pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0083771**
Facility Type	**Industrial**	APS ID	**275902**
Major / Minor	**Minor**	Authorization ID	**1276892**

NPDES PERMIT FACT SHEET
RE-DRAFT

Applicant and Facility Information

Applicant Name	**Turkey Hill LLC**	Facility Name	**Turkey Hill Dairy**
Applicant Address	2601 River Road	Facility Address	2601 River Road
	Conestoga, PA 17516-9630		Conestoga, PA 17516-9630
Applicant Contact	Duane Himes	Facility Contact	Duane Himes
Applicant Phone	(717) 340-0470	Facility Phone	(717) 340-0470
Client ID	36967	Site ID	448954
SIC Code	2024	Municipality	Manor Township
SIC Description	Manufacturing - Ice Cream And Frozen Desserts	County	Lancaster
Date Application Received	June 3, 2019	EPA Waived?	Yes
Date Application Accepted	June 18, 2019	If No, Reason	
Purpose of Application	NPDES Renewal		

Summary of Review

A draft NPDES permit was issued on April 13, 2022, and was published in the PA Bulletin on April 30, 2022. Comments were received from GHD on behalf of Turkey Hill LLC on June 14, 2022, and are attached below.

In response to the comments, an additional analysis of the toxics pollutants for Outfall 001 was performed. The analysis is shown below. As a result of the analysis, the re-draft permit will include a limit for Dissolved Iron, Total Iron, and Total Thallium, and a monitoring only requirement for Total Cobalt and Total Copper. The monitoring requirement for Total Manganese has been removed from the permit. No other changes have been made to the permit. The NPDES permit will be re-drafted with these updated requirements.

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.

Approve	Deny	Signatures	Date
X		Benjamin R. Lockwood Benjamin R. Lockwood / Environmental Engineering Specialist	February 2, 2023
X		Daniel W. Martin Daniel W. Martin, P.E. / Environmental Engineer Manager	February 15, 2023

Development of Effluent Limitations

Outfall No.	001	**Design Flow (MGD)**	.15
Latitude	39º 57' 22"	**Longitude**	76º 26' 42"

Wastewater Description: IW Process Effluent with ELG

Water Quality-Based Limitations

Toxics

Effluent sample results for toxic pollutants reported on the renewal application were entered into DEP's Toxics Management Spreadsheet Version 1.3 to develop appropriate permit requirements for toxic pollutants of concern. As stated in GHD's comment letter, there was concern that construction wastewater discharge on 1/25/22 contributed to some higher results for parameters in question in the draft permit. Due to this, the median of the data for Total Cobalt, Total Copper, Dissolved Iron, Total Iron, Total Thallium, and Total Manganese was calculated to account for the possibility of outliers. The medians for these parameters were input into the TMS. The use of the median removed the monitoring requirement for Total Manganese, and changed the limit for Total Copper and Total Copper to a reporting requirement. Due to the high concentration of the sample results for Dissolved Iron, Total Iron, and Total Thallium, and the small assimilative capacity of the receiving stream, limits were still required for these three parameters. The NPDES permit has been updated to reflect these changes.

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 3 Years from Permit Issuance.

Outfall 001, Continued (from Permit Effective Date through 3 Years from Permit Issuance)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Daily Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
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
UV Intensity (mW/cm²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
CBOD5	31	63	XXX	25	50	62.5	1/week	Composite*
TSS	38	75	XXX	30	60	75	1/week	Composite*
Total Dissolved Solids	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	Composite*
Oil and Grease	XXX	XXX	XXX	15	XXX	30	1/week	Grab
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
Ammonia Nov 1 - Apr 30	5.6	11.3	XXX	4.5	9.0	11.25	1/week	Composite*
Ammonia May 1 - Oct 31	1.9	3.8	XXX	1.5	3.0	3.75	1/week	Composite*
Total Phosphorus	1.25	2.5	XXX	2.0	4.0	5.0	1/week	Composite*
Nitrate-Nitrite	Report	XXX	XXX	Report	XXX	XXX	1/month	Composite*

Outfall 001, Continued (from Permit Effective Date through 3 Years from Permit Issuance)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Daily Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
TKN	Report	XXX	XXX	Report	XXX	XXX	1/month	Composite*
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Total Cobalt	Report	Report	XXX	Report	Report	XXX	1/week	Composite*
Total Copper	Report	Report	XXX	Report	Report	XXX	1/week	Composite*
Dissolved Iron	Report	Report	XXX	Report	Report	XXX	1/week	Composite*
Total Iron	Report	Report	XXX	Report	Report	XXX	1/week	Composite*
Total Thallium	Report	Report	XXX	Report	Report	XXX	1/week	Composite*

Compliance Sampling Location: At discharge from the treatment facility and before mixing with non-contact cooling water
*Composite shall consist of one grab sample taken per each SBR batch discharge within a 24-hour period and composited into one sample for lab analysis.

Other Comments: None

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: 3 Years from Permit Issuance through Permit Expiration Date.

Outfall 001, Continued (from 3 Years from Permit Issuance 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	Daily Maximum	Daily Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
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
UV Intensity (mW/cm²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
CBOD5	31	63	XXX	25	50	62.5	1/week	Composite*
TSS	38	75	XXX	30	60	75	1/week	Composite*
Total Dissolved Solids	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	Composite*
Oil and Grease	XXX	XXX	XXX	15	XXX	30	1/week	Grab
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
Ammonia Nov 1 - Apr 30	5.6	11.3	XXX	4.5	9.0	11.25	1/week	Composite*
Ammonia May 1 - Oct 31	1.9	3.8	XXX	1.5	3.0	3.75	1/week	Composite*
Total Phosphorus	1.25	2.5	XXX	2.0	4.0	5.0	1/week	Composite*
Nitrate-Nitrite	Report	XXX	XXX	Report	XXX	XXX	1/month	Composite*

Outfall 001, Continued (from 3 Years from Permit Issuance 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	Daily Maximum	Daily Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
TKN	Report	XXX	XXX	Report	XXX	XXX	1/month	Composite*
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Total Cobalt	Report	Report	XXX	Report	Report	XXX	1/week	Composite*
Total Copper	Report	Report	XXX	Report	Report	XXX	1/week	Composite*
Dissolved Iron	.45	.7	XXX	.36	.56	.89	1/week	Composite*
Total Iron	2.25	3.5	XXX	1.79	2.8	4.4	1/week	Composite*
Total Thallium	.0004	.0006	XXX	.0003	.0004	.0007	1/week	Composite*

Compliance Sampling Location: At discharge from the treatment facility and before mixing with non-contact cooling water
*Composite shall consist of one grab sample taken per each SBR batch discharge within a 24-hour period and composited into one sample for lab analysis.

Other Comments: None

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 100, 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)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Temperature (ºF)	XXX	XXX	XXX	Report	Report Daily Max	XXX	1/day	I-S
Total Dissolved Solids	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	24-Hr Composite
Nitrate-Nitrite	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
TKN	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	24-Hr Composite

Compliance Sampling Location: At Internal monitoring point 100 prior to mixing with treated process wastewater

Other Comments: None

Proposed Effluent Limitations and Monitoring Requirements

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

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
BOD_5	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
COD	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Nitrate-Nitrite	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Compliance Sampling Location: Outfall 002

Other Comments: None

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Turkey Hill LLC** NPDES Permit No.: **PA0083771** Outfall No.: **001**

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

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
0.15	1470	7.4						

					0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		4120									
	Chloride (PWS)	mg/L		1790									
	Bromide	mg/L		0.26									
	Sulfate (PWS)	mg/L		20.3									
	Fluoride (PWS)	mg/L		0.38									
Group 2	Total Aluminum	µg/L		6.05									
	Total Antimony	µg/L	<	1.7									
	Total Arsenic	µg/L		0.85									
	Total Barium	µg/L		1.6									
	Total Beryllium	µg/L	<	0.5									
	Total Boron	µg/L		190									
	Total Cadmium	µg/L	<	0.2									
	Total Chromium (III)	µg/L		0.93									
	Hexavalent Chromium	µg/L		0.12									
	Total Cobalt	µg/L		3.55									
	Total Copper	µg/L		30									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L		2.8									
	Dissolved Iron	µg/L		710									
	Total Iron	µg/L		1450									
	Total Lead	µg/L	<	1.7									
	Total Manganese	µg/L		32.5									
	Total Mercury	µg/L	<	0.00017									
	Total Nickel	µg/L		23									
	Total Phenols (Phenolics) (PWS)	µg/L		7									
	Total Selenium	µg/L	<	0.83									
	Total Silver	µg/L	<	0.41									
	Total Thallium	µg/L		11.8									
	Total Zinc	µg/L		5.9									
	Total Molybdenum	µg/L		20									
	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

Turkey Hill LLC, NPDES Permit No. PA0083771, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Manns Run**

No. Reaches to Model: 1

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	007834	0.86	427	0.4			Yes
End of Reach 1	007834	0	225	1.56			Yes

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

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.86	0.1	0.0456									100	7		
End of Reach 1	0	0.1	0.162												

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	0.86														
End of Reach 1	0														

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Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

Turkey Hill LLC, NPDES Permit No. PA0083771, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.010 PMF: 1 Analysis Hardness (mg/l): 1245 Analysis pH: 7.30

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	897	
Total Antimony	0	0		0	1,100	1,100	1,316	
Total Arsenic	0	0		0	340	340	407	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	25,127	
Total Boron	0	0		0	8,100	8,100	9,692	
Total Cadmium	0	0		0	23.221	27.7	33.1	Chem Translator of 0.838 applied
Total Chromium (III)	0	0		0	4494.046	14,222	17,016	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	19.5	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	114	
Total Copper	0	0		0	144.623	151	180	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	857.020	2,023	2,421	Chem Translator of 0.424 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	1.97	Chem Translator of 0.85 applied
Total Nickel	0	0		0	3953.457	3,961	4,740	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	246.098	290	346	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	77.8	
Total Zinc	0	0		0	992.639	1,015	1,214	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 0.010 PMF: 1 Analysis Hardness (mg/l): 1245 Analysis pH: 7.30

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	263	
Total Arsenic	0	0		0	150	150	179	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	4,906	
Total Boron	0	0		0	1,600	1,600	1,914	
Total Cadmium	0	0		0	1.409	1.75	2.1	Chem Translator of 0.803 applied
Total Chromium (III)	0	0		0	584.583	680	813	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	12.4	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	22.7	
Total Copper	0	0		0	77.254	80.5	96.3	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	1,795	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	33.397	78.8	94.3	Chem Translator of 0.424 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	1.08	Chem Translator of 0.85 applied
Total Nickel	0	0		0	439.107	440	527	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	5.97	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	15.6	
Total Zinc	0	0		0	1000.759	1,015	1,214	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 0.010 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	6.7	
Total Arsenic	0	0		0	10	10.0	12.0	
Total Barium	0	0		0	2,400	2,400	2,872	
Total Boron	0	0		0	3,100	3,100	3,709	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	

Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	359	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	1,197	
Total Mercury	0	0		0	0.050	0.05	0.06	
Total Nickel	0	0		0	610	610	730	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	0.29	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 0.094 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***Recommended WQBELs & Monitoring Requirements***

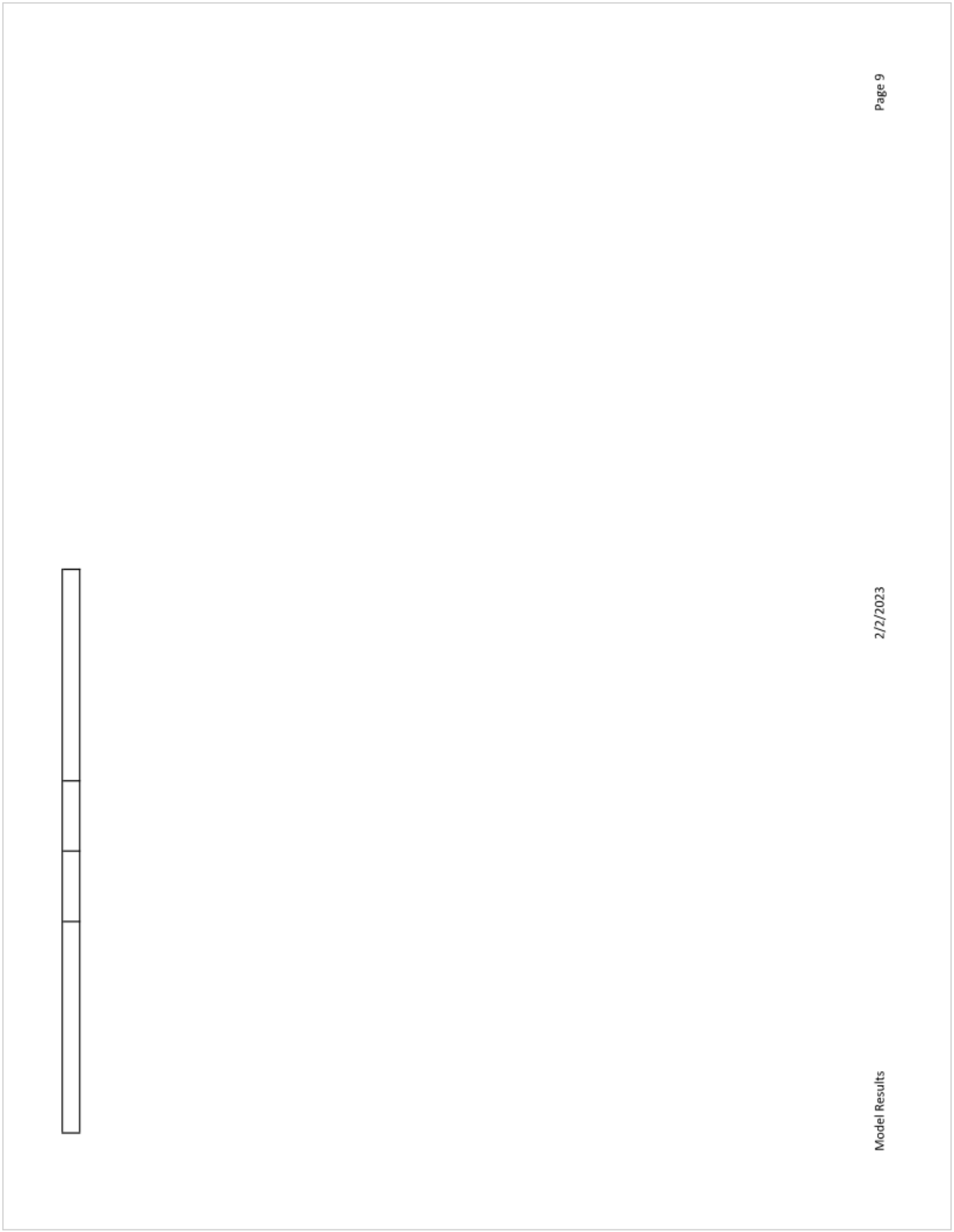
No. Samples/Month: 4

Pollutants	*Mass Limits* AML (lbs/day)	MDL (lbs/day)	*Concentration Limits* AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Cobalt	Report	Report	Report	Report	Report	µg/L	22.7	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	Report	Report	Report	Report	Report	µg/L	96.3	CFC	Discharge Conc > 10% WQBEL (no RP)
Dissolved Iron	0.45	0.7	359	560	897	µg/L	359	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Iron	2.25	3.5	1,795	2,800	4,487	µg/L	1,795	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Thallium	0.0004	0.0006	0.29	0.45	0.72	µg/L	0.29	THH	Discharge Conc ≥ 50% WQBEL (RP)

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

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	750	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	12.0	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	2,872	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	1,914	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	2.1	µg/L	Discharge Conc < TQL
Total Chromium (III)	813	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	12.4	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Total Lead	94.3	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	1,197	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.06	µg/L	Discharge Conc < TQL
Total Nickel	527	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	5.97	µg/L	Discharge Conc < TQL
Total Silver	290	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	1,015	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS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2/2/2023
Model Results

Lockwood, Benjamin

From: Heather Myers <Heather.Myers@ghd.com>
Sent: Tuesday, June 14, 2022 3:07 PM
To: Lockwood, Benjamin
Cc: Himes, Duane A
Subject: [External] Turkey Hill LLC Draft NPDES Permit No. PA0083771
Attachments: TOXCONC (150).Turkey Hill Dairy.xlsx; 3223731_169889.pdf; 3223933_169897.pdf; 3224560_169894.pdf; 3224965_169895.pdf; 3225623_169890.pdf; 3226201_169892.pdf; 3226839_169896.pdf; THD additional sampling summary.xlsx

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Hi Ben,

Turkey Hill LLC and GHD are in receipt of draft NPDES permit No. PA0083771, sent via email on 4/13/22, for the discharge from the Turkey Hill Dairy facility located in Manor Township, Lancaster County. On behalf of Turkey Hill LLC (Turkey Hill), we offer the following comments:

1. It has come to our attention that the laboratory reports for additional effluent sampling which were emailed to you on 3/10/22 did not contain the MDL for the analyzed parameters. Typically contract laboratories report to the MDL in order to meet DEP's Target QLs. I have attached the revised reports provided by ALS which include the MDL for all analyses. I have also attached a table summarizing the MDL and results for each sampling event.

2. Also attached is a revised TOXCONC spreadsheet which has been updated with the MDL results.

3. In reviewing the results of both the attached TOXCONC spreadsheet and the version included with the draft permit Fact Sheet, some issues have arisen regarding the use of this spreadsheet. Specifically, the TOXCONC spreadsheet calculates an average monthly effluent concentration (AMEC) for both Dissolved Iron and Total Manganese which is greater than the maximum value in the data set. I'm not sure how it is possible to have an average concentration greater than the maximum concentration? All of the data for these two parameters is detected, so the issue is not due to variability in detection limits or a large number of non-detects.

4. This same issue, however, appears with the handling of the data sets which do have non-detect data. The Total Thallium data set has a large amount of variability in the detection levels, resulting in data ranging from 0.88 µg/L to 34 µg/L. However, the AMEC for Total Thallium is calculated at 215 µg/L, which does not seem consistent with the data set.

5. We acknowledge there is a lot of variability in this data set, particularly in the detection levels used by the laboratory. Additionally, a review of the data noted higher values for some of the metals (Total Cobalt, Total Copper and Total Thallium) in the 1/25/22 sampling. Upon discussion with plant staff, there was a small construction project going on at that time which involved excavation of a portion of concrete floor to repair an old wastewater line from the processing area. It is believed some of the ponded wastewater at the break was discharged to the facility WWTP. The facility WWTP did not experience any issues or effluent limit exceedances due to this construction, but the construction and subsequent discharge of ponded/old wastewater could have influenced the sampling results. Therefore, Turkey Hill would like to propose collecting an additional seven (7) rounds of sampling to be collected weekly for these six parameters which have been under additional investigation. Turkey Hill will work with their contract laboratory to ensure that more consistent detection levels can be achieved in their data set. Once we have the results of this sampling we should have a data set of at least 10 sampling points with consistent detection levels that will hopefully eliminate some of the issues with the TOXCONC spreadsheet.

6. We have also reached out to Maria Schumack in Central Office with some of these same questions regarding the TOXCONC spreadsheet as she has been of assistance with prior questions we had regarding the spreadsheet. We have not heard anything yet from her in return.

We appreciate the opportunity to provide comments on this draft permit and look forward to your response. Please do not hesitate to reach out to me or Duane Himes should you need any additional information or wish to discuss in further detail.

Thanks,
Heather

Heather S Myers
Environmental Scientist

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