impairment	GRAZING IN RIPARIAN OR SHORELINE ZONES, GRAZING IN RIPARIAN OR SHORELINE ZONES, SOURCE UNKNOWN, URBAN RUNOFF/STORM SEWERS		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Chester Water Authority		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	~2	Distance from Outfall (mi)	~31.58

Changes Since Last Permit Issuance: The outfall pipe (from the treatment plant to the point of discharge) was replaced in November 2022. The location of the outfall did not change.

Other Comments:
Outfall 001 discharges directly to the UNT to Little Conestoga Creek.
Approximately 86% of the total effluent from the air stripper is discharged at Outfall 001.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	14% of 0.42 or 0.06 MGD
Latitude	40º 3' 55.7"	Longitude	-76º 19' 6.4"
Wastewater Description:	Discharge of treated groundwater from air stripper (groundwater remediation system)		
Receiving Waters	UNT Unnamed Tributary to Little Conestoga Creek (WWF, MF)	Stream Code	NA (to 07573)
NHD Com ID	57463711	RMI	0.20 (NA) / 1.42 (07573)
Drainage Area	0.2 sq mi	Yield (cfs/mi^2)	0.067
Q_{7-10} Flow (cfs)	0.013	Q_{7-10} Basis	
Elevation (ft)	334	Slope (ft/ft)	
Watershed No.	7-J	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	CAUSE UNKNOWN, NUTRIENTS, PATHOGENS, SILTATION		
Source(s) of Impairment	GRAZING IN RIPARIAN OR SHORELINE ZONES, GRAZING IN RIPARIAN OR SHORELINE ZONES, SOURCE UNKNOWN, URBAN RUNOFF/STORM SEWERS		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Chester Water Authority		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	~ 2	Distance from Outfall (mi)	~ 31.58

Changes Since Last Permit Issuance: none

Other Comments:

- Outfall 002 discharges to a wetland pond which is approximately 0.2 miles from RMI 1.42 of UNT to Little Conestoga Creek.
- Approximately 14% (or 1/7th) of the total effluent from the air stripper is discharged at Outfall 002

Treatment Facility Summary				
Treatment Facility Name: Howmet Aerospace - Former Lancaster Works Groundwater Treatment Facility				
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Groundwater	Physical (Industrial Waste)	Air stripper Gas Phase Separation		0.42

Other Comments:

- The WWTP train is as follows:
  - Extraction Well → Air Stripper → Discharge

- No chemical additives are reported to be used.

- The air stripping tower was designed to remove VOCs, specifically Trichloroethylene (TCE) and Tetrachloroethylene (PCE), from the groundwater. The air stripping tower was designed with a capacity of 550 gpm (0.792 MGD) but typically operates at 290 gpm (0.418 MGD). A submersible extraction well pump conveys groundwater to the top of the air stripping tower. A centrifugal blower provides air flow at a rate of 3,300 SCFM. The air stripper material consists of a 2-in plastic piping material. The air is discharged to the atmosphere. The effluent is conveyed in a buried pipe to a stream outfall (Outfall 001) at 250 gpm and to a wetland pond outfall (Outfall 002) at 40 gpm. (see **Figure 3. Process Flow Diagram**)

Monitoring Wells:

- The deep aquifer groundwater monitoring wells (MW-1, MW-2, MW-6U/L, and MW-10A) have historically been sampled for VOCs to monitor plume captured by the deep aquifer extraction well as part of the Act 2 closure of the site. Monitoring of these wells, plus the more recently installed MW-3, will resume once the GWTS is restarted.

- The shallow aquifer groundwater wells (WQMP-1A, WQMP-2, WQMP-3, and WQMP-4) are not associated with the Act 2 wells and monitor the performance of the closed landfill/impoundments in accordance with the RCRA post-closure guidelines.

- Attached is a groundwater well location figure from the January 30, 2023 Second Half of 2022 – RCRA Monitoring Report. (see **Figure 4. Groundwater Contour Map**)

Changes Since Last Permit Issuance / Future plans:

1. The extraction well pump was replaced in March 2021.

2. The outfall replacement project was completed in November of 2022. The outfall was replaced in the same alignment with a 10-inch SDR-35 PVC pipe.

3. It is Howmet's intention to restart the GWTS. The GWTS was recently evaluated in June 2023 to determine what mechanical and electrical repairs are needed to get the GWTS back into operation. Based on these evaluations, repairs to the GWTS should be completed by Aug/Sept 2023 with the intention to start the station sometime in Q4-2023.

Compliance History	
Summary of DMRs:	They have submitted their monthly DMRs as required by their permit. • All reports for final effluent since January 2015 = No Discharge • Influent discharge was reported once in September 2018; however, the results were reported as "GG" with the following comment: *No discharge. See comment for Final Effluent 001.* *Comment: The treatment system has been off since May 1, 2012 for a trial shutdown, as authorized by the PADEP, with the exception of periodic system exercising for system maintenance and/or Extraction Well sampling. The system was last exercised on June 27, 2018. Arconic is currently preparing to restart the system as discussed with PADEP in September 2018.* There have been no reported flows at the facility since April 2012. Therefore, there is no new data since the permit was last renewed.
Summary of Inspections:	DEP conducted a compliance evaluation via phone on 09/29/2020 with no violations noted. The findings from that inspection are summarized as follows: • It was noted that the company recently changed named to Howmet Aerospace Inc, which will be noted on the upcoming renewal. • Under normal conditions, air-stripper tower discharge is generally split between outfall 001 at 250 gpm and outfall 002 at 50 gpm. However, since June 2018, no discharge has been reported on eDMR submissions. Ms. Kirkham explained that the primary outfall line is several hundred feet of 8" PVC pipe which discharges to an UNT to Little Conestoga Creek. Prior to June 2018, a significant amount of calcium built up in the line and decreased the diameter to about 3"-4". Since shutdown, the facility has been looking at options to restore the lines. The wetland area which receives flow from outfall 002 can only receive a portion of the flow due to localized flooding. Facility decided that cleaning the pipe to remove scale buildup would be the best course of action. In November 2019, the facility applied for a permit with PADEP Waterways & Wetlands. Approval was received last week (week of September 20th). The current plan is to have the facility back up and running by the end of this year. Permit approval also included replacement of above grade wetland line to outfall 002. • The Outfall 001 line cleaning procedures are expected to be completed using a closed loop system with an acid wash which will be collected in a discharge tank and removed from site. Work is expected to be subcontracted through Cross Chemical. In the future, acid chemical addition will be used as needed to control scale build up. • The permittee has been pursuing Act 2 closure in collaboration with PADEP Environmental Cleanup & Brownfield Program. At least for the short term, the facility will continue to operate the system and will be adding an additional monitoring well (MW #3). Plan is to drill new well after monitoring system is back up and running. • There have been no repairs or maintenance to the tower since closure in June 2019. Air-stripping tower is in working order. Prior to beginning operations, a subcontractor is expected to check on the extraction pump. Pump is not in working order and exact cause is unknown. Recommendations: • Within 30 days, apply for a laboratory registration number for onsite analysis of pH. See "Environmental Laboratory Registration Application" form 1500-FM-BOL0101 for guidance. • As a reminder, once operations return to normal, maintain a log to document pH meter calibration. • Please provide notification to PA DEP Clean Water Program 30 days prior to outfall 001 acid wash line cleaning activities. Notification can be provided to Tracy Tomtishen at ttomtishen@pa.gov. • Maintain an Emergency Response contact list onsite with DEP's updated ER number 1-800-541-2050.

Summary of Violations:	• There was 1 Clean Water Program violation reported for this facility since the last renewal. Violation date: 9/7/2022. NPDES – Failure to pay annual fee. Resolved on 10/12/2022. • There are not any open Clean Water Program violations for the facility.
Summary of other Programs:	They submit semiannual RCRA Groundwater monitoring reports per their RCRA Post-Closure Permit No PAD003026663. • According to the 2nd Half of 2022 report (dated 1/30/2023): Howmet is coordinating with the PADEP's Environmental Cleanup and Brownfields Program regarding ongoing groundwater monitoring and reporting and is preparing to restart the treatment system as initially discussed with the PADEP in September 2018.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.42
Latitude 40º 03' 47.6" **Longitude** -76º 19' 13.3"
Wastewater Description: Groundwater Cleanup Discharge. Effluent from air stripper

Chemical Additives. None reported

Technology-Based Limitations. No technology-based limitations apply.

Public Water Supply: The nearest downstream public water supply intake is for Chester Water Authority on Susquehanna River in Lancaster County, approximately 32 miles downstream of this discharge.

This distance was determined as follows:

	RMI of UNT Little Conestoga Creek at Outfall 001	1.37 mi
+	RMI of Little Conestoga Creek at confluence with UNT Little Conestoga Creek	11.76 mi
+	RMI of Conestoga River at confluence with Little Conestoga Creek	3.54 mi
+	RMI of Susquehanna River at confluence with Conestoga River	16.91 mi
-	RMI of Chester Water Authority intake on Susquehanna River	≈ 2 mi
		≈ 31.58 mi

Considering distance and dilution, the discharge is not expected to impact the water supply.

Toxics Management Spreadsheet (TMS) Version 1.4 was used to develop the limits (see **Attachments E and F**).

Discharge Information Inputs:

Discharge Pollutant Max Discharge Conc: Per Module 2 of the application, Trichloroethylene (TCE) and Tetrachloroethylene (PCE) were reported in the untreated groundwater (influent). The max results (based on 14 results with a QL of 0.001 mg/L) were reported as 0.0744 mg/L (74.4 ug/L) for TCE and 0.0025 mg/L (2.5 ug/L) for PCE. The max results were used in the TMS.

Design Flow (MGD) Inputs: Effluent limitations in the existing permit were developed using a design flow of 0.42 MGD since the last four months of DMR data prior to the facility's shutdown in May 2012 indicate an average flow value of 0.42 MGD. The design flow of 0.42 MGD was maintained since the system has not been operated since 2012.

Stream / Surface Water Information Inputs: All inputs were taken from the 2015 Fact Sheet, which I confirmed were reasonable.

Results: Recommended WQBELs & Monitoring Requirements from the TMS (compared to the last permit) for Outfall 001 in ug/L are as follows:

	Recommended WQBELs & Monitoring Requirements*		
Parameter	AML	MDL	IMAX
Trichloroethylene (ug/L)[1,2]	**1.35**	**2.11**	**3.38**
Tetrachloroethylene (ug/L) (using 1000 ug/L max conc)[1]	**22.5**	**35.2**	**56.3**
Tetrachloroethylene (ug/L) (using 2.5 ug/L max conc)[2]	**No monitoring or limits required**: Discharge Conc ≤ 25% WQBEL (Governing WQBEL 22.5 ug/L)		

[1] **Attachment E**. TMS run using 1000 ug/L max concentration for TCE and PCE.
[2] **Attachment F**. TMS run using max concentration 74.4 ug/L for TCE and 2.5 ug/L for PCE.

***Rounding:** The above recommended limits will be expressed as mg/L in the permit and rounded to 4 decimal places. If rounding is required, limits ending in "1,2,3,4" will be rounded down; limits ending in "6,7,8,9" will be rounded up; limits ending in "5" will be rounded to the nearest even number.

Existing Permit Limits Outfall 001 (effective 06-01-2016):

Discharge Parameter	DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
	Mass Units		Concentrations				Monitoring Frequency	Sample Type
	Average Monthly (lbs/day)	Maximum Daily (lbs/day)	Minimum (mg/L)	Average Monthly (mg/L)	Maximum Daily (mg/L)	Inst. Maximum (mg/L)		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	2/month	Grab
Tetrachloroethylene Influent	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Trichloroethylene Influent	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Tetrachloroethylene	XXX	XXX	XXX	0.0016 (1.6 ug/L)	0.0024 (2.4 ug/L)	0.0040 (4.0 ug/)	2/month	Grab
Trichloroethylene	XXX	XXX	XXX	0.0056 (5.6 ug/L)	0.0088 (8.8 ug/L)	0.0140 (14.0 ug/L)	2/month	Grab

Discussion:

TCE:
Effluent Discharge Limits: The proposed limits for TCE are more stringent because the Chapter 93 Human Health Criteria (HHC) for TCE was updated since the permit was last reviewed. The HHC for TCE changed from 2.5 ug/L during the last renewal to 0.6 ug/L (25 Pa. Code § 93.8c). The Governing WQBEL was calculated on the updated HHC of 0.6 ug/L, leading to more stringent limits.

I am recommending the discharge limits for TCE be revised to the more stringent recommended limits to reflect the change in the HHC. Monitoring frequency will remain at 2/month with monthly reporting.

Influent Limits: I am recommending maintaining the 1/month influent monitoring without a limit, report only.

PCE:
Effluent Discharge Limits: The proposed limits for PCE are less stringent because the Chapter 93 Human Health Criteria (HHC) for PCE was updated since the permit was last reviewed. The HHC for PCE changed from 0.69 ug/L during the last renewal to 10 ug/L (25 Pa. Code § 93.8c). When the maximum reported concentration reported for PCE (from Module 2) was entered into the TMS determined that PCE was no longer a pollutant of concern since the discharge concentration (2.5 ug/L) ≤ 25% WQBEL (10 ug/L). In order to calculate the limits for PCE based on the updated 10 ug/L HHC, I ran the TMS using 1000 ug/L as the max discharge concentration.

I am recommending maintaining PCE as a pollutant of concern and updating the limits for PCE to the less stringent recommended limits to reflect the change in the HHC. Monitoring frequency will remain at 2/month with monthly reporting.

Influent Limits: I am recommending maintaining the 1/month influent monitoring without a limit, report only.

Antidegradation (93.4): The effluent limits for this discharge have been developed to ensure that existing in-stream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

303(d) Listed Streams: This discharge is not located on a 303(d) listed stream segment. eMapPA lists the receiving stream as impaired for pathogens due to an unknown source, urban runoff/storm sewers due to an unknown cause, and nutrients and siltation due to grazing-related agriculture.

Class A Wild Trout Fisheries: No Class A Wild Trout Fisheries are impacted by this discharge.

Development of Effluent Limitations

Outfall No. 002 **Design Flow (MGD)** 0.42
Latitude 40º 03' 55.7" **Longitude** -76º 19' 6.4"
Wastewater Description: Groundwater Cleanup Discharge. Effluent from air stripper

Technology-Based Limitations

No technology-based limitations apply.

Water Quality-Based Limitations / Best Professional Judgment (BPJ) Limitations / Additional Considerations

See previous discussion for Outfall 001. The same effluent limitations will be applied at both outfalls. The flows at Outfall 002 should not exceed the previously stated 50 gpm (0.072 MGD) rate. Due to the estimation of the drainage area for Outfall 002, the outfall will receive the same limitations as Outfall 001, as a conservative measure (as is the case with the existing permit).

Recommended WQBELs & Monitoring Requirements from the TMS (compared to the last permit) for Outfall 002 in ug/L are as follows:

	Recommended WQBELs & Monitoring Requirements*		
Parameter	AML	MDL	IMAX
Trichloroethylene (ug/L)[1,2]	**1.35**	**2.11**	**3.38**
Tetrachloroethylene (ug/L) (using 1000 ug/L max conc)[1]	**22.5**	**35.2**	**56.3**
Tetrachloroethylene (ug/L) (using 2.5 ug/L max conc)[2]	**No monitoring or limits required**: Discharge Conc ≤ 25% WQBEL (Governing WQBEL 22.5 ug/L)		

[1] **Attachment E**. TMS run using 1000 ug/L max concentration for TCE and PCE.
[2]**Attachment F**. TMS run using max concentration 74.4 ug/L for TCE and 2.5 ug/L for PCE.

***Rounding:** The above recommended limits will be expressed as mg/L in the permit and rounded to 4 decimal places. If rounding is required, limits ending in "1,2,3,4" will be rounded down; limits ending in "6,7,8,9" will be rounded up; limits ending in "5" will be rounded to the nearest even number.

Existing Permit Limits Outfall 002 (effective 06-01-2016):

Discharge Parameter	**DISCHARGE LIMITATIONS**						**MONITORING REQUIREMENTS**	
	Mass Units		**Concentrations**				**Monitoring Frequency**	**Sample Type**
	Average Monthly (lbs/day)	**Maximum Daily (lbs/day)**	**Minimum (mg/L)**	**Average Monthly (mg/L)**	**Maximum Daily (mg/L)**	**Inst. Maximum (mg/L)**		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	2/month	Grab
Tetrachloroethylene Influent	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Trichloroethylene Influent	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Tetrachloroethylene	XXX	XXX	XXX	0.0016 (1.6 ug/L)	0.0024 (2.4 ug/L)	0.0040 (4.0 ug/)	2/month	Grab
Trichloroethylene	XXX	XXX	XXX	0.0056 (5.6 ug/L)	0.0088 (8.8 ug/L)	0.0140 (14.0 ug/L)	2/month	Grab

PROPOSED PART C SPECIAL CONDITIONS

- Section I. Other Requirements. A-F were taken from their existing permit
- Section II. Groundwater Cleanup – Airstripper. A-C are additional special conditions which were added to be consistent with other NPDES Permits for GWCU sites.

I. OTHER REQUIREMENTS

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

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

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

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

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

E. Separate sampling for Outfalls 001 and 002 is not required. Samples taken from the discharge from the treatment facilities will be acceptable for both Outfalls 001 and 002.

F. Should the permittee decide to permanently cease discharging as permitted, it shall notify DEP in writing at least 60 days prior to the planned cessation of the discharge. DEP reserves all rights under law to thereafter order the continued treatment and discharge in accordance with this or any other applicable permit, or at any time after the reissuance of this permit to modify the permit, in accordance with the requirements of law and regulation for permit modification, for the purpose of protecting groundwater or surface waters or the environment otherwise, including, without limitation, to incorporate in-ground cleanup levels for the parameters permitted herein and hereafter established by DEP. The permittee reserves all rights under law to challenge any such action by DEP.

II. GROUNDWATER CLEANUP – Air Stripper

A. There shall be no discharge of stripper tower cleaning wastewaters to waters of the Commonwealth. Cleaning wastewaters shall be discharged to the sanitary sewer or hauled off site for proper disposal.

B. Summary reports providing groundwater quality data from quarterly events, semiannual water table elevation maps, and a narrative discussion including tables and maps shall be submitted annually to the Environmental Cleanup Program, on the anniversary date of this permit. The narrative report shall evaluate the overall operation of the system demonstrating its effectiveness in containing and remediating the contaminant plume. If modification to the operation is proposed, details must be submitted in the report.

C. A Groundwater Remediation System (GRS) Annual Report shall be submitted annually to the Clean Water Program on January 28 (for the previous calendar year). The GRS Annual Report shall address activities under the permit for the previous calendar year including groundwater quality data. If modification to the operation is proposed, details must be submitted along with the GRS Annual Report.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0	XXX	2/month	Grab
Tetrachloroethylene Industrial Influent	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Tetrachloroethylene	XXX	XXX	XXX	0.0225	0.035	0.056	2/month	Grab
Trichloroethylene	XXX	XXX	XXX	0.0014	0.0021	0.0034	2/month	Grab
Trichloroethylene Industrial Influent	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab

Compliance Sampling Location: Influent samples at the Influent sample port (to the GWTS). Effluent samples at the Effluent sample port (after the GWTS) before discharge to Outfall 001.

Other Comments: This was previously listed as Outfall 001; however, I am updating it to better reflect where the samples are taken according to the process flow diagram.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 002, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0	XXX	2/month	Grab
Tetrachloroethylene	XXX	XXX	XXX	0.0225	0.035	0.056	2/month	Grab
Tetrachloroethylene Industrial Influent	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Trichloroethylene Industrial Influent	XXX	XXX	XXX	XXX	Report	XXX	1/month	Grab
Trichloroethylene	XXX	XXX	XXX	0.0014	0.0021	0.0034	2/month	Grab

Compliance Sampling Location: Influent samples at the Influent sample port (to the GWTS). Effluent samples at the Effluent sample port (after the GWTS) before discharge to Outfall 002.

Other Comments: This was previously listed as Outfall 002; however, I am updating it to better reflect where the samples are taken according to the process flow diagram.

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachments E and F)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☒	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 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:
☐	Other:

Figure 1. Site Location Map. Location of the site on a topographic map.

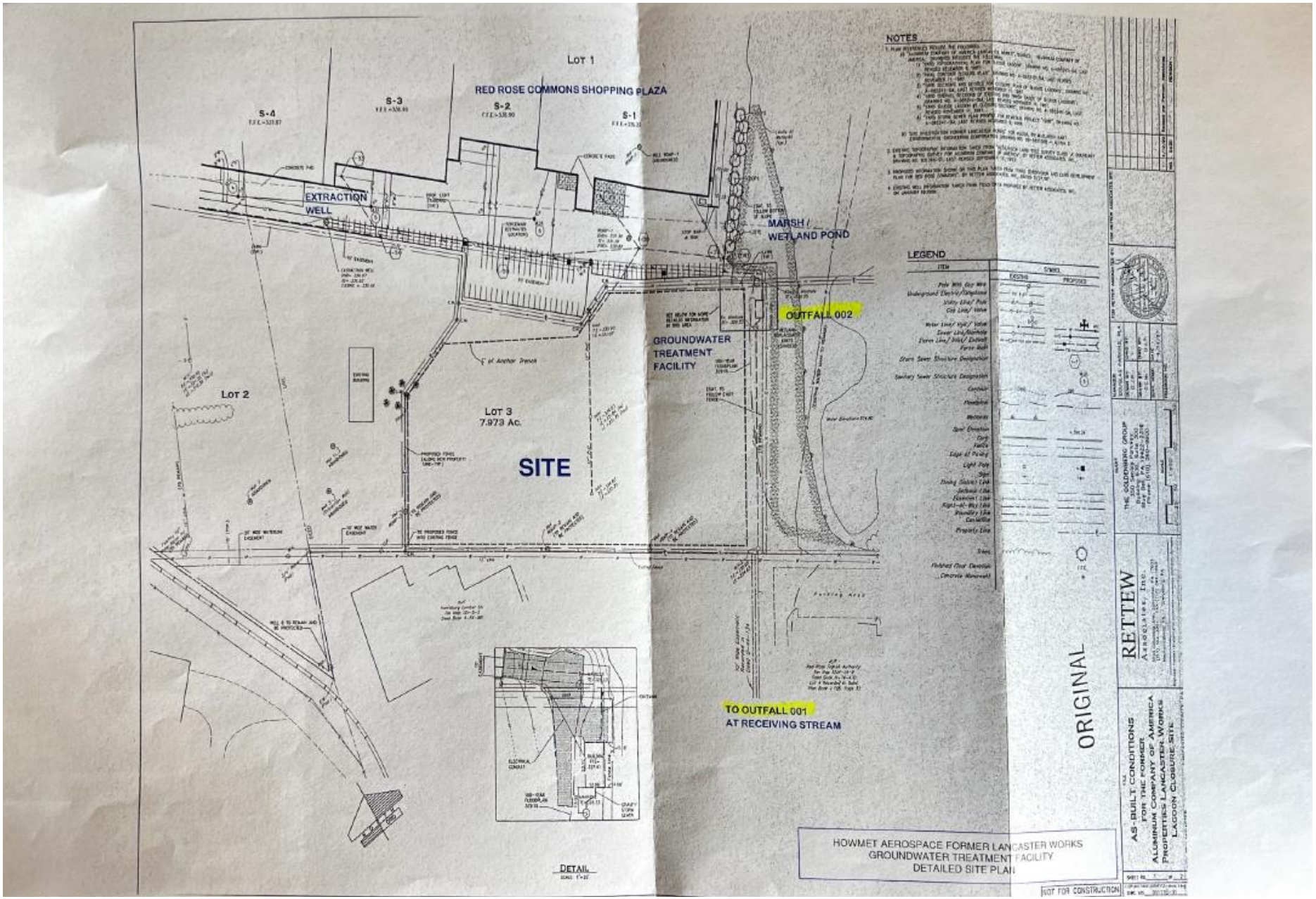

Figure 2. Site Plan.

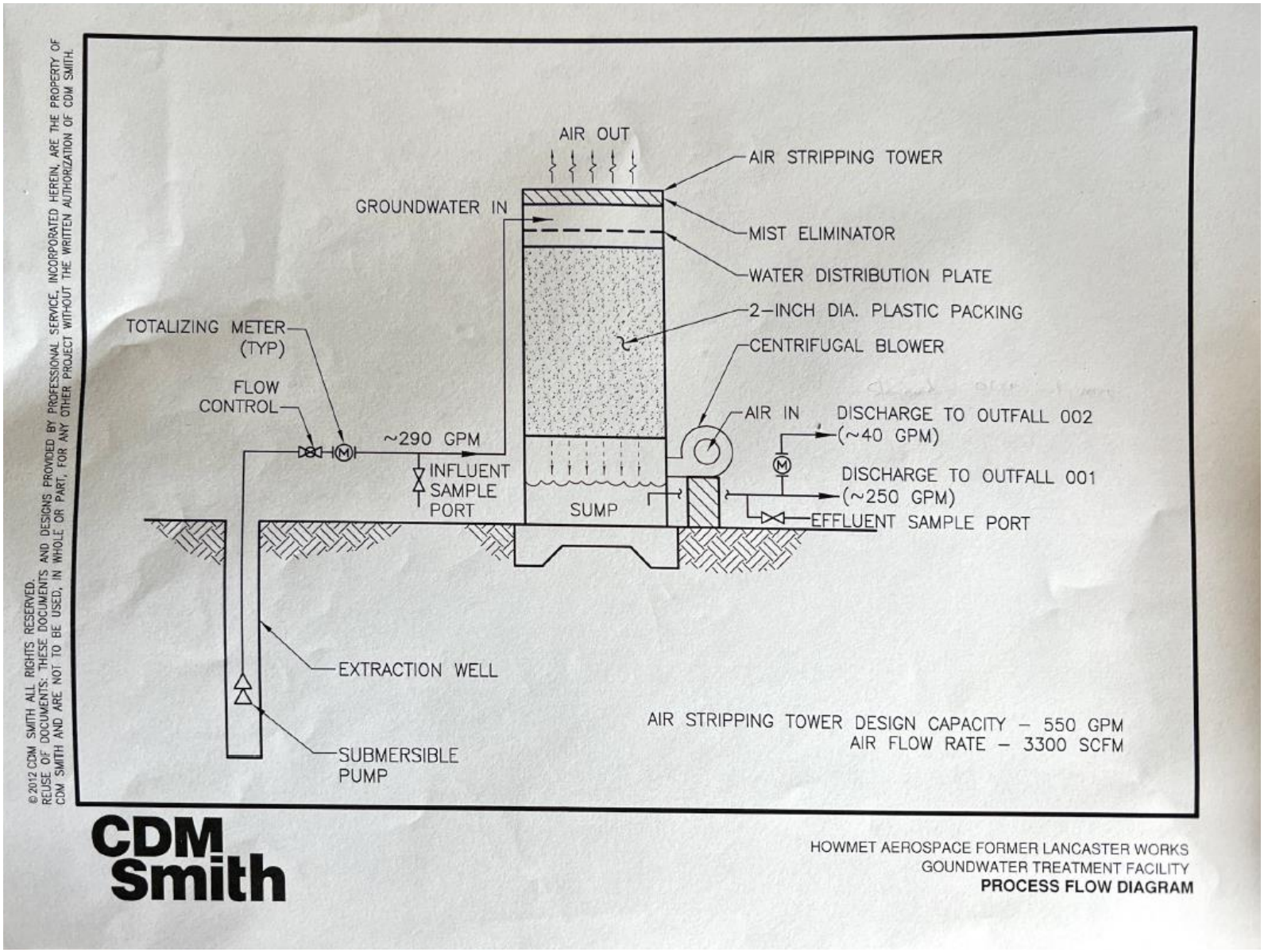

Figure 3. Process Flow Diagram.

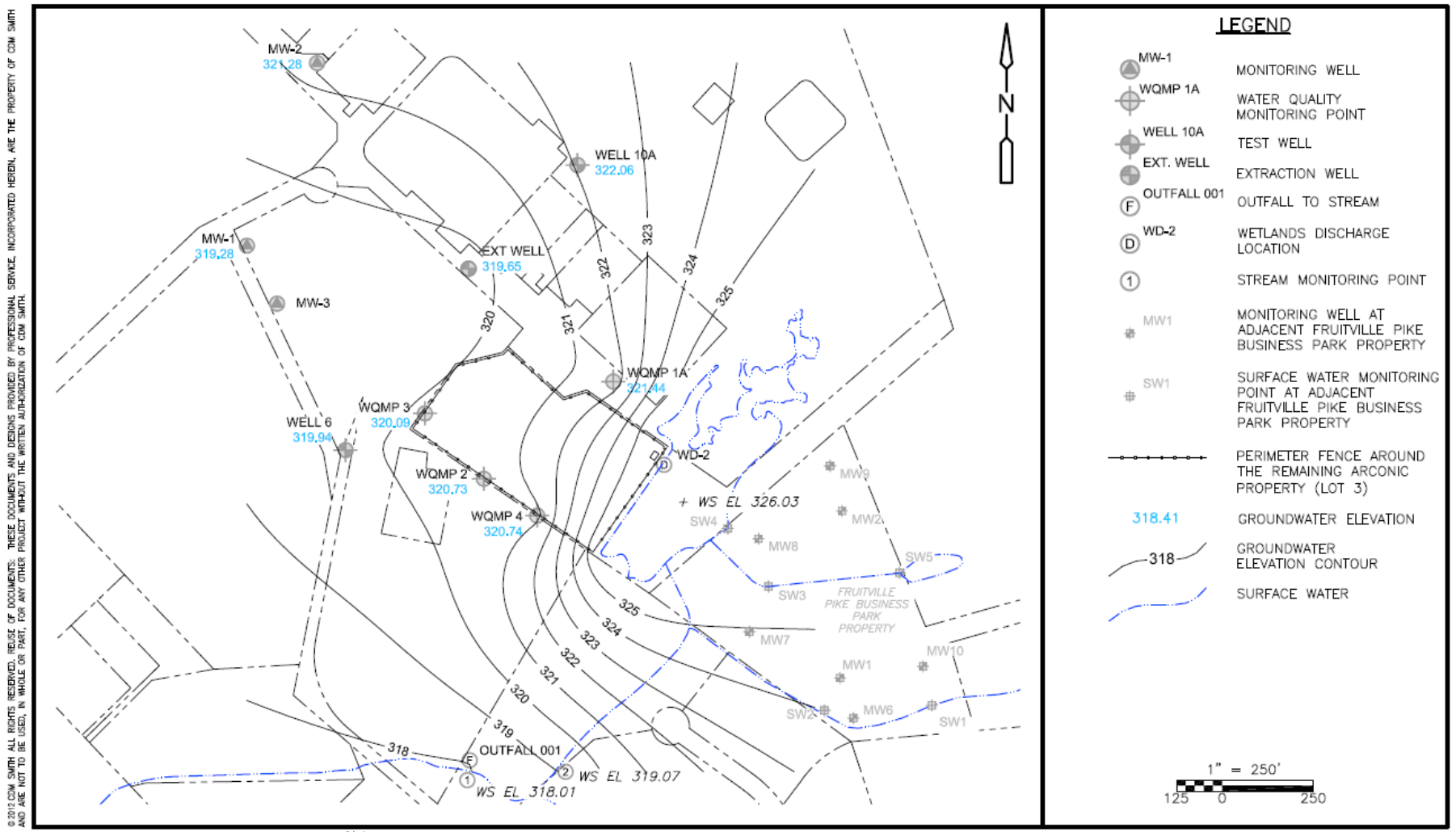

Figure 4. Groundwater Contour Map (November 3, 2022).

Attachment A.

Fruchtl, Brenda

From: Fruchtl, Brenda
Sent: Friday, February 18, 2022 12:18 PM
To: KirkhamRA@cdmsmith.com
Cc: Patrick.Cook@howmet.com; henk.vandermeyden@howmet.com
Subject: Questions. Renewal Application. NPDES Permit No PA0082881. Howmet Aerospace. RESPONSE REQUESTED

Good Afternoon Rachel

I am the permit writer who will be reviewing the renewal application for NPDES Permit No PA0082881, Howmet Aerospace Inc, Lancaster City, Lancaster County, which was received on December 8, 2020.

I have begun the technical review. **And I have a few questions before I proceed**:

1. Groundwater remediation system. The cover letter dated November 25, 2020 mentions that the treatment system has been off since May 1, 2012. And Howmet has decided to resume operation of the treatment system once the extraction well pump has been replaced and the outfall pipes have been rehabilitated / replaced.
    a. What is the status of the Act 2 Closure?
    b. Have these repairs been made? If so, what was the date that the repairs were completed?
    c. Is the treatment system currently operating?
        i. If yes, when did the operations / discharge resume
        ii. If no, are there any plans to restart the treatment system / resume discharging?

2. Outfall locations. The latitude and longitude for Outfall 001 and Outfall 002 provided in the application do not line up with the locations shown on the Overall Site Plan included in the application. They also do not match the information we currently have in our system.
    a. Please provide corrected latitudes and longitudes for both Outfall 001 and Outfall 002 that line up with their locations show on the site plan.
    b. Will any of the repairs to the Outfalls affect their locations? If so, please provide the information for the changes, along with a revised site plan.

3. Sampling. The cover letter mentioned that during the first quarter of 2021 when the treatment system is operational, Howmet plans to collect three rounds of Module 2 influent and effluent samples. The results will be submitted to PADEP as a supplement to this application.
    a. Have additional samples been collected as noted on the cover letter?
        i. If yes, please provide the sampling date and results to my attention
        ii. If no, are there still plans to collect the additional samples? If yes, do you have a time frame?

4. Application. Have there been any changes to the application and/or contact information since the application was received on December 8, 2020?

Please acknowledge receipt of this email and questions. And provide a timeline for providing responses.

Feel free to contact me if you have any questions for me or would like to discuss further.
Thank you
Brenda Fruchtl, P.G. | Licensed Professional Geologist
Department of Environmental Protection | Clean Water Program
Southcentral Regional Office Building
909 Elmerton Avenue | Harrisburg, PA 17110

1

Attachment B.

Fruchtl, Brenda

From: Kirkham, Rachel <KirkhamRA@cdmsmith.com>
Sent: Friday, March 11, 2022 8:24 AM
To: Fruchtl, Brenda
Cc: Cook, Patrick (TETRATECH); Van Der Meyden, Henk
Subject: [External] RE: Questions. Renewal Application. NPDES Permit No PA0082881. Howmet Aerospace. RESPONSE REQUESTED

Follow Up Flag: Follow up
Flag Status: Completed

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Hi Brenda,

Please review our responses in red below and let me know if you have any questions. Thank you.

Rachel Kirkham, PE, PMP | CDM Smith | 280 Granite Run Dr. #160 Lancaster PA 17601 | 717-581-8537 | kirkhamra@cdmsmith.com | cdmsmith.com

From: Fruchtl, Brenda <bfruchtl@pa.gov>
Sent: Friday, February 18, 2022 12:18 PM
To: Kirkham, Rachel <KirkhamRA@cdmsmith.com>
Cc: Patrick.Cook@howmet.com; henk.vandermeyden@howmet.com
Subject: Questions. Renewal Application. NPDES Permit No PA0082881. Howmet Aerospace. RESPONSE REQUESTED

Good Afternoon Rachel

I am the permit writer who will be reviewing the renewal application for NPDES Permit No PA0082881, Howmet Aerospace Inc, Lancaster City, Lancaster County, which was received on December 8, 2020.

I have begun the technical review. **And I have a few questions before I proceed**:

1. Groundwater remediation system. The cover letter dated November 25, 2020 mentions that the treatment system has been off since May 1, 2012. And Howmet has decided to resume operation of the treatment system once the extraction well pump has been replaced and the outfall pipes have been rehabilitated / replaced.
    a. What is the status of the Act 2 Closure? Howmet and PADEP (Environmental Cleanup & Brownfields Program) decided to resume operation of the treatment system as part of Howmet's participation in the Act 2 Program.
    b. Have these repairs been made? The extraction well pump was replaced in March 2021. The outfall pipes have not yet been rehabilitated/replaced. The initial plan to perform acid cleaning for the pipe was ultimately not viable. Howmet is proceeding with open cut pipe replacement in Spring/Summer 2022. If so, what was the date that the repairs were completed?
    c. Is the treatment system currently operating? No, the system cannot operate until the outfall pipe is replaced.
        i. If yes, when did the operations / discharge resume
        ii. If no, are there any plans to restart the treatment system / resume discharging? Yes, following completion of the outfall pipe replacement to restore the necessary capacity, which is anticipated for Summer 2022.

1

2. Outfall locations. The latitude and longitude for Outfall 001 and Outfall 002 provided in the application do not line up with the locations shown on the Overall Site Plan included in the application. They also do not match the information we currently have in our system.
    a. Please provide corrected latitudes and longitudes for both Outfall 001 and Outfall 002 that line up with their locations show on the site plan. Corrected lat/long are provided below for each outfall:
        i. Outfall 001: 40 deg, 3 min, 47.6 sec N ; 76 deg, 19 min, 13.3 sec W
        ii. Outfall 002: 40 deg, 3 min, 55.7 sec N ; 76 deg, 19 min, 6.4 sec W
    b. Will any of the repairs to the Outfalls affect their locations? If so, please provide the information for the changes, along with a revised site plan. No, the outfall pipe replacement will not change the outfall locations.

3. Sampling. The cover letter mentioned that during the first quarter of 2021 when the treatment system is operational, Howmet plans to collect three rounds of Module 2 influent and effluent samples. The results will be submitted to PADEP as a supplement to this application.
    a. Have additional samples been collected as noted on the cover letter? No, the samples cannot be collected until the system is operational.
        i. If yes, please provide the sampling date and results to my attention
        ii. If no, are there still plans to collect the additional samples? If yes, do you have a time frame? Yes, this is planned for Summer 2022, following outfall pipe replacement.

4. Application. Have there been any changes to the application and/or contact information since the application was received on December 8, 2020? The title for Howmet's contact person (Henk van der Meyden) has changed to Director, Corporate Environmental and Remediation.

Please acknowledge receipt of this email and questions. And provide a timeline for providing responses.

Feel free to contact me if you have any questions for me or would like to discuss further.
Thank you
Brenda Fruchtl, P.G. | Licensed Professional Geologist
Department of Environmental Protection | Clean Water Program
Southcentral Regional Office Building
909 Elmerton Avenue | Harrisburg, PA 17110
Phone: 717.705.4812 | Fax: 717.705.4760
www.dep.pa.gov

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

From: Lockwood, Benjamin
Sent: Monday, November 9, 2020 1:54 PM
To: Kirkham, Rachel <KirkhamRA@cdmsmith.com>
Cc: Cook, Patrick (TETRATECH) <Patrick.Cook@howmet.com>
Subject: RE: [External] RE: NPDES Permit No. PA0082881 Renewal - Sampling Approach Confirmation

Rachel,

I agree with the sampling approach you have outlined in your email. I discussed the issue of the application checks with our clerical staff. There is flexibility with the 10 day requirement, but for application processing purposes they need to be less than 30 days old. Since they will only be slightly more than 10 days old, this will not be a problem. Please let me know if you have any other questions.

Attachment C.

Fruchtl, Brenda

From: Fruchtl, Brenda
Sent: Tuesday, June 27, 2023 9:31 AM
To: 'Kirkham, Rachel'
Cc: Cook, Patrick (TETRATECH); Van Der Meyden, Henk
Subject: Follow up to 4/21/2022 Site Visit. Questions / Requests. RE: Renewal Application. NPDES Permit No PA0082881. Howmet Aerospace. RESPONSE REQUESTED

Good Morning

It has been over a year since I met with Rachel Kirkham at the site to discuss the permit renewal. According to my notes, the following items were discussed during the site visit on 4/21/2022:

1. I requested an electronic copy of the application for ease of review.

2. I requested the latest semiannual Groundwater report (sent to ECB Program) including water quality for the Monitoring Wells on site and the location of the those Monitoring Wells.
    a. I requested input as to which of the onsite monitoring wells would be most representative of the water in the extraction well (since water has not been withdrawn from the extraction well while the system has been shut down).
    b. Once per five year influent data is helpful for DEP to confirm there are not any new POC when renewing their permit.

3. Discussed the plan to redo the outfall pipe (from the GWTS to the stream) in summer 2022.

4. Once new pipe was installed, they planned to turn on the GWTS again.
    a. Plan was to continue to discharge to Outfall 001 (stream) and Outfall 002 (wetland) at the same split noted on the diagram in the 2020 application.
        i. They can't send all the water to the wetland or it would flood the bus depot (where the wetland discharges).
        ii. The Max Flow numbers in the application is the max flow from the system (which is split between outfalls 001 and 002) and not the max flow for Outfall 001 and 002 individually.
        iii. Howmet would prefer to wait for the permit to be drafted until they are able to collect "new" sample after the system is operational.
            1. I explained that the sampling from the discharge isn't really necessary since it wouldn't affect the modeling – the WQBEL is based on the flow to the stream (and not dependent on the level of contaminants in the influent).

I am following up since I have not had any additional correspondence since I met on site with the consultant.
<u>In order to continue my technical review of the renewal application received on 12/8/2023, I am seeking responses to the following questions / requests:</u>

1. Has the outfall been replaced as discussed during the 4/21/2022 site visit? If so, please send me details on the project.

2. Has the GWTS been restarted?
    a. If the GWTS is now operational, please provide the following information:
        i. When did the GWTS restart?
        ii. Have new influent / effluent samples been collected? If yes, please send me the results.
        iii. Please send me updated flow rate information from the GWTS along with updated discharge rates to Outfall 001 and Outfall 002.

1

b. If the GWTS is still not operational, what are the current plans for the system? Is the plan still to restart it at some point? If so, when?

3. Please send me the latest Groundwater Report (that is sent to DEP – ECB Program) electronically.

4. Please inform me which of the onsite monitoring wells would be most representative of the water in the extraction well (since water has not been withdrawn from the extraction well while the system has been shut down). This will allow me to look at potential parameters in the influent to the system when (or if) it was restarted.

5. Please confirm that the contacts I have included in this email are still correct. If not, please provide me with update contact information including email addresses for my records.

Please respond by July 17, 2023 to let me know how long you expect it will take to gather the information that I have requested.

Thank you

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

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

DEP is now accepting permit and authorization applications, as well as other documents and correspondence, electronically through the OnBase Electronic Forms Upload tool. Please use the link below to view the webpage, get instructions, and submit documents: https://www.dep.pa.gov/DataandTools/Pages/Application-Form-Upload.aspx

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From: Kirkham, Rachel <KirkhamRA@cdmsmith.com>
Sent: Friday, March 11, 2022 8:24 AM
To: Fruchtl, Brenda <bfruchtl@pa.gov>
Cc: Cook, Patrick (TETRATECH) <Patrick.Cook@howmet.com>; Van Der Meyden, Henk <Henk.VanDerMeyden@howmet.com>
Subject: [External] RE: Questions. Renewal Application. NPDES Permit No PA0082881. Howmet Aerospace. RESPONSE REQUESTED

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Hi Brenda,

Please review our responses in red below and let me know if you have any questions. Thank you.

Rachel Kirkham, PE, PMP | CDM Smith | 280 Granite Run Dr. #160 Lancaster PA 17601 | 717-581-8537 | kirkhamra@cdmsmith.com | cdmsmith.com

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From: Fruchtl, Brenda <bfruchtl@pa.gov>
Sent: Friday, February 18, 2022 12:18 PM
To: Kirkham, Rachel <KirkhamRA@cdmsmith.com>

Attachment D.

Fruchtl, Brenda

From: Millias, Matthew <MilliasMD@cdmsmith.com>
Sent: Thursday, July 6, 2023 1:33 PM
To: Fruchtl, Brenda
Cc: Cook, Patrick (TETRATECH); King, Abraham J.; Neboga, Yuriy
Subject: [External] Howmet Lancaster GWTS - Responses to Questions
Attachments: GW Figure Dec2018.pdf; HOWMET AEROSPACE GW RCRA Rpt H2-2022.pdf

Follow Up Flag: Follow up
Flag Status: Completed

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Brenda: Below are responses to your questions (email dated 6/27/2023):

1. Has the outfall been replaced as discussed during the 4/21/2022 site visit? If so, please send me details on the project. The outfall replacement project was completed in November of 2022. The outfall was replaced in the same alignment with a 10-inch SDR-35 PVC pipe.

2. Has the GWTS been restarted? The GWTS has not been restarted.
    a. If the GWTS is now operational, please provide the following information:

When did the GWTS restart?
Have new influent / effluent samples been collected? If yes, please send me the results.
Please send me updated flow rate information from the GWTS along with updated discharge rates to Outfall 001 and Outfall 002.

    a. If the GWTS is still not operational, what are the current plans for the system? Is the plan still to restart it at some point? If so, when? It is Howmet's intention to restart the GWTS. The GWTS was recently evaluated in June 2023 to determine what mechanical and electrical repairs are needed to get the GWTS back into operation. Based on these evaluations, repairs to the GWTS should be completed by Aug/Sept 2023 with the intention to start the station sometime in Q4-2023.

3. Please send me the latest Groundwater Report (that is sent to DEP – ECB Program) electronically. H2 – 2022, dated January 2023 is the latest Groundwater Report submitted to the DEP (attached for reference). We are currently finalizing our H1- 2023 report, which includes out sampling event that occurred on May 18, 2023 and intend to finalize and send to DEP in July.

4. Please inform me which of the onsite monitoring wells would be most representative of the water in the extraction well (since water has not been withdrawn from the extraction well while the system has been shut down). This will allow me to look at potential parameters in the influent to the system when (or if) it was restarted. The deep aquifer groundwater monitoring wells (MW-1, MW-2, MW-6U/L, and MW-10A) have historically been sampled for VOCs to monitor plume captured by the deep aquifer extraction well as part of the Act 2 closure of the site. Monitoring of these wells, plus the more recently installed MW-3, will resume once the GWTS is restarted.

   The shallow aquifer groundwater wells (WQMP-1A, WQMP-2, WQMP-3, and WQMP-4) are not associated with the Act 2 wells and monitor the performance of the closed landfill/impoundments in accordance with the RCRA

1

post-closure guidelines. For reference, attached is a groundwater well location figure from the December 2018 Act 2 Report.

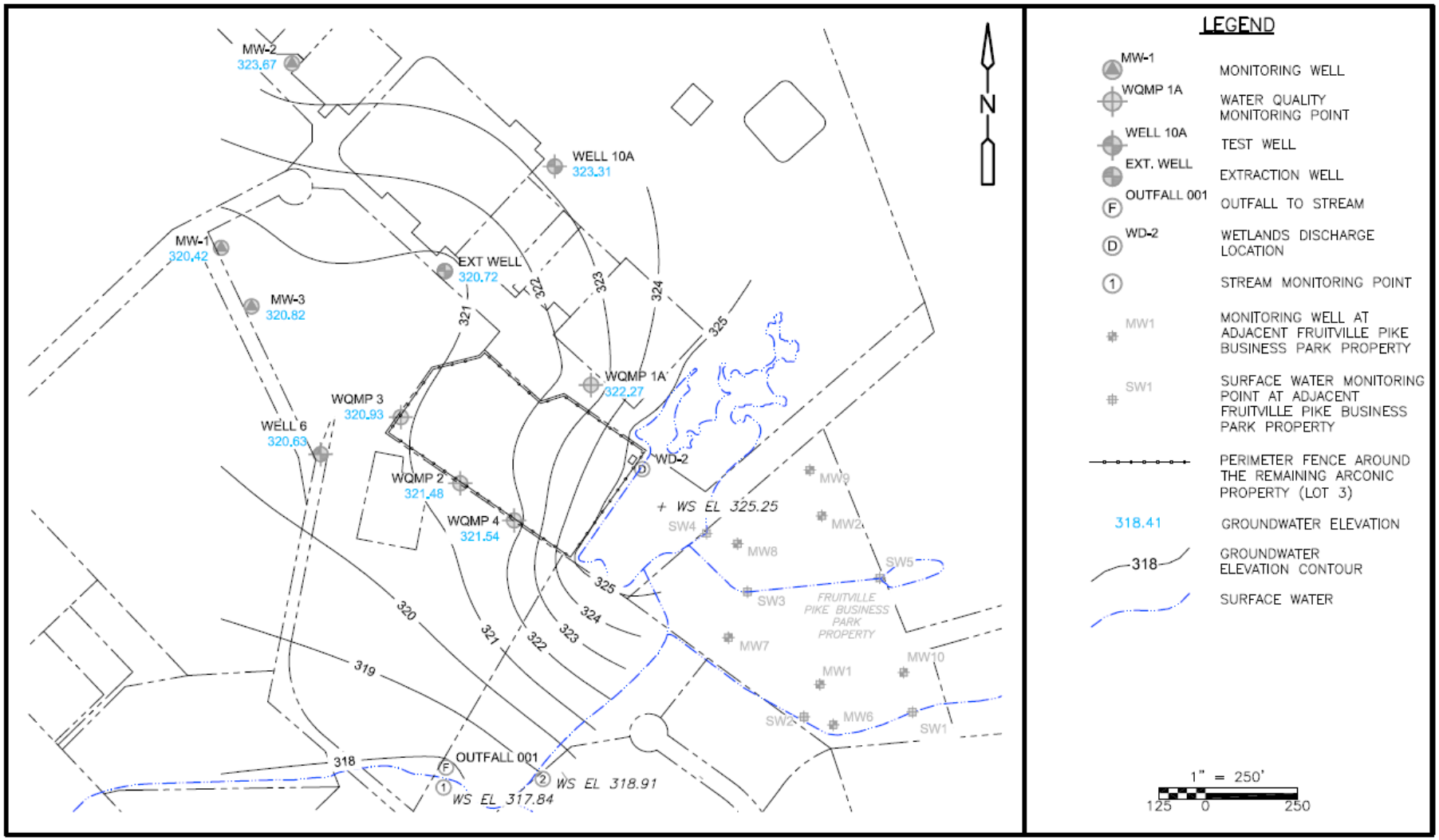
5. Please confirm that the contacts I have included in this email are still correct. If not, please provide me with update contact information including email addresses for my records. Rachel Kirkham has transitioned the consulting project manager role to Matt Millias who is supported by Abraham King (environmental engineer). Henk van der Meyden has retired from his full-time position at Howmet so any future correspondence should be sent to Patrick Cook's attention. His contact information follows.

Patrick D. Cook
Remediation Senior Manager, EHS
Howmet Aerospace Inc.
Howmet Corporate Center
201 Isabella Street, Suite 300
Pittsburgh, PA 15212-5858

If you have further questions, don't hesitate to reach out to Pat or myself.
Thanks,
Matt

Matthew D. Millias, P.E., BCEE, PMP
CDM Smith
Senior Project Manager
308 Maltbie Street, Suite 101, Syracuse, NY 13204
|Cell: 315-243-0728 |Work: 315-434-3256 |Email: milliasmd@cdmsmith.com|

2



Note: 1. MW-3 is a new monitoring well that has been drilled (to 300 feet), but not yet completed. MW-3 elevations were surveyed using known reference elevations at MW-1. MW-3 elevations will be resurveyed after the well is completed.

Arconic Inc. - Former Alcoa Lancaster Works
Map of Site Groundwater Contours
December 7, 2018 (Well Pump Off)

Attachment E.

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Howmet former Alcoa** NPDES Permit No.: **PA0082881** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **GWTS**

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
0.42	100	7						

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

Group 3	Chloroform	µg/L	<										
	Dichlorobromomethane	µg/L	<										
	1,1-Dichloroethane	µg/L	<										
	1,2-Dichloroethane	µg/L	<										
	1,1-Dichloroethylene	µg/L	<										
	1,2-Dichloropropane	µg/L	<										
	1,3-Dichloropropylene	µg/L	<										
	1,4-Dioxane	µg/L	<										
	Ethylbenzene	µg/L	<										
	Methyl Bromide	µg/L	<										
	Methyl Chloride	µg/L	<										
	Methylene Chloride	µg/L	<										
	1,1,2,2-Tetrachloroethane	µg/L	<										
	Tetrachloroethylene	µg/L		1000									
	Toluene	µg/L	<										
	1,2-trans-Dichloroethylene	µg/L	<										
	1,1,1-Trichloroethane	µg/L	<										
	1,1,2-Trichloroethane	µg/L	<										
	Trichloroethylene	µg/L		1000									
	Vinyl Chloride	µg/L	<										
Group 4	2-Chlorophenol	µg/L	<										
	2,4-Dichlorophenol	µg/L	<										
	2,4-Dimethylphenol	µg/L	<										
	4,6-Dinitro-o-Cresol	µg/L	<										
	2,4-Dinitrophenol	µg/L	<										
	2-Nitrophenol	µg/L	<										
	4-Nitrophenol	µg/L	<										
	p-Chloro-m-Cresol	µg/L	<										
	Pentachlorophenol	µg/L	<										
	Phenol	µg/L	<										
	2,4,6-Trichlorophenol	µg/L	<										
Group 5	Acenaphthene	µg/L	<										
	Acenaphthylene	µg/L	<										
	Anthracene	µg/L	<										
	Benzidine	µg/L	<										
	Benzo(a)Anthracene	µg/L	<										
	Benzo(a)Pyrene	µg/L	<										
	3,4-Benzofluoranthene	µg/L	<										
	Benzo(ghi)Perylene	µg/L	<										
	Benzo(k)Fluoranthene	µg/L	<										
	Bis(2-Chloroethoxy)Methane	µg/L	<										
	Bis(2-Chloroethyl)Ether	µg/L	<										
	Bis(2-Chloroisopropyl)Ether	µg/L	<										
	Bis(2-Ethylhexyl)Phthalate	µg/L	<										
	4-Bromophenyl Phenyl Ether	µg/L	<										
	Butyl Benzyl Phthalate	µg/L	<										
	2-Chloronaphthalene	µg/L	<										
	4-Chlorophenyl Phenyl Ether	µg/L	<										
	Chrysene	µg/L	<										
	Dibenzo(a,h)Anthrancene	µg/L	<										
	1,2-Dichlorobenzene	µg/L	<										
	1,3-Dichlorobenzene	µg/L	<										
	1,4-Dichlorobenzene	µg/L	<										
	3,3-Dichlorobenzidine	µg/L	<										
	Diethyl Phthalate	µg/L	<										
	Dimethyl Phthalate	µg/L	<										
	Di-n-Butyl Phthalate	µg/L	<										
	2,4-Dinitrotoluene	µg/L	<										
	2,6-Dinitrotoluene	µg/L	<										
	Di-n-Octyl Phthalate	µg/L	<										
	1,2-Diphenylhydrazine	µg/L	<										
	Fluoranthene	µg/L	<										
	Fluorene	µg/L	<										
	Hexachlorobenzene	µg/L	<										
	Hexachlorobutadiene	µg/L	<										
	Hexachlorocyclopentadiene	µg/L	<										
	Hexachloroethane	µg/L	<										
	Indeno(1,2,3-cd)Pyrene	µg/L	<										

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

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Howmet former Alcoa, NPDES Permit No. PA0082881, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **UNT to Little Conestoga Creek**

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	007573	1.37	327	1.19			Yes
End of Reach 1	007573	1.03	316	1.32			Yes

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

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	1.37	0.067										100	7		
End of Reach 1	1.03	0.067													

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	1.37														
End of Reach 1	1.03														

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Howmet former Alcoa, NPDES Permit No. PA0082881, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.048 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Tetrachloroethylene	0	0		0	700	700	786	
Trichloroethylene	0	0		0	2,300	2,300	2,582	

☑ ***CFC*** CCT (min): 0.048 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Tetrachloroethylene	0	0		0	140	140	157	
Trichloroethylene	0	0		0	450	450	505	

☑ ***THH*** CCT (min): 0.048 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

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

☑ ***CRL*** CCT (min): 0.788 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Tetrachloroethylene	0	0		0	10	10.0	22.5	
Trichloroethylene	0	0		0	0.6	0.6	1.35	

☑ ***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
Tetrachloroethylene	0.079	0.12	22.5	35.2	56.3	µg/L	22.5	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Trichloroethylene	0.005	0.007	1.35	2.11	3.38	µg/L	1.35	CRL	Discharge Conc ≥ 50% WQBEL (RP)

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

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

Pollutants	Governing WQBEL	Units	Comments

Attachment F.

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Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Howmet former Alcoa** NPDES Permit No.: **PA0082881** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **GWTS**

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
0.42	100	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											
	Chloride (PWS)	mg/L											
	Bromide	mg/L											
	Sulfate (PWS)	mg/L											
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L											
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L											
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L											
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L											
	Total Copper	mg/L											
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L											
	Total Iron	µg/L											
	Total Lead	µg/L											
	Total Manganese	µg/L											
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	mg/L											
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										
	Carbon Tetrachloride	µg/L	<										
	Chlorobenzene	µg/L											
	Chlorodibromomethane	µg/L	<										
	Chloroethane	µg/L	<										
	2-Chloroethyl Vinyl Ether	µg/L	<										

Group 3	Chloroform	µg/L	<											
	Dichlorobromomethane	µg/L	<											
	1,1-Dichloroethane	µg/L	<											
	1,2-Dichloroethane	µg/L	<											
	1,1-Dichloroethylene	µg/L	<											
	1,2-Dichloropropane	µg/L	<											
	1,3-Dichloropropylene	µg/L	<											
	1,4-Dioxane	µg/L	<											
	Ethylbenzene	µg/L	<											
	Methyl Bromide	µg/L	<											
	Methyl Chloride	µg/L	<											
	Methylene Chloride	µg/L	<											
	1,1,2,2-Tetrachloroethane	µg/L	<											
	Tetrachloroethylene	µg/L		2.5										
	Toluene	µg/L	<											
	1,2-trans-Dichloroethylene	µg/L	<											
	1,1,1-Trichloroethane	µg/L	<											
	1,1,2-Trichloroethane	µg/L	<											
	Trichloroethylene	µg/L		74.4										
	Vinyl Chloride	µg/L	<											
Group 4	2-Chlorophenol	µg/L	<											
	2,4-Dichlorophenol	µg/L	<											
	2,4-Dimethylphenol	µg/L	<											
	4,6-Dinitro-o-Cresol	µg/L	<											
	2,4-Dinitrophenol	µg/L	<											
	2-Nitrophenol	µg/L	<											
	4-Nitrophenol	µg/L	<											
	p-Chloro-m-Cresol	µg/L	<											
	Pentachlorophenol	µg/L	<											
	Phenol	µg/L	<											
	2,4,6-Trichlorophenol	µg/L	<											
Group 5	Acenaphthene	µg/L	<											
	Acenaphthylene	µg/L	<											
	Anthracene	µg/L	<											
	Benzidine	µg/L	<											
	Benzo(a)Anthracene	µg/L	<											
	Benzo(a)Pyrene	µg/L	<											
	3,4-Benzofluoranthene	µg/L	<											
	Benzo(ghi)Perylene	µg/L	<											
	Benzo(k)Fluoranthene	µg/L	<											
	Bis(2-Chloroethoxy)Methane	µg/L	<											
	Bis(2-Chloroethyl)Ether	µg/L	<											
	Bis(2-Chloroisopropyl)Ether	µg/L	<											
	Bis(2-Ethylhexyl)Phthalate	µg/L	<											
	4-Bromophenyl Phenyl Ether	µg/L	<											
	Butyl Benzyl Phthalate	µg/L	<											
	2-Chloronaphthalene	µg/L	<											
	4-Chlorophenyl Phenyl Ether	µg/L	<											
	Chrysene	µg/L	<											
	Dibenzo(a,h)Anthrancene	µg/L	<											
	1,2-Dichlorobenzene	µg/L	<											
	1,3-Dichlorobenzene	µg/L	<											
	1,4-Dichlorobenzene	µg/L	<											
	3,3-Dichlorobenzidine	µg/L	<											
	Diethyl Phthalate	µg/L	<											
	Dimethyl Phthalate	µg/L	<											
	Di-n-Butyl Phthalate	µg/L	<											
	2,4-Dinitrotoluene	µg/L	<											
	2,6-Dinitrotoluene	µg/L	<											
	Di-n-Octyl Phthalate	µg/L	<											
	1,2-Diphenylhydrazine	µg/L	<											
	Fluoranthene	µg/L	<											
	Fluorene	µg/L	<											
	Hexachlorobenzene	µg/L	<											
	Hexachlorobutadiene	µg/L	<											
	Hexachlorocyclopentadiene	µg/L	<											
	Hexachloroethane	µg/L	<											
	Indeno(1,2,3-cd)Pyrene	µg/L	<											

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

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Howmet former Alcoa, NPDES Permit No. PA0082881, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **UNT to Little Conestoga Creek** 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	007573	1.37	327	1.19			Yes
End of Reach 1	007573	1.03	316	1.32			Yes

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

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	1.37	0.067										100	7		
End of Reach 1	1.03	0.067													

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	1.37														
End of Reach 1	1.03														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Howmet former Alcoa, NPDES Permit No. PA0082881, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.048 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Tetrachloroethylene	0	0		0	700	700	786	
Trichloroethylene	0	0		0	2,300	2,300	2,582	

☑ ***CFC*** CCT (min): 0.048 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Tetrachloroethylene	0	0		0	140	140	157	
Trichloroethylene	0	0		0	450	450	505	

☑ ***THH*** CCT (min): 0.048 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

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

☑ ***CRL*** CCT (min): 0.788 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Tetrachloroethylene	0	0		0	10	10.0	22.5	
Trichloroethylene	0	0		0	0.6	0.6	1.35	

☑ ***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
Trichloroethylene	0.005	0.007	1.35	2.11	3.38	µg/L	1.35	CRL	Discharge Conc ≥ 50% WQBEL (RP)

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

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

Pollutants	Governing WQBEL	Units	Comments
Tetrachloroethylene	22.5	µg/L	Discharge Conc ≤ 25% WQBEL