pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0218138**
Facility Type	**Non-Municipal**	APS ID	**1040430**
Major / Minor	**Minor**	Authorization ID	**1357153**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Armstrong County Industrial Development Authority**	Facility Name	**Armstrong County Industrial Development Authority STP**
Applicant Address	402 East Market Street Kittanning, PA 16201-1409	Facility Address	374 Bable Road Freeport, PA 16229
Applicant Contact	Justin Nolder, Business Manager (jrnolder@co.armstrong.pa.us)	Facility Contact	Justin Nolder, Business Manager (jrnolder@co.armstrong.pa.us)
Applicant Phone	(724) 548-1500	Facility Phone	(724) 548-1500
Client ID	132969	Site ID	518770
SIC Code	4952	Municipality	North Buffalo Township
SIC Description	Trans. & Utilities - Sewerage Systems	County	Armstrong
Date Application Received	June 3, 2021	EPA Waived?	Yes
Date Application Accepted	June 9, 2021	If No, Reason	-

Purpose of Application: Renewal of an existing NPDES Permit for an existing discharge of treated sanitary wastewater.

Summary of Review

Act 14 - Proof of Notification was submitted and received.

A Part II Water Quality Management permit is not required at this time.

The applicant should be able to meet the limits of this permit, which will protect the uses of the receiving stream.

I. OTHER REQUIREMENTS:
- A. Stormwater into Sewers
- B. Right of Way
- C. Solids Handling
- D. Public Sewerage Availability
- E. Batch Discharge
- F. Little Assimilative Capacity

SPECIAL CONDITIONS:
- II. Solids Management

There are no open violations in efacts associated with the subject Client ID (132969) as of 2/21/2024.

Approve	Deny	Signatures	Date
X		Stephen A. McCauley Stephen A. McCauley, E.I.T. / Environmental Engineering Specialist	2/21/2024
X		 *Vacant* / Environmental Engineer Manager	Okay to Draft JCD 2/26/2024

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.4
Latitude	40º 45' 29.84"	Longitude	-79º 36' 42.74"
Quad Name	-	Quad Code	-
Wastewater Description:	Sewage Effluent		
Receiving Waters	Nicholson Run (WWF)	Stream Code	46169
NHD Com ID	123860299	RMI	3.0
Drainage Area	2.62	Yield (cfs/mi^2)	0.047
Q_{7-10} Flow (cfs)	0.123	Q_{7-10} Basis	calculated
Elevation (ft)	1026	Slope (ft/ft)	0.01559
Watershed No.	17-E	Chapter 93 Class.	WWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	-		
Source(s) of Impairment	-		
TMDL Status	-	Name	-

Background/Ambient Data		Data Source
pH (SU)	-	-
Temperature (°F)	-	-
Hardness (mg/L)	-	-
Other:	-	-

Nearest Downstream Public Water Supply Intake	Buffalo Township Municipal Water Authority - Freeport		
PWS Waters	Allegheny River	Flow at Intake (cfs)	2,576
PWS RMI	30.0	Distance from Outfall (mi)	8.0

Sludge use and disposal description and location(s): Sludge is hauled to an approved landfill.

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.

Narrative: This Fact Sheet details the determination of draft NPDES permit limits for an existing discharge of 0.4 MGD of treated sewage from an existing non-municipal STP in North Buffalo Township, Armstrong County.

Permitted treatment consists of: An influent pump station, mechanical screen, SBR treatment, and ultraviolet (UV) light disinfection. Sludge is pumped to the sludge holding tank, followed by the belt filter press.
(WQM Permit no. 0399404)

1. Streamflow:

The yieldrate for the receiving stream at the Outfall was calculated from the Q_{7-10} low flow and the drainage area of the nearest stream with a gage station:

Buffalo Creek near Freeport, PA - USGS Gage no. 03049000 (1976-1996):

Q_{7-10}:	6.37	cfs	from StreamStats
Drainage Area:	137	sq. mi.	from StreamStats
Yieldrate:	0.047	cfsm	calculated

Buffalo Creek at Outfall 001:

Yieldrate:	0.047	cfsm	calculated above
Drainage Area:	2.62	sq. mi.	from StreamStats
% of stream allocated:	100%	Basis:	No nearby discharges
Q_{7-10}:	0.123	cfs	

2. Wasteflow:

Maximum discharge: 0.4 MGD = 0.61 cfs

Runoff flow period: 24 hours Basis: Runoff flow for an SBR

There is less than 3 parts stream flow (Q7-10) to 1 part effluent (design flow) at the discharge point. However, since this is an existing discharge, the more stringent treatment requirements cannot be achieved, and the receiving stream is not impaired by the discharge, the treatment requirements in document number 391-2000-014, titled, "Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers", dated April 12, 2008, will not be implemented in this NPDES Permit renewal.

Flow will be required to be monitored as authorized under Chapter 92a.61, and as recommended in the SOP.

3. Parameters:

The following parameters were evaluated: pH, Total Suspended Solids, Fecal Coliform, Phosphorus, NH_3-N, $CBOD_5$, Dissolved Oxygen, and Disinfection.

a. pH

Between 6.0 and 9.0 at all times

Basis: Application of Chapter 93.7 technology-based limits

The measurement frequency was previously set to 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001), which will be retained.

b. Total Suspended Solids

Limits are 30.0 mg/l as a monthly average and 60.0 mg/l as an instantaneous maximum.

Basis: Application of Chapter 92a47 technology-based limits.

c. Fecal Coliform

05/01 - 09/30: 200/100ml (monthly average geometric mean)
1,000/100ml (instantaneous maximum)

10/01 - 04/30: 2,000/100ml (monthly average geometric mean)
10,000/100ml (instantaneous maximum)

Basis: Application of Chapter 92a47 technology-based limits

d. E. Coli

Monitoring was added for E. Coli at a frequency of 1/quarter.

Basis: Application of Chapter 92a.61 as recommended by the SOP for flows greater than 0.05 MGD and less than 1.0 MGD.

e. Total Phosphorus

The previous monitoring for Total Phosphorus will be retained in accordance with the SOP, based on Chapter 92a.61.

f. Total Nitrogen

The previous monitoring for Total Nitrogen will be retained in accordance with the SOP, based on Chapter 92a.61.

g. Ammonia-Nitrogen (NH_3-N)

Median discharge pH to be used: 7.5 Standard Units (S.U.)

Basis: Average pH value from DMR summary

Discharge temperature: 25°C (default value used in the absence of data)

Median stream pH to be used: 7.0 Standard Units (S.U.)

Basis: default value used in the absence of data

Stream Temperature: 25˚C (default value used for WWF modeling)

Background NH_3-N concentration: 0.1 mg/l

Basis: Default value.

Calculated NH_3-N Summer limits: 1.4 mg/l (monthly average)
2.8 mg/l (instantaneous maximum)

Calculated NH_3-N Winter limits: 4.2 mg/l (monthly average)
8.4 mg/l (instantaneous maximum)

Result: WQ modeling resulted in the calculated summer limits above (see Attachment 1), which are more restrictive than in the previous NPDES Permit. The winter limits are calculated as three times the summer limits. Since the new limits are attainable, they will be used with this renewal.

h. $CBOD_5$

Median discharge pH to be used: 7.5 Standard Units (S.U.)

Basis: Average pH value from DMR summary

Discharge temperature: 25°C (default value used in the absence of data)

Median stream pH to be used: 7.0 Standard Units (S.U.)

Basis: default value used in the absence of data

Stream Temperature: 25˚C (default value used for WWF modeling)

Background $CBOD_5$ concentration: 2.0 mg/l

Basis: Default value

Calculated $CBOD_5$ Summer limits: 25.0 mg/l (monthly average)
50.0 mg/l (instantaneous maximum)

Result: WQ modeling resulted in the calculated limits above (see Attachment 1), which are the same as the previous NPDES Permit and will be retained.

i. Dissolved Oxygen (DO)

A Dissolved Oxygen technology-based minimum of 5.0 mg/l is recommended by the WQ Model (see Attachment 1), and the SOP, based on Chapter 93.7, under the authority of Chapter 92a.61. Since the Dissolved Oxygen minimum of 5.0 mg/l is the same as in the previous permit, it will be retained with this renewal.

The measurement frequency was previously set to 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001), which will be retained.

j. Disinfection

☒ Ultraviolet (UV) light monitoring

☐ Total Residual Chlorine (TRC) limits: mg/l (monthly average)
mg/l (instantaneous maximum)

Basis: UV Transmittance (%) monitoring will be retained with this renewal.

The measurement frequency will remain as 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001).

4. Industrial/Commercial users:

Business Name	Business Type	Average Flow (gpd)
Sloan Brothers	Lubrication System	200
AP Services	Gasket Manufacturing	700
FLIR Systems	Military Applications	500

5. Reasonable Potential Analysis:

A Reasonable Potential Analysis was performed in accordance with State practices for Outfall 001 by the Department's Toxics Management Spreadsheet (see Attachment 2).

Result: The discharge concentrations for the following parameters were found to be greater than 10% of the calculated WQBELs:

Parameter	Discharge Conc. (mg/l)	WQBEL (mg/l)	%WQBEL
Total Copper	<0.02	0.011	>50%
Total Lead	<0.02	0.004	>50%
Total Zinc	<0.02	0.12	>10%

Per the SOP, a survey letter (see Attachment 3) was sent via email on March 29, 2022 to provide the Permittee a chance to collect additional samples for the parameters above using the target QLs. A response email was received on January 26, 2024 (see Attachment 3) with the required sampling.

The Department's Toxics Management Spreadsheet was revised with the new sampling (see Attachment 4) and the following parameters were found to be greater than 10% of the calculated WQBELs:

Parameter	Discharge Conc. (mg/l)	WQBEL (mg/l)	%WQBEL
Total Copper	0.021	0.011	>50%
Total Zinc	<0.02	0.12	>10%

Per the SOP, since the maximum discharge concentration for Total Copper was greater than 50% of the calculated WQBEL, a new limit will be added with a three year compliance schedule.

Also, per the SOP, since the maximum discharge concentration for Total Zinc was greater than 10% of the calculated WQBEL, 1/quarter monitoring will be set with the NPDES Permit renewal.

6. Reasonable Potential for Downstream Public Water Supply (PWS):

The Reasonable Potential Analysis performed above does not calculate limits for parameters that are based on PWS criteria (TDS, Chloride, Bromide, and Sulfate). Since the sample data was provided, mass-balance calculations were performed (see below).

Nearest Downstream potable water supply (PWS): Buffalo Township Municipal Water Authority - Freeport
Distance downstream from the point of discharge: 8.0 miles (approximate)

Parameter	PWS Criteria (mg/l)	Discharge Maximum (mg/l)
TDS	500	434
Chloride	250	231
Bromide	1.0	1.39
Sulfate	250	52.3

Result: Since none of the parameters are discharged at a concentration significantly greater than the criteria at the PWS, and the PWS is located on the Allegheny River with a lot of available dilution, no limits or monitoring are necessary.

7. Anti-Backsliding:

Since all the permit limits in this renewal are the same or more restrictive than the previous NPDES Permit, anti-backsliding is not applicable.

8. Attachment List:

Attachment 1 - WQ Modeling Printouts

Attachment 2 - Toxics Management Spreadsheet - Pre-Survey

Attachment 3 - Pre-Draft Survey Letter and Responses

Attachment 4 - Toxics Management Spreadsheet - Post-Survey

(The Attachments above can be found at the end of this document)

Compliance History

DMR Data for Outfall 001 (from January 1, 2023 to December 31, 2023)

Parameter	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23
Flow (MGD) Average Monthly	0.0198	0.0216	0.0189	0.0228	0.00254	0.0193	0.0146	0.02267	0.0224	0.0274	0.00195	0.0506
pH (S.U.) Minimum	7.41	7.19	7.58	7.91	7.60	7.27	7.65	7.2	7.2	7.04	6.79	7.09
pH (S.U.) Maximum	7.51	7.93	8.05	8.1	8.0	7.98	8.22	8.0	8.0	7.27	7.35	7.24
DO (mg/L) Minimum	9.86	7.2	5.96	8.6	8.9	8.46	8.7	8.09	10.58	10.74	11.28	11.65
CBOD5 (lbs/day) Average Monthly	< 0.7	< 3.29	< 0.2	< 0.30	< 0.05	< 0.50	< 0.30	< 0.50	< 0.60	< 0.7	< 0.05	< 2.03
CBOD5 (lbs/day) Weekly Average	< 0.7	6.00	< 0.2	< 0.40	< 0.07	< 0.80	< 0.40	< 0.80	< 1.0	1.3	< 0.05	< 6.6
CBOD5 (mg/L) Average Monthly	< 3.1	< 9.7	< 3.0	< 3.0	< 3.0	< 3.0	< 4.1	< 3.3	< 3.0	< 3.3	< 3.0	< 3.0
CBOD5 (mg/L) Weekly Average	3.2	< 36.7	< 3.0	< 3.0	< 3.0	< 3.0	7.4	4.6	< 3.0	4.2	3.0	< 3.0
TSS (lbs/day) Average Monthly	< 0.7	< 1.0	< 0.2	< 0.30	< 0.05	< 0.50	< 0.30	< 0.60	< 0.60	< 0.70	< 0.05	< 2.0
TSS (lbs/day) Weekly Average	< 0.7	1.5	< 0.2	< 0.40	< 0.07	< 0.80	< 0.40	< 0.80	< 1.0	< 0.90	< 0.05	< 6.6
TSS (mg/L) Average Monthly	< 3.3	4.2	< 3.6	< 3.0	< 3.0	< 3.2	< 3.0	< 3.8	< 3.0	< 3.0	< 3.0	< 3.0
TSS (mg/L) Weekly Average	4.0	9.0	6.0	< 3.0	< 3.0	< 3.0	< 3.0	6.0	3.0	3.0	3.0	< 3.0
Fecal Coliform (CFU/100 ml) Geometric Mean	< 1.0	< 1.0	< 3.0	< 1.0	< 6.0	< 9.0	< 4.0	< 11.00	< 5.0	< 6.0	5.0	14.0
UV Transmittance (%) Average Monthly	0.4	0.40	0.4	0.40	0.40	0.3	0.30	0.30	0.30	0.30	0.3	0.30
UV Transmittance (%) Weekly Average	0.4	0.40	0.4	0.40	0.40	0.3	0.30	0.30	0.30	0.30	0.3	0.30
Ammonia (lbs/day) Average Monthly	< 0.1	< 1.7	< 0.006	< 0.01	< 0.004	< 0.02	< 0.01	< 0.02	< 0.02	< 1.1	< 0.002	< 5.4
Ammonia (lbs/day) Weekly Average	0.2	3.3	< 0.006	< 0.01	0.008	0.03	< 0.01	0.04	0.04	0.07	0.003	26.9
Ammonia (mg/L) Average Monthly	< 0.8	< 4.1	< 4.5	< 1.6	< 0.30	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 2.7
Ammonia (mg/L) Daily Maximum			13.1	5.1	0.71	0.18	0.12	0.22				
Ammonia (mg/L) Weekly Average	2.0	20.2							0.20	0.3	0.2	2.7

Proposed Effluent Limitations and Monitoring Requirements

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

Outfall 001, Effective Period: Permit Effective Date through March 31, 2027.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
CBOD5	83.4	125.1	XXX	25.0	37.5	50	1/week	8-Hr Composite
TSS	100.0	151.1	XXX	30.0	45.0	60	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
UV Transmittance (%)	XXX	XXX	XXX	Report	Report	XXX	1/day	Measured
Total Nitrogen	XXX	XXX	XXX	XXX	Report Annl Avg	XXX	1/year	8-Hr Composite
Ammonia Nov 1 - Apr 30	14.0	21.0	XXX	4.2	6.3	8.4	1/week	8-Hr Composite
Ammonia May 1 - Oct 31	4.6	7.0	XXX	1.4	2.1	2.8	1/week	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	XXX	Report Annl Avg	XXX	1/year	8-Hr Composite
Total Copper	Report	Report	XXX	Report	Report	XXX	1/week	8-Hr Composite

Outfall 001 , Continued (from Permit Effective Date through March 31, 2027)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Zinc	Report Avg Qrtly	Report Daily Max	XXX	Report Avg Qrtly	Report Daily Max	XXX	1/quarter	8-Hr Composite

Compliance Sampling Location: at Outfall 001, after ultraviolet (UV) light disinfection.

Flow is monitor only based on Chapter 92a.61. The limits for pH and Dissolved Oxygen are technology-based on Chapter 93.7. The limits for $CBOD_5$, Total Suspended Solids, and Fecal Coliform are technology based on Chapter 92a.47. Monitoring for E. Coli, UV Transmittance, Total Nitrogen, Total Phosphorus, Total Copper, and Total Zinc is based on Chapter 92a.61. The limits for Ammonia-Nitrogen are water quality-based on Chapter 93.7.

Proposed Effluent Limitations and Monitoring Requirements

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

Outfall 001, Effective Period: April 1, 2027 through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
CBOD5	83.4	125.1	XXX	25.0	37.5	50	1/week	8-Hr Composite
TSS	100.0	151.1	XXX	30.0	45.0	60	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
UV Transmittance (%)	XXX	XXX	XXX	Report	Report	XXX	1/day	Measured
Total Nitrogen	XXX	XXX	XXX	XXX	Report Annl Avg	XXX	1/year	8-Hr Composite
Ammonia Nov 1 - Apr 30	14.0	21.0	XXX	4.2	6.3	8.4	1/week	8-Hr Composite
Ammonia May 1 - Oct 31	4.6	7.0	XXX	1.4	2.1	2.8	1/week	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	XXX	Report Annl Avg	XXX	1/year	8-Hr Composite
Total Copper	0.036	0.054	XXX	0.011	0.016	0.022	1/week	8-Hr Composite

Outfall 001 , Continued (from April 1, 2027 through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Zinc	Report Avg Qrtly	Report Daily Max	XXX	Report Avg Qrtly	Report Daily Max	XXX	1/quarter	8-Hr Composite

Compliance Sampling Location: at Outfall 001, after ultraviolet (UV) light disinfection.

Flow is monitor only based on Chapter 92a.61. The limits for pH and Dissolved Oxygen are technology-based on Chapter 93.7. The limits for $CBOD_5$, Total Suspended Solids, and Fecal Coliform are technology based on Chapter 92a.47. Monitoring for E. Coli, UV Transmittance, Total Nitrogen, Total Phosphorus, and Total Zinc is based on Chapter 92a.61. The limits for Total Copper are water quality-based on Chapter 16. The limits for Ammonia-Nitrogen are water quality-based on Chapter 93.7.

Attachment 1

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
17E	46169	NICHOLSON RUN

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
3.000	ACIDA STP	PA0218138	0.400	CBOD5	25		
				NH3-N	1.46	2.92	
				Dissolved Oxygen			5

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
17E	46169	NICHOLSON RUN

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
3.000	0.400	25.000	7.367
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
9.751	0.481	20.253	0.158
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
21.18	1.420	1.22	1.029
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.422	27.444	Owens	5
Reach Travel Time (days)			
1.160			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.116	17.22	1.08	6.36
0.232	14.00	0.96	6.74
0.348	11.38	0.85	7.04
0.464	9.25	0.75	7.28
0.580	7.52	0.67	7.47
0.696	6.11	0.59	7.54
0.812	4.97	0.53	7.54
0.928	4.04	0.47	7.54
1.044	3.28	0.42	7.54
1.160	2.67	0.37	7.54

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
17E	46169	NICHOLSON RUN	**3.000**	1026.00	2.62	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.047	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
ACIDA STP	PA0218138	0.4000	0.0000	0.0000	0.000	25.00	7.50

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	7.54	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
17E	46169	NICHOLSON RUN	**0.000**	779.00	6.86	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.047	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	0.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
17E	46169	NICHOLSON RUN

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
3.000	0.12	0.00	0.12	.6188	0.01559	.481	9.75	20.25	0.16	1.160	25.00	7.37
Q1-10 Flow												
3.000	0.08	0.00	0.08	.6188	0.01559	NA	NA	NA	0.15	1.201	25.00	7.41
Q30-10 Flow												
3.000	0.17	0.00	0.17	.6188	0.01559	NA	NA	NA	0.16	1.123	25.00	7.34

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
17E	46169	NICHOLSON RUN

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
3.000	ACIDA STP	7	7.89	7	7.89	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
3.000	ACIDA STP	1.15	1.46	1.15	1.46	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
3.00	ACIDA STP	25	25	1.46	1.46	5	5	0	0

Attachment 2

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Armstrong Co Ind Dev Auth** NPDES Permit No.: **PA0218138** Outfall No.: **001**

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

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
0.4	100	6.8						

					0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Strea m CV	Fate Coeff	FOS	Criteri a Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		434									
	Chloride (PWS)	mg/L		231									
	Bromide	mg/L		1.39									
	Sulfate (PWS)	mg/L		52.3									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L											
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L											
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L											
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L											
	Total Copper	mg/L	<	0.02									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L											
	Total Iron	µg/L											
	Total Lead	mg/L	<	0.02									
	Total Manganese	µg/L											
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	mg/L	<	0.02									
	Total Molybdenum	µg/L											
	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)Anthrancene	µg/L	<										
	1,2-Dichlorobenzene	µg/L	<										
	1,3-Dichlorobenzene	µg/L	<										
	1,4-Dichlorobenzene	µg/L	<										
	3,3-Dichlorobenzidine	µg/L	<										
	Diethyl Phthalate	µg/L	<										
	Dimethyl Phthalate	µg/L	<										
	Di-n-Butyl Phthalate	µg/L	<										
	2,4-Dinitrotoluene	µg/L	<										

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

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Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Armstrong Co Ind Dev Auth, NPDES Permit No. PA0218138, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Nicholson Run**

No. Reaches to Model: **1**

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	046169	3	1026	2.62			Yes
End of Reach 1	046169	0	779	6.86			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	3	0.047										100	7		
End of Reach 1	0	0.047													

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	3														
End of Reach 1	0														

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Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

Armstrong Co Ind Dev Auth, NPDES Permit No. PA0218138, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.086 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 6.83

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	
Total Copper	0	0		0	13.439	14.0	16.8	Chem Translator of 0.96 applied
Total Lead	0	0		0	64.581	81.6	97.9	Chem Translator of 0.791 applied
Total Zinc	0	0		0	117.180	120	144	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 0.086 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 6.83

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	
Total Copper	0	0		0	8.956	9.33	11.2	Chem Translator of 0.96 applied
Total Lead	0	0		0	2.517	3.18	3.81	Chem Translator of 0.791 applied
Total Zinc	0	0		0	118.139	120	144	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 0.086 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	

Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 0.751 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	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

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	0.037	56.0	0.011	16.8	16.8	mg/L	0.011	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Lead	0.013	0.02	0.004	0.006	0.01	mg/L	0.004	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	Report	Report	Report	Report	Report	mg/L	0.12	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

Attachment 3

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

March 29, 2022

Justin Nolder (jrnolder@co.armstrong.pa.us)
Armstrong County Industrial Development Authority
187 Northpointe Boulevard Technology Center 2
Freeport, PA 16229

Re: Draft NPDES Permit - Sewage
Armstrong County Industrial Development Authority STP
Application No. PA0218138
Authorization ID No. 1357153
North Buffalo Township, Armstrong County

Dear Justin Nolder:

The Department of Environmental Protection (DEP) has reviewed your NPDES permit application and has reached a preliminary finding that new or more stringent water quality-based effluent limitations (WQBELs) for toxic pollutant(s) should be established in the permit. This finding is based on DEP's assessment that reasonable potential exists to exceed water quality criteria under Chapter 93 in the receiving waters during design flow conditions. The following WQBELs are anticipated based on the information available to DEP during its review:

Pollutant	Maximum Discharge Concentration (µg/L)	QL Used (µg/L)	Target QL (µg/L)	Proposed WQBELs	
				Average Monthly (µg/L)	Instantaneous Maximum (µg/L)
Total Copper	< 20	< 20	4.0	11.2	22.4
Total Lead	< 20	< 20	1.0	3.8	7.6

Attached is a survey that DEP requests that you complete and return to DEP in 30 days. Completion of this survey will help DEP develop the draft NPDES permit and allow DEP to understand your current capabilities or plans to treat or control these pollutant(s). If you decide not to complete and return the survey, DEP will proceed with developing the draft NPDES permit based on all available information and certain assumptions. Your response to this notice does not constitute an official comment for DEP response but will be taken under consideration. When the draft NPDES permit is formally noticed in the *Pennsylvania Bulletin*, you may make official comments for DEP's further consideration and response.

In addition to completion of the survey, you may elect to collect a minimum of four (4) additional effluent samples, as 24-hour composites, and have the samples analyzed for the pollutant(s) identified above, using a quantitation limit (QL) that is no greater than the Target QLs identified in the permit application. The samples should be collected at least one week

Northwest Regional Office
230 Chestnut Street | Meadville, PA 16335-3481 | 814.332.6942 | Fax 814.332.6121
www.dep.pa.gov

Justin Nolder - 2 -

apart. If you elect this option, please check the appropriate box on the survey and return the survey to DEP. Review of your application will remain on hold until the additional sampling results are provided to DEP.

If you have any questions, please contact me at 814.332.6136.

Sincerely,

Stephen A. McCauley

Stephen A. McCauley, E.I.T.
Environmental Engineering Specialist
Clean Water Program

Enclosures

cc: Joshua James, Young & Associates (jjames@wjyaengineers.com)
Monitoring and Compliance
File

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Clean Water

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

Permittee Name: **Armstrong County Industrial Development Authority** Permit No.: **PA0218138**

Pollutant(s) identified by DEP that may require WQBELs: _____

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

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

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

If Yes, describe prior studies and results:

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

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

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

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

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

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

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

RE: [External] FW: Armstrong County Industrial Development Authority STP (NPDES Permit No. PA0218138 - Auth ID No. 1357153)

Ryan Jones <rjones@cwmenvironmental.com>
Thu 1/26/2023 11:11 AM

To: McCauley, Stephen <smccauley@pa.gov>; Josh James <jjames@wjyaengineers.com>
Cc: Aaron Serene <aserene@cwmenvironmental.com>; Darin D. Alviano <ddalviano@co.armstrong.pa.us>; gjskamai@co.armstrong.pa.us <gjskamai@co.armstrong.pa.us>

1 attachments (6 MB)
Armstrong.pdf;

Sorry, guys this testing was completed back in August 2022. The results are attached.

Ryan C. Jones
Director of Operations
CWM Environmental
101 Parkview Drive Ext
Kittanning, PA 16201
o. 724-543-3011 x114
c. 724-525-0748
f. 724-543-6768
www.cwmenvironmental.com

CWM ENVIRONMENTAL
Turning Data Into Solutions

From: McCauley, Stephen <smccauley@pa.gov>
Sent: Thursday, January 26, 2023 8:40 AM
To: Josh James <jjames@wjyaengineers.com>
Cc: Ryan Jones <rjones@cwmenvironmental.com>; Aaron Serene <aserene@cwmenvironmental.com>; Darin D. Alviano <ddalviano@co.armstrong.pa.us>; gjskamai@co.armstrong.pa.us
Subject: Re: [External] FW: Armstrong County Industrial Development Authority STP (NPDES Permit No. PA0218138 - Auth ID No. 1357153)

Has the pre-draft sampling been performed for the Armstrong County Industrial Development Authority STP, yet?

Stephen A. McCauley, E.I.T. | Environmental Engineering Specialist
Department of Environmental Protection
Clean Water Program | Northwest Regional Office
230 Chestnut Street | Meadville, PA 16335
Phone: 814-332-6136 | Fax: 814-332-6121
www.dep.pa.gov

From: Josh James <jjames@wjyaengineers.com>
Sent: Monday, July 11, 2022 7:35 AM
To: McCauley, Stephen <smccauley@pa.gov>
Cc: Ryan Jones <rjones@cwmenvironmental.com>; Aaron Serene <aserene@cwmenvironmental.com>; Darin D. Alviano <ddalviano@co.armstrong.pa.us>; gjskamai@co.armstrong.pa.us <gjskamai@co.armstrong.pa.us>
Subject: RE: [External] FW: Armstrong County Industrial Development Authority STP (NPDES Permit No. PA0218138 - Auth ID No. 1357153)

Ryan,

Please keep us informed as the sampling progresses.

Thanks.
Josh

From: McCauley, Stephen <smccauley@pa.gov>
Sent: Friday, July 8, 2022 12:22 PM
To: Josh James <jjames@wjyaengineers.com>
Cc: Ryan Jones <rjones@cwmenvironmental.com>; Aaron Serene <aserene@cwmenvironmental.com>; Darin D. Alviano <ddalviano@co.armstrong.pa.us>; gjskamai@co.armstrong.pa.us
Subject: Re: [External] FW: Armstrong County Industrial Development Authority STP (NPDES Permit No. PA0218138 - Auth ID No. 1357153)

The Department encourages the pre-draft sampling be performed in the event that using the target QLs might eliminate the
need for monitoring or limits for the parameters in the NPDES permit.

Please perform the sampling and keep me up to date on its progress.

Stephen A. McCauley, E.I.T. | Environmental Engineering Specialist
Department of Environmental Protection
Clean Water Program | Northwest Regional Office
230 Chestnut Street | Meadville, PA 16335
Phone: 814-332-6136 | Fax: 814-332-6121
www.dep.pa.gov

From: Josh James <jjames@wjyaengineers.com>
Sent: Friday, July 8, 2022 7:32 AM
To: McCauley, Stephen <smccauley@pa.gov>
Cc: Ryan Jones <rjones@cwmenvironmental.com>; Aaron Serene <aserene@cwmenvironmental.com>; Darin D. Alviano <ddalviano@co.armstrong.pa.us>; gjskamai@co.armstrong.pa.us <gjskamai@co.armstrong.pa.us>
Subject: RE: [External] FW: Armstrong County Industrial Development Authority STP (NPDES Permit No. PA0218138 - Auth ID No. 1357153)

Good morning, Stephen.

CWM Environmental just took over operations at the Industrial Development STP. The new operator would like to set-up sampling for total lead and total copper as mentioned in your March 29, 2022 letter;

and in anticipation for those new limits to be imposed at the plant. They'd like to get those samples started asap if the Department will permit that since we are outside the 30-day comment period. The 24-hour composite sampling could be set-up almost immediately and would be finished after the 4 week sampling period, with the results and summary ready to submit back to the Department along with the "Pre-Draft" permit survey early to mid-August.

If this is acceptable to the Department, please advise so that sampling can commence. If this is not acceptable, then I would assume the Department would just issue the draft permit. I would recommend that CWM perform the sampling either way.

Thanks in advance.

Josh

Joshua T. James, P.E.
Vice President
Young & Associates
2039 South 6th Street
Indiana, PA 15701
Email: JJames@wiyaengineers.com
Website: www.wiyaengineers.com
O: (724) 463-7090, Ext. 119
F: (724) 463-7092
M: (724) 422 - 6438

YOUNG & ASSOCIATES
ENGINEERS • SURVEYORS

From: McCauley, Stephen <smccauley@pa.gov>
Sent: Tuesday, July 5, 2022 11:08 AM
To: Josh James <jjames@wiyaengineers.com>; Darin D. Alviano <ddalviano@co.armstrong.pa.us>
Subject: Re: [External] FW: Armstrong County Industrial Development Authority STP (NPDES Permit No. PA0218138 - Auth ID No. 1357153)

I still have not received the pre-draft survey for the Armstrong County Industrial Development Authority STP.

In addition, if any sampling is going to be performed, please let me know so I can plan for the results.

Stephen A. McCauley, E.I.T. | Environmental Engineering Specialist
Department of Environmental Protection
Clean Water Program | Northwest Regional Office
230 Chestnut Street | Meadville, PA 16335
Phone: 814-332-6136 | Fax: 814-332-6121
www.dep.pa.gov

From: Josh James <jjames@wiyaengineers.com>
Sent: Tuesday, May 31, 2022 1:58 PM
To: Darin D. Alviano <ddalviano@co.armstrong.pa.us>
Cc: McCauley, Stephen <smccauley@pa.gov>
Subject: [External] FW: Armstrong County Industrial Development Authority STP (NPDES Permit No. PA0218138 - Auth ID No. 1357153)

ATTENTION: This email message is from an external sender. Do not open links or attachments from unknown sources. To report suspicious email, forward the message as an attachment to CWOPA_SPAM@pa.gov.
Darin,

Can you please read the email below and the attached survey letter and get back to Stephen at DEP?

Let me know if you have any questions.

Thanks.

Josh

Joshua T. James, P.E.
Vice President
Young & Associates
2039 South 6th Street
Indiana, PA 15701
Email: JJames@wiyaengineers.com
Website: www.wiyaengineers.com
O: (724) 463-7090, Ext. 119
F: (724) 463-7092
M: (724) 422 - 6438

YOUNG & ASSOCIATES
ENGINEERS • SURVEYORS

From: McCauley, Stephen <smccauley@pa.gov>
Sent: Tuesday, March 29, 2022 1:42 PM
To: jrnolder@co.armstrong.pa.us; Josh James <jjames@wiyaengineers.com>
Subject: Armstrong County Industrial Development Authority STP (NPDES Permit No. PA0218138 - Auth ID No. 1357153)

The following email is regarding the permit renewal application for an Individual NPDES Sewage permit that the Department of Environmental Protection received on June 3, 2021 for the Armstrong County Industrial Development Authority STP located at 374 Bable Road, Freeport, PA 16229 in North Buffalo Township, Armstrong County (NPDES Permit No. PA0218138 - Auth ID No. 1357153).

In lieu of sending paper copies, the Department would like to know if emailing the NPDES Draft Permit documents would be acceptable? If so, we request that you please respond to this email as soon as possible.

In addition, based on the Department's Standard Operating Procedure (SOP) for Sewage Individual NPDES Permit Applications, a Pre-Draft Survey Letter has been attached to this email. Please review the Pre-Draft Survey Letter, complete the included survey, and return the survey to me at this email.

Thank you for your cooperation.

Stephen A. McCauley, E.I.T. | Environmental Engineering Specialist
Department of Environmental Protection
Clean Water Program | Northwest Regional Office
230 Chestnut Street | Meadville, PA 16335
Phone: 814-332-6136 | Fax: 814-332-6121
www.dep.pa.gov

CWM Environmental
101 Parkview Drive Ext.
Kittanning, Pennsylvania 16201
724-543-3011
Lab # 03-457

Lab Analysis Report

Customer: Armstrong County Industrial Development
Project: North Point L & C Study
Sample: Effluent Composite
Collection Method: Composite

Sample Number: 22G2038-01
Collection: 07/18/2022 09:00
Received: 07/18/2022 14:20
Matrix: NPW

Cert	Analyte	Result	RL	Units	Prep Date	Analysis Date	Analyst	Method
Metals								
	Copper	0.016	0.002	mg/L	07/21/2022 08:30	07/21/2022 16:41	BMC	EPA 200.7
	Lead	<1.00	1.00	µg/ L	07/23/2022 10:31	07/23/2022 13:45	MTW	EPA 200.8

Paul Bookmyer, Technical Director

PA DEP/TNI Accreditation # 03-00457. All analytes accredited unless otherwise specified.

Reported: 1/26/2023 11:07:12AM

Confidential
Page 1 of 8

CWM Environmental
101 Parkview Drive Ext.
Kittanning, Pennsylvania 16201
724-543-3011
Lab # 03-457

Lab Analysis Report

Customer: Armstrong County Industrial Development
Project: North Point L & C Study
Sample: Effluent Composite
Collection Method: Composite

Sample Number: 22G2574-01
Collection: 07/25/2022 09:30
Received: 07/25/2022 14:10
Matrix: NPW

Cert	Analyte	Result	RL	Units	Prep Date	Analysis Date	Analyst	Method
Metals								
	Copper	0.015	0.002	mg/L	08/03/2022 07:30	08/03/2022 12:24	JRD	EPA 200.7
	Lead	<1.00	1.00	µg/ L	07/30/2022 08:44	07/30/2022 12:39	MTW	EPA 200.8

Paul Bookmyer, Technical Director

PA DEP/TNI Accreditation # 03-00457. All analytes accredited unless otherwise specified.

CWM Environmental
101 Parkview Drive Ext.
Kittanning, Pennsylvania 16201
724-543-3011
Lab # 03-457

Lab Analysis Report

Customer: Armstrong County Industrial Development
Project: North Point L & C Study
Sample: Effluent Composite
Collection Method: Composite

Sample Number: 22H0982-01
Collection: 08/01/2022 09:00
Received: 08/01/2022 14:30
Matrix: NPW

Cert	Analyte	Result	RL	Units	Prep Date	Analysis Date	Analyst	Method
Metals								
	Copper	0.017	0.002	mg/L	08/12/2022 08:00	08/15/2022 11:29	BMC	EPA 200.7
	Lead	<1.00	1.00	µg/ L	08/06/2022 08:19	08/10/2022 10:58	MTW	EPA 200.8

Paul Bookmyer, Technical Director

PA DEP/TNI Accreditation # 03-00457. All analytes accredited unless otherwise specified.

CWM Environmental
101 Parkview Drive Ext.
Kittanning, Pennsylvania 16201
724-543-3011
Lab # 03-457

Lab Analysis Report

Customer: Armstrong County Industrial Development
Project: North Point L & C Study
Sample: Effluent Composite
Collection Method: Composite

Sample Number: 22H1519-01
Collection: 08/08/2022 09:15
Received: 08/08/2022 15:00
Matrix: NPW

Cert	Analyte	Result	RL	Units	Prep Date	Analysis Date	Analyst	Method
Metals								
	Copper	0.021	0.002	mg/L	08/18/2022 08:00	08/18/2022 13:57	BMC	EPA 200.7
	Lead	<1.00	1.00	µg/ L	08/13/2022 11:06	08/13/2022 13:42	MTW	EPA 200.8

Paul Bookmyer, Technical Director

PA DEP/TNI Accreditation # 03-00457. All analytes accredited unless otherwise specified.

CHAIN OF CUSTODY
Lab # 03-457

CWM ENVIRONMENTAL

101 Parkview Drive Ext Kittanning PA 16201
Phone: 724-543-3011 Fax: 724-543-6768

Client Name: Armstrong County Industrial Development	Contact Name: Gary Parks	PWSID#	NPDES# PA0218138
Address: Northpointe Technology Center 187 Northpointe Blvd, Freeport, PA 16229	Phone: 724-244-5462 Cell:	Reportable Sample:	RUSH Sample:
	Email:	Check Sample:	See Codes Below

CWM Lab #	Sample Site	Collection Point	DATE Sampled	GRAB Time Sampled	COMPOSITE Start / End	LAB Temps	Test/Analysis Requested	Field Data/Comments	Preservative	Matrix	Sample Type	Bottle Type	# of Bottles
22G2038-01	NorthPointe	Effluent Comp	7-18-22	9:00	/	1.4°C	Lead and Copper		H	NPW	C	P	(1)
					/								
					/								
					/								
					/								
					/								
					/								
					/								
					/								
					/								
					/								
					/								
					/								
					/								

22G2038

Received on ICE

Sampled by: Gary D Parks	Date: 7-18-22	Time: 9:00	Preservative Key: ST = Sodium Thiosulfate A = Ascorbic Acid H = HNO3 C = HCL S = H2SO4 OH = NaOH O = Other NA = None
Relinquished by: Gary D Parks	7-18-22	14:20	Matrix Key: DW - Drinking Water Rec - Pool/Recreation Water NPW - Non Potable Water R - Raw S - Soil, Solid, Sludge F - Fuel
Received by			Sample Type: C = Composite G = Grab M = Micropurge Bottles: P = plastic G = glass O = other
Relinquished by			Sample Comments:
Received in Lab by: [signature]	7/18/22	1420	Sample Conditions: (Y) N COC w/ samples (Y) N Meets Hold Times (Y) N Containers Intact (Y) N Correct bottles for tests (Y) N Correct # of bottles listed

Rev 000222

CHAIN OF CUSTODY
Lab # 03-457

CWM ENVIRONMENTAL

101 Parkview Drive Ext Kittanning PA 16201
Phone: 724-543-3011 Fax: 724-543-6768

Client Name: Armstrong County Industrial Development	Contact Name: Gary Parks	PWSID#	NPDES# PA0218138
Address: Northpointe Technology Center, 187 Northpointe Blvd, Freeport, PA 16229	Phone: 724-244-5462 Cell:	Reportable Sample:	RUSH Sample:
	Email:	Check Sample:	See Codes Below

CWM Lab #	Sample Site	Collection Point	DATE Sampled	GRAB Time Sampled	COMPOSITE Start / End	LAB Temps	Test/Analysis Requested	Field Data/Comments	Preservative	Matrix	Sample Type	Bottle Type	# of Bottles
22G2574-01	NorthPointe	Effluent Comp	7-25-22	9:30	/	1.7	Lead and Copper		H	NPW	C	P	1
					/								
					/								
					/								
					/								
					/								
					/								
					/								
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					/								
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					/								

22G2574

	Date:	Time:	
Sampled by Gary D Parks	7-25-22	9:30	**Preservative Key:** ST = Sodium Thiosulfate A = Ascorbic Acid H = HNO3 C = HCL S = H2SO4 OH = NaOH O = Other NA = None
Relinquished by Gary D Parks	7-25-22	14:10	**Matrix Key:** DW - Drinking Water Rec - Pool/Recreation Water NPW - Non Potable Water R - Raw S - Soil, Solid, Sludge F - Fuel
Received by			**Sample Type:** C = Composite G = Grab M = Micropurge **Bottles:** P = plastic G = glass O = other
Relinquished by			**Sample Comments:**
Received in Lab by [signature]	7/25/22	1410	**Sample Conditions:** (Y) N COC w/ samples (Y) N Meets Hold Times (Y) N Containers Intact (Y) N Correct bottles for tests (Y) N Correct # of bottles listed

Rev 000222

CHAIN OF CUSTODY
Lab # 03-457

CWM ENVIRONMENTAL

101 Parkview Drive Ext Kittanning PA 16201
Phone: 724-543-3011 Fax: 724-543-6768

Client Name: Armstrong County Industrial Development	Contact Name: Gary Parks	PWSID#	NPDES# PA0218138
Address: Northpointe Technology Center	Phone: 724-244-5462 Cell:	Reportable Sample:	RUSH Sample:
187 Northpointe Blvd, Freeport, PA 16229	Email:	Check Sample:	See Codes Below

CWM Lab #	Sample Site	Collection Point	DATE Sampled	GRAB Time Sampled	COMPOSITE Start / End	LAB Temps	Test/Analysis Requested	Field Data/Comments	Preservative	Matrix	Sample Type	Bottle Type	# of Bottles
22H0982-01	NorthPointe	Effluent Comp	8-1-22	9:00	/	1.0°C	Lead and Copper		H	NPW	C	P	1
					/								
					/								
					/								
					/								
					/								
					/								
					/								
					/			RECEIVED ON ICE					
					/								
					/								
					/								
					/								
					/								

22H0982

Sampled by Gary D Parks	Date: 8-1-22	Time: 9:00	Preservative Key: ST = Sodium Thiosulfate A = Ascorbic Acid H = HNO3 C = HCL S = H2SO4 OH = NaOH O = Other NA = None
Relinquished by Gary D Parks	8-1-22	14:30	Matrix Key: DW - Drinking Water Rec - Pool/Recreation Water NPW - Non Potable Water R - Raw S - Soil, Solid, Sludge F - Fuel
Received by			Sample Type: C = Composite G = Grab M = Micropurge Bottles: P = plastic G = glass O = other
Relinquished by			Sample Comments:
Received in Lab by [signature]	8/1/22	1430	Sample Conditions: (Y) N COC w/ samples (Y) N Meets Hold Times (Y) N Containers Intact (Y) N Correct bottles for tests (Y) N Correct # of bottles listed

Rev 000222

CHAIN OF CUSTODY
Lab # 03-457

CWM ENVIRONMENTAL

101 Parkview Drive Ext Kittanning PA 16201
Phone: 724-543-3011 Fax: 724-543-6768

Client Name: Armstrong County Industrial Development	Contact Name: Gary Parks	PWSID#	NPDES# PA0218138
Address: Northpointe Technology Center 187 Northpointe Blvd, Freeport, PA 16229	Phone: 724-244-5462 Cell:	Reportable Sample:	RUSH Sample:
	Email:	Check Sample:	See Codes Below

CWM Lab #	Sample Site	Collection Point	DATE Sampled	GRAB Time Sampled	COMPOSITE Start / End	LAB Temps	Test/Analysis Requested	Field Data/Comments	Preservative	Matrix	Sample Type	Bottle Type	# of Bottles
22H1519-01	NorthPointe	Effluent Comp	8-8-22	9:15	/	1.0°C	Lead and Copper		H	NPW	C	P	1
					/								
					/								
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22H1519

RECEIVED ON ICE

Sampled by: Gary D Parks	Date: 8-8-22	Time: 9:15	Preservative Key: ST = Sodium Thiosulfate A = Ascorbic Acid H = HNO3 C = HCL S = H2SO4 OH = NaOH O = Other NA = None
Relinquished by: Gary D Parks	8-8-22	15:00	Matrix Key: DW - Drinking Water Rec - Pool/Recreation Water NPW - Non Potable Water R - Raw S - Soil, Solid, Sludge F - Fuel
Received by			Sample Type: C = Composite G = Grab M = Micropurge Bottles: P = plastic G = glass O = other
Relinquished by			Sample Comments:
Received in Lab by:	8/8/22	1500	Sample Conditions: (Y) N COC w/ samples (Y) N Meets Hold Times (Y) N Containers Intact (Y) N Correct bottles for tests (Y) N Correct # of bottles listed

Rev 000222

Attachment 4

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Armstrong Co Ind Dev Auth** NPDES Permit No.: **PA0218138** Outfall No.: **001**

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

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
0.4	100	6.8						

						0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc			Trib Conc	Stream Conc	Daily CV	Hourly CV	Strea m CV	Fate Coeff	FOS	Criteri a Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		434										
	Chloride (PWS)	mg/L		231										
	Bromide	mg/L		1.39										
	Sulfate (PWS)	mg/L		52.3										
	Fluoride (PWS)	mg/L												
Group 2	Total Aluminum	µg/L												
	Total Antimony	µg/L												
	Total Arsenic	µg/L												
	Total Barium	µg/L												
	Total Beryllium	µg/L												
	Total Boron	µg/L												
	Total Cadmium	µg/L												
	Total Chromium (III)	µg/L												
	Hexavalent Chromium	µg/L												
	Total Cobalt	µg/L												
	Total Copper	mg/L		0.02										
	Free Cyanide	µg/L												
	Total Cyanide	µg/L												
	Dissolved Iron	µg/L												
	Total Iron	µg/L												
	Total Lead	µg/L	<	1										
	Total Manganese	µg/L												
	Total Mercury	µg/L												
	Total Nickel	µg/L												
	Total Phenols (Phenolics) (PWS)	µg/L												
	Total Selenium	µg/L												
	Total Silver	µg/L												
	Total Thallium	µg/L												
	Total Zinc	mg/L	<	0.02										
	Total Molybdenum	µg/L												
	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)Anthrancene	µg/L	<										
	1,2-Dichlorobenzene	µg/L	<										
	1,3-Dichlorobenzene	µg/L	<										
	1,4-Dichlorobenzene	µg/L	<										
	3,3-Dichlorobenzidine	µg/L	<										
	Diethyl Phthalate	µg/L	<										
	Dimethyl Phthalate	µg/L	<										
	Di-n-Butyl Phthalate	µg/L	<										
	2,4-Dinitrotoluene	µg/L	<										

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

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Armstrong Co Ind Dev Auth, NPDES Permit No. PA0218138, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Nicholson Run**

No. Reaches to Model: **1**

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	046169	3	1026	2.62			Yes
End of Reach 1	046169	0	779	6.86			Yes

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

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	3	0.047										100	7		
End of Reach 1	0	0.047													

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	3														
End of Reach 1	0														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Armstrong Co Ind Dev Auth, NPDES Permit No. PA0218138, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.086 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 6.83

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	
Total Copper	0	0		0	13.439	14.0	16.8	Chem Translator of 0.96 applied
Total Lead	0	0		0	64.581	81.6	97.9	Chem Translator of 0.791 applied
Total Zinc	0	0		0	117.180	120	144	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 0.086 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 6.83

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	
Total Copper	0	0		0	8.956	9.33	11.2	Chem Translator of 0.96 applied
Total Lead	0	0		0	2.517	3.18	3.81	Chem Translator of 0.791 applied
Total Zinc	0	0		0	118.139	120	144	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 0.086 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	

Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 0.751 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	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

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	0.037	0.056	0.011	0.017	0.017	mg/L	0.011	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	Report	Report	Report	Report	Report	mg/L	0.12	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
Total Lead	N/A	N/A	Discharge Conc < TQL