Pennsylvania Department of Environmental Protection

NORTHCENTRAL REGIONAL OFFICE
CLEAN WATER PROGRAM

Application Type	**Amendment, Major**	Application No.	**PA0008419 A-1**
Facility Type	**Industrial**	APS ID	**1128111**
Major / Minor	**Major**	Authorization ID	**1510842**

NPDES PERMIT FACT SHEET ADDENDUM 01

Applicant and Facility Information

Applicant Name	**Cherokee Pharmaceuticals, LLC**	Facility Name	**Cherokee Pharmaceuticals**
Applicant Address	100 Avenue C, P.O. Box 367	Facility Address	100 Avenue C, P.O. Box 367
	Riverside, PA 17868-0367		Riverside, PA 17868
Applicant Contact	Daniel Morris	Facility Contact	Daniel Morris
Applicant Phone	570-271-2187	Facility Phone	570-271-2187
Client ID	259313	Site ID	249423
SIC Code	2833,2834	Municipality	Riverside Borough
SIC Description	See Fact Sheet	County	Northumberland
Date Published in PA Bulletin	March 29, 2025	EPA Waived?	No
Comment Period End Date	April 28, 2025	If No, Reason	Major Facility, Significant CB Discharge
Purpose of Application	The addition of Outfall 301 for the discharge of treated effluent from a new GWTS		

Internal Review and Recommendations

DRAFT PERMIT

The draft permit established Outfall 301, an internal monitoring point, for the discharge from the GWTS.

A draft permit was prepared in early March 2025 and emailed to the permittee on March 03, 2025.

PUBLIC PARTICIPATION

The draft permit was published in the PA Bulletin on March 29, 2025 (Volume 55, Number 13, Page 2478).

DRAFT PERMIT COMMENT

No comments were received from the public. No comments were received from the Environmental Protection Agency (EPA). No comments were received from Department staff.

In a letter April 24, 2025, Cherokee provided comments on the draft permit. These comments are summarized below.

1. Oil & Grease and Total Suspended Solids

   An application sample result of 5.3 mg/L Oil and Grease does not warrant the establishment of a limit, in accordance with Department guidance. Since Outfall 001 has Oil and Grease limitations, Cherokee requests only monitoring for Oil and Grease at Outfall 301.

   Untreated sample results showed low concentrations of Total Suspended Solids (TSS), less than 50% of the proposed effluent limits in the draft permit. The BPJ for the proposed TSS limitations was based on sewage regulations for domestic wastewater. Because the proposed treatment will reduce TSS concentrations and there is no potential to exceed water quality standards in the receiving stream, no TSS limits or monitoring should be established.

CONTINUED on the next page.

Approve	Return	Deny	Signatures	Date
X			Jeffrey J. Gocek, EIT Project Manager	09/30/2025
X			Nicholas W. Hartranft, PE Environmental Engineer Manager	09/30/2025
X			Thomas M. Randis Program Manager	09/30/2025

Internal Review and Recommendations

2. Update the Toxics Screening Analysis with Site-Specific Criteria

   Since Cherokee performed a CORMIX mixing study in 2021, Cherokee requested the Toxics Management Spreadsheet (TMS) be modeled again using site specific data obtained during the study. The result of this monitoring would remove the need for monitoring of Dissolved Iron and the proposed effluent limitations for Benzene.

   See Attachment 01 for the revised TMS spreadsheet.

3. Reduced Monitoring for All Parameters

   Cherokee cited that Department regulations (25 PA § 92a.61) which require a discharger to monitor effluent "at intervals sufficiently frequent to yield data that reasonably characterize the nature of the discharge". Department and Federal guidance documents (DEP #386-0400-001 and EPA #833-K-10-001) recommend the permit writer consider factors such as compliance history, impact of discharge on receiving stream, size and characteristics of the discharge and expense of monitoring when determining frequency of monitoring. Cherokee also described the untreated groundwater contamination to be stable or decreasing in the concentrations of Volatile Organic Compounds (VOCs) with low variability, unlike industrial production wastewater. Cherokee also explained that the proposed treatment system was specifically designed to treat the parameters of concern. The less frequent monitoring requirements of the Department's *PAG-05 NPDES General Permit for Discharges from Petroleum Product Contaminated Groundwater Remediation System*, in accordance with Department Standard Operating (SOP) Procedure #BCW-PMT-032, should be applied to this similar scenario.

   Because of these reasons, Cherokee requested monthly monitoring for Flow, pH, Oil and Grease and Benzene.

4. Grab Sampling for All Parameters

   Cherokee reminded the Department of the workplan titled Supplemental Treatment in the Former Solvent Recovery Area and Attenuation Evaluation in SWMU-1 and SWMU-2, approved by the Department and the EPA on December 19, 2024. This plan allowed Cherokee to operate only one groundwater recovery well (HSR-1) to evaluate the effectiveness of monitored natural attenuation without the hydraulic containment provided by the recovery wells in SWMU-1 and SWMU-2. If the data collected in the two-year monitoring period, commenced in January 2025, demonstrates that the hydraulic containment in SWMU-1 and SWMU-2 is not needed, the recovery wells will remain out of service.

   The groundwater treatment system is designed with sufficient loading capacity to treat the mass generated from either six recovery wells or one recovery well. If the system operates long-term will flow only from HSR-1, Cherokee will need to treat the system in batches with equalization rather than continuous treatment. In this scenario, the proposed 24-hour composite sampling will not be feasible. Cherokee again references the federal Permit Writers Manual which states "Grab samples can be used for continuous discharges when the flow and nature of the pollutants are not likely to vary significantly or for episodic or batch discharges where the concentrations tend to not vary over time".

   Cherokee therefore requested all sample types be changed to Grab.

5. Incorrect Effluent Limit for Nutrients (Outfall 001)

   Cherokee identified typographical errors on the Draft Permit page 11 where the monthly mass reporting fields for Ammonia-N and Total Nitrogen were left blank.

COMMENT RESOLUTION

1. The limitation for Oil and Grease has been changed to Report. The limitation for TSS has been removed.

2. The TSA has been recalculated with the site-specific criteria. See Attachment 01. The limitation for Dissolved Iron has been removed. The limitation for Benzene has been changed to Report.

3. The minimum monitoring frequency for the monthly parameters has been changed to 1/month.

4. The required sample type for all parameters has been changed to Grab.

5. The typographical errors have been corrected.

CONTINUED on the next page.

Internal Review and Recommendations

SECOND DRAFT PERMIT

Because certain effluent limitations and monitoring, proposed in the first draft permit, were removed at Cherokee's request the Department must issue a new draft permit and again publish the draft in the PA Bulletin.

PROPOSED EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

All existing limitations, for the earlier described outfalls, established at the last issuance/renewal remain the same.

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.

Outfall 301, Effective Period: Permit Effective Date through Permit Expiration Date

Discharge Parameter	Mass Limits (lb/day)		Concentrations (mg/L unless noted)				Monitoring Requirements	
	Monthly Average	Daily Maximum	Minimum	Monthly Average	Daily Maximum	IMAX	Minimum Measurement Frequency	Required Sample Fs Type
Flow (MGD)	Report	Report					1/Month	Metered
pH (SU)			6.0 Instant. Min.			9.0	1/Month	Grab
Oil & Grease				Report	Report		1/Month	Grab
Benzene	Report	Report		Report	Report		1/Month	Grab
Total Aluminum	Report Annual Ave.	Report		Report Annual Ave.	Report		1/Year	Grab
Total Iron	Report Annual Ave.	Report		Report Annual Ave.	Report		1/Year	Grab

End of Fact Sheet.

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Cherokee Pharmaceuticals** NPDES Permit No.: **PA0008419** Outfall No.: **301**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Groundwater Contamination (VOCs)**

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	100	7						

					0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L											
	Chloride (PWS)	mg/L											
	Bromide	mg/L											
	Sulfate (PWS)	mg/L											
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L											
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L											
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L											
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L											
	Total Copper	mg/L											
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L		18000									
	Total Iron	µg/L											
	Total Lead	µg/L											
	Total Manganese	µg/L											
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	mg/L											
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L		2500									
	Bromoform	µg/L	<										

Group 3	Carbon Tetrachloride	µg/L		1.7									
	Chlorobenzene	µg/L		1900									
	Chlorodibromomethane	µg/L	<										
	Chloroethane	µg/L	<										
	2-Chloroethyl Vinyl Ether	µg/L	<										
	Chloroform	µg/L		3									
	Dichlorobromomethane	µg/L	<										
	1,1-Dichloroethane	µg/L	<										
	1,2-Dichloroethane	µg/L		60									
	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		1.9									
	1,1,2,2-Tetrachloroethane	µg/L	<										
	Tetrachloroethylene	µg/L	<										
	Toluene	µg/L		1100									
	1,2-trans-Dichloroethylene	µg/L	<										
	1,1,1-Trichloroethane	µg/L	<										
	1,1,2-Trichloroethane	µg/L	<										
	Trichloroethylene	µg/L		5.1									
	Vinyl Chloride	µg/L		1.6									
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											

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Cherokee Pharmaceuticals, NPDES Permit No. PA0008419, Outfall 301

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Susquehanna River**

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	006685	135.66	437	11272.34			Yes
End of Reach 1	006685	125.8	430	11290			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	135.66	0.1	1226		168	840	5	0.27				100	7		
End of Reach 1	125.8	0.1	1229.5												

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	135.66		5890												
End of Reach 1	125.8														

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Cherokee Pharmaceuticals, NPDES Permit No. PA0008419, Outfall 301

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.045 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	640	640	152,292	
Carbon Tetrachloride	0	0		0	2,800	2,800	666,277	
Chlorobenzene	0	0		0	1,200	1,200	285,547	
Chloroform	0	0		0	1,900	1,900	452,117	
1,2-Dichloroethane	0	0		0	15,000	15,000	3,569,342	
Methylene Chloride	0	0		0	12,000	12,000	2,855,474	
Toluene	0	0		0	1,700	1,700	404,525	
Trichloroethylene	0	0		0	2,300	2,300	547,299	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	

☑ ***CFC*** CCT (min): 720 PMF: 0.311 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	130	130	213,548	
Carbon Tetrachloride	0	0		0	560	560	919,901	
Chlorobenzene	0	0		0	240	240	394,243	
Chloroform	0	0		0	390	390	640,645	
1,2-Dichloroethane	0	0		0	3,100	3,100	5,092,309	
Methylene Chloride	0	0		0	2,400	2,400	3,942,432	
Toluene	0	0		0	330	330	542,084	
Trichloroethylene	0	0		0	450	450	739,206	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	

☑ ***THH*** CCT (min): 720 PMF: 0.311 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
Dissolved Iron	0	0		0	300	300	492,804	
Benzene	0	0		0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	164,268	
Chloroform	0	0		0	5.7	5.7	9,363	
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	N/A	N/A	N/A	
Toluene	0	0		0	57	57.0	93,633	
Trichloroethylene	0	0		0	N/A	N/A	N/A	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 720 PMF: 0.521 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
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	0.58	0.58	7,678	
Carbon Tetrachloride	0	0		0	0.4	0.4	5,295	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	9.9	9.9	131,048	
Methylene Chloride	0	0		0	20	20.0	264,744	
Toluene	0	0		0	N/A	N/A	N/A	
Trichloroethylene	0	0		0	0.6	0.6	7,942	
Vinyl Chloride	0	0		0	0.02	0.02	265	

☑ ***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
Benzene	Report	Report	Report	Report	Report	µg/L	7,678	CRL	Discharge Conc > 25% 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
Dissolved Iron	492,804	µg/L	Discharge Conc ≤ 10% WQBEL
Carbon Tetrachloride	5,295	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorobenzene	164,268	µg/L	Discharge Conc ≤ 25% WQBEL
Chloroform	9,363	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-Dichloroethane	131,048	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	264,744	µg/L	Discharge Conc ≤ 25% WQBEL
Toluene	93,633	µg/L	Discharge Conc ≤ 25% WQBEL
Trichloroethylene	7,942	µg/L	Discharge Conc ≤ 25% WQBEL
Vinyl Chloride	265	µg/L	Discharge Conc ≤ 25% WQBEL