

March 28, 2007

Chuck Campbell, P.E., REM Principal/Senior Engineer GBMc & Associates 219 Brown Lane Bryant, AR 72022

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RE:

El Dorado Chemical Company – Stormwater Flow Study Report

NPDES Permit No. AR0000752, AFIN 70-00040

Dear Mr. Campbell:

The Department has reviewed the supplemental information submitted in regards to the above mentioned matter. The Department still has concerns about ensuring the water quality of the receiving stream at the requested background flow to effluent flow ratios. The majority of storm events produced lower ratios than those requested in the study. Therefore, in order to fully insure that the water quality is protected, the Deaprtment recommends that one of the following be added to the permit:

Option #1

HCR conditions which would only allow a discharge when the effluent flow is less than a set percentage of the flow of the receiving stream;

Option #2

Maintain current permit requirements;

Option #3

Addition of the following conditions to the permit. The following conditions would only be in effect for November – June since no changes were requested for the months of July thru October.

Stream Flow Monitoring

1. The permittee must monitor the flow upstream of Outfalls 006 and 007 in order to minimize the effects of any water which could enter the receiving stream between the outfalls and the monitoring station. The location of the flow measurements must be approved by ADEQ.

- 2. The permittee shall maintain the approved instream flow monitoring equipment and have the equipment serviced and calibrated on a regular basis. Records shall be kept and available for inspection upon request.
- 3. The permittee shall submit the following information on the monthly DMRs:
 - a. Stream flow;
 - b. Effluent flow;
 - c. Ratio of effluent flow to stream flow;
 - d. Determination if reasonable potential for water quality violations was demonstrated for the metals designated below. An initial determination made be made through a comparison of the effluent flow to measured stream flow and the following trigger ratios:

Outfall 006: minimum of 53.6:1, Cadmium, Lead, Selenium, Silver, and Zinc Outfall 007: minimum of 15:1, Cadmium, Lead, Selenium, Silver, and Zinc If the initial comparision shows that the actual ratio is higher than the trigger ratio, no further action will be required.

- 4. The Department reserves the right to reopen the permit based on information submitted in the quarterly reports. Items which may be modified to reflect stricter limitations included, but are not limited to, the following:
 - Dilution series for chronic biomonitoring;
 - b. Critical dilution for chronic biomonitoring; and
 - c. Metals monitoring and/or numerical limits.

Option #3 is similar to that which was proposed in your letter dated February 26, 2007. Also, it is important to note that the Department has not yet made a final determination regarding which metals may be removed or have revised limits in the future.

If you have any questions, please feel free to contact me at shafii@adeq.state.ar.us or call me at (501) 682-0616.

Sincerely,

Mo Shafii

NPDES Permit Branch Manager

Water Division



February 26, 2007

Mr. Mo Shafii Technical Assistance Manager NPDES Permits Branch Arkansas Department of Environmental Quality 8001 National Drive Little Rock, AR 72219

RE:

El Dorado Chemical Company – Permit No. AR0000752 Supplemental Information, Storm Water Flow Study Report

GBM^c No. 2042-99-010

Dear Mr. Shafii:

Thank you for meeting with Vince Blubaugh, Greg Phillips, and me February 15, 2007 on the above-referenced report dated September 21, 2006. As requested, we are providing additional information to support our findings and recommendations.

Issue No.1: The time presented for flow measurement at 006B on 3/2/2005 conflicts with the field documentation in Appendix C.

Response: The time listed in Table 1 of the report is incorrect. The correct time for the 3/2/2005 flow measurement is 3:50 PM.

Issue No. 2: Please provide the data spreadsheet used to derive the values in Table 3.

Response: The Arkansas Toxicity Screen data sheets for Outfalls 006 and 007 are attached.

Issue No. 3: Propose the method and frequency of flow ratio verification.

Response: EDCC proposes to measure instantaneous flows in Outfalls 006 and 007 using the existing prefabricated flumes, and concurrently determine Background Flow by direct measurement of the unnamed tributary immediately downstream of the confluence of locations 006B and 007B on EDCC property. Background Flow will be determined by the following equation:

Background Flow = Unnamed Tributary Flow – (006 Flow +007 Flow)

Flow ratios for each outfall will be determined by dividing calculated Background Flow by the respective flows measured at the flumes.

EDCC proposes to verify the flow ratios annually during the seasonal (November - June) period for the duration of the permit, and to report those findings to ADEQ no later than July 31 following the end of the period.

Issue No. 4: Please provide example calculations for flows and ratios.



Mr. Shafii February 26, 2007 Page 2 of 2

Response: Explanations of the calculations and examples are attached.

We appreciate the opportunity to submit additional information regarding the EDCC Storm Water Flow Study Report. If you have any questions, please contact Vince Blubaugh or me at 501-847-7077.

Sincerely,

GBM^c & Associates

Chuck Campbell, PE, REM Principal/Senior Engineer

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CC:

attach Greg Withrow - EDCC

David Sartain – EDCC Brent Parker – EDCC

John Carver – LSB

Loretta Reiber - ADEQ

Arkansas Toxicity Screen

(Evaluated as Dissolved)

Toxic Pollutant	standa	Instream Standard. The instream standard for most metals are hardness dependent Stream Concentrations (ug/L). Fo total concentration as single val mean in "total" column(s). For ac "unhide" columns. If multiple datur coefficient of variation (cv), or un						or ge tional can in	ometric source, put actual	Calculated Instream Waste Concentration (IWC). This value multiplies the source concentration I (Cd) by the 95th %tile, IWC = ((Cd x 95%tile) x Qd + Cb x Qb) / (Qd + Qb)				mstream standard		
	Instr	eam Standard	i (ug/L)	Waste Stream Source 1,				1, ug/L Background Source, ug/L			Stream IWC, ug/L				H. Health	
	Acute	Chronic	H.Health	total c	lissolved	CV	95th%tile	total	dissolved	Acute	Chronic	H. Health				
ARKANSAS STANDARDS		0.400====	4.00= 464	4.00	0.01	0.00	0.40	0.00	0.00	0.08	0.05	0.10				
Cadmium	1.0392651	0.43290946 68.2114631	1.00E+101 1.00E+101	1.00	0.24	0.60		0.00		0.00	0.00	0.00				
Chromium (III)	210.27632 15.712	10.582	1.00E+101	0.001	0.00	0.60	2.13	0.00	0.00	0.00	0.00	0.00				
Chromium (VI) Copper	5.6444951	4.17251959	1.00E+101	0.00	0.00	0.60		0.00	The state of the state of the state of	0.00	0.00	0.00				
Lead	17.678834	0.68891879	1.00E+101	15.43	3.13	0.60		0.00	0.00	1.11	0.61	1.33				
Mercury	2.04	0.012	1.00E+101	0.00	0.00	0.60		0.00	0.00		0.00				- 1	
Nickel	525.50052	58.3610471	1.00E+101	0.00	0.00	0.60		0.00	0.00		0.00					
Selenium	20	5	1.00E+101	4.25	4.25	0.60		0.00	0.00	1.51 0.22	0.82 0.12	1 10 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2				
Silver*	0.4602153	1.00E+101	1.00E+101 1.00E+101	2.00 263.94	0.61 85.57	0.60		0.00		- 100 CO	100000000000000000000000000000000000000	36.54				
Zinc	42.42644 22.4	38.7417734 5.2	1.00E+101	0.0		0.60	2.13		0.00	0.00	0.00	110000000000000000000000000000000000000				
Cyanide Beryllium*	1.00E+101	1.00E+101	0.076	The state of the s		0.60	2.13	P. C. S. S. S. S.	0.00	0.00	0.00					
PCBs*	1.00E+101	0.014	0.0004	A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		0.60	2.13		0.00	0.00	0.00					
Aldrin*	3	1.00E+101	1.00E+101	0.0	00	0.60	2.13		0.00	0.00	0.00	100210210				
Dieldrin	2.5	0.0019	0.0012			0.60	2.13		0.00	0.00	0.00					
DDT (& metabolites)*	1.1	0.001	1.00E+101	0.0		0.60	2.13		0.00	0.00	0.00					
Endrin	0.18 0.73	0.0023 0.0002	1.00E+101 0.0063	0.0		0.60 0.60	2.13 2.13	D.746 175 Co.	0.00	0.00	0.00					
Toxaphene Chlordane	2.4	0.0002	0.0003	(S11)		0.60	2.13	T00000000000	0.00	0.00	0.00					
Endosulfan*	0.22	0.056	1.00E+101	0.0		0.60	2.13		0.00	0.00	10000000					
Heptachlor*	0.52	0.0038	1.00E+101	0.0		0.60	2.13		0.00	0.00	0.00					
Hexachlorocyclohexane	2	0.08	1.00E+101	0.0		0.60	2.13	S223 R23 P3.6	0.00	0.00						
Pentachlorophenol*	11.778785	7.4357541	1.00E+101	0.0		0.60			0.00	0.00						
Chlorpyrifos	0.083	0.041	1.00E+101		00	0.60	2.13		0.00	0.00	1 0.557550	100000000000000000000000000000000000000				
Dioxin (2,3,7,8 TCDD)*	1.00E+101 1.00E+101	1.00E+101 1.00E+101	0.000001 0.0373	0.	00	0.60		CONTRACTOR (1975)	0.00	0.00	207300.0					
Alpha Hexachlorocyclohexane Basis for Screen	1.00E+101	1.002+101	0.0073	0.	00	0.00	2.10		0100							
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			Variables:	variation (def	ault)		0.60		Metal	T	tion Factors	Partition Stream	ing Co	efficients Lak	ie .	
Flow: Source 1	1.00 0.00						1.645	5	Metal	T		Partition Stream Kpo	alpha	efficients Lak Kpo	e alpha	
Flow: Source 1 Source 2 Background: 7Q10	1.00 0.00 13.03		Coeffiecent of z for the 95th9 Hardness, mg	%tile occurren			1.645 31.0	5	Metal Arsenic	Correct acute	tion Factors chronic	Partition Stream Kpo 4.80E+05	alpha	Lak Kpo 4.80E+05	alpha	
Flow: Source 1 Source 2 Background: 7Q10 Critical	1.00 0.00 13.03 15.00		Coeffiecent of z for the 95th% Hardness, mg TSS, mg/L	%tile occurren //L	ce		1.645 31.0 5.5	5	Metal Arsenic Cadmium	Correct acute	tion Factors chronic	Partition Stream Kpo 4.80E+05 4.00E+06	alpha -0.73 -1.13	Lak Kpo 4.80E+05 3.52E+06	alpha -0.73 -0.92	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health)	1.00 0.00 13.03 15.00 4.00	2.80	Coeffiecent of z for the 95th% Hardness, mg TSS, mg/L S for Stream,	%tile occurren /L L for Lake or	ce Reservoir		1.645 31.0	5	Metal Arsenic Cadmium Chromium(III	Correct acute 0.993 0.316	chronic 0.958	Partition Stream Kpo 4.80E+05 4.00E+06 3.36E+06	alpha -0.73 -1.13	Lak Kpo 4.80E+05 3.52E+06	alpha	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute)	1.00 0.00 13.03 15.00 4.00 5.00	2.80	Coeffiecent of z for the 95th% Hardness, mg TSS, mg/L S for Stream, Dia. of dischar	%tile occurren //L L for Lake or ge pipe, ft (for	ce Reservoir		1.645 31.0 5.5 S	5	Metal Arsenic Cadmium Chromium(III Chromium(V	Correct acute	chronic 0.958 0.860 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 3.36E+06	alpha -0.73 -1.13 -0.93	Lak Kpo 4.80E+05 3.52E+06 2.17E+06	alpha -0.73 -0.92 -0.27	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health)	1.00 0.00 13.03 15.00 4.00	2.80	Coeffiecent of z for the 95th% Hardness, mg TSS, mg/L S for Stream,	%tile occurren //L L for Lake or ge pipe, ft (for	ce Reservoir		1.645 31.0 5.5	5	Metal Arsenic Cadmium Chromium(III	Correct acute 0.993 0.316	0.958 0.860 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 3.36E+06	alpha -0.73 -1.13 -0.93	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute)	1.00 0.00 13.03 15.00 4.00 5.00	2.80	Coeffiecent of z for the 95th? Hardness, mg TSS, mg/L S for Stream, Dia. of dischan pH (for pentac	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850	0.958 0.860 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 3.36E+06 2 1.04E+06 2.80E+06 2.90E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic)	1.00 0.00 13.03 15.00 4.00 5.00	2.80	Coeffiecent of z for the 95th? Hardness, mg TSS, mg/L S for Stream, Dia. of dischan pH (for pentac Metals:	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel	Correct acute 0.993 0.316 0.982 0.960 0.962	0.958 0.860 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 3.36E+06 2 1.04E+06 2.80E+06 2.90E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53	
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Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE	1.00 0.00 13.03 15.00 4.00 5.00 10.00	2.80 s:/) ardness & TS\$ TSS 15th%til	Coeffiecent of z for the 95th? Hardness, mg TSS, mg/L S for Stream, Dia. of dischar pH (for pentac Metals: T for total, D for total	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel Selenium Silver	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.958 0.866 0.962 0.962 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 0.3.36E+06 2.80E+06 2.90E+06 7.4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06 2.40E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE	1.00 0.00 13.03 15.00 4.00 5.00 10.00 E SAME UNIT.	2.80 St) ardness & TSS TSS 15th%til 5.5	Coeffiecent of z for the 95th% Hardness, mg TSS, mg/L S for Stream, Dia. of discharp H (for pentac Metals: T for total, D fi	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel Selenium Silver	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.958 0.866 0.962 0.962 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 0.3.36E+06 2.80E+06 2.90E+06 7.4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06 2.40E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific V Gulf Coastal Ouachita Mtns. Arkansas River Valley	1.00 0.00 13.03 15.00 4.00 5.00 10.00 E SAME UNIT	2.80 sr) ardness & TSS TSS 15th%til 5.5 2 3	Coeffiecent of z for the 95th9 Hardness, mg/L S for Stream, Dia. of dischan pH (for pentac Metals: T for total, D f	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel Selenium Silver	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.958 0.866 0.962 0.962 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 0.3.36E+06 2.80E+06 2.90E+06 7.4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06 2.40E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific V Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain	1.00 0.00 13.03 15.00 4.00 5.00 10.00 E SAME UNIT	2.80 ardness & TSS TSS 15th%til 5.5 2 3 1.3	Coeffiecent of z for the 95th? Hardness, mg TSS, mg/L S for Stream, Dia. of discharp H (for pentac Metals: T for total, D f	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel Selenium Silver	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.958 0.866 0.962 0.962 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 0.3.36E+06 2.80E+06 2.90E+06 7.4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06 2.40E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific 1 Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands	1.00 0.00 13.03 15.00 4.00 5.00 10.00 E SAME UNIT. Values for H. Hardness 31 25 25 148	2.80 st) ardness & TSS TSS 15th%til 5.5 2 3 1.3 2.5	Coefficeent of z for the 95th? Hardness, mg TSS, mg/L S for Stream, Dia. of discharge H (for pentac Metals: T for total, D fi	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel Selenium Silver	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.958 0.866 0.962 0.962 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 0.3.36E+06 2.80E+06 2.90E+06 7.4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06 2.40E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific 1 Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta	1.00 0.00 13.03 15.00 4.00 5.00 10.00 E SAME UNIT	2.80 st) ardness & TSS TSS 15th%til 5.5 2 3 1.3 2.5	Coefficeent of z for the 95th? Hardness, mg TSS, mg/L S for Stream, Dia. of discharge H (for pentac Metals: T for total, D fi	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel Selenium Silver	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.958 0.866 0.962 0.962 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 0.3.36E+06 2.80E+06 2.90E+06 7.4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06 2.40E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific V Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams:	1.00 0.00 13.03 15.00 4.00 5.00 10.00 E SAME UNIT. Values for H. Hardness 31 25 25 148	2.80 St) ardness & TSS TSS 15th%til 5.5 2 3 1.3 2.5 8	Coefficeent of z for the 95th? Hardness, mg TSS, mg/L S for Stream, Dia. of discharge H (for pentac Metals: T for total, D fi	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel Selenium Silver	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.958 0.866 0.962 0.962 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 0.3.36E+06 2.80E+06 2.90E+06 7.4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06 2.40E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific 1 Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta	1.00 0.00 13.03 15.00 4.00 5.00 10.00 E SAME UNITAL Values for H. Hardness 31 31 25 25 148 81	2.80 St) ardness & TSS TSS 15th%til 5.5 2 3 1.3 2.5 8	Coeffiecent of z for the 95th? Hardness, mg/L S for Stream, Dia. of dischan pH (for pentac Metals: T for total, D f	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel Selenium Silver	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.958 0.866 0.962 0.962 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 0.3.36E+06 2.1.04E+06 2.2.90E+06 7.4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06 2.40E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific 1 Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dan Dardenelle Dame to Terry	1.00 0.00 13.03 15.00 4.00 5.00 10.00 E SAME UNIT: Values for H. Hardness 31 31 25 25 148 81	2.80 ardness & TSS TSS 15th%til 5.5 2 3 1.3 2.5 8	Coefficeent of z for the 95th? Hardness, mg/L S for Stream, Dia. of discharge H (for pentac Metals: T for total, D fi	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel Selenium Silver	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.958 0.866 0.962 0.962 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 0.3.36E+06 2.1.04E+06 2.2.90E+06 7.4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06 2.40E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific \(^1\) Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dar Dardenelle Dame to Terry Terry L&D to L&D No. 5	1.00 0.00 13.03 15.00 4.00 5.00 10.00 E SAME UNIT: Values for H. Hardness 31 31 25 25 148 81	2.80 ardness & TSS TSS 15th%til 5.5 2 3 1.3 2.5 8 1.1 10.5 8.3	Coeffiecent of z for the 95th? Hardness, mg/L S for Stream, Dia. of dischan pH (for pentac Metals: T for total, D fi	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel Selenium Silver	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.958 0.866 0.962 0.962 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 0.3.36E+06 2.1.04E+06 2.2.90E+06 7.4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06 2.40E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific V Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dan Dardenelle Dame to Terry Terry L&D to L&D No. 5 L&D No. 5 to Mouth	1.00 0.00 13.03 15.00 4.00 5.00 10.00 E SAME UNIT. Values for H Hardness 31 25 25 148 81	2.80 St) ardness & TSS TSS 15th%til 5.5 2 3 1.3 2.5 8 10.5 8.3 9	Coeffiecent of z for the 95th? Hardness, mg/L S for Stream, Dia. of dischan pH (for pentac Metals: T for total, D fi	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel Selenium Silver	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.958 0.866 0.962 0.962 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 0.3.36E+06 2.1.04E+06 2.2.90E+06 7.4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06 2.40E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific V Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dar Dardenelle Dame to Terry I Terry L&D to L&D No. 5 L&D No. 5 to Mouth Red River	1.00 0.00 13.03 15.00 4.00 5.00 10.00 E SAME UNIT. Values for H. Hardness 31 31 25 25 148 81 125 m L&D	2.80 St) ardness & TSt TSS 15th%till 5.5 2 3 1.3 2.5 8 12 10.5 8.3 9 33	Coeffiecent of z for the 95th? Hardness, mg/L S for Stream, Dia. of dischan pH (for pentac Metals: T for total, D for tota	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel Selenium Silver	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.958 0.866 0.962 0.962 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 0.3.36E+06 2.1.04E+06 2.2.90E+06 7.4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06 2.40E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific N Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dan Dardenelle Dame to Terry Terry L&D to L&D No. 5 L&D No. 5 to Mouth Red River Ouachita River	1.00 0.00 13.03 15.00 4.00 5.00 10.00 E SAME UNIT. Values for H Hardness 31 25 25 148 81	2.80 ardness & TSS TSS 15th%til 5.5 2 3 1.3 2.5 8 12 10.5 8.3 9 33	Coefficeent of z for the 95th? Hardness, mg TSS, mg/L S for Stream, Dia. of discharge H (for pentac Metals: T for total, D	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel Selenium Silver	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.958 0.866 0.962 0.962 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 0.3.36E+06 2.1.04E+06 2.2.90E+06 7.4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06 2.40E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific V Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dar Dardenelle Dame to Terry I Terry L&D to L&D No. 5 L&D No. 5 to Mouth Red River	1.00 0.00 13.03 15.00 4.00 5.00 10.00 E SAME UNIT. Values for H. Hardness 31 31 25 25 148 81 125 m L&D	2.80 St) ardness & TSt TSS 15th%till 5.5 2 3 1.3 2.5 8 12 10.5 8.3 9 33	Coefficeent of z for the 95th, Mardness, mg/L S for Stream, Dia. of discharge H (for pentach Metals: T for total, D fi	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel Selenium Silver	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.958 0.866 0.962 0.962 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 0.3.36E+06 2.1.04E+06 2.2.90E+06 7.4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06 2.40E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific 1 Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dan Dardenelle Dame to Terry 1 Terry L&D to L&D No. 5 L&D No. 5 to Mouth Red River Ouachita River Above Caddo River	1.00 0.00 13.03 15.00 4.00 5.00 10.00 E SAME UNIT. Values for H. Hardness 31 31 25 25 148 81 125 m L&D	2.80 ardness & TSS TSS 15th%til 5.5 2 3 1.3 2.5 8 10.5 8.3 9 33 33 2 5.5	Coeffiecent of z for the 95th% Hardness, mg/L S for Stream, Dia. of discharp H (for pentac Metals: T for total, D fi	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel Selenium Silver	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.958 0.866 0.962 0.962 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 0.3.36E+06 2.1.04E+06 2.2.90E+06 7.4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06 2.40E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific V Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dar Dardenelle Dame to Terry! Terry L&D to L&D No. 5 L&D No. 5 to Mouth Red River Ouachita River Above Caddo River Below Caddo River White River Above Beaver Lake	1.00 0.00 13.03 15.00 4.00 5.00 10.00 E SAME UNIT. Values for H. Hardness 31 25 25 148 81 125 m L&D	2.80 St) ardness & TSt TSS 15th%till 5.5 2 3 1.3 2.5 8 12 10.5 8.3 9 33 2 5.5 5 2.5	Coeffiecent of z for the 95th? Hardness, mg/L S for Stream, Dia. of dischan pH (for pentac Metals: T for total, D for tota	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel Selenium Silver	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.958 0.866 0.962 0.962 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 0.3.36E+06 2.1.04E+06 2.2.90E+06 7.4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06 2.40E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific \(^1\) Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dan Dardenelle Dame to Terry \(^1\) Terry L&D to L&D No. 5 L&D No. 5 to Mouth Red River Ouachita River Above Caddo River White River Above Beaver Lake Bull Shoals to Black River	1.00 0.00 13.03 15.00 4.00 5.00 10.00 E SAME UNIT. Values for H. Hardness 31 25 25 148 81 125 m L&D	2.80 ardness & TSS TSS 15th%til 5.5 2 3 1.3 2.5 8 12 10.5 8.3 9 33 9 25 5.6 2.5 3.3	Coefficeent of z for the 95th? Hardness, mg TSS, mg/L S for Stream, Dia. of discharge H (for pentac Metals: T for total, D	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel Selenium Silver	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.958 0.866 0.962 0.962 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 0.3.36E+06 2.1.04E+06 2.2.90E+06 7.4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06 2.40E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76	
Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific V Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dar Dardenelle Dame to Terry! Terry L&D to L&D No. 5 L&D No. 5 to Mouth Red River Ouachita River Above Caddo River Below Caddo River White River Above Beaver Lake	1.00 0.00 13.03 15.00 4.00 5.00 10.00 E SAME UNIT. Values for H. Hardness 31 25 25 148 81 125 m L&D	2.80 ardness & TSS TSS 15th%til 5.5 2 3 1.3 2.5 8 12 10.5 8.3 9 33 33 2.5 3.3 18.5	Coefficeent of z for the 95th 95th 95th 95th 95th 97th 95th 97th 97th 97th 97th 97th 97th 97th 97	%tile occurren y/L L for Lake or ge pipe, ft (for chlorophenol)	ce Reservoir		1.645 31.0 5.5 S	5 5 5 5 6 5	Metal Arsenic Cadmium Chromium(III Chromium(V Copper Lead Mercury Nickel Selenium Silver	Correct acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.958 0.866 0.962 0.962 0.962	Partition Stream Kpo 4.80E+05 4.00E+06 0.3.36E+06 2.1.04E+06 2.2.90E+06 7.4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06 2.40E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76	

Arkansas Toxicity Screen

(Evaluated as Dissolved)

Toxic Pollutant		Stream Standard. The motivam standard			ream standard total concentration as single value or geometric mean (IWC). This value multiplies the source concentration (Cd) by the 95th %tile,							ndard dent dent total concentration as single value or geometric mean in "total" column(s). For additional source, "unhide" columns. If multiple datum, can input actual					concentration (Cd) by the 95th %tile, IWC = ((Cd x 95%tile) x Qd + Cb x Qb) /				eded. h IWC nding ndard
	Instre	อลm Standard (เ	ug/L)	Waste Stream S	, ug/L	Background Source, ug/L		Stream IWC, ug/L			Acute	Chronic	H. Health								
	Acute	Chronic	H.Health	total dissolved	cv	95th%tile	total	dissolved	Acute	Chronic	H. Health										
ARKANSAS STANDARDS							0.55		0.45	0.00	0.50										
Cadmium	1.039265071 210.2763157	0.432909463 68.21146306	1.00E+101 1.00E+101	4.90 1.17 0.00 0.00	0.60		0.00	0.00	0.13 0.00	0.07	0.50 0.00			- 1							
Chromium (III) Chromium (VI)	15.712	10.582	1.00E+101	THE RESERVE OF THE PARTY OF THE	0.60	2.13	1870 00000	0.00	0.00	0.00	0.00			- 1							
Copper	5.644495088	4.172519591	1.00E+101	0.00 0.00	0.60		0.00	0.00	0.00	0.00	0.00										
Lead	17.67883429	0.688918792	1.00E+101	81.96 16.60	0.60	2.13	0.00	0.00	1.88	0.96	7.09		С								
Mercury	2.04	0.012	1.00E+101	0.00 0.00	0.60		0.00	0.00	0.00	0.00	0.00										
Nickel	525.500516	58.36104712	1.00E+101	0.00 0.00	0.60		0.00	0.00	0.00	0.00	0.00										
Selenium	20	5	1.00E+101	5.00 5.00	0.60		0.00	0.00	0.57	0.29	2.13			- 1							
Silver*	0.460215262	1.00E+101	1.00E+101	2.00 0.61	0.60		0.00	0.00	0.07	0.04	0.26										
Zinc	42.42643986	38.7417734	1.00E+101	1710.16 554.42	0.60		0.00			32.22 0.00	236.73 0.00	A		- 1							
Cyanide	22.4	5.2	1.00E+101	0.00	0.60	2.13		0.00	0.00	0.00	0.00			- 1							
Beryllium*	1.00E+101	1.00E+101	0.076 0.0004	0.00 0.00	0.60	2.13 2.13		0.00	0.00	0.00	0.00										
PCBs*	1.00E+101 3	0.014 1.00E+101	1.00E+101	0.00	0.60	2.13		0.00	0.00	0.00											
Aldrin* Dieldrin	2.5	0.0019	0.0012	0.00	0.60	2.13		0.00	0.00	0.00	0.00			- 1							
DDT (& metabolites)*	1.1	0.0019	1.00E+101	0.00	0.60	2.13	100000000000000000000000000000000000000	0.00	0.00	0.00	0.00			- 1							
Endrin	0.18	0.0023	1.00E+101	0.00	0.60	2.13		0.00	0.00	0.00											
Toxaphene	0.73	0.0002	0.0063	0.00	0.60	2.13		0.00	0.00	0.00	0.00										
Chlordane	2.4	0.0043	0.005	0.00	0.60	2.13		0.00	0.00	0.00	0.00										
Endosulfan*	0.22	0.056	1.00E+101	0.00	0.60	2.13		0.00	0.00	0.00	0.00			- 1							
Heptachlor*	0.52	0.0038	1.00E+101	0.00	0.60	2.13	933	0.00	0.00	0.00	0.00										
Hexachlorocyclohexane	2	0.08	1.00E+101	0.00	0.60	2.13	100000000000000000000000000000000000000	0.00	0.00	0.00											
Pentachlorophenol*	11.77878462	7.435754097	1.00E+101	0.00	0.60		100000000000000000000000000000000000000	0.00	0.00	0.00											
	0.083	0.041	1.00E+101	0.00	0.60	2.13	51000	0.00	0.00	0.00	0.00										
Chlorpyrifos			No. of the contract of the con				H115000000														
Chlorpyrifos Dioxin (2,3,7,8 TCDD)*	1.00E+101	1.00E+101	0.000001	0.00	0.60	2.13		0.00	0.00	0.00	0.00										
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane			No. of the contract of the con		0.60 0.60	1000000		0.00	0.00 0.00	0.00 0.00	0.00 0.00										
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen	1.00E+101 1.00E+101	1.00E+101 1.00E+101	0.000001 0.0373	0.00				0.00	0.00	0.00	0.00		COEFFICIE	NTS							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow:	1.00E+101 1.00E+101 streams	1.00E+101	0.000001 0.0373	0.00				0.00	0.00	0.00	0.00	TIONING		NTS							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1	1.00E+101 1.00E+101 streams 1.00	1.00E+101 1.00E+101	0.000001 0.0373 Variables:	0.00 0.00		2.13		0.00	TO DISSOLVED	0.00	0.00 ACTORS AND PARIT	TIONING	pefficients								
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2	1.00E+101 1.00E+101 streams	1.00E+101 1.00E+101	0.000001 0.0373 Variables:	0.00 0.00		0.60		0.00	0.00 TO DISSOLVED Correction	0.00	0.00 ACTORS AND PARIT	rioning ning Co									
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background:	1.00E+101 1.00E+101 streams 1.00 0.00	1.00E+101 1.00E+101	0.00001 0.0373 Variables: Coefficeent of z for the 95th	0.00 0.00 f variation (default) %tile occurrence		2.13		0.00	TO DISSOLVED	0.00 CORRECTION FA	0.00 ACTORS AND PARIT	rioning ning Co	oefficients Lak	(8							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2	1.00E+101 1.00E+101 streams 1.00	1.00E+101 1.00E+101	0.000001 0.0373 Variables: Coefficeent of z for the 95th's Hardness, mg	0.00 0.00 f variation (default) %tile occurrence		2.13 0.60 1.645		O.00 TOTAL Metal	0.00 TO DISSOLVED Correction	0.00 CORRECTION FA	0.00 ACTORS AND PARITION Partition Stream Kpo 4.80E+05	ning Co	oefficients Lak Kpo	ke alpha							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10	1.00E+101 1.00E+101 streams 1.00 0.00 215.19	1.00E+101 1.00E+101	0.000001 0.0373 Variables: Coefficeent of z for the 95th' Hardness, mg TSS, mg/L	0.00 0.00 f variation (default) %tile occurrence		0.60 1.645 31.0		O.00 TOTAL Metal Arsenic	O.00 TO DISSOLVED Correction acute	0.00 CORRECTION FA on Factors chronic	O.00 ACTORS AND PARITION Partition Stream Kpo 4.80E+05 4.00E+06	alpha -0.73	Lak Kpo 4.80E+05	e alpha -0.73							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60	1.00E+101 1.00E+101 lakes	0.00001 0.0373 Variables: Coefficient of z for the 95th Hardness, mg TSS, mg/L S for Stream,	0.00 0.00 f variation (default) % file occurrence	0.60	0.60 1.645 31.0 5.5		O.00 TOTAL Metal Arsenic Cadmium	O.00 TO DISSOLVED Correction acute 0.993	0.00 CORRECTION FA on Factors chronic 0.958	0.00 ACTORS AND PARI' Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06	alpha -0.73	Lak Kpo 4.80E+05 3.52E+06	alpha -0.73 -0.92							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health)	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00	1.00E+101 1.00E+101 lakes	0.00001 0.0373 Variables: Coefficient of z for the 95th Hardness, mg TSS, mg/L S for Stream,	0.00 0.00 f variation (default) %tile occurrence j/L L for Lake or Reservoir	0.60	0.60 1.645 31.0 5.5		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(Vi	0.00 TO DISSOLVED Correctic acute 0.993 0.316 0.982 0.960	0.00 CORRECTION FA on Factors	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06	alpha -0.73 -1.13 -0.93	Lak Kpo 4.80E+05 3.52E+06 2.17E+06	alpha -0.73 -0.92 -0.27							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic)	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73	1.00E+101 1.00E+101 lakes	0.00001 0.0373 Variables: Coefficeent of z for the 95th Hardness, mg TSS, mg/L S for Stream, Dia. of dischail pH (for pental Metals:	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead	0.00 TO DISSOLVED Correctic acute 0.993 0.316 0.982 0.980 0.962	0.00 CORRECTION FA on Factors chronic 0.958 0.860 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.80E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute)	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73	1.00E+101 1.00E+101 lakes	0.00001 0.0373 Variables: Coeffiecent of z for the 95th/ Hardness, mg TSS, mg/L S for Stream, Dia. of dischar	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1.645 31.0 5.5 S		O.00 TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850	0.00 CORRECTION F/ on Factors	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.80E+06 2.90E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53 -1.17							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic)	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73	1.00E+101 1.00E+101 lakes	0.00001 0.0373 Variables: Coefficeent of z for the 95th Hardness, mg TSS, mg/L S for Stream, Dia. of dischail pH (for pental Metals:	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel	0.00 TO DISSOLVED Correctic acute 0.993 0.316 0.982 0.980 0.962	0.00 CORRECTION FA on Factors	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.80E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14	Lak Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06	alpha -0.73 -0.92 -0.27 -0.9 -0.53							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic)	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73	1.00E+101 1.00E+101 lakes	0.00001 0.0373 Variables: Coefficeent of z for the 95th Hardness, mg TSS, mg/L S for Stream, Dia. of dischail pH (for pental Metals:	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Selenium	0.00 Correcti acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.80E+06 2.90E+06 4.90E+05	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lal Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.21E+06	-0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73	1.00E+101 1.00E+101 lakes	0.00001 0.0373 Variables: Coefficeent of z for the 95th Hardness, mg TSS, mg/L S for Stream, Dia. of dischail pH (for pental Metals:	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic)	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73	1.00E+101 1.00E+101 lakes 2.80	0.00001 0.0373 Variables: Coefficeent of z for the 95th Hardness, mg TSS, mg/L S for Stream, Dia. of dischail pH (for pental Metals:	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Selenium	0.00 Correcti acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.80E+06 2.90E+06 4.90E+05	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.9 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73	1.00E+101 1.00E+101 lakes	0.00001 0.0373 Variables: Coefficeent of z for the 95th Hardness, mg/L S for Stream, Dia. of dischail pH (for pental Metals: T for total, D for total, D for total, D for the stream of the stream o	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73 E SAME UNITS!)	1.00E+101 1.00E+101 lakes 2.80 2.80	0.00001 0.0373 Variables: Coeffiecent of z for the 95th' Hardness, mg TSS, mg/L S for Stream, Dia. of dischar pH (for pentar Metals: T for total, D f	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73 E SAME UNITSI)	1.00E+101 1.00E+101 lakes 2.80 2.80 TSS 15th%tile 5.5 2 3	0.00001 0.0373 Variables: Coeffiecent of z for the 95th' Hardness, mg TSS, mg/L S for Stream, Dia, of dischan pH (for pentar Metals:	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific N Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73 E SAME UNITSI)	1.00E+101 1.00E+101 lakes 2.80 2.80	0.00001 0.0373 Variables: Coefficeent of z for the 95th Hardness, mg/L S for Stream, Dia. of dischail pH (for pental Metals: T for total, D for total, D for total, D for total of the pental of the	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific \(^1\) Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73 E SAME UNITS!)	1.00E+101 1.00E+101 lakes 2.80 2.80 TSS 15th%tile 5.5 2 3 1.3 2.5	0.00001 0.0373 Variables: Coefficeent of z for the 95th Hardness, mg/L S for Stream, Dia. of discharpH (for pental Metals: T for total, D f	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7010 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific N Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73 E SAME UNITSI)	1.00E+101 1.00E+101 lakes 2.80 2.80	0.00001 0.0373 Variables: Coefficeent of z for the 95th Hardness, mg/L S for Stream, Dia. of discharpH (for pental Metals: T for total, D f	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific N Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams:	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73 E SAME UNITSI) /alues for Hardness 31 31 25 25 148 81	1.00E+101 1.00E+101 lakes 2.80 2.80 TSS 15th%tile 5.5 2 3 1.3 2.5 8	0.00001 0.0373 Variables: Coeffiecent of z for the 95th Hardness, mg/L S for Stream, Dia. of dischar pH (for pental Metals: T for total, D f	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific N Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73 E SAME UNITSI) /alues for Hardr Hardness 31 31 25 25 148 81	1.00E+101 1.00E+101 lakes 2.80 2.80 2.80 5.5 2 3 3 1.3 2.5 8	0.00001 0.0373 Variables: Coefficeent of z for the 95th Hardness, mg/L S for Stream, Dia. of dischail pH (for pental Metals: T for total, D for to	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific N Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams:	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73 E SAME UNITS!)	1.00E+101 1.00E+101 lakes 2.80 2.80 TSS 15th%tile 5.5 2 3 1.3 2.5 8	0.00001 0.0373 Variables: Coeffiecent of z for the 95th Hardness, mg/L S for Stream, Dia. of dischar pH (for pental Metals: T for total, D f	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific N Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dar	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73 E SAME UNITS!)	1.00E+101 1.00E+101 lakes 2.80 2.80 2.80 5.5 2 3 3 1.3 2.5 8	0.00001 0.0373 Variables: Coeffiecent of z for the 95th Hardness, mg/L S for Stream, Dia. of discharpH (for pental Metals: T for total, D f	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7C10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific N Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dar Dardenelle Dame to Terry N	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73 E SAME UNITS!)	1.00E+101 1.00E+101 lakes 2.80 2.80 2.80 2.80 2.80 2.80 2.80 2.80	0.00001 0.0373 Variables: Coefficeent of z for the 95th' Hardness, mg TSS, mg/L S for Stream, Dia, of dischan ph (for pentar Metals:	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific N Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dat Dardenelle Dame to Terry I Terry L&D to L&D No. 5	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73 E SAME UNITS!)	1.00E+101 1.00E+101 lakes 2.80 2.80 2.80 2.80 1.3 2.5 8.3 1.3 2.5 8.3	0.00001 0.0373 Variables: Coefficeent of z for the 95th Hardness, mg/L S for Stream, Dia. of dischar pH (for pentar Metals: T for total, D f	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific \(^1\) Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dar Dardenelle Dame to Terry \(^1\) Terry L&D to L&D No. 5 L&D No. 5 to Mouth	1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73 E SAME UNITSI) /alues for Hardr Hardness 31 31 31 25 25 148 81 125 m&D	1.00E+101 1.00E+101 lakes 2.80 2.80 2.80 2.80 2.80 2.80 3 1.3 2.5 8 3 1.3 2.5 8 8	0.00001 0.0373 Variables: Coefficeent of z for the 95th' Hardness, mg TSS, mg/L S for Stream, Dia. of discharph (for pentar Metals: T for total, D f	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific N Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dan Dardenelle Dame to Terry I Terry L&D to L&D No. 5 L&D No. 5 to Mouth Red River Ouachita River Above Caddo River	1.00E+101 1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73 E SAME UNITSI) /alues for Hardr Hardness 31 31 25 25 148 81 125	1.00E+101 1.00E+101 lakes 2.80 2.80 2.80 2.80 2.80 2.80 3.1.3 2.55 8.3 9.33 9.33	0.00001 0.0373 Variables: Coefficeent of z for the 95th' Hardness, mg TSS, mg/L S for Stream, Dia of dischan ph. (for pentar Metals:	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific N Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dar Dardenelle Dame to Terry I Terry L&D to L&D No. 5 L&D No. 5 to Mouth Red River Ouachita River Above Caddo River Below Caddo River Below Caddo River	1.00E+101 1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73 E SAME UNITSI) /alues for Hardn Hardness 31 31 25 25 148 81 125 m&D	1.00E+101 1.00E+101 lakes 2.80 2.80 2.80 2.80 2.80 2.80 3 1.3 2.5 8 3 1.3 2.5 8 8	0.00001 0.0373 Variables: Coefficeent of z for the 95th' Hardness, mg TSS, mg/L S for Stream, Dia of dischan ph. (for pentar Metals:	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific N Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dar Dardenelle Dame to Terry I Terry L&D to L&D No. 5 L&D No. 5 to Mouth Red River Ouachita River Above Caddo River Below Caddo River Below Caddo River White River	1.00E+101 1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73 E SAME UNITSI) /alues for Hardr Hardness 31 31 25 25 148 81 125	1.00E+101 1.00E+101 1.00E+101 lakes 2.80 2.80 2.80 5.5 2 3 3.3 2.5 8 	0.00001 0.0373 Variables: Coefficeent of z for the 95th Hardness, mg/L S for Stream, Dia. of dischail pH (for pental Metals: T for total, D f	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific N Guif Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dar Dardenelle Dame to Terry N Terry L&D to L&D No. 5 L&D No. 5 to Mouth Red River Ouachita River Above Caddo River Below Caddo River Below Caddo River White River Above Beaver Lake	1.00E+101 1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73 E SAME UNITSI) /alues for Hardr Hardness 31 31 25 25 148 81 125 1.8D	1.00E+101 1.00E+101 1.00E+101 lakes 2.80 2.80 2.80 5.5 2 3 3 1.3 2.5 8 8 	0.00001 0.0373 Variables: Coeffiecent of z for the 95th Hardness, mg TSS, mg/L S for Stream, Dia. of dischar pH (for pental Metals: T for total, D f	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							
Chlorpyrifos Dioxin (2,3,7,8 TCDD)* Alpha Hexachlorocyclohexane Basis for Screen Flow: Source 1 Source 2 Background: 7Q10 Critical LTA (for Human Health) ZID (for Acute) MZ (for Chronic) (ALL FLOWS NEED TO BE IN THE Ecoregion and Stream Specific N Gulf Coastal Ouachita Mtns. Arkansas River Valley Boston Mountain Ozark Highlands Delta Streams: Arkansas River Ft. Smith to Dardenelle Dar Dardenelle Dame to Terry I Terry L&D to L&D No. 5 L&D No. 5 to Mouth Red River Ouachita River Above Caddo River Below Caddo River Below Caddo River White River	1.00E+101 1.00E+101 1.00E+101 streams 1.00 0.00 215.19 53.60 4.00 17.87 35.73 E SAME UNITSI) /alues for Hardr Hardness 31 31 25 25 148 81 125 1.8D	1.00E+101 1.00E+101 1.00E+101 lakes 2.80 2.80 2.80 5.5 2 3 3.3 2.5 8 	0.00001 0.0373 Variables: Coefficeent of z for the 95th' Hardness, mg TSS, mg/L S for Stream, Dia. of dischan pla. (for pentar Metals: T for total, D f	0.00 0.00 f variation (default) %tile occurrence g/L L for Lake or Reservoir rge pipe, ft (for lakes, only) chlorophenol)	0.60	0.60 1,645 31.0 5.5 S		TOTAL Metal Arsenic Cadmium Chromium(III Chromium(VI Copper Lead Mercury Nickel Solenium Silver	0.00 Correctic acute 0.993 0.316 0.982 0.960 0.962 0.850 0.998	0.00 CORRECTION F/ on Factors chronic 0.958 0.860 0.962 0.960 0.962	0.00 ACTORS AND PARIT Partitio Stream Kpo 4.80E+05 4.00E+06 3.36E+06 1.04E+06 2.90E+06 4.90E+05 2.40E+06	alpha -0.73 -1.13 -0.93 -0.74 -0.8 -1.14 -0.57	Lat Kpo 4.80E+05 3.52E+06 2.17E+06 2.85E+06 2.04E+06 1.97E+06 2.40E+06	-0.73 -0.92 -0.27 -0.99 -0.53 -1.17 -0.76							

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 Date
 2/22/07

 Project No.
 2042-99-010

SUBJECT: Background Flow/Ratio Derivation

Background Flow

Water level measurements from four locations (006, 007, 006B, 007B) were used to derive the background flow conditions for EDCC Outfalls 006/007. The methods and example calculations follow.

The unnamed tributary to Flat Creek is split into two branches near the EDCC property line. The flow monitoring locations selected include storm water from EDCC Outfalls 006 and 007 plus the non-industrial area of the watershed represented by 006B plus 007B. To derive background flow for the receiving stream, the total flow must be measured, then flows from EDCC Outfalls 006 and 007 subtracted. In equation form:

Background Flow = (006B + 007B) - (006 + 007)

Two instruments were installed in the stream to record water levels at 5 minute increments to obtain 006B and 007B flows. Flow/level relationships were determined by direct measurement of flow rates at multiple water levels, then using regression analyses to develop mathematical relationships to predict flow rates for varying observed water levels. The equations to calculate instantaneous flow rates for 006B and 007B are:

006B (cfs) = $11.286H^3 - 28.13H^2 + 25.05H - 7.2465$ 007B (cfs) = $0.0856H^{6.9528}$ where H is water level (ft)

Outfalls 006 and 007 are equipped with prefabricated fiberglass flumes. Tables of published flow rates related to water levels in Appendix C were used to establish discharge flows. The table below shows an example of how background flow was estimated, using data from an event that occurred 3/4/05 from 7:09-7:59.

006B	H, ft	CFS	007B	H, ft	CFS	006	H, ft	CFS	007	H, ft	CFS
3/4/2005			3/4/2005			3/4/2005			3/4/2005		
7:09	0.78	0.53	7:11	0.82	0.022	7:08	0.04	0.007	7:09	0.01	0.002
3/4/2005			3/4/2005			3/4/2005			3/4/2005		
7:14	0.78	0.53	7:16	0.82	0.022	7:13	0.04	0.007	7:14	0.01	0.002
3/4/2005			3/4/2005			3/4/2005			3/4/2005		
7:19	0.78	0.53	7:21	0.82	0.022	7:18	0.04	0.007	7:19	0.01	0.002
3/4/2005			3/4/2005			3/4/2005			3/4/2005		
7:24	0.78	0.53	7:26	0.82	0.022	7:23	0.04	0.007	7:24	0.03	0.012
3/4/2005			3/4/2005			3/4/2005			3/4/2005		
7:29	0.78	0.53	7:31	0.83	0.023	7:28	0.04	0.007	7:29	0.07	0.050
3/4/2005			3/4/2005			3/4/2005			3/4/2005		
7:34	0.78	0.53	7:36	0.82	0.022	7:33	0.04	0.007	7:34	0.05	0.029
3/4/2005			3/4/2005			3/4/2005			3/4/2005		
7:39	0.78	0.53	7:41	0.83	0.023	7:38	0.04	0.007	7:39	0.08	0.062
3/4/2005			3/4/2005			3/4/2005			3/4/2005		
7:44	0.78	0.53	7:46	0.82	0.022	7:43	0.04	0.007	7:44	0.12	0.119
3/4/2005			3/4/2005			3/4/2005			3/4/2005		
7:49	0.78	0.53	7:51	0.83	0.023	7:48	0.04	0.007	7:49	0.03	0.012
3/4/2005			3/4/2005			3/4/2005			3/4/2005		
7:54	0.78	0.53	7:56	0.83	0.023	7:53	0.04	0.007	7:54	0.12	0.119
3/4/2005			3/4/2005			3/4/2005			3/4/2005		
7:59	0.78	0.53	8:01	0.83	0.023	7:58	0.04	0.007	7:59	0.17	0.211
006B I	EVENT		007B I	EVENT							
	SUM	5.87		SUM	0.246	006 EVEN	TSUM	0.080	007 EVE	NT SUM	0.619

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SUBJECT: Background Flow/Ratio Derivation

Using the equation: Background Flow = (006B + 007B) - (006 + 007), Background Flow = (5.87 + 0.246) - (0.080 + 0.619)Background Flow = 5.42 CFS

Background: Outfall Ratio

To analyze the background-to-outfall flow ratios for the study purposes, discharge events first were defined as precipitation-related and resulting in a quantifiable increase in background flow in the receiving stream concurrent with discharge from outfalls 006 and/or 007. Recorded water levels for all four monitoring locations were assessed to identify discrete discharge events, consisting of time periods where outfall 006 and/or 007 was discharging and background flow was greater than or equal to the total 006 + 007 flow. On an event basis, recorded flows were used in the following equation to determine the respective ratios for background to 006 and background to 007 that were representative of the entire discharge event.

BG:006 (event) = Σ BG/ Σ 006 (event) BG:007 (event) = Σ BG/ Σ 007 (event)

In the following table, the same discharge event shown in the previous section is used to demonstrate individual 5-minute incremental flow rates for the duration of the event. Background Flow has been calculated for each recorded time interval using the method described in the first section. Flow ratios for 006 and 007 are determined using the above equations.

EDCC Date / Time	CALC BG CFS	006 FLOW CFS	007 FLOW CFS	EVENT NO	EVENT RATIO BG/006	EVENT RATIO BG/007
3/4/05 7:09	0.55	0.007	0.002			
3/4/05 7:14	0.55	0.007	0.002			
3/4/05 7:19	0.55	0.007	0.002			
3/4/05 7:24	0.54	0.007	0.012			
3/4/05 7:29	0.50	0.007	0.050			
3/4/05 7:34	0.52	0.007	0.029			
3/4/05 7:39	0.49	0.007	0.062			
3/4/05 7:44	0.43	0.007	0.119			
3/4/05 7:49	0.54	0.007	0.012			
3/4/05 7:54	0.43	0.007	0.119			
3/4/05 7:59	0.34	0.007	0.211			
SUM	5.42	0.08	0.619	2	67.76	8.76

BG:006 (event) = 5.42/0.08 = 67.76:1 BG:007 (event) = 5.42/0.619 = 8.76:1

This method was used to identify seventy-seven discharge events and determine flow ratios as summarized in Appendix F of the report. In the Appendix F table, only the event summary data is shown. The full data is provided on the compact disk submitted with the report.