

Application Type Renewal
 Facility Type Non-Municipal
 Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0096814
 APS ID 1110620
 Authorization ID 1478941

Applicant and Facility Information

Applicant Name	<u>Coen Markets Inc.</u>	Facility Name	<u>Robyns Shop Donegal Tri Fuel STP</u>
Applicant Address	<u>1000 Philadelphia Street</u> <u>Canonsburg, PA 15317-1700</u>	Facility Address	<u>3612 State Route 31</u> <u>Donegal, PA 15628</u>
Applicant Contact	<u>Randy Younkin</u>	Facility Contact	<u>Randy Younkin</u>
Applicant Phone	<u>(814) 442-4446</u>	Facility Phone	<u>(814) 442-4446</u>
Client ID	<u>130077</u>	Site ID	<u>248250</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Donegal Township</u>
Connection Status	<u>Dept. Imposed Connection Prohibitions</u>	County	<u>Westmoreland</u>
Date Application Received	<u>March 20, 2024</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u></u>	If No, Reason	<u></u>
Purpose of Application	<u>Permit Renewal</u>		

Summary of Review

The applicant requests for an NPDES permit renewal to discharge treated sewage from Robyns Shop Donegal Tri Fuel STP.

The STP is a Chromaglass plant, consists of 2 Grease Traps, one equalization tank, 2 SBR tanks, one chlorine contact tank.

Wastewater Treatment chemicals listed in the application are Chlorine and Soda Ash.

No upgrades are proposed at this renewal.

Review of the DMR shows a couple of CBOD5 effluent limit violations during the past year. A Consent Assessment of Civil Penalty (CACP) was executed in 2023 for the DMR exceedances during the permit term. A DEP inspection was conducted on 3/8/2024. Inspection report mentioned that the facility failed to submit NPDES renewal application on time.

Sludge use and disposal description and location(s): Sludge is disposed at other treatment plant.

Approve	Deny	Signatures	Date
X		<i>Sara Abraham</i> Sara Reji Abraham, E.I.T. / Project Manager	May 20, 2024
X		<i>Pravin Patel</i> Pravin C. Patel, P.E. / Environmental Engineer Manager	05/21/2024

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.

Act 14 Notifications:

Donegal Township - March 13, 2024

Westmoreland County - March 27, 2024

Permit Conditions:

- A. No Stormwater
- B. Acquire Necessary Property Rights
- C. Proper Sludge Disposal
- D. Abandon STP if municipal Sewers Available
- E. Chlorine Optimization
- F. Dry Stream Discharge
- G. Operator Notification
- H. Solids Management

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.0022
Latitude	40° 6' 14.68"	Longitude	-79° 22' 48.80"
Quad Name	Donegal	Quad Code	1810
Wastewater Description: Treated Sewage Effluent			
Receiving Waters	Unnamed Tributary to Minnow Run (CWF)	Stream Code	38365
NHD Com ID	69914655	RMI	0.19
Drainage Area	0.072 mi ²	Yield (cfs/mi ²)	0
Q ₇₋₁₀ Flow (cfs)	0	Q ₇₋₁₀ Basis	Site Visit Hydrogeologist (from previous fact sheet)
Elevation (ft)		Slope (ft/ft)	0.024
Watershed No.	19-E	Chapter 93 Class.	CWF
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Attaining Use(s)		
Nearest Downstream Public Water Supply Intake		Indian Creek Valley Water Authority (Mill Run) Reservoir located on Indian Creek	

Treatment Facility Summary				
Treatment Facility Name: Robyns Shop Donegal Tri Fuel STP				
WQM Permit No.	Issuance Date			
6589410 A2-T1	May 13, 2014			
6589410-A1	June 11, 2009			
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Cromaglass	Chlorine	0.0022
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0022	15	Not Overloaded	Sludge Holding Tank	Other Treatment Plant

Compliance History

DMR Data for Outfall 001 (from April 1, 2023 to March 31, 2024)

Parameter	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23
Flow (MGD) Average Monthly	0.0010	0.0011	0.0012	0.0011	0.0013	0.0014	0.0014	0.0016	0.0016	0.00175	0.0012	0.0013
pH (S.U.) Instantaneous Minimum	7.75	7.77	7.72	6.69	6.75	7.32	6.14	6.33	6.22	8.56	7.56	7.71
pH (S.U.) Instantaneous Maximum	8.47	8.43	8.34	8.05	8.74	7.94	7.66	7.81	8.07	6.83	9.0	8.85
DO (mg/L) Instantaneous Minimum	4.4	5.5	4.8	4.8	6.4	5.2	4.0	5.0	4.9	4.4	5.8	4.5
TRC (mg/L) Average Monthly	0.07	0.055	0.10	0.20	0.16	0.12	0.08	0.12	0.10	0.07	0.17	0.13
TRC (mg/L) Instantaneous Maximum	0.21	0.11	0.30	1.04	0.57	0.44	0.47	0.50	0.22	0.20	0.39	0.66
CBOD5 (mg/L) Average Monthly	2.75	8.75	< 1.5	2.2	< 1.5	< 1.5	2.25	< 1.5	< 1.5	15.5	6.75	< 1.5
CBOD5 (mg/L) Instantaneous Maximum	4.0	16.0	< 1.5	3.0	< 1.5	< 1.5	3.0	< 1.5	< 1.5	24.0	12.0	< 1.5
TSS (mg/L) Average Monthly	5.0	< 2.0	4.0	4.0	3.0	2.0	5.0	< 2.0	4.0	4.0	< 2.0	2.0
TSS (mg/L) Instantaneous Maximum	6.0	< 2.0	6.0	4.0	4.0	2.0	8.0	< 2.0	5.0	5.0	< 2.0	2.0
Fecal Coliform (No./100 ml) Geometric Mean	< 1.0	3.22	2.02	< 1.0	4.68	< 1.0	< 1.0	< 1.0	< 1.0	60.4	< 10	< 1.0
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 1.0	5.2	4.1	< 1.0	21.9	< 1.0	< 1.0	< 1.0	< 1.0	79.9	< 10	< 1.0
Total Nitrogen (mg/L) Daily Maximum				25.3								

**NPDES Permit Fact Sheet
Robyns Shop Donegal Tri Fuel STP**

NPDES Permit No. PA0096814

Ammonia (mg/L) Average Monthly	< 0.10	0.8	1.07	0.19	0.27	< 0.10	0.58	1.06	1.50	0.41	< 0.10	< 0.10
Ammonia (mg/L) Instantaneous Maximum	0.10	0.92	2.04	0.26	0.17	< 0.10	1.06	1.29	2.46	0.54	< 0.10	< 0.10
Total Phosphorus (mg/L) Daily Maximum				3.93								

Compliance History

Effluent Violations for Outfall 001, from: May 1, 2023 To: March 31, 2024

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
CBOD5	06/30/23	Avg Mo	15.5	mg/L	10.0	mg/L
CBOD5	06/30/23	IMAX	24.0	mg/L	20.0	mg/L

Development of Effluent Limitations

Outfall No. 001 Design Flow (MGD) .008
 Latitude 40° 6' 25.00" Longitude -79° 22' 45.00"
 Wastewater Description: Treated Sewage Effluent

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
CBOD ₅	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Comments: Since there have been no changes to the receiving stream, discharge quality, influent characteristics etc. the existing limitations are carried over to the draft permit. These limits are based on the past pollution report and it is attached for reference.

The initial discharge concentrations used for modeling purposes were obtained from the Department's Dry Stream Discharge Policy in effect at that time because the receiving stream is considered a dry stream with no use. The end of reach characteristics were used as discharge concentrations at the point of first use and the NH₃-N values were reduced to meet water quality criteria. A back-decay evaluation was performed to obtain the final NH₃-N limits at the discharge point. (from previous fact sheet).

Proposed Limitations:

Parameter	Limit (mg/l)	SBC	Basis
CBOD ₅	10	Average Monthly	Dry swale guidance
TSS	10	Average Monthly	Dry swale guidance
Dissolved Oxygen	4.0	Inst. Min.	Existing
Ammonia - Nitrogen	2.0	Average Monthly	Previous WQAM63
Total Nitrogen	Report	Daily Max.	Existing /SOP
Total Phosphorus	Report	Daily Max.	Existing /SOP
E. Coli*	Report	IMax.	SOP

* E. Coli monitoring is included in the draft permit according to the DEP SOP guidance (Chapter 92.a.61). This is a new requirement and is consistent with the requirements of other similar discharges.

Anti-Backsliding

N/A

Mass loading limits and influent monitoring are not applicable for non-publicly owned treatment works.

The design flow of the sewage treatment plant is less than 0.1 mgd. For this reason, the permittee is not required to report influent and effluent concentrations for various parameters as listed in the NPDES application. Total Dissolved Solids and its major constituents are therefore not a concern at this time.

The existing frequency of 1/week monitoring for flow is continuing in this draft permit for consistency purposes.

Proposed Effluent Limitations and Monitoring Requirements

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

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	0.0022	XXX	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	10.0	XXX	20.0	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	10.0	XXX	20.0	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	3.0	XXX	6.0	2/month	Grab
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	2.0	XXX	4.0	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

POLLUTION REPORT

(1)

(I) Project Description New Discharge Change
 Existing Discharge (X) Preliminary

A. NPDES Application/Permit No. PA 0096814
 Part II Permit Nos. _____

B. Applicant, Case Name or Permittee: Ashbridge Oil Co. Inc
 Municipality: Donegal Township
 County: Westmoreland

C. Type Waste D. Source and characteristics

Sewage
 Industrial
 Mine

Domestic water form a Truck Stop - Convenience Store and Restaurant under one roof.

E. USGS Quad : Donegal

F. Latitude (or in. N) 40 06 24
 Longitude (or in. W) 79 22 43

(II) Water Uses and Criteria

A. Receiving waters Unnamed Tributary to Minnow Run Stream Code N/A
 Chapter 93 classification CWF R.M.I. 0.19
 D.A. 0.072 sq. mi. Yield 0 cfs/sq.mi
 Flow 0.0000 cfs. Based on data from _____
 Previous Pollution Report _____
 Elevation 1700 ft.

Exceptions to standard water use lists : Water Quality Criteria-Exceptions to Specific Criteria :
 Add None Add None
 Delete _____ Delete _____

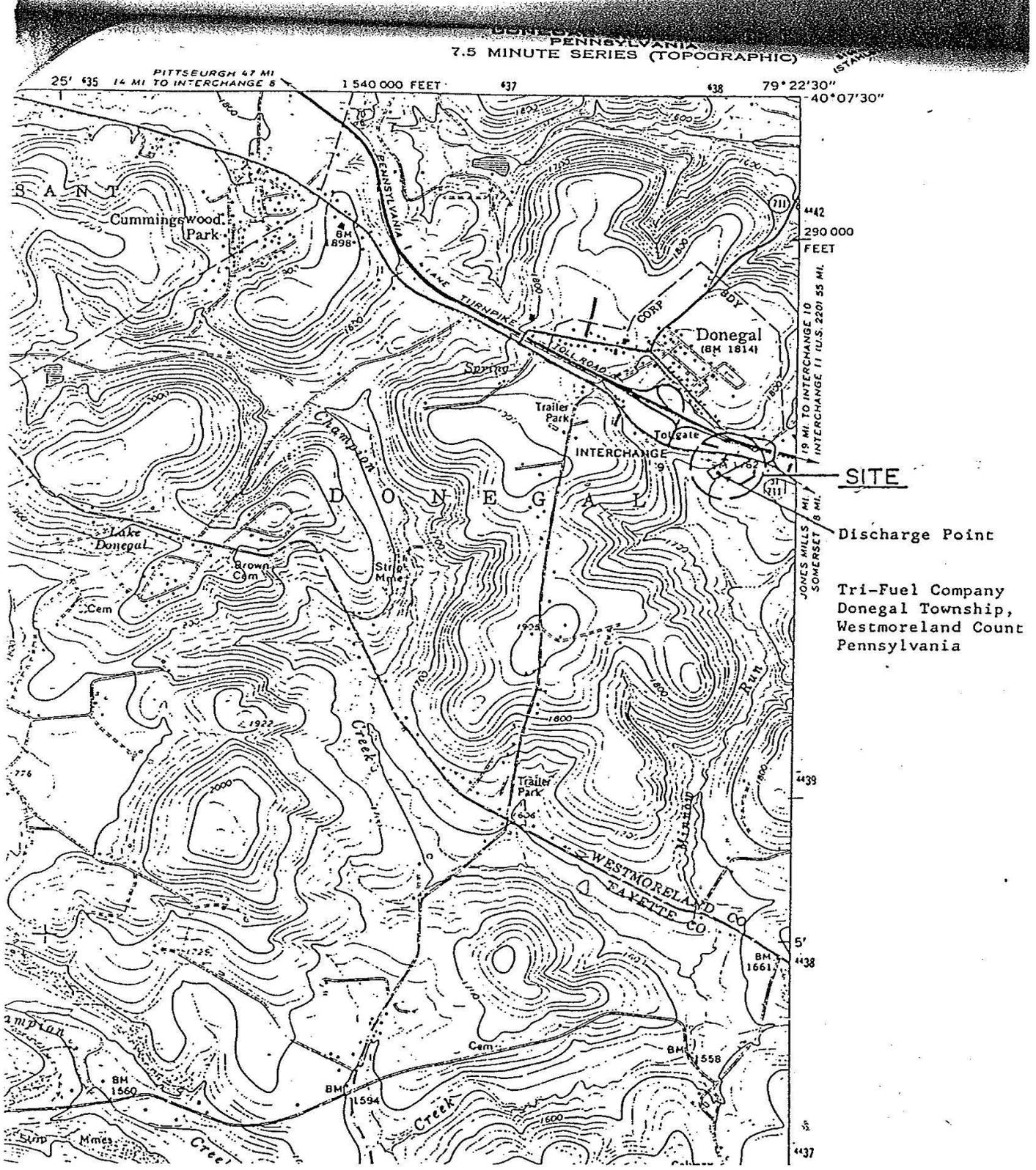
Impoundment _____
 Special Downstream Uses : _____

B. Secondary Waters UNT to Minnow Run R.M.I. 0.231
 Distance from discharge _____ mi. Ch. 93 classification CWF
 D.A. 0.35 sq. mi. Yield 0.002 cfs/sq.mi
 Flow 0.0007 cfs. Based on data from _____
 B 12 page 399 # 03082200 Poplar Run near Normalville PA
 Elevation 1676 ft. Stream Code 38365

Exceptions to standard water use lists : Water Quality Criteria-Exceptions to Specific Criteria :
 Add None Add None
 Delete _____ Delete _____

Impoundment _____
 Special Downstream Uses : _____
 Downstream PWS : location Indian Creek Valley Water authority
 distance from discharge _____ mi. intake _____ mgd.
 stream flow at intake _____ cfs.

(3)



4

POLLUTION REPORT

(I) Project Description

New Discharge

Existing ~~Discharge~~ NPDES

Change
Preliminary

A. NPDES Application/Permit No. PA0096814
 Part II Permit Nos. 6589410

B. Applicant, Case Name or Permittee: Tri-Fuel Company STP

Municipality: Donegal Township
 County: Westmoreland County

C. Type Waste

- Sewage
- Industrial
- Mine

D. Source and characteristics

Domestic waste from a proposed truck stop.
2,200 gpd, doneg approximately 5 times per day at 15 minutes per dose

E. USGS Quad: Donegal

$$\left(\frac{2200 \text{ gal}}{\text{day}} \right) \times \left(\frac{1 \text{ day}}{5 \text{ doses}} \right) \times \left(\frac{\text{dose}}{15 \text{ min}} \right) \times \left(\frac{60 \text{ min}}{1 \text{ hr}} \right) \times \left(\frac{24 \text{ hr}}{1 \text{ day}} \right) = 42,240 \text{ gal}$$

Converted

F. Latitude (or in. N) 19° 51' 16" N 40° 06' 25"
 Longitude (or in. W) 5/8" W 79° 22' 45"

(II) Water Uses and Criteria

V pgs 615.

A. Receiving waters dry trib of Minnow Run Stream code _____
 Chapter 93 classification CWF R.M.I. 0.190
 D.A. 0.072 sq.mi. Yield _____ cfs/sq.mi.
 Flow _____ cfs. Based on data from _____

Elevation 1700 ft.

Exceptions to standard water use lists: none
 Add _____
 Delete _____

Water Quality Criteria-Exceptions to Specific Criteria:
 Add _____
 Delete _____

Impoundment _____
 Special Downstream Uses: _____

B. Secondary waters unnamed trib of Minnow Run R.M.I. 0.231
 Distance from discharge 0.190 mi. Ch. 93 classification CWF
 D.A. 0.3 sq.mi. Yield 0.002 cfs/mi² cfs/sq.mi.
 Flow 0.0007 cfs. Based on data from Bulletin 12, pgs 399, Sta. 03082200, Poplar Run near Normalville, PA
 Elevation 1676 ft. Stream Code 38365

Exceptions to standard water use lists:
 Add _____
 Delete _____

Water Quality Criteria-Exceptions to Specific Criteria:
 Add _____
 Delete _____

Impoundment _____
 Special Downstream Uses: _____

Downstream PWS: location _____
 distance from discharge _____ mi. intake _____ mgd.
 stream flow at intake _____ cfs.

Minnow Run leads to Champion Creek

(5)

Tri-fuel

HEADWATER DATA

page

Change of actual flow
 figures to 0.042MGD
 = 42,240 gpd
 Due to SBR
 (flow = 2200 gpd)

Q ₇₋₁₀	= dry → use 0.0001 cfs to prevent division by zero
TEMP.	= 20°C, 5°Cw
pH	= 7
D.O.	= 85% of 10.5 at 20°C = .85(9.17) = 7.79
CBOD ₅	= 0
NH ₃ -N	= 0
K _c	= 0

Q _d	= 0.042MGD
TEMP.	= 20°C, 15°Cw
pH	= 7
D.O.	= 3
CBOD ₅	= 10
NH ₃ -N	= 3, 9w
K _c	= 1.5

→ for modeling purposes only

Q _t	= 0
TEMP.	=
pH	=
CBOD ₅	=
NH ₃ -N	=

$\frac{1}{25} \times CBOD_5 = 0.6$

In accordance with Implementation
 Guidance for Evaluating Wastewater
 Discharges to Drainage Swales +
 Ditches

Reach 1

dry stream

D.O.	= 3.0 mg/l
K _n	= 0.6
Slope	= 0.024 %
Length	= 1000'
D.A.	= 0.072 mi ²
W/D ratio	= 10:1

Q transfer from first model
 run of dry stream

Q _d	= 0.042MGD
TEMP.	= 20°C, 15°Cw
pH	= 7
D.O.	= 7.8 _s 9.7 _w
CBOD ₅	= 9.3 _s 9.4 _w
NH ₃ -N	= 2.8 _s 8.6 _w
K _c	= 0.558 0.564

Q_t due to additional drainage
 area of 0.278 mi² = 0.0006 cfs

Q _t	= 0.0006 cfs, 0.0012 cfs
TEMP.	= 20°C, 5°Cw
pH	= 7
CBOD ₅	= 2
NH ₃ -N	= 0.1

Begin Reach 2
 Part of test use

D.O.	= 6.0 mg/l
K _n	= 0.6
Slope	= 0.017 %
Length	= 1250'
D.A.	= 0.35 mi ²
W/D ratio	= 10:1

*1/20 (C)
 by stream
 Summer*

FILE: a:\tri-fuel.wqm

Default Data

a. Stream Values

- 1 Q1-10/Q7-10 ratio.....: .64
- 2 Q30-10/Q7-10 ratio.....: 1.36
- 3 Temperature.....: 20
- 4 pH.....: 7
- 5 C-BOD5.....: 0
- 6 NH3-N.....: 0
- 7 D.O. Saturation (%).....: .85
- 8 D.O. Goal.....: 3
- 9 Width/Depth ratio.....: 10
- 10 KC...(Headwaters only!).....: 0
- 11 KN.....: .6

b. Discharge Values (30-day avgs.)

- 12 C-BOD5.....: 10
- 13 NH3-N.....: 3
- 14 Effluent D.O.....: 3
- 15 Effluent Temp.....: 20
- 16 KC.....: 1-5 0.6
- 17 Balanced Technology(1=y 0=no).....: 0

FILE: a:\tri-fuel.wqm

REACH # 1

Headwaters and Tributary data

No. of Reaches : 1

Rh	Q7-10 (cfs)	T (c)	pH (su)	DO (mg/l)	CBOD5 (mg/l)	NH3-N (mg/l)
HW	0.0001	20	7	7.79	0	0
1	0.0000					

2/20 (7)

FILE: a:\tri-fuel.wqm

Stream Characteristics

Rh	Q7-10 (cfs)	T (c)	pH (su)	DO (mg/l)	CBOD5 (mg/l)	NH3-N (mg/l)
1	0	20	7	7.79	0	0

Q 1-10/Q 7-10 = .64
 Q 30-10/Q 7-10 = 1.36

FILE: a:\tri-fuel.wqm

DISCHARGE # 1
 Discharger Data
 Q7-10 Design Conditions

Rh	FLOW (MGD)	T (c)	pH (su)	DO * (mg/l)	CBOD5 * (mg/l)	NH3-N * (mg/l)	KC (1/days)
1	0.0420	20	7	3	10	3	.6

* required for dry stream discharge
 when stream is accessible

3/20 (8)

FILE: a:\tri-fuel.wqm

REACH # 1
Reach Characteristics

Rh	D.O. GOAL	KN (/D)	RCH. SL. (FT/FT)	RCH. LEN. (FT.)	DRAIN AREA (MI^2)	W/D
1	3	.6	0.02400	1000	.072	10

FILE: a:\tri-fuel.wqm

REACH # 1
Reach Characteristics

Rh	KR (/D)	TT (Days)
1	0	0

4/20 (9)

FILE: a:\tri-fuel.wqm

D.O. Allocations (EMPR)

DIS #	Q (MGD)	---NH3-N---		---CBOD5---		CRIT. RCH.	PCT. REM. (%)
		IND. Conc. (mg/l)	CUM. Conc. (mg/l)	IND. Conc. (mg/l)	CUM. Conc. (mg/l)		
1	0.0420	3	3	10	10	0	0

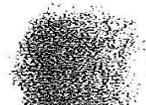
FILE: a:\tri-fuel.wqm

DISCHARGE CHARACTERISTICS

END OF REACH 1

(TOTAL) FLOW-MGD.....: .042
 TEMPERATURE.....: 20
 pH.....: 7
 DISSOLVED OXYGEN (mg/l).....: 7.8
 C-BOD5 (mg/l).....: 9.3
 NH3-N (mg/l).....: 2.8
 KC (1/Day).....: 0.558

→ NH₃N decayed from 3.0 to 2.8 in dry stream



Input end of reach data as discharge data in first use stream

5/30 (10)

FILE: a:\tri-fuel.wqm

Effluent Limitations Display

DIS #	Q MGD	NH3-N TOX.		DISS. OXYGEN		
		1 DAY	30 DAY	C-BOD5 30-DAY	NH3-N 30-DAY	EFF. D.O.
1	.042	6	3	10	3	3

(WQAM63.EXE) Release 1.2 10-11-1995 14:56:21

9/30 (11)
 1st Use Stream
 Summer

FILE: a:\tri-fuel.wqm

REACH # 1
 Headwaters and Tributary data

No. of Reaches : 1

Rh	Q7-10 (cfs)	T (c)	pH (su)	DO (mg/l)	CBOD5 (mg/l)	NH3-N (mg/l)
HW	0.0006	20	7	7.79	2	.1
1	0.0000					

FILE: a:\tri-fuel.wqm

DISCHARGE # 1
 Discharger Data
 Q7-10 Design Conditions

Rh	FLOW (MGD)	T (c)	pH (su)	DO (mg/l)	CBOD5 (mg/l)	NH3-N (mg/l)	KC (1/days)
1	0.0420	20	7	7.8	9.3	2.8	.558

* from end of dry stream re

7/20 (12)

FILE: a:\tri-fuel.wqm

REACH # 1
 Reach Characteristics

Rh	D.O. GOAL	KN (/D)	RCH. SL. (FT/FT)	RCH. LEN. (FT.)	DRAIN AREA (MI^2)	W/D
1	6	.6	0.01700	1250	.35	10

data from 1st use stream (Reach 2)

FILE: a:\tri-fuel.wqm

REACH # 1
 Reach Characteristics

Rh	KR (/D)	TT (Days)
1	0	0

2/20 (13)

FILE: a:\tri-ful2.wqm

NH3-N Discharge Allocations at Q30-10 (EMPR)

DIS	Q	BASE. CONC.	MULT. CONC.	CRIT. RCH.	PCT. RED.	NH3-N CRIT.
	(mgd)	(mg/l)	(mg/l)		(%)	(mg/l)
1	0.0420	1.94	1.94	0	0	1.92

FILE: a:\tri-ful2.wqm

NH3-N Discharge Allocations at Q1-10 (EMPR)

DIS	Q	BASE. CONC.	MULT. CONC.	CRIT. RCH.	PCT. RED.	NH3-N CRIT.
	(mgd)	(mg/l)	(mg/l)		(%)	(mg/l)
1	0.0420	5.60	5.60	0	0	9.67

9/20 (14)

FILE: a:\tri-ful2.wqm

D.O. Allocations (EMPR)

DIS #	Q (MGD)	---NH3-N---		---CBOD5---		CRIT. RCH.	PCT. REM. (%)
		IND. Conc. (mg/l)	CUM. Conc. (mg/l)	IND. Conc. (mg/l)	CUM. Conc. (mg/l)		
1	0.0420	1.9	1.9	9.3	9.3	0	0

FILE: a:\tri-ful2.wqm

DISCHARGE CHARACTERISTICS

END OF REACH 1

(TOTAL) FLOW-MGD.....: .042
 TEMPERATURE.....: 20
 pH.....: 7
 DISSOLVED OXYGEN (mg/l).....: 7.8
 C-BOD5 (mg/l).....: 8.2
 NH3-N (mg/l).....: 1.7
 KC (1/Day).....: .55
 0.492

*Discharge remaining at
 end of 2nd reach
 (1st use stream)*

12/20 (15)

FILE: a:\tri-ful2.wqm

Effluent Limitations Display

DIS #	Q MGD	NH3-N TOX.		DISS. OXYGEN		
		1 DAY	30 DAY	C-BOD5 30-DAY	NH3-N 30-DAY	EFF. D.O.
1	.042	3.9	1.9	9.3	1.9	7.8

}
 reduced from 2.8
 therefore must back decay

Back decay NH₃N discharge

$$\frac{3}{2.8} = \frac{x}{1.94}$$

$$x = 2.08$$

∴ impose 2.08 mg/l NH₃N

(WQAM63.EXE) Release 1.2 10-11-1995 15:03:00

11/2/16
 Lrg Stream
 winter

FILE: a:\trifulw.wqm

Default Data

- a. Stream Values
 - 1 Q1-10/Q7-10 ratio.....: .64
 - 2 Q30-10/Q7-10 ratio.....: 1.36
 - 3 Temperature.....: 5
 - 4 pH.....: 7
 - 5 C-BOD5.....: 0
 - 6 NH3-N.....: 0
 - 7 D.O. Saturation (%).....: .85
 - 8 D.O. Goal.....: 3
 - 9 Width/Depth ratio.....: 10
 - 10 KC...(Headwaters only!).....: 0
 - 11 KN.....: .6
- b. Discharge Values (30-day avgs.)
 - 12 C-BOD5.....: 10
 - 13 NH3-N.....: 9
 - 14 Effluent D.O.....: 3
 - 15 Effluent Temp.....: 15
 - 16 KC.....: .6
 - 17 Balanced Technology(1=y 0=no).....: 0

FILE: a:\trifulw.wqm

REACH # 1
 Headwaters and Tributary data

No. of Reaches : 1

Rh	Q7-10 (cfs)	T (c)	pH (su)	DO (mg/l)	CBOD5 (mg/l)	NH3-N (mg/l)
HW	0.0002	5	7	10.82	0	0
1	0.0000					

2/20 (17)

FILE: a:\trifulw.wqm

Stream Characteristics

Rh	Q7-10 (cfs)	T (c)	pH (su)	DO (mg/l)	CBOD5 (mg/l)	NH3-N (mg/l)
1	0	5	7	10.82	0	0

Q 1-10/Q 7-10 = .64
 Q 30-10/Q 7-10 = 1.36

FILE: a:\trifulw.wqm

DISCHARGE # 1
 Discharger Data
 Q7-10 Design Conditions

Rh	FLOW (MGD)	T (c)	pH (su)	DO [*] (mg/l)	CBOD5 [*] (mg/l)	NH3-N [*] (mg/l)	KC (1/days)
1	0.0420	15	7	3	10	9	.6

* winter requirements for disch.
 to dry accessible stream

13/20 (18)

FILE: a:\trifulw.wqm

REACH # 1
Reach Characteristics

Rh	D.O. GOAL	KN (/D)	RCH. SL. (FT/FT)	RCH. LEN. (FT.)	DRAIN AREA (MI^2)	W/D
1	3	.6	0.02400	1000	.072	10

FILE: a:\trifulw.wqm

REACH # 1
Reach Characteristics

Rh	KR (/D)	TT (Days)
1	0	0

14/19
20

FILE: a:\trifulw.wqm

D.O. Allocations (EMPR)

DIS #	Q (MGD)	---NH3-N---		---CBOD5---		CRIT. RCH.	PCT. REM.
		IND. Conc. (mg/l)	CUM. Conc. (mg/l)	IND. Conc. (mg/l)	CUM. Conc. (mg/l)		
1	0.0420	9	9	10	10	0	0

FILE: a:\trifulw.wqm

DISCHARGE CHARACTERISTICS

END OF REACH 1

(TOTAL) FLOW-MGD.....: .042
 TEMPERATURE.....: 15
 pH.....: 7
 DISSOLVED OXYGEN (mg/l).....: 9.7
 C-BOD5 (mg/l).....: 9.399999
 NH3-N (mg/l).....: 8.600001
 KC (1/Day).....: .8, .564

End of dry stream reach (reach 1)

Input as discharge data for first use (Reach 2) Modeling

15/20 (2c)

FILE: a:\trifulw.wqm

Effluent Limitations Display

DIS #	Q MGD	NH3-N TOX.		DISS. OXYGEN		
		1 DAY	30 DAY	C-BOD5 30-DAY	NH3-N 30-DAY	EFF. D.O.
1	.042	18	9	10	9	3

(WQAM63.EXE) Release 1.2 10-11-1995 15:19:43

*10/21
 (21)
 [st] see stream
 wut -*

FILE: a:\trifulw.wqm

REACH # 1
 Headwaters and Tributary data

No. of Reaches : 1

Rh	Q7-10 (cfs)	T (c)	pH (su)	DO (mg/l)	CBOD5 (mg/l)	NH3-N (mg/l)
HW	0.0012	5	7	10.82	2	.1
1	0.0000					

FILE: a:\trifulw.wqm

DISCHARGE # 1
 Discharger Data
 Q7-10 Design Conditions

Rh	FLOW (MGD)	T (c)	pH (su)	DO (mg/l)	CBOD5 (mg/l)	NH3-N (mg/l)	KC (1/days)
1	0.0420	15	7	9.7	9.3999	8.60000	.564

** from end of dry stream reach*

17/20 (22)

FILE: a:\trifulw.wqm

REACH # 1
 Reach Characteristics

Rh	D.O. GOAL	KN (/D)	RCH. SL. (FT/FT)	RCH. LEN. (FT.)	DRAIN AREA (MI^2)	W/D
1	6	.6	0.01700	1250	.35	10

data from Reach 2 (187 use)

FILE: a:\trifulw.wqm

REACH # 1
 Reach Characteristics

Rh	KR (/D)	TT (Days)
1	0	0

1/20 (23)

FILE: a:\trifulw2.wqm

NH3-N Discharge Allocations at Q30-10 (EMPR)

DIS	Q	BASE. CONC. (mg/l)	MULT. CONC. (mg/l)	CRIT. RCH.	PCT. RED. (%)	NH3-N CRIT. (mg/l)
1	0.0420	2.90	2.90	0	0	2.83

FILE: a:\trifulw2.wqm

NH3-N Discharge Allocations at Q1-10 (EMPR)

DIS	Q	BASE. CONC. (mg/l)	MULT. CONC. (mg/l)	CRIT. RCH.	PCT. RED. (%)	NH3-N CRIT. (mg/l)
1	0.0420	14.30	14.30	0	0	14.14

19/24

FILE: a:\trifulw2.wqm

D.O. Allocations (EMPR)

DIS #	Q (MGD)	---NH3-N---		---CBOD5---		CRIT. RCH.	PCT. REM.
		IND. Conc. (mg/l)	CUM. Conc. (mg/l)	IND. Conc. (mg/l)	CUM. Conc. (mg/l)		
1	0.0420	2.9	2.9	9.399	9.39999	0	0

FILE: a:\trifulw2.wqm

DISCHARGE CHARACTERISTICS

END OF REACH 1

(TOTAL) FLOW-MGD.....: .042
 TEMPERATURE.....: 15
 pH.....: 7
 DISSOLVED OXYGEN (mg/l).....: 9.7
 C-BOD5 (mg/l).....: 8.5
 NH3-N (mg/l).....: 2.6
 KC (1/Day).....: ~~.56~~
 0.51

Back decay ^{NH₃N} to discharge

$$\frac{1}{8.6} = \frac{x}{2.9}$$

$$x = 3.0$$

impose 3.0

(25)
20/25

FILE: a:\trifulw2.wqm

Effluent Limitations Display

DIS #	Q	NH3-N TOX.		DISS. OXYGEN		
		1 DAY	30 DAY	C-BOD5 30-DAY	NH3-N 30-DAY	EFF. D.O.
1	.042	5.8	2.9	9.3999	2.9	9.7

)
reduced
from 9.0 mg/l
- must back decay
to pt. of discharge
(on pge 14)

(WQAM63.EXE) Release 1.2 10-11-1995 15:26:44

Supersedes (26)
 PREVIOUS ISSUANCE
 (with minor revisions)

~~NITRATE-NITRITE: CRITERIA TAKEN AT FIRST DOWNSTREAM POTABLE WATER INTAKE; 10mg/L.~~

OUR INFORMATION SHOWS THAT THE FIRST DOWNSTREAM POTABLE WATER INTAKE IS THE INDIAN CREEK VALLEY WATER AUTHORITY'S INDIAN CREEK (MILL RUN) RESERVOIR LOCATED ON INDIAN CREEK. PENNSYLVANIA WATER RESERVOIR BULLETIN No. 5 SHOWS DRAINAGE AREA TO BE 109.6 mi² AT THE RESERVOIR.

FROM BULLETIN No. 12, INDIAN CREEK NEAR MEECROFT, STATION No. 03082100 (PAGE 399) ABOVE RESERVOIR, Q7-10 YIELD = .046 CFS/mi.

THEREFORE, INSTREAM Q7-10 FLOW AT INTAKE $\cong (0.046 \text{ CFS/mi}^2)(109.6 \text{ mi}^2) = 5.04$

PERFORM MASS BALANCE TO DETERMINE THE RISE OF NITRATE - NITRITE CONCENTRATION AT THE WATER INTAKE CAUSED BY THE PROPOSED DISCHARGE.

$$(5.04 \text{ cfs})(1 \text{ mg/L}) + (.00341 \text{ cfs})(60 \text{ mg/L}) = (5.04341 \text{ cfs})(X)$$

$$X = 1.039 \text{ mg/L}$$

- * 1 mg/L = ASSUMED VALUE, CHECKED WITH C.E.C. & STREAM FILES - NO DATA AVAILABLE
- ** 60 mg/L = FROM OFFICE GUIDANCE OF EXPECTED FLOWS OF .005 TO .05 mg/d, EXPECTED 60 mg/L CONCENTRATION IN EFFLUENT.

THE 1.039 mg/L IS FAR LESS THAN THE 10 mg/L CRITERIA. THEREFORE, "NO LIMIT" WILL BE CONSIDERED NECESSARY.

UPPER FROM PREVIOUS IS

(27)

PHOSPHORUS:

ACCORDING TO THE CRITERIA FOUND IN CHAPTER 95, SEC. 95.6, PHOSPHORUS CONTROLS ARE TO BE BASED UPON A PHOSPHORUS LOADINGS EUTROPHICATION MODEL ON ANY NEW OR MODIFIED POINT SOURCE DISCHARGE TO WATERS THAT ARE TRIBUTARY TO OR DISCHARGE DIRECTLY TO AN IMPOUNDMENT WITH A DETENTION TIME OF 14 DAYS OR MORE, BASED ON ANNUAL AVERAGE STREAMFLOW.

INDIAN CREEK DAM OR MILL RUN RESERVOIR IS LOCATED ON INDIAN CREEK DOWNSTREAM FROM THE PROPOSED STP DISCHARGE. THEREFORE, DETERMINE THE DETENTION TIME IN THE RESERVOIR BASED ON ANNUAL AVERAGE FLOW.

DETENTION TIME:

POPULAR RUN NEAR
 Normalville, PA., ST. NO.
 03082200, BUL 12, P. 399

DAM STORAGE VOLUME = 231 million gallons (mg); (W.R. BUL. 5)

AVERAGE DAILY STREAM FLOW = 50% FLOW = 8.1 cfs

DRAINAGE AREA 9.27 sqmi
 = .873 cfs/mi

DETENTION TIME (D.T.) = STORAGE / STREAMFLOW

$$D.T. = \frac{(231,000,000 \text{ GALS}) \cdot (.1337 \text{ CONVERSION FACTOR CU.FT.})}{(109.6 \text{ mi}^2) \cdot (0.873 \text{ cfs/mi}^2)} \cdot (1 \text{ DAY})$$

$$D.T. = 3.73 \text{ DAYS, WHICH IS } < 14 \text{ DAY CRITERIA.}$$

∴ BASED UPON THE ABOVE, NO EFFLUENT LIMITATION SHALL BE CONSIDERED NECESS.

INDIAN CREEK DAM OR MILL RUN RESERVOIR IS NOT INCLUDED IN TABLE THREE OF THE PHOSPHORUS GUIDANCE FOR LAKES, RESERVOIRS, AND IMPOUNDMENTS TO BE SURVEYED BY OUR AQUATIC BIOLOGIST.

III. Effluent Limitations

NPDES #PA 0096814 (2)

A. Outfall 001

B. Discharge Volume

0.0022 MGD

Parameter (Sewage)	lbs/day				mg/l		
	Monthly Avg.	Weekly Avg.	Daily Max.		Monthly Avg.	Weekly Avg.	Instan. Max.
(Industrial Waste)	Daily Avg.		Daily Max.		Daily Avg.	Daily Max.	Instan. Max.
1. CBOD-5 Day (Year around)					10		20
2. Total Suspended Solids					10		20
3. Ammonia Nitrogen May 1 - Oct 31 Nov 1 to Apr 30					2.0 3.0		4.0 6.0
4. Phosphorus				No Phosp. Limit			
5. Fecal Coliform May 1 to Sep 30 Oct 1 to Apr 30							
		200 /100 ml as a geometric mean					
		2,000 /100 ml as a geometric mean					
6. Total Residual Chlorine (Final limits)					1.4		3.3
7. Dissolved Oxygen		not less than	3	mg/l at all times			
8. pH		not less than	6.0	nor greater than 9.0			
9. Nitrite & Nitrate				No NO2-NO3 Limit			
10							
11							
12							
13							

Effluent Limitation Rational

1. EPA ^{DEP} Guidelines TRC Implementation Guidance & Dry Ditch/Swales Policy
2. Regulation Chapter 93
3. Water Quality Criteria _____

Approvals:

Reviewer, Planning / WQ

RANBWA Raj Lathra 5/4/06
Bharati Vajhala

Date April 6, 2001

Geologist or Aquatic Biologist _____

Date _____

Chief, Planning / WQ

J A Balta
DJ 2

Date 5/7/01
5/12/06

Chief, Division of WQ _____

Date _____