2019 WQC

WATER QUALITY CALCULATIONS FOR METALS AND OTHER TOXIC SUBSTANCES
WATER QUALITY BASED EFFLUENT CALCULATIONS
OUTFALL 001

FACILITY:	PERMIT #:	DATE:	CALC BY:
City of Adamsville	TN0064785	4/21/2023	MTS

non-regulated stream worksheet (7Q10)

Stream (7Q10) [MGD]	Stream (30Q5) [MGD]	Waste Flow [MGD]	Ttl. Susp. Solids [mg/l]	Hardness (as CaCO3) [mg/l]	Margin of Safety [%]
3.55	3.55	0.299	27	25	90

Snake Creek is a wadeable stream
5.5 CFS and 35:1 dilution ratio

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
	Stream	Fish/Aqua. Life (F & AL) WQC			F & AL- instream allowable		Calc. Effluent Concentration		Human Health Water Quality Criteria *						effluent	
	Bckgrnd.	lab conditions		Fraction	ambient conditions (Tot)		based on F & AL		In-Stream Criteria			Calc. Effluent Concentration **			limited	
	Conc.	Chronic	Acute	Dissolved	Chronic	Acute	Chronic	Acute	Organisms	Water/Organisms	DWS	Organisms	Water/Organisms	DWS	case	
PARAMETER	[ug/l]	[ug/l]	[ug/l]	[Fraction]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	ug/l	**PARAMETER**
Copper (a,b)	1.394	2.739	3.640	0.292	9.372	12.453	**93.79**	**129.53**	N/A	N/A	N/A	**N/A**	**N/A**	**N/A**	**80.0**	**Copper (a,b)**
Chromium III	1.954	23.813	183.066	0.191	124.455	956.761	**1422.66**	**11076.70**	N/A	N/A	N/A	**N/A**	**N/A**	**N/A**		**Chromium III**
Chromium VI	1.954	11.000	16.000	1.000	11.000	16.000	**106.68**	**164.68**	N/A	N/A	N/A	**N/A**	**N/A**	**N/A**		**Chromium VI**
Chromium, Total	1.954	N/A	N/A	N/A	N/A	N/A	**N/A**	**N/A**	N/A	N/A	100.0	**N/A**	**N/A**	**1139.01**	**60.0**	**Chromium, Total**
Nickel (a,b)	1.229	16.096	144.918	0.332	48.431	436.046	**548.61**	**5044.62**	4600.0	610.0	100.0	**53342.95**	**7062.33**	**1146.77**	**180.0**	**Nickel (a,b)**
Cadmium (a,b)	0.118	0.253	0.492	0.278	0.910	1.770	**9.30**	**19.26**	N/A	N/A	5.0	**N/A**	**N/A**	**56.73**	**5.0**	**Cadmium (a,b)**
Lead (a,b)	0.845	0.541	13.882	0.156	3.469	89.025	**31.20**	**1023.58**	N/A	N/A	5.0	**N/A**	**N/A**	**48.96**	**45.0**	**Lead (a,b)**
Mercury (T) (c)	0.021	0.770	1.400	1.000	0.770	1.400	**8.71**	**16.02**	0.051	0.05	2.0	**0.37**	**0.36**	**22.98**	**0.4**	**Mercury (T) (c)**
Silver (a,b,e)	0.15	N/A	0.296	1.000	N/A	0.296	**N/A**	**1.85**	N/A	N/A	N/A	**N/A**	**N/A**	**N/A**	**5.0**	**Silver (a,b,e)**
Zinc (a,b)	3.847	36.498	36.202	0.232	157.599	156.320	**1786.86**	**1772.03**	26000.0	7400.0	N/A	**301536.79**	**85792.57**	**N/A**	**200.0**	**Zinc (a,b)**
Cyanide (d)	4.50	5.200	22.000	1.000	5.200	22.000	**12.17**	**207.04**	140.0	140.0	200.0	**1575.74**	**1575.74**	**2271.68**	**230.0**	**Cyanide (d)**
Toluene	0.000								15000.0	1300.0	1000.0	**173987.28**	**15078.90**	**11599.15**	**15.0**	**Toluene**
Benzene	0.000								510.0	22.0	5.0	**5915.57**	**255.18**	**58.00**	**3.0**	**Benzene**
1,1,1 Trichloroethane	0.000								N/A	N/A	200.0	**N/A**	**N/A**	**2319.83**	**30.0**	**1,1,1 Trichloroethane**
Ethylbenzene	0.000								2100.0	530.0	700.0	**24358.22**	**6147.55**	**8119.41**	**4.0**	**Ethylbenzene**
Carbon Tetrachloride	0.000								16.0	2.3	5.0	**185.59**	**26.68**	**58.00**	**15.0**	**Carbon Tetrachloride**
Chloroform	0.000								4700.0	57.0	N/A	**54516.01**	**661.15**	**N/A**	**85.0**	**Chloroform**
Tetrachloroethylene	0.000								33.0	6.9	5.0	**382.77**	**80.03**	**58.00**	**25.0**	**Tetrachloroethylene**
Trichloroethylene	0.000								300.0	25.0	5.0	**3479.75**	**289.98**	**58.00**	**10.0**	**Trichloroethylene**
1,2 trans Dichloroethylene	0.000								10000.0	140.0	100.0	**N/A**	**1623.88**	**1159.92**	**1.5**	**1,2 trans Dichloroethylene**
Methylene Chloride	0.000								5900.0	46.0	5.0	**68435.00**	**533.56**	**N/A**	**50.0**	**Methylene Chloride**
Total Phenols	0.000								860000.0	10000.0	N/A	**9975270.58**	**115991.52**	**N/A**	**50.0**	**Total Phenols**
Naphthalene	0.000								N/A	N/A	N/A	**N/A**	**N/A**	**N/A**	**1.0**	**Naphthalene**
Total Phthalates	0.000								N/A	N/A	N/A	**N/A**	**N/A**	**N/A**	**64.5**	**Total Phthalates**
Chlorine (T. Res.)	5.500	11.000	19.000	1.000	11.000	19.000	**76.38**	**179.49**	N/A	N/A	N/A	**N/A**	**N/A**	**N/A**	**N/A**	**Chlorine (T. Res.)**

a Denotes metals for which Fish & Aquatic Life Criteria are expressed as a function of total hardness.
b The criteria for this metal is in the dissolved form at lab conditions. The calculated effluent concentration is in the total recoverable form.
c The chronic criteria for mercury is not converted to dissolved, since it is based on fish tissue data rather than toxicity.
d The criteria for this parameter is in the total form.
e Silver limit is daily max if column 8 is most stringent.
f When columns 7 or 8 result in a negative number, use results from columns 5 or 6, respectively.
g When columns 12, 13 or 14 result in a negative number, use results from columns 9, 10 or 11, respectively, as applicable.

* Domestic supply not included in river use so pick from columns 7,8,12 or 15
** Water Quality criteria for stream use classifications other than Fish & Aquatic Life are based on the 30Q5 flow.

Revions Date	Revision Description
September 30, 2019	Updated Cadimum for 2019 F&A WQS update

DWR Station ID	Date	Characteristic [unit]	Value	1/2 of MDL	MDL	Measure	Unit	Detection Condition	Use	Mean
SNAKE009.4MC	6/4/2019	Total suspended solids	2.67	0.175		0.35	mg/l		2.67	**27**
SNAKE009.4MC	5/1/2019	Total suspended solids	9.8	0.175		0.35	mg/l		9.8	
SNAKE009.4MC	3/26/2019	Total suspended solids	7.8	0.175		0.35	mg/l		7.8	
SNAKE009.4MC	2/11/2019	Total suspended solids	9.59	0.175		0.35	mg/l		9.59	
SNAKE009.4MC	1/7/2019	Total suspended solids	14.8	0.175		0.35	mg/l		14.8	
SNAKE009.4MC	12/4/2018	Total suspended solids	10.9	0.175		0.35	mg/l		10.9	
SNAKE009.4MC	11/6/2018	Total suspended solids	163	0.175		0.35	mg/l		163	
SNAKE009.4MC	########	Total suspended solids	4.6	0.175		0.35	mg/l		4.6	
SNAKE009.4MC	9/26/2018	Total suspended solids	39.6	0.175		0.35	mg/l		39.6	
SNAKE009.4MC	8/1/2018	Total suspended solids	3.1	0.175		0.35	mg/l		3.1	
SNAKE009.4MC	7/25/2018	Total suspended solids	4.94	0.175		0.35	mg/l		4.94	
SNAKE009.4MC	6/11/2014	Total suspended solids	120	5		10	mg/l		120	
SNAKE009.4MC	5/14/2014	Total suspended solids	12	5		10	mg/l		12	
SNAKE009.4MC	4/15/2014	Total suspended solids	50	5		10	mg/l		50	
SNAKE009.4MC	3/12/2014	Total suspended solids	16	5		10	mg/l		16	
SNAKE009.4MC	2/12/2014	Total suspended solids	19	5		10	mg/l		19	
SNAKE009.4MC	1/15/2014	Total suspended solids	41	5		10	mg/l		41	
SNAKE009.4MC	########	Total suspended solids		5		10	mg/l	Not Detected	10	
SNAKE009.4MC	########	Total suspended solids		5		10	mg/l	Not Detected	10	
SNAKE009.4MC	########	Total suspended solids	23	5		10	mg/l		23	
SNAKE009.4MC	9/11/2013	Total suspended solids		5		10	mg/l	Not Detected	10	
SNAKE009.4MC	8/14/2013	Total suspended solids	25	5		10	mg/l		25	
SNAKE009.4MC	7/25/2013	Total suspended solids		5		10	mg/l	Not Detected	10	

DWR Station ID	Date	Characteristic [unit]	Value	1/2 of MDL	MDL	Measure	Unit	Detection Condition	Use	Mean
SNAKE009.4MC	6/4/2019	Total hardness	22.1	0.0575		0.115	mg/l		22.1	**22**
SNAKE009.4MC	5/1/2019	Total hardness	21.8	0.0575		0.115	mg/l		21.8	
SNAKE009.4MC	3/26/2019	Total hardness	18.3	0.0575		0.115	mg/l		18.3	
SNAKE009.4MC	2/11/2019	Total hardness	22.8	0.0575		0.115	mg/l		22.8	
SNAKE009.4MC	1/7/2019	Total hardness	20.2	0.0575		0.115	mg/l		20.2	
SNAKE009.4MC	12/4/2018	Total hardness	15600	0.0575		0.115	mg/l	Data entry error? Not used		
SNAKE009.4MC	11/6/2018	Total hardness	19	0.0575		0.115	mg/l		19	
SNAKE009.4MC	########	Total hardness	16.2	0.0575		0.115	mg/l		16.2	
SNAKE009.4MC	9/26/2018	Total hardness	19.5	0.0575		0.115	mg/l		19.5	
SNAKE009.4MC	8/1/2018	Total hardness	29.7	0.0575		0.115	mg/l		29.7	
SNAKE009.4MC	7/25/2018	Total hardness	27.6	0.0575		0.115	mg/l		27.6	
SNAKE009.4MC	6/11/2014	Total hardness	20	0.135		0.27	mg/l		20	
SNAKE009.4MC	5/14/2014	Total hardness	30	0.135		0.27	mg/l		30	
SNAKE009.4MC	4/15/2014	Total hardness	24	0.08		0.16	mg/l		24	
SNAKE009.4MC	3/12/2014	Total hardness	21	0.08		0.16	mg/l		21	
SNAKE009.4MC	2/12/2014	Total hardness	22	0.08		0.16	mg/l		22	
SNAKE009.4MC	1/15/2014	Total hardness	19	0.08		0.16	mg/l		19	
SNAKE009.4MC	########	Total hardness	23	0.08		0.16	mg/l		23	
SNAKE009.4MC	########	Total hardness	23	0.08		0.16	mg/l		23	
SNAKE009.4MC	########	Total hardness	25	0.08		0.16	mg/l		25	
SNAKE009.4MC	9/11/2013	Total hardness	21				mg/l		21	
SNAKE009.4MC	8/14/2013	Total hardness	20				mg/l		20	
SNAKE009.4MC	7/25/2013	Total hardness	24				mg/l		24	

DWR Station ID	Date	Characteristic [unit]	Value	1/2 of MDL	MDL	Measure	Unit	Detection Condition	Use	Mean
SNAKE009.4MC	6/4/2019	Copper		0.2915		0.583	ug/l	Not Detected	0.583	**1.394**
SNAKE009.4MC	5/1/2019	Copper	0.714	0.2915		0.583	ug/l		0.714	
SNAKE009.4MC	3/26/2019	Copper	0.702	0.2915		0.583	ug/l		0.702	
SNAKE009.4MC	2/11/2019	Copper	0.807	0.2915		0.583	ug/l		0.807	
SNAKE009.4MC	1/7/2019	Copper	0.649	0.123		0.246	ug/l		0.649	
SNAKE009.4MC	12/4/2018	Copper	0.864	0.123		0.246	ug/l		0.864	
SNAKE009.4MC	11/6/2018	Copper	3.5	0.123		0.246	ug/l		3.5	
SNAKE009.4MC	########	Copper	0.543	0.123		0.246	ug/l		0.543	
SNAKE009.4MC	9/26/2018	Copper	1.8	0.123		0.246	ug/l		1.8	
SNAKE009.4MC	8/1/2018	Copper	4.19	0.123		0.246	ug/l		4.19	
SNAKE009.4MC	7/25/2018	Copper	1	0.123		0.246	ug/l		1	
SNAKE009.4MC	6/11/2014	Copper	0.82	0.2		0.4	ug/l		0.82	
SNAKE009.4MC	5/14/2014	Copper	0.84	0.2		0.4	ug/l		0.84	
SNAKE009.4MC	4/15/2014	Copper	4	0.2		0.4	ug/l		4	
SNAKE009.4MC	3/12/2014	Copper	4.3	0.255		0.51	ug/l		4.3	
SNAKE009.4MC	2/12/2014	Copper		0.255		0.51	ug/l	Not Detected	0.51	
SNAKE009.4MC	1/15/2014	Copper	0.91	0.255		0.51	ug/l		0.91	
SNAKE009.4MC	########	Copper	1.4	0.255		0.51	ug/l		1.4	
SNAKE009.4MC	########	Copper		0.255		0.51	ug/l	Not Detected	0.51	
SNAKE009.4MC	########	Copper	1.1	0.255		0.51	ug/l		1.1	
SNAKE009.4MC	9/11/2013	Copper	0.51	0.255		0.51	ug/l		0.51	
SNAKE009.4MC	8/14/2013	Copper	1.3	0.255		0.51	ug/l		1.3	
SNAKE009.4MC	7/25/2013	Copper	0.52	0.255		0.51	ug/l		0.52	

DWR Station ID	Date	Characteristic [unit]	Value	1/2 of MDL	MDL	Measure	Unit	Detection Condition	Use	Mean
SNAKE009.4MC	6/4/2019	Chromium		0.6		1.2	ug/l	Not Detected	1.2	**1.954**
SNAKE009.4MC	5/1/2019	Chromium	2.15	0.6		1.2	ug/l		2.15	
SNAKE009.4MC	3/26/2019	Chromium	1.56	0.6		1.2	ug/l		1.56	
SNAKE009.4MC	2/11/2019	Chromium	1.5	0.6		1.2	ug/l		1.5	
SNAKE009.4MC	1/7/2019	Chromium	2	0.83		1.66	ug/l		2	
SNAKE009.4MC	12/4/2018	Chromium	2.06	0.83		1.66	ug/l		2.06	
SNAKE009.4MC	11/6/2018	Chromium	6.53	0.83		1.66	ug/l		6.53	
SNAKE009.4MC	########	Chromium		0.83		1.66	ug/l	Not Detected	1.66	
SNAKE009.4MC	9/26/2018	Chromium	2.12	0.83		1.66	ug/l		2.12	
SNAKE009.4MC	8/1/2018	Chromium		0.83		1.66	ug/l	Not Detected	1.66	
SNAKE009.4MC	7/25/2018	Chromium		0.83		1.66	ug/l	Not Detected	1.66	
SNAKE009.4MC	6/11/2014	Chromium	3.7	0.4		0.8	ug/l		3.7	
SNAKE009.4MC	5/14/2014	Chromium		0.4		0.8	ug/l	Not Detected	0.8	
SNAKE009.4MC	4/15/2014	Chromium	4.3	0.4		0.8	ug/l		4.3	
SNAKE009.4MC	3/12/2014	Chromium	2.6	0.475		0.95	ug/l		2.6	
SNAKE009.4MC	2/12/2014	Chromium		0.475		0.95	ug/l	Not Detected	0.95	
SNAKE009.4MC	1/15/2014	Chromium	1.5	0.475		0.95	ug/l		1.5	
SNAKE009.4MC	########	Chromium	1.6	0.475		0.95	ug/l		1.6	
SNAKE009.4MC	########	Chromium		0.475		0.95	ug/l	Not Detected	0.95	
SNAKE009.4MC	########	Chromium		0.475		0.95	ug/l	Not Detected	0.95	
SNAKE009.4MC	9/11/2013	Chromium		0.475		0.95	ug/l	Not Detected	0.95	
SNAKE009.4MC	8/14/2013	Chromium	1.6	0.475		0.95	ug/l		1.6	
SNAKE009.4MC	7/25/2013	Chromium		0.475		0.95	ug/l	Not Detected	0.95	

DWR Station ID	Date	Characteristic [unit]	Value	1/2 of MDL	MDL	Measure	Unit	Detection Condition	Use	Mean
SNAKE009.4MC	6/4/2019	Nickel	0.643	0.126		0.252	ug/l		0.643	**1.229**
SNAKE009.4MC	5/1/2019	Nickel	0.926	0.126		0.252	ug/l		0.926	
SNAKE009.4MC	3/26/2019	Nickel	0.844	0.126		0.252	ug/l		0.844	
SNAKE009.4MC	2/11/2019	Nickel	0.87	0.126		0.252	ug/l		0.87	
SNAKE009.4MC	1/7/2019	Nickel	1.3	0.2015		0.403	ug/l		1.3	
SNAKE009.4MC	12/4/2018	Nickel	1.31	0.2015		0.403	ug/l		1.31	
SNAKE009.4MC	11/6/2018	Nickel	4.18	0.2015		0.403	ug/l		4.18	
SNAKE009.4MC	########	Nickel	0.514	0.2015		0.403	ug/l		0.514	
SNAKE009.4MC	9/26/2018	Nickel	1.85	0.2015		0.403	ug/l		1.85	
SNAKE009.4MC	8/1/2018	Nickel	0.821	0.2015		0.403	ug/l		0.821	
SNAKE009.4MC	7/25/2018	Nickel	0.84	0.2015		0.403	ug/l		0.84	
SNAKE009.4MC	6/11/2014	Nickel	2.5	0.125		0.25	ug/l		2.5	
SNAKE009.4MC	5/14/2014	Nickel	0.9	0.125		0.25	ug/l		0.9	
SNAKE009.4MC	4/15/2014	Nickel	1.9	0.125		0.25	ug/l		1.9	
SNAKE009.4MC	3/12/2014	Nickel	1.1	0.18		0.36	ug/l		1.1	
SNAKE009.4MC	2/12/2014	Nickel	0.85	0.18		0.36	ug/l		0.85	
SNAKE009.4MC	1/15/2014	Nickel	1.4	0.18		0.36	ug/l		1.4	
SNAKE009.4MC	########	Nickel	0.86	0.18		0.36	ug/l		0.86	
SNAKE009.4MC	########	Nickel	0.57	0.18		0.36	ug/l		0.57	
SNAKE009.4MC	########	Nickel	1.2	0.18		0.36	ug/l		1.2	
SNAKE009.4MC	9/11/2013	Nickel	0.75	0.18		0.36	ug/l		0.75	
SNAKE009.4MC	8/14/2013	Nickel	1.5	0.18		0.36	ug/l		1.5	
SNAKE009.4MC	7/25/2013	Nickel	0.64	0.18		0.36	ug/l		0.64	

DWR Station ID	Date	Characteristic [unit]	Value	1/2 of MDL	MDL	Measure	Unit	Detection Condition	Use	Mean
SNAKE009.4MC	6/4/2019	Cadmium		0.0805		0.161	ug/l	Not Detected	0.0805	**0.118**
SNAKE009.4MC	5/1/2019	Cadmium		0.0805		0.161	ug/l	Not Detected	0.0805	
SNAKE009.4MC	3/26/2019	Cadmium		0.0805		0.161	ug/l	Not Detected	0.0805	
SNAKE009.4MC	2/11/2019	Cadmium		0.0805		0.161	ug/l	Not Detected	0.0805	
SNAKE009.4MC	1/7/2019	Cadmium		0.1065		0.213	ug/l	Not Detected	0.1065	
SNAKE009.4MC	12/4/2018	Cadmium		0.1065		0.213	ug/l	Not Detected	0.1065	
SNAKE009.4MC	11/6/2018	Cadmium		0.1065		0.213	ug/l	Not Detected	0.1065	
SNAKE009.4MC	########	Cadmium		0.1065		0.213	ug/l	Not Detected	0.1065	
SNAKE009.4MC	9/26/2018	Cadmium		0.1065		0.213	ug/l	Not Detected	0.1065	
SNAKE009.4MC	8/1/2018	Cadmium		0.1065		0.213	ug/l	Not Detected	0.1065	
SNAKE009.4MC	7/25/2018	Cadmium		0.1065		0.213	ug/l	Not Detected	0.1065	
SNAKE009.4MC	6/11/2014	Cadmium		0.115		0.23	ug/l	Not Detected	0.115	
SNAKE009.4MC	5/14/2014	Cadmium		0.115		0.23	ug/l	Not Detected	0.115	
SNAKE009.4MC	4/15/2014	Cadmium		0.115		0.23	ug/l	Not Detected	0.115	
SNAKE009.4MC	3/12/2014	Cadmium		0.145		0.29	ug/l	Not Detected	0.145	
SNAKE009.4MC	2/12/2014	Cadmium		0.145		0.29	ug/l	Not Detected	0.145	
SNAKE009.4MC	1/15/2014	Cadmium		0.145		0.29	ug/l	Not Detected	0.145	
SNAKE009.4MC	########	Cadmium		0.145		0.29	ug/l	Not Detected	0.145	
SNAKE009.4MC	########	Cadmium		0.145		0.29	ug/l	Not Detected	0.145	
SNAKE009.4MC	########	Cadmium		0.145		0.29	ug/l	Not Detected	0.145	
SNAKE009.4MC	9/11/2013	Cadmium		0.145		0.29	ug/l	Not Detected	0.145	
SNAKE009.4MC	8/14/2013	Cadmium		0.145		0.29	ug/l	Not Detected	0.145	
SNAKE009.4MC	7/25/2013	Cadmium		0.145		0.29	ug/l	Not Detected	0.145	

DWR Station ID	Date	Characteristic [unit]	Value	1/2 of MDL	MDL	Measure	Unit	Detection Condition	Use	Mean
SNAKE009.4MC	6/4/2019	Lead		0.071		0.142	ug/l	Not Detected	0.142	**0.845**
SNAKE009.4MC	5/1/2019	Lead	0.851	0.071		0.142	ug/l		0.851	
SNAKE009.4MC	3/26/2019	Lead	0.509	0.071		0.142	ug/l		0.509	
SNAKE009.4MC	2/11/2019	Lead	0.512	0.071		0.142	ug/l		0.512	
SNAKE009.4MC	1/7/2019	Lead	0.669	0.088		0.176	ug/l		0.669	
SNAKE009.4MC	12/4/2018	Lead	0.593	0.088		0.176	ug/l		0.593	
SNAKE009.4MC	11/6/2018	Lead	4.35	0.088		0.176	ug/l		4.35	
SNAKE009.4MC	########	Lead	0.314	0.088		0.176	ug/l		0.314	
SNAKE009.4MC	9/26/2018	Lead	1.23	0.088		0.176	ug/l		1.23	
SNAKE009.4MC	8/1/2018	Lead	0.203	0.088		0.176	ug/l		0.203	
SNAKE009.4MC	7/25/2018	Lead	0.223	0.088		0.176	ug/l		0.223	
SNAKE009.4MC	6/11/2014	Lead	2.5	0.32		0.64	ug/l		2.5	
SNAKE009.4MC	5/14/2014	Lead		0.32		0.64	ug/l	Not Detected	0.64	
SNAKE009.4MC	4/15/2014	Lead	1.2	0.32		0.64	ug/l		1.2	
SNAKE009.4MC	3/12/2014	Lead	0.53	0.255		0.51	ug/l		0.53	
SNAKE009.4MC	2/12/2014	Lead		0.255		0.51	ug/l	Not Detected	0.51	
SNAKE009.4MC	1/15/2014	Lead	0.91	0.255		0.51	ug/l		0.91	
SNAKE009.4MC	########	Lead		0.255		0.51	ug/l	Not Detected	0.51	
SNAKE009.4MC	########	Lead		0.255		0.51	ug/l	Not Detected	0.51	
SNAKE009.4MC	########	Lead	0.6	0.255		0.51	ug/l		0.6	
SNAKE009.4MC	9/11/2013	Lead		0.255		0.51	ug/l	Not Detected	0.51	
SNAKE009.4MC	8/14/2013	Lead	0.9	0.255		0.51	ug/l		0.9	
SNAKE009.4MC	7/25/2013	Lead		0.255		0.51	ug/l	Not Detected	0.51	

DWR Station ID	Date	Characteristic [unit]	Value	1/2 of MDL	MDL	Measure	Unit	Detection Condition	Use	Mean
SNAKE009.4MC	6/4/2019	Mercury		0.0229		0.0458	ug/l	Not Detected	0.0458	**0.021**
SNAKE009.4MC	5/1/2019	Mercury		0.00088		0.00176	ug/l	Not Detected	0.00176	
SNAKE009.4MC	3/26/2019	Mercury		0.00088		0.00176	ug/l	Not Detected	0.00176	
SNAKE009.4MC	2/11/2019	Mercury	0.00024	0.00088		0.00176	ug/l		0.00235	
SNAKE009.4MC	1/7/2019	Mercury		0.00066		0.00132	ug/l	Not Detected	0.00132	
SNAKE009.4MC	12/4/2018	Mercury		0.00066		0.00132	ug/l	Not Detected	0.00132	
SNAKE009.4MC	11/6/2018	Mercury		0.00066		0.00132	ug/l	Not Detected	0.00132	
SNAKE009.4MC	########	Mercury	0.0018	0.00066		0.00132	ug/l		0.00175	
SNAKE009.4MC	9/26/2018	Mercury	0.0039	0.00066		0.00132	ug/l		0.00397	
SNAKE009.4MC	8/1/2018	Mercury		0.00066		0.00132	ug/l	Not Detected	0.00132	
SNAKE009.4MC	7/25/2018	Mercury		0.00066		0.00132	ug/l	Not Detected	0.00132	
SNAKE009.4MC	6/11/2014	Mercury		0.0195		0.039	ug/l	Not Detected	0.039	
SNAKE009.4MC	5/14/2014	Mercury		0.0195		0.039	ug/l	Not Detected	0.039	
SNAKE009.4MC	4/15/2014	Mercury		0.0185		0.037	ug/l	Not Detected	0.037	
SNAKE009.4MC	3/12/2014	Mercury		0.0185		0.037	ug/l	Not Detected	0.037	
SNAKE009.4MC	2/12/2014	Mercury		0.0185		0.037	ug/l	Not Detected	0.037	
SNAKE009.4MC	1/15/2014	Mercury		0.0185		0.037	ug/l	Not Detected	0.037	
SNAKE009.4MC	########	Mercury		0.0185		0.037	ug/l	Not Detected	0.037	
SNAKE009.4MC	########	Mercury		0.0017		0.0034	ug/l	Not Detected	0.0034	
SNAKE009.4MC	########	Mercury		0.0185		0.037	ug/l	Not Detected	0.037	
SNAKE009.4MC	9/11/2013	Mercury		0.0185		0.037	ug/l	Not Detected	0.037	
SNAKE009.4MC	8/14/2013	Mercury		0.0185		0.037	ug/l	Not Detected	0.037	
SNAKE009.4MC	7/25/2013	Mercury		0.0185		0.037	ug/l	Not Detected	0.037	

DWR Station ID	Date	Characteristic [unit]	Value	1/2 of MDL	MDL	Measure	Unit	Detection Condition	Use	Mean
SNAKE009.4MC	6/4/2019	Zinc		0.74		1.48	ug/l	Not Detected	1.48	**3.847**
SNAKE009.4MC	5/1/2019	Zinc		0.74		1.48	ug/l	Not Detected	1.48	
SNAKE009.4MC	3/26/2019	Zinc		0.74		1.48	ug/l	Not Detected	1.48	
SNAKE009.4MC	2/11/2019	Zinc	14	0.74		1.48	ug/l		14	
SNAKE009.4MC	1/7/2019	Zinc	1.93	0.86		1.72	ug/l		1.93	
SNAKE009.4MC	12/4/2018	Zinc		0.86		1.72	ug/l	Not Detected	1.72	
SNAKE009.4MC	11/6/2018	Zinc	12.1	0.86		1.72	ug/l		12.1	
SNAKE009.4MC	########	Zinc		0.86		1.72	ug/l	Not Detected	1.72	
SNAKE009.4MC	9/26/2018	Zinc	4.3	0.86		1.72	ug/l		4.3	
SNAKE009.4MC	8/1/2018	Zinc	2.54	0.86		1.72	ug/l		2.54	
SNAKE009.4MC	7/25/2018	Zinc		0.86		1.72	ug/l	Not Detected	1.72	
SNAKE009.4MC	6/11/2014	Zinc	7.5	0.6		1.2	ug/l		7.5	
SNAKE009.4MC	5/14/2014	Zinc	3.3	0.6		1.2	ug/l		3.3	
SNAKE009.4MC	4/15/2014	Zinc	5.9	0.6		1.2	ug/l		5.9	
SNAKE009.4MC	3/12/2014	Zinc	2.5	1.1		2.2	ug/l		2.5	
SNAKE009.4MC	2/12/2014	Zinc	2.6	1.1		2.2	ug/l		2.6	
SNAKE009.4MC	1/15/2014	Zinc	3.4	1.1		2.2	ug/l		3.4	
SNAKE009.4MC	########	Zinc		1.1		2.2	ug/l	Not Detected	2.2	
SNAKE009.4MC	########	Zinc		1.1		2.2	ug/l	Not Detected	2.2	
SNAKE009.4MC	########	Zinc	3.1	1.1		2.2	ug/l		3.1	
SNAKE009.4MC	9/11/2013	Zinc		1.1		2.2	ug/l	Not Detected	2.2	
SNAKE009.4MC	8/14/2013	Zinc		1.1		2.2	ug/l	Not Detected	2.2	
SNAKE009.4MC	7/25/2013	Zinc	6.9	1.1		2.2	ug/l		6.9	

DWR Station ID	Date	Characteristic [unit]	Value	1/2 of MDL	MDL	Measure	Unit	Detection Condition	Use	Mean
SNAKE009.4MC	4/1/2009	Cyanide		0.0045		0.009	mg/l	Not Detected	0.0045	**0.0045**
SNAKE009.4MC	1/6/2009	Cyanide		0.0045		0.009	mg/l	Not Detected	0.0045	
SNAKE009.4MC	10/1/2008	Cyanide		0.0045		0.009	mg/l	Not Detected	0.0045	
SNAKE009.4MC	7/1/2008	Cyanide		0.0045		0.009	mg/l	Not Detected	0.0045	

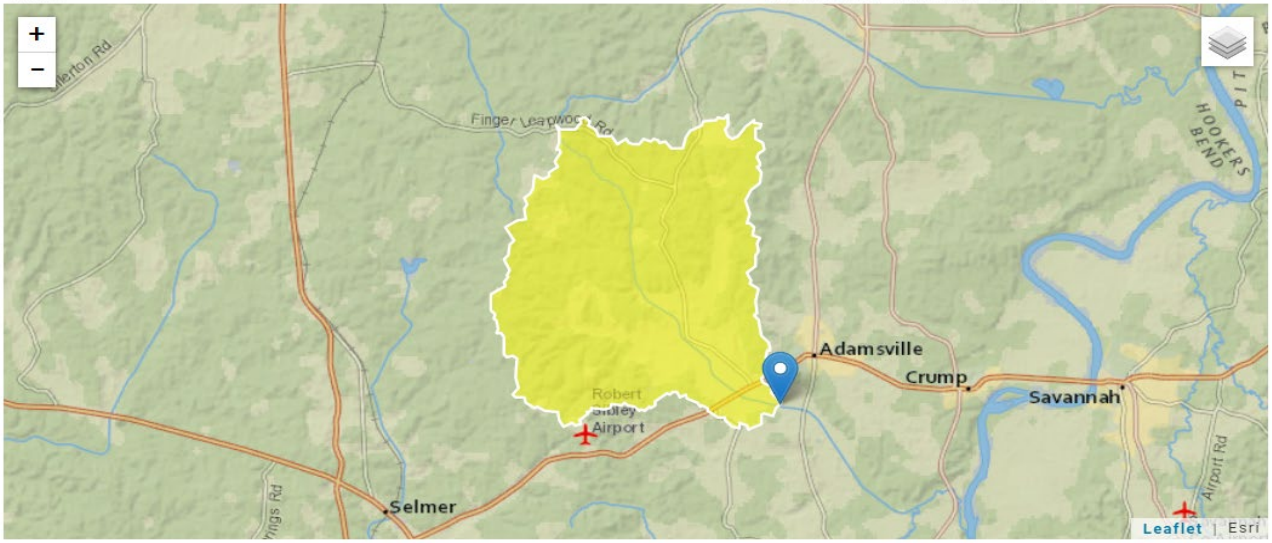
	PTL	85% PTL	PTL	Apr-23	Oct-23	Apr-22	Oct-21	Apr-21	Oct-20	Apr-20	Oct-19	Apr-19	Oct-18
TN 0064785	6/12/2018		5/19/2023										
COPPER	0.08000	0.06800	0.08000	0.00250	0.00270	0.00270	0.00080	0.00090	0.00280	0.00450	DNS	0.00330	0.00160
CHROMIUM, III	report	n/a	report	0.00100	0.00100	0.00100	0.00100	0.00080	0.01000	0.01000	DNS	0.01000	0.00030
CHROMIUM, VI	0.11446	0.09068	0.10668	0.01000	0.01000	0.01000	0.00100	0.01000	0.01000	0.01000	DNS	0.01000	0.01000
CHROMIUM	n/a	n/a	n/a	0.00100	0.00100	0.00100	0.00100	0.00080	0.01000	0.00260	DNS	0.00260	0.00030
NICKEL	0.18000	0.15300	0.18000	0.02120	0.02900	0.02900	0.01910	0.02200	0.02240	0.02990	DNS	0.02610	0.01700
CADMIUM	0.00500	0.00425	0.00500	0.00010	0.00010	0.00010	0.00010	0.00009	0.00020	0.00040	DNS	0.00040	0.00020
LEAD	0.04500	0.02652	0.03120	0.00050	0.00050	0.00050	0.00050	0.00040	0.00290	0.00330	DNS	0.00330	0.00300
MERCURY	0.00040	0.00031	0.00037	0.00013	0.00013	0.00013	0.00013	0.00008	0.00008	0.00008	DNS	0.00007	0.00007
SILVER	0.00248	0.00134	0.00158	0.00010	0.00010	0.00010	0.00010	0.00002	0.00170	0.00160	DNS	0.00160	0.00190
ZINC	0.20000	0.17000	0.20000	0.02000	0.02000	0.02000	0.02000	0.01400	0.00760	0.01500	DNS	0.02070	0.00900
CYANIDE	0.00520	0.01034	0.01217	**0.00500**	**0.00800**	**0.00500**	**0.00500**	**0.00500**	**0.00500**	**0.00500**	DNS	**0.00500**	0.00500
TOLUENE	0.01500	0.01275	0.01500										
BENZENE	0.00300	0.00255	0.00300										
1,1,1 TRICHLOROETHANE	0.03000	0.02550	0.03000										
ETHYLBENZENE	0.00400	0.00340	0.00400										
CARBON TETRACHLORIDE	0.01500	0.01275	0.01500										
CHLOROFORM	0.08500	0.07225	0.08500										
TETRACHLOROETHYLENE	0.02500	0.02125	0.02500										
TRICHLOROETHYLENE	0.01000	0.00850	0.01000										
1,2 TRANSDICHLOROETHYL	0.00150	0.00128	0.00150										
METHYLENE CHLORIDE	0.05000	0.04250	0.05000										
TOTAL PHENOLS	0.05000	0.04250	0.05000	0.00500	0.00200	0.00200	0.00200	0.00200	0.01700	0.00600	DNS	0.00200	0.00500
NAPHTHALENE	0.00100	0.00085	0.00100										
TOTAL PHTHALATES	0.06450	0.05483	0.06450										

Bold effluent data exceeds 85% of proposed PTLs

Shaded means detection level

StreamStats Report

Region ID:	TN
Workspace ID:	TN20230425143806384000
Clicked Point (Latitude, Longitude):	35.21452, -88.40690
Time:	2023-04-25 09:38:29 -0500



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	51.62	square miles
PERMGTE2IN	Percent of area underlain by soils with permeability greater than or equal to 2 inches per hour	42.037	percent
RECESS	Number of days required for streamflow to recede one order of magnitude when hydrograph is plotted on logarithmic scale	99	days per log cycle

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow West Region 2009 5159]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	51.62	square miles	2	2405
RECESS	Recession Index	99	days per log cycle	32	350
PERMGTE2IN	Percent permeability gte 2 in per hr	42.037	percent	2	98

Low-Flow Statistics Flow Report [Low Flow West Region 2009 5159]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	ASEp
7 Day 10 Year Low Flow	1.24	ft^3/s	123
30 Day 5 Year Low Flow	2.3	ft^3/s	93.5

Low-Flow Statistics Citations

Law, G.S., Tasker, G.D., and Ladd, D.E.,2009, Streamflow-characteristic estimation methods for unregulated streams of Tennessee: U.S. Geological Survey Scientific Investigations Report 2009–5159, 212 p., 1 pl.

Both 7Q10 and 30Q5 are less than 5.5 CFS, so use 5.5 CFS (3.553 MGD) values as the lagoon only discharges at this stream flow or more.

PRETREATMENT PASS-THROUGH LIMIT REQUEST SHEET

DATE: 4/21/2023
NPDES: TN0064785
FACILITY: City of Adamsville
COUNTY: McNairy
DESIGN FLOW (MGD): 0.299
TOTAL DESIGN FLOW (MGD), *if different*: _____
EXPLANATION, *if applicable*: _____
RECEIVING STREAM: Snake Creek
DISCHARGE POINT (RIVER MILE): 8.0

7Q10 5.5 **(CFS)** 3.554 **(MGD)**
30Q5 5.5 **(CFS)** 3.554 **(MGD)**
1Q10 _____ **(CFS)** _____ **(MGD)**

*5.5 CFS and 35:1 dilution ratio

Discharge from the effluent holding lagoon is manually released through a weir for effluent flow measurement into a 4,500-ft gravity outfall sewer to Snake Creek. Discharge is released proportional to stream flow as measured by a weir in Snake Creek.

Current discharges are regulated as follows:
- No discharge is allowed at stream flows less than 5.5 cfs.
- For stream flows of 5.5 cfs to 10 cfs, a minimum dilution ration of 35:1 shall be maintained, i.e. 35 parts stream flow to one (1) part waste flow.
- For stream flows of 10 cfs to 50 cfs, a minimum dilution ration of 28:1 shall be maintained.
- For stream flows of 50 cfs to 70 cfs, a minimum dilution ration of 24:1 shall be maintained.
- For stream flows above 70 cfs, a minimum dilution ration of 19:1 shall be maintained.

___ Domestic in stream uses (use columns 7, 8, 12 – 15 in PTL spreadsheet)
_X__ Domestic NOT in stream uses (use columns 7, 8, 12 &15 in PTL spreadsheet)
___ Not on 303(d) list **____ Not on 305(b) report**
_X__ On 303(d) list as not supporting of recreation and fish and aquatic life designated uses (see below)
___ On 305(b) report, page _____
_Y_ Tier evaluated (Y/N) and if evaluated, Tier designation Unavailable conditions waters

OTHER DISCHARGERS ON SAME STREAM +/- 5 RM (FACILITY,PERMIT #,FLOW,RM):
n/a

LIST ANY CONCERNS, SPECIAL CONSIDERATIONS:
E coli, physical substrate habitat alterations and sedimentation/siltation from non-irrigated crop production and channelization.

INFORMATION PROVIDED BY: MTS
CALCULATED BY: MTS **REVIEWED BY:** GRH
DATE: 4/21/23 **DATE:** 5/17/23

PASS THROUGH LIMITATIONS

Adamsville STP	05/19/2023	McNairy County
Design Flow: 0.299 MGD	TN0064785	7Q10: 3.55 MGD

Parameter	Concentration (µg/l)
Copper	80.00
Chromium, III	Report only
Chromium, VI	106.68
Nickel	180.00
Cadmium	5.00
Lead	31.20
Mercury	0.37
Silver, **Daily Maximum**	1.85
Zinc	200.00
Cyanide [1]	12.17
Toluene [1]	15.00
Benzene [1]	3.00
1,1,1 Trichloroethane [1]	30.00
Ethylbenzene [1]	4.00
Carbon Tetrachloride [1]	15.00
Chloroform [1]	85.00
Tetrachloroethylene [1]	25.00
Trichloroethylene [1]	10.00
1,2 trans Dichloroethylene [1]	1.50
Methylene Chloride [1]	50.00
Phenols, Total [1]	50.00
Naphthalene	1.00
Phthalates, Total [2]	64.50

[1] Grab sample type required. All other parameters are 24-hour composite sample type. References include T.C.A. 0400-40-14-.12(7)(c), 40 CFR 136, EPA Form 3510-2C (8/90 version) and TDEC Lab Sheet (volatile organics).

[2] Total Phthalates is the sum of Bis (2-ethylhexyl) phthalate, Butyl benzylphthalate, Di-n-butylphthalate and Diethyl phthalate.

Note: These limits are monthly averages, except for silver which is a daily maximum.