VPDES PERMIT FACT SHEET

This document gives the pertinent information concerning the reissuance of the VPDES permit listed below. This permit is being processed as a minor industrial permit. The effluent limitations contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260-00 et seq. The discharge results from the production of potable drinking water for distribution to portions of Giles County. This permit action consists of revising the special conditions. (SIC Code: 4941)

1. **Facility Name and Address:**
   Giles County PSA WTP
   PO Box 701
   Pearisburg, VA 24134
   Location: 2030 Narrows Road, Pearisburg, Giles County, Virginia

2. **Permit No: VA0089290** Existing Permit Expiration Date: August 17, 2009

3. **Owner Contact:** Name: Mr. Roger Houck
   Title: Executive Director
   Telephone No: (540) 921-2525

4. **Application Complete Date:** January 20, 2009
   Permit Drafted By: Becky L. France, Environmental Engineer Senior
   Date: March 30, 2009 (Revised 4/13/09)
   DEQ Regional Office: Blue Ridge Regional Office
   Reviewed By: Kip D. Foster, Water Permit Manager
   Reviewer's Signature: _____ Date: 4-10-09
   Public Comment Period Dates: From 4/23/09 To 5/23/09

5. **Receiving Stream Classification:**

Receiving Stream:	New River, UT (River Mile: 0.11)		
Watershed ID:	VAW-N29R		
River Basin:	New River		
River Subbasin:	NA		
Section:	1		
Class:	IV		
Special Standards:	u		
7-Day, 10-Year Low Flow:	0 MGD	7-Day, 10-Year High Flow:	0 MGD
1-Day, 10-Year Low Flow:	0 MGD	1-Day, 10-Year High Flow:	0 MGD
30-Day, 5-Year Low Flow:	0 MGD	Harmonic Mean Flow:	0 MGD
Tidal:	No	303(d) Listed:	No

Attachment A contains a copy of the flow frequency determination memorandum.

6. **Operator License Requirements:** None

7. **Reliability Class:** NA

8. **Permit Characterization**:

(X) Private ( ) Interim Limits in Other Document
( ) Federal ( ) Possible Interstate Effect
( ) State
( ) POTW
( ) PVOTW

9. **Wastewater Treatment System:** A description of any wastewater treatment system is provided below. See **Attachment B** for the water flow schematics and **Attachment C** for a copy of the site inspection report. Any treatment units associated with the discharge are listed in the table below.

Table I
DISCHARGE DESCRIPTION

Outfall Number	Discharge Source	Treatment (Unit by Unit)	Flow (Max 30-day Average)
001	Giles County PSA WTP (backwash of membrane filters using raw water – ground water)	None	0.97 MGD

The facility produces potable water for portions of Giles County. One well serves as the raw water source. This facility is a 2.45 MGD membrane filtration facility which sells bulk water to the five surrounding towns and the county. According to the application, an average of 25,000 gpd of backwash water is discharged.

Wastewater is produced during the hourly backwashing of each of the two Memcor filters. The membrane filtration system uses a raw water backwash; therefore, the backwash water does not contain chemical constituents which are not present in the raw water. All other wastes from the treatment plant are routed to the sanitary sewer and treated at the Town of Pearisburg's Wastewater Treatment Plant.

10. **Sewage Sludge Use or Disposal:** Not Applicable (All domestic wastewater is discharged to the sanitary sewer.)

11. **Discharge Location Description:** A USGS topographic map which indicates the discharge location, any significant dischargers, any water intakes, and other items of interest is included in **Attachment D**. The latitude and longitude of the discharge is N $37^0 20' 12''$, E $80^0 45' 28''$.

Name of Topo: Narrows, Virginia Number: 113D

12. **Material Storage:** Chemicals stored onsite in the treatment building are listed below:

4 – 55 gallon drums of caustic soda (30%)
4- 55 gallon drums of citric acid (50%)
1-55 gallon drum of MemClean
4-50 pound bags sodium chloride
10-50 pound bags sodium fluoride
6-150 pound chlorine gas cylinders

13. **Ambient Water Quality Information:** Memoranda or other information which helped to develop permit conditions (special water quality studies, STORET data, and any other biological and/or chemical data, etc.) are listed below.

The receiving stream is an intermittent tributary at the point of discharge. **Attachment A** contains a copy of the flow frequency determination memorandum.

Giles County PSA WTP discharges into the New River Watershed (VAW-N29R) as described in the 2004 Use Attainment Assessment Report and 2006 Impaired Waters Report (**Attachment E**).

14. **Antidegradation Review and Comments:** Tier I _____ Tier II __X__ Tier III _____

The State Water Control Board's Water Quality Standards includes an antidegradation policy (9 VAC 25-260-30). All state surface waters are provided one of three levels of antidegradation protection. For Tier I or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier II water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier II waters is not allowed without an evaluation of the economic and social impacts. Tier III water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The antidegradation review begins with Tier determination. This facility discharges into an unnamed tributary to the New River. This unnamed tributary of the New River is not listed as a public water supply in the segment where the discharge is located. The New River in this segment (VAW-N29R) is listed on Part I of the 303(d) list for exceedance of water quality criteria. The receiving stream is considered an intermittent stream and thus cannot reasonably be expected to support the designated uses specified in the water quality standards. Therefore, the receiving stream at the point of discharge is classified as a Tier I water.

At the point where the unnamed tributary enters the New River a Tier designation is also needed. The New River in this segment is listed on Part I of the 303(d) list for PCBs in fish tissue. However, according to Agency guidance, fish tissue analysis is not a basis for determining a receiving stream as Tier I. Available pollutant data have been analyzed, and the existing water quality condition for pollutants for which data exist compared to the water quality standards. This analysis indicates the water quality of the receiving stream does not exceed numeric criteria

for any pollutant analyzed. Therefore, this segment of the New River is classified as a Tier II water, and no significant degradation of existing water quality is allowed.

Effluent data used to determine 90th percentile pH values for the antidegradation wasteload allocation (AWLA) spreadsheet are included in **Attachment F**. The 90th percentile effluent temperature values were based upon the summer and winter maximum daily values given in the reissuance application. Average effluent hardness was based upon raw water data. Any permit limits will be established by determining wasteload allocations that will result in attaining and/or maintaining all water quality criteria that apply. See **Attachment F** for the wasteload allocation spreadsheets. The permit limits are in compliance with antidegradation requirements set forth in 9 VAC 25-260-30. This antidegradation review was conducted as described in Guidance Memorandum 00-2011, and complies with the antidegradation policy contained in Virginia's Water Quality Standards.

15. **Site Inspection:** Date: 2/12/09 Performed by: Becky L. France
Attachment C contains a copy of the site inspection memorandum.

16. **Effluent Screening and Limitation Development:** DEQ Guidance Memorandum 00-2011 was used in developing all water quality based limits pursuant to water quality standards (9 VAC 25-260-5 et seq.). Refer to **Attachment F** for the wasteload allocation spreadsheets. See **Table II** on page 10 for a summary of limits and monitoring requirements.

A. **Mixing Zone**

The receiving stream is an intermittent tributary to the New River. A mixing zone was not applicable to determining toxic limitations in the intermittent section. For the purpose of determining antidegradation baselines for the perennial section of the New River, the Agency mixing zone program, MIXER, was run to determine the percentage of the receiving stream flow that could be used in the antidegradation wasteload allocation calculations. The program indicated that 5.07 percent of the 1Q10 and 100 percent of the 7Q10 may be used for calculating the antidegradation acute and chronic wasteload allocations (AWLAs). A copy of the printout from the MIXER run is enclosed in **Attachment F**.

B. **Technology Based Limits and Monitoring**

Flow -- Flow is to be estimated once per month. This sample type is unchanged from the previous permit and is in accordance with the VPDES Permit Manual for water treatment plants.

Total Suspended Solids -- The Best Professional Judgment (BPJ) limits of 30 mg/L monthly average and 60 mg/L maximum daily average are consistent with the VPDES Permit Manual recommendations for water treatment plants. These BPJ limits are based upon technology available to meet these limits. Monthly monitoring using composite samples is consistent with the previous permit and in accordance with the sampling

guidelines in the VPDES Permit Manual for water treatment plants. The composite sample is an 8-hour composite consisting of grab samples collected at hourly intervals until the discharge ceases or until a minimum of 5 grab samples have been collected.

C. **Water Quality Based Limits and Monitoring**

In addition to the standard limitations, the discharge must be evaluated to determine whether there is a reasonable potential for the effluent to violate the water quality standards (WQSs) adopted by the State Water Control Board (9 VAC 25-260 et. seq). Toxic pollutant data submitted with the application for cadmium, chromium, copper, lead, mercury, and zinc were below quantification levels. Effluent gross beta was 3.95 pCi/L, and total radium was 2.25 pCi/L.

This discharge was considered for inclusion in the Toxics Management Program due to a discharge flow rate greater than 50,000 gpd. However, based upon the available data, an evaluation of the source of the wastewater, and the absence of treatment chemicals in the discharge, it was determined that there is no reasonable potential for the discharge to contribute to toxicity in the receiving stream. Therefore, toxicity testing is not required.

pH -- The pH limits of 6.0 S.U. minimum and 9.0 S.U. maximum are required. These limits are based upon the water quality criteria in 9 VAC 25-260-50 for Class IV receiving waters. Monthly monitoring using grab samples is in accordance with the sampling guidelines in the VPDES Permit Manual for water treatment plants and has been continued from the previous permit.

17. **Antibacksliding Statement:** Since there are no limitations less stringent than the previous permit, the permit limits comply with the antibacksliding requirements of 9 VAC 25-31-220 L of the VPDES Permit Regulation.

18. **Compliance Schedules:** There are no compliance schedules.

19. **Special Conditions:** A brief rationale for each special condition contained in the permit is given below.

A. **Compliance Reporting under Part I.A (Part I.B.1)**

Rationale: In accordance with VPDES Permit Regulation, 9 VAC 25-31-190 J4 and 220 I, this condition is necessary when toxic pollutants are monitored by the permittee and a maximum level of quantification and/or specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion. This condition also establishes protocols for calculation of reported values.

B. **Notification Levels (Part I.B.2)**

Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 A for all manufacturing, commercial, mining, and silvicultural dischargers. This condition requires that a permittee notify the DEQ of any changes in effluent quality or the presence of certain pollutants in the effluent.

C. **Operations and Maintenance Manual Requirement (Part I.B.3)**

Rationale: The Code of Virginia Section 62.1-44.16, VPDES Permit Regulation, 9 VAC 25-31-190 E, and 40 CFR 122.41(e) require proper operation and maintenance of the permitted facility. Section 40 of the Clean Water Act requires the permittee to provide an opportunity for the State to review the operations of the treatment facility. Compliance with an approved manual ensures these requirements are met.

D. **Materials Handling/Storage (Part I.B.4)**

Rationale: 9 VAC 25-30-50A prohibits the discharge of any wastes into State waters unless authorized by permit. The Code of Virginia § 62.1-44.16 and 62.1-44.17 authorized the Board to regulate the discharge of industrial waste or other waste. State Water Control Law § 62.1-44.18:2 authorizes the Board to prohibit any waste discharge that would threaten public health or safety, interfere with or be incompatible with treatment works or water use.

E. **Total Maximum Daily Load (TMDL) Reopener (Part I.B.5)**

Rationale: Section 303(d) of the Clean Water Act requires that Total Maximum Daily Loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The reopener recognizes that, according to Section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under Section 303 of the Act.

F. **Conditions Applicable to All VPDES Permits (Part II)**

Rationale: VPDES Permit Regulation, 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed.

20. **NPDES Permit Rating Worksheet:** Total Score: 70

In accordance with the VPDES Permit Manual, the NPDES Permit Rating Worksheet has been completed, and this facility has been classified as an industrial minor. The completed worksheet is found in **Attachment G.**

21. **Changes to the Permit:**

A. **The following special conditions have been modified from the previous permit:** (The referenced permit section is for the new permit.)

1. The Compliance Reporting under Part I.A Special Condition (Part I.B.1) has been revised to include information about significant figures.

2. The Operations and Maintenance Manual Requirement Special Condition Part I.B.3) has been revised in accordance with the VPDES Permit Manual to require the permittee to review of the existing O&M Manual.

B. **A new special condition has been added to the permit and is listed below:**

A Total Maximum Daily Load (TMDL) Reopener Special Condition has been added as Part I.B.5 to allow opening of the permit if necessary to comply with any applicable TMDL for the receiving stream.

C. **Permit Limits and Monitoring Requirements:** No changes have been made to the permit limits or monitoring requirements.

22. **Variances/Alternate Limits or Conditions:** An application testing waiver was requested for BOD_5, COD, TOC, and ammonia. This waiver was requested because no byproducts are created from the membrane treatment plant. Therefore, these parameters were not considered of material importance to the permit, and a testing waiver was granted.

23. **Public Notice Information required by 9 VAC 25-31-290 D:**

All pertinent information is on file and may be inspected, and arrangements made for copying by contacting Becky L. France at:

Virginia DEQ, Blue Ridge Regional Office
3019 Peters Creek Road
Roanoke, VA 24019
540-562-6700
blfrance@deq.virginia.gov

Persons may comment in writing or by e-mail to the DEQ on the proposed permit action and may request a public hearing during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing, and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action.

Following the comment period, the DEQ will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

24. **303(d) Listed Segments (TMDL):** This facility discharges to an unnamed tributary of the New River. The stream segment receiving the effluent is not listed on the current 303(d) list; and therefore no Total Maximum Daily Loads (TMDLs) have been or are being developed for this segment.

25. **Additional Comments:**

A. **Reduced Effluent Monitoring:** In accordance with Guidance Memorandum 98-2005, all permit applications received after May 4, 1998, are considered for reduction in effluent monitoring frequency. Only facilities having exemplary operations that consistently meet permit requirements may qualify for reduced monitoring. To qualify for consideration of reduced monitoring requirements, the facility should not have been issued any Warning Letters, Notices of Unsatisfactory Laboratory Compliance, Letter of Noncompliance (LON) or Notices of Violation (NOV), or be under any Consent Orders, Consent Decrees, Executive Compliance Agreements, or related enforcement documents during the past three years. The facility received the following warning letters within the past three years:

Warning Letter No. W2008-11-W-1014 TSS exceedance
Warning Letter No. W2008-02-W-1003 TSS exceedance

The facility does not meet the criteria discussed above and therefore is not eligible for reduced monitoring.

B. **Previous Board Action:** None

C. **Staff Comments:** The discharge is not controversial. The discharge is not addressed in any planning document but will be included, if applicable, when the plan is updated. On April 13, 2009, the facility mailing address was revised in the Fact Sheet.

D. **Public Comments:** No comments were received during the public comment period.

E. **Tables:**

Table I Discharge Description (Page 2)
Table II Basis for Monitoring Requirements (Page 10)

F. **Attachments:**

A. Flow Frequency Information
B. Water Flow Schematics
C. Site Inspection Report
D. USGS Topographic Map
E. Ambient Water Quality Information
- 2004 Use Attainment Assessment Report (Excerpt)
- 2006 Impaired Waters Report (Excerpt)
- STORET Station Data (9-NEW056.22)

F. Wasteload Calculation
- Mixing Zone Calculations (MIXER 2.1)
- Effluent and Raw Water Data
- Wasteload Allocation Spreadsheets

G. NPDES Permit Rating Worksheet
H. Public Notice
I. EPA Checksheet

Table II
BASIS FOR LIMITATIONS – INDUSTRIAL

( ) Interim Limitations
(x) Final Limitations

OUTFALL: 001
30 Day Max Ave: 0.97 MGD

Effective Dates - From: Effective Date
To: Expiration Date

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITS				MONITORING REQUIREMENTS	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/Month	Estimate
pH (Standard Units)	1	NA	NA	6.0	9.0	1/Month	Grab
Total Suspended Solids	2	30 mg/L	NA	NA	60 mg/L	1/Month	5G/8H

NA = Not Applicable
NL = No Limitations; monitoring only
5G/8H= eight hour composite consisting of grab samples collected at hourly intervals until discharge ceases or a minimum of 5 grab samples have been collected.

The basis for the limitations codes are:
1. Water Quality Criteria
2. Best Professional Judgment

Attachment A

Flow Frequency Memorandum

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
3019 Peters Creek Road, Roanoke, Virginia 24019

SUBJECT: Flow Frequency Determination
Giles County PSA WTP – Reissuance (VA0089290)

TO: Permit File

FROM: Becky L. France, Environmental Engineer Senior BLF

DATE: March 12, 2009

This memorandum supersedes the April 30, 2004 memorandum concerning the subject VPDES permit.

Giles County PSA WTP discharges to an unnamed tributary of the New River in Pearisburg, Virginia. Flow frequencies are required at this site to develop any effluent limitations for the VPDES permit.

At the discharge point, the receiving stream is a dry ditch where flow is only present during wet weather conditions. The flow frequencies for intermittent streams are 0.0 cfs for 1Q10, 7Q10, 30Q5, high flow 1Q10, high flow 7Q10, and the harmonic mean.

For determination of antidegradation baseline, flow frequencies are also needed for the New River above the confluence with the unnamed tributary. They were estimated using the USGS continuous record gauge on the New River at Glen Lyn, Virginia (#03175500) that has operated since 1940. The gauge is located approximately 10 1/2 miles downstream of the discharge point. The flow frequencies for the gauge and the discharge point are presented below. The values at the perennial point were determined by drainage area proportions and do not address any other discharges, withdrawals, or springs lying between the gauge and the discharge point. The high flow months are January through May. Flow frequencies for the perennial section are given on the attached table.

Flow Frequency Determination: Giles County WTP

Reference Gauge (data from 1940 to 2003)
New River at Glen Lyn, VA (#03176500)
Drainage Area [mi^2] = 3,768

	ft^3/s	MGD		ft^3/s	MGD
1Q10 =	874	565	High Flow 1Q10 =	1,180	763
7Q10 =	1,010	653	High Flow 7Q10 =	1,600	1,034
30Q5 =	1,340	866	HM =	3,000	1,939
30Q10=	1,200	776	High Flow 3010=	2,160	1,396

Flow frequencies for the reissued permit (8/18/09)
New River at Discharge Point from unnamed tributary
Drainage Area [mi^2] = 3,450

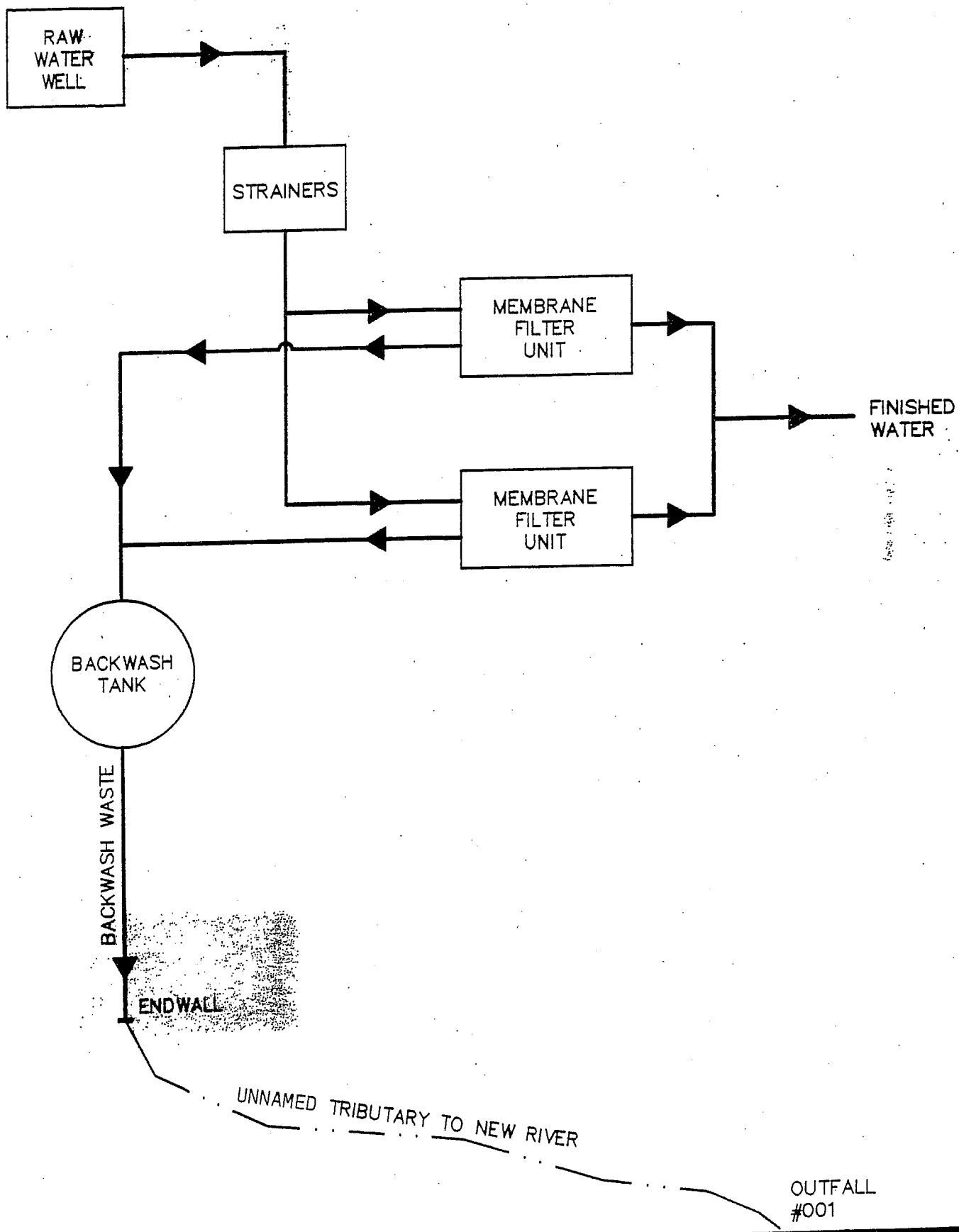
	ft^3/s	MGD		ft^3/s	MGD
1Q10 =	**800**	**517**	**High Flow 1Q10 =**	**1,080**	**698**
7Q10 =	**925**	**598**	**High Flow 7Q10 =**	**1,465**	**947**
30Q5 =	**1,227**	**793**	**HM =**	**2,747**	**1,775**
30Q10=	**1,099**	**710**	**High Flow 30Q10=**	**1,978**	**1,278**

SITEID	NAME	RECORD	LATLONG	DAAREA	HARMEAN	HF30Q10	HF7Q10	HF1Q10	Z30Q5	Z30Q10	Z7Q10	Z1Q10	Z1Q30	HFMTHS	Statperiod	Yrstrn	NOTES
03176500	New River at Glen Lyn, Va.	R, 1927-	Lat 37 22'22", Long 80 51'38", NAD 83	3,768	3000	2160	1600	1180	1340	1200	1010	874	790	JAN-MAY	1940-2003	2005	Flow Regulated since 1939 by Claytor Reservoir

03176500

Attachment B

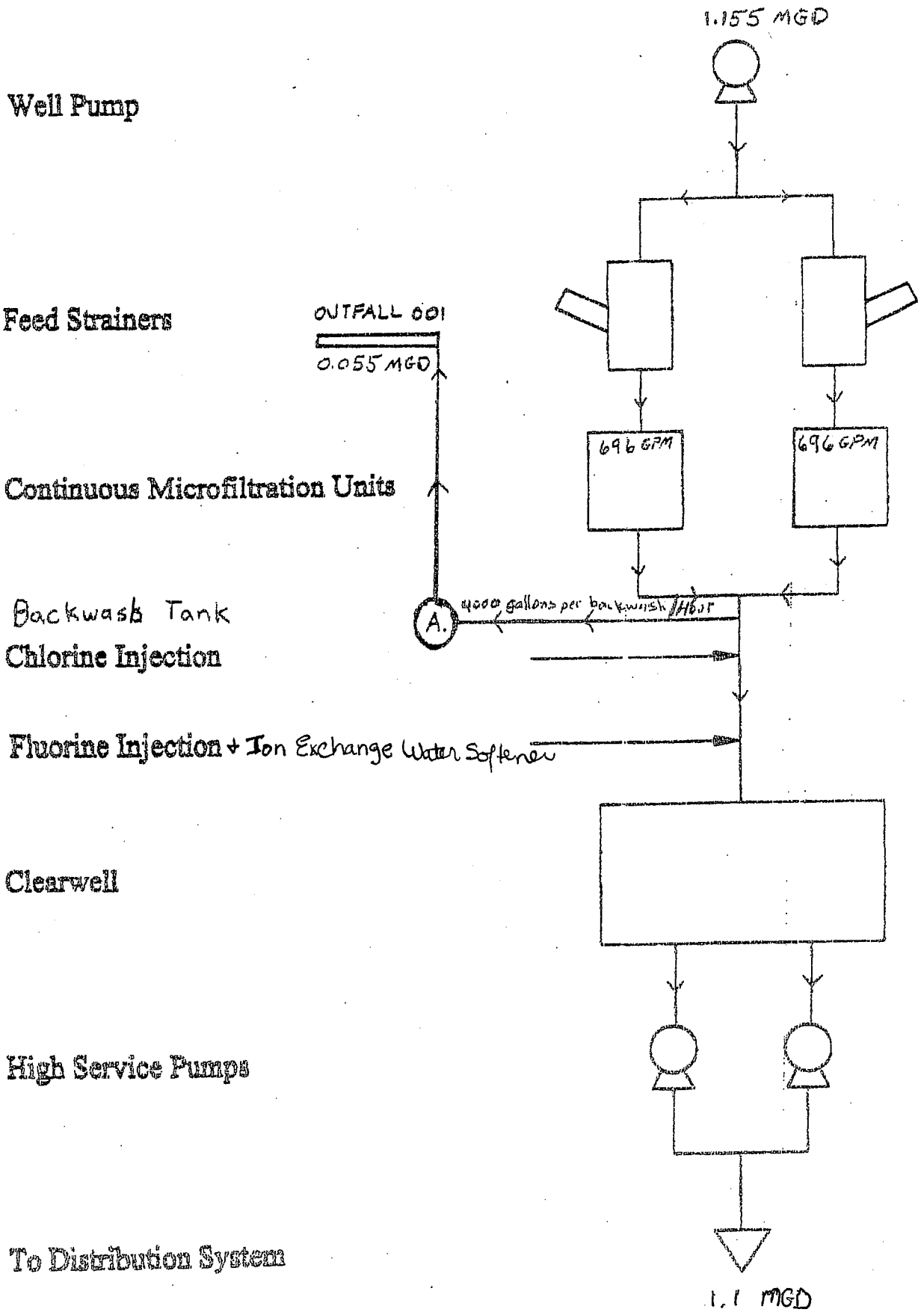
Flow Schematics



DESIGNED BY	SCALE N.T.S.	PREPARED FOR GILES COUNTY REGIONAL WATER SYSTEM DEVELOPMENT EXHIBIT III	Thompson +Litton Engineers Architects	SHEET 3 OF 3
DRAWN BY	DATE JAN 1998			
PROJECT NO.				

FIGURE 3-1

FLOW DIAGRAM



Attachment C

Site Inspection Report

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Blue Ridge Regional Office

3019 Peters Creek Road Roanoke, VA 24019

SUBJECT: Site Inspection Report for Giles County PSA WTP
Reissuance of VPDES Permit No. VA0089290

TO: Permit File

FROM: Becky L. France, Environmental Engineer Senior BLF

CC: Samuel C. Hale, Environmental Inspector Supervisor

DATE: February 26, 2009

On February 12, 2009, a site visit of the Giles County PSA WTP was conducted. The purpose of this site visit was to review the water treatment system and verify the outfall location. This 2.45 MGD membrane filtration facility produces potable water for Glen Lyn, Rich Creek, Narrows, Pearisburg, Pembroke and the surrounding communities in Giles County. The raw water source is groundwater from one well capable of supplying 2,300 gpm at 210 feet TDH. The well pump is restricted to a maximum capacity of 1,389 gpm which is the treatment plant capacity. The treatment facility currently is staffed about 10 hours per day. There is currently a study in process to evaluate an option for an intake on the New River.

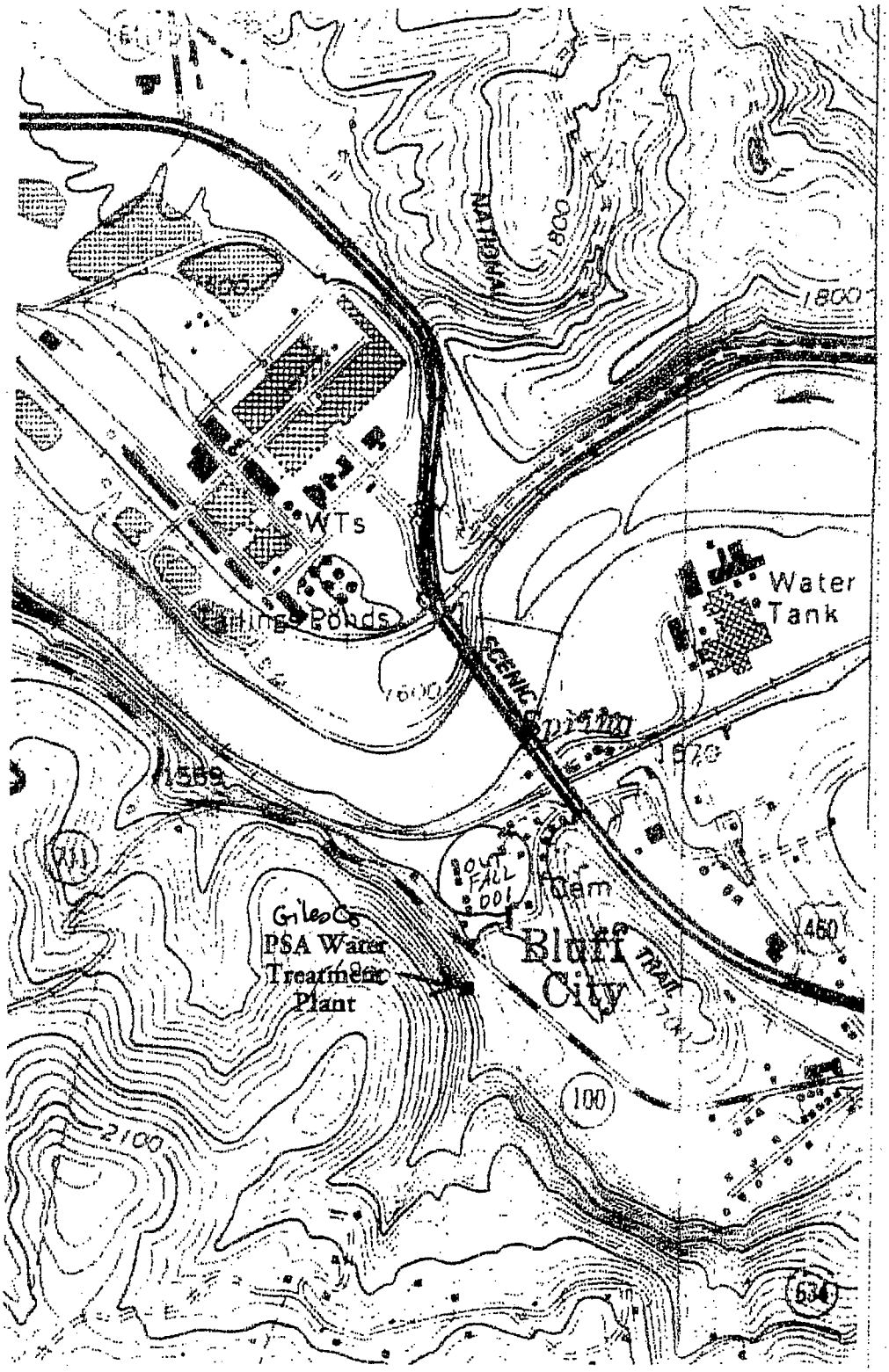
The water treatment system consists of two parallel prestrainers (500 microns), two parallel (Memcor) microfilter units each containing 90 filter modules (0.2 microns), chlorine gas and sodium fluoride injection system, ion exchange water softener, and clearwell. Raw water passes through two parallel prestrainers and then through two membrane filter units. Then, the water is treated by an ion exchange water softener. Chlorine gas and sodium fluoride are added. Finished water is stored in a 110,000 gallon clearwell for distribution.

Wastewater is produced during the hourly backwashing of each of the two Memcor filters. This backwash water flows into a 3,948 gallon tank and is then released to an unnamed tributary to the New River. At the time of the site visit, there was a discharge to the receiving stream, and there were no solids visible in the discharge. The Memcor membrane filtration system uses a raw water backwash; therefore, the backwash water does not contain chemical constituents which are not present in the raw water. All other wastes from the treatment plant are routed to the sanitary sewer and treated at the Town of Pearisburg's Wastewater Treatment Plant.

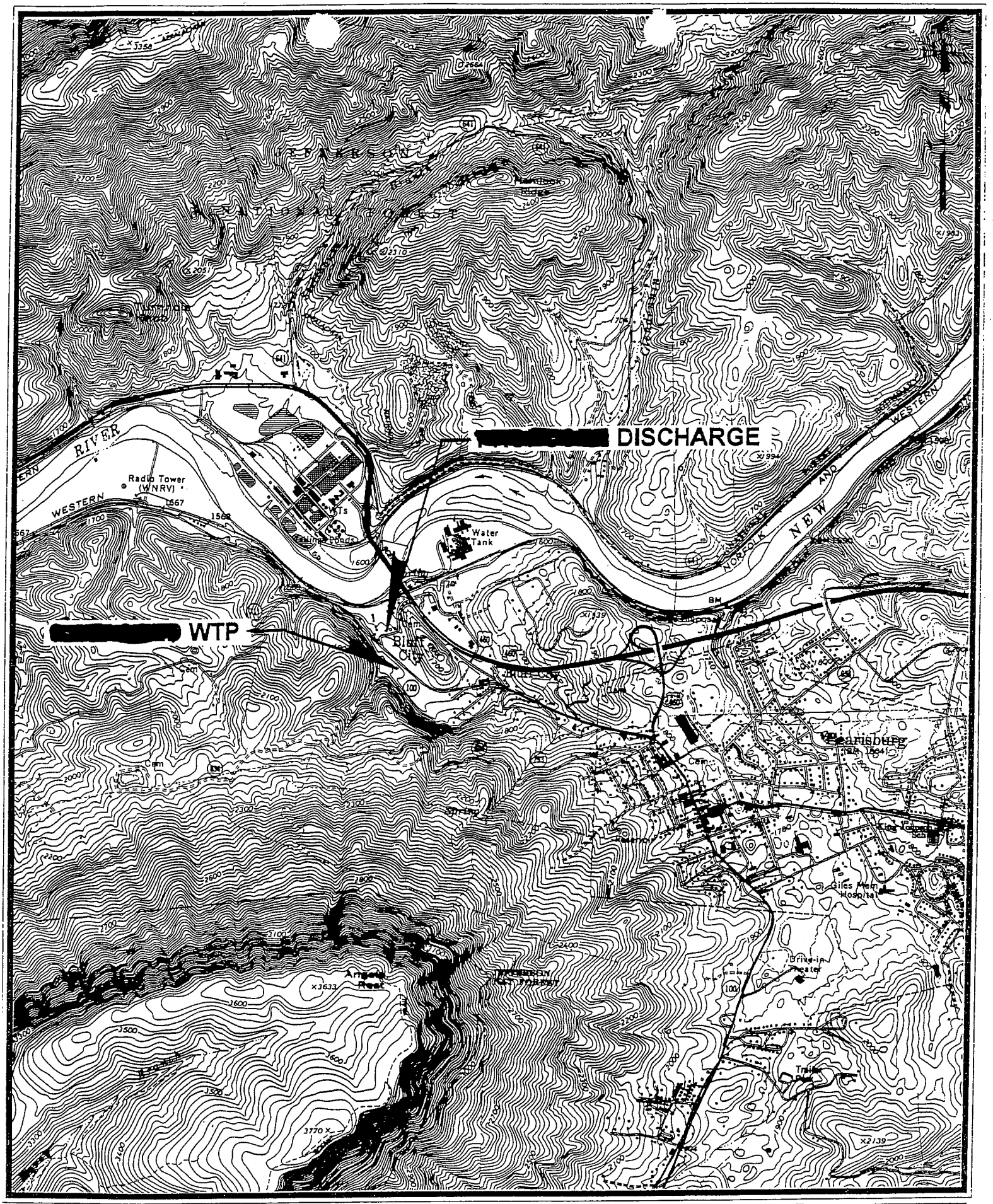
The membrane filters are periodically cleaned with a 30% caustic soda and 50% citric acid. The solutions are stored in a clean-in-place (CIP) tank and recycled for about 3 uses and then neutralized before disposed. This CIP wastewater and regeneration waste from the ion exchange water softener is discharged to the sanitary sewer.

Attachment D

USGS Topographic Map



Narrows Quad



DESIGNED BY	SCALE 1" = 2500'	PREPARED FOR	SHEET
DRAWN BY		GILES COUNTY REGIONAL WATER SYSTEM DEVELOPMENT	1 OF 3
PROJECT NO. 4711-13	DATE JAN., 1998	EXHIBIT I	

Thompson +Litton
Engineers
Architects
Planners

Attachment E

Ambient Water Quality Information

- 2004 Use Attainment Assessment Report (Excerpt)
- 2006 Impaired Waters Report (Excerpt)
- STORET Station Data (9-NEW056.22)

2004 Use Attainment by Assessment Units (AU)

Watershed ID: VAW-N29R

Total Watershed Size: 34.06 M

AU ID: **VAW-N29R_ZZZ01A00** **9.74** M *AU Overall Category:* **3A**

LOCATION: Remaining waters in Watershed N29R.

State TMDL ID	Use	WQS Attainment	303(d) Impairment Initial List Year
	Aquatic Life	Not Assessed	
	Fish Consumption	Not Assessed	
	Recreation	Not Assessed	
	Wildlife	Not Assessed	

WQS Class IV Sec. 1 u No current data. These waters are not assessed. No VDH fish consumption advisory.

AU ID: **VAW-N29R_PNY01A00** **3.96** M *AU Overall Category:* **3A**

LOCATION: Piney Creek mainstem from its confluence on the New River upstream to its headwaters.

State TMDL ID	Use	WQS Attainment	303(d) Impairment Initial List Year
	Aquatic Life	Not Assessed	
	Fish Consumption	Not Assessed	
	Recreation	Not Assessed	
	Wildlife	Not Assessed	

WQS Class VI Sec. 1 u No current data. These waters are not assessed. No VDH fish consumption advisory.

AU ID: **VAW-N29R_NEW04A02** **5.66** M *AU Overall Category:* **5A**

LOCATION: New River mainstem from the Celeanse Acetate Plant outfalls upstream to the watershed boundary at the confluence of Stony Creek.

State TMDL ID	Use	WQS Attainment	303(d) Impairment Initial List Year
	Aquatic Life	Fully Supporting	
VAW-N22R-01	Fish Consumption	Not Supporting	
	303(d) Parameter:	Polychlorinated biphenyls	2002
	Recreation	Not Assessed	
	Wildlife	Fully Supporting	

WQS Class IV Sec. 1 u
VDH Fish Consumption Advisory for Carp. Issued 8/06/01. Carp caught in these waters should not be consumed. Advisory extends from the Rt. 114 Bridge (Pulaski, Montgomery Counties) downstream to the VA / WVA State Line (Giles County), a total of 52 miles. VDH Level of concern 600 ppb. PCB in Carp at Whitethrone 686 ppb; PCB in Carp at Glen Lyn 3,259 ppb. Complete VDH Fish Consumption Advisory Listing at http://www.vdh.state.va.us/HHControl/fishing_advisories.htm. Complete DEQ Fish Tissue results available at http://www.deq.state.va.us. Assessment basis: DEQ stations 9-NEW044.94 ('01 Sed PCB only), 9-NEW040.00 ('01 Sed PCB only), 9-NEW039.98 (AQ) and 9-NEW030.15 ('02, '01 and '00 FT/Sed.) 9-NEW044.94- No sediment exceedances of PEC PCB SV of 676 ppb. 9-NEW040.00- No sediment exceedances of PEC PCB SV of 676 ppb. 9-NEW039.98- Single observations of Temp and pH with no exceedances but are not assessed. Water column metals and NH3-N all Fully Support. 9-NEW030.15- WQS fish tissue results [Table 6(a)] PCB exceeds TV of 54 ppb- Total fish analyzed 106: WQS 2002 FT- Six Carp at 1313, 4750, 6385, 6939, 2916 and 115 ppb- Total Carp analyzed 8. Total fish 34. WQS 2001 FT- Four Carp at 3003, 3121, 1275 and 1425 ppb- Total Carp analyzed 4. Total fish 48. WQS 2000 FT- composite Carp at 3259 ppb- Total Carp analyzed 4. Total fish 24. 9-NEW030.15- No sediment exceedances of PEC SVs from three collections in 2002, 2001, 2000.

AU ID: **VAW-N29R_NEW03A02** **2.79** M *AU Overall Category:* **5A**

LOCATION: New River mainstem from the confluence of Wolf Creek upstream to the Celanese Acetate Plant outfalls.

State TMDL ID	Use	WQS Attainment	303(d) Impairment Initial List Year

	Aquatic Life	Fully Supporting	
VAW-N22R-01	Fish Consumption	Not Supporting	
	303(d) Parameter:	Polychlorinated biphenyls	2002
	Recreation	Not Assessed	
	Wildlife	Not Assessed	

WQS Class IV Sec. 1 u
VDH Fish Consumption Advisory for Carp. Issued 8/06/01. Carp caught in these waters should not be consumed. Advisory extends from the Rt. 114 Bridge (Pulaski, Montgomery Counties) downstream to the VA / WVA State Line (Giles County), a total of 52 miles. VDH Level of concern 600 ppb. PCB in Carp at Whitethrone 686 ppb; PCB in Carp at Glen Lyn 3,259 ppb. Complete VDH Fish Consumption Advisory Listing at http://www.vdh.state.va.us/HHControl/fishing_advisories.htm. Complete DEQ Fish Tissue results available at http://www.deq.state.va.us. Assessment basis: 9-NEW030.15 ('02, '01 and '00 FT/Sed.) 9-NEW030.15- WQS fish tissue results [Table 6(a)] PCB exceeds TV of 54 ppb- Total fish analyzed 106: WQS 2002 FT- Six Carp at 1313, 4750, 6385, 6939, 2916 and 115 ppb- Total Carp analyzed 8. Total fish 34. WQS 2001 FT- Four Carp at 3003, 3121, 1275 and 1425 ppb- Total Carp analyzed 4. Total fish 48. WQS 2000 FT- composite Carp at 3259 ppb- Total Carp analyzed 4. Total fish 24. 9-NEW030.15- No sediment exceedances of PEC SVs from three collections in 2002, 2001, 2000.

AU ID: **VAW-N29R_NEW02A02** **3.53** M ***AU Overall Category:*** **5A**

LOCATION: New River mainstem from the mouth of Rich Creek upstream to the confluence of Wolf Creek.

State TMDL ID	*Use*	*WOS Attainment*	*303(d) Impairment Initial List Year*
	Aquatic Life	Fully Supporting	
VAW-N22R-01	Fish Consumption	Not Supporting	
	303(d) Parameter:	Polychlorinated biphenyls	2002
	Recreation	Fully Supporting	
	Wildlife	Fully Supporting	

WQS Class IV Sec. 1 u
VDH Fish Consumption Advisory for Carp. Issued 8/06/01. Carp caught in these waters should not be consumed. Advisory extends from the Rt. 114 Bridge (Pulaski, Montgomery Counties) downstream to the VA / WVA State Line (Giles County), a total of 52 miles. VDH Level of concern 600 ppb. PCB in Carp at Whitethrone 686 ppb; PCB in Carp at Glen Lyn 3,259 ppb. Complete VDH Fish Consumption Advisory Listing at http://www.vdh.state.va.us/HHControl/fishing_advisories.htm. Complete DEQ Fish Tissue results available at http://www.deq.state.va.us. Assessment basis: DEQ stations 9-NEW032.44 ('01 Sed PCB only), 9-NEW031.03 ('01 Sed PCB only), 9-NEW030.20 ('01 Sed PCB only) and 9-NEW030.15 (AQ,'02, '01 and '00 FT/Sed). 9-NEW032.44- No sediment exceedances of PEC PCB SV of 676 ppb. 9-NEW031.03- No sediment exceedances of PEC PCB SV of 676 ppb. 9-NEW030.20- No sediment exceedances of PEC PCB SV of 676 ppb. 9-NEW030.15- FC, DO, Temp, pH, TP, chlorophyll a, sediment, water column metals and NH3-N all Fully Support. One TP exceedance is found from 59 samples. The one exceedance is 0.24 mg/l, in excees of the TP SV of 0.20 mg/l. 9-NEW030.15- WQS fish tissue results [Table 6(a)] PCB exceeds TV of 54 ppb- Total fish analyzed 106: WQS 2002 FT- Six Carp at 1313, 4750, 6385, 6939, 2916 and 115 ppb- Total Carp analyzed 8. Total fish 34. WQS 2001 FT- Four Carp at 3003, 3121, 1275 and 1425 ppb- Total Carp analyzed 4. Total fish 48. WQS 2000 FT- composite Carp at 3259 ppb- Total Carp analyzed 4. Total fish 24. 9-NEW030.15- No sediment exceedances of PEC SVs from three collections in 2002, 2001, 2000.

AU ID: **VAW-N29R_NEW01A02** **3.14** M ***AU Overall Category:*** **5A**

LOCATION: New River mainstem from the backwaters of Bluestone Reservoir, Route 460, to the confluence of Wolf Creek.

State TMDL ID	*Use*	*WOS Attainment*	*303(d) Impairment Initial List Year*
	Aquatic Life	Fully Supporting	
VAW-N22R-01	Fish Consumption	Not Supporting	
	303(d) Parameter:	Polychlorinated biphenyls	2002
	Recreation	Fully Supporting	
	Wildlife	Fully Supporting	

WQS Class IV Sec. 1 u
VDH Fish Consumption Advisory for Carp. Issued 8/06/01. Carp caught in these waters should not be consumed. Advisory extends from the Rt. 114 Bridge (Pulaski, Montgomery Counties) downstream to the VA / WVA State Line (Giles County), a total of 52 miles. VDH Level of concern 600 ppb. PCB in Carp at Whitethrone 686 ppb; PCB in Carp at Glen Lyn 3,259 ppb. Complete VDH Fish Consumption Advisory Listing at http://www.vdh.state.va.us/HHControl/fishing_advisories.htm. Complete DEQ Fish Tissue results available at http://www.deq.state.va.us. Assessment basis: DEQ stations 9-NEW032.44 ('01 Sed PCB only), 9-NEW031.03 ('01 Sed PCB only), 9-NEW030.20 ('01 Sed PCB only), 9-NEW030.15 (AQ,'02, '01 and '00 FT/Sed) and 9-NEW029.59 ('01 Sed PCB only). 9-NEW032.44- No sediment exceedances of PEC PCB SV of 676 ppb. 9-NEW031.03- No sediment exceedances of PEC PCB SV of 676 ppb. 9-NEW030.20- No sediment exceedances of PEC PCB SV of 676 ppb. 9-NEW030.15- FC, DO, Temp, pH, TP, chlorophyll a, sediment, water column metals and NH3-N all Fully Support. One TP exceedance is found from 59 samples. The one exceedance is 0.24 mg/l, in excees of the TP SV of 0.20 mg/l. 9-NEW030.15- WQS fish tissue results [Table 6(a)] PCB exceeds TV of 54 ppb- Total fish analyzed 106: WQS 2002 FT- Six Carp at 1313, 4750, 6385, 6939, 2916 and 115 ppb- Total Carp analyzed 8. Total fish 34. WQS 2001 FT- Four Carp at 3003, 3121, 1275 and 1425 ppb- Total Carp analyzed 4. Total fish 48. WQS 2000 FT- composite Carp at 3259 ppb- Total Carp analyzed 4. Total fish 24. 9-NEW030.15- No sediment exceedances of PEC SVs from three collections in 2002, 2001, 2000. 9-NEW029.59- No sediment exceedances of PEC SVs from a 2001 collection.

2004 Use Attainment by Assessment Units (AU)

AU ID: **VAW-N29R_CRV01A02** **2.04** M *AU Overall Category:* **2B**

LOCATION: Curve Branch mainstem from its confluence on the New River upstream to its headwaters.

State TMDL ID	*Use*	*WOS Attainment*	*303(d) Impairment Initial List Year*
	Aquatic Life	Fully Supporting	
	Fish Consumption	Not Assessed	
	Recreation	Not Assessed	
	Wildlife	Not Assessed	

WQS Class IV Sec. 1 u
Assessment basis: USFS MAIS station 8104. 8104- Bio 'SI'; slightly impaired. Single Survey '99 MAIS score 14 Good- 'Observed Effect'. No VDH fish consumption advisory.

AU ID: **VAW-N29R_CDN01A00** **3.20** M *AU Overall Category:* **3A**

LOCATION: Clendennin Creek mainstem from its confluence on the New River upstream to its headwaters.

State TMDL ID	*Use*	*WOS Attainment*	*303(d) Impairment Initial List Year*
	Aquatic Life	Not Assessed	
	Fish Consumption	Not Assessed	
	Recreation	Not Assessed	
	Wildlife	Not Assessed	

WQS Class VI Sec. 1 u No current data. These waters are not assessed. No VDH fish consumption advisory.

2006 Impaired Waters

Categories 4 and 5 by DCR Watershed

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

New River Basin

Fact Sheet prepared for DCR Watershed: N29R.*

Cause Group ID: **N29R-01-PCB** **New River, Claytor Lake, Peak Creek and Reed Creek**

2006 TMDL Group Codes: 30001

Location: The impairment begins at the I-77 bridge crossing the New River and extends downstream to the VA/WVA State Line and includes the tributaries Peak Creek and Reed Creek as described below.

Note: The original VDH Advisory issued 8/06/01 extends from Claytor Dam (modified 8/06/03) on the New River on downstream to the VA / WVA State Line. The original VDH Advisory spans the Radford North, Eggleston, Pearisburg, Narrows and Peterstown, WVA Quads.
The expansion of the VDH Advisory issued 12/13/2004 extends from the the I-77 bridge (Wythe County) downstream to Claytor Dam to include the tributaries Peak Creek upstream to the confluence with North Fork Peak Creek (Tract Fork) in Pulaski. And Reed Creek upstream to the confluence with Miller Creek near Rt. 121 bridge near Max Meadows.

City / County: Giles Co Montgomery Cc Pulaski Co Radford City

Use(s): Fish Consumption

Cause(s) /
VA Category: PCB in Fish Tissue / 5A PCB in Fish Tissue / 5D

The Virginia Department of Health (VDH) issued a fish consumption advisory on August 6, 2001 for polychlorinated biphenyls (PCBs) for the lower portion of the New River (Rt. 114 Bridge downstream to the VA / WVA State Line -52.08 miles) based on fish tissue collections from Carp. An Advisory extension on 8/06/2003 to Claytor dam on 8/06/2003 (11.51 miles) reccommends that no carp be consumed in these waters and no more than two meals per month of flathead and channel catfish. The VDH PCB Fish Consumption Advisory was further extended upstream on the New River (__ miles) to the I-77 Bridge to include the lower portions of Peak Creek (4.95 miles), Reed Creek (__ miles) and Claytor Lake (4,287 acres) on 12/02/2004. The VDH advises consumption should not exceed two meals per month for carp and smallmouth bass. The VDH level of concern is 50 parts per billion (ppb) in fish tissue.

There are eight fish tissue collection sites within the 2006 data window reporting exceedences of the WQS based 54 ppb fish tissue value (TV). These data are reviewed by the VDH in making an advisory determination. A complete listing of collection sites and associated fish tissue data are available at http://www.deq.virginia.gov/fishtissue/fishtissue.html. A more detailed presentation of the data can also be found using an interactive mapping application at http://gisweb.deq.state.va.us/. The VDH Advisory information is also available via the web at http://www.vdh.virginia.gov/Epidemiology/PublicHealthToxicology/Advisories/.

Assessment Unit / Water Name / Description	Cause Category / Name		Cycle First Listed	TMDL Schedule	Size
VAW-N29R_NEW01A02 / New River Lower / New River mainstem from the backwaters of Bluestone Reservoir, Route 460, to the confluence of Rich Creek.	5A	PCB in Fish Tissue	2002	2014	3.14
VAW-N29R_NEW02A02 / New River Middle 1 / New River mainstem from the mouth of Rich Creek upstream to the confluence of Wolf Creek.	5A	PCB in Fish Tissue	2002	2014	3.53
VAW-N29R_NEW03A02 / New River Middle 2 / New River mainstem from the confluence of Wolf Creek upstream to the Celanese Acetate Plant outfalls.	5A	PCB in Fish Tissue	2002	2014	2.79
VAW-N29R_NEW04A02 / New River Upper / New River mainstem from the Celeanse Acetate Plant outfalls upstream to the watershed boundary at the confluence of Stony Creek.	5A	PCB in Fish Tissue	2002	2014	5.66

2006 Impaired Waters

Categories 4 and 5 by DCR Watershed

New River Basin

Fact Sheet prepared for DCR Watershed: N29R.*

Assessment Unit / Water Name / Description	Cause Category / Name	Cycle First Listed	TMDL Schedule	Size
New River, Claytor Lake, Peak Creek and Reed Creek		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
	PCB in Fish Tissue - Total Impaired Size by Water Type:			15.12

Sources:

Source Unknown

*The narrative above describes the entire extent of the Impairment. Sizes presented are for Assessment Units (AUs) lying within the DCR Watershed boundary noted above.

VAW-N23R
9-NEW056.22 Route 730 Bridge at Eggleston Gauge (Above Celanese Plant)

Collection Date Time	Temp Celsius
1/28/1999 12:45	8
2/10/1999 12:30	8
3/30/1999 13:20	11.8
4/26/1999 12:00	12.8
5/10/1999 12:10	17.3
6/22/1999 12:00	20.9
7/26/1999 12:45	25.9
8/17/1999 12:30	26.3
9/21/1999 12:30	16.5
10/13/1999 11:30	18.4
11/16/1999 12:20	9
1/26/2000 11:50	0.7
2/14/2000 12:30	4.6
3/29/2000 9:20	7.2
4/6/2000 12:50	13.1
5/24/2000 12:30	19.5
5/24/2000 12:35	19.5
6/26/2000 12:15	25.4
7/25/2000 8:25	20
8/29/2000 11:10	22.4
9/26/2000 8:30	17.5
10/11/2000 11:00	12
11/20/2000 8:00	4.1
12/20/2000 9:00	0.8
1/30/2001 11:30	5.4
2/21/2001 12:00	8
3/15/2001 8:20	8.4
4/16/2001 12:20	11.9
5/8/2001 14:15	16.8
6/21/2001 13:00	23.1
8/15/2001 8:50	22
10/25/2001 9:30	15.9
12/18/2001 9:50	8.7
2/25/2002 9:30	4.8
4/29/2002 14:00	15.66
6/25/2002 13:05	28.26
8/21/2002 11:20	25.92
10/28/2002 15:00	15
12/12/2002 11:30	5.54
2/11/2003 12:20	3.4
4/10/2003 12:30	9.7
6/12/2003 12:25	19.56
1/18/2007 12:00	4.6
3/27/2007 12:30	13.8
5/17/2007 12:15	17.2
7/11/2007 13:05	24.8
9/11/2007 13:05	24
11/28/2007 12:20	8.3
1/15/2008 13:50	4.7
3/25/2008 13:10	8.6
5/20/2008 13:00	16.2
7/9/2008 14:00	24.1

90th percentile temperature	24.7 °C
90th percentile temperature (Jan. - May)	17.3 °C

Station 9-NEW056.22 (Eggleston)

Date Time	Hardness	Average
6/12/2003 12:25	53.8	54.6
4/10/2003 12:30	52.5	
2/11/2003 12:20	66.6	
12/12/2002 11:30	52	
10/28/2002 15:00	65.8	
8/21/2002 11:20	65.7	
6/25/2002 13:05	60.7	
4/29/2002 14:00	54.7	
2/25/2002 9:30	72	
12/18/2001 9:50	65.7	
10/25/2001 9:30	74.5	
8/15/2001 8:50	56.1	
6/21/2001 13:00	41.8	
5/8/2001 14:15	29.8	
4/16/2001 12:20	30.6	
3/15/2001 8:20	64.7	
2/21/2001 12:00	56.5	
1/30/2001 11:30	62.2	
12/20/2000 9:00	54.6	
11/20/2000 8:00	72.9	
10/11/2000 11:00	72.6	
9/26/2000 8:30	56.9	
8/29/2000 11:10	61	
7/25/2000 8:25	55.4	
6/26/2000 12:15	58.6	
5/24/2000 12:30	48	
4/6/2000 12:50	43	
3/29/2000 9:20	49	
2/14/2000 12:30	43.8	
1/26/2000 11:50	59.4	
12/14/1999 10:00	54.3	
11/16/1999 12:20	51.2	
10/13/1999 11:30	56.8	
9/21/1999 12:30	64.7	
8/17/1999 12:30	60.9	
7/26/1999 12:45	55.2	
6/22/1999 12:00	51.7	
5/10/1999 12:10	54	
4/26/1999 12:00	56	
3/30/1999 13:20	54	
2/10/1999 12:30	64	
1/28/1999 12:45	54	
12/8/1998 13:05	67	
11/17/1998 12:30	59	
10/20/1998 12:20	76	
9/1/1998 13:10	63.8	
8/12/1998 15:00	60.5	
7/28/1998 12:50	53.2	
6/4/1998 11:30	49.7	

4/15/1998 12:00	44.7
3/19/1998 11:30	46.2
2/12/1998 12:50	51.6
1/22/1998 11:10	58.7
12/2/1997 13:00	70.6
11/4/1997 9:00	67
10/20/1997 13:20	59.3
9/25/1997 12:30	45.7
8/25/1997 12:45	56.1
7/9/1997 13:00	45.2
6/11/1997 12:10	43.3
5/28/1997 12:30	46
4/16/1997 12:45	51.6
3/25/1997 12:00	55.4
2/12/1997 13:20	69.8
1/22/1997 11:00	60.9
12/18/1996 12:45	63
11/13/1996 9:25	42
10/15/1996 12:00	50
9/19/1996 13:10	60
8/19/1996 13:30	45
7/16/1996 13:15	56
6/12/1996 15:00	20
5/14/1996 15:00	40
4/15/1996 11:15	50
3/14/1996 13:00	56
2/22/1996 12:20	54
1/4/1996 11:50	48
12/4/1995 12:30	64
11/13/1995 13:10	40
10/11/1995 11:45	46
9/13/1995 14:00	61
8/9/1995 12:30	54
7/13/1995 11:45	56
6/21/1995 13:15	49
5/24/1995 14:00	48
4/20/1995 14:40	51
3/29/1995 14:20	52
2/27/1995 16:05	52
1/24/1995 15:35	29
12/7/1994 15:35	50
11/3/1994 15:30	49
10/11/1994 13:15	55
9/28/1994 14:20	48
8/4/1994 13:00	52
7/7/1994 13:10	60
6/7/1994 12:45	55
5/3/1994 13:00	51
4/7/1994 11:20	57
3/28/1994 12:20	57
2/3/1994 12:40	62
1/26/1994 11:50	58

12/2/1993 10:00	64
11/1/1993 13:20	48
10/12/1993 11:15	58
9/1/1993 13:00	54
8/2/1993 13:30	60
7/7/1993 14:00	48

Station 9-NEW056.22 (Eggleston)

Collection Date Time	Field pH	90% max pH	10% max pH
6/12/2003 12:25	7.69	8.63	7.47
4/10/2003 12:30	7.97		
2/11/2003 12:20	8.49		
12/12/2002 11:30	7.44		
10/28/2002 15:00	7.95		
8/21/2002 11:20	8.47		
6/25/2002 13:05	8.44		
4/29/2002 14:00	8.24		
2/25/2002 9:30	8.71		
12/18/2001 9:50	7.47		
10/25/2001 9:30	8.31		
8/15/2001 8:50	7.64		
6/21/2001 13:00	7.72		
5/8/2001 14:15	8.72		
4/16/2001 12:20	9.13		
3/15/2001 8:20	7.33		
2/21/2001 12:00	8.86		
1/30/2001 11:30	8.15		
12/20/2000 9:00	6.98		
11/20/2000 8:00	8.12		
10/11/2000 11:00	8.2		
9/26/2000 8:30	6.8		
8/29/2000 11:10	7.92		
7/25/2000 8:25	8.11		
6/26/2000 12:15	8.36		
5/24/2000 12:35	8.14		
5/24/2000 12:30	8.14		
4/6/2000 12:50	8.4		
3/29/2000 9:20	7.25		
2/14/2000 12:30	7.15		
1/26/2000 11:50	6.71		
11/16/1999 12:20	8.36		
10/13/1999 11:30	8.16		
9/21/1999 12:30	8.42		
8/17/1999 12:30	8.49		
7/26/1999 12:45	8.28		
6/22/1999 12:00	8.92		
5/10/1999 12:10	8.33		
4/26/1999 12:00	8.31		
3/30/1999 13:20	8.46		
2/10/1999 12:30	8.1		
1/28/1999 12:45	8.13		
12/8/1998 13:05	8.3		
11/17/1998 12:30	8.11		
10/20/1998 12:20	8.1		
9/1/1998 13:10	8.4		
8/12/1998 15:00	8.62		
7/28/1998 12:50	8.2		
6/4/1998 11:30	8.02		

5/11/1998 13:20	7.74
4/15/1998 12:00	8.14
3/19/1998 11:30	7.64
2/12/1998 12:50	8.22
1/22/1998 11:10	8.29
12/2/1997 13:00	8.31
11/4/1997 9:00	8.3
10/23/1997 11:00	8.45
10/20/1997 13:20	8.97
9/25/1997 12:30	8.28
8/25/1997 12:45	8.67
6/11/1997 12:10	7.98
5/28/1997 12:30	8.35
4/16/1997 12:45	8.8
3/25/1997 12:00	8.29
2/12/1997 13:20	8.47
1/22/1997 11:00	8.28
12/18/1996 12:45	8.25
11/13/1996 9:25	8.03
10/15/1996 12:00	8.36
9/19/1996 13:10	8.43
8/19/1996 13:30	8.26
7/16/1996 13:15	8.55
6/12/1996 15:00	7.9
5/14/1996 15:00	7.1
4/15/1996 11:15	8.42
3/14/1996 13:00	8.45
2/22/1996 12:20	7.46
1/4/1996 11:50	7.99
12/4/1995 12:30	8.26
11/13/1995 13:10	8.12
10/11/1995 11:45	7.98
9/28/1995 11:30	8.07
9/13/1995 14:00	8.65
8/9/1995 12:30	8.14
7/13/1995 11:45	8.41
6/21/1995 13:15	8.46
5/24/1995 14:00	7.72
4/20/1995 14:40	7.33
3/29/1995 14:20	8.47
2/27/1995 16:05	7.61
1/24/1995 15:35	7.8
12/7/1994 15:35	8
11/3/1994 15:30	8.7
10/11/1994 13:15	8.56
9/28/1994 14:20	8.55
8/4/1994 13:00	8.1
7/7/1994 13:10	8.5
6/7/1994 12:45	8.4
5/3/1994 13:00	8
4/7/1994 11:20	7.9
3/28/1994 12:20	7.7

2/3/1994 12:40	8.3
1/26/1994 11:50	8.2
12/2/1993 10:00	8.1
11/1/1993 13:20	7.3
10/12/1993 11:15	8.1
9/1/1993 13:00	8.5
8/2/1993 13:30	8
7/7/1993 14:00	9.2

Attachment F

Wasteload Calculations

- Mixing Zone Calculations (MIXER 2.1)
- Effluent and Raw Water Data
- Wasteload Allocation Spreadsheets

Mixing Zone Predictions for Giles County WTP

Effluent Flow = 0.97 MGD
Stream 7Q10 = 598 MGD
Stream 30Q10 = 710 MGD
Stream 1Q10 = 517 MGD
Stream slope = 0.00097 ft/ft
Stream width = 400 ft
Bottom scale = 4
Channel scale = 1

Mixing Zone Predictions @ 7Q10

Depth = 3.2329 ft
Length = 44669.64 ft
Velocity = .717 ft/sec
Residence Time = .7211 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.

Mixing Zone Predictions @ 30Q10

Depth = 3.5855 ft
Length = 40929.77 ft
Velocity = .7674 ft/sec
Residence Time = .6173 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.

Mixing Zone Predictions @ 1Q10

Depth = 2.9614 ft
Length = 48099.98 ft
Velocity = .6769 ft/sec
Residence Time = 19.739 hours

Recommendation:

A complete mix assumption is appropriate for this situation providing no more than 5.07% of the 1Q10 is used.

Giles County PSA WTP (VA0089290)

Effluent pH Data

Date	minimum (S.U.)	maximum (S. U.)
10-Sep-04	7.26	7.38
10-Oct-04	7.36	7.51
10-Nov-04	7.2	7.3
10-Dec-04	7.18	7.34
10-Jan-05	7.49	7.56
10-Feb-05	7.08	7.15
10-Mar-05	6.72	6.79
10-Apr-05	6.81	7.09
10-May-05	7.16	7.32
10-Jun-05	7.16	7.23
10-Jul-05	7.12	7.24
10-Aug-05	7.21	7.27
10-Sep-05	7.32	7.4
10-Oct-05	7.28	7.37
10-Nov-05	7.26	7.36
10-Dec-05	7.38	7.46
10-Jan-06	7.11	7.24
10-Feb-06	7.2	7.29
10-Mar-06	7.2	7.35
10-Apr-06	7.24	7.31
10-May-06	7.21	7.38
10-Jun-06	7.06	7.12
10-Jul-06	7.2	7.28
10-Aug-06	7.3	7.56
10-Sep-06	7.2	7.49
10-Oct-06	7.16	7.24
10-Nov-06	7.1	7.16
10-Dec-06	7.11	7.18
10-Jan-07	7.24	7.34
10-Feb-07	7.2	7.31
10-Mar-07	7.21	7.3
10-Apr-07	7.33	7.42
10-May-07	7.22	7.44
10-Jun-07	7.47	7.56
10-Jul-07	7.35	7.44
10-Aug-07	7.54	7.68
10-Sep-07	7.48	7.56
10-Oct-07	7.4	7.6
10-Nov-07	7.36	7.42
10-Dec-07	7.58	7.64
10-Jan-08	7.28	7.36
10-Feb-08	7.24	7.32
10-Mar-08	7.42	7.61
10-Apr-08	7.37	7.46
10-May-08	7.2	7.6
10-Jun-08	7.47	7.58
10-Jul-08	7.34	7.42
10-Aug-08	7.42	7.56
10-Sep-08	7.54	7.61
10-Oct-08	7.47	7.58
10-Nov-08	7.4	7.61
10-Dec-08	7.51	7.66
10-Jan-09	7.49	7.61

Notes:		
90th percentile value	7.61	S.U.
10th percentile value	7.11	S.U.

186411

Water Chemistry
INORGANIC2
Recvd: 05/09/97 1516

NAME OF WATER SYSTEM: Giles Co
SOURCE: RAW WATER - TEST WELL
OTHER INFORMATION: Pearisburg

REPORT RESULTS TO HEALTH OFFICIAL AT:
Name: JOHN CAPITO - OFFICE WATER PROGRAMS
Address:
City: ABINGDON, VA
Zip Code:

NITRATE-N NITRITE-N HARDNESS

WSE 50

Commonwealth of Virginia
Department of Health
Division of Water Programs
Bureau of Water Supply Engineering

REGION: [x] Abingdon [ ] Danville [ ] Richmond [ ] Local Health Dept. [ ] Culpeper [ ] Lexington [ ] Virginia Beach [ ]

PLANNING DISTRICT#
COUNTY:
INDEPENDENT CITY:
SAMPLING LOCATION:
CODE: 1-9
SOURCE TYPE: [x] Public-Community [ ] Public-Noncommunity

FIELD TESTS: Temp: 12.5°C pH: 7.6 Cl_2: mg/L Alk: mg/L CO_2: mg/L Hard.: mg/L

P.W.S.I.D.#: 1 0 7 1 4 5 5 (10-16)
TRANSACTION CODE: 0 3 (17-18)

DATE COLLECTED: Mo 05 Day 09 Yr 97 (19-24)

TIME: 1 0 2 0 (25-28)

COLLECTED BY:

CONTAINER TYPE:
[ ] Glass
[ ] Plastic

PRESERVATIVE USED:
[ ] None
[ ] Ice
[ ] Other
[ ] Nitric Acid
[x] Sulfuric Acid

pH 1.6

SAMPLE TYPE:
D [ ] Reg. Dist.
P [ ] Plant Tap
R [x] Raw Water
C [ ] Check
M [ ] MCL Check
[ ] Other
(29)

CONT. I.D.	CONTAMINANT NAME (Maximum Allowable Level)	MTD.	5	ANALYSIS RESULTS	PRECISION	ANALYSIS DATE Mo Day Yr	A
	Nitrate-Nitrogen						
	Nitrite-Nitrogen						
	Nitrate/Nitrite Nitrogen			0.63		05 20 97	(PB)
	Hardness (Total)			64		05 22 97	MA
	Ca Hardness			53		05 22 97	MA

30-33 LAB I.D. 34-38 39-41 42-50 51-53 54-59

RECEIVED
MAY 23 1997
OFFICE OF WATER PROGRAMS
ABINGDON FIELD OFFICE

DATE REC:
DATE REP: May 21, 1997
PREPARED BY: Norma N. Roadcap

The results on this report are expressed in mg/L unless otherwise indicated. *A = analyst's initials

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Giles County PSA WTP

Permit No.: VA0089290

Receiving Stream: New River, UT

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO3) =	54.6	mg/L
90% Temperature (Annual) =	24.7	deg C
90% Temperature (Wet season) =	17.3	deg C
90% Maximum pH =	8.63	SU
10% Maximum pH =	7.47	SU
Tier Designation (1 or 2) =	1	
Public Water Supply (PWS) Y/N? =	n	
Trout Present Y/N? =	n	
Early Life Stages Present Y/N? =	y	

Stream Flows

1Q10 (Annual) =	0	MGD
7Q10 (Annual) =	0	MGD
30Q10 (Annual) =	0	MGD
1Q10 (Wet season) =	0	MGD
30Q10 (Wet season)	0	MGD
30Q5 =	0	MGD
Harmonic Mean =	0	MGD
Annual Average =		MGD

Mixing Information

Annual - 1Q10 Mix =	100	%
- 7Q10 Mix =	100	%
- 30Q10 Mix =	100	%
Wet Season - 1Q10 Mix =	100	%
- 30Q10 Mix =	100	%

Effluent Information

Mean Hardness (as CaCO3) =	53	mg/L
90% Temp (Annual) =	14.5	deg C
90% Temp (Wet season) =	8.9	deg C
90% Maximum pH =	7.61	SU
10% Maximum pH =	7.11	SU
Discharge Flow =	0.97	MGD

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenapthene	0	--	--	na	2.7E+03	--	--	na	2.7E+03	--	--	--	--	--	--	--	--	--	--	na	2.7E+03
Acrolein	0	--	--	na	7.8E+02	--	--	na	7.8E+02	--	--	--	--	--	--	--	--	--	--	na	7.8E+02
Acrylonitrile[c]	0	--	--	na	6.6E+00	--	--	na	6.6E+00	--	--	--	--	--	--	--	--	--	--	na	6.6E+00
Aldrin [c]	0	3.0E+00	--	na	1.4E-03	3.0E+00	--	na	1.4E-03	--	--	--	--	--	--	--	--	3.0E+00	--	na	1.4E-03
Ammonia-N (mg/l) (Yearly)	0	1.68E+01	3.94E+00	na	--	1.7E+01	3.9E+00	na	--	--	--	--	--	--	--	--	--	1.7E+01	3.9E+00	na	--
Ammonia-N (mg/l) (High Flow)	0	1.68E+01	3.94E+00	na	--	1.7E+01	3.9E+00	na	--	--	--	--	--	--	--	--	--	1.7E+01	3.9E+00	na	--
Anthracene	0	--	--	na	1.1E+05	--	--	na	1.1E+05	--	--	--	--	--	--	--	--	--	--	na	1.1E+05
Antimony	0	--	--	na	4.3E+03	--	--	na	4.3E+03	--	--	--	--	--	--	--	--	--	--	na	4.3E+03
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	3.4E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene [c]	0	--	--	na	7.1E+02	--	--	na	7.1E+02	--	--	--	--	--	--	--	--	--	--	na	7.1E+02
Benzidine[c]	0	--	--	na	5.4E-03	--	--	na	5.4E-03	--	--	--	--	--	--	--	--	--	--	na	5.4E-03
Benzo (a) anthracene [c]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Benzo (b) fluoranthene [c]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Benzo (k) fluoranthene [c]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Benzo (a) pyrene [c]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Bis2-Chloroethyl Ether	0	--	--	na	1.4E+01	--	--	na	1.4E+01	--	--	--	--	--	--	--	--	--	--	na	1.4E+01
Bis2-Chloroisopropyl Ether	0	--	--	na	1.7E+05	--	--	na	1.7E+05	--	--	--	--	--	--	--	--	--	--	na	1.7E+05
Bromoform [c]	0	--	--	na	3.6E+03	--	--	na	3.6E+03	--	--	--	--	--	--	--	--	--	--	na	3.6E+03
Butylbenzylphthalate	0	--	--	na	5.2E+03	--	--	na	5.2E+03	--	--	--	--	--	--	--	--	--	--	na	5.2E+03
Cadmium	0	1.9E+00	6.9E-01	na	--	1.9E+00	6.9E-01	na	--	--	--	--	--	--	--	--	--	1.9E+00	6.9E-01	na	--
Carbon Tetrachloride [c]	0	--	--	na	4.4E+01	--	--	na	4.4E+01	--	--	--	--	--	--	--	--	--	--	na	4.4E+01
Chlordane [c]	0	2.4E+00	4.3E-03	na	2.2E-02	2.4E+00	4.3E-03	na	2.2E-02	--	--	--	--	--	--	--	--	2.4E+00	4.3E-03	na	2.2E-02
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	8.6E+05	2.3E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.9E+01	1.1E+01	na	--
Chlorobenzene	0	--	--	na	2.1E+04	--	--	na	2.1E+04	--	--	--	--	--	--	--	--	--	--	na	2.1E+04

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane[C]	0	--	--	na	3.4E+02	--	--	na	3.4E+02	--	--	--	--	--	--	--	--	--	--	na	3.4E+02
Chloroform [C]	0	--	--	na	2.9E+04	--	--	na	2.9E+04	--	--	--	--	--	--	--	--	--	--	na	2.9E+04
2-Chloronaphthalene	0	--	--	na	4.3E+03	--	--	na	4.3E+03	--	--	--	--	--	--	--	--	--	--	na	4.3E+03
2-Chlorophenol	0	--	--	na	4.0E+02	--	--	na	4.0E+02	--	--	--	--	--	--	--	--	--	--	na	4.0E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	8.3E-02	4.1E-02	na	--
Chromium III	0	3.4E+02	4.4E+01	na	--	3.4E+02	4.4E+01	na	--	--	--	--	--	--	--	--	--	3.4E+02	4.4E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.6E+01	1.1E+01	na	--
Chromium, Total	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Copper	0	7.4E+00	5.2E+00	na	--	7.4E+00	5.2E+00	na	--	--	--	--	--	--	--	--	--	7.4E+00	5.2E+00	na	--
Cyanide	0	2.2E+01	5.2E+00	na	2.2E+05	2.2E+01	5.2E+00	na	2.2E+05	--	--	--	--	--	--	--	--	2.2E+01	5.2E+00	na	2.2E+05
DDD [C]	0	--	--	na	8.4E-03	--	--	na	8.4E-03	--	--	--	--	--	--	--	--	--	--	na	8.4E-03
DDE [C]	0	--	--	na	5.9E-03	--	--	na	5.9E-03	--	--	--	--	--	--	--	--	--	--	na	5.9E-03
DDT [C]	0	1.1E+00	1.0E-03	na	5.9E-03	1.1E+00	1.0E-03	na	5.9E-03	--	--	--	--	--	--	--	--	1.1E+00	1.0E-03	na	5.9E-03
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Dibenz(a,h)anthracene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Dibutyl phthalate	0	--	--	na	1.2E+04	--	--	na	1.2E+04	--	--	--	--	--	--	--	--	--	--	na	1.2E+04
Dichloromethane (Methylene Chloride) [C]	0	--	--	na	1.6E+04	--	--	na	1.6E+04	--	--	--	--	--	--	--	--	--	--	na	1.6E+04
1,2-Dichlorobenzene	0	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	--	--	--	--	--	--	--	--	na	1.7E+04
1,3-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	2.6E+03	--	--	--	--	--	--	--	--	--	--	na	2.6E+03
1,4-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	2.6E+03	--	--	--	--	--	--	--	--	--	--	na	2.6E+03
3,3-Dichlorobenzidine[C]	0	--	--	na	7.7E-01	--	--	na	7.7E-01	--	--	--	--	--	--	--	--	--	--	na	7.7E-01
Dichlorobromomethane [C]	0	--	--	na	4.6E+02	--	--	na	4.6E+02	--	--	--	--	--	--	--	--	--	--	na	4.6E+02
1,2-Dichloroethane [C]	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	9.9E+02
1,1-Dichloroethylene	0	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	--	--	--	--	--	--	--	--	na	1.7E+04
1,2-trans-dichloroethylene	0	--	--	na	1.4E+05	--	--	na	1.4E+05	--	--	--	--	--	--	--	--	--	--	na	1.4E+05
2,4-Dichlorophenol	0	--	--	na	7.9E+02	--	--	na	7.9E+02	--	--	--	--	--	--	--	--	--	--	na	7.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane[C]	0	--	--	na	3.9E+02	--	--	na	3.9E+02	--	--	--	--	--	--	--	--	--	--	na	3.9E+02
1,3-Dichloropropene	0	--	--	na	1.7E+03	--	--	na	1.7E+03	--	--	--	--	--	--	--	--	--	--	na	1.7E+03
Dieldrin [C]	0	2.4E-01	5.6E-02	na	1.4E-03	2.4E-01	5.6E-02	na	1.4E-03	--	--	--	--	--	--	--	--	2.4E-01	5.6E-02	na	1.4E-03
Diethyl Phthalate	0	--	--	na	1.2E+05	--	--	na	1.2E+05	--	--	--	--	--	--	--	--	--	--	na	1.2E+05
Di-2-Ethylhexyl Phthalate [C]	0	--	--	na	5.9E+01	--	--	na	5.9E+01	--	--	--	--	--	--	--	--	--	--	na	5.9E+01
2,4-Dimethylphenol	0	--	--	na	2.3E+03	--	--	na	2.3E+03	--	--	--	--	--	--	--	--	--	--	na	2.3E+03
Dimethyl Phthalate	0	--	--	na	2.9E+06	--	--	na	2.9E+06	--	--	--	--	--	--	--	--	--	--	na	2.9E+06
Di-n-Butyl Phthalate	0	--	--	na	1.2E+04	--	--	na	1.2E+04	--	--	--	--	--	--	--	--	--	--	na	1.2E+04
2,4 Dinitrophenol	0	--	--	na	1.4E+04	--	--	na	1.4E+04	--	--	--	--	--	--	--	--	--	--	na	1.4E+04
2-Methyl-4,6-Dinitrophenol	0	--	--	na	7.65E+02	--	--	na	7.7E+02	--	--	--	--	--	--	--	--	--	--	na	7.7E+02
2,4-Dinitrotoluene [C]	0	--	--	na	9.1E+01	--	--	na	9.1E+01	--	--	--	--	--	--	--	--	--	--	na	9.1E+01
Dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin) (ppq)	0	--	--	na	1.2E-06	--	--	na	na	--	--	--	--	--	--	--	--	--	--	na	na
1,2-Diphenylhydrazine[C]	0	--	--	na	5.4E+00	--	--	na	5.4E+00	--	--	--	--	--	--	--	--	--	--	na	5.4E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	2.2E-01	5.6E-02	na	2.4E+02	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	2.4E+02
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	2.2E-01	5.6E-02	na	2.4E+02	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	2.4E+02
Endosulfan Sulfate	0	--	--	na	2.4E+02	--	--	na	2.4E+02	--	--	--	--	--	--	--	--	--	--	na	2.4E+02
Endrin	0	8.6E-02	3.6E-02	na	8.1E-01	8.6E-02	3.6E-02	na	8.1E-01	--	--	--	--	--	--	--	--	8.6E-02	3.6E-02	na	8.1E-01
Endrin Aldehyde	0	--	--	na	8.1E-01	--	--	na	8.1E-01	--	--	--	--	--	--	--	--	--	--	na	8.1E-01

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.9E+04	--	--	na	2.9E+04	--	--	--	--	--	--	--	--	--	--	na	2.9E+04
Fluoranthene	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
Fluorene	0	--	--	na	1.4E+04	--	--	na	1.4E+04	--	--	--	--	--	--	--	--	--	--	na	1.4E+04
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	1.0E-02	na	--
Heptachlor [C]	0	5.2E-01	3.8E-03	na	2.1E-03	5.2E-01	3.8E-03	na	2.1E-03	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	2.1E-03
Heptachlor Epoxide[C]	0	5.2E-01	3.8E-03	na	1.1E-03	5.2E-01	3.8E-03	na	1.1E-03	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	1.1E-03
Hexachlorobenzene[C]	0	--	--	na	7.7E-03	--	--	na	7.7E-03	--	--	--	--	--	--	--	--	--	--	na	7.7E-03
Hexachlorobutadiene[C]	0	--	--	na	5.0E+02	--	--	na	5.0E+02	--	--	--	--	--	--	--	--	--	--	na	5.0E+02
Hexachlorocyclohexane Alpha-BHC[C]	0	--	--	na	1.3E-01	--	--	na	1.3E-01	--	--	--	--	--	--	--	--	--	--	na	1.3E-01
Hexachlorocyclohexane Beta-BHC[C]	0	--	--	na	4.6E-01	--	--	na	4.6E-01	--	--	--	--	--	--	--	--	--	--	na	4.6E-01
Hexachlorocyclohexane Gamma-BHC[C] (Lindane)	0	9.5E-01	na	na	6.3E-01	9.5E-01	--	na	6.3E-01	--	--	--	--	--	--	--	--	9.5E-01	--	na	6.3E-01
Hexachlorocyclopentadiene	0	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	--	--	--	--	--	--	--	--	na	1.7E+04
Hexachloroethane[C]	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	2.0E+00	na	--
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone[C]	0	--	--	na	2.6E+04	--	--	na	2.6E+04	--	--	--	--	--	--	--	--	--	--	na	2.6E+04
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Lead	0	5.3E+01	6.0E+00	na	--	5.3E+01	6.0E+00	na	--	--	--	--	--	--	--	--	--	5.3E+01	6.0E+00	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	na	5.1E-02	1.4E+00	7.7E-01	na	5.1E-02	--	--	--	--	--	--	--	--	1.4E+00	7.7E-01	na	5.1E-02
Methyl Bromide	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	4.0E+03
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	3.0E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Monochlorobenzene	0	--	--	na	2.1E+04	--	--	na	2.1E+04	--	--	--	--	--	--	--	--	--	--	na	2.1E+04
Nickel	0	1.1E+02	1.2E+01	na	4.6E+03	1.1E+02	1.2E+01	na	4.6E+03	--	--	--	--	--	--	--	--	1.1E+02	1.2E+01	na	4.6E+03
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+03
N-Nitrosodimethylamine[C]	0	--	--	na	8.1E+01	--	--	na	8.1E+01	--	--	--	--	--	--	--	--	--	--	na	8.1E+01
N-Nitrosodiphenylamine[C]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	--	--	na	1.6E+02
N-Nitrosodi-n-propylamine[C]	0	--	--	na	1.4E+01	--	--	na	1.4E+01	--	--	--	--	--	--	--	--	--	--	na	1.4E+01
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	6.5E-02	1.3E-02	na	--
PCB-1016	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1221	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1232	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1242	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1248	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1254	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1260	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB Total[C]	0	--	--	na	1.7E-03	--	--	na	1.7E-03	--	--	--	--	--	--	--	--	--	--	na	1.7E-03

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Pentachlorophenol [C]	0	9.7E+00	7.5E+00	na	8.2E+01	9.7E+00	7.5E+00	na	8.2E+01	--	--	--	--	--	--	--	--	9.7E+00	7.5E+00	na	8.2E+01
Phenol	0	--	--	na	4.6E+06	--	--	na	4.6E+06	--	--	--	--	--	--	--	--	--	--	na	4.6E+06
Pyrene	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+04
Radionuclides (pCi/l except Beta/Photon)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Gross Alpha Activity	0	--	--	na	1.5E+01	--	--	na	1.5E+01	--	--	--	--	--	--	--	--	--	--	na	1.5E+01
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	--	--	--	--	na	4.0E+00
Strontium-90	0	--	--	na	8.0E+00	--	--	na	8.0E+00	--	--	--	--	--	--	--	--	--	--	na	8.0E+00
Tritium	0	--	--	na	2.0E+04	--	--	na	2.0E+04	--	--	--	--	--	--	--	--	--	--	na	2.0E+04
Selenium	0	2.0E+01	5.0E+00	na	1.1E+04	2.0E+01	5.0E+00	na	1.1E+04	--	--	--	--	--	--	--	--	2.0E+01	5.0E+00	na	1.1E+04
Silver	0	1.2E+00	--	na	--	1.2E+00	--	na	--	--	--	--	--	--	--	--	--	1.2E+00	--	na	--
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,1,2,2-Tetrachloroethane[C]	0	--	--	na	1.1E+02	--	--	na	1.1E+02	--	--	--	--	--	--	--	--	--	--	na	1.1E+02
Tetrachloroethylene[C]	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Thallium	0	--	--	na	6.3E+00	--	--	na	6.3E+00	--	--	--	--	--	--	--	--	--	--	na	6.3E+00
Toluene	0	--	--	na	2.0E+05	--	--	na	2.0E+05	--	--	--	--	--	--	--	--	--	--	na	2.0E+05
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Toxaphene [C]	0	7.3E-01	2.0E-04	na	7.5E-03	7.3E-01	2.0E-04	na	7.5E-03	--	--	--	--	--	--	--	--	7.3E-01	2.0E-04	na	7.5E-03
Tributyltin	0	4.6E-01	6.3E-02	na	--	4.6E-01	6.3E-02	na	--	--	--	--	--	--	--	--	--	4.6E-01	6.3E-02	na	--
1,2,4-Trichlorobenzene	0	--	--	na	9.4E+02	--	--	na	9.4E+02	--	--	--	--	--	--	--	--	--	--	na	9.4E+02
1,1,2-Trichloroethane[C]	0	--	--	na	4.2E+02	--	--	na	4.2E+02	--	--	--	--	--	--	--	--	--	--	na	4.2E+02
Trichloroethylene [C]	0	--	--	na	8.1E+02	--	--	na	8.1E+02	--	--	--	--	--	--	--	--	--	--	na	8.1E+02
2,4,6-Trichlorophenol [C]	0	--	--	na	6.5E+01	--	--	na	6.5E+01	--	--	--	--	--	--	--	--	--	--	na	6.5E+01
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Vinyl Chloride[C]	0	--	--	na	6.1E+01	--	--	na	6.1E+01	--	--	--	--	--	--	--	--	--	--	na	6.1E+01
Zinc	0	6.8E+01	6.9E+01	na	6.9E+04	6.8E+01	6.9E+01	na	6.9E+04	--	--	--	--	--	--	--	--	6.8E+01	6.9E+01	na	6.9E+04

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information. Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, Harmonic Mean for Carcinogens, and Annual Average for Dioxin. Mixing ratios may be substituted for stream flows where appropriate.

Metal	Target Value (SSTV)
Antimony	4.3E+03
Arsenic	9.0E+01
Barium	na
Cadmium	4.1E-01
Chromium III	2.6E+01
Chromium VI	6.4E+00
Copper	3.0E+00
Iron	na
Lead	3.6E+00
Manganese	na
Mercury	5.1E-02
Nickel	7.1E+00
Selenium	3.0E+00
Silver	4.6E-01
Zinc	2.7E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

0.970 MGD DISCHARGE FLOW - STREAM MIX PER "Mix.exe"

Discharge Flow Used for WQS-WLA Calculations (MGI 0.970

	Stream Flows Allocated to Mix (MGD)		Total Mix Flows Stream + Discharge (MGD)	
	Dry Season	Wet Season	Dry Season	Wet Season
1Q10	0.000	0.000	0.970	0.970
7Q10	0.000	N/A	0.970	N/A
30Q10	0.000	0.000	0.970	0.970
30Q5	0.000	N/A	0.970	N/A
Harm. Mean	0.000	N/A	0.970	N/A
Annual Avg.	0.000	N/A	0.970	N/A

Stream/Discharge Mix Values

	Dry Season	Wet Season
1Q10 90th% Temp. Mix (deg C)	14.500	8.900
30Q10 90th% Temp. Mix (deg C)	14.500	8.900
1Q10 90th% pH Mix (SU)	7.610	7.610
30Q10 90th% pH Mix (SU)	7.610	7.610
1Q10 10th% pH Mix (SU)	7.110	N/A
7Q10 10th% pH Mix (SU)	7.110	N/A

	Calculated	Formula Inputs
1Q10 Hardness (mg/L as CaCO3)	53.0	53.0
7Q10 Hardness (mg/L as CaCO3)	53.0	53.0

Ammonia - Dry Season - Acute

90th Percentile pH (SU)	7.610
(7.204 - pH)	-0.406
(pH - 7.204)	0.406
Trout Present Criterion (mg N/l	11.193
Trout Absent Criterion (mg N/L	16.761
Trout Present?	n
Effective Criterion (mg N/L)	16.761

Ammonia - Dry Season - Chronic

90th Percentile Temp. (deg C)	14.500
90th Percentile pH (SU)	7.610
MIN	2.850
MAX	14.500
(7.688 - pH)	0.078
(pH - 7.688)	-0.078
Early LS Present Criterion (mg N	3.936
Early LS Absent Criterion (mg N/	3.941
Early Life Stages Present?	y
Effective Criterion (mg N/L)	3.936

Ammonia - Wet Season - Acute

90th Percentile pH (SU)	7.610
(7.204 - pH)	-0.406
(pH - 7.204)	0.406
Trout Present Criterion (mg N/l	11.193
Trout Absent Criterion (mg N/L	16.761
Trout Present?	n
Effective Criterion (mg N/L)	16.761

Ammonia - Wet Season - Chronic

90th Percentile Temp. (deg C)	8.900
90th Percentile pH (SU)	7.610
MIN	2.850
MAX	8.900
(7.688 - pH)	0.078
(pH - 7.688)	-0.078
Early LS Present Criterion (mg N	3.936
Early LS Absent Criterion (mg N/	5.655
Early Life Stages Present?	y
Effective Criterion (mg N/L)	3.936

0.970 MGD DISCHARGE FLOW - COMPLETE STREAM MIX

Discharge Flow Used for WQS-WLA Calculations (MGI 0.970

	100% Stream Flows Allocated to Mix (MGD)		Total Mix Flows Stream + Discharge (MGD)	
	Dry Season	Wet Season	Dry Season	Wet Season
1Q10	0.000	0.000	0.970	0.970
7Q10	0.000	N/A	0.970	N/A
30Q10	0.000	0.000	0.970	0.970
30Q5	0.000	N/A	0.970	N/A
Harm. Mean	0.000	N/A	0.970	N/A
Annual Avg.	0.000	N/A	0.970	N/A

Stream/Discharge Mix Values

	Dry Season	Wet Season
1Q10 90th% Temp. Mix (deg C)	14.500	8.900
30Q10 90th% Temp. Mix (deg C)	14.500	8.900
1Q10 90th% pH Mix (SU)	7.610	7.610
30Q10 90th% pH Mix (SU)	7.610	7.610
1Q10 10th% pH Mix (SU)	7.110	N/A
7Q10 10th% pH Mix (SU)	7.110	N/A

	Calculated	Formula Inputs
1Q10 Hardness (mg/L as CaCO3) =	53.000	53.000
7Q10 Hardness (mg/L as CaCO3) =	53.000	53.000

Ammonia - Dry Season - Acute

90th Percentile pH (SU)	7.610
(7.204 - pH)	-0.406
(pH - 7.204)	0.406
Trout Present Criterion (mg N/l	11.193
Trout Absent Criterion (mg N/L	16.761
Trout Present?	n
Effective Criterion (mg N/L)	16.761

Ammonia - Dry Season - Chronic

90th Percentile Temp. (deg C)	14.500
90th Percentile pH (SU)	7.610
MIN	2.850
MAX	14.500
(7.688 - pH)	0.078
(pH - 7.688)	-0.078
Early LS Present Criterion (mg N	3.936
Early LS Absent Criterion (mg N/	3.941
Early Life Stages Present?	y
Effective Criterion (mg N/L)	3.936

Ammonia - Wet Season - Acute

90th Percentile pH (SU)	7.610
(7.204 - pH)	-0.406
(pH - 7.204)	0.406
Trout Present Criterion (mg N/l	11.193
Trout Absent Criterion (mg N/L	16.761
Trout Present?	n
Effective Criterion (mg N/L)	16.761

Ammonia - Wet Season - Chronic

90th Percentile Temp. (deg C)	8.900
90th Percentile pH (SU)	7.610
MIN	2.850
MAX	8.900
(7.688 - pH)	0.078
(pH - 7.688)	-0.078
Early LS Present Criterion (mg N	3.936
Early LS Absent Criterion (mg N/	5.655
Early Life Stages Present?	y
Effective Criterion (mg N/L)	3.936

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Giles County PSA WTP

Permit No.: VA0089290

Receiving Stream: New River

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO3) =	54.6	mg/L
90% Temperature (Annual) =	24.7	deg C
90% Temperature (Wet season) =	17.3	deg C
90% Maximum pH =	8.63	SU
10% Maximum pH =	7.47	SU
Tier Designation (1 or 2) =	2	
Public Water Supply (PWS) Y/N? =	n	
Trout Present Y/N? =	n	
Early Life Stages Present Y/N? =	y	

Stream Flows

1Q10 (Annual) =	517	MGD
7Q10 (Annual) =	598	MGD
30Q10 (Annual) =	710	MGD
1Q10 (Wet season) =	698	MGD
30Q10 (Wet season)	1278	MGD
30Q5 =	793	MGD
Harmonic Mean =	1775	MGD
Annual Average =		MGD

Mixing Information

Annual - 1Q10 Mix =	5.07	%
- 7Q10 Mix =	100	%
- 30Q10 Mix =	100	%
Wet Season - 1Q10 Mix =	100	%
- 30Q10 Mix =	100	%

Effluent Information

Mean Hardness (as CaCO3) =	53	mg/L
90% Temp (Annual) =	14.5	deg C
90% Temp (Wet season) =	8.9	deg C
90% Maximum pH =	7.61	SU
10% Maximum pH =	7.11	SU
Discharge Flow =	0.97	MGD

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenapthene	0	--	--	na	2.7E+03	--	--	na	2.2E+06	--	--	na	2.7E+02	--	--	na	2.2E+05	--	--	na	2.2E+05
Acrolein	0	--	--	na	7.8E+02	--	--	na	6.4E+05	--	--	na	7.8E+01	--	--	na	6.4E+04	--	--	na	6.4E+04
Acrylonitrile[C]	0	--	--	na	6.6E+00	--	--	na	1.2E+04	--	--	na	6.6E-01	--	--	na	1.2E+03	--	--	na	1.2E+03
Aldrin [C]	0	3.0E+00	--	na	1.4E-03	8.4E+01	--	na	2.6E+00	7.5E-01	--	na	1.4E-04	4.0E+02	--	na	2.6E-01	8.4E+01	--	na	2.6E-01
Ammonia-N (mg/l) (Yearly)	0	3.18E+00	4.58E-01	na	--	8.9E+01	3.4E+02	na	--	6.36E-01	1.15E-01	na	--	3.4E+02	8.4E+01	na	--	8.9E+01	8.4E+01	na	--
Ammonia-N (mg/l) (High Flow)	0	2.53E+00	7.35E-01	na	--	1.8E+03	9.7E+02	na	--	6.33E-01	1.84E-01	na	--	4.6E+02	2.4E+02	na	--	4.6E+02	2.4E+02	na	--
Anthracene	0	--	--	na	1.1E+05	--	--	na	9.0E+07	--	--	na	1.1E+04	--	--	na	9.0E+06	--	--	na	9.0E+06
Antimony	0	--	--	na	4.3E+03	--	--	na	3.5E+06	--	--	na	4.3E+02	--	--	na	3.5E+05	--	--	na	3.5E+05
Arsenic	0	3.4E+02	1.5E+02	na	--	9.5E+03	9.3E+04	na	--	8.5E+01	3.8E+01	na	--	4.5E+04	2.3E+04	na	--	9.5E+03	2.3E+04	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Benzene [C]	0	--	--	na	7.1E+02	--	--	na	1.3E+06	--	--	na	7.1E+01	--	--	na	1.3E+05	--	--	na	1.3E+05
Benzidine[C]	0	--	--	na	5.4E-03	--	--	na	9.9E+00	--	--	na	5.4E-04	--	--	na	9.9E-01	--	--	na	9.9E-01
Benzo (a) anthracene [C]	0	--	--	na	4.9E-01	--	--	na	9.0E+02	--	--	na	4.9E-02	--	--	na	9.0E+01	--	--	na	9.0E+01
Benzo (b) fluoranthene [C]	0	--	--	na	4.9E-01	--	--	na	9.0E+02	--	--	na	4.9E-02	--	--	na	9.0E+01	--	--	na	9.0E+01
Benzo (k) fluoranthene [C]	0	--	--	na	4.9E-01	--	--	na	9.0E+02	--	--	na	4.9E-02	--	--	na	9.0E+01	--	--	na	9.0E+01
Benzo (a) pyrene [C]	0	--	--	na	4.9E-01	--	--	na	9.0E+02	--	--	na	4.9E-02	--	--	na	9.0E+01	--	--	na	9.0E+01
Bis2-Chloroethyl Ether	0	--	--	na	1.4E+01	--	--	na	1.1E+04	--	--	na	1.4E+00	--	--	na	1.1E+03	--	--	na	1.1E+03
Bis2-Chloroisopropyl Ether	0	--	--	na	1.7E+05	--	--	na	1.4E+08	--	--	na	1.7E+04	--	--	na	1.4E+07	--	--	na	1.4E+07
Bromoform [C]	0	--	--	na	3.6E+03	--	--	na	6.6E+06	--	--	na	3.6E+02	--	--	na	6.6E+05	--	--	na	6.6E+05
Butylbenzylphthalate	0	--	--	na	5.2E+03	--	--	na	4.3E+06	--	--	na	5.2E+02	--	--	na	4.3E+05	--	--	na	4.3E+05
Cadmium	0	2.0E+00	7.1E-01	na	--	5.5E+01	4.4E+02	na	--	5.0E-01	1.8E-01	na	--	2.6E+02	1.1E+02	na	--	5.5E+01	1.1E+02	na	--
Carbon Tetrachloride [C]	0	--	--	na	4.4E+01	--	--	na	8.1E+04	--	--	na	4.4E+00	--	--	na	8.1E+03	--	--	na	8.1E+03
Chlordane [C]	0	2.4E+00	4.3E-03	na	2.2E-02	6.7E+01	2.7E+00	na	4.0E+01	6.0E-01	1.1E-03	na	2.2E-03	3.2E+02	6.6E-01	na	4.0E+00	6.7E+01	6.6E-01	na	4.0E+00
Chloride	0	8.6E+05	2.3E+05	na	--	2.4E+07	1.4E+08	na	--	2.2E+05	5.8E+04	na	--	1.1E+08	3.6E+07	na	--	2.4E+07	3.6E+07	na	--
TRC	0	1.9E+01	1.1E+01	na	--	5.3E+02	6.8E+03	na	--	4.8E+00	2.8E+00	na	--	2.5E+03	1.7E+03	na	--	5.3E+02	1.7E+03	na	--
Chlorobenzene	0	--	--	na	2.1E+04	--	--	na	1.7E+07	--	--	na	2.1E+03	--	--	na	1.7E+06	--	--	na	1.7E+06

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane[C]	0	--	--	na	3.4E+02	--	--	na	6.2E+05	--	--	na	3.4E+01	--	--	na	6.2E+04	--	--	na	6.2E+04
Chloroform [C]	0	--	--	na	2.9E+04	--	--	na	5.3E+07	--	--	na	2.9E+03	--	--	na	5.3E+06	--	--	na	5.3E+06
2-Chloronaphthalene	0	--	--	na	4.3E+03	--	--	na	3.5E+06	--	--	na	4.3E+02	--	--	na	3.5E+05	--	--	na	3.5E+05
2-Chlorophenol	0	--	--	na	4.0E+02	--	--	na	3.3E+05	--	--	na	4.0E+01	--	--	na	3.3E+04	--	--	na	3.3E+04
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	2.3E+00	2.5E+01	na	--	2.1E-02	1.0E-02	na	--	1.1E+01	6.3E+00	na	--	2.3E+00	6.3E+00	na	--
Chromium III	0	3.5E+02	4.5E+01	na	--	9.7E+03	2.8E+04	na	--	8.7E+01	1.1E+01	na	--	4.6E+04	7.0E+03	na	--	9.7E+03	7.0E+03	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	4.5E+02	6.8E+03	na	--	4.0E+00	2.8E+00	na	--	2.1E+03	1.7E+03	na	--	4.5E+02	1.7E+03	na	--
Chromium, Total	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Chrysene [C]	0	--	--	na	4.9E-01	--	--	na	9.0E+02	--	--	na	4.9E-02	--	--	na	9.0E+01	--	--	na	9.0E+01
Copper	0	7.6E+00	5.3E+00	na	--	2.1E+02	3.3E+03	na	--	1.9E+00	1.3E+00	na	--	1.0E+03	8.2E+02	na	--	2.1E+02	8.2E+02	na	--
Cyanide	0	2.2E+01	5.2E+00	na	2.2E+05	6.2E+02	3.2E+03	na	1.8E+08	5.5E+00	1.3E+00	na	2.2E+04	2.9E+03	8.0E+02	na	1.8E+07	6.2E+02	8.0E+02	na	1.8E+07
DDD [C]	0	--	--	na	8.4E-03	--	--	na	1.5E+01	--	--	na	8.4E-04	--	--	na	1.5E+00	--	--	na	1.5E+00
DDE [C]	0	--	--	na	5.9E-03	--	--	na	1.1E+01	--	--	na	5.9E-04	--	--	na	1.1E+00	--	--	na	1.1E+00
DDT [C]	0	1.1E+00	1.0E-03	na	5.9E-03	3.1E+01	6.2E-01	na	1.1E+01	2.8E-01	2.5E-04	na	5.9E-04	1.5E+02	1.5E-01	na	1.1E+00	3.1E+01	1.5E-01	na	1.1E+00
Demeton	0	--	1.0E-01	na	--	--	6.2E+01	na	--	--	2.5E-02	na	--	--	1.5E+01	na	--	--	1.5E+01	na	--
Dibenz(a,h)anthracene [C]	0	--	--	na	4.9E-01	--	--	na	9.0E+02	--	--	na	4.9E-02	--	--	na	9.0E+01	--	--	na	9.0E+01
Dibutyl phthalate	0	--	--	na	1.2E+04	--	--	na	9.8E+06	--	--	na	1.2E+03	--	--	na	9.8E+05	--	--	na	9.8E+05
Dichloromethane (Methylene Chloride) [C]	0	--	--	na	1.6E+04	--	--	na	2.9E+07	--	--	na	1.6E+03	--	--	na	2.9E+06	--	--	na	2.9E+06
1,2-Dichlorobenzene	0	--	--	na	1.7E+04	--	--	na	1.4E+07	--	--	na	1.7E+03	--	--	na	1.4E+06	--	--	na	1.4E+06
1,3-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	2.1E+06	--	--	na	2.6E+02	--	--	na	2.1E+05	--	--	na	2.1E+05
1,4-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	2.1E+06	--	--	na	2.6E+02	--	--	na	2.1E+05	--	--	na	2.1E+05
3,3-Dichlorobenzidine[C]	0	--	--	na	7.7E-01	--	--	na	1.4E+03	--	--	na	7.7E-02	--	--	na	1.4E+02	--	--	na	1.4E+02
Dichlorobromomethane [C]	0	--	--	na	4.6E+02	--	--	na	8.4E+05	--	--	na	4.6E+01	--	--	na	8.4E+04	--	--	na	8.4E+04
1,2-Dichloroethane [C]	0	--	--	na	9.9E+02	--	--	na	1.8E+06	--	--	na	9.9E+01	--	--	na	1.8E+05	--	--	na	1.8E+05
1,1-Dichloroethylene	0	--	--	na	1.7E+04	--	--	na	1.4E+07	--	--	na	1.7E+03	--	--	na	1.4E+06	--	--	na	1.4E+06
1,2-trans-dichloroethylene	0	--	--	na	1.4E+05	--	--	na	1.1E+08	--	--	na	1.4E+04	--	--	na	1.1E+07	--	--	na	1.1E+07
2,4-Dichlorophenol	0	--	--	na	7.9E+02	--	--	na	6.5E+05	--	--	na	7.9E+01	--	--	na	6.5E+04	--	--	na	6.5E+04
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
1,2-Dichloropropane[C]	0	--	--	na	3.9E+02	--	--	na	7.1E+05	--	--	na	3.9E+01	--	--	na	7.1E+04	--	--	na	7.1E+04
1,3-Dichloropropene	0	--	--	na	1.7E+03	--	--	na	1.4E+06	--	--	na	1.7E+02	--	--	na	1.4E+05	--	--	na	1.4E+05
Dieldrin [C]	0	2.4E-01	5.6E-02	na	1.4E-03	6.7E+00	3.5E+01	na	2.6E+00	6.0E-02	1.4E-02	na	1.4E-04	3.2E+01	8.6E+00	na	2.6E-01	6.7E+00	8.6E+00	na	2.6E-01
Diethyl Phthalate	0	--	--	na	1.2E+05	--	--	na	9.8E+07	--	--	na	1.2E+04	--	--	na	9.8E+06	--	--	na	9.8E+06
Di-2-Ethylhexyl Phthalate [C]	0	--	--	na	5.9E+01	--	--	na	1.1E+05	--	--	na	5.9E+00	--	--	na	1.1E+04	--	--	na	1.1E+04
2,4-Dimethylphenol	0	--	--	na	2.3E+03	--	--	na	1.9E+06	--	--	na	2.3E+02	--	--	na	1.9E+05	--	--	na	1.9E+05
Dimethyl Phthalate	0	--	--	na	2.9E+06	--	--	na	2.4E+09	--	--	na	2.9E+05	--	--	na	2.4E+08	--	--	na	2.4E+08
Di-n-Butyl Phthalate	0	--	--	na	1.2E+04	--	--	na	9.8E+06	--	--	na	1.2E+03	--	--	na	9.8E+05	--	--	na	9.8E+05
2,4 Dinitrophenol	0	--	--	na	1.4E+04	--	--	na	1.1E+07	--	--	na	1.4E+03	--	--	na	1.1E+06	--	--	na	1.1E+06
2-Methyl-4,6-Dinitrophenol	0	--	--	na	7.65E+02	--	--	na	6.3E+05	--	--	na	7.7E+01	--	--	na	6.3E+04	--	--	na	6.3E+04
2,4-Dinitrotoluene [C]	0	--	--	na	9.1E+01	--	--	na	1.7E+05	--	--	na	9.1E+00	--	--	na	1.7E+04	--	--	na	1.7E+04
Dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin) (ppq)	0	--	--	na	1.2E-06	--	--	na	na	--	--	na	1.2E-07	--	--	na	1.2E-07	--	--	na	na
1,2-Diphenylhydrazine[C]	0	--	--	na	5.4E+00	--	--	na	9.9E+03	--	--	na	5.4E-01	--	--	na	9.9E+02	--	--	na	9.9E+02
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	6.2E+00	3.5E+01	na	2.0E+05	5.5E-02	1.4E-02	na	2.4E+01	2.9E+01	8.6E+00	na	2.0E+04	6.2E+00	8.6E+00	na	2.0E+04
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	6.2E+00	3.5E+01	na	2.0E+05	5.5E-02	1.4E-02	na	2.4E+01	2.9E+01	8.6E+00	na	2.0E+04	6.2E+00	8.6E+00	na	2.0E+04
Endosulfan Sulfate	0	--	--	na	2.4E+02	--	--	na	2.0E+05	--	--	na	2.4E+01	--	--	na	2.0E+04	--	--	na	2.0E+04
Endrin	0	8.6E-02	3.6E-02	na	8.1E-01	2.4E+00	2.2E+01	na	6.6E+02	2.2E-02	9.0E-03	na	8.1E-02	1.1E+01	5.6E+00	na	6.6E+01	2.4E+00	5.6E+00	na	6.6E+01
Endrin Aldehyde	0	--	--	na	8.1E-01	--	--	na	6.6E+02	--	--	na	8.1E-02	--	--	na	6.6E+01	--	--	na	6.6E+01

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.9E+04	--	--	na	2.4E+07	--	--	na	2.9E+03	--	--	na	2.4E+06	--	--	na	2.4E+06
Fluoranthene	0	--	--	na	3.7E+02	--	--	na	3.0E+05	--	--	na	3.7E+01	--	--	na	3.0E+04	--	--	na	3.0E+04
Fluorene	0	--	--	na	1.4E+04	--	--	na	1.1E+07	--	--	na	1.4E+03	--	--	na	1.1E+06	--	--	na	1.1E+06
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	6.2E+00	na	--	--	2.5E-03	na	--	--	1.5E+00	na	--	--	1.5E+00	na	--
Heptachlor [C]	0	5.2E-01	3.8E-03	na	2.1E-03	1.5E+01	2.3E+00	na	3.8E+00	1.3E-01	9.5E-04	na	2.1E-04	6.9E+01	5.9E-01	na	3.8E-01	1.5E+01	5.9E-01	na	3.8E-01
Heptachlor Epoxide[C]	0	5.2E-01	3.8E-03	na	1.1E-03	1.5E+01	2.3E+00	na	2.0E+00	1.3E-01	9.5E-04	na	1.1E-04	6.9E+01	5.9E-01	na	2.0E-01	1.5E+01	5.9E-01	na	2.0E-01
Hexachlorobenzene[C]	0	--	--	na	7.7E-03	--	--	na	1.4E+01	--	--	na	7.7E-04	--	--	na	1.4E+00	--	--	na	1.4E+00
Hexachlorobutadiene[C]	0	--	--	na	5.0E+02	--	--	na	9.2E+05	--	--	na	5.0E+01	--	--	na	9.2E+04	--	--	na	9.2E+04
Hexachlorocyclohexane Alpha-BHC[C]	0	--	--	na	1.3E-01	--	--	na	2.4E+02	--	--	na	1.3E-02	--	--	na	2.4E+01	--	--	na	2.4E+01
Hexachlorocyclohexane Beta-BHC[C]	0	--	--	na	4.6E-01	--	--	na	8.4E+02	--	--	na	4.6E-02	--	--	na	8.4E+01	--	--	na	8.4E+01
Hexachlorocyclohexane Gamma-BHC[C] (Lindane)	0	9.5E-01	na	na	6.3E-01	2.7E+01	--	na	1.2E+03	2.4E-01	--	na	6.3E-02	1.3E+02	--	na	1.2E+02	2.7E+01	--	na	1.2E+02
Hexachlorocyclopentadiene	0	--	--	na	1.7E+04	--	--	na	1.4E+07	--	--	na	1.7E+03	--	--	na	1.4E+06	--	--	na	1.4E+06
Hexachloroethane[C]	0	--	--	na	8.9E+01	--	--	na	1.6E+05	--	--	na	8.9E+00	--	--	na	1.6E+04	--	--	na	1.6E+04
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	1.2E+03	na	--	--	5.0E-01	na	--	--	3.1E+02	na	--	--	3.1E+02	na	--
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	4.9E-01	--	--	na	9.0E+02	--	--	na	4.9E-02	--	--	na	9.0E+01	--	--	na	9.0E+01
Iron	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Isophorone[C]	0	--	--	na	2.6E+04	--	--	na	4.8E+07	--	--	na	2.6E+03	--	--	na	4.8E+06	--	--	na	4.8E+06
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--
Lead	0	5.5E+01	6.3E+00	na	--	1.5E+03	3.9E+03	na	--	1.4E+01	1.6E+00	na	--	7.3E+03	9.7E+02	na	--	1.5E+03	9.7E+02	na	--
Malathion	0	--	1.0E-01	na	--	--	6.2E+01	na	--	--	2.5E-02	na	--	--	1.5E+01	na	--	--	1.5E+01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	na	5.1E-02	3.9E+01	4.8E+02	na	4.2E+01	3.5E-01	1.9E-01	na	5.1E-03	1.9E+02	1.2E+02	na	4.2E+00	3.9E+01	1.2E+02	na	4.2E+00
Methyl Bromide	0	--	--	na	4.0E+03	--	--	na	3.3E+06	--	--	na	4.0E+02	--	--	na	3.3E+05	--	--	na	3.3E+05
Methoxychlor	0	--	3.0E-02	na	--	--	1.9E+01	na	--	--	7.5E-03	na	--	--	4.6E+00	na	--	--	4.6E+00	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--
Monochlorobenzene	0	--	--	na	2.1E+04	--	--	na	1.7E+07	--	--	na	2.1E+03	--	--	na	1.7E+06	--	--	na	1.7E+06
Nickel	0	1.1E+02	1.2E+01	na	4.6E+03	3.1E+03	7.5E+03	na	3.8E+06	2.7E+01	3.0E+00	na	4.6E+02	1.5E+04	1.9E+03	na	3.8E+05	3.1E+03	1.9E+03	na	3.8E+05
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Nitrobenzene	0	--	--	na	1.9E+03	--	--	na	1.6E+06	--	--	na	1.9E+02	--	--	na	1.6E+05	--	--	na	1.6E+05
N-Nitrosodimethylamine[C]	0	--	--	na	8.1E+01	--	--	na	1.5E+05	--	--	na	8.1E+00	--	--	na	1.5E+04	--	--	na	1.5E+04
N-Nitrosodiphenylamine[C]	0	--	--	na	1.6E+02	--	--	na	2.9E+05	--	--	na	1.6E+01	--	--	na	2.9E+04	--	--	na	2.9E+04
N-Nitrosodi-n-propylamine[C]	0	--	--	na	1.4E+01	--	--	na	2.6E+04	--	--	na	1.4E+00	--	--	na	2.6E+03	--	--	na	2.6E+03
Parathion	0	6.5E-02	1.3E-02	na	--	1.8E+00	8.0E+00	na	--	1.6E-02	3.3E-03	na	--	8.7E+00	2.0E+00	na	--	1.8E+00	2.0E+00	na	--
PCB-1016	0	--	1.4E-02	na	--	--	8.6E+00	na	--	--	3.5E-03	na	--	--	2.2E+00	na	--	--	2.2E+00	na	--
PCB-1221	0	--	1.4E-02	na	--	--	8.6E+00	na	--	--	3.5E-03	na	--	--	2.2E+00	na	--	--	2.2E+00	na	--
PCB-1232	0	--	1.4E-02	na	--	--	8.6E+00	na	--	--	3.5E-03	na	--	--	2.2E+00	na	--	--	2.2E+00	na	--
PCB-1242	0	--	1.4E-02	na	--	--	8.6E+00	na	--	--	3.5E-03	na	--	--	2.2E+00	na	--	--	2.2E+00	na	--
PCB-1248	0	--	1.4E-02	na	--	--	8.6E+00	na	--	--	3.5E-03	na	--	--	2.2E+00	na	--	--	2.2E+00	na	--
PCB-1254	0	--	1.4E-02	na	--	--	8.6E+00	na	--	--	3.5E-03	na	--	--	2.2E+00	na	--	--	2.2E+00	na	--
PCB-1260	0	--	1.4E-02	na	--	--	8.6E+00	na	--	--	3.5E-03	na	--	--	2.2E+00	na	--	--	2.2E+00	na	--
PCB Total[C]	0	--	--	na	1.7E-03	--	--	na	3.1E+00	--	--	na	1.7E-04	--	--	na	3.1E-01	--	--	na	3.1E-01

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Pentachlorophenol [C]	0	1.4E+01	1.1E+01	na	8.2E+01	3.8E+02	6.6E+03	na	1.5E+05	3.5E+00	2.7E+00	na	8.2E+00	1.9E+03	1.7E+03	na	1.5E+04	3.8E+02	1.7E+03	na	1.5E+04
Phenol	0	--	--	na	4.6E+06	--	--	na	3.8E+09	--	--	na	4.6E+05	--	--	na	3.8E+08	--	--	na	3.8E+08
Pyrene	0	--	--	na	1.1E+04	--	--	na	9.0E+06	--	--	na	1.1E+03	--	--	na	9.0E+05	--	--	na	9.0E+05
Radionuclides (pCi/l except Beta/Photon)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Gross Alpha Activity	0	--	--	na	1.5E+01	--	--	na	1.2E+04	--	--	na	1.5E+00	--	--	na	1.2E+03	--	--	na	1.2E+03
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	3.3E+03	--	--	na	4.0E-01	--	--	na	3.3E+02	--	--	na	3.3E+02
Strontium-90	0	--	--	na	8.0E+00	--	--	na	6.5E+03	--	--	na	8.0E-01	--	--	na	6.5E+02	--	--	na	6.5E+02
Tritium	0	--	--	na	2.0E+04	--	--	na	1.6E+07	--	--	na	2.0E+03	--	--	na	1.6E+06	--	--	na	1.6E+06
Selenium	0	2.0E+01	5.0E+00	na	1.1E+04	5.6E+02	3.1E+03	na	9.0E+06	5.0E+00	1.3E+00	na	1.1E+03	2.7E+03	7.7E+02	na	9.0E+05	5.6E+02	7.7E+02	na	9.0E+05
Silver	0	1.2E+00	--	na	--	3.4E+01	--	na	--	3.0E-01	--	na	--	1.6E+02	--	na	--	3.4E+01	--	na	--
Sulfate	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
1,1,2,2-Tetrachloroethane[C]	0	--	--	na	1.1E+02	--	--	na	2.0E+05	--	--	na	1.1E+01	--	--	na	2.0E+04	--	--	na	2.0E+04
Tetrachloroethylene[C]	0	--	--	na	8.9E+01	--	--	na	1.6E+05	--	--	na	8.9E+00	--	--	na	1.6E+04	--	--	na	1.6E+04
Thallium	0	--	--	na	6.3E+00	--	--	na	5.2E+03	--	--	na	6.3E-01	--	--	na	5.2E+02	--	--	na	5.2E+02
Toluene	0	--	--	na	2.0E+05	--	--	na	1.6E+08	--	--	na	2.0E+04	--	--	na	1.6E+07	--	--	na	1.6E+07
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Toxaphene [C]	0	7.3E-01	2.0E-04	na	7.5E-03	2.0E+01	1.2E-01	na	1.4E+01	1.8E-01	5.0E-05	na	7.5E-04	9.7E+01	3.1E-02	na	1.4E+00	2.0E+01	3.1E-02	na	1.4E+00
Tributyltin	0	4.6E-01	6.3E-02	na	--	1.3E+01	3.9E+01	na	--	1.2E-01	1.6E-02	na	--	6.1E+01	9.7E+00	na	--	1.3E+01	9.7E+00	na	--
1,2,4-Trichlorobenzene	0	--	--	na	9.4E+02	--	--	na	7.7E+05	--	--	na	9.4E+01	--	--	na	7.7E+04	--	--	na	7.7E+04
1,1,2-Trichloroethane[C]	0	--	--	na	4.2E+02	--	--	na	7.7E+05	--	--	na	4.2E+01	--	--	na	7.7E+04	--	--	na	7.7E+04
Trichloroethylene [C]	0	--	--	na	8.1E+02	--	--	na	1.5E+06	--	--	na	8.1E+01	--	--	na	1.5E+05	--	--	na	1.5E+05
2,4,6-Trichlorophenol [C]	0	--	--	na	6.5E+01	--	--	na	1.2E+05	--	--	na	6.5E+00	--	--	na	1.2E+04	--	--	na	1.2E+04
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Vinyl Chloride[C]	0	--	--	na	6.1E+01	--	--	na	1.1E+05	--	--	na	6.1E+00	--	--	na	1.1E+04	--	--	na	1.1E+04
Zinc	0	7.0E+01	7.1E+01	na	6.9E+04	2.0E+03	4.4E+04	na	5.6E+07	1.8E+01	1.8E+01	na	6.9E+03	9.4E+03	1.1E+04	na	5.6E+06	2.0E+03	1.1E+04	na	5.6E+06

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information. Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, Harmonic Mean for Carcinogens, and Annual Average for Dioxin. Mixing ratios may be substituted for stream flows where appropriate.

Metal	Target Value (SSTV)
Antimony	3.5E+05
Arsenic	3.8E+03
Barium	na
Cadmium	2.2E+01
Chromium III	3.9E+03
Chromium VI	1.8E+02
Copper	8.5E+01
Iron	na
Lead	5.8E+02
Manganese	na
Mercury	4.2E+00
Nickel	1.1E+03
Selenium	2.2E+02
Silver	1.4E+01
Zinc	7.9E+02

Note: do not use QL's lower than the minimum QL's provided in agency guidance

0.970 MGD DISCHARGE FLOW - STREAM MIX PER "Mix.exe"

Discharge Flow Used for WQS-WLA Calculations (MGI 0.970

	Stream Flows Allocated to Mix (MGD)		Total Mix Flows Stream + Discharge (MGD)	
	Dry Season	Wet Season	Dry Season	Wet Season
1Q10	26.212	698.000	27.182	698.970
7Q10	598.000	N/A	598.970	N/A
30Q10	710.000	1278.000	710.970	1278.970
30Q5	793.000	N/A	793.970	N/A
Harm. Mean	1775.000	N/A	1775.970	N/A
Annual Avg.	0.000	N/A	0.970	N/A

Stream/Discharge Mix Values

	Dry Season	Wet Season
1Q10 90th% Temp. Mix (deg C)	24.336	17.288
30Q10 90th% Temp. Mix (deg C)	24.686	17.294
1Q10 90th% pH Mix (SU)	8.504	8.624
30Q10 90th% pH Mix (SU)	8.624	8.627
1Q10 10th% pH Mix (SU)	7.450	N/A
7Q10 10th% pH Mix (SU)	7.469	N/A

	Calculated	Formula Inputs
1Q10 Hardness (mg/L as CaCO3)	54.5	54.5
7Q10 Hardness (mg/L as CaCO3)	54.6	54.6

Ammonia - Dry Season - Acute

90th Percentile pH (SU)	8.504
(7.204 - pH)	-1.300
(pH - 7.204)	1.300
Trout Present Criterion (mg N/l	2.125
Trout Absent Criterion (mg N/L	3.181
Trout Present?	n
Effective Criterion (mg N/L)	3.181

Ammonia - Dry Season - Chronic

90th Percentile Temp. (deg C)	24.686
90th Percentile pH (SU)	8.624
MIN	1.480
MAX	24.686
(7.688 - pH)	-0.936
(pH - 7.688)	0.936
Early LS Present Criterion (mg N	0.458
Early LS Absent Criterion (mg N/	0.458
Early Life Stages Present?	y
Effective Criterion (mg N/L)	0.458

Ammonia - Wet Season - Acute

90th Percentile pH (SU)	8.624
(7.204 - pH)	-1.420
(pH - 7.204)	1.420
Trout Present Criterion (mg N/l	1.692
Trout Absent Criterion (mg N/L	2.533
Trout Present?	n
Effective Criterion (mg N/L)	2.533

Ammonia - Wet Season - Chronic

90th Percentile Temp. (deg C)	17.294
90th Percentile pH (SU)	8.627
MIN	2.383
MAX	17.294
(7.688 - pH)	-0.939
(pH - 7.688)	0.939
Early LS Present Criterion (mg N	0.735
Early LS Absent Criterion (mg N/	0.735
Early Life Stages Present?	y
Effective Criterion (mg N/L)	0.735

0.970 MGD DISCHARGE FLOW - COMPLETE STREAM MIX

Discharge Flow Used for WQS-WLA Calculations (MGI 0.970

	100% Stream Flows Allocated to Mix (MGD)		Total Mix Flows Stream + Discharge (MGD)	
	Dry Season	Wet Season	Dry Season	Wet Season
1Q10	517.000	698.000	517.970	698.970
7Q10	598.000	N/A	598.970	N/A
30Q10	710.000	1278.000	710.970	1278.970
30Q5	793.000	N/A	793.970	N/A
Harm. Mean	1775.000	N/A	1775.970	N/A
Annual Avg.	0.000	N/A	0.970	N/A

Stream/Discharge Mix Values

	Dry Season	Wet Season
1Q10 90th% Temp. Mix (deg C)	24.681	17.288
30Q10 90th% Temp. Mix (deg C)	24.686	17.294
1Q10 90th% pH Mix (SU)	8.622	8.624
30Q10 90th% pH Mix (SU)	8.624	8.627
1Q10 10th% pH Mix (SU)	7.469	N/A
7Q10 10th% pH Mix (SU)	7.469	N/A

	Calculated	Formula Inputs
1Q10 Hardness (mg/L as CaCO3) =	54.597	54.597
7Q10 Hardness (mg/L as CaCO3) =	54.597	54.597

Ammonia - Dry Season - Acute

90th Percentile pH (SU)	8.622
(7.204 - pH)	-1.418
(pH - 7.204)	1.418
Trout Present Criterion (mg N/l	1.699
Trout Absent Criterion (mg N/L	2.543
Trout Present?	n
Effective Criterion (mg N/L)	2.543

Ammonia - Dry Season - Chronic

90th Percentile Temp. (deg C)	24.686
90th Percentile pH (SU)	8.624
MIN	1.480
MAX	24.686
(7.688 - pH)	-0.936
(pH - 7.688)	0.936
Early LS Present Criterion (mg N	0.458
Early LS Absent Criterion (mg N/	0.458
Early Life Stages Present?	y
Effective Criterion (mg N/L)	0.458

Ammonia - Wet Season - Acute

90th Percentile pH (SU)	8.624
(7.204 - pH)	-1.420
(pH - 7.204)	1.420
Trout Present Criterion (mg N/l	1.692
Trout Absent Criterion (mg N/L	2.533
Trout Present?	n
Effective Criterion (mg N/L)	2.533

Ammonia - Wet Season - Chronic

90th Percentile Temp. (deg C)	17.294
90th Percentile pH (SU)	8.627
MIN	2.383
MAX	17.294
(7.688 - pH)	-0.939
(pH - 7.688)	0.939
Early LS Present Criterion (mg N	0.735
Early LS Absent Criterion (mg N/	0.735
Early Life Stages Present?	y
Effective Criterion (mg N/L)	0.735

Attachment G

NPDES Permit Rating Worksheet

NPDES PERMIT RATING WORK SHEET

☐ Regular Addition
☐ DiscretionaryAddition
☐ Score change, but no status change
☐ Deletion

NPDES NO. VA0089290

Facility Name: **Giles County PSA WTP**

City: Pearisburg, Virginia

Receiving Water: New River, UT

Reach Number: _____

Is this facility a steam electric power plant (SIC=4911) with one or more of the following characteristics?
1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate

☐ YES; score is 600 (stop here) ■ NO (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

☐ YES; score is 700 (stop here)
■ NO (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: _____ Primary SIC Code: 4941 Other SIC Codes: _____
Industrial Subcategory Code: 0 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☐ No process waste streams	0	0	☐ 3.	3	15	■ 7.	7	35
☐ 1.	1	5	☐ 4.	4	20	☐ 8.	8	40
☐ 2.	2	10	☐ 5.	5	25	☐ 9.	9	45
			☐ 6.	6	30	☐ 10.	10	50

Code Number Checked: 7

Total Points Factor 1: 35

FACTOR 2: Flow/Stream Flow Volume (*Complete either Section A or Section B; check only one)*

Section A ☐ Wastewater Flow Only Considered

Wastewater Type (See Instructions)		Code	Points
Type I: Flow < 5 MGD	☐	11	0
Flow 5 to 10 MGD	☐	12	10
Flow > 10 to 50 MGD	☐	13	20
Flow > 50 MGD	☐	14	30
Type II: Flow < 1 MGD	■	21	10
Flow 1 to 5 MGD	☐	22	20
Flow > 5 to 10 MGD	☐	23	30
Flow > 10 MGD	☐	24	50
Type III: Flow < 1 MGD	☐	31	0
Flow 1 to 5 MGD	☐	32	10
Flow > 5 to 10 MGD	☐	33	20
Flow > 10 MGD	☐	34	30

Section B ☐ Wastewater and Stream Flow Considered

Wastewater Type (See Instructions)	Percent of instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	< 10 %	☐	41	0
	10 % to < 50 %	☐	42	10
	> 50 %	☐	43	20
Type II:	< 10 %	☐	51	0
	10 % to <50 %	☐	52	20
	> 50 %	☐	53	30

Code Checked from Section A or B: 21
Total Points Factor 2: 10

FACTOR 3: Conventional Pollutants NPDES NO: **VA0089290**
(only when limited by the permit)

A. Oxygen Demanding Pollutant: (check one) ☐ BOD ☐ COD ☐ Other:_____

			Code	*Points*
Permit Limits: (check one)	☐	< 100 lbs/day	1	0
	☐	100 to 1000 lbs/day	2	5
	☐	> 1000 to 3000 lbs/day	3	15
	☐	> 3000 lbs/day	4	20

Code Checked: NA

Points Scored: 0

B. Total Suspended Solids (TSS)

			Code	*Points*
Permit Limits: (check one)	■	< 100 lbs/day	1	0
	☐	100 to 1000 lbs/day	2	5
	☐	> 1000 to 5000 lbs/day	3	15
	☐	> 5000 lbs/day	4	20

Code Checked: 1

Points Scored: 0

C. Nitrogen Pollutant: (check one) ☐ Ammonia ☐ Other: _____

		Nitrogen Equivalent	*Code*	*Points*
Permit Limits: (check one)	☐	< 300 lbs/day	1	0
	☐	300 to 1000 lbs/day	2	5
	☐	> 1000 to 3000 lbs/day	3	15
	☐	> 3000 lbs/day	4	20

Code Checked: NA

Points Scored: 0

Total Points Factor 3: 0

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this includes any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above referenced supply.

■ YES (If yes, check toxicity potential number below)

☐ NO (If no, go to Factor 5)

Determine the *human health* toxicity potential from Appendix A. Use the same SIC code and subcategory reference as in Factor 1. (Be sure to use the human health toxicity group column ☐ check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☐ No process waste streams	0	0	☐ 3.	3	0	■ 7.	7	15
☐ 1.	1	0	☐ 4.	4	0	☐ 8.	8	20
☐ 2.	2	0	☐ 5.	5	5	☐ 9.	9	25
			☐ 6.	6	10	☐ 10.	10	30

Code Number Checked: 07

Total Points Factor 4: 15

FACTOR 5: Water Quality Factors

NPDES NO. VA0089290

A. *Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a wasteload allocation been assigned to the discharge:*

		Code	Points
■	Yes	1	10
□	No	2	0

B. *Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?*

		Code	Points
■	Yes	1	0
□	No	2	5

C. *Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?*

		Code	Points
□	Yes	1	10
■	No	2	0

Code Number Checked: A 1 B 1 C 2

Points Factor 5: A 10 + B 0 + C 0 = 10 TOTAL

FACTOR 6: Proximity to Near Coastal Waters

A. *Base Score: Enter flow code here (from Factor 2): 21*

Enter the multiplication factor that corresponds to the flow code: 0.10

Check appropriate facility HPRI Code (from PCS):

	HPRI#	*Code*	*HPRI Score*
□	1	1	20
□	2	2	0
□	3	3	30
■	4	4	0
□	5	5	20

HPRI code checked: ___

Flow Code	*Multiplication Factor*
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

Base Score: (HPRI Score) 0 X (Multiplication Factor) 0.1 = 0 (TOTAL POINTS)

B. *Additional Points □ NEP Program*
For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

	Code	Points
□ Yes	1	10
■ No	2	0

C. *Additional Points □ Great Lakes Area of Concern*
For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see Instructions)

	Code	Points
□ Yes	1	10
■ No	2	0

Code Number Checked: A 4 B 2 C 2

Points Factor 6: A 0 + B 0 + C 0 = 0 TOTAL

SCORE SUMMARY NPDES NO. VA0089290

Factor	Description	Total Points
1	Toxic Pollutant Potential	35
2	Flows/Streamflow Volume	10
3	Conventional Pollutants	0
4	Public Health Impacts	15
5	Water Quality Factors	10
6	Proximity to Near Coastal Waters	0
	TOTAL (Factors 1 through 6)	70

S1. Is the total score equal to or greater than 80? ☐ Yes (Facility is a major) ☒ No

S2. If the answer to the above questions is no, would you like this facility to be a discretionary major?

☒ No

☐ Yes (Add 500 points to the above score and provide reason below:

Reason:

NEW SCORE: 70

OLD SCORE: 60

Becky L. France
Permit Reviewer's Name

(540) 562-6700
Phone Number

3/23/09
Date

Attachment H

Public Notice

PUBLIC NOTICE – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated wastewater into a water body in Giles County.
PUBLIC COMMENT PERIOD: 30 days following the public notice issue date; comment period ends 4:30 pm of last day
PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board
APPLICANT NAME, ADDRESS, AND PERMIT NUMBER: Giles County Public Service Authority, PO Box 701, Pearisburg, VA 24134, VA00089290
FACILITY NAME AND LOCATION: Giles County PSA WTP, 2030 Narrows Road, Pearisburg, VA 24134
PROJECT DESCRIPTION: Giles County WTP has applied for a reissuance of a permit for the public water treatment plant in Giles County. The applicant proposes to release industrial wastewater from the production of potable water at a rate of 0.97 MGD from the current facility into a water body. The facility proposes to release industrial wastewater into an unnamed tributary of the New River in the New River Watershed (VAW-L29R). A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: solids
HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments by e-mail, fax, or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for a public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requestor, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. DEQ may hold a public hearing, including another comment period, if a public response is significant and there are substantial, disputed issues relevant to the permit
CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS, AND ADDITIONAL INFORMATION:
NAME: Becky L. France; ADDRESS: Virginia Department of Environmental Quality, Blue Ridge Regional Office, 3019 Peters Creek Road, Roanoke, VA 24019-2738; PHONE: (540) 562-6700; E-MAIL ADDRESS: blfrance@deq.virginia.gov; FAX: (540) 562-6725. The public may review the draft permit and application at the DEQ office named above by appointment.

Attachment I

EPA Checksheet

Revised 2/2003

State "FY2003 Transmittal Checklist" to Assist in Targeting Municipal and Industrial Individual NPDES Draft Permits for Review

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: Giles County PSA WTP

NPDES Permit Number: VA0089290

Permit Writer Name: Becky L. France

Date: 2/13/09

Major [ ] **Minor** [X] **Industrial** [X] **Municipal** [ ]

I.A. Draft Permit Package Submittal Includes:	**Yes**	**No**	**N/A**
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?			X
6. A Reasonable Potential analysis showing calculated WQBELs?			X
7. Dissolved Oxygen calculations?		X	
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?	X		

I.B. Permit/Facility Characteristics	**Yes**	**No**	**N/A**
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet **or** permit contain a description of the wastewater treatment process?	X		

I.B. Permit/Facility Characteristics – cont. (FY2003)	Yes	No	N/A
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?		X	
a. Has a TMDL been developed and approved by EPA for the impaired water?			X
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			X
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?			X
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?		X	
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?		X	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?		X	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?			X
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

Part II. NPDES Draft Permit Checklist (FY2003)

Region III NPDES Permit Quality Review Checklist – For Non-Municipals

(To be completed and included in the record for all non-POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet **or** permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?	X		

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)	Yes	No	N/A
1. Is the facility subject to a national effluent limitations guideline (ELG)?		X	
a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?			X
b. If no, does the record indicate that a technology-based analysis based on Best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?	X		
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?	X		
3. Does the fact sheet adequately document the calculations used to develop both ELG and /or BPJ technology-based effluent limits?	X		
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a "reasonable measure of ACTUAL production" for the facility (not design)?			X
5. Does the permit contain "tiered" limits that reflect projected increases in production or flow?		X	
a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?			X
6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?	X		

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ) – cont.	Yes	No	N/A
7. Are all technology-based limits expressed in terms of both maximum daily, weekly average, and/or monthly average limits?	X		
8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?		X	

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?			X
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?			X
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?			X
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations where data are available)?			X
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?			X
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, weekly average, instantaneous) effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the fact sheet indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	X		

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II.E. Monitoring and Reporting Requirements (FY2003)	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			X
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		
3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State's standard practices?			X

II.F. Special Conditions	Yes	No	N/A
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?		X	
a. If yes, does the permit adequately incorporate and require compliance with the BMPs?			X
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	X		

II.G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		

List of Standard Conditions – 40 CFR 122.41

Duty to comply
Duty to reapply
Need to halt or reduce activity not a defense
Duty to mitigate
Proper O & M
Permit actions

Property rights
Duty to provide information
Inspections and entry
Monitoring and records
Signatory requirement
Bypass
Upset

Reporting Requirements
- Planned change
- Anticipated noncompliance
- Transfers
- Monitoring reports
- Compliance schedules
- 24-Hour reporting
- Other non-compliance

2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]?	X		

Part III. Signature Page (FY2003)

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	Becky L. France
Title	Environmental Engineer Senior
Signature	Becky L. France
Date	2/13/09