

Application Type Renewal
Facility Type Industrial
Major / Minor Minor

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

Application No. PA0070050
APS ID 318766
Authorization ID 1502673

Applicant and Facility Information

Applicant Name	<u>Reading Alloys, LLC</u>	Facility Name	<u>Reading Alloys</u>
Applicant Address	<u>220 Old West Penn Avenue, P O Box 53 Robesonia, PA 19551-8904</u>	Facility Address	<u>220 Old West Penn Avenue Robesonia, PA 19551-8904</u>
Applicant Contact	<u>Jim Maguire, General Mgr (610) 200-1318 / 610-908-7621</u>	Facility Contact	<u>Jim Maguire, General Mgr (610) 200-1318</u>
Applicant Phone	<u>Jim.maguire@kymerainternational.com</u>	Facility Phone	<u>Jim.maguire@kymerainternational.com</u>
Client ID	<u>64819</u>	Site ID	<u>271667 (PF 294711)</u>
SIC Code	<u>33 & NAICS 331492 per application 33 = Primary Metal Manufacturing 331492=Secondary Refining of Nonferrous Metals</u>	Municipality	<u>South Heidelberg Township</u>
SIC Description	<u>Nonferrous Metals</u>	County	<u>Berks</u>
Date Application Received	<u>October 11, 2024</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>October 29, 2024</u>	If No, Reason	<u></u>
Purpose of Application	<u>Renewal of individual industrial waste NPDES permit</u>		

cc: kschweitzer@entecheng.com

Summary of Review

The existing NPDES permit was issued April 24, 2020, with an expiration date of April 30, 2025. The existing permit was administratively extended past its expiration date. The renewal application was submitted via DEP's Public Upload system (Reference ID # 264042) on October 11, 2024. A Pre-Draft Survey, based on available data and original modeling, was sent to the permittee on November 20, 2025 followed by a Teams meeting between the permittee, their consultant, and the permit writer on December 3, 2025. Their responses to the Pre-Draft Survey were received on December 15, 2025. Additional effluent sample results for outfall 001 were submitted to DEP's Public Upload system (same Reference #) on February 9, 2026 and have been considered.

The renewal application summarizes the facility operations thus: "Reading Alloys, LLC manufactures master alloys, specialty alloys, and high-purity alloy powders, as well as mills manganese sulfide for commercial and industrial applications." Also per the renewal application:

- The discharge at IMP 101 is non-contact cooling water return from Thermite Lines 1 and 2, a continuous discharge to the upper pond. The discharge at outfall 001 is non-contact cooling water (nccw) from IMP 101 after it comingles with stormwater and surface water from all three ponds and the tributary. (See the attached flow diagrams from the application and the DRBC docket.) Additionally, in comments from Reading Alloys for the draft of the existing NPDES permit (2019) and associated Fact Sheet, they noted: "The facility has three man-made ponds. The ponds take in water from the UNT [unnamed tributary] and discharge to the UNT. The upper pond is used for NCCW by Reading Alloy, which is returned back to the upper pond (internal monitoring point 101)."
- There are two potable water supply wells in use on the property.
- There is no sanitary wastewater discharged.
- There are no floor drains in any of the plant buildings.

Approve	Deny	Signatures	Date
x		<i>Bonnie Boylan</i> Bonnie Boylan / Environmental Engineering Specialist	February 17, 2026
x		<i>Daniel W. Martin</i> Daniel W. Martin, P.E. / Environmental Engineer Manager	February 18, 2026

Summary of Review

The Integrated Contingency Plan (ICP) attached to the application mentions smelting and/or melting operation, cool down, and slag removal. It states:

“Reading Alloys produces high-purity metals and alloys, primarily for use in jet engines and other aerospace components, but also for companies in the building and construction, electronic, medical, semiconductor, and transportation industries. The facility also produces metal powders used to make specialty engineered parts. The facility also discharges cooling water from non-contact process equipment that is pumped from and returns to an unlined cooling pond fed by a diversion dam on a stream. Pond overflow enters the stream below the dam. **Sludge and scrubber wastewaters are removed by an outside vendor**....the facility operates 24 hours a day, 7 days a week utilizing three (3) 8-hour shifts”.

DEP microfiche records include a NPDES permit issued to Reading Alloys by DER (prior to DEP) as early as July 3, 1979 and a WQM permit issued August 30, 1979.

NOTE: Because the receiving water has been assessed as High Quality-Cold Water Fish (HQ-CWF), any **future increase** in design flow or loading would be subject to the antidegradation requirements found in the State regulations: Title 25 Pa Code § 93.4a and § 93.4c.

Design Flow

The existing permit's limits were based on a design discharge rate of 0.242 MGD.

There is no flow meter at outfall 001.

Discharge Monitoring Report (DMR) data from January 1, 2023 through December 31, 2025 indicate a monthly average flow of approximately 0.20 MGD at IMP 101. The average of the Daily Maximum flows at IMP 101 reported on the DMRs for the same monitoring period was 0.24 MGD. (See the attached.)

The draft renewal permit limits were based on the same design flow as previously: 0.242 MGD.

Variances

No variances were requested in the application. A thermal variance was not included in the existing permit. Temperature is discussed in the WQBEL section of this Fact Sheet.

Cooling Water Intake Structure

A diversion weir from the UNT to Spring Creek fills the upper pond. The permit application represented that the intake water used for cooling is less than 2 MGD or 25% cooling. Therefore impingement and entrainment measures in 316(b) of the Clean Water Act are not required.

The ICP included in the application provides the following description:

“Cooling water for the melt lines is taken from the bottom of the pond, and after used for non-contact cooling is returned through a vertical discharge pipe to the pond surface. Excess water from the pond goes back into the stream.”

Sludge Disposal

Per the application: “Sludge and scrubber wastewaters are removed by an outside vendor.”

Delaware River Basin Commission (DRBC)

The discharge is within the Delaware River watershed. A copy of the draft permit and Fact Sheet will therefore be sent to the DRBC for their review in accordance with State regulations and an interagency agreement and any comments will be considered.

Summary of Review

There are two DRBC dockets for this facility: D-2011-023-2 for water withdrawal and D-1979-044-5 for discharge of non-contact cooling water utilized for the facility's processes. The latter was approved on September 10, 2025 and expires on April 30, 2030. The water withdrawal docket was approved on June 8, 2022, and expires on June 8, 2032.

The DRBC docket D-1979-044-5:

- considers the receiving water to be an intermittent stream;
- notes that "At capacity, the Upper Pond water overflows back into the UNT to Spring Creek";
- notes that "During periods of low stream flow, the Upper Pond receives little to no water & does not discharge to the UNT";
- includes a flow diagram (see the attached) that depicts splits in the streamflow with some stream flow diverted to each of three ponds (upper pond, middle pond, and lower pond);
- includes a TDS limit at IMP 101 of 1000 mg/l with quarterly TDS monitoring required.

There was a docket for the nccw discharge to the stream in 1979 : D-79-44.

The DRBC docket D-2011-023-2 describes the existing surface water intake thus:

INTAKE NO.	WITHDRAWAL WATER BODY	PUMP CAPACITY (MGD)	STORAGE CAPACITY (MG)	YEAR CONSTRUCTED
1	Upper Pond	0.24	2.29	1984

This docket restricts the withdrawal from causing the stream flow to drop below the estimated seven-day low flow (Q7-10): "When the streamflow is less than Q7-10 at the diversion, no diversions shall be made to the Upper Pond and the entire natural streamflow must be allowed to pass."

Outstanding Violations

There are no outstanding violations for this client according to DEP's Compliance History Summary report.

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.

EXISTING PERMIT'S LIMITS , OUTFALL 001:

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Temperature (°F)	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/day	I-S
Temperature (°F) Downstream Monitoring	XXX	XXX	Report Inst Min	Report	XXX	Report	1/2 hours	Metered
Temperature (°F) Upstream Monitoring	XXX	XXX	Report Inst Min	Report	XXX	Report	1/2 hours	Metered
Total Dissolved Solids	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/quarter	Grab

EXISTING PERMIT'S LIMITS , INTERNAL MONITORING POINT 101:

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab

EXISTING PERMIT'S LIMITS , STORMWATER OUTFALLS 003, 004, 005, 006, 007, 008:

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Chemical Oxygen Demand (COD)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Arsenic, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Cadmium, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Chromium, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Copper, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Iron, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Lead, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Discharge, Receiving Waters and Water Supply Information			
Internal Monitoring Point (IM P)	<u>101 (at Upper Pond)</u>	Design Flow (MGD)	<u>0.242</u>
Latitude	<u>40° 20' 19" per eMapPA (40° 20' 18" - last permit & renewal appl)</u>	Longitude	<u>-76° 7' 35" per eMapPA (76° 7' 35" -last permit & appl)</u>
Quad Name	_____	Quad Code	_____
Wastewater Description:	<u>Noncontact Cooling Water (NCCW)</u>		
Receiving Waters	<u>Tributary to Spring Creek</u>	Stream Code	<u>01892</u>
NHD Com ID	<u>Reach Code 02040203000765</u>	RMI	<u>1.05 estimated, eMapPA</u>
Drainage Area	<u>0.4 sq.mi.</u>	Yield (cfs/mi ²)	<u>0.1, after rounding USGS Stream Stats</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.03 cfs</u>	Q ₇₋₁₀ Basis	<u>(see attached)</u>
Elevation (ft)	<u>455'</u>	Slope (ft/ft)	_____
Watershed No.	<u>3-C</u>	Chapter 93 Class.	<u>CWF, MF</u>
Existing Use	<u>HQ-CWF (ID 2128)</u>	Existing Use Qualifier	_____
Exceptions to Use	_____	Exceptions to Criteria	_____
Assessment Status	<u>Impaired for Aquatic Life (assessment ID 22193), and Impaired for Recreational Use (assessment ID 18846)</u>		
Cause(s) of Impairment	<u>Nutrients, Siltation, Habitat Alterations, Pathogens</u>		
Source(s) of Impairment	<u>potentially Agriculture and removal of Riparian Vegetation, Source Unknown for Pathogens</u>		
TMDL Status	_____	Name	_____

Outfall 001 is downstream from IMP 101 on same receiving water: UNT 01892. See next page for description.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001 (after Lower Pond) 40° 20' 24" per eMapPA	Design Flow (MGD)	0.242
Latitude	(40° 20' 18" - existing permit & appl)	Longitude	(76° 7' 35"- ex. permit & appl)
Quad Name	_____	Quad Code	_____
Wastewater Description: <u>Noncontact Cooling Water (NCCW), detention ponds overflow, stormwater</u>			
Receiving Waters	Tributary to Spring Creek	Stream Code	01892
NHD Com ID	Reach Code 02040203000765	RMI	0.8, estimate, eMapPA
Drainage Area	_____	Yield (cfs/mi ²)	_____
Q ₇₋₁₀ Flow (cfs)	_____	Q ₇₋₁₀ Basis	USGS Stream Stats
Elevation (ft)	435	Slope (ft/ft)	_____
Watershed No.	3-C	Chapter 93 Class.	CWF, MF
Existing Use	HQ-CWF (ID 2128)	Existing Use Qualifier	_____
Exceptions to Use	_____	Exceptions to Criteria	_____
Assessment Status	Impaired for Aquatic Life (assessment ID 22193), and Impaired for Recreational Use (assessment ID 18846)		
Cause(s) of Impairment	Nutrients, Siltation, Habitat Alterations, Pathogens		
Source(s) of Impairment	potentially Agriculture and removal of Riparian Vegetation, Source Unknown for Pathogens		
TMDL Status	_____	Name	_____
Secondary Receiving Waters:			
Spring Creek at RMI 6.97(existing use HQ-CWF, TSF further downstream; also impaired for aquatic life and recreational use) empties into Blue Marsh Lake and into Tulpehocken Creek (WWF, MF) at RMI 10.2.			
Background/Ambient Data – None Available _____			
Nearest Downstream Public Water Supply Intake	Western Berks Water Authority		
PWS Waters	Blue Marsh Reservoir/ Tulpehocken Creek	Flow at Intake (cfs)	_____
PWS RMI	7, approx.	Distance from Outfall (mi)	Approx. 11.5

Changes Since Last Permit Issuance:
- Existing Use designation HQ-CWF for receiving stream

Other Comments:

- The receiving water is designated **Class A Wild Trout** as is Spring Creek after confluence with UNT 01892.
- Downstream Spring Creek is considered '**Trout Natural Reproduction**', between 4.25 RMI and 0 RMI.
- No Water Quality Network monitoring station exists nearby nor stream gage.
- A previous biological survey determined that the point of first use (POFU) for aquatic life was at Spring Creek, rather than at outfall 001.

Discharge, Receiving Waters and Water Supply Information – Same As 001 Except For Lat/Long and RMI

Outfall No.	<u>003</u>	Design Flow (MGD)	<u>0</u>
	<u>40° 20' 24.00" per last permit (Part A)</u>		<u>-76° 7' 30.00" last permit(A)</u>
Latitude	<u>40° 20' 24" per application</u>	Longitude	<u>-76° 7' 30" per application</u>
Wastewater Description: <u>Stormwater</u>			
Receiving Waters	<u>UNT Spring Creek (CWF) per appl.</u>	Stream Code	<u>UNT 01892</u>
NHD Com ID	<u>Reach Code 02040203000765</u>	RMI	<u>0.09 per last FS</u>

Outfall No.	<u>004</u>	Design Flow (MGD)	<u>0</u>
	<u>40° 20' 19.00" per last permit (Part A)</u>		<u>-76° 7' 35.00" last permit(A)</u>
Latitude	<u>40° 20' 19" per application</u>	Longitude	<u>-76° 7' 35" per application</u>
Wastewater Description: <u>Stormwater</u>			
Receiving Waters	<u>UNT Spring Creek (CWF) per appl</u>	Stream Code	<u>UNT 01892</u>
NHD Com ID	<u>Reach Code 02040203000765</u>	RMI	

Outfall No.	<u>005</u>	Design Flow (MGD)	<u>0</u>
	<u>40° 20' 26.00" per last permit (Part A)</u>		<u>-76° 7' 35.00" last permit(A)</u>
Latitude	<u>40° 20' 26" per application</u>	Longitude	<u>-76° 7' 35" per application</u>
Wastewater Description: <u>Stormwater</u>			
Receiving Waters	<u>UNT Spring Creek (CWF) per appl</u>	Stream Code	<u>to agricultural fields & 01892</u>
NHD Com ID	<u>Reach Code 02040203000765</u>	RMI	

Outfall No.	<u>006</u>	Design Flow (MGD)	<u>0</u>
	<u>40° 20' 25.00" per last permit (Part A)</u>		<u>-76° 7' 30.00" last permit(A)</u>
Latitude	<u>40° 20' 25" per application</u>	Longitude	<u>-76° 7' 30" per application</u>
Wastewater Description: <u>Stormwater</u>			
Receiving Waters	<u>UNT Spring Creek (CWF) per appl</u>	Stream Code	<u>UNT 01892</u>
NHD Com ID	<u>Reach Code 02040203000765</u>	RMI	

Outfall No.	<u>007</u>	Design Flow (MGD)	<u>0</u>
	<u>40° 20' 23.00" per last permit (Part A)</u>		<u>-76° 7' 30.00" last permit (A)</u>
Latitude	<u>40° 20' 23" per application</u>	Longitude	<u>-76° 7' 30" per appl.</u>
Wastewater Description: <u>Stormwater</u>			
Receiving Waters	<u>UNT Spring Creek (CWF) per appl</u>	Stream Code	<u>UNT 01892</u>
NHD Com ID	<u>Reach Code 02040203000765</u>	RMI	

Outfall No.	<u>008</u>	Design Flow (MGD)	<u>0</u>
	<u>40° 20' 25.00" per last permit (Part A)</u>		<u>-76° 7' 35.00" last permit (A)</u>
Latitude	<u>40° 20' 25" per application</u>	Longitude	<u>-76° 7' 35" per appl.</u>
Wastewater Description: <u>Stormwater</u>			
Receiving Waters	<u>UNT Spring Creek (CWF) per appl</u>	Stream Code	<u>to agricultural fields & 01892</u>
NHD Com ID	<u>Reach Code 02040203000765</u>	RMI	

Outfall No.	<u>009</u>	Design Flow (MGD)	<u>0</u>
	<u>40° 20' 26" per last permit Part C</u>		<u>-76° 07' 37" last permit. Part C</u>
Latitude	<u>40° 20' 26" per application</u>	Longitude	<u>-76° 07' 37" per appl.</u>
Wastewater Description: <u>Stormwater</u>			
Receiving Waters	<u>UNT Spring Creek (CWF) per appl</u>	Stream Code	<u>To agricultural fields & 01892</u>
NHD Com ID	<u>Reach Code 02040203000765</u>	RMI	<u>0.0900 per 2019 FS</u>

Treatment Facility Summary				
Treatment Facility Name: Reading Alloys Inc.				
WQM Permit No.			Issuance Date	
0679201, nccw recirculation system & impoundment			8/30/1979	
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Industrial	Retention Pond	Physical	None	0.242
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
N/A	N/A	N/A	N/A	N/A

Changes Since Last Permit Issuance: None

Compliance History

DMR Data for Outfall 101 (from January 1, 2025 to December 31, 2025)

Parameter	DEC-25	NOV-25	OCT-25	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25
Flow (MGD) Average Monthly	0.090	0.094	0.137	0.108	0.117	0.132	0.148	0.166	0.126	0.125	0.162	0.186
Flow (MGD) Daily Maximum	0.112	0.231	0.222	0.136	0.149	0.162	0.191	0.212	0.182	0.148	0.176	0.214
pH (S.U.) Instantaneous Minimum	6.6	6.8	6.9	7.1	6.6	6.5	6.8	6.7	6.8	6.7	6.6	6.7
pH (S.U.) Instantaneous Maximum	7.1	7.4	7.7	8.4	8.1	8.1	8.4	7.7	7.8	7.4	7.3	7.2

DMR Data for Outfall 001 (from January 1, 2025 to December 31, 2025)

Parameter	DEC-25	NOV-25	OCT-25	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25
pH (S.U.) Instantaneous Minimum	6.7	7.3	6.9	7.1	7.0	7.0	7.2	7.2	7.4	7.1	5.4	6.3
pH (S.U.) Instantaneous Maximum	7.9	8.3	7.8	7.6	7.5	7.6	7.8	7.6	7.7	7.9	7.6	7.6
Temperature (°F) Downstream Monitoring Instantaneous Minimum	31.8	36	44.1	64.3	62.4	61.5	52	52	39.2	32.4	32.4	30.9
Temperature (°F) Upstream Monitoring Instantaneous Minimum	32.2	37.9	45.5	56.7	55.9	59.4	52.2	51.8	40.6	32.2	32	32
Temperature (°F) Downstream Monitoring Average Monthly	34.5	44.9	54.7	57.2	68.4	69.3	63.1	57.9	51.2	44.4	33.1	33.1
Temperature (°F) Upstream Monitoring Average Monthly	35.4	45.6	54.3	61.9	63.6	64.7	53.4	55.8	50.7	43.5	34.6	33.4

**NPDES Permit Fact Sheet
Reading Alloys**

NPDES Permit No. PA0070050

Temperature (°F) Daily Maximum	38.9	50.7	65.8	68.5	70.3	74.7	67.6	61.2	59.5	49.8	38.3	42.1
Temperature (°F) Downstream Monitoring Instantaneous Maximum	41.4	54.0	65.8	69.4	74.3	79.3	77.9	66.4	66.7	61.1	34.9	43.0
Temperature (°F) Upstream Monitoring Instantaneous Maximum	42.1	53.1	63.3	66	70.0	69.8	55.8	62.4	60.1	58.1	42.3	45.0
Total Dissolved Solids (mg/L) Daily Maximum	254			152			150			428		

DMR Data for Outfall 003 (from January 1, 2025 to December 31, 2025)

Parameter	DEC-25	NOV-25	OCT-25	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25
pH (S.U.) Daily Maximum	6.6						6.81					
CBOD5 (mg/L) Daily Maximum	3.5						14.8					
COD (mg/L) Daily Maximum	13.9						56.0					
TSS (mg/L) Daily Maximum	25.5						148					
Oil and Grease (mg/L) Daily Maximum	< 4.9						< 4.9					
Total Arsenic (mg/L) Daily Maximum	< 0.010						< 0.010					
Total Cadmium (mg/L) Daily Maximum	< 0.001						< 0.001					
Total Chromium (mg/L) Daily Maximum	0.048						0.298					
Total Copper (mg/L) Daily Maximum	0.048						0.116					
Total Iron (mg/L) Daily Maximum	0.606						2.24					
Total Lead (mg/L) Daily Maximum	< 0.010						< 0.010					

DMR Data for Outfall 004 (from January 1, 2025 to December 31, 2025)

Parameter	DEC-25	NOV-25	OCT-25	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25
pH (S.U.) Daily Maximum	6.96						7.15					
CBOD5 (mg/L) Daily Maximum	4.5						11.1					
COD (mg/L) Daily Maximum	21.1						67.4					
TSS (mg/L) Daily Maximum	23.5						52.0					
Oil and Grease (mg/L) Daily Maximum	< 5.4						< 5.0					
Total Arsenic (mg/L) Daily Maximum	< 0.010						< 0.010					
Total Cadmium (mg/L) Daily Maximum	< 0.001						< 0.001					
Total Chromium (mg/L) Daily Maximum	0.124						0.170					
Total Copper (mg/L) Daily Maximum	0.238						0.355					
Total Iron (mg/L) Daily Maximum	1.58						1.48					
Total Lead (mg/L) Daily Maximum	< 0.010						< 0.010					

DMR Data for Outfall 005 (from January 1, 2025 to December 31, 2025)

Parameter	DEC-25	NOV-25	OCT-25	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25
pH (S.U.) Daily Maximum	7.1						7.28					
CBOD5 (mg/L) Daily Maximum	2.9						6.7					
COD (mg/L) Daily Maximum	< 10.0						14.7					
TSS (mg/L) Daily Maximum	17.2						12.7					
Oil and Grease (mg/L) Daily Maximum	5.6						< 4.9					

**NPDES Permit Fact Sheet
Reading Alloys**

NPDES Permit No. PA0070050

Total Arsenic (mg/L) Daily Maximum	< 0.010						< 0.010					
Total Cadmium (mg/L) Daily Maximum	< 0.001						< 0.001					
Total Chromium (mg/L) Daily Maximum	< 0.010						0.014					
Total Copper (mg/L) Daily Maximum	0.083						0.143					
Total Iron (mg/L) Daily Maximum	0.179						0.188					
Total Lead (mg/L) Daily Maximum	< 0.010						< 0.010					

DMR Data for Outfall 006 (from January 1, 2025 to December 31, 2025)

Parameter	DEC-25	NOV-25	OCT-25	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25
pH (S.U.) Daily Maximum	6.9						7.04					
CBOD5 (mg/L) Daily Maximum	< 2.0						< 2.0					
COD (mg/L) Daily Maximum	< 10.0						16.1					
TSS (mg/L) Daily Maximum	< 4.0						< 4.0					
Oil and Grease (mg/L) Daily Maximum	< 5.5						< 4.9					
Total Arsenic (mg/L) Daily Maximum	< 0.010						< 0.010					
Total Cadmium (mg/L) Daily Maximum	< 0.001						< 0.001					
Total Chromium (mg/L) Daily Maximum	< 0.010						< 0.010					
Total Copper (mg/L) Daily Maximum	0.021						0.011					
Total Iron (mg/L) Daily Maximum	0.146						0.310					
Total Lead (mg/L) Daily Maximum	< 0.010						< 0.010					

Outfall 007: No discharge reported in eDMR, January 1, 2023 through December 31, 2025.

PERMIT	MONITOR_START	MONITOR_END	REPORT_FREQU	OUTFALL	DISCHARG	MONITORING_LOCATION	PARAMETER	LOAD_UNITS	LOAD_1_VALU	CONC_UNITS	CONC_1_VALUE	CONC_2_VALU	CONC_3_VALUE
PA0070050	1/1/2023	6/30/2023	Semi-Annually	007	No	Final Effluent							
PA0070050	7/1/2023	12/31/2023	Semi-Annually	007	No	Final Effluent							
PA0070050	1/1/2024	6/30/2024	Semi-Annually	007	No	Final Effluent							
PA0070050	7/1/2024	12/31/2024	Semi-Annually	007	No	Final Effluent							
PA0070050	1/1/2025	6/30/2025	Semi-Annually	007	No	Final Effluent							

DMR Data for Outfall 008 (from January 1, 2025 to December 31, 2025)

Parameter	DEC-25	NOV-25	OCT-25	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25
pH (S.U.) Daily Maximum	7.2						7.31					
CBOD5 (mg/L) Daily Maximum	< 2.0						3.7					
COD (mg/L) Daily Maximum	11.0						< 10.0					
TSS (mg/L) Daily Maximum	32.0						28.0					
Oil and Grease (mg/L) Daily Maximum	< 5.1						< 4.9					
Total Arsenic (mg/L) Daily Maximum	< 0.010						< 0.010					
Total Cadmium (mg/L) Daily Maximum	< 0.001						< 0.001					
Total Chromium (mg/L) Daily Maximum	< 0.010						0.025					
Total Copper (mg/L) Daily Maximum	< 1.84						3.38					
Total Iron (mg/L) Daily Maximum	< 0.539						0.865					
Total Lead (mg/L) Daily Maximum	< 0.010						< 0.010					

Outfall 009: No results reported in eDMR, January 1, 2023 through December 31, 2025. No results required to be reported.

Compliance History

Effluent Violations for Outfall 001, from January 1, 2023 through December 31, 2025:

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
pH	02/28/2025	Inst Min	5.4	S.U.	6.0	S.U.
pH	11/30/2024	IMAX	9.2	S.U.	9.0	S.U.
pH	10/31/2023	Inst Min	5.9	S.U.	6.0	S.U.

Summary of Inspections:

12/5/2025 – No violations. The flow from the upper pond feeds the belt lines for cooling water, which is then discharged to IMP 101 and pumped back up to the upper pond. Internal Monitoring Point 101 is located before the non-contact cooling water enters the Upper Pond; it is located at the Thermite buildings. The permit currently lists outfall 001’s location in the vicinity of 40°20’18.0”N 76°07’35.0”W; however the temperature measurements and pH for this outfall are collected at 40°20’24.6”N 76°07’22.8”W.”

8/28/2023 – No violations were noted. Dissolved Oxygen (DO) was measured as 6.79 mg/l at IMP 101. DO was measured as 5.23 mg/l in Spring Creek downstream of outfall 001. Outfall 001 was not readily accessible to sample. pH was within permit limits at both sampling locations. The site was described thus:

The wastewater treatment plant settles out solids and then applies the sludge to a filter press for dewatering. The residual waste is collected and hauled off site. Flow is measured with a paddlewheel and full pipe and totalizer. The site has no standby power.

(10/5/2017 – Previous to existing permit issued 2020. Noted: Flow is measured with full pipe and magnetic meter and totalizer.)

Development of Effluent Limitations

Internal Monitoring Point	<u>101 (at Upper Pond)</u>	Design Flow (MGD)	<u>0.242</u>
Latitude	<u>40° 20' 18"</u>	Longitude	<u>-76° 7' 35"</u>
Wastewater Description:	<u>Non-contact cooling water</u>		

Permit limits can be Technology Based Effluent Limitations (**TBELs**) or Water Quality Based Effluent Limitations (**WQBELs**). Both are discussed in this Fact Sheet, in separate sections. Existing permit limits can also be carried forward in accordance with anti-backsliding provisions found in federal regulations [40 CFR §122.44(l)(1)].

Technology-Based Effluent Limitations (TBELs)

The following technology-based effluent limitations are provided in regulations and are imposed where applicable unless a more stringent limit is indicated from water quality analysis or Best Professional Judgement):

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation	DRBC * Regulation
Total Suspended Solids (TSS)	100	Average Monthly			18 CFR Part 410, 3.10.4
pH	6.0 – 9.0 (S.U.)	Min – Max	133.102(c)	Pa Code § 95.2(1)	
Oil and Grease	15	Average Monthly		Pa Code § 95.2(2)	18 CFR Part 410, 3.10.4
Oil and Grease	30	Maximum		Pa Code § 95.2(2)	18 CFR Part 410, 3.10.4
Total Dissolved Solids (TDS)	1000**	Quarterly	-	-	18 CFR Part 410, 3.10.4 and 3.10.3.B Docket D-1979-044-5
Dissolved Iron	7	Maximum		Pa Code § 95.2(4)	

*DEP has an interagency agreement with the Delaware River Basin Commission (DRBC) and incorporates their requirements (per 18 CFR Part 410 Water Quality Regulations and approved dockets) into our permits where appropriate.

**Or a concentration which will not cause the TDS in the receiving water to exceed the lesser of 500 mg/l or 133% of background. The DRBC docket for this facility did not include a TDS variance but rather included a limit of 1000 mg/l.

The permit application reported a maximum concentration of 5 mg/l for **TSS** at IMP 101, based on three samples. Due to the low concentration, TSS limits for IMP 101 were not included in the draft renewal permit. The existing permit and the DRBC docket also did not impose limits for TSS at IMP 101.

The existing permit limits for **pH**, which are the same as shown in the above table, are carried forward into the draft renewal permit and are typically included in most NPDES permits.

The permit application reported a maximum concentration of <5 mg/l for **Oil and Grease** at IMP 101, based on three samples. All three samples were reported to be “non-detect”. As such, Oil and Grease limits at IMP 101 were not included in the draft renewal permit. The existing permit and the DRBC docket also did not impose limits at IMP 101 for Oil and Grease.

The **TDS** limit of 1000 mg/l, shown in the above table, has been added to the draft renewal permit for IMP 101 based on the DRBC requirements. The DRBC docket D-1979-044-5 includes a TDS limit *at IMP 101* of 1000 mg/l with quarterly TDS monitoring required. TBELs are typically applied at the point of discharge for industrial wastewater before any dilution with non-industrial wastewater. The draft renewal permit imposes the TDS limit at IMP 101, not at outfall 001, consistent with the docket. No compliance schedule has been included because the permittee is expected to be able to meet the new TDS limit at IMP 101: the permit application reported a maximum concentration of 151 mg/l for TDS at IMP 101 based on three samples. The maximum TDS concentration reported in the DMRs for outfall 001 from January 1, 2023 through December 31, 2025 was 428 mg/l.

The permit application reported a maximum concentration of 0.08 mg/l for **Dissolved Iron** at IMP 101, based on three samples. Due to the low concentration, Dissolved Iron limits for IMP 101 were not included in the draft renewal permit. The existing permit and the DRBC docket also did not impose limits for Dissolved Iron at IMP 101.

Federal Effluent Limitation Guidelines (a type of TBEL):

None are known to apply in this case. The renewal application represented that their discharge is not subject to federal ELGs. Their consultant confirmed in an October 1, 2025 email that the facility's discharges are not subject to federal ELGs. (Scrubber wastewater is disposed off-site, not discharged to a receiving water.)

(Federal Effluent Limitation Guidelines (ELGs) are TBELs developed for certain industries, for example 40 CFR 421 for Nonferrous Metals Manufacturing and 40 CFR 471 for Nonferrous Metals Forming and Metal Powders.)

Best Professional Judgement (BPJ) Effluent Limitations:

None

Water Quality-Based Effluent Limitations (WQBELs)

Total Maximum Daily Load (TMDL) for Impaired Water:

There is no TMDL yet developed for Blue Marsh Lake or for Spring Creek or for tributaries to Spring Creek. DEP's 2024 Integrated Water Quality Report identifies Blue Marsh Lake and Spring Creek as impaired, with high levels of nutrients as a concern. There was a 1987 DEP study conducted of Blue Marsh Lake/Reservoir which recommended that a **phosphorus** limit of 1.0 mg/l be imposed on contributing discharges upstream of the reservoir.

Non-contact cooling water and most stormwater from industrial sites are not expected to have high concentrations of nutrients. The sample results in the application support this is the case for this site. The NPDES permit renewal application included 3 effluent samples for Total Phosphorous at IMP 101, with a maximum concentration of 0.09 mg/l. (The maximum concentration at IMP 101 for Total Nitrogen, another nutrient, was <0.66 mg/l.)

Therefore, no phosphorus or nitrogen limits have been imposed in the draft permit. None were included in the existing permit either.

WQBELs other than TMDL:

DEP uses a model called WQM 7.0 to determine limits for CBOD₅ and Ammonia (NH₃-N). DEP uses a model called the Toxics Management Spreadsheet (TMS) for toxic pollutants.

The three ponds can separately discharge to the UNT with the potential for sediment in each pond contributing pollutants. The UNT between IMP 101 and outfall 001 is entirely on the permittee's property. WQBELs are developed using stream low-flow conditions, the Q₇₋₁₀ flow. For this site, it is considered appropriate to calculate WQBELs for the discharge at outfall 001 which includes all generated wastewater from the site. See the WQBEL section of the Fact Sheet for outfall 001.

Temperature

Nccw can raise the temperature in streams into which they are discharged. At this facility, the nccw is returned to the Upper Pond before being discharged back to the UNT but it also has the chance to cool down in the middle and lower retaining ponds and to have its Temperature reduced by mixing with stormwater. The more appropriate point to monitor for Temperature or to impose limits, therefore, is at outfall 001. The existing permit also required monitoring for Temperature at outfall 001.

See the Temperature discussion in this Fact Sheet for outfall 001. A requirement to monitor for Temperature once a day at IMP 101 has been added.

Anti-Backsliding

As provided in 40 CFR 122.44(l)(1), no limits in the renewal permit are less stringent than the previous permit.

Per- and Poly-fluoroalkyl Substances (PFAS) Monitoring

Given the concern over PFAS in waterways, the NPDES permit applications for industrial facilities now require sampling for 4 indicator parameters: Perfluorooctanoic acid (PFOA), Perfluorooctane sulfonic acid (PFOS), Perfluorobutane sulfonic acid (PFBS), and Hexafluoropropylene oxide dimer acid (HFPO-DA). While there are many PFAS compounds, DEP has initiated a policy to identify PFAS in discharges using these four indicator parameters. The statutory basis for this requirement is provided at PA Code § 92a.61.

The NPDES permit renewal application included three effluent samples at IMP 101 for each of the four PFAS indicator parameters: all results were 'Non-detect' using sufficiently sensitive Quantitation Limits.

When there are no detected PFAS concentrations reported in the application for an industrial facility, DEP's PFAS policy is to still include annual monitoring for the four PFAS indicator parameters in the NPDES permit, with a condition that allows the monitoring be discontinued if the results of 4 consecutive monitoring periods indicate non-detect results at or below specified Quantitation Limits.

Because IMP 101 is an internal monitoring point, the draft renewal permit does not include monitoring for the four PFAS indicator parameters at IMP 101. It is considered sufficient at this time to monitor for PFAS at outfall 001 before the discharges leave the property.

Development of Effluent Limitations

Outfall No.	001 (after Lower Pond)	Design Flow (MGD)	0.242
Latitude	40° 20' 24" (per eMapPA)	Longitude	-76° 7' 23" (per eMapPA)
Wastewater Description: Non-contact Cooling Water (NCCW) and stormwater			

Permit limits can be Technology Based Effluent Limitations (**TBELs**) or Water Quality Based Effluent Limitations (**WQBELs**). Both are discussed in this Fact Sheet, in separate sections. Existing permit limits can also be carried forward in accordance with anti-backsliding provisions found in federal regulations [40 CFR §122.44(l)(1)].

Technology-Based Effluent Limitations (TBELs)

The following technology-based effluent limitations are provided in regulations and are imposed where applicable unless a more stringent limit is indicated from water quality analysis or Best Professional Judgement):

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation	DRBC * Regulation
TSS	100	Average Monthly			18 CFR Part 410, 3.10.4
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	Pa Code § 95.2(1)	
Oil and Grease	15	Average Monthly		Pa Code § 95.2(2)	18 CFR Part 410, 3.10.4
Oil and Grease	30	Maximum		95.2 Pa Code § 95.2(2)	18 CFR Part 410, 3.10.4
Dissolved Iron	7	Maximum		Pa Code § 95.2(4)	

*DEP has an interagency agreement with the Delaware River Basin Commission (DRBC) and incorporates their requirements (per 18 CFR Part 410 Water Quality Regulations and approved dockets) into our permits where appropriate.

The permit application reported a maximum concentration of 13 mg/l for **TSS** at outfall 001, based on three samples. Due to the low concentration, TSS limits for outfall 001 were not included in the draft renewal permit. The existing permit and the DRBC docket also did not impose limits for TSS at outfall 001.

The existing permit limits for **pH**, which are the same as shown in the above table, are carried forward into the draft renewal permit and are typically included in most NPDES permits.

The permit application reported a maximum concentration of <5 mg/l for **Oil and Grease** at outfall 001, based on three samples. All three samples were reported to be “non-detect”. As such, Oil and Grease limits at outfall 001 were not included in the draft renewal permit. The existing permit and the DRBC docket also did not impose limits at outfall 001 for Oil and Grease.

The permit application reported a maximum concentration of 0.08 mg/l for **Dissolved Iron** at outfall 001, based on three samples. Due to the low concentration, Dissolved Iron limits at outfall 001 were not included in the draft renewal permit. The existing permit and the DRBC docket also did not impose limits for Dissolved Iron at outfall 001.

Note: The existing permit included TBEL limits for **TDS** at outfall 001. The basis of the TDS limits were the DRBC regulations. The DRBC 2025 docket for this facility, however, included a TBEL of 1000 mg/l for TDS at *IMP 101*, non-contact cooling water, and not for outfall 001. TBELs are typically applied at the point of discharge for industrial wastewater before any dilution with non-industrial wastewater. The draft renewal permit imposes the TDS limit at IMP 101, not at outfall 001, consistent with the docket.

The existing permit required **Temperature** monitoring at outfall 001 without imposing Temperature limits. Monitoring at outfall 001 is considered appropriate because the nccw has the chance to cool down in the middle and lower retaining ponds and to have its Temperature reduced by mixing with stormwater. As with the existing permit, the draft renewal permit includes Temperature monitoring at outfall 001. (Temperature is further discussed in the WQBEL section of the Fact Sheet.)

Federal Effluent Limitation Guidelines (a type of TBEL):

None are known to apply in this case.

Best Professional Judgement (BPJ) Effluent Limitations:

None

Water Quality-Based Effluent Limitations (WQBELs)

Total Maximum Daily Load (TMDL) for Impaired Water:

There is no TMDL yet developed for Blue Marsh Lake or for Spring Creek or for tributaries to Spring Creek. DEP's 2024 Integrated Water Quality Report identifies Blue Marsh Lake and Spring Creek as impaired, with high levels of nutrients as a concern. There was a 1987 DEP study conducted of Blue Marsh Lake/Reservoir which recommended that a **phosphorus** limit of 1.0 mg/l be imposed on contributing discharges upstream of the reservoir.

Non-contact cooling water and most stormwater from industrial sites are not expected to have high concentrations of nutrients. The sample results in the application support this. The NPDES permit renewal application included 3 effluent samples for Total Phosphorous at outfall 001, with a maximum concentration of 0.05 mg/l. (The maximum concentration at outfall 001 for Total Nitrogen was <6 mg/l.)

Therefore, no phosphorus or nitrogen limits have been imposed in the draft permit. None were included in the existing permit either.

WQBELs other than TMDL:

DEP uses a model called WQM 7.0 to determine limits for CBOD₅ and Ammonia (NH₃-N). Non-contact cooling water is not expected to have high concentrations of **BOD₅ (or CBOD₅) or Ammonia**. The NPDES permit renewal application included 3 effluent samples at outfall 001 for BOD₅ and for Ammonia. The maximum concentration for BOD₅ was 5.4 mg/l. The maximum concentration for Ammonia was 0.03 mg/l. Therefore, DEP's WQM 7.0 model was not run. No limits have been imposed in the draft permit. Likewise, the existing permit did not include limits for these parameters.

DEP uses a model called the Toxics Management Spreadsheet (TMS) for **toxic pollutants**. It is a macro-enabled Excel version of DEP's former PENTOX model. It evaluates the reasonable potential (RP) for discharges to cause in-stream exceedances of water quality criteria and recommends Water Quality-Based Effluent Limitations (WQBELs) as permit limits if RP is demonstrated in compliance with federal regulations:

40 CFR § 122.44 Establishing limitations, standards, and other permit conditions:

(d)(1)(iii) When the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant.

(State regulations 25 Pa Code § 92a.44 incorporate by reference the above federal regulations.)

DEP considers RP to be demonstrated when discharge concentrations equal or exceed 50% of the model-calculated WQBELs. The TMS may recommend monitoring requirements without limits if the discharge concentrations are between 10% and 50% of the WQBELs in the case of conservative parameters and between 25% and 50% of the WQBELs in the case of non-conservative parameters. The collected monitoring data inform future 'RP' evaluations. For more explanation of the TMS / PENTOX model, see Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, document #386-2000-015.

When there are less than 10 sample results for each parameter, the *maximum* effluent concentrations of the available data are used by DEP as the discharge concentration input values in the TMS, with the exception of discharge Hardness for which the average effluent concentration is typically used. For this facility, there were less than 10 sample results for each toxic parameter except for Total Dissolved Solids (TDS). The DMR data for TDS was reviewed and used for the TMS input value for discharge concentration. (Neither the average nor the median nor the maximum TDS concentration from the DMR data causes the TMS to recommend a WQBEL or a monitoring requirement for TDS.)

The source of the River Mile Indices (RMI's) and elevations that were input in the TMS model were DEP's eMapPA while the source of the Drainage Areas and stream design low-flows (Q₇₋₁₀) were the USGS PA Stream Stats online tool (see attached). Low Flow Yield (LFY) was calculated as stream low-flow Q₇₋₁₀ divided by Drainage Area of the stream at the discharge location.

Default values used in the TMS model in the absence of (or inadequate) site-specific data included:

- Stream pH = 7 s.u.
- Discharge pH = 7 s.u.
- Stream Hardness = 100 mg/l
- Coefficient of Variability in data = 0.5
- Chemical translators for metals
- Background concentration of toxics = 0 mg/l

In addition, the TMS model estimates the stream width, depth, slope, velocity, and partial mix factors.

According to previous DEP Fact Sheets associated with the previous NPDES permits, a 1995 DEP biological survey determined that **the point of first use (POFU) for aquatic life** was at Spring Creek, rather than at the facility's discharge location. DEP's TMS model therefore used the **confluence of the UNT 01892 and Spring Creek** as the beginning of the stream segment. The TMS model was run a second time at the facility's discharge location (UNT 01892) in order to verify that no WQBELs based on human health criteria were needed. (Both TMS simulations are attached.)

Based on the available data, DEP's TMS model recommended the following for toxic parameters (output files attached):

Recommended WQBELs & Monitoring Requirements

No. Samples/Month:

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			
Total Aluminum	Report	Report	Report	Report	Report	µg/L	976	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	Report	Report	Report	Report	Report	mg/L	0.016	AFC	Discharge Conc > 10% WQBEL (no RP)
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	609	THH	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	mg/L	0.14	AFC	Discharge Conc > 10% WQBEL (no RP)

No permit limits for toxic parameters were imposed in the existing permit nor are any imposed in the draft renewal. A monitoring requirement at outfall 001 has been added for Total Aluminum, Total Copper, Dissolved Iron, and Total Zinc, as recommended by DEP's TMS model.

Note: this facility could be *eligible* for net limits given that they withdraw water from the same stream that they discharge to [40 CFR § 122.45(g) and 25 PA Code § 92a.45]. DEP has no intake monitoring data to determine net limits. The permittee has not requested net limits but could do so in the future. For net limits, the permit would have to require influent and discharge monitoring for each parameter subject to net limits.

Temperature

DEP's thermal model was used, with the results compared to downstream temperature data to evaluate the risk to the receiving water from the facility's discharges. The facility has been measuring temperature upstream, downstream, and in the discharge at outfall 001 for more than five years.

Input values:

-There is no flow data for outfall 001, only for IMP 101 before mingling with stormwater.

-DEP does not have intake flow data for the facility. Instead the discharge flow measured at IMP 101 was used as a model input since there is only one water source and the stream intake water is returned to the stream after being used for non-contact cooling. DEP calculated the month-by-month average discharge flows from DMR data between September 1, 2022 and September 30, 2025.

-An estimate of consumptive losses was taken from the application's flow diagram, although monthly variations are not known. (The model was also run with 0 consumptive losses since the discharge flows at IMP 101 were possibly net of losses such as evaporation: the results were only slightly different and are attached.)

-DEP calculated the month-by-month average upstream temperatures from DMR data between September 1, 2022 and September 30, 2025. These were used as model input values. For 8 out of 12 months, the upstream temperatures were already above water quality criteria. For 11 out of 12 months, the downstream temperatures were above water quality criteria. (Because DMRs report monthly data whereas Temperature criteria are semi-monthly for some months, interpolation of the site-specific data was used, as suggested in DEP's thermal model documentation. For example, the average Temperature for April according to the three years of DMRs reviewed was 51.3°F. Because the model uses criteria which differ between the first half of April and the second half of April, the site-specific data for April was input as 48°F for the first half of April and 54°F for the second half of April. The average of 48°F and 54°F is 51°F.)

The model adjusts the estimated Q₇₋₁₀ flow to estimate stream flow for each month; the Q₇₋₁₀ stream low-flow is likely to occur during July through September with the stream flow expected to be greater during other months. The model results are estimated discharge Temperatures assuming design discharge flow, called Waste Load Allocations (WLAs), that would not cause in-stream exceedances of surface water quality criteria (wqc) given in 25 Pa Code § 93.7. The wqc are listed in the regulations by month and semi-month. The wqc are embedded in the Thermal Model and used in the calculations to arrive at WLAs.

The model inputs and results are attached. As with the toxic parameters modeling, the temperature criteria were applied at the confluence of UNT 01892 and Spring Creek in accordance with the past POFU. The three years of downstream Temperature data reviewed indicate that the discharge temperature is greater than the model's recommended Temperature limits for July through October. Note that these are the months where the stream flow is expected to be lowest and when the discharge from the Upper Pond to the receiving water is also expected to be lowest. The DRBC docket states "During periods of low stream flow, the Upper Pond receives little to no water & does not discharge to the UNT". Also, the model is not giving credit for cooling that would occur between the point where nccw is discharged to the UNT and the confluence of UNT 01892 and Spring Creek.

(Note: DEP uses harmonic stream flow for developing limits for new discharges to achieve antidegradation, antidegradation referring to maintaining the existing water quality of a stream. The stream flow input value for the Thermal model can be changed to the harmonic flow provided by USGS Stream Stats, 1.34 cfs, instead of the Q₇₋₁₀ flow but the month by month multipliers to estimate monthly flows are specific to Q₇₋₁₀ such that the model using 1.34 cfs harmonic flow does not yield reliable results and is not attached.)

Besides relying on estimated stream flow, estimated intake flow, and the design discharge flow, the model does not account for heat dissipation areas or mixing zones. DRBC's regulations [18 CFR Part 410 Water Quality Regulations], on the other hand, specify that downstream temperatures shall be measured outside of designated heat dissipation areas. DEP's thermal model relies on a simple mass balance and assumes instant and complete mixing between the stream and a single-source discharge.

In addition:

-the facility has been discharging non-contact cooling water to the same receiving stream at the same design flow since at least 1979 yet the UNT and downstream creek has since qualified as HQ-CWF existing use and Class A Trout;

-the facility's thermal discharge is close to the headwaters of UNT 01892 and the upper UNT 01892 is an intermittent stream with some periods of very low flow which DEP biologists previously determined to be unable to sustain aquatic life.

No temperature limits have been added to the permit at this time. If the facility expands its operations or if additional information is obtained in the future, the need for Temperature limits or a Thermal variance in accordance with section 316(a) of the Clean Water Act will be revisited.

The requirement to monitor for Temperature at outfall 001 and upstream of operations has been continued. The frequency has been reduced to once per day. A requirement to monitor for Temperature once a day at IMP 101 has been added since this is undiluted nccw.

Anti-Backsliding

As provided in 40 CFR 122.44(l)(1), no limits in the renewal permit are less stringent than the previous permit.

Per- and Polyfluoroalkyl Substances (PFAS) Monitoring

Given the concern over PFAS in waterways, the NPDES permit applications for industrial facilities now require sampling for 4 indicator parameters: Perfluorooctanoic acid (PFOA), Perfluorooctane sulfonic acid (PFOS), Perfluorobutane sulfonic acid (PFBS), and Hexafluoropropylene oxide dimer acid (HFPO-DA). While there are many PFAS compounds, DEP has initiated a policy to identify PFAS in discharges using these four indicator parameters. The statutory basis for this requirement is provided at PA Code § 92a.61.

When there are no detected PFAS concentrations reported in the application for an industrial facility, DEP's PFAS policy is to still include annual monitoring for the four PFAS indicator parameters in the NPDES permit, consistent with DEP's SOP 'Establishing Effluent Limitations for Individual Industrial Permits'. The following condition is also included:

The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detect results at or below Quantitation Limits of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L for HFPO-DA. When monitoring is discontinued, permittees must enter a No Discharge Indicator (NODI) Code of "GG" on DMRs

The lab results pages included in the NPDES permit renewal application showed that three out of three discharge samples for PFOA, PFBS, and HFPO-DA at outfall 001 were non-detect using sufficiently sensitive Quantitation Limits. There was one potential detect of 1.9 ng/l for PFOS, but the result was qualified by the lab: "Isotope dilution analysis outside acceptance limits". The qualified result is under DEP's Target Quantitation Limit for PFOS (3.7 ng/l) such that annual monitoring has been imposed in the draft permit at this outfall rather than quarterly.

Other than Limits

Sample Frequencies and Sample Types

The sample frequencies and sample types for Flow, pH, and Temperature are consistent with DEP's Technical Guidance document 386-0400-001. The sample type for metals is also consistent with this same document. Because no limits have been imposed for these metals, a lesser frequency has been allowed, consistent with DEP's SOP New and Reissuance Industrial Waste and Industrial Stormwater Individual NPDES Permit Applications. For TDS, the sample frequency matches the DRBC docket and the sample type matches DEP's application instructions for discharge samples. For PFAS indicator parameters, the sample frequency and sample type are according to DEP policy and consistent with other NPDES permits.

Chemical Additives

The application did not list any chemicals used for wastewater treatment or "chemical additives" other than Copper Sulfate to control algae in the Upper Pond. According to the application, Copper Sulfate is used twice per year with a maximum usage rate of 2.5 lbs. Such usage is allowed under Pa Code § 91.38, with approval by DEP Water Supply Program and PA Fish and Boat Commission. (The approval for algicides such as copper sulfate is separate from this NPDES permit but Copper is a parameter evaluated in the development of the NPDES permit limits.)

The DEP definition of 'Chemical Additives' is included in the Part A definitions in the permit.

Most DEP NPDES permits for industrial facilities include language in Part C which restricts usage of 'Chemical Additives' and requires notification, DEP approval, and reporting. This Part C condition has been included in the draft renewal permit since operations at the facility could change during the permit term. If the facility were to plan to use 'chemical additives' as defined in the permit, the Part C requirements are intended to control their use to safe levels.

Class A Wild Trout

The receiving water is considered Class A Wild Trout by the Pennsylvania Fish and Boat Commission. The permit limits and conditions are intended to protect for Class A Wild Trout.

Trout Natural Reproduction Waters

The receiving stream is not considered Trout Natural Reproduction Waters but Spring Creek downstream is. No change to the design flow or type of wastewater is being proposed in this permit renewal.

Impaired Waters (Section 303(d) of the Clean Water Act)

The receiving water and downstream waterway were assessed as impaired due to Nutrients, Siltation, and Pathogens but no TMDL has been developed. Nccw and stormwater from industrial sites are not expected to have high concentrations of nutrients or pathogens. The effluent samples in the NPDES permit renewal application supports this for Total Phosphorus (TP) and Total Nitrogen (TN): the maximum concentrations at outfall 001 were 0.05 mg/l for Total Phosphorus and <6 mg/l for Total Nitrogen. Nccw would also not be expected to have high concentrations of Fecal Coliform. The permit renewal application included 3 samples at outfall 001 for Fecal Coliform: 480/100 mL, 480/100 mL, and 3600/100 mL. It is possible that the source is from geese on their ponds. For TSS, the maximum concentration in the outfall 001 samples in the permit renewal application was 13 mg/l.

(Also see the TMDL section of this Fact sheet.)

Antidegradation

The permit limits and conditions are intended to protect the designated and existing uses of the receiving stream. It is noted that the facility's discharge was permitted prior to the receiving water's designation of "High Quality" such that the discharges are allowed to continue. Any expansions at the facility would need to comply with antidegradation requirements found in State regulations: 25 PA Code § 93.4a to 93.4c.

Stormwater

The existing permit included monitoring requirements for stormwater-only outfalls 003, 004, 005, 006, 007, and 008. Outfall 008 was considered representative of outfall 009 such that outfall 009 did not have monitoring requirements. The permittee, in the renewal application, again asked that outfall 008 be considered representative of outfall 009:

Drainage Areas 008 and 009 both include Buildings 13 and 14 and the surrounding asphalt areas. Drainage Area 008 conveys roof drainage from the southern portion of these buildings, and Drainage Area 009 conveys roof drainage from the northern portion of these buildings. Reading Alloys, Inc. has determined the industrial activity is substantially identical within these two drainage areas.

The draft renewal permit allows outfall 008 to be representative of outfall 009. Federal NPDES regulations have provisions for the use of representative stormwater outfalls to reduce monitoring.

The permit application provided the following:

Outfall / IMP No.	Wastewater or Stormwater Description	Discharge Type	Frequency	
			Hours / Day	Days / Week
003	Outfall 003 discharges stormwater from impervious surfaces around Buildings 1, 2 and 6.	Stormwater	Varies	Varies
004	Outfall 004 discharges stormwater from impervious surfaces around Buildings 2, 4 and 4.	Stormwater	Varies	Varies
005	Outfall 005 discharges stormwater from impervious surfaces around Buildings 3, 11, 50 and 56.	Stormwater	Varies	Varies
006	Outfall 006 discharges stormwater from impervious surfaces around Buildings 16, 17 and 18.	Stormwater	Varies	Varies
007	Outfall 007 discharges stormwater from pervious surfaces around Building 19.	Stormwater	Varies	Varies
008	Outfall 008 discharges stormwater from impervious surfaces between Buildings 13 and 14.	Stormwater	Varies	Varies
009	Outfall 009 discharges stormwater from impervious surfaces between Buildings 13 and 14.	Stormwater	Varies	Varies

MODULE 1 – STORMWATER

1. Applicant/Operator Name:		Reading Alloys, LLC						
2. Total Area of Site (acres):		150	IA Area (acres):	12	% Pervious	18	% Impervious	82
3. IA area treated by structural BMPs (acres):		N/A		IA area untreated (acres):		12		
4. List all outfalls receiving stormwater in whole or in part and provide the requested information.								
Outfall No.	Entirely Stormwater?	Ind. SW?	Drainage Area (ft ²)	% Impervious	Description of Materials/Activities in Drainage Area Exposed to Precipitation	No Exposure?		
003	<input checked="" type="checkbox"/>	<input type="checkbox"/>	67,127	82	Facility roofing, loading and unloading areas. Production areas are covered	<input type="checkbox"/>		
004	<input checked="" type="checkbox"/>	<input type="checkbox"/>	94,360	72	Facility roofing, loading and unloading areas. Production areas are covered	<input type="checkbox"/>		
005	<input checked="" type="checkbox"/>	<input type="checkbox"/>	80,859	100	Facility roofing, loading and unloading areas. Production areas are covered	<input type="checkbox"/>		
006	<input checked="" type="checkbox"/>	<input type="checkbox"/>	87,870	98	Facility roofing, loading and unloading areas. Production areas are covered	<input type="checkbox"/>		
007	<input checked="" type="checkbox"/>	<input type="checkbox"/>	122,636	21	Facility roofing, loading and unloading areas. Production areas are covered	<input type="checkbox"/>		
008	<input checked="" type="checkbox"/>	<input type="checkbox"/>	64,117	100	Facility roofing, loading and unloading areas. Production areas are covered	<input type="checkbox"/>		
009	<input checked="" type="checkbox"/>	<input type="checkbox"/>	28,743	100	Facility roofing, loading and unloading areas. Production areas are covered	<input type="checkbox"/>		

Monitoring for the parameters shown in the below table have been included in the draft renewal permit for the stormwater outfalls 003 through 008. These parameters, the minimum sampling frequency, and the sample types were taken from Appendix B, Primary Metals, of DEP’s general permit for stormwater discharges (PAG-03), as recommended by DEP’s SOP ‘Establishing Effluent Limitations for Individual Industrial Permits’. The PAG-03 was drafted, public noticed, and effective March 24, 2023.

Appendix B, Primary Metals:

SIC Codes: 3312 – 3317, 3321 – 3325, 3331 – 3339, 3341, 3351 - 3357, 3363 – 3369 and 3398 – 3399

Pollutant	Monitoring Requirements ^{(1),(2)}		Benchmark Values
	Minimum Measurement Frequency	Sample Type	
Total Nitrogen (mg/L) ⁽³⁾	1 / 6 months	Calculation	XXX
Total Phosphorus (mg/L)	1 / 6 months	Grab	XXX
Total Suspended Solids (TSS) (mg/L)	1 / 6 months	Grab	100
Oil & Grease (mg/L)	1 / 6 months	Grab	30
Total Aluminum (mg/L)	1 / 6 months	Grab	XXX
Total Zinc (mg/L)	1 / 6 months	Grab	XXX
Total Copper (mg/L)	1 / 6 months	Grab	XXX
Total Iron (mg/L)	1 / 6 months	Grab	XXX
Total Lead (mg/L)	1 / 6 months	Grab	XXX

⁽³⁾ Total Nitrogen is the sum of Nitrate + Nitrite-Nitrogen and Total Kjeldahl Nitrogen.

(The benchmark values in the above table have not been included in the draft renewal permit following a review of the facility’s past DMR data.)

The existing permit also included monitoring requirements for **pH, CBOD5, Chemical Oxygen Demand (COD), Total Arsenic, Total Cadmium, and Total Chromium** at the stormwater-only outfalls. The facility’s DMRs for January 1, 2023 through December 31, 2025 did not indicate that monitoring for these parameters needs to be continued:

- at all stormwater outfalls, the pH was reported to be within the range of 6-9 s.u.
- at all stormwater outfalls, the median concentrations for CBOD5 and COD were less than the PAG-03 benchmark values for BOD5 and COD
- at all stormwater outfalls, the median concentrations for Arsenic, Cadmium, and Chromium were less than those parameters most stringent water quality criteria x 100 (a guideline used for risk assessment)

As is standard for stormwater-only outfalls, the Part C conditions of the draft permit include implementing Best Management Practices (BMPs), maintaining a Preparedness, Prevention, and Contingency (PPC) Plan, submitting to DEP a Stormwater Annual Report, and conducting routine inspections of the outfalls as required in federal regulations 40 CFR 122.44(i)(4) and (k). The Sector-Specific BMPs shown for Appendix B of the PAG-03 were included in the draft renewal permit’s Part C:

III. SECTOR-SPECIFIC BMPs

In addition to the BMPs contained in Part C II of the General Permit, the permittee shall implement, at a minimum, all of the following BMPs that are applicable to the processes in place at the facility for which coverage under this General Permit is approved.

- A. Install and use dust control/collection systems around materials handling and transfer activities.
- B. Perform all mixing, pouring, cutting, and molding activities in buildings with dust control systems.
- C. Store flux materials in enclosed silos or buildings, or otherwise cover materials susceptible to erosion and wind entrainment.
- D. Provide for reclamation of, or erosion control on, historic waste piles.

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 as needed and BPJ. Instantaneous Maximum (IMAX) limits are generally determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the “NPDES Permit Writer’s Manual” (386-0400-001), SOPs and/or BPJ.

Internal Monitoring Point 101, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD) Internal Monitoring Point	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.) Internal Monitoring Point	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Temperature Internal Monitoring Point	XXX	XXX	XXX	Report	Report	XXX	1/day	I-S
Total Dissolved Solids Internal Monitoring Point	XXX	XXX	XXX	1000.0 Qtrly Avg	XXX	XXX	1/quarter	24-hour Composite

Compliance Sampling Location: at IMP 101 where non-contact cooling water discharges to the facility’s Upper Pond

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 as needed and BPJ. Instantaneous Maximum (IMAX) limits are generally determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the “NPDES Permit Writer’s Manual” (386-0400-001), SOPs and/or BPJ.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Temperature (°F)	XXX	XXX	XXX	Report	Report	XXX	1/day	I-S
Temperature (°F) Upstream Monitoring*	XXX	XXX	XXX	Report	Report	XXX	1/day	I-S
Total Aluminum	XXX	XXX	XXX	Report	Report	XXX	1/month	24-hr composite
Total Copper	XXX	XXX	XXX	Report	Report	XXX	1/month	24-hr composite
Dissolved Iron	XXX	XXX	XXX	Report	Report	XXX	1/month	24-hr composite
Total Zinc	XXX	XXX	XXX	Report	Report	XXX	1/month	24-hr composite
PFOA (ng/L) **	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
PFOS (ng/L) **	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
PFBS (ng/L) **	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
HFPO-DA (ng/L) **	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab

*The Upstream monitoring location must be upstream of the intake point, before the Upper Pond

** The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detect results at or below Quantitation Limits of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L for HFPO-DA. When monitoring is discontinued, permittees must enter a No Discharge Indicator (NODI) Code of “GG” on DMRs.

Compliance Sampling Location: outfall 001, after the facility’s Lower Pond

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 as needed and BPJ. Instantaneous Maximum (IMAX) limits are generally determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the “NPDES Permit Writer’s Manual” (386-0400-001), SOPs and/or BPJ.

Outfalls 003-008, Effective Period: Permit Effective Date through Permit Expiration Date.

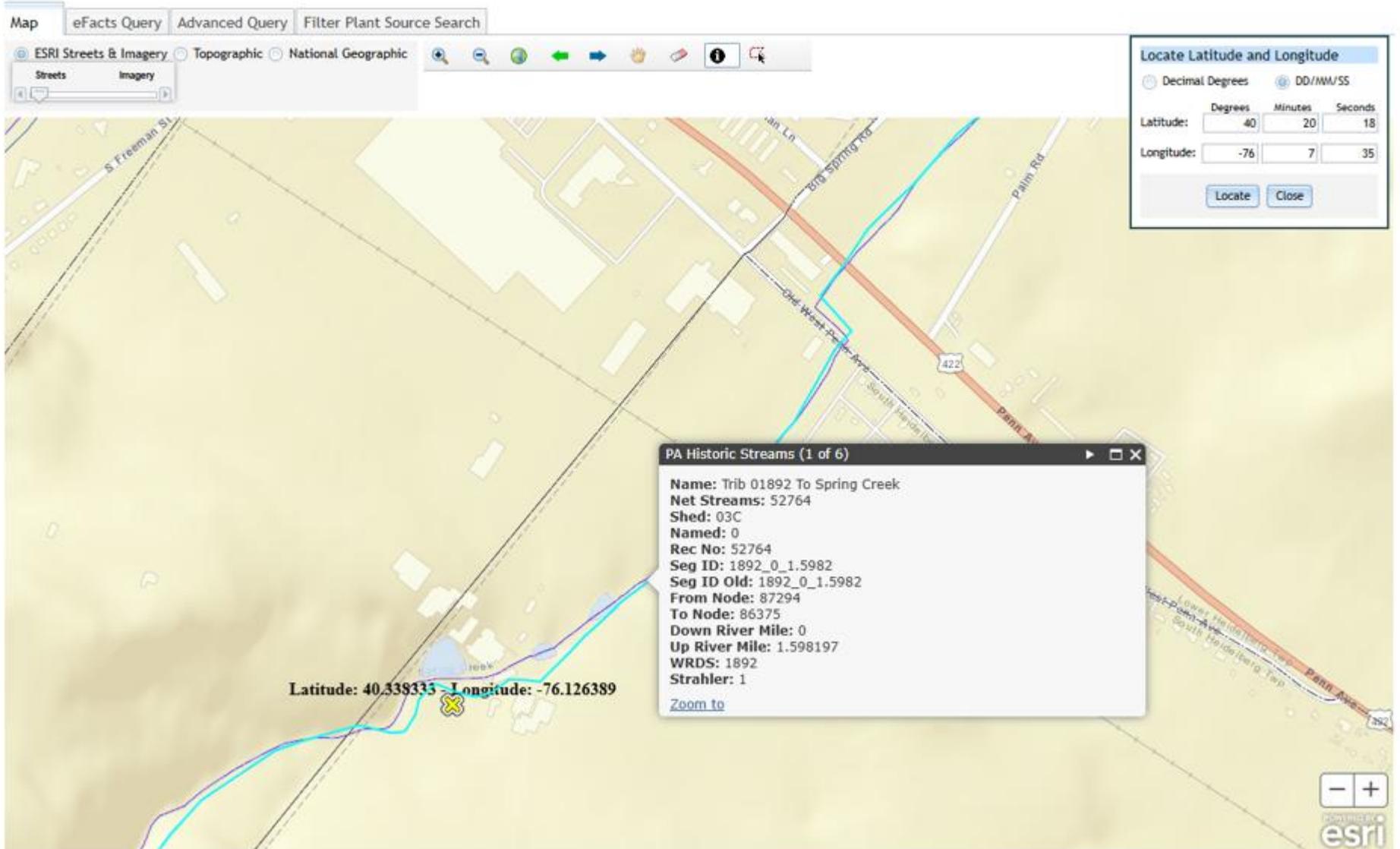
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Nitrogen*	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Calculation*
Total Phosphorous	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Aluminum	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Copper	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Iron	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Lead	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Zinc	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

*Total Nitrogen is the sum of Nitrate + Nitrite-Nitrogen and Total Kjeldahl Nitrogen.

Compliance Sampling Location: at outfalls 003 - 008

Tools and References Used to Develop Permit	
<input type="checkbox"/>	WQM for Windows Model (see Attachment)
<input checked="" type="checkbox"/>	Toxics Management Spreadsheet (see Attachment)
<input type="checkbox"/>	TRC Model Spreadsheet (see Attachment)
<input checked="" type="checkbox"/>	Temperature Model Spreadsheet (see Attachment)
<input checked="" type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input checked="" type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions (Inter-basin or across watersheds), 386-2000-019, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 386-2000-002, 9/08.
<input type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input checked="" type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
<input checked="" type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
<input checked="" type="checkbox"/>	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
<input type="checkbox"/>	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
<input checked="" type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
<input type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
<input checked="" type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
<input checked="" type="checkbox"/>	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
<input checked="" type="checkbox"/>	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
<input checked="" type="checkbox"/>	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999.
<input checked="" type="checkbox"/>	Design Stream Flows, 386-2000-003, 9/98.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
<input type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input checked="" type="checkbox"/>	SOP: New and Reissuance Industrial Waste and Industrial Stormwater Individual NPDES Permit Applications, Version 1.7, Revised August 12, 2025.
<input checked="" type="checkbox"/>	SOP: Establishing Effluent Limitations for Individual Industrial Permits, version 1.7, Revised February 5, 2024
<input checked="" type="checkbox"/>	SOP: Establishing Water-Quality Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers, Version 1.6, May 5, 2025.
<input checked="" type="checkbox"/>	DEP's general permit PAG-03 Stormwater Associated With Industrial Activity, effective March 24, 2023.
<input checked="" type="checkbox"/>	DRBC docket, D-1979-044-5, approved September 10, 2025, available at: https://www.nj.gov/drbc/library/documents/dockets/interactive-map/1979-044%20-5.pdf

Lat/long per last permit and per application, not on the receiving stream exactly:



eMapPA

PA STATE AGENCIES ONLINE SERVICES Josh Shapiro, Governor Jessica Shirley, Secretary DEP Home

Source Search

Map navigation icons: +, -, globe, left arrow, right arrow, hand, eraser, info, refresh

Locate Latitude and Longitude

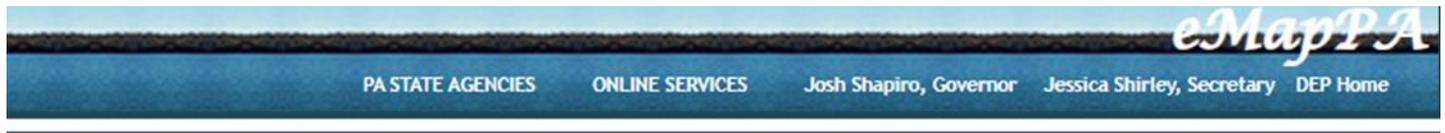
Decimal Degrees DD/MM/SS

	Degrees	Minutes	Seconds
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Longitude:	-76	7	35

Latitude: 40.338717 - Longitude: -76.126389

- +
POWERED BY
esri

Upper Pond, IMP 101



Locate Latitude and Longitude

Decimal Degrees DD/MM/SS

	Degrees	Minutes	Seconds
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Longitude:	-76	7	22.56

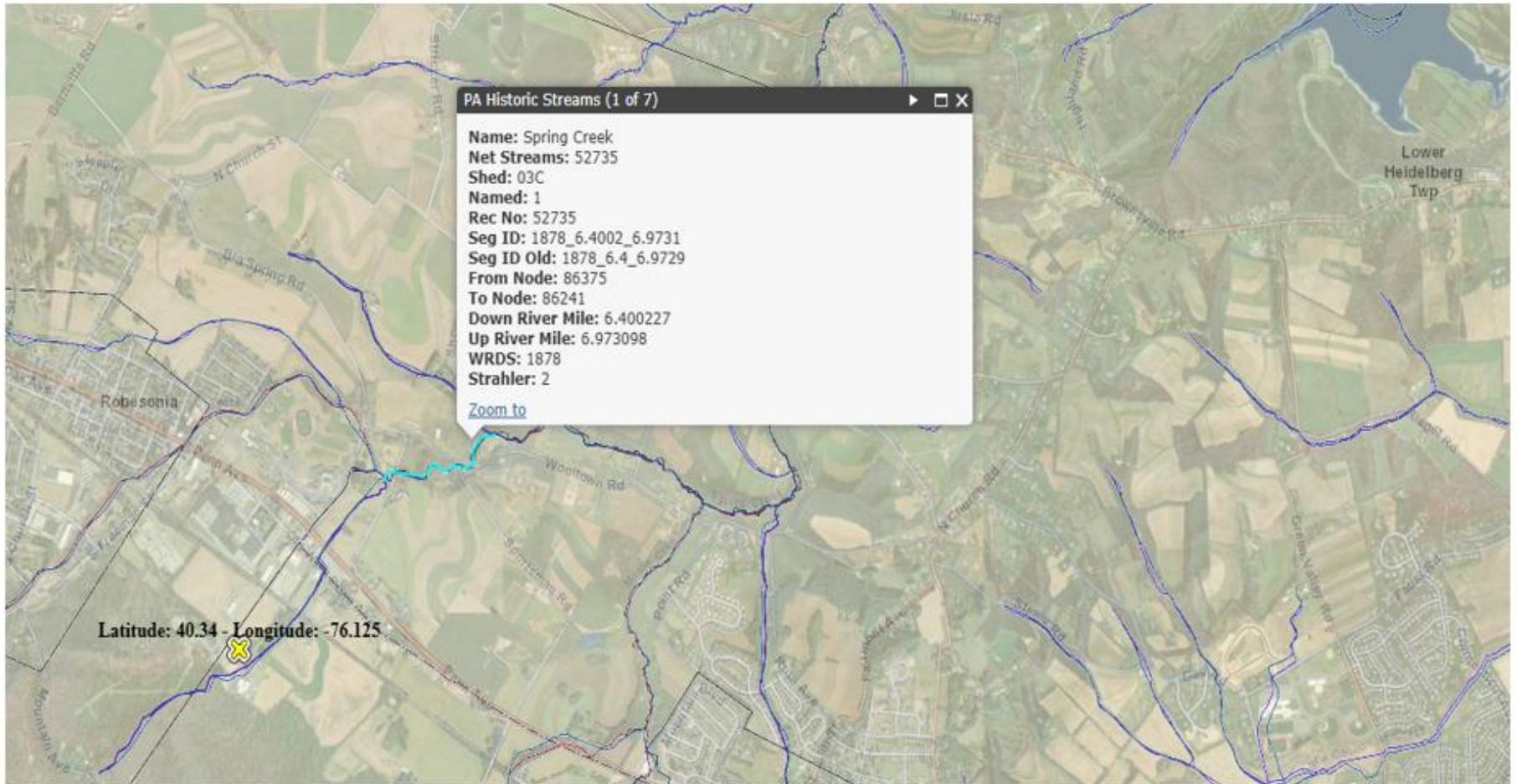
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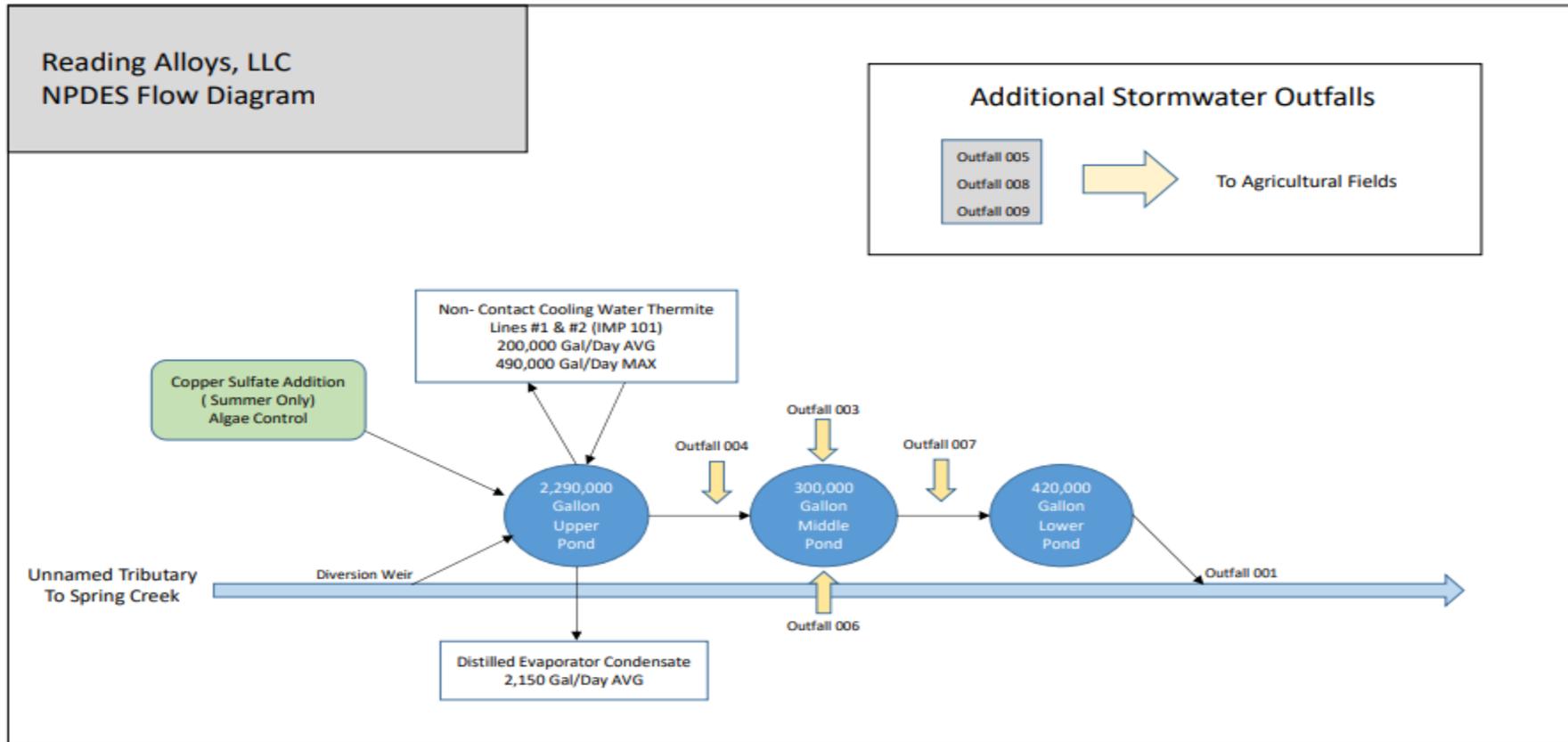
Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Lower Pond, outfall 001

Downstream, at confluence between UNT 01829 and Spring Creek which is also Existing Use HQ-CWF:



From the NPDES permit application (but diagram does not depict water from each pond returned to the UNT as described in Appendix 5 of the permittee's Integrated Contingency Plan dated October 2023 and as depicted in the flow diagram in the DRBC docket shown on the next page):



Note: the 2019 NPDES permit application asserted that the previous discharge of distilled evaporator concentrate into outfall 001 has stopped; nor did the 2024 NPDES permit application describe distilled evaporator condensate as part of the discharge to the UNT of Spring Creek.

Flow diagram in DRBC docket
(matches DEP Inspection, December 5, 2025, discussed by DEP Inspector and permit writer on December 10, 2025):

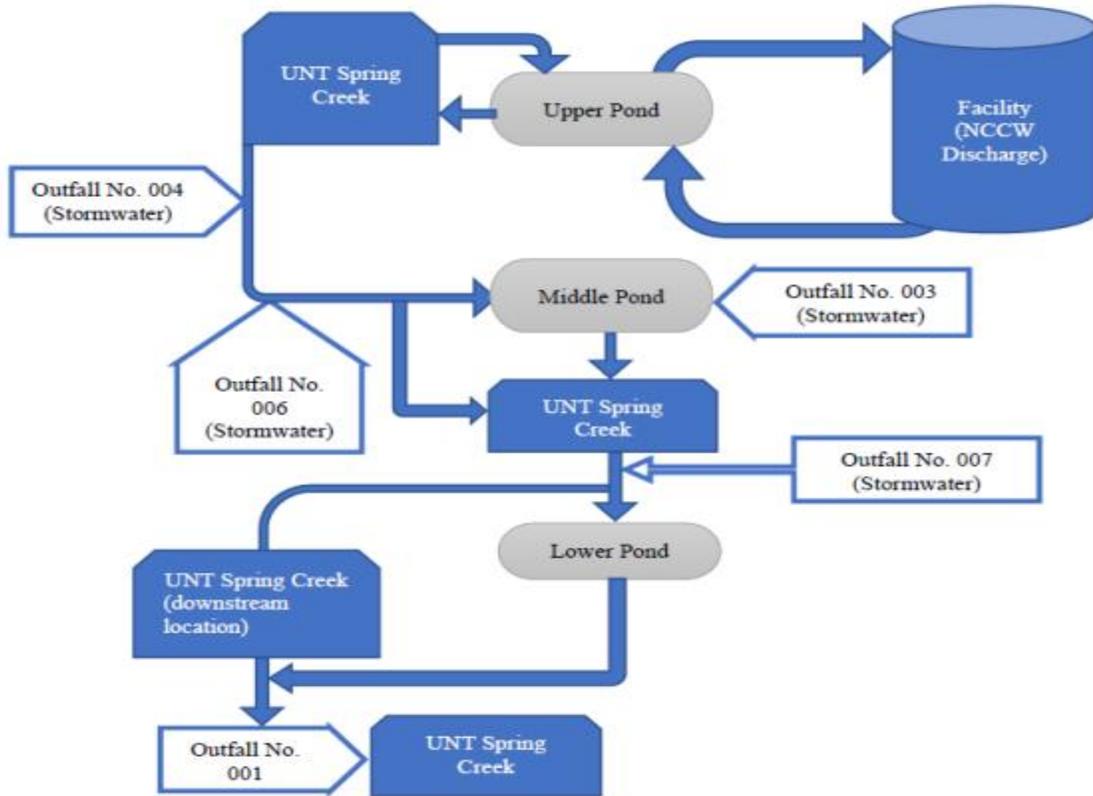


Figure 1: Flow Diagram of Reading Alloys Facility Design

The project facilities are not located in the 100-year floodplain.

Residual waste will continue to be handled in accordance with NPDES Permit No. PA0070050.

NPDES Permit Fact Sheet
Reading Alloys

NPDES Permit No. PA0070050

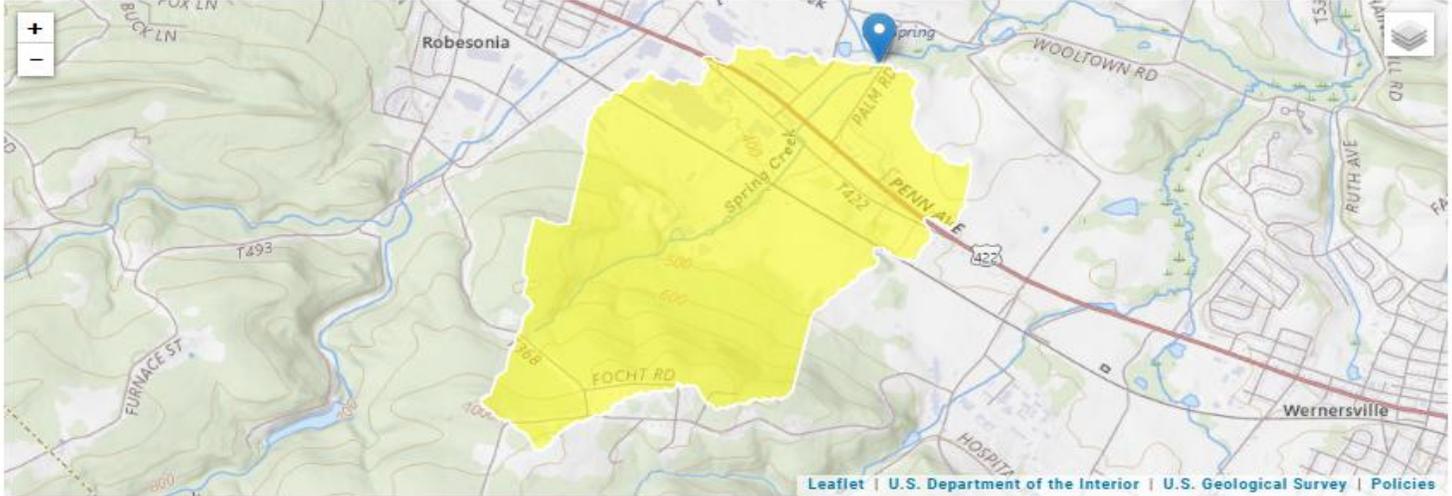
PERMIT	START_DAT	END_DATE	OUTFAL	PARAM	UNITS	LOAD_1_V	LOAD_1	LOAD_1_SBC	LOAD_2_V	LOAD_2	LOAD_2_SBC
PA0070050	1/1/2023	1/31/2023	101	Flow	MGD	0.281	Monitor	Average Mo	0.316	Monitor	Daily Maximum
PA0070050	2/1/2023	2/28/2023	101	Flow	MGD	0.269	Monitor	Average Mo	0.295	Monitor	Daily Maximum
PA0070050	3/1/2023	3/31/2023	101	Flow	MGD	0.273	Monitor	Average Mo	0.28	Monitor	Daily Maximum
PA0070050	4/1/2023	4/30/2023	101	Flow	MGD	0.254	Monitor	Average Mo	0.279	Monitor	Daily Maximum
PA0070050	5/1/2023	5/31/2023	101	Flow	MGD	0.247	Monitor	Average Mo	0.287	Monitor	Daily Maximum
PA0070050	6/1/2023	6/30/2023	101	Flow	MGD	0.28	Monitor	Average Mo	0.31	Monitor	Daily Maximum
PA0070050	7/1/2023	7/31/2023	101	Flow	MGD	0.273	Monitor	Average Mo	0.291	Monitor	Daily Maximum
PA0070050	8/1/2023	8/31/2023	101	Flow	MGD	0.253	Monitor	Average Mo	0.274	Monitor	Daily Maximum
PA0070050	9/1/2023	9/30/2023	101	Flow	MGD	0.219	Monitor	Average Mo	0.27	Monitor	Daily Maximum
PA0070050	10/1/2023	10/31/2023	101	Flow	MGD	0.232	Monitor	Average Mo	0.254	Monitor	Daily Maximum
PA0070050	11/1/2023	11/30/2023	101	Flow	MGD	0.243	Monitor	Average Mo	0.26	Monitor	Daily Maximum
PA0070050	12/1/2023	12/31/2023	101	Flow	MGD	0.21	Monitor	Average Mo	0.251	Monitor	Daily Maximum
PA0070050	1/1/2024	1/31/2024	101	Flow	MGD	0.227	Monitor	Average Mo	0.246	Monitor	Daily Maximum
PA0070050	2/1/2024	2/29/2024	101	Flow	MGD	0.237	Monitor	Average Mo	0.263	Monitor	Daily Maximum
PA0070050	3/1/2024	3/31/2024	101	Flow	MGD	0.196	Monitor	Average Mo	0.261	Monitor	Daily Maximum
PA0070050	4/1/2024	4/30/2024	101	Flow	MGD	0.27	Monitor	Average Mo	0.29	Monitor	Daily Maximum
PA0070050	5/1/2024	5/31/2024	101	Flow	MGD	0.256	Monitor	Average Mo	0.28	Monitor	Daily Maximum
PA0070050	6/1/2024	6/30/2024	101	Flow	MGD	0.239	Monitor	Average Mo	0.267	Monitor	Daily Maximum
PA0070050	7/1/2024	7/31/2024	101	Flow	MGD	0.209	Monitor	Average Mo	0.256	Monitor	Daily Maximum
PA0070050	8/1/2024	8/31/2024	101	Flow	MGD	0.164	Monitor	Average Mo	0.183	Monitor	Daily Maximum
PA0070050	9/1/2024	9/30/2024	101	Flow	MGD	0.164	Monitor	Average Mo	0.183	Monitor	Daily Maximum
PA0070050	10/1/2024	10/31/2024	101	Flow	MGD	0.153	Monitor	Average Mo	0.247	Monitor	Daily Maximum
PA0070050	11/1/2024	11/30/2024	101	Flow	MGD	0.21	Monitor	Average Mo	0.252	Monitor	Daily Maximum
PA0070050	12/1/2024	12/31/2024	101	Flow	MGD	0.198	Monitor	Average Mo	0.216	Monitor	Daily Maximum
PA0070050	1/1/2025	1/31/2025	101	Flow	MGD	0.186	Monitor	Average Mo	0.214	Monitor	Daily Maximum
PA0070050	2/1/2025	2/28/2025	101	Flow	MGD	0.162	Monitor	Average Mo	0.176	Monitor	Daily Maximum
PA0070050	3/1/2025	3/31/2025	101	Flow	MGD	0.125	Monitor	Average Mo	0.148	Monitor	Daily Maximum
PA0070050	4/1/2025	4/30/2025	101	Flow	MGD	0.126	Monitor	Average Mo	0.182	Monitor	Daily Maximum
PA0070050	5/1/2025	5/31/2025	101	Flow	MGD	0.166	Monitor	Average Mo	0.212	Monitor	Daily Maximum
PA0070050	6/1/2025	6/30/2025	101	Flow	MGD	0.148	Monitor	Average Mo	0.191	Monitor	Daily Maximum
PA0070050	7/1/2025	7/31/2025	101	Flow	MGD	0.132	Monitor	Average Mo	0.162	Monitor	Daily Maximum
PA0070050	8/1/2025	8/31/2025	101	Flow	MGD	0.117	Monitor	Average Mo	0.149	Monitor	Daily Maximum
PA0070050	9/1/2025	9/30/2025	101	Flow	MGD	0.108	Monitor	Average Mo	0.136	Monitor	Daily Maximum
PA0070050	10/1/2025	10/31/2025	101	Flow	MGD	0.137	Monitor	Average Mo	0.222	Monitor	Daily Maximum
PA0070050	11/1/2025	11/30/2025	101	Flow	MGD	0.094	Monitor	Average Mo	0.231	Monitor	Daily Maximum
PA0070050	12/1/2025	12/31/2025	101	Flow	MGD	0.09	Monitor	Average Mo	0.112	Monitor	Daily Maximum
						0.199	Avg		0.235	Avg	
						0.281	Max		0.316	Max	
						0.210	Median		0.252	Median	

Because 1995 biological survey concluded the aquatic life criteria could be applied at confluence with UNT 01892 and Spring Creek (stream Code 1878, RMI 6.97):

StreamStats Report

Region ID:
Workspace ID:
Clicked Point (Latitude, Longitude):
Time:

PA
PA20251030180317336000
40.34805, -76.11405
2025-10-30 14:03:37 -0400



Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	66.97	percent	0	99
DRNAREA	Drainage Area	1.37	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	45	inches	35	50.4
ROCKDEP	Depth to Rock	5.2	feet	3.32	5.65
STRDEN	Stream Density	1.19	miles per square mile	0.51	3.1

Low-Flow Statistics Disclaimers [Low Flow Region 2]

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

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.639	ft ³ /s
30 Day 2 Year Low Flow	0.724	ft ³ /s
7 Day 10 Year Low Flow	0.386	ft ³ /s
30 Day 10 Year Low Flow	0.431	ft ³ /s
90 Day 10 Year Low Flow	0.496	ft ³ /s

Low-Flow Statistics Citations

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

Elevation 360'.

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

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USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.29.3
 StreamStats Services Version: 1.2.22
 NSS Services Version: 2.2.1

Low Flow Yield (LFY) = Q7-10 / Drainage Area = 0.386 / 1.37 = 0.28 cfs/sq.mi.

Statistic	Value	Unit
Mean Annual Flow	1.97	ft ³ /s
<i>Annual Flow Statistics Citations</i>		
Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p.		

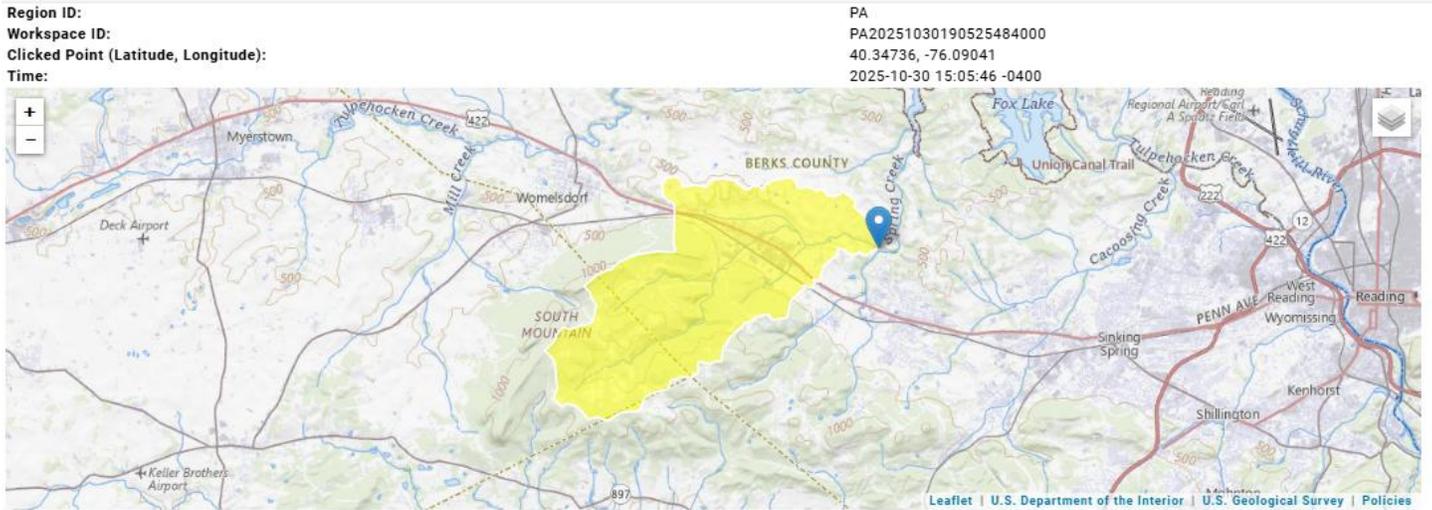
Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Base Flow 10 Year Recurrence Interval	1.2	ft ³ /s
Base Flow 25 Year Recurrence Interval	1.06	ft ³ /s
Base Flow 50 Year Recurrence Interval	0.976	ft ³ /s
<i>Base Flow Statistics Citations</i>		
Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p.		

General Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Harmonic Mean Streamflow adjusted for proportion of zero flow days	1.34	ft ³ /s
<i>General Flow Statistics Citations</i>		
Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p.		

downstream on Spring Creek (RMI 5.44).....for modelingjust before confluence of 1878 and Hospital Creek (1888), elevation = 320', lat/long approx. 40.347167 and -76.090275



Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	26.29	percent	0	99
DRNAREA	Drainage Area	11.7	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	45	inches	35	50.4
ROCKDEP	Depth to Rock	5	feet	3.32	5.65
STRDEN	Stream Density	1.22	miles per square mile	0.51	3.1

Low-Flow Statistics Flow Report [Low Flow Region 2]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	4.14	ft ³ /s	38	38
30 Day 2 Year Low Flow	4.91	ft ³ /s	33	33
7 Day 10 Year Low Flow	2.47	ft ³ /s	51	51
30 Day 10 Year Low Flow	2.88	ft ³ /s	46	46

Statistic	Value	Unit	SE	ASEp
Mean Annual Flow	18.3	ft ³ /s	12	12

Statistic	Value	Unit	SE	ASEp
Harmonic Mean Streamflow adjusted for proportion of zero flow days	7.67	ft ³ /s	38	38

General Flow Statistics Citations

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

Statistic	Value	Unit	SE	ASEp
Base Flow 10 Year Recurrence Interval	8.52	ft ³ /s	21	21

Application Version: 4.29.3
 StreamStats Services Version: 1.2.22
 NSS Services Version: 2.2.1

LFY = 2.47 / 11.7 = 0.21 cfs/sq.mi.



Discharge Information

Instructions **Discharge** Stream

Facility: Reading Alloy-lab pg results NPDES Permit No.: PA0070050 Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: nccvw+ stw

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
0.242	69	7						

Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank		1 if left blank		
			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	176								
	Chloride (PWS)	mg/L	32.3								
	Bromide	mg/L	< 0.12								
	Sulfate (PWS)	mg/L	14.9								
	Fluoride (PWS)	mg/L	1.26								
Group 2	Total Aluminum	µg/L	310								
	Total Antimony	µg/L	< 2								
	Total Arsenic	µg/L	< 1								
	Total Barium	µg/L	71								
	Total Beryllium	µg/L	< 1								
	Total Boron	µg/L	< 200								
	Total Cadmium	µg/L	< 0.1								
	Total Chromium (III)	µg/L	1.4								
	Hexavalent Chromium	µg/L	0.65								
	Total Cobalt	µg/L	< 0.3								
	Total Copper	mg/L	0.007								
	Free Cyanide	µg/L									
	Total Cyanide	µg/L	< 10								
	Dissolved Iron	µg/L	80								
	Total Iron	µg/L	300								
	Total Lead	µg/L	< 1								
	Total Manganese	µg/L	38								
	Total Mercury	µg/L	< 0.2								
	Total Nickel	µg/L	2.9								
	Total Phenols (Phenolics) (PWS)	µg/L	46								
Total Selenium	µg/L	< 1									
Total Silver	µg/L	< 0.4									
Total Thallium	µg/L	< 0.3									
Total Zinc	mg/L	0.02									
Total Molybdenum	µg/L	139									
Acrolein	µg/L	<									
Acrylamide	µg/L	<									
Acrylonitrile	µg/L	<									
Benzene	µg/L	<									
Bromoform	µg/L	<									

Group 3	Carbon Tetrachloride	µg/L	<																	
	Chlorobenzene	µg/L	<																	
	Chlorodibromomethane	µg/L	<																	
	Chloroethane	µg/L	<																	
	2-Chloroethyl Vinyl Ether	µg/L	<																	
	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	<																	
	Toluene	µg/L	<																	
1,2-trans-Dichloroethylene	µg/L	<																		
1,1,1-Trichloroethane	µg/L	<																		
1,1,2-Trichloroethane	µg/L	<																		
Trichloroethylene	µg/L	<																		
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)Anthracene	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	<																		



Stream / Surface Water Information

Reading Alloy-lab pg results, NPDES Permit No. PA0070050, Outfall 001

Instructions Discharge **Stream**

Receiving Surface Water Name: Spring 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	001878	6.97	360	1.37			Yes
End of Reach 1	001878	5.44	320	11.7			Yes

Q₇₋₁₀

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	6.97	0.28	0.386									100	7		
End of Reach 1	5.44	0.21	2.47												

Q_n

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	6.97														
End of Reach 1	5.44														



Model Results

Reading Alloy-lab pg results, NPDES Permit No. PA0070050, Outfall 001

Instructions

Results

RETURN TO INPUTS

SAVE AS PDF

PRINT

All

Inputs

Results

Limits

Hydrodynamics

Wasteload Allocations

AFC

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

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	1,523	
Total Antimony	0	0		0	1,100	1,100	2,234	
Total Arsenic	0	0		0	340	340	691	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	42,652	
Total Boron	0	0		0	8,100	8,100	16,452	
Total Cadmium	0	0		0	1.714	1.8	3.66	Chem Translator of 0.951 applied
Total Chromium (III)	0	0		0	497.492	1,574	3,198	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	33.1	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	193	
Total Copper	0	0		0	11.497	12.0	24.3	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	53.901	66.1	134	Chem Translator of 0.815 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	3.35	Chem Translator of 0.85 applied
Total Nickel	0	0		0	407.019	408	828	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	2.419	2.85	5.78	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	132	
Total Zinc	0	0		0	101.838	104	211	Chem Translator of 0.978 applied

CFC

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

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	447	
Total Arsenic	0	0		0	150	150	305	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	8,327	
Total Boron	0	0		0	1,600	1,600	3,250	
Total Cadmium	0	0		0	0.219	0.24	0.49	Chem Translator of 0.916 applied
Total Chromium (III)	0	0		0	64.714	75.2	153	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	21.1	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	38.6	
Total Copper	0	0		0	7.774	8.1	16.4	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	3,047	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.100	2.58	5.23	Chem Translator of 0.815 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	1.84	Chem Translator of 0.85 applied
Total Nickel	0	0		0	45.207	45.3	92.1	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	10.1	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	26.4	
Total Zinc	0	0		0	102.671	104	211	Chem Translator of 0.986 applied

THH

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

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	11.4	
Total Arsenic	0	0		0	10	10.0	20.3	
Total Barium	0	0		0	2,400	2,400	4,875	
Total Boron	0	0		0	3,100	3,100	6,296	
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	609
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	2,031
Total Mercury	0	0		0	0.050	0.05	0.1
Total Nickel	0	0		0	610	610	1,239
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	0.49
Total Zinc	0	0		0	N/A	N/A	N/A

CRL

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

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	

Recommended WQBELs & Monitoring Requirements

No. Samples/Month: **4**

Pollutants	Mass Limits		Concentration Limits			Units	Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX				
Total Aluminum	Report	Report	Report	Report	Report	µg/L	976	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	Report	Report	Report	Report	Report	mg/L	0.016	AFC	Discharge Conc > 10% WQBEL (no RP)
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	609	THH	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	mg/L	0.14	AFC	Discharge Conc > 10% WQBEL (no RP)

Other Pollutants without Limits or Monitoring

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

Pollutants	Governing WQBEL	Units	Comments
Total 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 Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	4,875	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	3,250	µg/L	Discharge Conc < TQL
Total Cadmium	0.49	µg/L	Discharge Conc < TQL
Total Chromium (III)	153	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	21.1	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	38.6	µg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Total Iron	3,047	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	5.23	µg/L	Discharge Conc < TQL
Total Manganese	2,031	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.1	µg/L	Discharge Conc < TQL
Total Nickel	92.1	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	10.1	µg/L	Discharge Conc < TQL
Total Silver	3.71	µg/L	Discharge Conc < TQL
Total Thallium	0.49	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS

Need to apply *human health* water quality criteria at overflow from Upper Pond to UNT 01892 so also determine Q7-10 and D.A. at that location for toxics modeling:

StreamStats Report

Region ID:
Workspace ID:
Clicked Point (Latitude, Longitude):
Time:

PA
PA20251030183406892000
40.33878, -76.12611
2025-10-30 14:34:27 -0400



Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	7.72	percent	0	99
DRNAREA	Drainage Area	0.39	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	45	inches	35	50.4
ROCKDEP	Depth to Rock	5	feet	3.32	5.65
STRDEN	Stream Density	1.66	miles per square mile	0.51	3.1

Low-Flow Statistics Disclaimers [Low Flow Region 2]

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

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0585	ft ³ /s
30 Day 2 Year Low Flow	0.0779	ft ³ /s
7 Day 10 Year Low Flow	0.0263	ft ³ /s
30 Day 10 Year Low Flow	0.0341	ft ³ /s

Mean Annual Flow 0.633 ft³/s

Harmonic Mean Streamflow adjusted for proportion of zero flow days 0.16 ft³/s

Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Base Flow 10 Year Recurrence Interval	0.316	ft ³ /s
Base Flow 25 Year Recurrence Interval	0.282	ft ³ /s
Base Flow 50 Year Recurrence Interval	0.263	ft ³ /s

Base Flow Statistics Citations

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

SGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

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Application Version: 4.29.3

StreamStats Services Version: 1.2.22

ISS Services Version: 2.2.1

$$\text{LFY} = \text{Q7-10 stream low flow} / \text{Drainage Area} = 0.03 \text{ cfs} / 0.4 \text{ sq.mi.}$$



Discharge Information

Instructions Discharge Stream

Facility: Reading Alloy NPDES Permit No.: PA0070050 Outfall No.: 101

Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: nccw

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
0.242	57	7						

Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank		1 if left blank		
			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	151								
	Chloride (PWS)	mg/L	27.3								
	Bromide	mg/L	< 0.12								
	Sulfate (PWS)	mg/L	10.7								
	Fluoride (PWS)	mg/L	6.14								
Group 2	Total Aluminum	µg/L	2200								
	Total Antimony	µg/L	< 0.3								
	Total Arsenic	µg/L	< 1								
	Total Barium	µg/L	51								
	Total Beryllium	µg/L	< 1								
	Total Boron	µg/L	< 200								
	Total Cadmium	µg/L	0.5								
	Total Chromium (III)	µg/L	16.2								
	Hexavalent Chromium	µg/L	3.93								
	Total Cobalt	µg/L	< 0.3								
	Total Copper	mg/L	0.037								
	Free Cyanide	µg/L									
	Total Cyanide	µg/L	< 10								
	Dissolved Iron	µg/L	80								
	Total Iron	µg/L	350								
	Total Lead	µg/L	< 1								
	Total Manganese	µg/L	58								
	Total Mercury	µg/L	< 0.2								
	Total Nickel	µg/L	3.3								
	Total Phenols (Phenolics) (PWS)	µg/L	159								
	Total Selenium	µg/L	< 1								
	Total Silver	µg/L	< 0.4								
	Total Thallium	µg/L	< 0.3								
Total Zinc	mg/L	0.029									
Total Molybdenum	µg/L	374									
Acrolein	µg/L	<									
Acrylamide	µg/L	<									
Acrylonitrile	µg/L	<									
Benzene	µg/L	<									
Bromoform	µg/L	<									



Stream / Surface Water Information

Reading Alloy, NPDES Permit No. PA0070050, Outfall 101

Instructions Discharge **Stream**

Receiving Surface Water Name: UNT spring 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	001892	1.05	455	0.4			No
End of Reach 1	001892	0	360	1.37			No

Q₇₋₁₀

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	1.05	0.1										100	7		
End of Reach 1	0	0.28										100	7		

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	1.05														
End of Reach 1	0														

THH

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

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	6.2	
Total Arsenic	0	0		0	10	10.0	11.1	
Total Barium	0	0		0	2,400	2,400	2,656	
Total Boron	0	0		0	3,100	3,100	3,431	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	

Model Results

2/11/2026

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	332	
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	1,107	
Total Mercury	0	0		0	0.050	0.05	0.055	
Total Nickel	0	0		0	610	610	675	
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	0.27	
Total Zinc	0	0		0	N/A	N/A	N/A	

CRL

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

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	

Recommended WQBELs & Monitoring Requirements

No. Samples/Month:

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	332	THH	Discharge Conc > 10% WQBEL (no RP)

Other Pollutants without Limits or Monitoring

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

Pollutants	Governing WQBEL	Units	Comments
Total 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		µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	2,656	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	3,431	µg/L	Discharge Conc < TQL
Total Cadmium		µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)		µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium		µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt		µg/L	Discharge Conc < TQL
Total Copper		mg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Total Iron		µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead		µg/L	Discharge Conc < TQL
Total Manganese	1,107	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.055	µg/L	Discharge Conc < TQL
Total Nickel	675	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable

Model Results

2/11/2026

P

Total Selenium		µg/L	Discharge Conc < TQL
Total Silver		µg/L	Discharge Conc < TQL
Total Thallium	0.27	µg/L	Discharge Conc < TQL
Total Zinc		mg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS

PA0070050:	Avg. Upstream Temp (°F)*	Avg. Downstream Temp (°F)*	Change in Temp (°F)* (neg is decrease; positive is increase)
January	38.8	38.2	-0.6
February	39.8	39.3	-0.5
March	44.4	44.8	0.4
April	51.3	53.6	2.3
May	55.7	56.2	0.5
June	58.6	66.2	7.6
July	65.7	71.5	5.8
Aug	64.7	70.1	5.4
Sept	62.5	66.8	4.3
Oct	54.3	55.7	1.4
Nov	47.1	46.9	-0.2
Dec	40.7	39.4	-1.3
*source of data: Average Monthly Temperature on DMRs from 9/1/2022-9/30/2025			

**NPDES Permit Fact Sheet
Reading Alloys**

NPDES Permit No. PA0070050

Y	Z	AA	AB	AC
PA0070050:	Avg. Upstream Temp (°F)*	Avg. Downstream Temp (°F)*	wqc	
			for CWF streams	
			[25 Pa Code 93.7(a) Table 3]	
January	38.8	38.2	38	
February	39.8	39.3	38	
March	44.4	44.8	42	
April	51.3	53.6	50	wqc used in comparison is the avg of of the wqc for first 1/2 of month and wqc for second 1/2 of month, as per 93.7 regs
May	55.7	56.2	56	wqc used in comparison is the avg of of the wqc for first 1/2 of month and wqc for second 1/2 of month, as per 93.7 regs
June	58.6	66.2	62	wqc used in comparison is the avg of of the wqc for first 1/2 of month and wqc for second 1/2 of month, as per 93.7 regs
July	65.7	71.5	66	
Aug	64.7	70.1	66	wqc used in comparison is the avg of of the wqc for first 1/2 of month and wqc for second 1/2 of month, as per 93.7 regs
Sept	62.5	66.8	62	wqc used in comparison is the avg of of the wqc for first 1/2 of month and wqc for second 1/2 of month, as per 93.7 regs
Oct	54.3	55.7	52	wqc used in comparison is the avg of of the wqc for first 1/2 of month and wqc for second 1/2 of month, as per 93.7 regs
Nov	47.1	46.9	44	wqc used in comparison is the avg of of the wqc for first 1/2 of month and wqc for second 1/2 of month, as per 93.7 regs
Dec	40.7	39.4	40	
	*source of data: Average Monthly Temperature on DMRs from 9/1/2022-9/30/2025			

Facility: Reading Alloys						
Permit Number: PA0070050						
Stream Name: Spring Creek						
Analyst/Engineer: B.Boylan						
Stream Q7-10 (cfs): 0.4						
	Facility Flows¹				Stream Flows	
	Stream (Intake) (MGD)	External (Intake) (MGD)	Consumptive (Loss) (MGD)	Discharge (MGD)	Adj. Q7-10 Stream Flow (cfs)	Downstream ² Stream Flow (cfs)
Jan 1-31	0.231	0	0.0022	0.2288	1.3	1.3
Feb 1-29	0.223	0	0.0022	0.2208	1.4	1.4
Mar 1-31	0.198	0	0.0022	0.1958	2.8	2.8
Apr 1-15	0.217	0	0.0022	0.2148	3.7	3.7
Apr 16-30	0.217	0	0.0022	0.2148	3.7	3.7
May 1-15	0.223	0	0.0022	0.2208	2.0	2.0
May 16-30	0.223	0	0.0022	0.2208	2.0	2.0
Jun 1-15	0.222	0	0.0022	0.2198	1.2	1.2
Jun 16-30	0.222	0	0.0022	0.2198	1.2	1.2
Jul 1-31	0.205	0	0.0022	0.2028	0.7	0.7
Aug 1-15	0.178	0	0.0022	0.1758	0.6	0.6
Aug 16-31	0.178	0	0.0022	0.1758	0.6	0.6
Sep 1-15	0.18	0	0.0022	0.1778	0.4	0.4
Sep 16-30	0.18	0	0.0022	0.1778	0.4	0.4
Oct 1-15	0.227	0	0.0022	0.2248	0.5	0.5
Oct 16-31	0.227	0	0.0022	0.2248	0.5	0.5
Nov 1-15	0.254	0	0.0022	0.2518	0.6	0.6
Nov 16-30	0.254	0	0.0022	0.2518	0.6	0.6
Dec 1-31	0.236	0	0.0022	0.2338	1.0	1.0

¹ Facility flows are not required (and will not affect the permit limits) if all intake flow is from the receiving stream (Case 1), consumptive losses are small, and permit limits will be expressed as Million BTUs/day.

² Downstream Stream Flow includes the discharge flow.

Please forward all comments to Tom Starosta at 717-787-4317, tstarosta@state.pa.us.

Version 1.0 -- 08/01/2004 Reference: Implementation Guidance for Temperature Criteria, DEP-ID: 391-2000-017

NOTE: The user can only edit fields that are blue.

NOTE: MGD x 1.547 = cfs.

AD	AE	AF	AG	AM
	Avg.	Limits per		Limits per
	Downstrm	Thermal model Vsn 1,		Thermal model,
	Temp.	at confl w/Spring Crk*		Qh, Spring Crk**
Jan	38.2	42.4		50.9
Feb	39.3	43.9		53.5
Mar	44.8	53.6		75.4
Apr	53.6	59.2/65.2		85.5/91.5
May	56.2	61.0/63.0		75.0/77.0
Jun	66.2	66.3/72.8		87.0/101.8
Jul	71.5	67.9		73.0
Aug	70.1	68.0/68.1		72.9/77.8
Sep	66.8	64.6/63.6		68.3/67.3
Oct	55.7	57.4/53.4		60.6/56.6
Nov	46.9	50.6/46.6		54.5/50.5
Dec	39.4	43.3		49.6

Facility: Reading Alloys						
Permit Number: PA0070050						
Stream Name: Spring Creek						
Analyst/Engineer: B.Boylan						
Stream Q7-10 (cfs): 0.4						
	Facility Flows¹				Stream Flows	
	Stream (Intake) (MGD)	External (Intake) (MGD)	Consumptive (Loss) (MGD)	Discharge (MGD)	Adj. Q7-10 Stream Flow (cfs)	Downstream ² Stream Flow (cfs)
Jan 1-31	0.231	0	0	0.231	1.3	1.3
Feb 1-29	0.223	0	0	0.223	1.4	1.4
Mar 1-31	0.198	0	0	0.198	2.8	2.8
Apr 1-15	0.217	0	0	0.217	3.7	3.7
Apr 16-30	0.217	0	0	0.217	3.7	3.7
May 1-15	0.223	0	0	0.223	2.0	2.0
May 16-30	0.223	0	0	0.223	2.0	2.0
Jun 1-15	0.222	0	0	0.222	1.2	1.2
Jun 16-30	0.222	0	0	0.222	1.2	1.2
Jul 1-31	0.205	0	0	0.205	0.7	0.7
Aug 1-15	0.178	0	0	0.178	0.6	0.6
Aug 16-31	0.178	0	0	0.178	0.6	0.6
Sep 1-15	0.18	0	0	0.18	0.4	0.4
Sep 16-30	0.18	0	0	0.18	0.4	0.4
Oct 1-15	0.227	0	0	0.227	0.5	0.5
Oct 16-31	0.227	0	0	0.227	0.5	0.5
Nov 1-15	0.254	0	0	0.254	0.6	0.6
Nov 16-30	0.254	0	0	0.254	0.6	0.6
Dec 1-31	0.236	0	0	0.236	1.0	1.0

¹ Facility flows are not required (and will not affect the permit limits) if all intake flow is from the receiving stream (Case 1), consumptive losses are small, and permit limits will be expressed as Million BTUs/day.

² Downstream Stream Flow includes the discharge flow.

Please forward all comments to Tom Starosta at 717-787-4317, tstarosta@state.pa.us.

Version 1.0 -- 08/01/2004 Reference: Implementation Guidance for Temperature Criteria, DEP-ID: 391-2000-017

NOTE: The user can only edit fields that are blue.

NOTE: MGD x 1.547 = cfs.

	WWF Criteria	CWF Criteria	TSF Criteria	316 Criteria		Q7-10 Multipliers	Q7-10 Multipliers
	(°F)	(°F)	(°F)	(°F)		(Used in Analysis)	(Default - Info Only)
Jan 1-31	40	38	40	0		3.2	3.2
Feb 1-29	40	38	40	0		3.5	3.5
Mar 1-31	46	42	46	0		7	7
Apr 1-15	52	48	52	0		9.3	9.3
Apr 16-30	58	52	58	0		9.3	9.3
May 1-15	64	54	64	0		5.1	5.1
May 16-30	72	58	68	0		5.1	5.1
Jun 1-15	80	60	70	0		3	3
Jun 16-30	84	64	72	0		3	3
Jul 1-31	87	66	74	0		1.7	1.7
Aug 1-15	87	66	80	0		1.4	1.4
Aug 16-31	87	66	87	0		1.4	1.4
Sep 1-15	84	64	84	0		1.1	1.1
Sep 16-30	78	60	78	0		1.1	1.1
Oct 1-15	72	54	72	0		1.2	1.2
Oct 16-31	66	50	66	0		1.2	1.2
Nov 1-15	58	46	58	0		1.6	1.6
Nov 16-30	50	42	50	0		1.6	1.6
Dec 1-31	42	40	42	0		2.4	2.4

NOTES:
 WWF= Warm water fishes
 CWF= Cold water fishes
 TSF= Trout stocking

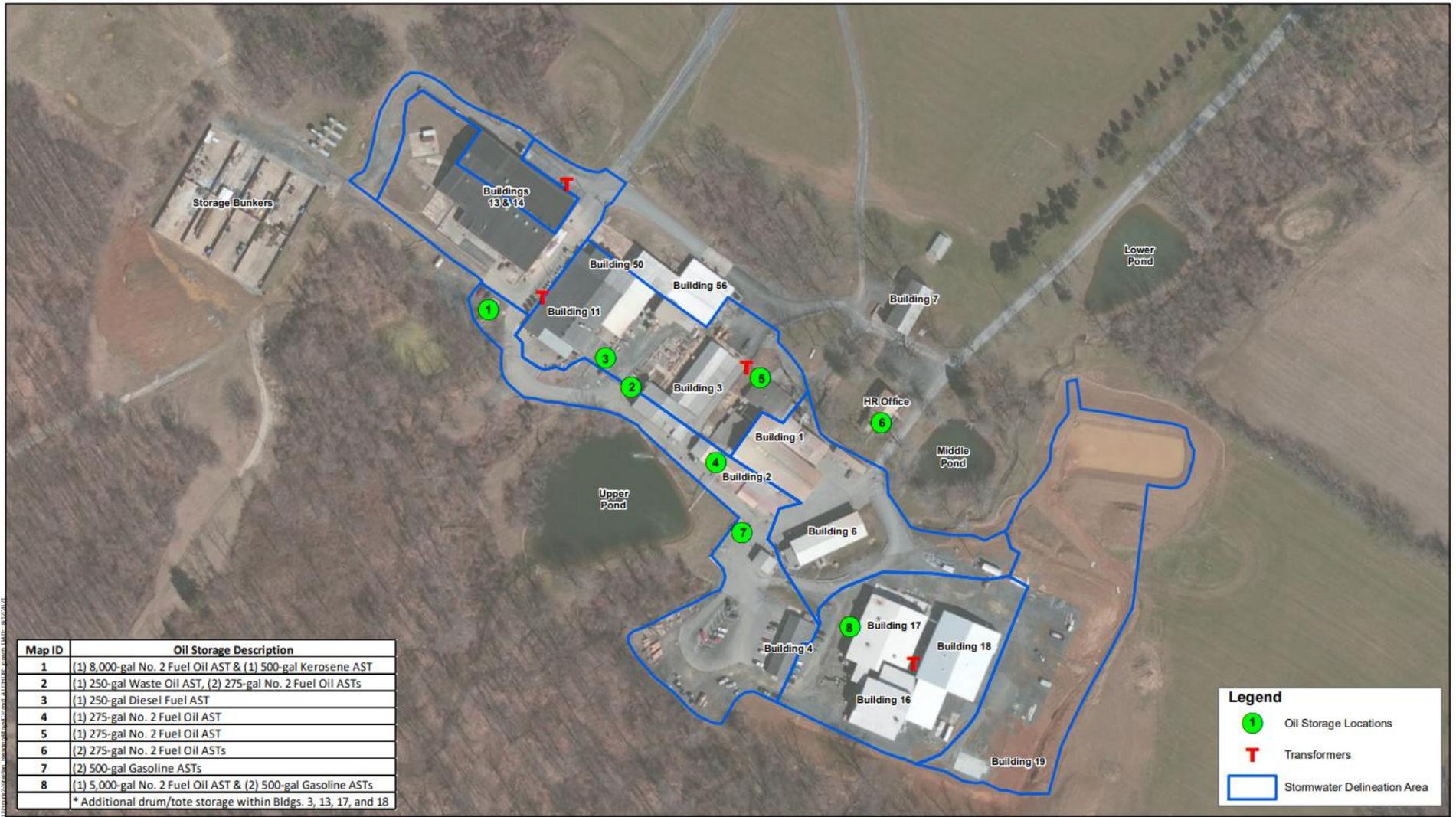
	CWF	Ambient Stream	Target Maximum	CWF	CWF	
	Ambient Stream	Ambient Stream	Stream Temp. ¹	Daily	Daily	at Discharge
	Temperature (°F)	Temperature (°F)	(°F)	WLA ²	WLA ³	Flow (MGD)
	(Default)	(Site-specific data)		(Million BTUs/day)	(°F)	
Jan 1-31	34	38.8	39.8	7	42.4	0.231
Feb 1-29	35	39.8	40.8	8	43.9	0.223
Mar 1-31	39	44.4	45.4	15	53.5	0.198
Apr 1-15	46	48	49	20	59.1	0.217
Apr 16-30	52	54	55	20	65.1	0.217
May 1-15	55	55	56	11	60.9	0.223
May 16-30	59	57	58	11	62.9	0.223
Jun 1-15	63	57.5	60	16	66.2	0.222
Jun 16-30	67	60.5	64	23	72.7	0.222
Jul 1-31	71	65.7	66.7	4	67.8	0.205
Aug 1-15	70	66	67	3	68.0	0.178
Aug 16-31	70	64	66	6	68.1	0.178
Sep 1-15	66	63	64	2	64.6	0.18
Sep 16-30	60	62	63	2	63.6	0.18
Oct 1-15	55	56	57	3	57.4	0.227
Oct 16-31	51	52	53	3	53.4	0.227
Nov 1-15	46	49	50	3	50.6	0.254
Nov 16-30	40	45	46	3	46.6	0.254
Dec 1-31	35	40.7	41.7	5	43.3	0.236

¹ This is the maximum of the CWF WQ criterion or the ambient temperature. The ambient temperature may be either the design (median) temperature for CWF, or the ambient stream temperature based on site-specific data entered by the user. A minimum of 1°F above ambient stream temperature is allocated.

² The WLA expressed in Million BTUs/day is valid for Case 1 scenarios, and disabled for Case 2 scenarios.

³ The WLA expressed in °F is valid only if the limit is tied to a daily discharge flow limit (may be used for Case 1 or Case 2). WLAs greater than 110°F are displayed as 110°F.

From renewal application.....

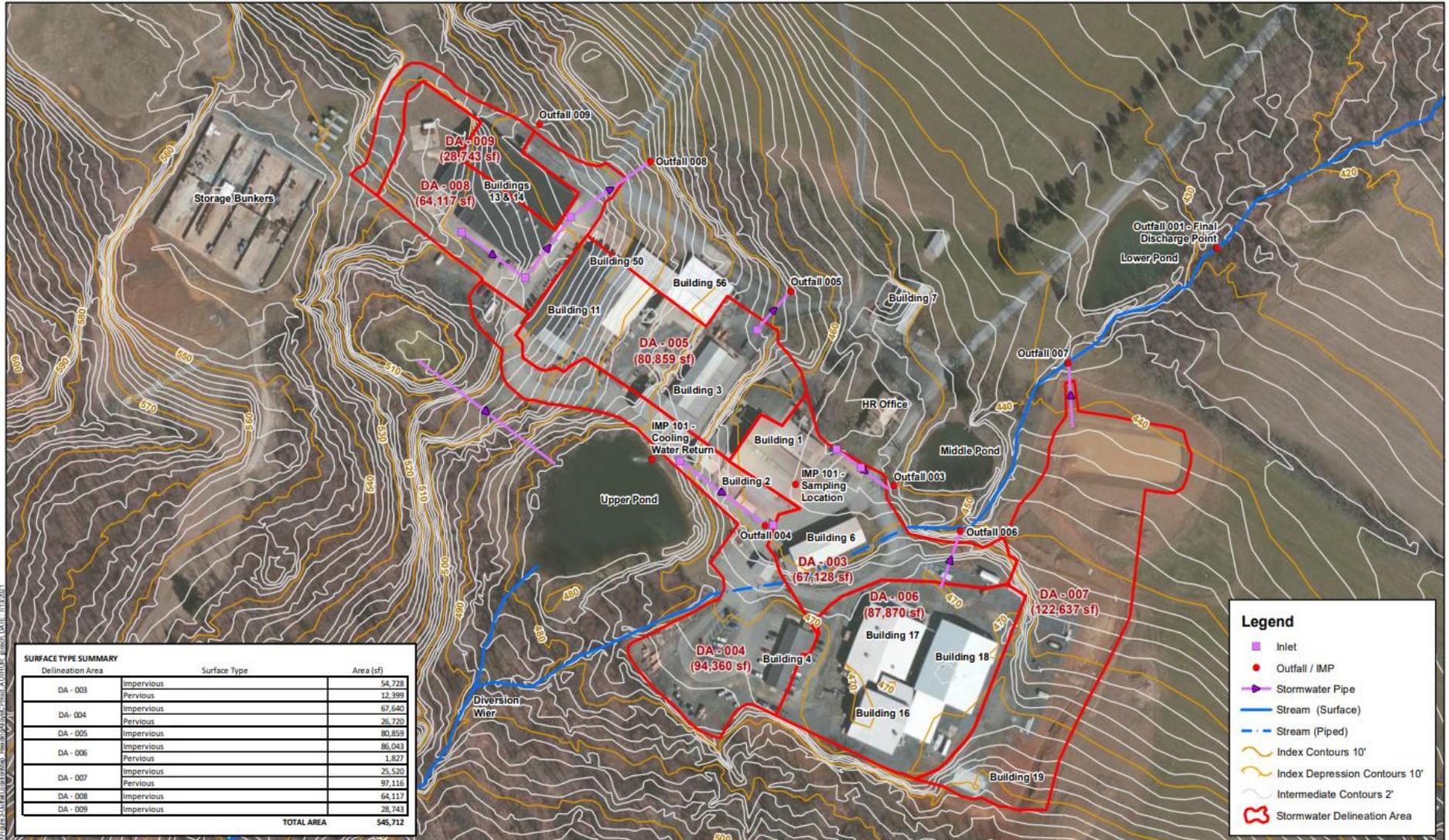


Map ID	Oil Storage Description
1	(1) 8,000-gal No. 2 Fuel Oil AST & (1) 500-gal Kerosene AST
2	(1) 250-gal Waste Oil AST, (2) 275-gal No. 2 Fuel Oil ASTs
3	(1) 250-gal Diesel Fuel AST
4	(1) 275-gal No. 2 Fuel Oil AST
5	(1) 275-gal No. 2 Fuel Oil AST
6	(2) 275-gal No. 2 Fuel Oil ASTs
7	(2) 500-gal Gasoline ASTs
8	(1) 5,000-gal No. 2 Fuel Oil AST & (2) 500-gal Gasoline ASTs
* Additional drum/tote storage within Bldgs. 3, 13, 17, and 18	

Legend

- 1 Oil Storage Locations
- T Transformers
- Stormwater Delineation Area

 1.800.825.1372 www.entecheng.com	KYMERA - READING ALLOYS INC. LOWER HEIDELBERG TWP, BERKS COUNTY, PENNSYLVANIA ICP SITE PLAN	STATEMENT OF ACCURACY Unless otherwise noted, locations of map features should be considered approximate. Data was incorporated as the best available information at the time of mapping, and may not be accurate, complete, or current. The mapped data does not constitute a legal survey, and discretion should be exercised when using the information for engineering design purposes. 0 150 300 Feet	N Lebanon Co. Berks Co. Lancaster Co.	DATE	PREPARED	CHECKED	PROJECT ENGINEER
				07/13/21	LRS	JRP	JPB
				PROJECT	SCALE	DRAWING NO.	
				5287.029	1" = 150'	FIGURE - 2	



SURFACE TYPE SUMMARY		
Delineation Area	Surface Type	Area (sf)
DA - 003	Impervious	54,728
	Pervious	12,399
DA - 004	Impervious	67,640
	Pervious	26,720
DA - 005	Impervious	80,859
	Pervious	86,043
DA - 006	Impervious	1,827
	Pervious	25,520
DA - 007	Impervious	97,116
	Pervious	64,117
DA - 008	Impervious	28,743
	Pervious	545,712
TOTAL AREA		545,712

Legend

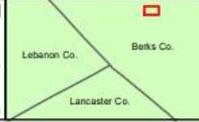
- Inlet
- Outfall / IMP
- Stormwater Pipe
- Stream (Surface)
- - - Stream (Piped)
- Index Contours 10'
- Index Depression Contours 10'
- Intermediate Contours 2'
- Stormwater Delineation Area



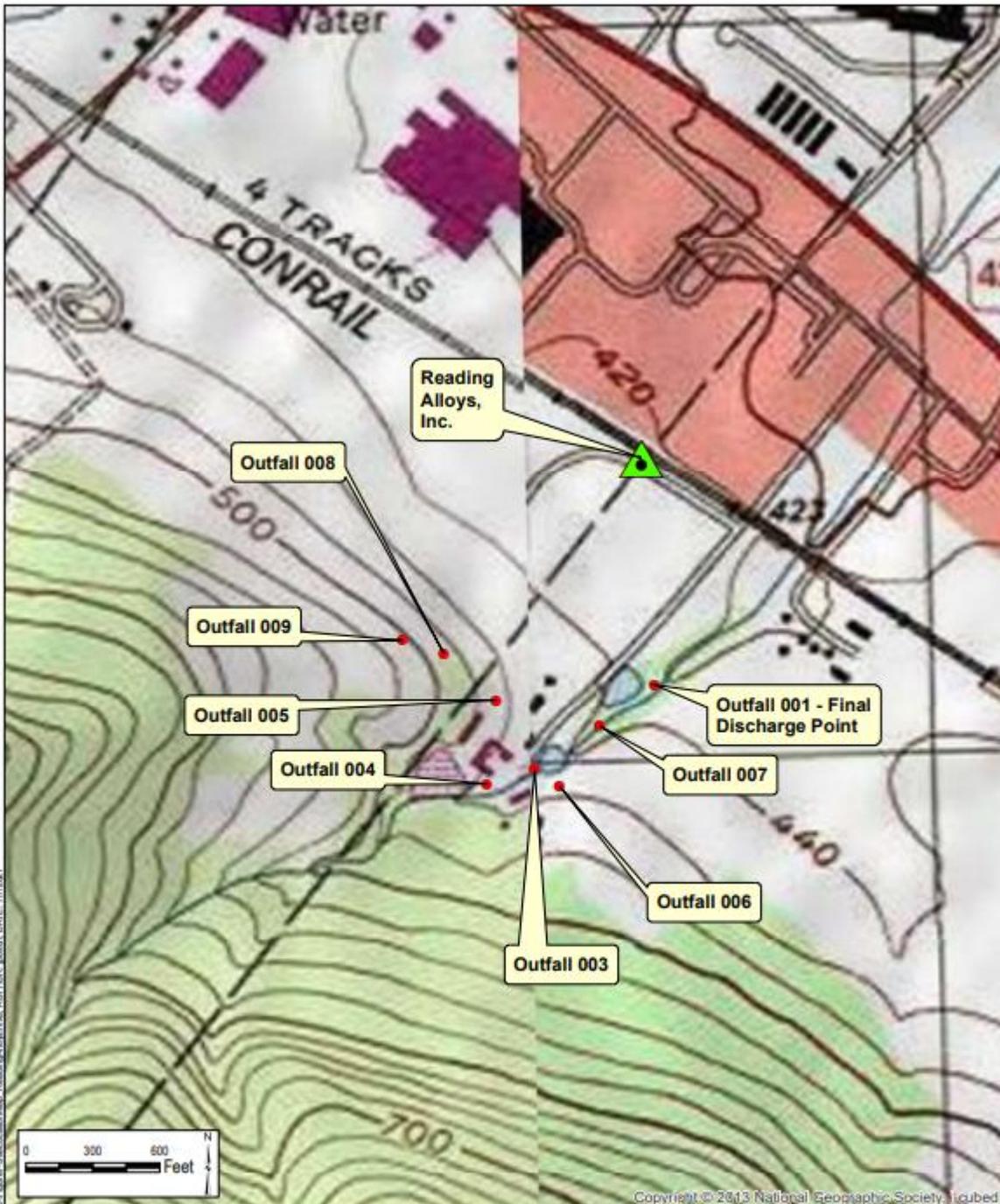
KYMERA - READING ALLOYS INC.
LOWER HEIDELBERG TWP, BERKS COUNTY, PENNSYLVANIA
ICP
OUTFALL LOCATION MAP

STATEMENT OF ACCURACY
Unless otherwise noted, locations of map features should be considered approximate. Data was incorporated as the best available information at the time of mapping, and may not be accurate, complete, or current. The mapped data does not constitute a legal survey, and discretion should be exercised when using the information for engineering design purposes.

0 150 300 Feet



DATE	PREPARED	CHECKED	PROJECT ENGINEER
07/13/21	LRS	JRP	JPB
PROJECT	SCALE	DRAWING NO.	
5287.029	1" = 150'	FIGURE - 3	



FILE: H:\0005281\02006-05\NCP\Drawings\Site\ICP\ICP_Site_Location_Map.dwg; AUTHOR: jacob; DATE: 7/7/2011

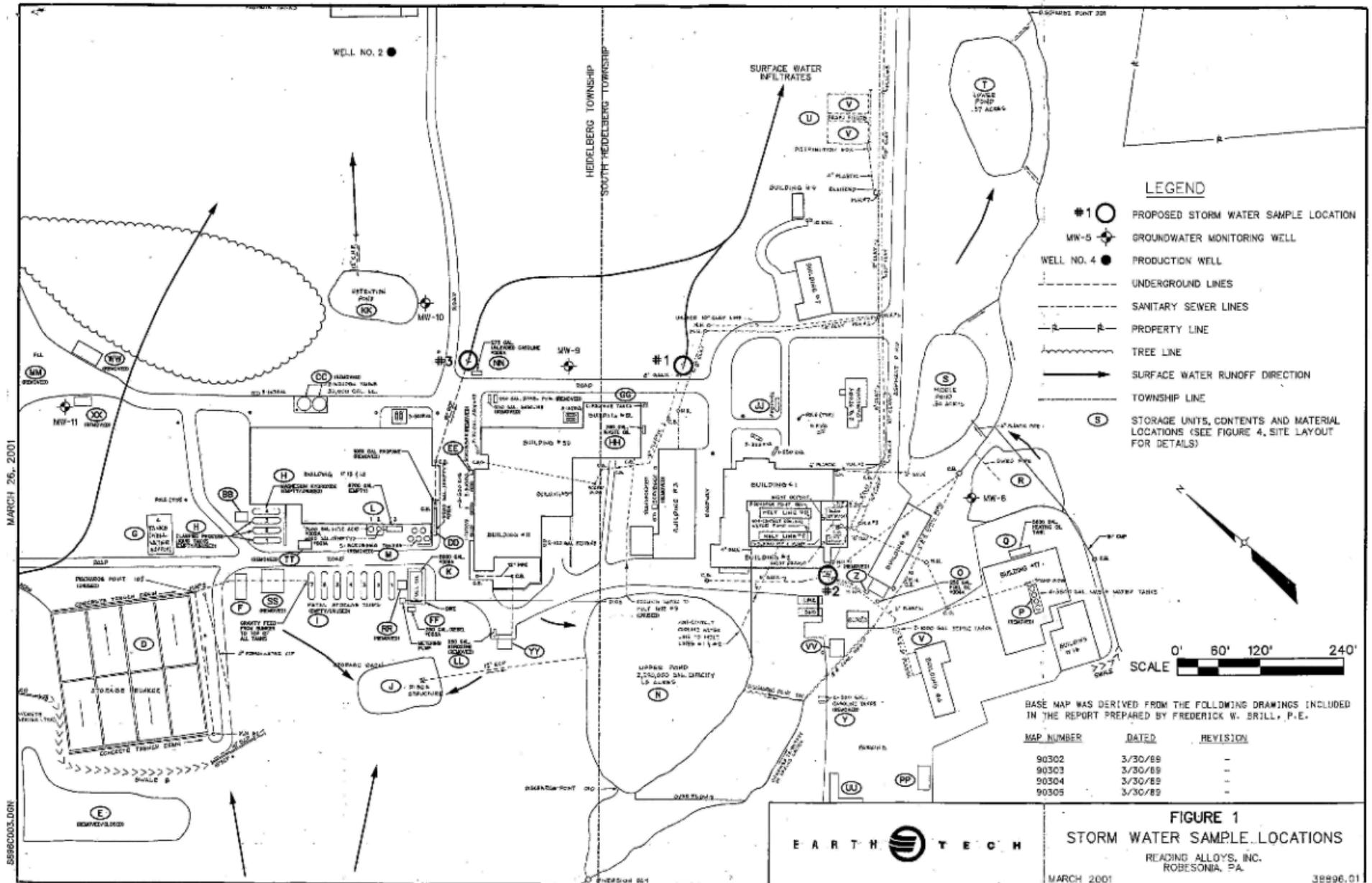
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READING ALLOYS, INC.
SOUTH HEIDELBERG TWP, BERKS COUNTY, PA
ICP
SITE LOCATION MAP

	DATE	PREPARED	CHECKED	PROJECT ENGINEER
	07/07/21	JRP	JRP	JPB
PROJECT	SCALE	DRAWING NO.		
5287.029	1" = 600'	FIGURE - 1		

From OnBase, 2020 (drawing dated March 2001):



WATER QUALITY MANAGEMENT PROGRAM
WATER QUALITY PROTECTION REPORT
(Effect of Discharges on Receiving Waters)

PROJECT DESCRIPTION:

New Discharge Change
 Renewal Preliminary

A. Application/Permit No. **PA0070050**

B. Application, Case Name or Permittee **Reading Alloys, Inc**
Municipality **Heidelberg Township** County **Berks**

C. Type Waste Sewage Design Year
SIC **3313** Industrial Waste Wastewater Flow **0.242**

D. USGS-Q **Womelsdorf** Latitude **40°20'18"** Longitude **76°07'35"**
File Code **1636** Inches 'N' **16.1** Inches 'W' **0.2**

WATER USES AND CRITERIA:

E. Receiving Waters: **UNT to Spring Creek (POFU at confluence to Spring Creek)**

Stream Code **01892**; RMI **0.95** mi.; Sub-basin **3-C**
Drainage Area **10.4** sq. mi.; Flow **4.7** cfs: (see attached report)

Water Uses Protected: List **F** Exceptions to Specific Criteria:
 CWF (Chapter 93) None
 Dry Stream Add [redacted]
 Impoundment Delete [redacted]
 Other

F. Secondary Waters: **Spring Creek**

Stream Code [redacted]; RMI [redacted] mi.; Sub-basin [redacted]
Drainage Area [redacted] sq. mi.; Flow [redacted] cfs:

Water Uses Protected: List [redacted] Exceptions to Specific Criteria:
 [redacted] (Chapter 93) None
 Dry Stream Add [redacted]
 Impoundment Delete [redacted]
 Other

APPROVALS

G. Reviewer/Permit Engineer _____ Date _____
Hydrogeologist/WQ _____ Date _____
Aquatic Biologist/WQ _____ Date _____

See next page for excerpts from **1/6/2011 DEP Protection Report....**

► **PROTECTION REPORT**
UNT TO SPRING CREEK, 01892
1/6/2011

BYRON DAVIS

...According to an Aquatic Biological Investigation conducted by the Department, the receiving stream, a small UNT to Spring Creek, has been severely altered by the Reading Alloy facility and by property owners downstream of their facility. The UNT is diverted to a pond (upper pond) constructed by Reading Alloy. Water is extracted from this pond, used as noncontact cooling water by Reading alloy and returned to the upper pond (monitoring point 101, formerly outfall 001). The overflow from the upper pond flows through a pipe to a second (middle) pond. In low flow periods, all the flow goes through the middle pond. The middle pond then flows to a third (lower) pond. The overflow (outfall 001 formerly monitoring point 201) from the lower pond flows to the UNT. The UNT flows through a wooded area for about 300 feet and then flows through an underground pipe under railroad tracks for about 1700 feet to a pasture to Spring Creek. The report concludes that these alterations to the UNT to Spring Creek have made the Chapter 93.3 designation not attainable and the permit limits should be designed to protect Spring Creek. A temperature evaluation was made at the confluence of Spring Creek and the UNT of Spring Creek for Reading Alloys discharge. The evaluation revealed temperature criteria are not required (See Thermal Limits).*

As shown on the water flow schematic, the outfalls and monitoring points are as follows:

1. Outfall 001 (formerly monitoring point 201) is the sampling point located on the lower pond just prior to the UNT of Spring Creek below the discharge from all three ponds located on the property. This is a sampling point for temperature.

2. Monitoring point 101 (formerly Outfall 001) is the sampling point for the discharge of non-contact cooling water from thermite lines 1 and 2.

3. Outfalls 003, 004 & 005 are storm water discharges.

Outfall 002 was the sampling point for the discharge from thermite line 3. This outfall was removed previously because this production line was closed.....

SUMMARY OF RECOMMENDED LIMITS...

Outfall 001 (formerly MP 201)

Discharge Parameter	DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS	
	Mass Units (lbs/day)		Concentrations (mg/l)			Minimum Monitoring Frequency	Required Sample Type
	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily	Inst. Maximum		
pH	XXX	XXX	From 6.0 to 9.0 inclusive			1/day	Grab
Temperature	XXX	XXX	Monitor & Report	XXX	XXX	1/day	"i-s"

Monitoring Point 101 (formerly Outfall 001)

Discharge Parameter	DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS	
	Mass Units (lbs/day)		Concentrations (mg/l)			Minimum Monitoring Frequency	Required Sample Type
	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily	Inst. Maximum		
Flow (MGD)	Monitor & Report	Monitor & Report	XXX	XXX	XXX	Continuous	Measured
pH	XXX	XXX	From 6.0 to 9.0 inclusive			1/day	Grab

*It appears the thermal evaluation assumed a higher Q7-10 and higher Drainage Area than the current Fact Sheet. Gage correlation was used to estimate the Q7-10 and LFY: USGS gage 1470779 on Tulpehocken Creek located near the Blue Marsh dam.



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

Permittee Name: Reading Alloys LLC Permit No.: PA0070050

Pollutant(s) identified by DEP that may require WQBELs: Total Aluminum, Total Cadmium, 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.
Reading Alloys, LLC is a manufacturer of aluminum containing master alloys and high purity copper powders. This manufacturing process is suspected to account for the increased pollutants in the process wastewater discharge. The facility does manufacture or utilize cadmium. The source of cadmium is unknown.

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.
Reading Alloys, LLC has proposed to collect three (3) additional samples at Outfall 001 for nine (9) parameters outlined in PADEP's modeling exercise. These samples will be collected as 24-hour composite samples, spaced one week apart, during periods of normal operation at the facility.

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.

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

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