EXHIBIT 5

Illinois River Phosphorus Mass Balance Computation

DRAFT

Marc Nelson Ph.D., P.E.
University of Arkansas
Arkansas Water Resources Center

Kati White
University of Arkansas
Biological and Agricultural Engineering

Indrajeet Chaubey Ph.D.
University of Arkansas
Biological and Agricultural Engineering

PLAINTIFF'S EXHIBIT 15 Chaubey

Illinois River Phosphorus Mass Balance inputs

	1997	1998	1999	2000	2001				
P In									
POINT SOURCE									
Effluent (lb P)						average	percentage of effluent P total		mg/l
Fayetteville	4,099	5,512	3,482	5,205	3,011	4,262	2%		0.5
Prairie Grove	3,995	4,183	4,089	2,417	2,669	3,471	2%		12
Rogers	44,150	19,071	41,452	21,180	15,436	28,258	14%		1.7
Springdale	131,222	118,353	176,366	200,903	223,468	170,062	83%		4.9
								PS % of Total inputs	
Sum of WWTP PS inputs/yr in lbs P	**183,466**	**147,119**	**226,390**	**229,705**	**244,584**	**206,053**		**2.8%**	
NON-POINT SOURCE									
Sludge (lb P)						average	percentage of sludge P total	percentage of NPS input	
Fayetteville	0	0	0	0	0	0	0%		
Prairie Grove - Blue Mtn	223	377	233	0	0	167	0%		
Prairie Grove - Apple Hill	0	0	1,004	18,633	503	4,028	2%		
Prairie Grove - Blue Mist	126	0	0	0	0	25	0%		
Rogers	59,168	76,820	68,632	71,458	76,525	70,520	33%		
Springdale	121,185	109,455	124,115	134,270	192,361	136,277	65%		
Sum of WWTP sludge inputs/yr in lbs P	**180,702**	**186,652**	**193,984**	**224,361**	**269,389**	**211,017**		**3.0%**	
Animals (lb P)						average	percentage of animal waste P total		
hogs/swines	116,615	113,852	106,891	104,682	100,972	108,603	1.7%		
broilers	3,020,877	3,141,713	3,335,451	3,468,870	3,681,249	3,329,632	51.1%		
layers	466,209	488,258	510,145	539,122	544,964	509,740	7.8%		
turkeys	721,589	706,467	684,659	564,417	718,478	679,122	10.4%		
cattle-beef	1,760,354	1,779,259	1,841,789	1,824,889	1,808,991	1,803,057	27.7%		
dairy	105,646	95,058	80,956	80,956	79,761	88,475	1.4%		
Sum of Animal inputs/yr in lbs P	**6,191,291**	**6,324,606**	**6,559,892**	**6,582,936**	**6,934,417**	**6,618,628**		**91.9%**	
Fertilizer (lb P)									
fertilizer	330,619	327,657	353,856	388,159	412,732	362,604		**6.1%**	
total NPS inputs	6,702,611	6,838,914	7,107,732	7,195,456	7,616,538	7,092,250			