APPENDIX A
SUMMARY OF LISTING DATA - 1994

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SUMMARY OF LISTING DATA - 1994[1]

	Be T, µg/L		Cd T, mg/L		Cu T, mg/L		Cu D, mg/L		Mn T, mg/L		HgT, µg/L		Low pH, SU		Zn D, mg/L		TDS, mg/L	
Site ID	Value	Std	Value	Std	Value	Std	Value	Std	Value	Std	Value	Std	Value	Std	Value	Std	Value	Std
LP-9[2]			1.18	0.05	1,290	0.50			663	10	1.1	0.60					15,210	1,000
CD-1[2]			1.36	0.05	1,420	0.50			843	10	0.8	0.60					19,700	1,000
ZG-1[2]																	3,700	1,000
ZG-2[2]			0.054	0.05	1.6	0.50			22.9	10							3,980	1,000
FG-1									18.4	10							3,610	1,000
FG-2					2.38	0.50			28.5	10					8.71	varies	3,990	1,000
FG-4																	3,000	1,000
FG-6																	2,600	1,000
FG-7																	2,150	1,000
FG-8																	2,040	1,000
FG-10																	1,390	1,000
FG-11																	1,250	1,000
3/FG Springs[2]					1.07	0.50	0.481	0.50	44.2	10							3,480	1,000
4/FG Zonia Gulch Springs[2]					1.95	0.50	1.90	0.50	27.5	10					7.54	Varies	3,650	1,000
QC-1/FG[2]			0.0757	0.05													3,650	1,000

[1]The standards listed on this table are the standards that were used in 1994, when the listing decision was made. Standards based on hardness. Hardness expressed in mg/L $CaCO_3$.
[2]Site cannot be identified. Data not used in modeling.

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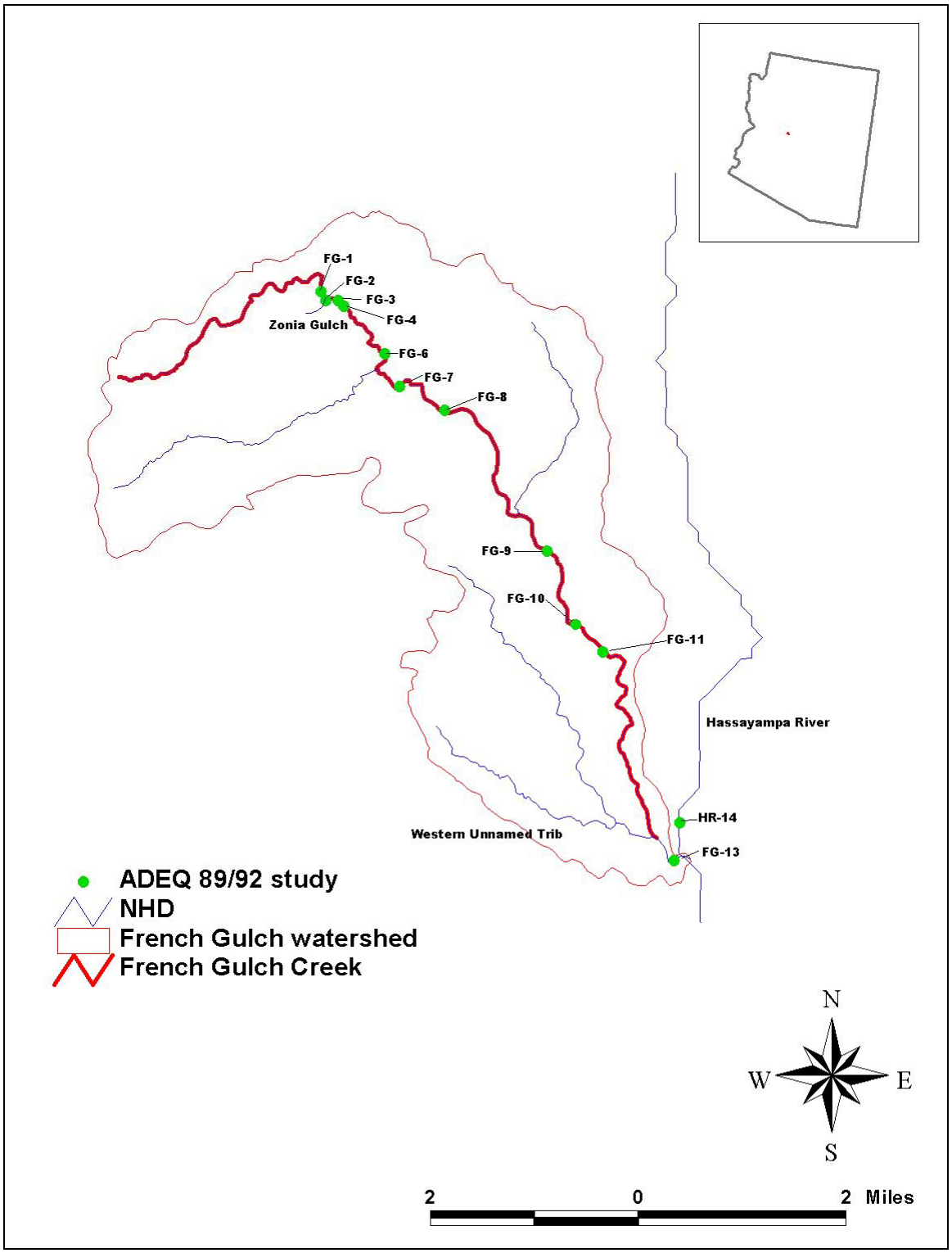

Figure A-1. Data from these water quality stations supported the 1994 listing of French Gulch

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APPENDIX B
ADEQ TMDL PROGRAM SAMPLING RESULTS

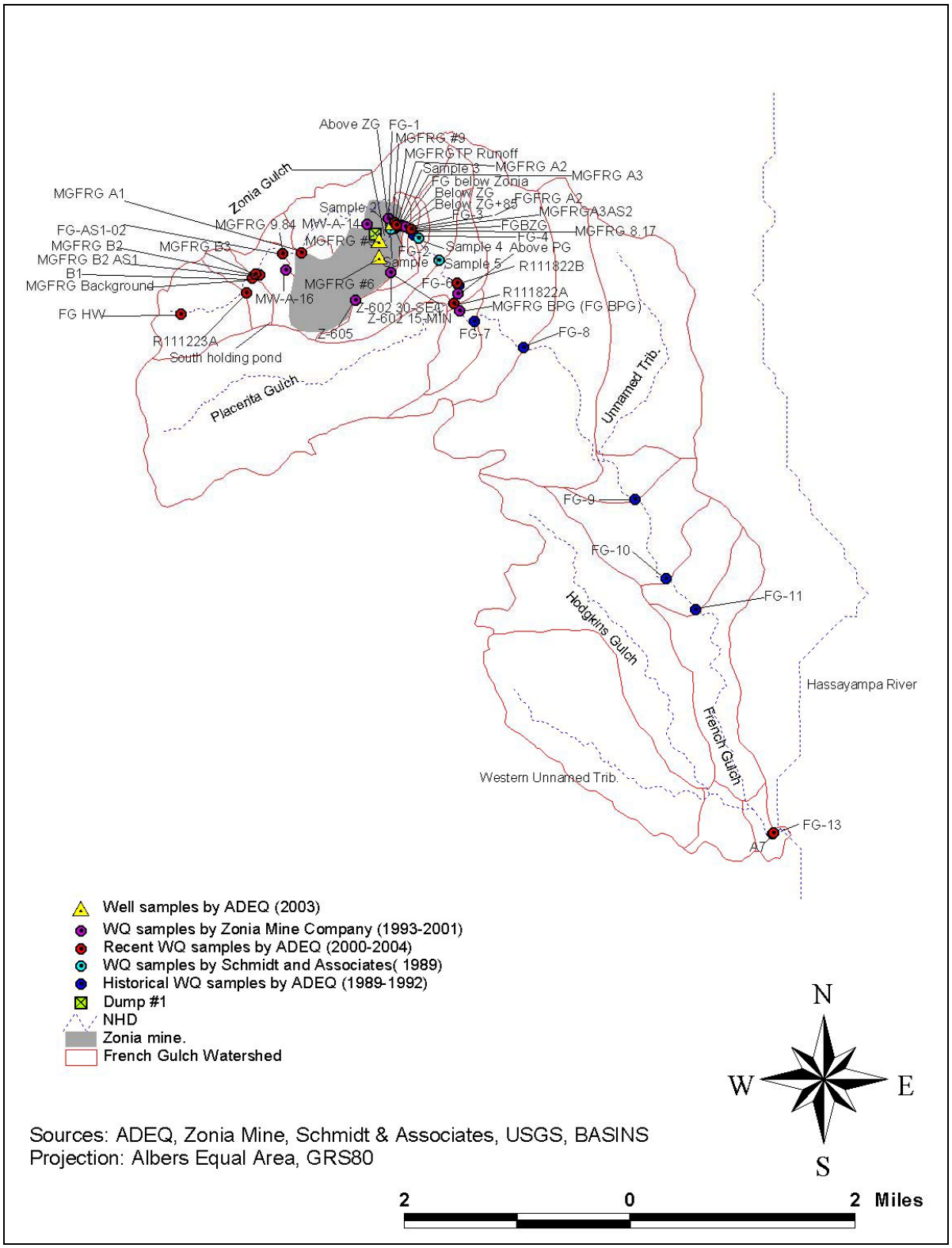

Figure B-1. Sampling Stations in the French Gulch Watershed

Site Descriptor	Sample Date	Cu(d)(mg/L)	Hardness	Hardness[1]	Standard
FG below Zonia	2/23/01	0.019	2573	400	0.0292794
FG below Zonia	1/29/01	0.027	2202	400	0.0292794
FG below Zonia	3/29/01	0.075	2400	400	0.0292794
FG-1	4/30/91	0.26	2480	400	0.0292794
FGAPG	1/2/96	0.007	1562	400	0.0292794
FGAPG	4/1/96	0.008	1504	400	0.0292794
FGAPG	3/20/02	0.01	2037	400	0.0292794
FGAPG	10/2/96	0.011	1697	400	0.0292794
FGAPG	4/10/01	0.014	1600	400	0.0292794
FGAPG	4/3/00	0.018	1700	400	0.0292794
FGAPG	10/4/99	0.019	1900	400	0.0292794
FGAPG	1/9/01	0.02	1800	400	0.0292794
FGAPG	4/7/98	0.03	1800	400	0.0292794
FGAPG	10/30/00	0.033	1000	400	0.0292794
FGAPG	10/5/98	0.13	2200	400	0.0292794
FG-AS2-02	3/4/03	0.064	2000	400	0.0292794
FG-AS2-04	3/4/03	0.064	2000	400	0.0292794
FG-AS2-06	3/4/03	0.065	2000	400	0.0292794
FG-AS2-08	3/4/03	0.064	2000	400	0.0292794
FG-AS2-10	3/5/03	0.06	2000	400	0.0292794
FGAZG	2/13/01	0.012	2400	400	0.0292794
FGAZG	5/15/01	0.014	2400	400	0.0292794
FGAZG	7/17/97	0.014	3300	400	0.0292794
FGAZG	9/4/97	0.017	2300	400	0.0292794
FGAZG	9/26/00	0.019	2400	400	0.0292794
FGAZG	12/18/97	0.021	2310	400	0.0292794
FGAZG	1/6/97	0.023	2600	400	0.0292794
FGAZG	11/1/99	0.024	2200	400	0.0292794
FGAZG	12/11/00	0.025	2300	400	0.0292794
FGAZG	1/9/01	0.025	2300	400	0.0292794
FGAZG	7/17/00	0.028	13000	400	0.0292794
FGAZG	6/26/01	0.03	2600	400	0.0292794
FGAZG	5/6/97	0.03	2390	400	0.0292794
FGAZG	12/6/96	0.03	3000	400	0.0292794
FGAZG	11/20/00	0.031	1340	400	0.0292794
FGAZG	11/20/00	0.031	1340	400	0.0292794
FGAZG	8/7/00	0.035	2400	400	0.0292794
FGAZG	10/23/97	0.035	2483	400	0.0292794
FGAZG	8/14/97	0.036	2466	400	0.0292794
FGAZG	2/3/97	0.048	2400	400	0.0292794
FGAZG	8/12/96	0.05	2884	400	0.0292794
FGAZG	4/10/01	0.054	2000	400	0.0292794
FGAZG	6/5/00	0.055	12000	400	0.0292794
FGAZG	3/2/97	0.055	1260	400	0.0292794
FGAZG	3/13/00	0.057	2400	400	0.0292794
FGAZG	3/25/96	0.06	2549	400	0.0292794

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Site Descriptor	Sample Date	Cu(d)(mg/L)	Hardness	Hardness[1]	Standard
FGAZG	10/5/98	0.06	2800	400	0.0292794
FGAZG	11/13/97	0.062	2096	400	0.0292794
FGAZG	2/7/00	0.065	2400	400	0.0292794
FGAZG	1/3/00	0.067	2400	400	0.0292794
FGAZG	1/15/96	0.07	2622	400	0.0292794
FGAZG	3/19/01	0.07	2200	400	0.0292794
FGAZG	10/30/00	0.08	1200	400	0.0292794
FGAZG	3/11/96	0.08	2565	400	0.0292794
FGAZG	10/2/96	0.08	691.6	400	0.0292794
FGAZG	7/11/95	0.09	1896	400	0.0292794
FGAZG	7/15/96	0.09	2549	400	0.0292794
FGAZG	1/4/99	0.094	2300	400	0.0292794
FGAZG	1/2/96	0.1	2320	400	0.0292794
FGAZG	7/1/96	0.1	2426	400	0.0292794
FGAZG	5/1/00	0.11	2300	400	0.0292794
FGAZG	10/4/99	0.11	2400	400	0.0292794
FGAZG	4/8/96	0.11	2235	400	0.0292794
FGAZG	4/3/00	0.12	2200	400	0.0292794
FGAZG	2/9/99	0.12	2200	400	0.0292794
FGAZG	3/1/99	0.12	2500	400	0.0292794
FGAZG	6/3/96	0.12	2485	400	0.0292794
FGAZG	1/29/96	0.14	2664	400	0.0292794
FGAZG	12/8/98	0.17	6849	400	0.0292794
FGAZG	11/3/98	0.18	2340	400	0.0292794
FGAZG	6/4/98	0.19	1900	400	0.0292794
FGAZG	3/25/98	0.19	2400	400	0.0292794
FGAZG	4/7/98	0.24	2400	400	0.0292794
FGAZG	2/26/96	0.26	2715	400	0.0292794
FGAZG	2/23/98	0.26	990	400	0.0292794
FGAZG	5/9/96	0.26	2680	400	0.0292794
FGAZG	5/6/98	0.3	2500	400	0.0292794
FGBPG	10/2/96	0.008	1570	400	0.0292794
FGBPG	4/10/01	0.011	1600	400	0.0292794
FGBPG	4/3/00	0.012	1800	400	0.0292794
FGBPG	10/4/99	0.013	1900	400	0.0292794
FGBPG	1/9/01	0.017	1800	400	0.0292794
FGBPG	4/7/98	0.02	1300	400	0.0292794
FGBPG	10/30/00	0.026	890	400	0.0292794
FGBZG	2/13/01	0.011	2400	400	0.0292794
FGBZG	11/20/00	0.013	1340	400	0.0292794
FGBZG	11/20/00	0.013	1340	400	0.0292794
FGBZG	1/9/01	0.016	2100	400	0.0292794
FGBZG	12/11/00	0.016	2200	400	0.0292794
FGBZG	7/19/01	0.017	2400	400	0.0292794
FGBZG	10/11/01	0.02	2400	400	0.0292794
FGBZG	10/30/00	0.02	920	400	0.0292794

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Site Descriptor	Sample Date	Cu(d)(mg/L)	Hardness	Hardness[1]	Standard
FGBZG	3/19/01	0.044	2200	400	0.0292794
FGBZG	4/10/01	0.047	2000	400	0.0292794
FGBZG	9/19/01	0.048	2500	400	0.0292794
FGBZG	12/18/01	0.054	2400	400	0.0292794
FGBZG	7/17/00	0.069	12000	400	0.0292794
FGBZG	7/11/95	0.08	1044	400	0.0292794
FGBZG	9/13/96	0.09	303.1	303.1	0.0231003
FGBZG	12/6/96	0.111	3100	400	0.0292794
FGBZG	8/12/96	0.12	2970	400	0.0292794
FGBZG	11/4/97	0.173	2316	400	0.0292794
FGBZG	7/1/96	0.21	2547	400	0.0292794
FGBZG	3/11/96	0.22	2698	400	0.0292794
FGBZG	6/3/96	0.24	2706	400	0.0292794
FGBZG	5/6/97	0.246	2320	400	0.0292794
FGBZG	1/2/96	0.25	2766	400	0.0292794
FGBZG	3/2/97	0.251	1380	400	0.0292794
FGBZG	10/5/98	0.27	2600	400	0.0292794
FGBZG	2/26/96	0.28	2798	400	0.0292794
FGBZG	5/9/96	0.28	2660	400	0.0292794
FGBZG	10/2/96	0.3	1453.3	400	0.0292794
FGBZG	9/4/97	0.303	1850	400	0.0292794
FGBZG	7/17/97	0.306	3100	400	0.0292794
FGBZG	4/8/96	0.32	2319	400	0.0292794
FGBZG	3/25/96	0.32	2770	400	0.0292794
FGBZG	6/12/97	0.35	2245	400	0.0292794
FGBZG	7/15/96	0.36	2388	400	0.0292794
FGBZG	8/14/97	0.39	2460	400	0.0292794
FGBZG	1/29/96	0.41	2701	400	0.0292794
FGBZG	1/15/96	0.41	2455	400	0.0292794
FGBZG	1/6/97	0.443	2400	400	0.0292794
FGBZG	12/18/97	0.479	2240	400	0.0292794
FGBZG	6/4/98	0.5	1900	400	0.0292794
FGBZG	2/9/99	0.51	2000	400	0.0292794
FGBZG	2/3/97	0.544	2300	400	0.0292794
FGBZG	5/6/98	0.55	2400	400	0.0292794
FGBZG	3/25/98	0.56	2300	400	0.0292794
FGBZG	10/23/97	0.562	2040	400	0.0292794
FGBZG	1/4/99	0.57	2200	400	0.0292794
FGBZG	3/1/99	0.59	2400	400	0.0292794
FGBZG	4/3/00	0.61	2200	400	0.0292794
FGBZG	6/5/00	0.63	12000	400	0.0292794
FGBZG	11/13/97	0.677	2109	400	0.0292794
FGBZG	3/13/00	0.71	2300	400	0.0292794
FGBZG	2/23/98	0.72	1160	400	0.0292794
FGBZG	10/4/99	0.72	2300	400	0.0292794
FGBZG	11/3/98	0.73	2360	400	0.0292794

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Site Descriptor	Sample Date	Cu(d)(mg/L)	Hardness	Hardness[1]	Standard
FGBZG	12/8/98	0.78	6602	400	0.0292794
FGBZG	11/1/99	0.78	2200	400	0.0292794
FGBZG	5/1/00	0.79	2300	400	0.0292794
FGBZG	4/7/98	0.82	2100	400	0.0292794
FGBZG	1/5/98	0.9	2400	400	0.0292794
FGBZG	2/7/00	0.94	2300	400	0.0292794
FGBZG	1/3/00	1.2	2300	400	0.0292794
FGBZG+85	3/20/02	0.02	2344	400	0.0292794
FGBZG+85	3/20/02	0.024	2300	400	0.0292794
FGBZG+85	2/20/02	0.031	2300	400	0.0292794
FGBZG+85	8/23/01	0.036	2500	400	0.0292794
FGBZG+85	10/18/01	0.036	2600	400	0.0292794
FGBZG+85	1/15/02	0.045	2600	400	0.0292794
MGFRG 008.17	4/15/03	0.016	2100	400	0.0292794
MGFRG 008.17	3/17/03	0.023	2000	400	0.0292794
MGFRG 008.17	2/26/03	0.097	69	69	0.0065223
MGFRG 008.17	2/26/03	0.12	71	71	0.0066835
MGFRG 008.17	2/27/03	0.15	190	190	0.0154988
MGFRG 008.17-QAQC-Total	2/26/03	0.098	61	61	0.0058704
MGFRG 008.17-Split	2/26/03	0.097	63	63	0.0060345
MGFRG 009.84	2/26/03	0.01	35	35	0.0036518
MGFRG A1	8/27/03	0.032	39	39	0.0040056
MGFRG A2	11/12/03	0.19	140	140	0.0119390
MGFRG A3	8/27/03	0.014	2100	400	0.0292794
MGFRG A3	8/28/03	0.034	750	400	0.0292794
MGFRG A3 AS2 1-2	2/23/04	0.0076	1600	400	0.0292794
MGFRG A4	12/30/03	0.006	2200	400	0.0292794
MGFRG A4 AS 11-12	12/31/03	0.014	2200	400	0.0292794
MGFRG A4 AS 13-14	12/31/03	0.0057	2100	400	0.0292794
MGFRG A4 AS 15-16	12/31/03	0.0056	2100	400	0.0292794
MGFRG A4 AS 3-4	12/30/03	0.0054	2200	400	0.0292794
MGFRG A7 AS3 1-2	11/12/03	0.0094	120	120	0.0104656
MGFRG A7 AS3 3-4	11/12/03	0.0079	360	360	0.0267585
MGFRG A7 AS3 5-6	11/12/03	0.0098	190	190	0.0154988
MGFRG ASBPG 1-2	2/23/04	0.013	1900	400	0.0292794
MGFRG B1	2/23/04	0.01	22	25	0.0027393
MGFRG B1	11/12/03	0.017	18	25	0.0027393
MGFRG B2	2/23/04	0.006	27	27	0.0029255
MGFRG B2	11/12/03	0.0072	14	25	0.0027393
MGFRG B2	8/27/03	0.017	347	347	0.0259307
MGFRG B2 AS1 11-12	11/12/03	0.0075	27	27	0.0029255
MGFRG B2 AS1 11-12	2/23/04	0.0078	28	28	0.0030179
MGFRG B2 AS1 1-2	11/12/03	0.0083	18	25	0.0027393
MGFRG B2 AS1 1-2	2/23/04	0.0096	23	25	0.0027393
MGFRG B2 AS1 1-2	12/26/03	0.014	15	25	0.0027393
MGFRG B2 AS1 13-14	11/12/03	0.0067	25	25	0.0027393

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Site Descriptor	Sample Date	Cu(d)(mg/L)	Hardness	Hardness[1]	Standard
MGFRG B2 AS1 13-14	2/23/04	0.0097	29	29	0.0031097
MGFRG B2 AS1 15-16	2/23/04	0.0085	30	30	0.0032011
MGFRG B2 AS1 15-16	11/12/03	0.009	25	25	0.0027393
MGFRG B2 AS1 17-18	11/12/03	0.0072	25	25	0.0027393
MGFRG B2 AS1 17-18	2/23/04	0.0084	31	31	0.0032921
MGFRG B2 AS1 19-20	2/23/04	0.0062	31	31	0.0032921
MGFRG B2 AS1 19-20	11/13/03	0.0077	26	26	0.0028327
MGFRG B2 AS1 21-22	11/13/03	0.0068	26	26	0.0028327
MGFRG B2 AS1 21-22	2/23/04	0.01	33	33	0.0034727
MGFRG B2 AS1 23-24	2/24/04	0.0072	31	31	0.0032921
MGFRG B2 AS1 23-24	11/13/03	0.01	26	26	0.0028327
MGFRG B2 AS1 3-4	11/12/03	0.0072	48	48	0.0047832
MGFRG B2 AS1 3-4	12/26/03	0.0094	20	25	0.0027393
MGFRG B2 AS1 3-4	2/23/04	0.01	26	26	0.0028327
MGFRG B2 AS1 7-8	11/12/03	0.0089	67	67	0.0063604
MGFRG B2 AS1 7-8	2/23/04	0.0094	26	26	0.0028327
MGFRG B2 AS1 7-8	12/26/03	0.031	23	25	0.0027393
MGFRG B2 AS1 9-10	11/12/03	0.0073	38	38	0.0039177
MGFRG B2 AS1 9-10	2/23/04	0.0075	26	26	0.0028327
MGFRG Bckgnd B1	8/27/03	0.062	25	25	0.0027393
MGFRG Below #9	8/28/03	0.1	540	400	0.0292794
MGFRG Below #9	8/28/03	0.1	250	250	0.0195948
MGFRG Below #9	8/28/03	0.12	250	250	0.0195948
MGFRG Below #9	8/28/03	0.12	540	400	0.0292794
MGFRG BPG	2/23/04	0.011	1800	400	0.0292794
MGFRG HW	11/12/03	0.0068	71	71	0.0066835
MGFRG HW	2/23/04	0.011	31	31	0.0032921
MGFRG HW	8/27/03	0.016	36	36	0.0037408
MGFRGA3AS2	8/25/03	0.074	310	310	0.0235489
R111223A	11/12/03	0.0088	26	26	0.0028327
R111822A	11/12/03	0.044	1600	400	0.0292794
R111822B	11/18/03	0.019	2200	400	0.0292794

[1]Calculated hardness used in modeling.

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Site Dscriptor	Sample Date	Cd(d)(mg/L)	Hardness	Hardness[1]	Standard
FG below Zonia	3/29/01	0.009	2400	400	0.006222403
FG-1	4/30/91	0.0058	2480	400	0.006222403
FG-2	4/30/91	0.085	2540	400	0.006222403
FG-AS2-02	3/4/03	0.0024	2000	400	0.006222403
FG-AS2-04	3/4/03	0.0023	2000	400	0.006222403
FG-AS2-06	3/4/03	0.0022	2000	400	0.006222403
FG-AS2-08	3/4/03	0.0022	2000	400	0.006222403
FG-AS2-10	3/5/03	0.0022	2000	400	0.006222403
FGAZG	9/26/00	0.0081	2400	400	0.006222403
FGAZG	4/3/00	0.0091	2200	400	0.006222403
FGAZG	5/1/00	0.011	2300	400	0.006222403
FGAZG	6/5/00	0.0068	12000	400	0.006222403
FGAZG	3/13/00	0.009	2400	400	0.006222403
FGAZG	8/7/00	0.0054	2400	400	0.006222403
FGAZG	10/30/00	0.0034	1200	400	0.006222403
FGAZG	11/20/00	0.004	1340	400	0.006222403
FGAZG	11/20/00	0.004	1340	400	0.006222403
FGAZG	5/6/97	0.006	2390	400	0.006222403
FGAZG	7/17/97	0.005	3300	400	0.006222403
FGAZG	1/9/01	0.0039	2300	400	0.006222403
FGAZG	2/13/01	0.001	2400	400	0.006222403
FGAZG	5/15/01	0.0012	2400	400	0.006222403
FGAZG	1/3/00	0.005	2400	400	0.006222403
FGAZG	2/7/00	0.0097	2400	400	0.006222403
FGAZG	2/9/99	0.0098	2200	400	0.006222403
FGAZG	6/12/97	0.004	2517	400	0.006222403
FGAZG	10/5/98	0.012	2800	400	0.006222403
FGAZG	11/3/98	0.007	2340	400	0.006222403
FGAZG	12/8/98	0.0057	6849	400	0.006222403
FGAZG	6/4/98	0.012	1900	400	0.006222403
FGAZG	3/1/99	0.013	2500	400	0.006222403
FGAZG	10/4/99	0.0038	2400	400	0.006222403
FGAZG	11/1/99	0.0022	2200	400	0.006222403
FGAZG	1/4/99	0.0048	2300	400	0.006222403
FGAZG	8/14/97	0.004	2466	400	0.006222403
FGAZG	9/4/97	0.006	2300	400	0.006222403
FGAZG	10/23/97	0.001	2483	400	0.006222403
FGAZG	2/23/98	0.005	990	400	0.006222403
FGAZG	3/25/98	0.009	2400	400	0.006222403
FGAZG	4/7/98	0.004	2400	400	0.006222403
FGAZG	11/13/97	0.004	2096	400	0.006222403
FGBPG	10/23/97	0.004	2040	400	0.006222403
FGBZG	5/15/03	0.0016	1500	400	0.006222403
FGBZG	6/12/97	0.011	2245	400	0.006222403
FGBZG	4/3/00	0.017	2200	400	0.006222403
FGBZG	5/1/00	0.019	2300	400	0.006222403

DRAFT

Site Dscriptor	Sample Date	Cd(d)(mg/L)	Hardness	Hardness[1]	Standard
FGBZG	2/7/00	0.02	2300	400	0.006222403
FGBZG	5/6/97	0.015	2320	400	0.006222403
FGBZG	6/5/00	0.011	12000	400	0.006222403
FGBZG	3/13/00	0.02	2300	400	0.006222403
FGBZG	1/3/00	0.018	2300	400	0.006222403
FGBZG	10/5/98	0.013	2600	400	0.006222403
FGBZG	11/3/98	0.011	2360	400	0.006222403
FGBZG	1/4/99	0.011	2200	400	0.006222403
FGBZG	4/7/98	0.014	2100	400	0.006222403
FGBZG	2/9/99	0.015	2000	400	0.006222403
FGBZG	3/1/99	0.019	2400	400	0.006222403
FGBZG	10/4/99	0.012	2300	400	0.006222403
FGBZG	12/18/97	0.011	2240	400	0.006222403
FGBZG	7/17/97	0.014	3100	400	0.006222403
FGBZG	8/14/97	0.017	2460	400	0.006222403
FGBZG	6/4/98	0.016	1900	400	0.006222403
FGBZG	11/13/97	0.017	2109	400	0.006222403
FGBZG	11/1/99	0.014	2200	400	0.006222403
FGBZG	1/5/98	0.02	2400	400	0.006222403
FGBZG	2/23/98	0.01	1160	400	0.006222403
FGBZG	3/25/98	0.015	2300	400	0.006222403
FGBZG+85	3/20/02	0.0023	2344	400	0.006222403
MGFRG 008.17	3/17/03	0.001	2000	400	0.006222403
MGFRG A2	11/12/03	0.0022	140	140	0.002869566
MGFRG A3	8/27/03	0.0012	2100	400	0.006222403
MGFRG Below #9	8/28/03	0.0036	250	250	0.004401535
MGFRG Below #9	8/28/03	0.0036	540	400	0.006222403

[1]Calculated hardness used in modeling.

DRAFT

Site Descriptor	Sample Date	Zn(d)(mg/L)	Hardness	Hardness[1]	Standard
FG below Zonia	1/29/01	0.14	2202	400	0.379298048
FG below Zonia	2/23/01	0.24	2573	400	0.379298048
FG below Zonia	3/29/01	0.36	2400	400	0.379298048
FG-1	4/30/91	0.46	2480	400	0.379298048
FG-10	5/1/91	0.06	842	400	0.379298048
FG-13	5/2/91	0.06	332	332	0.323903376
FG-2	4/30/91	8.71	2540	400	0.379298048
FG-4	4/30/91	0.015	1960	400	0.379298048
FG-6	5/1/91	0.09	1650	400	0.379298048
FG-8	5/1/91	0.05	1370	400	0.379298048
FGAPG	10/4/99	0.019	1900	400	0.379298048
FGAPG	3/20/02	0.05	1900	400	0.379298048
FGAPG	10/2/96	0.07	1697	400	0.379298048
FGAPG	3/20/02	0.08	2037	400	0.379298048
FGAPG	4/7/98	0.09	1800	400	0.379298048
FGAPG	10/30/00	0.13	1000	400	0.379298048
FG-AS2-02	3/4/03	0.34	2000	400	0.379298048
FG-AS2-04	3/4/03	0.34	2000	400	0.379298048
FG-AS2-06	3/4/03	0.32	2000	400	0.379298048
FG-AS2-08	3/4/03	0.35	2000	400	0.379298048
FG-AS2-10	3/5/03	0.34	2000	400	0.379298048
FGAZG	6/5/00	0.075	12000	400	0.379298048
FGAZG	9/13/96	0.08	320.8	320.8	0.314620886
FGAZG	3/1/99	0.12	2500	400	0.379298048
FGAZG	2/9/99	0.12	2200	400	0.379298048
FGAZG	1/5/98	0.15	2440	400	0.379298048
FGAZG	7/15/96	0.15	2549	400	0.379298048
FGAZG	8/26/96	0.15	3030	400	0.379298048
FGAZG	3/11/96	0.15	2565	400	0.379298048
FGAZG	7/1/96	0.16	2426	400	0.379298048
FGAZG	10/23/97	0.168	2483	400	0.379298048
FGAZG	3/25/96	0.17	2549	400	0.379298048
FGAZG	12/18/97	0.179	2310	400	0.379298048
FGAZG	6/3/96	0.18	2485	400	0.379298048
FGAZG	7/17/97	0.189	3300	400	0.379298048
FGAZG	2/23/98	0.19	990	400	0.379298048
FGAZG	9/4/97	0.191	2300	400	0.379298048
FGAZG	5/6/97	0.192	2390	400	0.379298048
FGAZG	3/2/97	0.197	1260	400	0.379298048
FGAZG	8/12/96	0.2	2884	400	0.379298048
FGAZG	7/17/00	0.21	13000	400	0.379298048
FGAZG	4/8/96	0.21	2235	400	0.379298048
FGAZG	2/3/97	0.22	2400	400	0.379298048
FGAZG	8/14/97	0.228	2466	400	0.379298048
FGAZG	11/13/97	0.229	2096	400	0.379298048

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Site Descriptor	Sample Date	Zn(d)(mg/L)	Hardness	Hardness[1]	Standard
FGAZG	10/30/00	0.24	1200	400	0.379298048
FGAZG	11/4/97	0.248	2408	400	0.379298048
FGAZG	1/6/97	0.25	2600	400	0.379298048
FGAZG	2/26/96	0.27	2715	400	0.379298048
FGAZG	9/26/00	0.27	2400	400	0.379298048
FGAZG	8/7/00	0.27	2400	400	0.379298048
FGAZG	5/9/96	0.27	2680	400	0.379298048
FGAZG	12/6/96	0.285	3000	400	0.379298048
FGAZG	5/15/01	0.29	2400	400	0.379298048
FGAZG	6/26/01	0.3	2600	400	0.379298048
FGAZG	3/19/01	0.3	2200	400	0.379298048
FGAZG	5/6/98	0.3	2500	400	0.379298048
FGAZG	10/2/96	0.3	691.6	400	0.379298048
FGAZG	2/13/01	0.31	2400	400	0.379298048
FGAZG	1/29/96	0.34	2664	400	0.379298048
FGAZG	11/20/00	0.34	1340	400	0.379298048
FGAZG	11/20/00	0.34	1340	400	0.379298048
FGAZG	1/9/01	0.34	2300	400	0.379298048
FGAZG	1/2/96	0.36	2320	400	0.379298048
FGAZG	1/15/96	0.37	2622	400	0.379298048
FGAZG	12/11/00	0.37	2300	400	0.379298048
FGAZG	3/13/00	0.38	2400	400	0.379298048
FGAZG	4/10/01	0.38	2000	400	0.379298048
FGAZG	11/1/99	0.38	2200	400	0.379298048
FGAZG	10/4/99	0.38	2400	400	0.379298048
FGAZG	2/7/00	0.43	2400	400	0.379298048
FGAZG	5/1/00	0.44	2300	400	0.379298048
FGAZG	4/3/00	0.44	2200	400	0.379298048
FGAZG	1/3/00	0.45	2400	400	0.379298048
FGAZG	3/25/98	0.45	2400	400	0.379298048
FGAZG	1/4/99	0.59	2300	400	0.379298048
FGAZG	10/5/98	0.62	2800	400	0.379298048
FGAZG	4/7/98	0.68	2400	400	0.379298048
FGAZG	12/8/98	0.74	6849	400	0.379298048
FGAZG	11/3/98	0.77	2340	400	0.379298048
FGAZG	6/4/98	0.95	1900	400	0.379298048
FGBPG	10/2/96	0.06	1570	400	0.379298048
FGBPG	10/30/00	0.078	890	400	0.379298048
FGBZG	5/15/01	0.0092	2400	400	0.379298048
FGBZG	9/13/96	0.04	303.1	303.1	0.299849232
FGBZG	7/11/95	0.08	1044	400	0.379298048
FGBZG	10/30/00	0.094	920	400	0.379298048
FGBZG	2/13/01	0.1	2400	400	0.379298048
FGBZG	7/17/00	0.12	12000	400	0.379298048
FGBZG	8/7/00	0.13	2400	400	0.379298048
FGBZG	6/26/01	0.13	2800	400	0.379298048

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Site Descriptor	Sample Date	Zn(d)(mg/L)	Hardness	Hardness[1]	Standard
FGBZG	11/20/00	0.2	1340	400	0.379298048
FGBZG	11/20/00	0.2	1340	400	0.379298048
FGBZG	12/11/00	0.2	2200	400	0.379298048
FGBZG	3/19/01	0.22	2200	400	0.379298048
FGBZG	10/11/01	0.25	2400	400	0.379298048
FGBZG	1/9/01	0.26	2100	400	0.379298048
FGBZG	4/10/01	0.28	2000	400	0.379298048
FGBZG	8/26/96	0.35	3894	400	0.379298048
FGBZG	9/19/01	0.36	2500	400	0.379298048
FGBZG	7/19/01	0.39	2400	400	0.379298048
FGBZG	7/15/96	0.42	2388	400	0.379298048
FGBZG	3/11/96	0.43	2698	400	0.379298048
FGBZG	7/1/96	0.44	2547	400	0.379298048
FGBZG	2/26/96	0.48	2798	400	0.379298048
FGBZG	6/3/96	0.48	2706	400	0.379298048
FGBZG	5/9/96	0.48	2660	400	0.379298048
FGBZG	3/25/96	0.53	2770	400	0.379298048
FGBZG	5/6/98	0.55	2400	400	0.379298048
FGBZG	8/12/96	0.58	2970	400	0.379298048
FGBZG	3/1/99	0.59	2400	400	0.379298048
FGBZG	12/18/01	0.6	2400	400	0.379298048
FGBZG	1/29/96	0.6	2701	400	0.379298048
FGBZG	1/2/96	0.7	2766	400	0.379298048
FGBZG	5/6/97	0.71	2320	400	0.379298048
FGBZG	1/15/96	0.72	2455	400	0.379298048
FGBZG	3/2/97	0.955	1380	400	0.379298048
FGBZG	2/23/98	0.96	1160	400	0.379298048
FGBZG	10/5/98	1	2600	400	0.379298048
FGBZG	6/5/00	1	12000	400	0.379298048
FGBZG	4/8/96	1	2319	400	0.379298048
FGBZG	6/4/98	1.02	1900	400	0.379298048
FGBZG	3/25/98	1.13	2300	400	0.379298048
FGBZG	10/2/96	1.15	1453.3	400	0.379298048
FGBZG	6/12/97	1.2	2245	400	0.379298048
FGBZG	7/17/97	1.29	3100	400	0.379298048
FGBZG	9/4/97	1.3	1850	400	0.379298048
FGBZG	2/3/97	1.3	2300	400	0.379298048
FGBZG	10/23/97	1.33	2040	400	0.379298048
FGBZG	12/6/96	1.34	3100	400	0.379298048
FGBZG	2/9/99	1.4	2000	400	0.379298048
FGBZG	1/6/97	1.4	2400	400	0.379298048
FGBZG	11/4/97	1.42	2316	400	0.379298048
FGBZG	11/13/97	1.43	2109	400	0.379298048
FGBZG	4/7/98	1.49	2100	400	0.379298048
FGBZG	5/1/00	1.5	2300	400	0.379298048
FGBZG	4/3/00	1.5	2200	400	0.379298048

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Site Descriptor	Sample Date	Zn(d)(mg/L)	Hardness	Hardness[1]	Standard
FGBZG	1/4/99	1.6	2200	400	0.379298048
FGBZG	11/3/98	1.6	2360	400	0.379298048
FGBZG	12/18/97	1.66	2240	400	0.379298048
FGBZG	3/13/00	1.7	2300	400	0.379298048
FGBZG	10/4/99	1.7	2300	400	0.379298048
FGBZG	8/14/97	1.75	2460	400	0.379298048
FGBZG	12/8/98	1.8	6602	400	0.379298048
FGBZG	11/1/99	1.9	2200	400	0.379298048
FGBZG	2/7/00	2	2300	400	0.379298048
FGBZG	1/3/00	2.2	2300	400	0.379298048
FGBZG	1/5/98	2.26	2400	400	0.379298048
FGBZG+85	3/20/02	0.29	2344	400	0.379298048
FGBZG+85	3/20/02	0.29	2300	400	0.379298048
FGBZG+85	2/20/02	0.36	2300	400	0.379298048
FGBZG+85	8/23/01	0.36	2500	400	0.379298048
FGBZG+85	10/18/01	0.4	2600	400	0.379298048
FGBZG+85	1/15/02	0.45	2600	400	0.379298048
MGFRG 008.17	2/27/03	0.052	190	190	0.201856669
MGFRG 008.17	2/26/03	0.059	69	69	0.085568124
MGFRG 008.17	2/26/03	0.059	71	71	0.087665028
MGFRG 008.17	4/15/03	0.089	2100	400	0.379298048
MGFRG 008.17	3/17/03	0.12	2000	400	0.379298048
MGFRG 008.17	2/26/03	0.13	69	69	0.085568124
MGFRG 008.17-Split	2/26/03	0.1	63	63	0.079220289
MGFRG A1	8/27/03	0.056	39	39	0.05276722
MGFRG A2	11/12/03	0.028	140	140	0.155836599
MGFRG A3	8/27/03	0.056	2100	400	0.379298048
MGFRG A3	8/28/03	0.25	750	400	0.379298048
MGFRG A3 AS2 1-2	2/23/04	0.029	1600	400	0.379298048
MGFRG A4	12/30/03	0.035	2200	400	0.379298048
MGFRG B1	2/23/04	0.025	22	25	0.036201765
MGFRG B2	2/23/04	0.033	27	27	0.038641119
MGFRG B2	8/27/03	0.054	347	347	0.336260877
MGFRG Below #9	8/28/03	0.12	540	400	0.379298048
MGFRG Below #9	8/28/03	0.12	250	250	0.25470047
MGFRG HW	11/12/03	0.099	71	71	0.087665028
R111822A	11/12/03	0.067	1600	400	0.379298048
R111822B	11/18/03	0.026	2200	400	0.379298048

[1]Calculated hardness used in modeling.

DRAFT

Site Descriptor	Sample Date	Mn(t)(mg/L)
FG below Zonia	3/29/01	35
FG below Zonia	1/29/01	8.52
FG below Zonia	4/24/01	29.88
FG-1	4/30/91	18.4
FG-10	5/1/91	0.13
FG-13	5/2/91	0.19
FG-2	4/30/91	28.5
FG-4	4/30/91	0.06
FG-6	5/1/91	0.14
FGAPG	10/30/00	0.99
FGAPG	4/3/00	0.029
FGAPG	4/10/01	0.094
FGAPG	1/9/01	0.058
FGAPG	10/4/99	0.024
FGAPG	1/4/99	0.017
FGAPG	10/5/98	0.02
FGAPG	4/7/98	1.22
FGAPG	1/2/96	0.85
FGAPG	10/2/96	18.6
FGAPG	4/1/96	0.11
FG-AS2-02	3/4/03	0.28
FG-AS2-04	3/4/03	0.26
FG-AS2-06	3/4/03	0.28
FG-AS2-08	3/4/03	0.27
FG-AS2-10	3/5/03	0.27
FGAZG	1/3/00	46
FGAZG	11/20/00	30.4
FGAZG	11/20/00	30.4
FGAZG	10/30/00	27
FGAZG	9/26/00	37
FGAZG	8/7/00	57
FGAZG	7/17/00	38
FGAZG	6/5/00	45
FGAZG	5/1/00	48
FGAZG	4/3/00	40
FGAZG	3/13/00	37
FGAZG	2/7/00	40
FGAZG	6/26/01	44
FGAZG	5/15/01	35
FGAZG	12/11/00	26
FGAZG	4/10/01	33
FGAZG	2/13/01	9.9
FGAZG	3/19/01	31
FGAZG	1/9/01	25
FGAZG	9/4/97	35

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Site Descriptor	Sample Date	Mn(t)(mg/L)
FGAZG	1/6/97	20.6
FGAZG	2/23/98	13.3
FGAZG	1/5/98	0.38
FGAZG	12/18/97	1.88
FGAZG	11/13/97	15.3
FGAZG	11/4/97	35.5
FGAZG	3/25/98	23.3
FGAZG	8/14/97	38.4
FGAZG	7/17/97	26
FGAZG	6/12/97	27
FGAZG	5/6/97	31.2
FGAZG	3/2/97	17.4
FGAZG	2/3/97	27.5
FGAZG	10/23/97	9
FGAZG	11/1/99	38
FGAZG	10/4/99	46
FGAZG	3/1/99	43
FGAZG	2/9/99	39
FGAZG	1/4/99	42
FGAZG	12/8/98	46
FGAZG	11/3/98	38
FGAZG	10/5/98	29
FGAZG	6/4/98	41
FGAZG	5/6/98	40
FGAZG	4/7/98	23.5
FGAZG	2/26/96	35
FGAZG	1/29/96	49
FGAZG	1/15/96	48
FGAZG	1/2/96	52
FGAZG	8/2/95	59
FGAZG	3/25/96	44
FGAZG	8/2/95	54
FGAZG	7/11/95	26.4
FGAZG	7/1/96	35
FGAZG	12/6/96	29
FGAZG	10/2/96	31.1
FGAZG	9/13/96	4.64
FGAZG	8/26/96	34.8
FGAZG	8/12/96	28.3
FGAZG	3/11/96	40
FGAZG	6/3/96	40
FGAZG	5/9/96	30.5
FGAZG	4/8/96	42.5
FGAZG	7/15/96	39
FGBPG	10/30/00	0.54
FGBPG	4/3/00	0.049

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Site Descriptor	Sample Date	Mn(t)(mg/L)
FGBPG	4/10/01	0.035
FGBPG	1/9/01	0.042
FGBPG	1/5/98	0.02
FGBPG	10/23/97	0.01
FGBPG	10/4/99	0.094
FGBPG	10/5/98	0.06
FGBPG	4/7/98	0.61
FGBPG	10/2/96	2.46
FGBZG	9/19/01	7.7
FGBZG	12/18/01	7.3
FGBZG	7/19/01	8.4
FGBZG	5/15/03	1.2
FGBZG	10/11/01	10.8
FGBZG	6/5/00	29
FGBZG	11/20/00	11
FGBZG	11/20/00	11
FGBZG	10/30/00	12
FGBZG	8/7/00	34
FGBZG	12/11/00	7.4
FGBZG	5/1/00	33
FGBZG	4/3/00	28
FGBZG	3/13/00	26
FGBZG	2/7/00	28
FGBZG	1/3/00	32
FGBZG	7/17/00	24
FGBZG	6/26/01	32
FGBZG	5/15/01	25
FGBZG	4/10/01	23
FGBZG	2/13/01	2
FGBZG	3/19/01	20
FGBZG	1/9/01	8
FGBZG	1/5/98	9.14
FGBZG	12/18/97	8.51
FGBZG	11/13/97	13.8
FGBZG	11/4/97	27.1
FGBZG	9/4/97	27
FGBZG	3/25/98	17.1
FGBZG	8/14/97	31.1
FGBZG	7/17/97	11
FGBZG	6/12/97	16
FGBZG	5/6/97	19.5
FGBZG	3/2/97	16.9
FGBZG	2/3/97	20.7
FGBZG	11/3/98	31
FGBZG	10/4/99	23
FGBZG	3/1/99	35

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Site Descriptor	Sample Date	Mn(t)(mg/L)
FGBZG	2/9/99	30
FGBZG	1/4/99	34
FGBZG	2/23/98	12.5
FGBZG	12/6/96	18.8
FGBZG	10/5/98	24
FGBZG	6/4/98	30
FGBZG	5/6/98	31
FGBZG	4/7/98	19
FGBZG	12/8/98	38
FGBZG	8/2/95	46
FGBZG	1/6/97	13.2
FGBZG	2/26/96	32
FGBZG	1/29/96	41
FGBZG	1/15/96	42
FGBZG	1/2/96	41
FGBZG	3/11/96	37
FGBZG	7/11/95	22
FGBZG	11/1/99	24
FGBZG	8/2/95	48
FGBZG	10/2/96	20.4
FGBZG	9/13/96	0.19
FGBZG	8/26/96	27.5
FGBZG	8/12/96	11.9
FGBZG	7/15/96	31
FGBZG	7/1/96	33
FGBZG	6/3/96	31
FGBZG	5/9/96	33.5
FGBZG	4/8/96	40
FGBZG	3/25/96	37
FGBZG+85	3/20/02	2.37
FGBZG+85	8/23/01	8.3
FGBZG+85	10/18/01	7.1
FGBZG+85	2/20/02	2.7
FGBZG+85	1/15/02	4.8
FGBZG+85	3/20/02	2.3
MGFRG 008.17	4/15/03	0.58
MGFRG 008.17	2/26/03	0.39
MGFRG 008.17	3/17/03	0.31
MGFRG 008.17	2/26/03	1
MGFRG 008.17	2/27/03	0.22
MGFRG 008.17-QAQC-Total	2/26/03	1.4
MGFRG 008.17-Split	2/26/03	1.3
MGFRG 009.84	2/26/03	0.067
MGFRG 009.84	2/26/03	0.094
MGFRG 009.84	2/26/03	0.088
MGFRG A1	8/27/03	0.12

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Site Descriptor	Sample Date	Mn(t)(mg/L)
MGFRG A2	11/12/03	3.8
MGFRG A3	8/27/03	7.2
MGFRG A3	8/28/03	4
MGFRG A3 AS2 1-2	2/23/04	0.34
MGFRG A4	12/30/03	0.16
MGFRG A4 AS 3-4	12/30/03	0.088
MGFRG A7 AS3 1-2	11/12/03	0.55
MGFRG A7 AS3 3-4	11/12/03	2.9
MGFRG A7 AS3 5-6	11/12/03	1.2
MGFRG ASBPG 1-2	2/23/04	0.25
MGFRG B1	11/12/03	0.056
MGFRG B2	8/27/03	0.12
MGFRG B2 AS1 11-12	11/12/03	0.11
MGFRG B2 AS1 11-12	2/23/04	0.052
MGFRG B2 AS1 1-2	12/26/03	0.053
MGFRG B2 AS1 1-2	2/23/04	0.053
MGFRG B2 AS1 13-14	11/12/03	0.06
MGFRG B2 AS1 17-18	2/23/04	0.05
MGFRG B2 AS1 3-4	11/12/03	0.36
MGFRG B2 AS1 3-4	2/23/04	0.053
MGFRG B2 AS1 3-4	12/26/03	0.064
MGFRG B2 AS1 7-8	11/12/03	0.57
MGFRG B2 AS1 7-8	12/26/03	0.074
MGFRG B2 AS1 7-8	2/23/04	0.058
MGFRG B2 AS1 9-10	11/12/03	0.28
MGFRG B2 AS1 9-10	2/23/04	0.054
MGFRG Bckgnd B1	8/27/03	0.071
MGFRG Below #9	8/28/03	3.7
MGFRG HW	11/12/03	0.6
MGFRG HW	2/23/04	0.058
MGFRG HW	8/27/03	0.092
MGFRGA3AS2	8/25/03	8.6
R111822A	11/12/03	0.42

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Alkalinity DATA from STORET

Station ID	County	HUC	Activity Start	Characteristic Name	Result Value as Text	Units
100713	YAVAPAI	15070103	05/03/94	Alkalinity, Carbonate as CaCO3	9	mg/l
101197	MARICOPA	15070103	04/15/02	Alkalinity, Carbonate as CaCO3	14	mg/l
100463	YAVAPAI	15070103	05/19/99	Alkalinity, Carbonate as CaCO3	2	mg/l
100713	YAVAPAI	15070103	04/27/93	Alkalinity, Carbonate as CaCO3	14	mg/l
100463	YAVAPAI	15070103	04/15/93	Alkalinity, Carbonate as CaCO3	4	mg/l
100463	YAVAPAI	15070103	05/15/90	Alkalinity, Carbonate as CaCO3	13	mg/l
100586	YAVAPAI	15070103	04/27/93	Alkalinity, Carbonate as CaCO3	6	mg/l
100463	YAVAPAI	15070103	02/14/00	Alkalinity, Carbonate as CaCO3	2	mg/l
100713	YAVAPAI	15070103	05/08/92	Alkalinity, Carbonate as CaCO3	8	mg/l
100713	YAVAPAI	15070103	04/29/98	Alkalinity, Carbonate as CaCO3	16	mg/l
100463	YAVAPAI	15070103	06/13/91	Alkalinity, Carbonate as CaCO3	5	mg/l
100463	YAVAPAI	15070103	03/13/90	Alkalinity, Carbonate as CaCO3	8	mg/l
100566	YAVAPAI	15070103	05/02/94	Alkalinity, Carbonate as CaCO3	5	mg/l
100463	YAVAPAI	15070103	05/15/90	Alkalinity, Carbonate as CaCO3	13	mg/l
100463	YAVAPAI	15070103	01/16/02	Alkalinity, Carbonate as CaCO3	3	mg/l
100463	YAVAPAI	15070103	01/31/90	Alkalinity, Carbonate as CaCO3	10	mg/l
100463	YAVAPAI	15070103	09/18/00	Alkalinity, Carbonate as CaCO3	3	mg/l
100566	YAVAPAI	15070103	04/27/93	Alkalinity, Carbonate as CaCO3	3	mg/l
100463	YAVAPAI	15070103	06/15/93	Alkalinity, Carbonate as CaCO3	3	mg/l
100463	YAVAPAI	15070103	02/21/91	Alkalinity, Carbonate as CaCO3	4	mg/l
100463	YAVAPAI	15070103	06/15/93	Alkalinity, Carbonate as CaCO3	2	mg/l
100464	YAVAPAI	15070103	01/10/91	Alkalinity, Carbonate as CaCO3	2	mg/l
100464	YAVAPAI	15070103	07/14/99	Alkalinity, Carbonate as CaCO3	3	mg/l

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APPENDIX C
ZONIA MINE HISTORY

Years	Company/Name	Activities
1877	Copperopolis	200-foot shaft sunk in 1880. (Lindgren, 1926)
1900 -?	Boston & Arizona Copper Company	Sank Copperopolis shaft; built mill, smelter on French Gulch. (ADEQ, 1993)
1910	Shannon Copper Company	Sank six churn drill holes. (ADEQ, 1993)
1916-1920	Zonia Syndicate	Sank Cuprite or McMahan shaft. (874 feet)
1927-1930	Hammon Copper Company	Extensive development of Cuprite or McMahan shaft; built leaching plant.
1942	U.S. Bureau of Mines	Trenching core drilling; mapping and sampling.
1956	Miami Copper Company	Extensive drilling.
1964 - 1975	McAlester Company	Air reconnaissance, extensive drilling.
1966-1972	McAlester Company	Open pit and heap leach.
1972	Halpenny Report "Ground-Water Conditions in the Vicinity of the Zonia Mine, Yavapai County, Arizona"	Conclusion: Rainfall & runoff sink into ground steadily. Rock material has low coefficient of transmissibility, which is a measure of freedom with which groundwater moves down gradient through permeable rocks. Aquifer tests indicated coefficient of transmissibility of aquifer in range of 5000 gpd & coefficient of storage is 51.5%. Water table is 66" below bed of wash where collecting reservoir would be constructed. If reservoir does not become sealed, estimated rate of leakage is about 30 gpm. Monitor for possible leakage, construct well near wash, 50' or 100' downstream from Well No. 5, depth of 200'.
1975-1975	McAlester Company	Three blasts detonated between April 1973 and May 1974 to fragment the ore for in situ leaching. Dilute sulfuric acid was applied and leach solutions collected at the base of the ore body were pumped to the surface through a recovery well. The water table was used as an aid for leach solution collection.
1975	McAlester Company	All production at Zonia ceased.
1979-1980	Bureau of Land Management	Observed & reported to ADHS water pollution in French Gulch below Zonia Mine. Resurrected proposal to convert Zonia Mine into landfill for Yavapai County.

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1980	ADEQ & BLM	Transport study conducted. Six sites sampled below Zonia. First 4.8 miles below mine coated with a 1/4" to ½" layer of blue precipiate. Blue precipitate assumed to be copper carbonate..
1980	Zonia Company	Remedial program begins.
January, 1982	Halpenny Report: "Investigation of Water Quality in French Gulch, Yavapai County, Arizona	Prepared at the request of McAlester Fuel Company, of McAlester, Oklahoma. Recommendation: Continue operation of pumps in leach basin (LB) 5 and LB6 through February 28, 1981, or until pumping is no longer feasible. Continue measurements of stream discharge through 1981.
1983	Antioch Resources Ltd. /Queenstake Resources	Conducted exploration activities.
1983	ADEQ	Remedial process ceased and possibly as early as 1981. No records concerning water quality.
1988	Zonia Company	Acquired property from Antioch Resources.
1988	Zonia Company	Investigated possibility of turning open pit mine into landfill (Zonia Landill, Inc.) but was denied the permit.
1989	Kenneth D. Schmidt & Associates	Hired by Zonia to carry out short range transport study in anticipation of APP application. Selected five sites for study. See map. Reveals depletion consistent with 1980 work.
March 1989	Complaint addressed to ADEQ	Written complaint from a rancher, discharge from a broken pipeline.
April 7, 1989	ADEQ	Non-filer Report, violation indicating violation of section 301(a) CWA discharging pollutants not authorized by an NPDES permit.
May 25, 1989	EPA & ADEQ	Inspected breakages in leachate line allowing discharge to enter French Gulch.
1989	Kenneth D. Schmidt & Associates	Description of hydrogeologic conditions at the proposed landfill: overview of Halpenny reports.

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April 5, 1990	EPA & ADEQ	Broken manifold leachate line found from leach basin (LB) 7, LB8 & LB9 discharging into French Gulch; copper, zinc and cadmium.
April 7, 1990	Zonia Company	Repairs on manifold made.
July 13, 1990	U.S. E.P.A.	Received a Finding of Violation from U.S. EPA together with an Order for Compliance.
August 15, 1990	ADEQ	Zonia shall submit a detailed and complete correction plan prepared by a professional engineer, Zonia shall submit compliance progress every three months beginning August 1, 1990 until full compliance achieved.
August 1990	Zonia Company	Currently updating collection system for LB's 7, 8 & 9. LB5 and LB 6 pumps. Berming and fencing; berm extended to spill point for concrete holding bays
November 1990	Zonia Company	LB9 pipeline temporarily rerouted to holding bays. Manifold stabilization repairs. Erosion control. Inactive pipelines removed. Core sampling of collection and barren solution ponds completed.
February 1991	Zonia Company	Solution in LB now contained at LB 8 & 9. Leach lines from LB 8 & 9 no longer utilized to tranport and contain solution. Manifold stabilization repair and erosion control completed. BL 5 & 6 pumps provided in final report. Core sampling done. Berm made on collection pond, dam heights raised and compacted.
April 30, 1991	ADEQ	Permission to sample Zonia Mine property obtained from Ray Hill. John Rubel met R. Williams & P. Hyde for sampling.
May 1, 1991	ADEQ	2nd day sampling.
May 2, 1991	ADEQ	3rd day sampling.
1992	Arimetco, Inc. and Zonia Company	Entered lease agreement, delayed until environmental liability issues were resolved. Arimetco to be held harmless in regard to past offenses.
March 12, 1992	ADEQ	Telephone complaint from resident at Kirkland Junction about green water flowing in French Gulch.

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March 16 & 23, 1992	ADEQ	Reconnaissance and sample collection.
December 1, 1992	Arimetco, Inc.	Submitted a remediation plan to EPA to prevent pollutant discharges into French Gulch and its tributaries.
March 12, 1993	Arimetco, Inc.	Arimetco proposes to conduct partial remediation program to eliminate discharge of pollution to French Gulch. Two process water collection dams constructed. Both dams lined. Basins behind dams lined. Impounded water behind two dams will not discharge to surface water.
July 1, 2000	Arimetco, Inc.	Flow in Zonia Gulch decreasing: 7/1/00 - 7/10/00 - .5 gpm 7/11/00 - 7/13/00 - .25 gpm 7/14/00 - 7/15/00 - .10 gpm 7/16/00 - 5 ounces per minutes 7/17/00 - 0 gpm
January 29, 2001	ADEQ	TMDL sampling commences.
June 28, 2001	Arimetco, Inc.	Pumping well #9 began to diminish flow in French Gulch. 10/12/01, diverted flow from well #9 to pond known as French Gulch diverted.
April 1, 2002	Arimetco, Inc.	Flow from French Gulch decreasing: 4/1/02 - 4/10/02 - 4.6 gpm 4/11/02 - 3.3 gpm 4/12/02 - 1.25 gpm 4/15/02 - 4.0 gpm 4/16/02 - 4.0 gpm 4/17/02 - 4/19/02 - 4.6 gpm 4/20/02 - 2.4 gpm 4/21/02 - 1.2 gpm 4/22/02 - .66 gpm 4/23/02 - .28 gpm 4/24/02 - 0 gpm
2003	Arimetco, Inc.	Current owner and operator of property.

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APPENDIX D
DATA USED FOR REGIONAL LOADING ANALYSIS (unit:mg/L)

Site Descriptor	Sample Date	Cd(d)
FGBZG	5/15/03	0.0016
FG-AS2-04	3/4/03	0.0023
FG-AS2-06	3/4/03	0.0022
FG-AS2-08	3/4/03	0.0022
FG-AS2-10	3/5/03	0.0022
FG-AS2-02	3/4/03	0.0024
MGFRG A2	11/12/03	0.0022
MGFRG A3	8/27/03	0.0012
FGBZG+85	3/20/02	0.0023
MGFRG 008.17	3/17/03	0.001
FGAZG	9/26/00	0.0081
FGBZG	6/12/97	0.011
FGAZG	4/3/00	0.0091
FGBZG	4/3/00	0.017
FGAZG	5/1/00	0.011
FGBZG	5/1/00	0.019
FGAZG	6/5/00	0.0068
FGAZG	3/13/00	0.009
FGAZG	8/7/00	0.0054
FGBZG	2/7/00	0.02
FGAZG	10/30/00	0.0034
FGAZG	11/20/00	0.004
FGAZG	11/20/00	0.004
FGAZG	5/6/97	0.006
FGBZG	5/6/97	0.015
FG below Zonia	3/29/01	0.009
FGBZG	6/5/00	0.011
FG-1	4/30/91	0.0058
FG-2	4/30/91	0.085
FGBZG	3/13/00	0.02
FGAZG	7/17/97	0.005
FGAZG	1/9/01	0.0039
FGAZG	2/13/01	0.001
FGAZG	5/15/01	0.0012
FGAZG	1/3/00	0.005
FGBZG	1/3/00	0.018
FGAZG	2/7/00	0.0097
FGAZG	2/9/99	0.0098
FGAZG	6/12/97	0.004
FGAZG	10/5/98	0.012
FGBZG	10/5/98	0.013
FGAZG	11/3/98	0.007
FGBZG	11/3/98	0.011
FGAZG	12/8/98	0.0057
FGAZG	6/4/98	0.012

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Site Descriptor	Sample Date	Cd(d)
FGBZG	1/4/99	0.011
FGBZG	4/7/98	0.014
FGBZG	2/9/99	0.015
FGAZG	3/1/99	0.013
FGBZG	3/1/99	0.019
FGAZG	10/4/99	0.0038
FGBZG	10/4/99	0.012
FGAZG	11/1/99	0.0022
FGAZG	1/4/99	0.0048
FGBZG	12/18/97	0.011
FGBZG	7/17/97	0.014
FGAZG	8/14/97	0.004
FGBZG	8/14/97	0.017
FGAZG	9/4/97	0.006
FGAZG	10/23/97	0.001
FGBPG	10/23/97	0.004
FGBZG	6/4/98	0.016
FGBZG	11/13/97	0.017
FGBZG	11/1/99	0.014
FGBZG	1/5/98	0.02
FGAZG	2/23/98	0.005
FGBZG	2/23/98	0.01
FGAZG	3/25/98	0.009
FGBZG	3/25/98	0.015
FGAZG	4/7/98	0.004
FGAZG	11/13/97	0.004
FG below Zonia	3/29/01	0.009
FG below Zonia	4/24/01	0.008
FG-AS2-02	3/4/03	0.0024
FG-AS2-04	3/4/03	0.0023
FG-AS2-06	3/4/03	0.0022
FG-AS2-08	3/4/03	0.0022
FG-AS2-10	3/5/03	0.0022
FGBZG	5/15/03	0.0016
MGFRG A3	8/27/03	0.0012
MGFRG Below #9	8/28/03	0.0036
FG-1	4/30/91	0.0058
FG-2	4/30/91	0.085

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Site Descriptor	Sample Date	Cu(d)
FGBZG	4/7/98	0.82
FGAZG	4/7/98	0.24
FGBZG	3/25/98	0.56
FGAZG	3/25/98	0.19
FGBZG	2/23/98	0.72
FGAZG	3/11/96	0.08
FGBZG	6/4/98	0.5
FGBZG	6/5/00	0.63
FGAZG	10/23/97	0.035
FGAZG	9/4/97	0.017
FGAZG	8/14/97	0.036
FGAZG	7/17/97	0.014
FGAZG	5/6/97	0.03
FGBZG	2/13/01	0.011
FGAZG	2/13/01	0.012
FGBZG	12/11/00	0.016
FGBZG	1/4/99	0.57
FGAZG	7/17/00	0.028
FGBZG	12/18/97	0.479
FGAZG	6/5/00	0.055
FGBZG	11/1/99	0.78
FGAZG	11/1/99	0.024
FGBPG	10/4/99	0.013
FGAPG	10/4/99	0.019
FGBZG	10/4/99	0.72
FGAZG	10/4/99	0.11
FGBZG	3/1/99	0.59
FGAZG	3/1/99	0.12
FGAZG	9/26/00	0.019
FGBZG	5/9/96	0.28
FGAZG	2/23/98	0.26
FGAZG	8/12/96	0.05
FGBZG	8/12/96	0.12
FGBZG	7/15/96	0.36
FGAZG	7/15/96	0.09
FGBZG	7/1/96	0.21
FGAZG	7/1/96	0.1
FGBZG	6/3/96	0.24
FGAZG	10/2/96	0.08
FGAZG	5/9/96	0.26
FGBZG	10/2/96	0.3
FGBZG	4/8/96	0.32
FGAZG	4/8/96	0.11
FGAPG	4/1/96	0.008
FGBZG	3/25/96	0.32
FGAPG	10/5/98	0.13

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Site Descriptor	Sample Date	Cu(d)
FGAZG	6/3/96	0.12
FGBZG	3/2/97	0.251
FGAZG	12/18/97	0.021
FGBZG	11/13/97	0.677
FGAZG	11/13/97	0.062
FGBZG	11/4/97	0.173
FGBZG	10/23/97	0.562
FGBZG	9/4/97	0.303
FGBZG	8/14/97	0.39
FGBZG	7/17/97	0.306
FGBZG	9/13/96	0.09
FGBZG	5/6/97	0.246
FGBZG	3/11/96	0.22
FGAZG	3/2/97	0.055
FGBZG	2/3/97	0.544
FGAZG	2/3/97	0.048
FGBZG	1/6/97	0.443
FGAZG	1/6/97	0.023
FGBZG	12/6/96	0.111
FGAZG	12/6/96	0.03
FGBPG	10/2/96	0.008
FGAPG	10/2/96	0.011
FGBZG	6/12/97	0.35
FG below Zonia	1/29/01	0.027
FG below Zonia	2/23/01	0.019
FG below Zonia	3/29/01	0.075
FG below Zonia	4/24/01	0.056
FGAPG	3/20/02	0.01
FG-AS2-02	3/4/03	0.064
FG-AS2-04	3/4/03	0.064
FG-AS2-06	3/4/03	0.065
FG-AS2-08	3/4/03	0.064
FG-AS2-10	3/5/03	0.06
FGBZG	10/11/01	0.02
FGAPG	3/20/02	0.01
FG-AS2-02	3/4/03	0.064
FG-AS2-04	3/4/03	0.064
FG-AS2-06	3/4/03	0.065
FG-AS2-08	3/4/03	0.064
FG-AS2-10	3/5/03	0.06
FGBZG	10/11/01	0.02
FGBZG+85	3/20/02	0.02
MGFRG 008.17	2/26/03	0.097
MGFRG 008.17	2/26/03	0.12
MGFRG 008.17	2/26/03	0.097
MGFRG 008.17	2/26/03	0.12

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Site Descriptor	Sample Date	Cu(d)
MGFRG 008.17	2/27/03	0.15
MGFRG 008.17	3/17/03	0.023
MGFRG 008.17	4/15/03	0.016
MGFRG 009.84	2/26/03	0.01
MGFRG 009.84	2/26/03	0.01
MGFRG A1	8/27/03	0.032
MGFRG A2	11/12/03	0.19
MGFRG A3	8/27/03	0.014
MGFRG A3	8/28/03	0.034
MGFRG A3 AS2 1-2	2/23/04	0.0076
MGFRG A4	12/30/03	0.006
MGFRG A4 AS 11-12	12/31/03	0.014
MGFRG A4 AS 13-14	12/31/03	0.0057
MGFRG A4 AS 15-16	12/31/03	0.0056
MGFRG A4 AS 3-4	12/30/03	0.0054
MGFRG A7 AS3 1-2	11/12/03	0.0094
MGFRG A7 AS3 3-4	11/12/03	0.0079
MGFRG A7 AS3 5-6	11/12/03	0.0098
MGFRG ASBPG 1-2	2/23/04	0.013
MGFRG B1	11/12/03	0.017
MGFRG B1	2/23/04	0.01
MGFRG B2	8/27/03	0.017
MGFRG B2	11/12/03	0.0072
MGFRG B2	2/23/04	0.006
MGFRG B2 AS1 11-12	11/12/03	0.0075
MGFRG B2 AS1 11-12	2/23/04	0.0078
MGFRG B2 AS1 1-2	11/12/03	0.0083
MGFRG B2 AS1 1-2	12/26/03	0.014
MGFRG B2 AS1 1-2	2/23/04	0.0096
MGFRG B2 AS1 13-14	11/12/03	0.0067
MGFRG B2 AS1 13-14	2/23/04	0.0097
MGFRG B2 AS1 15-16	11/12/03	0.009
MGFRG B2 AS1 15-16	2/23/04	0.0085
MGFRG B2 AS1 17-18	11/12/03	0.0072
MGFRG B2 AS1 17-18	2/23/04	0.0084
MGFRG B2 AS1 19-20	11/13/03	0.0077
MGFRG B2 AS1 19-20	2/23/04	0.0062
MGFRG B2 AS1 21-22	11/13/03	0.0068
MGFRG B2 AS1 21-22	2/23/04	0.01
MGFRG B2 AS1 23-24	11/13/03	0.01
MGFRG B2 AS1 23-24	2/24/04	0.0072
MGFRG B2 AS1 3-4	11/12/03	0.0072
MGFRG B2 AS1 3-4	12/26/03	0.0094
MGFRG B2 AS1 3-4	2/23/04	0.01
MGFRG B2 AS1 7-8	11/12/03	0.0089
MGFRG B2 AS1 7-8	12/26/03	0.031

DRAFT

Site Descriptor	Sample Date	Cu(d)
MGFRG B2 AS1 7-8	2/23/04	0.0094
MGFRG B2 AS1 9-10	11/12/03	0.0073
MGFRG B2 AS1 9-10	2/23/04	0.0075
MGFRG Bckgnd B1	8/27/03	0.062
MGFRG BPG	2/23/04	0.011
MGFRGA3AS2	8/25/03	0.074
R111223A	11/12/03	0.0088
R111822A	11/12/03	0.044
R111822B	11/18/03	0.019
FGBZG	7/19/01	0.017
FGBZG	9/19/01	0.048
FGBZG	12/18/01	0.054
FGBZG+85	8/23/01	0.036
FGBZG+85	10/18/01	0.036
FGBZG+85	1/15/02	0.045
FGBZG+85	2/20/02	0.031
FGBZG+85	3/20/02	0.024
FGAZG	1/3/00	0.067
FGAZG	1/2/96	0.1
FGBZG	2/26/96	0.28
FGAZG	2/26/96	0.26
FGBZG	1/29/96	0.41
FGAZG	1/29/96	0.14
FGAZG	1/15/96	0.07
FGBZG	1/15/96	0.41
FGBZG	1/2/96	0.25
FGAZG	7/11/95	0.09
FGBZG	7/11/95	0.08
FGAPG	1/2/96	0.007
FGAZG	5/1/00	0.11
FGAZG	11/20/00	0.031
FGBZG	11/20/00	0.013
FGBPG	10/30/00	0.026
FGAPG	10/30/00	0.033
FGBZG	10/30/00	0.02
FGAZG	10/30/00	0.08
FGAZG	8/7/00	0.035
FGAZG	11/20/00	0.031
FGBZG	5/1/00	0.79
FGAZG	12/11/00	0.025
FGBPG	4/3/00	0.012
FGAPG	4/3/00	0.018
FGBZG	4/3/00	0.61
FGAZG	4/3/00	0.12
FGBZG	3/13/00	0.71
FGAZG	3/13/00	0.057

DRAFT

Site Descriptor	Sample Date	Cu(d)
FGBZG	2/7/00	0.94
FGAZG	2/7/00	0.065
FGBZG	1/3/00	1.2
FGBZG	7/17/00	0.069
FG below Zonia	3/29/01	0.075
FGAZG	3/25/96	0.06
FG-1	4/30/91	0.26
FGAZG	6/26/01	0.03
FGAZG	5/15/01	0.014
FGBPG	4/10/01	0.011
FGAPG	4/10/01	0.014
FGBZG	11/20/00	0.013
FGAZG	4/10/01	0.054
FG below Zonia	2/23/01	0.019
FGAZG	3/19/01	0.07
FGBZG	3/19/01	0.044
FG below Zonia	1/29/01	0.027
FGBPG	1/9/01	0.017
FGAPG	1/9/01	0.02
FGBZG	1/9/01	0.016
FGAZG	1/9/01	0.025
FGBZG	4/10/01	0.047
FGBZG	5/6/98	0.55
FGBZG	1/5/98	0.9
FGAZG	1/4/99	0.094
FGBZG	12/8/98	0.78
FGAZG	12/8/98	0.17
FGBZG	11/3/98	0.73
FGAZG	11/3/98	0.18
FGBZG	10/5/98	0.27
FGAZG	10/5/98	0.06
FGAZG	2/9/99	0.12
FGAZG	6/4/98	0.19
FGBZG	2/9/99	0.51
FGAZG	5/6/98	0.3
FGBPG	4/7/98	0.02
FGAPG	4/7/98	0.03
FGBZG+85	3/20/02	0.02
MGFRG 008.17	2/26/03	0.097
MGFRG 008.17	2/26/03	0.12
MGFRG 008.17	3/17/03	0.023
MGFRG 008.17-QAQC-Total	2/26/03	0.098
MGFRG 008.17-Split	2/26/03	0.097
MGFRG 009.84	2/26/03	0.01
MGFRG A1	8/27/03	0.032
MGFRG A2	11/12/03	0.19

DRAFT

Site Descriptor	Sample Date	Cu(d)
MGFRG A3	8/27/03	0.014
MGFRG A3	8/28/03	0.034
MGFRG A3 AS2 1-2	2/23/04	0.0076
MGFRG A4	12/30/03	0.006
MGFRG A4 AS 11-12	12/31/03	0.014
MGFRG A4 AS 13-14	12/31/03	0.0057
MGFRG A4 AS 15-16	12/31/03	0.0056
MGFRG A4 AS 3-4	12/30/03	0.0054
MGFRG A7 AS3 1-2	11/12/03	0.0094
MGFRG A7 AS3 3-4	11/12/03	0.0079
MGFRG A7 AS3 5-6	11/12/03	0.0098
MGFRG ASBPG 1-2	2/23/04	0.013
MGFRG B1	11/12/03	0.017
MGFRG B1	2/23/04	0.01
MGFRG B2	11/12/03	0.0072
MGFRG B2	2/23/04	0.006
MGFRG B2 AS1 11-12	11/12/03	0.0075
MGFRG B2 AS1 11-12	2/23/04	0.0078
MGFRG B2 AS1 1-2	11/12/03	0.0083
MGFRG B2 AS1 1-2	12/26/03	0.014
MGFRG B2 AS1 1-2	2/23/04	0.0096
MGFRG B2 AS1 13-14	11/12/03	0.0067
MGFRG B2 AS1 13-14	2/23/04	0.0097
MGFRG B2 AS1 15-16	11/12/03	0.009
MGFRG B2 AS1 15-16	2/23/04	0.0085
MGFRG B2 AS1 17-18	11/12/03	0.0072
MGFRG B2 AS1 17-18	2/23/04	0.0084
MGFRG B2 AS1 19-20	11/13/03	0.0077
MGFRG B2 AS1 19-20	2/23/04	0.0062
MGFRG B2 AS1 21-22	11/13/03	0.0068
MGFRG B2 AS1 21-22	2/23/04	0.01
MGFRG B2 AS1 23-24	11/13/03	0.01
MGFRG B2 AS1 23-24	2/24/04	0.0072
MGFRG B2 AS1 3-4	11/12/03	0.0072
MGFRG B2 AS1 3-4	12/26/03	0.0094
MGFRG B2 AS1 3-4	2/23/04	0.01
MGFRG B2 AS1 7-8	11/12/03	0.0089
MGFRG B2 AS1 7-8	12/26/03	0.031
MGFRG B2 AS1 7-8	2/23/04	0.0094
MGFRG B2 AS1 9-10	11/12/03	0.0073
MGFRG B2 AS1 9-10	2/23/04	0.0075
MGFRG Bckgnd B1	8/27/03	0.062
MGFRG Below #9	8/28/03	0.1
MGFRG Below #9	8/28/03	0.12
MGFRG BPG	2/23/04	0.011
MGFRG HW	11/12/03	0.0068

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Site Descriptor	Sample Date	Cu(d)
MGFRG HW	2/23/04	0.011
MGFRGA3AS2	8/25/03	0.074
R111223A	11/12/03	0.0088
R111822A	11/12/03	0.044
R111822B	11/18/03	0.019
FG-1	4/30/91	0.26
FGAPG	1/2/96	0.007
FGAPG	4/1/96	0.008
FGAPG	10/2/96	0.011
FGAPG	4/7/98	0.03
FGAPG	10/4/99	0.019
FGAPG	4/3/00	0.018
FGAPG	10/30/00	0.033
FGAPG	1/9/01	0.02
FGAPG	4/10/01	0.014
FGAZG	7/11/95	0.09
FGAZG	1/2/96	0.1
FGAZG	1/15/96	0.07
FGAZG	1/29/96	0.14
FGAZG	2/26/96	0.26
FGAZG	3/11/96	0.08
FGAZG	3/25/96	0.06
FGAZG	4/8/96	0.11
FGAZG	5/9/96	0.26
FGAZG	6/3/96	0.12
FGAZG	7/1/96	0.1
FGAZG	7/15/96	0.09
FGAZG	8/12/96	0.05
FGAZG	10/2/96	0.08
FGAZG	12/6/96	0.03
FGAZG	1/6/97	0.023
FGAZG	2/3/97	0.048
FGAZG	3/2/97	0.055
FGAZG	11/13/97	0.062
FGAZG	12/18/97	0.021
FGAZG	2/23/98	0.26
FGAZG	3/25/98	0.19
FGAZG	4/7/98	0.24
FGAZG	5/6/98	0.3
FGAZG	6/4/98	0.19
FGAZG	10/5/98	0.06
FGAZG	11/3/98	0.18
FGAZG	12/8/98	0.17
FGAZG	1/4/99	0.094
FGAZG	2/9/99	0.12
FGAZG	3/1/99	0.12

DRAFT

Site Descriptor	Sample Date	Cu(d)
FGAZG	10/4/99	0.11
FGAZG	11/1/99	0.024
FGAZG	1/3/00	0.067
FGAZG	2/7/00	0.065
FGAZG	3/13/00	0.057
FGAZG	4/3/00	0.12
FGAZG	5/1/00	0.11
FGAZG	8/7/00	0.035
FGAZG	10/30/00	0.08
FGAZG	11/20/00	0.031
FGAZG	12/11/00	0.025
FGAZG	1/9/01	0.025
FGAZG	3/19/01	0.07
FGAZG	4/10/01	0.054
FGAZG	5/15/01	0.014
FGAZG	6/26/01	0.03
FGBPG	10/2/96	0.008
FGBPG	4/7/98	0.02
FGBPG	10/4/99	0.013
FGBPG	4/3/00	0.012
FGBPG	10/30/00	0.026
FGBPG	1/9/01	0.017
FGBPG	4/10/01	0.011
FGBZG	7/11/95	0.08
FGBZG	1/2/96	0.25
FGBZG	1/15/96	0.41
FGBZG	1/29/96	0.41
FGBZG	2/26/96	0.28
FGBZG	3/11/96	0.22
FGBZG	3/25/96	0.32
FGBZG	4/8/96	0.32
FGBZG	5/9/96	0.28
FGBZG	6/3/96	0.24
FGBZG	7/1/96	0.21
FGBZG	7/15/96	0.36
FGBZG	8/12/96	0.12
FGBZG	9/13/96	0.09
FGBZG	10/2/96	0.3
FGBZG	12/6/96	0.111
FGBZG	1/6/97	0.443
FGBZG	2/3/97	0.544
FGBZG	3/2/97	0.251
FGBZG	5/6/97	0.246
FGBZG	6/12/97	0.35
FGBZG	7/17/97	0.306
FGBZG	8/14/97	0.39

DRAFT

Site Descriptor	Sample Date	Cu(d)
FGBZG	9/4/97	0.303
FGBZG	10/23/97	0.562
FGBZG	11/4/97	0.173
FGBZG	11/13/97	0.677
FGBZG	12/18/97	0.479
FGBZG	1/5/98	0.9
FGBZG	2/23/98	0.72
FGBZG	3/25/98	0.56
FGBZG	4/7/98	0.82
FGBZG	5/6/98	0.55
FGBZG	6/4/98	0.5
FGBZG	10/5/98	0.27
FGBZG	11/3/98	0.73
FGBZG	12/8/98	0.78
FGBZG	1/4/99	0.57
FGBZG	2/9/99	0.51
FGBZG	3/1/99	0.59
FGBZG	10/4/99	0.72
FGBZG	11/1/99	0.78
FGBZG	1/3/00	1.2
FGBZG	2/7/00	0.94
FGBZG	3/13/00	0.71
FGBZG	4/3/00	0.61
FGBZG	5/1/00	0.79
FGBZG	7/17/00	0.069
FGBZG	10/30/00	0.02
FGBZG	11/20/00	0.013
FGBZG	1/9/01	0.016
FGBZG	3/19/01	0.044
FGBZG	4/10/01	0.047
FGBZG	7/19/01	0.017
FGBZG	9/19/01	0.048
FGBZG	12/18/01	0.054
FGBZG+85	8/23/01	0.036
FGBZG+85	10/18/01	0.036
FGBZG+85	1/15/02	0.045
FGBZG+85	2/20/02	0.031
FGBZG+85	3/20/02	0.024

DRAFT

Site Descriptor	Sample Date	Mn
FG below Zonia	1/29/01	8.52
FG below Zonia	3/29/01	35
FG below Zonia	4/24/01	29.88
FG-1	4/30/91	18.4
FG-10	5/1/91	0.13
FG-13	5/2/91	0.19
FG-2	4/30/91	28.5
FG-4	4/30/91	0.06
FG-6	5/1/91	0.14
FGAPG	1/2/96	0.85
FGAPG	4/1/96	0.11
FGAPG	10/2/96	18.6
FGAPG	4/7/98	1.22
FGAPG	10/5/98	0.02
FGAPG	1/4/99	0.017
FGAPG	10/4/99	0.024
FGAPG	4/3/00	0.029
FGAPG	10/30/00	0.99
FGAPG	1/9/01	0.058
FGAPG	4/10/01	0.094
FG-AS2-02	3/4/03	0.28
FG-AS2-04	3/4/03	0.26
FG-AS2-06	3/4/03	0.28
FG-AS2-08	3/4/03	0.27
FG-AS2-10	3/5/03	0.27
FGAZG	7/11/95	26.4
FGAZG	8/2/95	54
FGAZG	8/2/95	59
FGAZG	1/2/96	52
FGAZG	1/15/96	48
FGAZG	1/29/96	49
FGAZG	2/26/96	35
FGAZG	3/11/96	40
FGAZG	3/25/96	44
FGAZG	4/8/96	42.5
FGAZG	5/9/96	30.5
FGAZG	6/3/96	40
FGAZG	7/1/96	35
FGAZG	7/15/96	39
FGAZG	8/12/96	28.3
FGAZG	8/26/96	34.8
FGAZG	9/13/96	4.64
FGAZG	10/2/96	31.1
FGAZG	12/6/96	29
FGAZG	1/6/97	20.6
FGAZG	2/3/97	27.5

DRAFT

Site Descriptor	Sample Date	Mn
FGAZG	3/2/97	17.4
FGAZG	5/6/97	31.2
FGAZG	6/12/97	27
FGAZG	7/17/97	26
FGAZG	8/14/97	38.4
FGAZG	9/4/97	35
FGAZG	10/23/97	9
FGAZG	11/4/97	35.5
FGAZG	11/13/97	15.3
FGAZG	12/18/97	1.88
FGAZG	1/5/98	0.38
FGAZG	2/23/98	13.3
FGAZG	3/25/98	23.3
FGAZG	4/7/98	23.5
FGAZG	5/6/98	40
FGAZG	6/4/98	41
FGAZG	10/5/98	29
FGAZG	11/3/98	38
FGAZG	12/8/98	46
FGAZG	1/4/99	42
FGAZG	2/9/99	39
FGAZG	3/1/99	43
FGAZG	10/4/99	46
FGAZG	11/1/99	38
FGAZG	1/3/00	46
FGAZG	2/7/00	40
FGAZG	3/13/00	37
FGAZG	4/3/00	40
FGAZG	5/1/00	48
FGAZG	6/5/00	45
FGAZG	7/17/00	38
FGAZG	8/7/00	57
FGAZG	9/26/00	37
FGAZG	10/30/00	27
FGAZG	11/20/00	30.4
FGAZG	12/11/00	26
FGAZG	1/9/01	25
FGAZG	2/13/01	9.9
FGAZG	3/19/01	31
FGAZG	4/10/01	33
FGAZG	5/15/01	35
FGAZG	6/26/01	44
FGBPG	10/2/96	2.46
FGBPG	10/23/97	0.01
FGBPG	1/5/98	0.02
FGBPG	4/7/98	0.61

DRAFT

Site Descriptor	Sample Date	Mn
FGBPG	10/5/98	0.06
FGBPG	10/4/99	0.094
FGBPG	4/3/00	0.049
FGBPG	10/30/00	0.54
FGBPG	1/9/01	0.042
FGBPG	4/10/01	0.035
FGBZG	7/11/95	22
FGBZG	8/2/95	46
FGBZG	8/2/95	48
FGBZG	1/2/96	41
FGBZG	1/15/96	42
FGBZG	1/29/96	41
FGBZG	2/26/96	32
FGBZG	3/11/96	37
FGBZG	3/25/96	37
FGBZG	4/8/96	40
FGBZG	5/9/96	33.5
FGBZG	6/3/96	31
FGBZG	7/1/96	33
FGBZG	7/15/96	31
FGBZG	8/12/96	11.9
FGBZG	8/26/96	27.5
FGBZG	9/13/96	0.19
FGBZG	10/2/96	20.4
FGBZG	12/6/96	18.8
FGBZG	1/6/97	13.2
FGBZG	2/3/97	20.7
FGBZG	3/2/97	16.9
FGBZG	5/6/97	19.5
FGBZG	6/12/97	16
FGBZG	7/17/97	11
FGBZG	8/14/97	31.1
FGBZG	9/4/97	27
FGBZG	11/4/97	27.1
FGBZG	11/13/97	13.8
FGBZG	12/18/97	8.51
FGBZG	1/5/98	9.14
FGBZG	2/23/98	12.5
FGBZG	3/25/98	17.1
FGBZG	4/7/98	19
FGBZG	5/6/98	31
FGBZG	6/4/98	30
FGBZG	10/5/98	24
FGBZG	11/3/98	31
FGBZG	12/8/98	38
FGBZG	1/4/99	34

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Site Descriptor	Sample Date	Mn
FGBZG	2/9/99	30
FGBZG	3/1/99	35
FGBZG	10/4/99	23
FGBZG	11/1/99	24
FGBZG	1/3/00	32
FGBZG	2/7/00	28
FGBZG	3/13/00	26
FGBZG	4/3/00	28
FGBZG	5/1/00	33
FGBZG	6/5/00	29
FGBZG	7/17/00	24
FGBZG	8/7/00	34
FGBZG	10/30/00	12
FGBZG	11/20/00	11
FGBZG	12/11/00	7.4
FGBZG	1/9/01	8
FGBZG	2/13/01	2
FGBZG	3/19/01	20
FGBZG	4/10/01	23
FGBZG	5/15/01	25
FGBZG	6/26/01	32
FGBZG	7/19/01	8.4
FGBZG	9/19/01	7.7
FGBZG	10/11/01	10.8
FGBZG	12/18/01	7.3
FGBZG	5/15/03	1.2
FGBZG+85	8/23/01	8.3
FGBZG+85	10/18/01	7.1
FGBZG+85	1/15/02	4.8
FGBZG+85	2/20/02	2.7
FGBZG+85	3/20/02	2.3
FGBZG+85	3/20/02	2.37
MGFRG 008.17	2/26/03	0.39
MGFRG 008.17	2/26/03	1
MGFRG 008.17	2/27/03	0.22
MGFRG 008.17	3/17/03	0.31
MGFRG 008.17	4/15/03	0.58
MGFRG 008.17-QAQC-Total	2/26/03	1.4
MGFRG 008.17-Split	2/26/03	1.3
MGFRG 009.84	2/26/03	0.067
MGFRG 009.84	2/26/03	0.088
MGFRG 009.84	2/26/03	0.094
MGFRG A1	8/27/03	0.12
MGFRG A2	11/12/03	3.8
MGFRG A3	8/27/03	7.2
MGFRG A3	8/28/03	4

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Site Descriptor	Sample Date	Mn
MGFRG A3 AS2 1-2	2/23/04	0.34
MGFRG A4	12/30/03	0.16
MGFRG A4 AS 3-4	12/30/03	0.088
MGFRG A7 AS3 1-2	11/12/03	0.55
MGFRG A7 AS3 3-4	11/12/03	2.9
MGFRG A7 AS3 5-6	11/12/03	1.2
MGFRG ASBPG 1-2	2/23/04	0.25
MGFRG B1	11/12/03	0.056
MGFRG B2	8/27/03	0.12
MGFRG B2 AS1 11-12	11/12/03	0.11
MGFRG B2 AS1 11-12	2/23/04	0.052
MGFRG B2 AS1 1-2	12/26/03	0.053
MGFRG B2 AS1 1-2	2/23/04	0.053
MGFRG B2 AS1 13-14	11/12/03	0.06
MGFRG B2 AS1 17-18	2/23/04	0.05
MGFRG B2 AS1 3-4	11/12/03	0.36
MGFRG B2 AS1 3-4	12/26/03	0.064
MGFRG B2 AS1 3-4	2/23/04	0.053
MGFRG B2 AS1 7-8	11/12/03	0.57
MGFRG B2 AS1 7-8	12/26/03	0.074
MGFRG B2 AS1 7-8	2/23/04	0.058
MGFRG B2 AS1 9-10	11/12/03	0.28
MGFRG B2 AS1 9-10	2/23/04	0.054
MGFRG Bckgnd B1	8/27/03	0.071
MGFRG Below #9	8/28/03	3.7
MGFRG HW	8/27/03	0.092
MGFRG HW	11/12/03	0.6
MGFRG HW	2/23/04	0.058
MGFRGA3AS2	8/25/03	8.6
R111822A	11/12/03	0.42

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Site Descriptor	Sample Date	Zn(d)
FGBZG	7/19/01	0.39
FGBZG+85	8/23/01	0.36
FGBZG	9/19/01	0.36
FGBZG	10/11/01	0.25
FGBZG+85	10/18/01	0.4
FGBZG	12/18/01	0.6
FGBZG+85	1/15/02	0.45
FGBZG+85	2/20/02	0.36
FGBZG+85	3/20/02	0.29
FGBZG+85	3/20/02	0.29
FGAPG	3/20/02	0.05
FGAPG	3/20/02	0.08
MGFRG 008.17	2/26/03	0.059
MGFRG 008.17	2/26/03	0.13
MGFRG 008.17	2/26/03	0.059
MGFRG 008.17	2/26/03	0.13
MGFRG 008.17	2/27/03	0.052
FG-AS2-08	3/4/03	0.35
FG-AS2-06	3/4/03	0.32
FG-AS2-04	3/4/03	0.34
FG-AS2-02	3/4/03	0.34
FG-AS2-10	3/5/03	0.34
MGFRG 008.17	3/17/03	0.12
MGFRG 008.17	4/15/03	0.089
MGFRG A3	8/27/03	0.056
MGFRG A1	8/27/03	0.056
MGFRG B2	8/27/03	0.054
MGFRG A3	8/28/03	0.25
R111822A	11/12/03	0.067
MGFRG A2	11/12/03	0.028
R111822B	11/18/03	0.026
MGFRG A4	12/30/03	0.035
MGFRG A3 AS2 1-2	2/23/04	0.029
MGFRG B2	2/23/04	0.033
MGFRG B1	2/23/04	0.025
FGAZG	1/3/00	0.45
FG-13	5/2/91	0.06
FG-10	5/1/91	0.06
FG-8	5/1/91	0.05
FGAZG	2/26/96	0.27
FGBZG	1/29/96	0.6
FGAZG	1/29/96	0.34
FGAZG	1/15/96	0.37
FGBZG	1/15/96	0.72
FGBZG	1/2/96	0.7
FGAZG	1/2/96	0.36

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Site Descriptor	Sample Date	Zn(d)
FGBZG	7/11/95	0.08
FG-2	4/30/91	8.71
FGBZG	5/1/00	1.5
FGAZG	11/20/00	0.34
FGBZG	11/20/00	0.2
FGBZG	10/30/00	0.094
FGAZG	10/30/00	0.24
FGAZG	9/26/00	0.27
FGBZG	8/7/00	0.13
FGAZG	8/7/00	0.27
FGBZG	7/17/00	0.12
FG-6	5/1/91	0.09
FGAZG	6/5/00	0.075
FGAZG	12/11/00	0.37
FGAZG	5/1/00	0.44
FGBZG	4/3/00	1.5
FGAZG	4/3/00	0.44
FGBZG	3/13/00	1.7
FGAZG	3/13/00	0.38
FGBZG	2/7/00	2
FGAZG	2/7/00	0.43
FGBZG	1/3/00	2.2
FGAZG	7/17/00	0.21
FGBZG	2/13/01	0.1
FGBZG	3/11/96	0.43
FG-1	4/30/91	0.46
FGBZG	6/26/01	0.13
FGAZG	6/26/01	0.3
FGBZG	5/15/01	0.0092
FGAZG	5/15/01	0.29
FGBZG	4/10/01	0.28
FGAZG	4/10/01	0.38
FGBZG	11/20/00	0.2
FG below Zonia	2/23/01	0.24
FGAZG	11/20/00	0.34
FGAZG	2/13/01	0.31
FGAZG	3/19/01	0.3
FGBZG	3/19/01	0.22
FG below Zonia	1/29/01	0.14
FGBZG	1/9/01	0.26
FGAZG	1/9/01	0.34
FGBZG	12/11/00	0.2
FG-4	4/30/91	0.015
FG below Zonia	3/29/01	0.36
FGBZG	1/5/98	2.26
FGAZG	6/4/98	0.95

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Site Descriptor	Sample Date	Zn(d)
FGBZG	5/6/98	0.55
FGAZG	5/6/98	0.3
FGAPG	4/7/98	0.09
FGBZG	4/7/98	1.49
FGAZG	4/7/98	0.68
FGBZG	3/25/98	1.13
FGAZG	3/25/98	0.45
FGAZG	10/23/97	0.168
FGAZG	2/23/98	0.19
FGBZG	10/5/98	1
FGAZG	1/5/98	0.15
FGBZG	12/18/97	1.66
FGAZG	12/18/97	0.179
FGBZG	11/13/97	1.43
FGAZG	11/13/97	0.229
FGBZG	11/4/97	1.42
FGAZG	11/4/97	0.248
FGBZG	2/26/96	0.48
FGBZG	2/23/98	0.96
FGAZG	3/1/99	0.12
FGAZG	8/14/97	0.228
FGBPG	10/30/00	0.078
FGAPG	10/30/00	0.13
FGBZG	6/5/00	1
FGBZG	11/1/99	1.9
FGAZG	11/1/99	0.38
FGAPG	10/4/99	0.019
FGBZG	10/4/99	1.7
FGBZG	6/4/98	1.02
FGBZG	3/1/99	0.59
FGAZG	10/5/98	0.62
FGBZG	2/9/99	1.4
FGAZG	2/9/99	0.12
FGBZG	1/4/99	1.6
FGAZG	1/4/99	0.59
FGBZG	12/8/98	1.8
FGAZG	12/8/98	0.74
FGBZG	11/3/98	1.6
FGAZG	11/3/98	0.77
FGBZG	9/4/97	1.3
FGAZG	10/4/99	0.38
FGBZG	4/8/96	1
FGAZG	8/12/96	0.2
FGBZG	8/12/96	0.58
FGBZG	7/15/96	0.42
FGAZG	7/15/96	0.15

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Site Descriptor	Sample Date	Zn(d)
FGBZG	7/1/96	0.44
FGAZG	7/1/96	0.16
FGBZG	6/3/96	0.48
FGAZG	6/3/96	0.18
FGBZG	10/23/97	1.33
FGBZG	5/9/96	0.48
FGAZG	9/13/96	0.08
FGAZG	4/8/96	0.21
FGBZG	3/25/96	0.53
FGAZG	3/25/96	0.17
FGAZG	9/4/97	0.191
FGAZG	5/9/96	0.27
FGBZG	1/6/97	1.4
FGBZG	8/14/97	1.75
FGBZG	7/17/97	1.29
FGAZG	7/17/97	0.189
FGBZG	6/12/97	1.2
FGBZG	5/6/97	0.71
FGAZG	5/6/97	0.192
FGBZG	3/2/97	0.955
FGAZG	3/2/97	0.197
FGBZG	8/26/96	0.35
FGAZG	2/3/97	0.22
FGAZG	8/26/96	0.15
FGAZG	1/6/97	0.25
FGBZG	12/6/96	1.34
FGAZG	12/6/96	0.285
FGBPG	10/2/96	0.06
FGAPG	10/2/96	0.07
FGBZG	10/2/96	1.15
FGAZG	10/2/96	0.3
FGBZG	9/13/96	0.04
FGAZG	3/11/96	0.15
FGBZG	2/3/97	1.3
FG below Zonia	1/29/01	0.14
FG below Zonia	2/23/01	0.24
FG below Zonia	3/29/01	0.36
FG below Zonia	4/24/01	0.33
FGAPG	3/20/02	0.08
FG-AS2-02	3/4/03	0.34
FG-AS2-04	3/4/03	0.34
FG-AS2-06	3/4/03	0.32
FG-AS2-08	3/4/03	0.35
FG-AS2-10	3/5/03	0.34
FGBZG	10/11/01	0.25
FGBZG+85	3/20/02	0.29

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Site Descriptor	Sample Date	Zn(d)
MGFRG 008.17	2/27/03	0.052
MGFRG 008.17	3/17/03	0.12
MGFRG 008.17	4/15/03	0.089
MGFRG A2	11/12/03	0.028
MGFRG A3 AS2 1-2	2/23/04	0.029
MGFRG Below #9	8/28/03	0.12
R111822B	11/18/03	0.026
FG-1	4/30/91	0.46
FG-10	5/1/91	0.06
FG-13	5/2/91	0.06
FG-2	4/30/91	8.71
FG-4	4/30/91	0.015
FG-6	5/1/91	0.09
FG-8	5/1/91	0.05
FGAPG	10/2/96	0.07
FGAPG	4/7/98	0.09
FGAPG	10/4/99	0.019
FGAPG	3/20/02	0.05
FGAZG	1/2/96	0.36
FGAZG	1/15/96	0.37
FGAZG	1/29/96	0.34
FGAZG	2/26/96	0.27
FGAZG	3/11/96	0.15
FGAZG	3/25/96	0.17
FGAZG	4/8/96	0.21
FGAZG	5/9/96	0.27
FGAZG	6/3/96	0.18
FGAZG	7/1/96	0.16
FGAZG	7/15/96	0.15
FGAZG	8/12/96	0.2
FGAZG	8/26/96	0.15
FGAZG	9/13/96	0.08
FGAZG	10/2/96	0.3
FGAZG	12/6/96	0.285
FGAZG	1/6/97	0.25
FGAZG	2/3/97	0.22
FGAZG	3/2/97	0.197
FGAZG	5/6/97	0.192
FGAZG	7/17/97	0.189
FGAZG	10/23/97	0.168
FGAZG	11/4/97	0.248
FGAZG	11/13/97	0.229
FGAZG	12/18/97	0.179
FGAZG	1/5/98	0.15
FGAZG	2/23/98	0.19
FGAZG	3/25/98	0.45

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Site Descriptor	Sample Date	Zn(d)
FGAZG	4/7/98	0.68
FGAZG	5/6/98	0.3
FGAZG	6/4/98	0.95
FGAZG	10/5/98	0.62
FGAZG	11/3/98	0.77
FGAZG	12/8/98	0.74
FGAZG	1/4/99	0.59
FGAZG	2/9/99	0.12
FGAZG	3/1/99	0.12
FGAZG	10/4/99	0.38
FGAZG	11/1/99	0.38
FGAZG	1/3/00	0.45
FGAZG	2/7/00	0.43
FGAZG	3/13/00	0.38
FGAZG	4/3/00	0.44
FGAZG	5/1/00	0.44
FGAZG	6/5/00	0.075
FGAZG	7/17/00	0.21
FGAZG	8/7/00	0.27
FGAZG	9/26/00	0.27
FGAZG	10/30/00	0.24
FGAZG	11/20/00	0.34
FGAZG	12/11/00	0.37
FGAZG	1/9/01	0.34
FGAZG	2/13/01	0.31
FGAZG	3/19/01	0.3
FGAZG	4/10/01	0.38
FGAZG	5/15/01	0.29
FGAZG	6/26/01	0.3
FGBPG	10/2/96	0.06
FGBZG	7/11/95	0.08
FGBZG	1/2/96	0.7
FGBZG	1/15/96	0.72
FGBZG	1/29/96	0.6
FGBZG	2/26/96	0.48
FGBZG	3/11/96	0.43
FGBZG	3/25/96	0.53
FGBZG	4/8/96	1
FGBZG	5/9/96	0.48
FGBZG	6/3/96	0.48
FGBZG	7/1/96	0.44
FGBZG	7/15/96	0.42
FGBZG	8/12/96	0.58
FGBZG	8/26/96	0.35
FGBZG	9/13/96	0.04
FGBZG	10/2/96	1.15

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Site Descriptor	Sample Date	Zn(d)
FGBZG	12/6/96	1.34
FGBZG	1/6/97	1.4
FGBZG	2/3/97	1.3
FGBZG	3/2/97	0.955
FGBZG	5/6/97	0.71
FGBZG	6/12/97	1.2
FGBZG	7/17/97	1.29
FGBZG	8/14/97	1.75
FGBZG	9/4/97	1.3
FGBZG	10/23/97	1.33
FGBZG	11/4/97	1.42
FGBZG	11/13/97	1.43
FGBZG	12/18/97	1.66
FGBZG	1/5/98	2.26
FGBZG	2/23/98	0.96
FGBZG	3/25/98	1.13
FGBZG	4/7/98	1.49
FGBZG	5/6/98	0.55
FGBZG	6/4/98	1.02
FGBZG	10/5/98	1
FGBZG	11/3/98	1.6
FGBZG	12/8/98	1.8
FGBZG	1/4/99	1.6
FGBZG	2/9/99	1.4
FGBZG	3/1/99	0.59
FGBZG	10/4/99	1.7
FGBZG	11/1/99	1.9
FGBZG	1/3/00	2.2
FGBZG	2/7/00	2
FGBZG	3/13/00	1.7
FGBZG	4/3/00	1.5
FGBZG	5/1/00	1.5
FGBZG	7/17/00	0.12
FGBZG	8/7/00	0.13
FGBZG	10/30/00	0.094
FGBZG	11/20/00	0.2
FGBZG	12/11/00	0.2
FGBZG	1/9/01	0.26
FGBZG	2/13/01	0.1
FGBZG	3/19/01	0.22
FGBZG	4/10/01	0.28
FGBZG	5/15/01	0.0092
FGBZG	6/26/01	0.13
FGBZG	7/19/01	0.39
FGBZG	9/19/01	0.36
FGBZG	12/18/01	0.6

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Site Descriptor	Sample Date	Zn(d)
FGBZG+85	8/23/01	0.36
FGBZG+85	10/18/01	0.4
FGBZG+85	1/15/02	0.45
FGBZG+85	2/20/02	0.36
FGBZG+85	3/20/02	0.29

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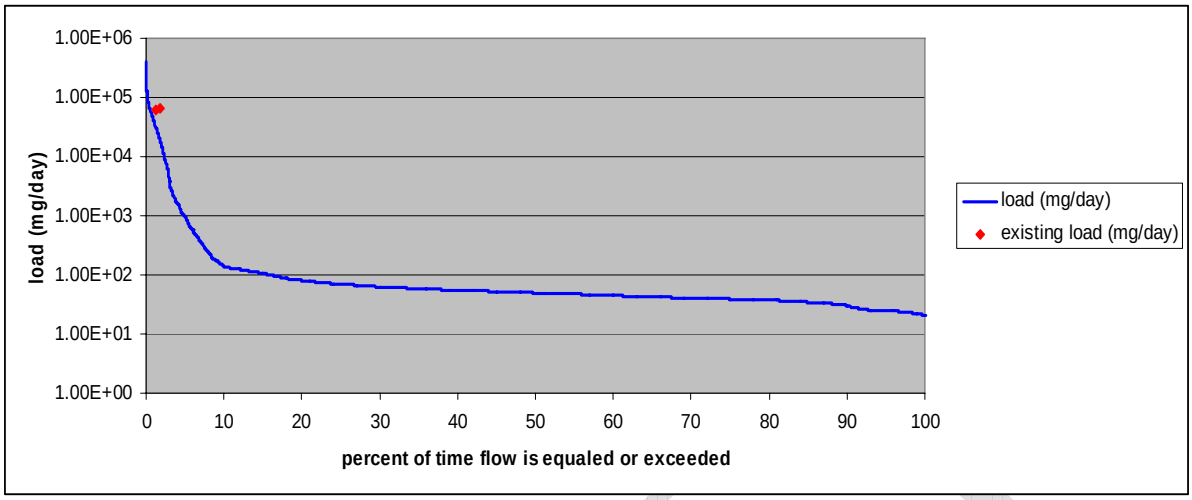
APPENDIX E
REGIONAL LOAD ALLOCATION CHARTS
(Tetra Tech, 2004c)



interval (percentile)	allowable (mg/day)	existing (mg/day)	% reduction	TMDL (mg/day)	LA (mg/day)	MOS (mg/day)
0.015	4.01E+05	not available	not available	4.01E+05	3.81E+05	2.00E+04
0.120	1.20E+05	not available	not available	1.20E+05	1.14E+05	6.02E+03
10.000	1.37E+02	not available	not available	1.37E+02	1.30E+02	6.87E+00
20.000	8.06E+01	not available	not available	8.06E+01	7.66E+01	4.03E+00
30.000	6.29E+01	not available	not available	6.29E+01	5.97E+01	3.14E+00
40.000	5.52E+01	not available	not available	5.52E+01	5.24E+01	2.76E+00
50.000	4.96E+01	not available	not available	4.96E+01	4.71E+01	2.48E+00
60.000	4.46E+01	not available	not available	4.46E+01	4.24E+01	2.23E+00
70.000	4.08E+01	not available	not available	4.08E+01	3.88E+01	2.04E+00
80.000	3.73E+01	not available	not available	3.73E+01	3.54E+01	1.86E+00
90.000	3.01E+01	not available	not available	3.01E+01	2.86E+01	1.51E+00

Cu Loadings at the Headwaters of French Gulch Creek (Subwatershed26)

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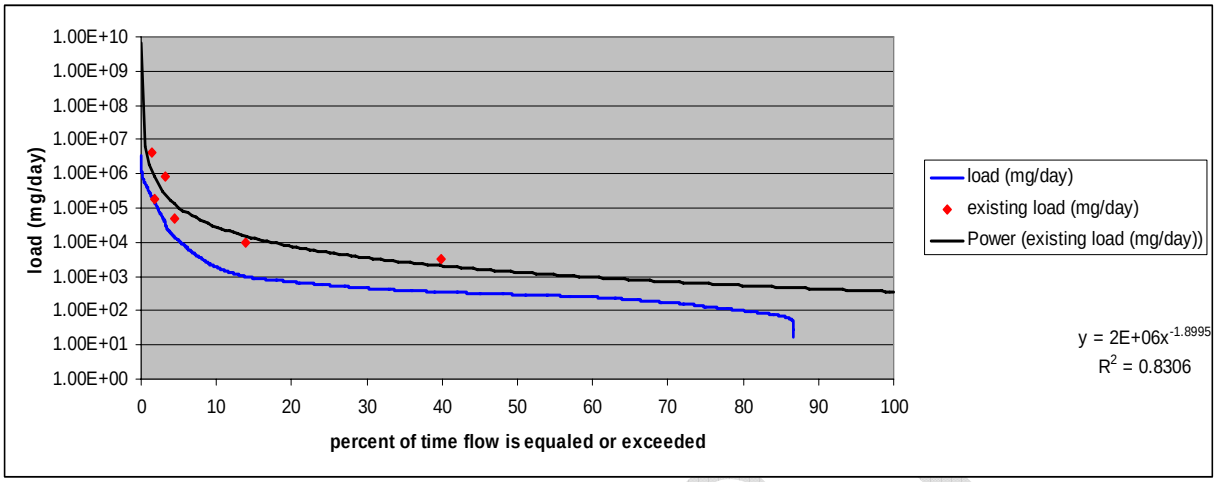

interval (percentile)	allowable (mg/day)	existing (mg/day)	% reduction	TMDL (mg/day)	LA (mg/day)	MOS (mg/day)
0.015	3.36E+06	5.83E+09	99.9%	3.36E+06	3.20E+06	1.68E+05
0.150	9.16E+05	7.35E+07	98.8%	9.16E+05	8.71E+05	4.58E+04
10.000	1.89E+03	2.52E+04	92.5%	1.89E+03	1.79E+03	9.44E+01
20.000	7.04E+02	6.76E+03	89.6%	7.04E+02	6.69E+02	3.52E+01
30.000	4.53E+02	3.13E+03	85.5%	4.53E+02	4.30E+02	2.26E+01
40.000	3.52E+02	1.81E+03	80.6%	3.52E+02	3.34E+02	1.76E+01
50.000	2.98E+02	1.19E+03	74.9%	2.98E+02	2.83E+02	1.49E+01
60.000	2.49E+02	8.38E+02	70.3%	2.49E+02	2.37E+02	1.25E+01
70.000	1.74E+02	6.26E+02	72.3%	1.74E+02	1.65E+02	8.68E+00
80.000	1.00E+02	4.85E+02	79.4%	1.00E+02	9.50E+01	5.00E+00
90.000	0.00E+00	3.88E+02	no reduction required	not available	not available	not available

Cu Loadings Below Zonia Gulch (subwatershed 19)

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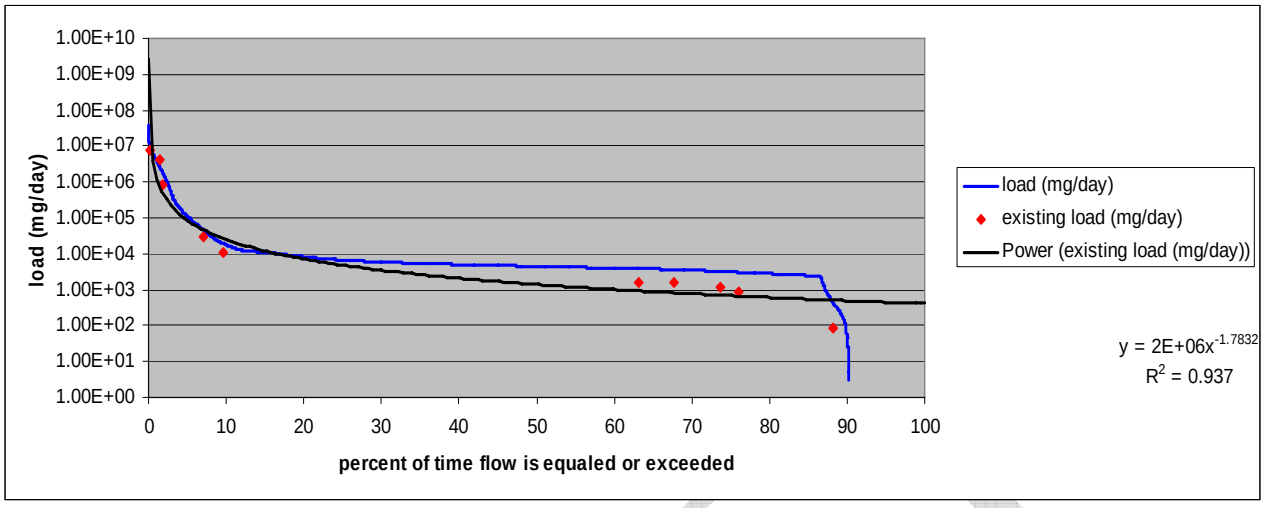

interval (percentile)	allowable (mg/day)	existing (mg/day)	% reduction	TMDL (mg/day)	LA (mg/day)	MOS (mg/day)
0.015	4.01E+07	3.58E+09	98.9%	4.01E+07	3.81E+07	2.01E+06
0.135	1.16E+07	7.11E+07	83.7%	1.16E+07	1.10E+07	5.79E+05
10.000	1.79E+04	3.29E+04	45.7%	1.79E+04	1.70E+04	8.95E+02
20.000	8.30E+03	9.57E+03	13.3%	8.30E+03	7.88E+03	4.15E+02
30.000	5.90E+03	4.65E+03	no reduction required	5.90E+03	5.61E+03	2.95E+02
40.000	5.02E+03	2.78E+03	no reduction required	5.02E+03	4.77E+03	2.51E+02
50.000	4.44E+03	1.87E+03	no reduction required	4.44E+03	4.22E+03	2.22E+02
60.000	3.99E+03	1.35E+03	no reduction required	3.99E+03	3.79E+03	2.00E+02
70.000	3.51E+03	1.03E+03	no reduction required	3.51E+03	3.33E+03	1.75E+02
80.000	2.79E+03	8.08E+02	no reduction required	2.79E+03	2.65E+03	1.40E+02
90.000	4.64E+01	6.55E+02	no reduction required	4.64E+01	4.41E+01	2.32E+00

Cu Loadings Below Placerita Gulch (subwatershed 13)

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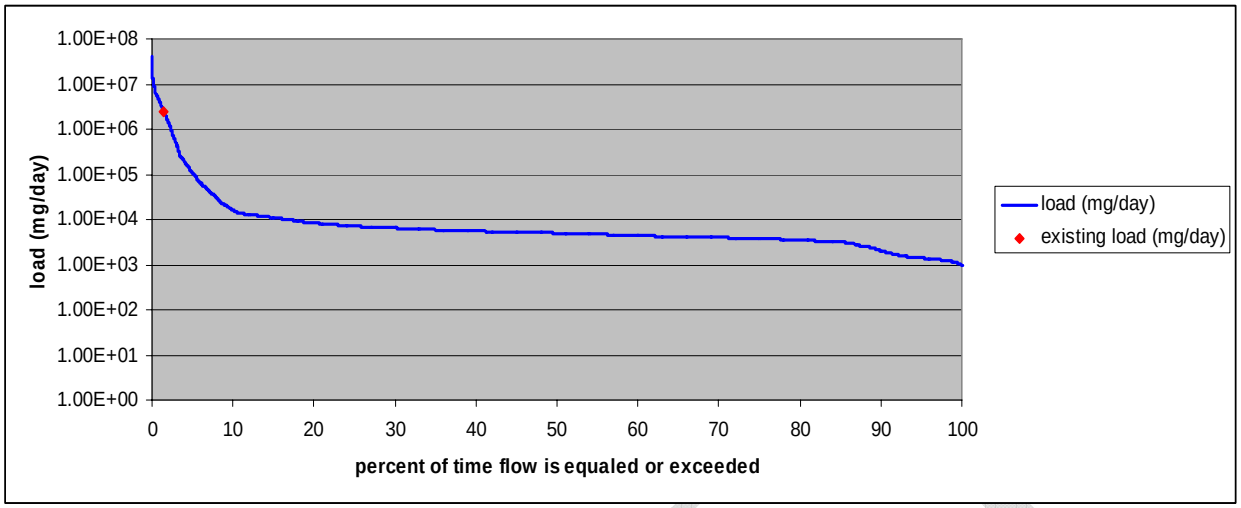
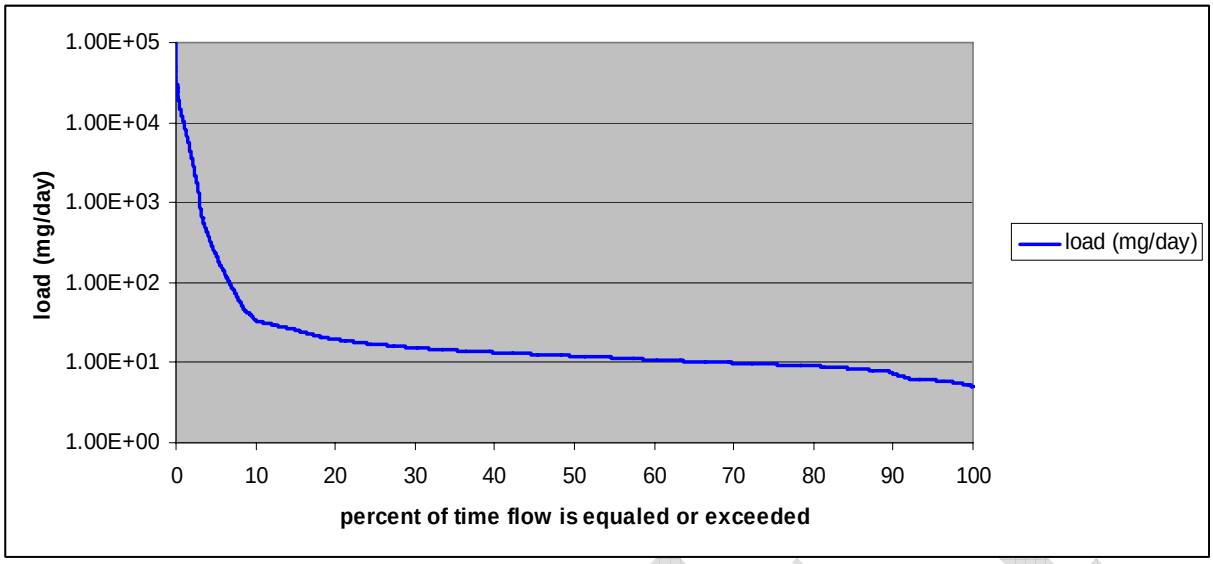


interval (percentile)	allowable (mg/day)	existing (mg/day)	% reduction	TMDL (mg/day)	LA (mg/day)	MOS (mg/day)
0.015	4.08E+07	not available	not available	4.08E+07	3.88E+07	2.04E+06
0.150	1.14E+07	not available	not available	1.14E+07	1.08E+07	5.69E+05
10.000	1.60E+04	not available	not available	1.60E+04	1.52E+04	8.01E+02
20.000	8.33E+03	not available	not available	8.33E+03	7.91E+03	4.17E+02
30.000	6.44E+03	not available	not available	6.44E+03	6.12E+03	3.22E+02
40.000	5.53E+03	not available	not available	5.53E+03	5.26E+03	2.77E+02
50.000	4.99E+03	not available	not available	4.99E+03	4.74E+03	2.50E+02
60.000	4.40E+03	not available	not available	4.40E+03	4.18E+03	2.20E+02
70.000	4.00E+03	not available	not available	4.00E+03	3.80E+03	2.00E+02
80.000	3.49E+03	not available	not available	3.49E+03	3.31E+03	1.74E+02
90.000	2.03E+03	not available	not available	2.03E+03	1.92E+03	1.01E+02

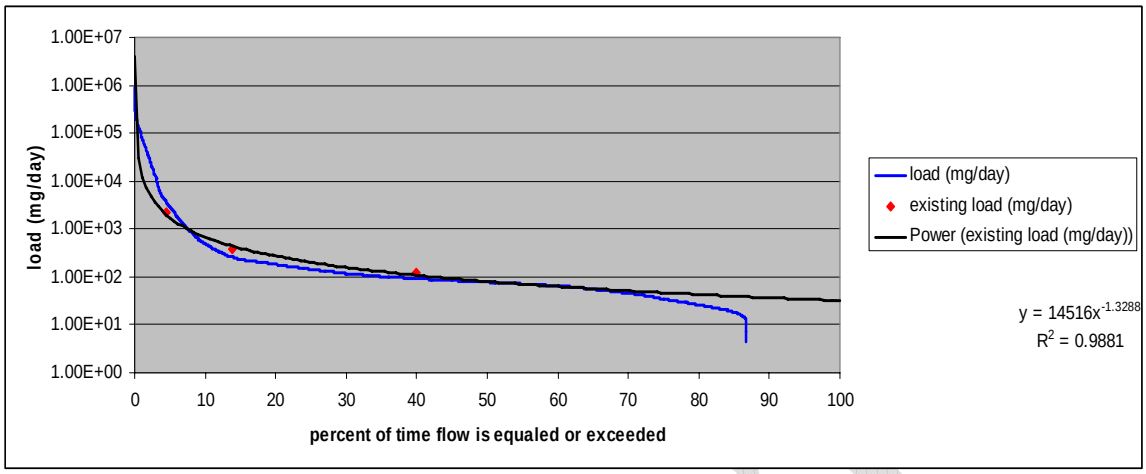
Cu Loadings at the Most Downstream Section of French Gulch Creek (subwatershed 1)

DRAFT



interval (percentile)	allowable (mg/day)	existing (mg/day)	% reduction	TMDL (mg/day)	LA (mg/day)	MOS (mg/day)
0.015	9.76E+04	not available	not available	9.76E+04	9.27E+04	4.88E+03
0.120	2.93E+04	not available	not available	2.93E+04	2.79E+04	1.47E+03
10.000	3.34E+01	not available	not available	3.34E+01	3.17E+01	1.67E+00
20.000	1.96E+01	not available	not available	1.96E+01	1.86E+01	9.81E-01
30.000	1.53E+01	not available	not available	1.53E+01	1.45E+01	7.66E-01
40.000	1.34E+01	not available	not available	1.34E+01	1.28E+01	6.72E-01
50.000	1.21E+01	not available	not available	1.21E+01	1.15E+01	6.04E-01
60.000	1.09E+01	not available	not available	1.09E+01	1.03E+01	5.43E-01
70.000	9.93E+00	not available	not available	9.93E+00	9.44E+00	4.97E-01
80.000	9.08E+00	not available	not available	9.08E+00	8.62E+00	4.54E-01
90.000	7.33E+00	not available	not available	7.33E+00	6.96E+00	3.67E-01

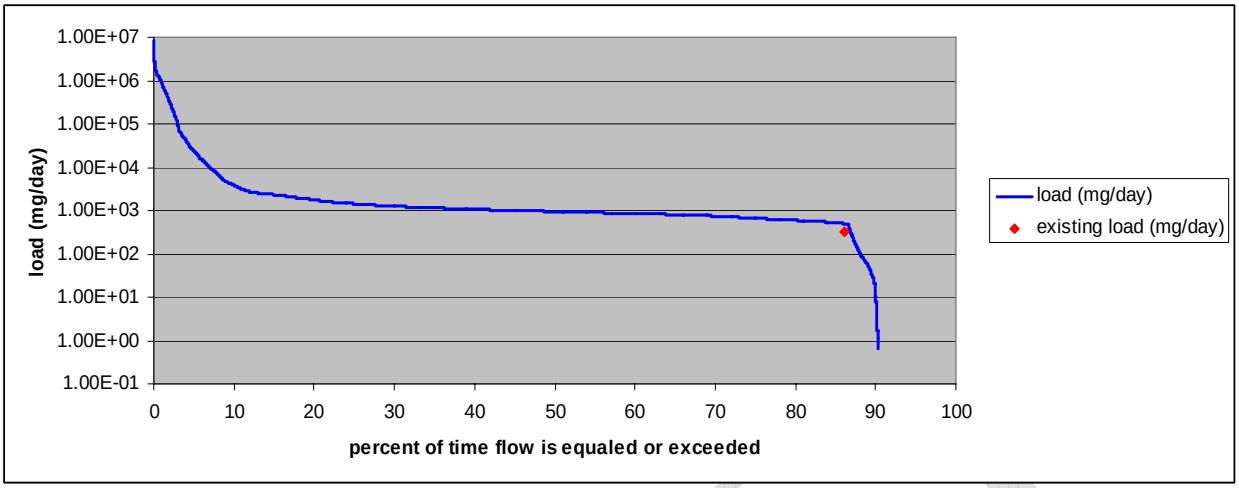
Cd Loadings at the Headwaters of French Gulch Creek (Subwatershed26)



interval (percentile)	allowable (mg/day)	existing (mg/day)	% reduction	TMDL (mg/day)	LA (mg/day)	MOS (mg/day)
0.015	8.77E+05	3.85E+06	77.2%	8.77E+05	8.34E+05	4.39E+04
0.150	2.39E+05	1.81E+05	no reduction required	not applicable	not applicable	not applicable
10.000	4.92E+02	6.81E+02	27.7%	4.92E+02	4.68E+02	2.46E+01
20.000	1.84E+02	2.71E+02	32.3%	1.84E+02	1.74E+02	9.18E+00
30.000	1.18E+02	1.58E+02	25.4%	1.18E+02	1.12E+02	5.90E+00
40.000	9.17E+01	1.08E+02	15.0%	9.17E+01	8.71E+01	4.58E+00
50.000	7.77E+01	8.02E+01	3.2%	7.77E+01	7.38E+01	3.88E+00
60.000	6.50E+01	6.30E+01	-3.2%	6.50E+01	6.18E+01	3.25E+00
70.000	4.53E+01	5.13E+01	11.8%	4.53E+01	4.30E+01	2.26E+00
80.000	2.61E+01	4.30E+01	39.3%	2.61E+01	2.48E+01	1.30E+00
90.000	0.00E+00	3.67E+01	no reduction required	not applicable	not applicable	not applicable

Cd Loadings below Zonia Gulch (subwatershed 19)

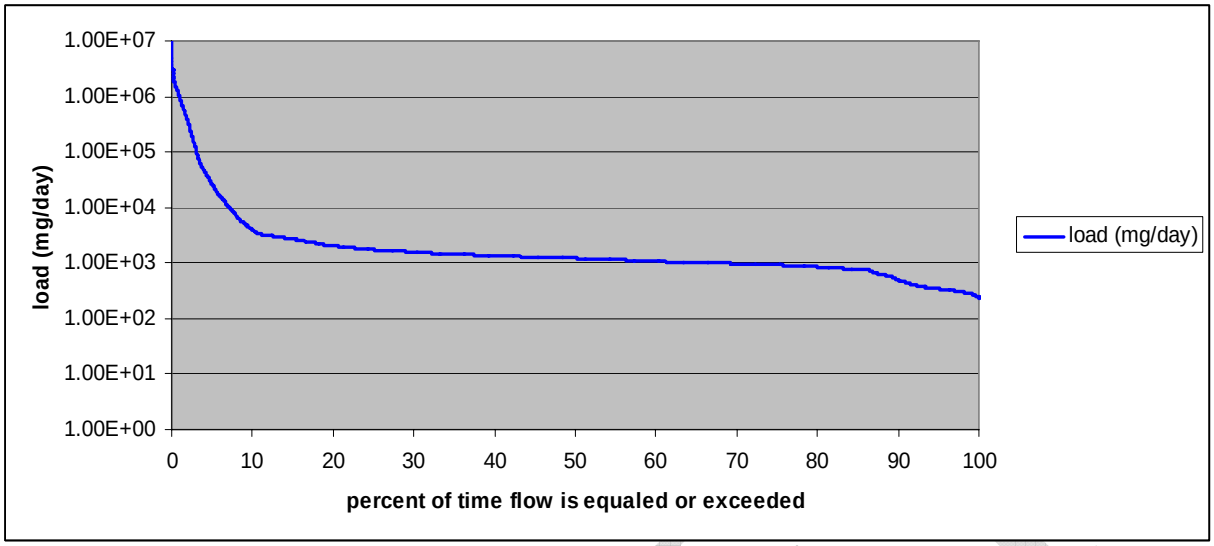
DRAFT



interval (percentile)	allowable (mg/day)	existing (mg/day)	% reduction	TMDL (mg/day)	LA (mg/day)	MOS (mg/day)
0.015	8.52E+06	not available	not available	8.52E+06	8.10E+06	4.26E+05
0.1350	2.46E+06	not available	not available	2.46E+06	2.34E+06	1.23E+05
10.000	3.80E+03	not available	not available	3.80E+03	3.61E+03	1.90E+02
20.000	1.76E+03	not available	not available	1.76E+03	1.67E+03	8.82E+01
30.000	1.25E+03	not available	not available	1.25E+03	1.19E+03	6.27E+01
40.000	1.07E+03	not available	not available	1.07E+03	1.01E+03	5.33E+01
50.000	9.44E+02	not available	not available	9.44E+02	8.97E+02	4.72E+01
60.000	8.49E+02	not available	not available	8.49E+02	8.06E+02	4.24E+01
70.000	7.45E+02	not available	not available	7.45E+02	7.08E+02	3.73E+01
80.000	5.93E+02	not available	not available	5.93E+02	5.64E+02	2.97E+01
90.000	9.86E+00	not available	not available	9.86E+00	9.37E+00	4.93E-01

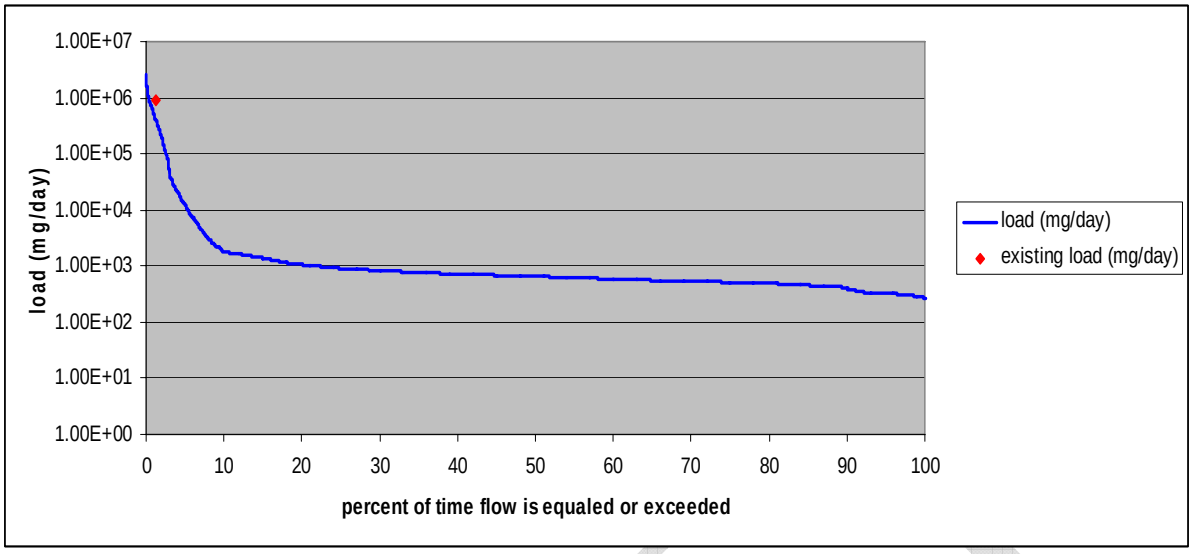
Cd Loadings Below Placerita Gulch (subwatershed 13)

DRAFT



interval (percentile)	allowable (mg/day)	existing (mg/day)	% reduction	TMDL (mg/day)	LA (mg/day)	MOS (mg/day)
0.015	9.98E+06	not available	not available	9.98E+06	9.48E+06	4.99E+05
0.150	2.78E+06	not available	not available	2.78E+06	2.64E+06	1.39E+05
10.000	3.92E+03	not available	not available	3.92E+03	3.72E+03	1.96E+02
20.000	2.04E+03	not available	not available	2.04E+03	1.94E+03	1.02E+02
30.000	1.58E+03	not available	not available	1.58E+03	1.50E+03	7.88E+01
40.000	1.35E+03	not available	not available	1.35E+03	1.29E+03	6.77E+01
50.000	1.22E+03	not available	not available	1.22E+03	1.16E+03	6.11E+01
60.000	1.08E+03	not available	not available	1.08E+03	1.02E+03	5.38E+01
70.000	9.78E+02	not available	not available	9.78E+02	9.29E+02	4.89E+01
80.000	8.53E+02	not available	not available	8.53E+02	8.10E+02	4.27E+01
90.000	4.96E+02	not available	not available	4.96E+02	4.71E+02	2.48E+01

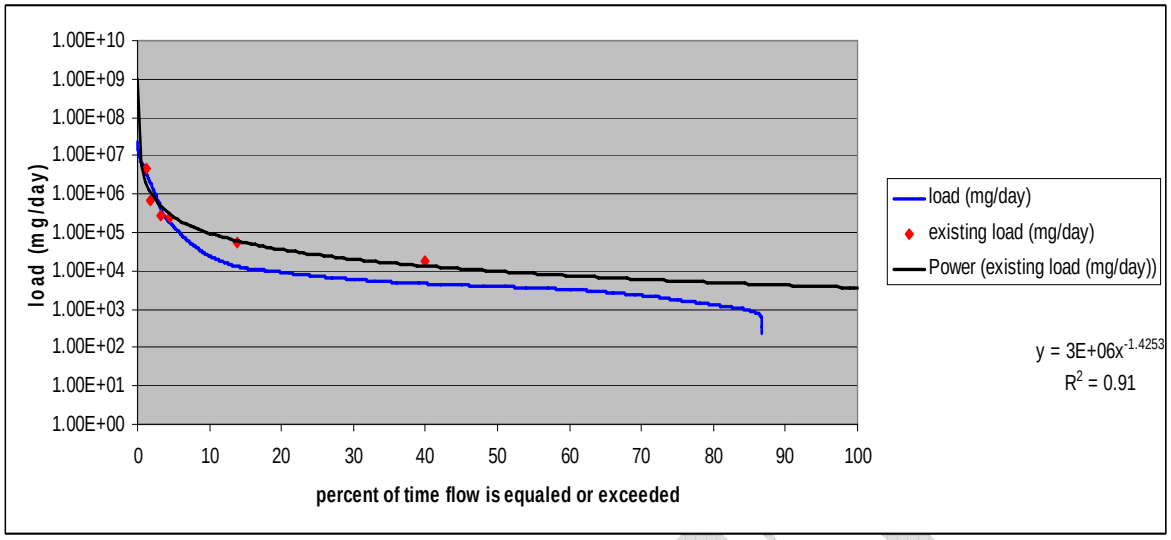
Cd Loadings at the Most Downstream Section of French Gulch Creek (subwatershed 1)



interval (percentile)	allowable (mg/day)	existing (mg/day)	% reduction	TMDL (mg/day)	LA (mg/day)	MOS (mg/day)
0.015	9.98E+06	not available	not available	9.98E+06	9.48E+06	4.99E+05
0.150	2.78E+06	not available	not available	2.78E+06	2.64E+06	1.39E+05
10.000	3.92E+03	not available	not available	3.92E+03	3.72E+03	1.96E+02
20.000	2.04E+03	not available	not available	2.04E+03	1.94E+03	1.02E+02
30.000	1.58E+03	not available	not available	1.58E+03	1.50E+03	7.88E+01
40.000	1.35E+03	not available	not available	1.35E+03	1.29E+03	6.77E+01
50.000	1.22E+03	not available	not available	1.22E+03	1.16E+03	6.11E+01
60.000	1.08E+03	not available	not available	1.08E+03	1.02E+03	5.38E+01
70.000	9.78E+02	not available	not available	9.78E+02	9.29E+02	4.89E+01
80.000	8.53E+02	not available	not available	8.53E+02	8.10E+02	4.27E+01
90.000	4.96E+02	not available	not available	4.96E+02	4.71E+02	2.48E+01

Zn loadings at the Headwaters of French Gulch Creek (Subwatershed26)

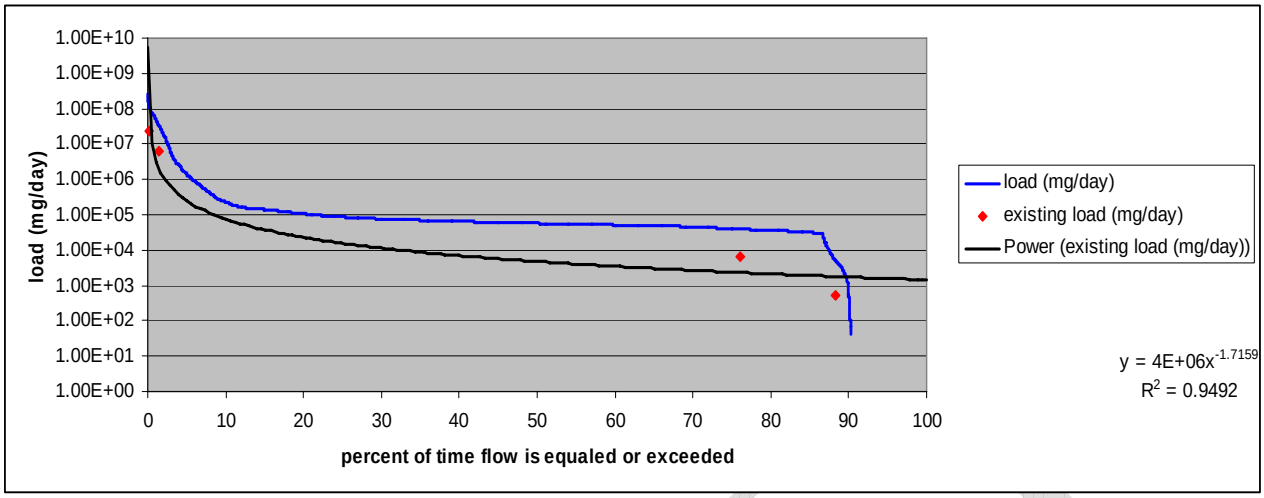
DRAFT



interval (percentile)	allowable (mg/day)	existing (mg/day)	% reduction	TMDL (mg/day)	LA (mg/day)	MOS (mg/day)
0.015	2.36E+07	1.19E+09	98.0%	2.36E+07	2.24E+07	1.18E+06
0.150	1.20E+07	4.48E+07	73.3%	1.20E+07	1.14E+07	5.98E+05
10.000	2.47E+04	1.13E+05	78.1%	2.47E+04	2.35E+04	1.23E+03
20.000	9.22E+03	4.20E+04	78.0%	9.22E+03	8.76E+03	4.61E+02
30.000	5.94E+03	2.35E+04	74.8%	5.94E+03	5.64E+03	2.97E+02
40.000	4.61E+03	1.56E+04	70.5%	4.61E+03	4.38E+03	2.31E+02
50.000	3.91E+03	1.14E+04	65.6%	3.91E+03	3.71E+03	1.95E+02
60.000	3.27E+03	8.76E+03	62.7%	3.27E+03	3.11E+03	1.64E+02
70.000	2.27E+03	7.04E+03	67.7%	2.27E+03	2.16E+03	1.14E+02
80.000	1.31E+03	5.82E+03	77.5%	1.31E+03	1.24E+03	6.55E+01
90.000	0.00E+00	4.92E+03	no reduction required	not applicable	not applicable	not applicable

Zn Loadings below Zonia Gulch (subwatershed 19)

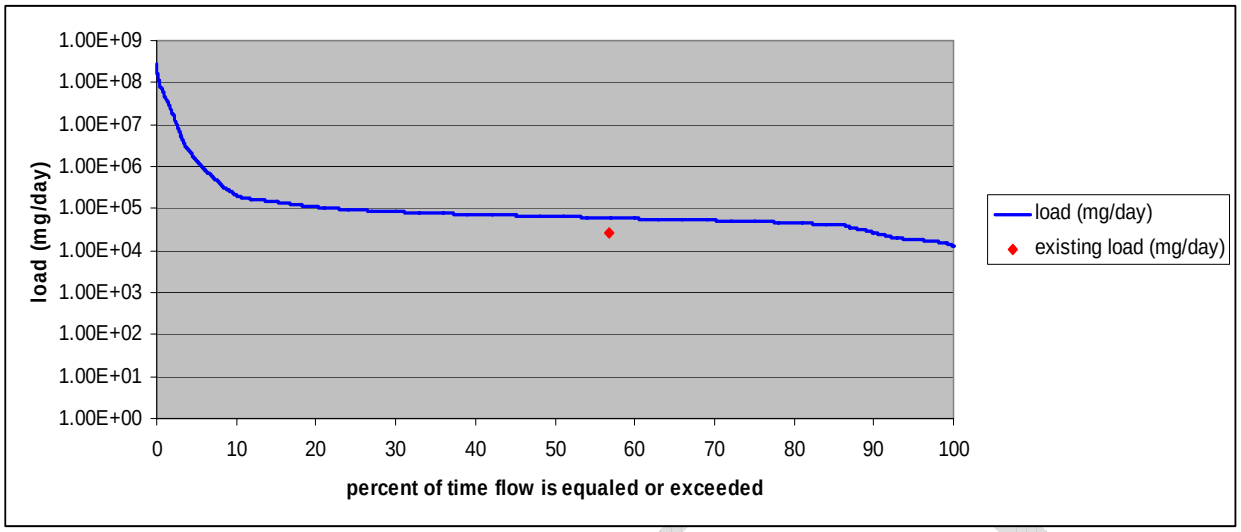
DRAFT



interval (percentile)	allowable (mg/day)	existing (mg/day)	% reduction	TMDL (mg/day)	LA (mg/day)	MOS (mg/day)
0.015	2.64E+08	5.39E+09	95.1%	2.64E+08	2.51E+08	1.32E+07
0.135	1.46E+08	1.24E+08	no reduction required	1.46E+08	1.39E+08	7.30E+06
10.000	2.32E+05	7.69E+04	no reduction required	2.32E+05	2.20E+05	1.16E+04
20.000	1.08E+05	2.34E+04	no reduction required	1.08E+05	1.02E+05	5.38E+03
30.000	7.64E+04	1.17E+04	no reduction required	7.64E+04	7.26E+04	3.82E+03
40.000	6.50E+04	7.13E+03	no reduction required	6.50E+04	6.17E+04	3.25E+03
50.000	5.75E+04	4.86E+03	no reduction required	5.75E+04	5.47E+04	2.88E+03
60.000	5.17E+04	3.56E+03	no reduction required	5.17E+04	4.91E+04	2.59E+03
70.000	4.54E+04	2.73E+03	no reduction required	4.54E+04	4.31E+04	2.27E+03
80.000	3.62E+04	2.17E+03	no reduction required	3.62E+04	3.44E+04	1.81E+03
90.000	5.06E+02	1.77E+03	71.5%	5.06E+02	4.80E+02	2.53E+01

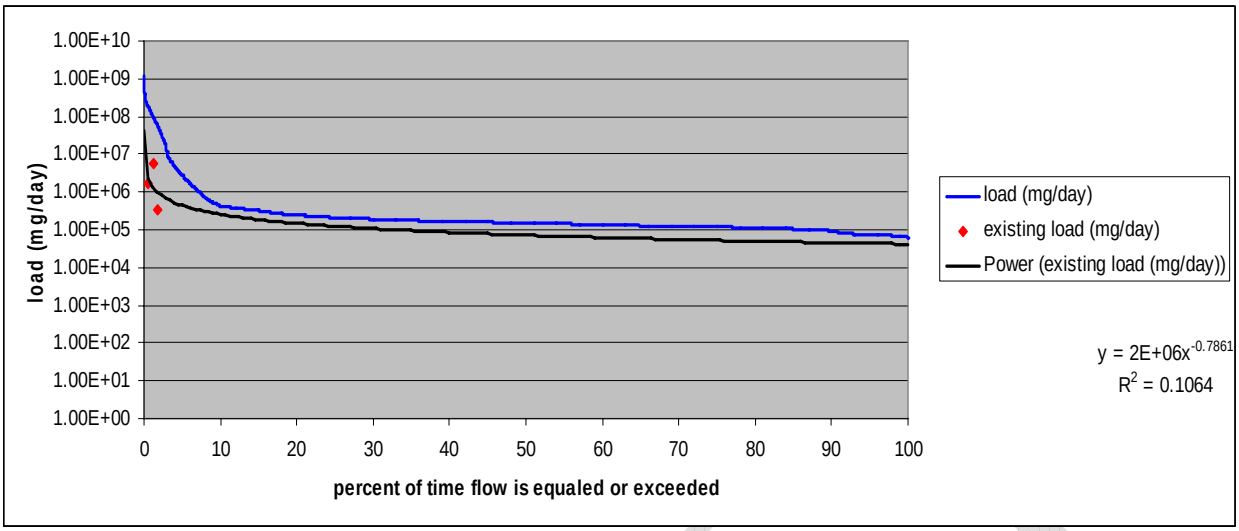
Zn Loadings Below Placerita Gulch (subwatershed 13)

DRAFT



interval (percentile)	allowable (mg/day)	existing (mg/day)	% reduction	TMDL (mg/day)	LA (mg/day)	MOS (mg/day)
0.015	2.70E+08	not available	not available	2.70E+08	2.57E+08	1.35E+07
0.150	1.41E+08	not available	not available	1.41E+08	1.34E+08	7.03E+06
10.000	2.09E+05	not available	not available	2.09E+05	1.99E+05	1.05E+04
20.000	1.09E+05	not available	not available	1.09E+05	1.03E+05	5.44E+03
30.000	8.41E+04	not available	not available	8.41E+04	7.99E+04	4.21E+03
40.000	7.23E+04	not available	not available	7.23E+04	6.87E+04	3.61E+03
50.000	6.52E+04	not available	not available	6.52E+04	6.19E+04	3.26E+03
60.000	5.75E+04	not available	not available	5.75E+04	5.46E+04	2.87E+03
70.000	5.22E+04	not available	not available	5.22E+04	4.96E+04	2.61E+03
80.000	4.56E+04	not available	not available	4.56E+04	4.33E+04	2.28E+03
90.000	2.64E+04	not available	not available	2.64E+04	2.51E+04	1.32E+03

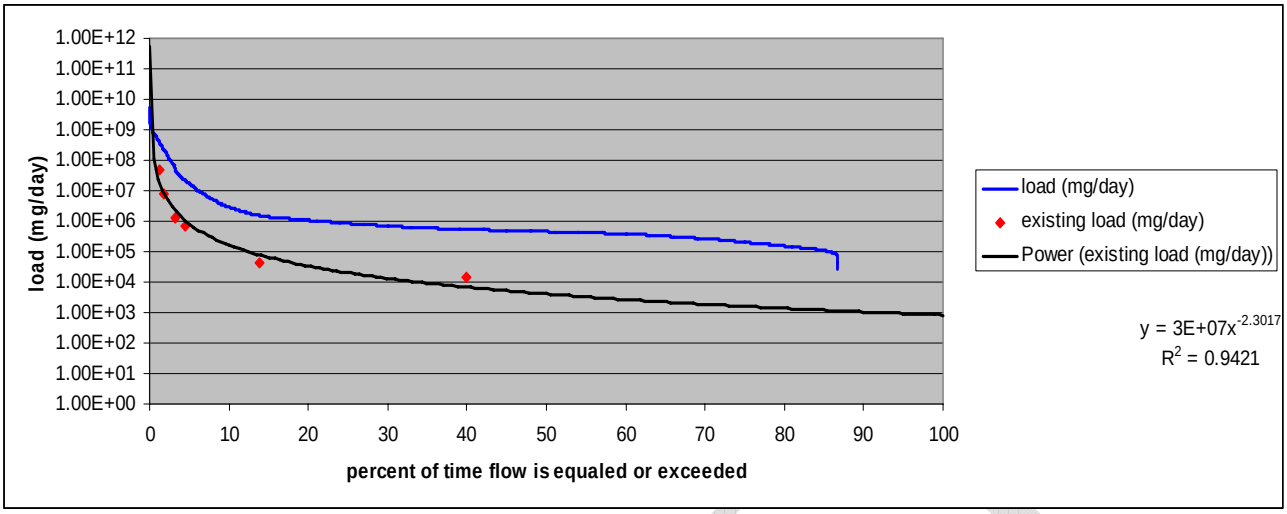
Zn Loadings at the Most Downstream Section of French Gulch Creek (subwatershed 1)



interval (percentile)	allowable (mg/day)	existing (mg/day)	% reduction	TMDL (mg/day)	LA (mg/day)	MOS (mg/day)
0.015	1.22E+09	5.43E+07	no reduction required	1.22E+09	1.16E+09	6.09E+07
0.120	3.66E+08	8.89E+06	no reduction required	3.66E+08	3.48E+08	1.83E+07
10.000	4.17E+05	3.27E+05	no reduction required	4.17E+05	3.96E+05	2.08E+04
20.000	2.45E+05	1.90E+05	no reduction required	2.45E+05	2.33E+05	1.22E+04
30.000	1.91E+05	1.38E+05	no reduction required	1.91E+05	1.81E+05	9.55E+03
40.000	1.68E+05	1.10E+05	no reduction required	1.68E+05	1.59E+05	8.38E+03
50.000	1.51E+05	9.24E+04	no reduction required	1.51E+05	1.43E+05	7.54E+03
60.000	1.36E+05	8.00E+04	no reduction required	1.36E+05	1.29E+05	6.78E+03
70.000	1.24E+05	7.09E+04	no reduction required	1.24E+05	1.18E+05	6.20E+03
80.000	1.13E+05	6.38E+04	no reduction required	1.13E+05	1.08E+05	5.66E+03
90.000	9.14E+04	5.82E+04	no reduction required	9.14E+04	8.69E+04	4.57E+03

Mn Loadings at the headwaters of French Gulch Creek (Subwatershed26)

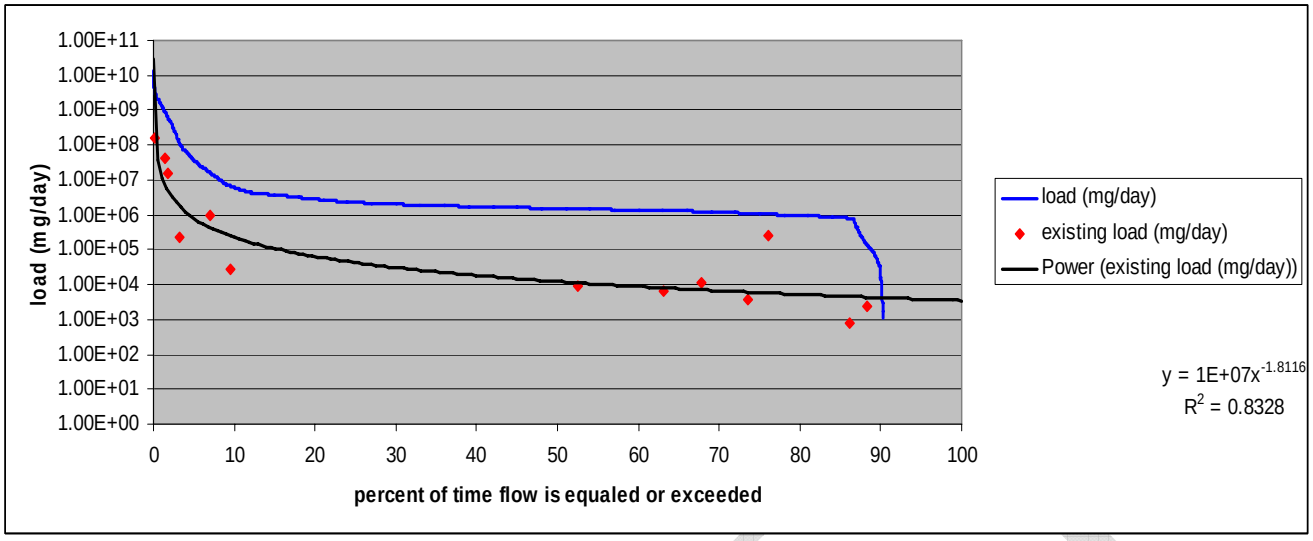
DRAFT



interval (percentile)	allowable (mg/day)	existing (mg/day)	% reduction	TMDL (mg/day)	LA (mg/day)	MOS (mg/day)
0.015	5.16E+09	4.73E+11	98.9%	5.16E+09	4.90E+09	2.58E+08
0.150	1.41E+09	2.36E+09	40.5%	1.41E+09	1.33E+09	7.03E+07
10.000	2.89E+06	1.50E+05	no reduction required	1.50E+05	2.75E+06	1.45E+05
20.000	1.08E+06	3.04E+04	no reduction required	3.04E+04	1.03E+06	5.40E+04
30.000	6.94E+05	1.19E+04	no reduction required	1.19E+04	6.59E+05	3.47E+04
40.000	5.39E+05	6.16E+03	no reduction required	6.16E+03	5.12E+05	2.69E+04
50.000	4.57E+05	3.69E+03	no reduction required	3.69E+03	4.34E+05	2.28E+04
60.000	3.82E+05	2.42E+03	no reduction required	2.42E+03	3.63E+05	1.91E+04
70.000	2.66E+05	1.70E+03	no reduction required	1.70E+03	2.53E+05	1.33E+04
80.000	1.53E+05	1.25E+03	no reduction required	1.25E+03	1.46E+05	7.67E+03
90.000	0.00E+00	9.53E+02	no reduction required	not applicable	not applicable	not applicable

Mn Loadings Below Zonia Gulch (subwatershed 19)

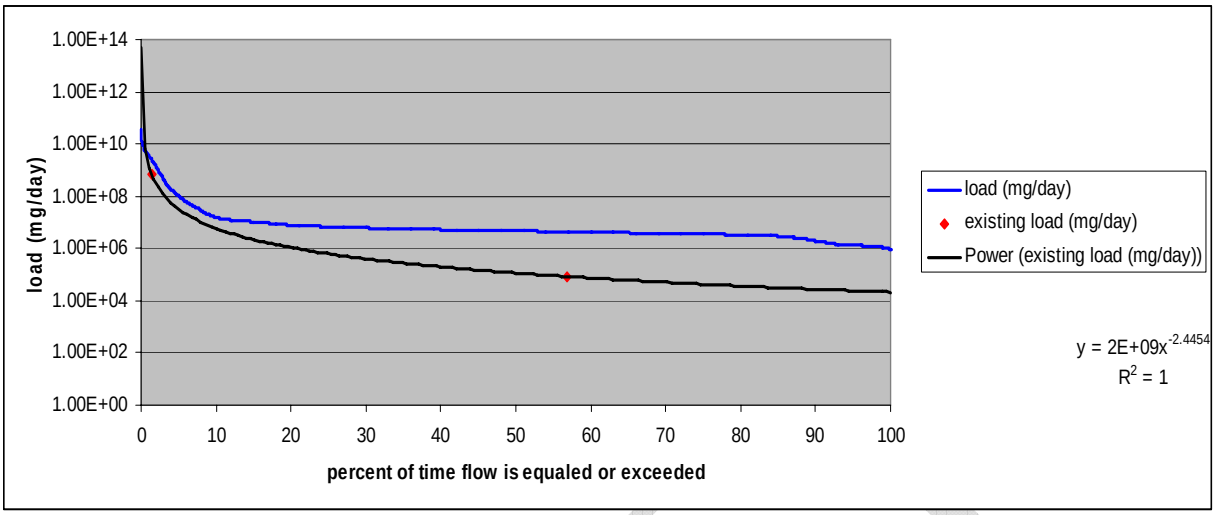
DRAFT



interval (percentile)	allowable (mg/day)	existing (mg/day)	% reduction	TMDL (mg/day)	LA (mg/day)	MOS (mg/day)
0.015	1.37E+10	2.01E+10	32.0%	1.37E+10	1.30E+10	6.85E+08
0.1350	3.95E+09	3.11E+08	no reduction required	3.95E+09	3.76E+09	1.98E+08
10.000	6.11E+06	1.54E+05	no reduction required	6.11E+06	5.80E+06	3.06E+05
20.000	2.83E+06	4.40E+04	no reduction required	2.83E+06	2.69E+06	1.42E+05
30.000	2.02E+06	2.11E+04	no reduction required	2.02E+06	1.92E+06	1.01E+05
40.000	1.71E+06	1.25E+04	no reduction required	1.71E+06	1.63E+06	8.57E+04
50.000	1.52E+06	8.36E+03	no reduction required	1.52E+06	1.44E+06	7.59E+04
60.000	1.36E+06	6.01E+03	no reduction required	1.36E+06	1.30E+06	6.82E+04
70.000	1.20E+06	4.54E+03	no reduction required	1.20E+06	1.14E+06	5.99E+04
80.000	9.54E+05	3.57E+03	no reduction required	9.54E+05	9.06E+05	4.77E+04
90.000	1.59E+04	2.88E+03	no reduction required	1.59E+04	1.51E+04	7.93E+02

Mn Loadings below Placerita Gulch (subwatershed 13)

DRAFT



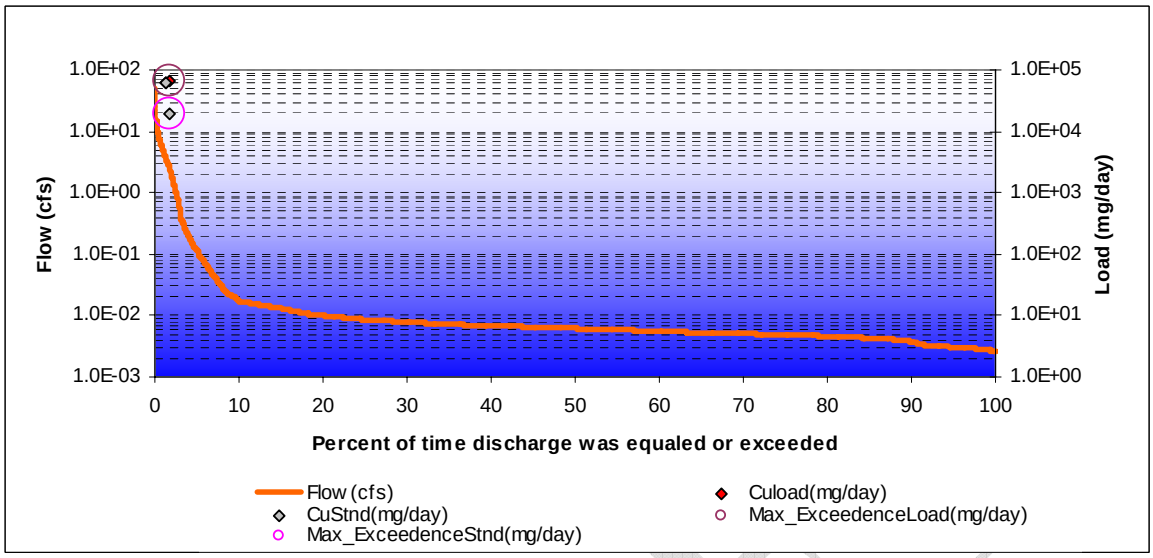
interval (percentile)	allowable (mg/day)	existing (mg/day)	% reduction	TMDL (mg/day)	LA (mg/day)	MOS (mg/day)
0.015	3.90E+10	5.77E+13	99.9%	3.90E+10	3.70E+10	1.95E+09
0.150	1.09E+10	2.07E+11	94.7%	1.09E+10	1.03E+10	5.44E+08
10.000	1.53E+07	7.17E+06	no reduction required	1.53E+07	1.45E+07	7.65E+05
20.000	7.96E+06	1.32E+06	no reduction required	7.96E+06	7.56E+06	3.98E+05
30.000	6.15E+06	4.89E+05	no reduction required	6.15E+06	5.85E+06	3.08E+05
40.000	5.29E+06	2.42E+05	no reduction required	5.29E+06	5.02E+06	2.64E+05
50.000	4.77E+06	1.40E+05	no reduction required	4.77E+06	4.53E+06	2.38E+05
60.000	4.20E+06	8.97E+04	no reduction required	4.20E+06	3.99E+06	2.10E+05
70.000	3.82E+06	6.15E+04	no reduction required	3.82E+06	3.63E+06	1.91E+05
80.000	3.33E+06	4.44E+04	no reduction required	3.33E+06	3.17E+06	1.67E+05
90.000	1.94E+06	3.33E+04	no reduction required	1.94E+06	1.84E+06	9.68E+04

Mn Loadings at the Most Downstream Section of French Gulch Creek (subwatershed 1)

DRAFT

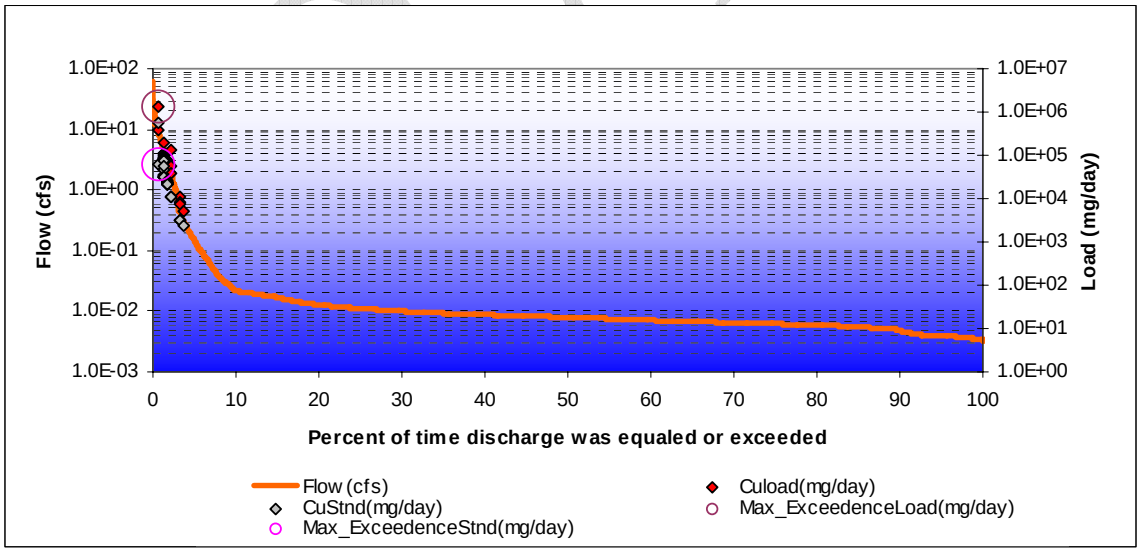
APPENDIX F
SUBWATERSHED LOAD ALLOCATION CHARTS
(Tetra Tech, 2004c)

DRAFT



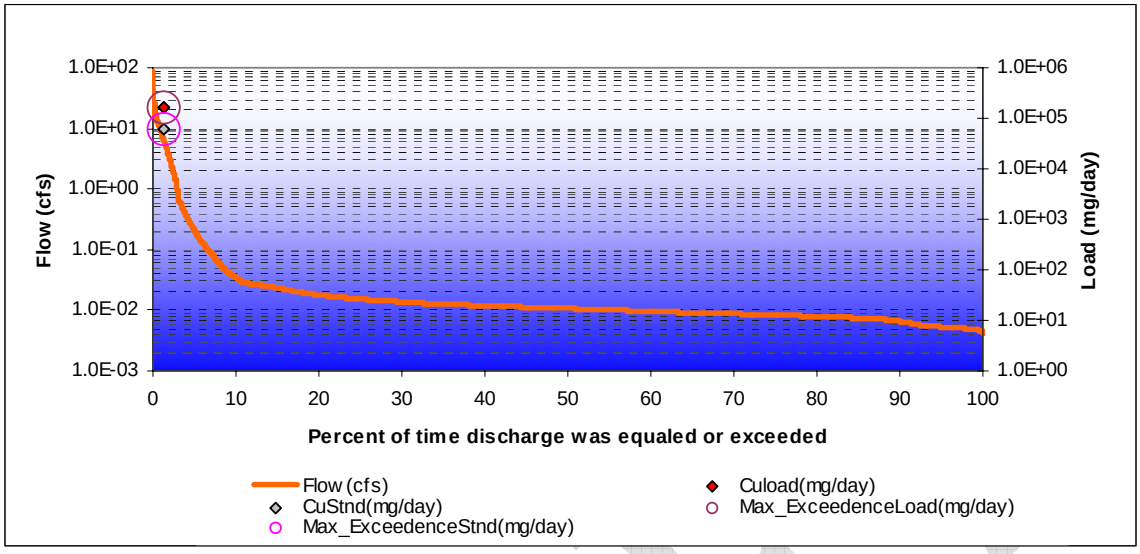
Reduction Percentage	Existing	TMDL	LA	MOS
70%	6.49E+04	1.94E+04	1.85E+04	9.71E+02

Cu loadings at subwatershed 26 (headwaters)



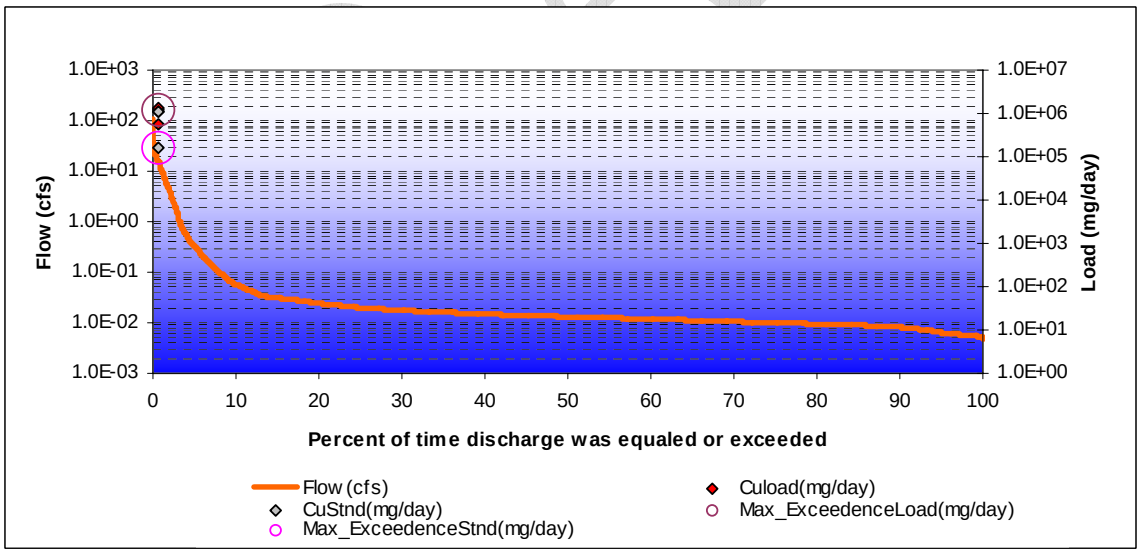
Reduction Percentage	Existing	TMDL	LA	MOS
96%	1.39E+06	6.16E+04	5.85E+04	3.08E+03

Cu loadings at subwatershed 25



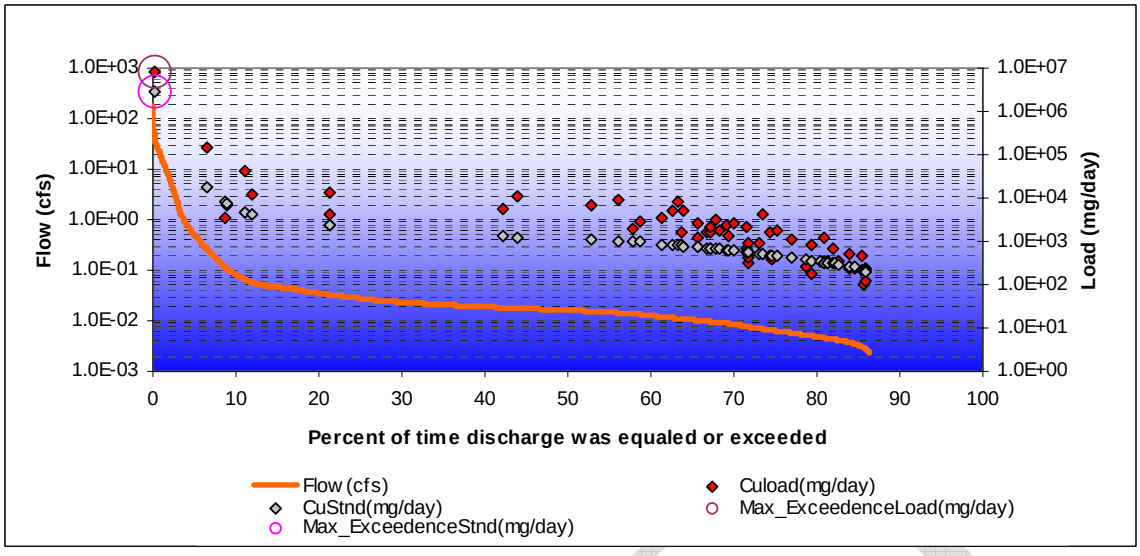
Reduction Percentage	Existing	TMDL	LA	MOS
63%	1.62E+05	5.91E+04	5.61E+04	2.95E+03

Cu loadings at subwatershed 24



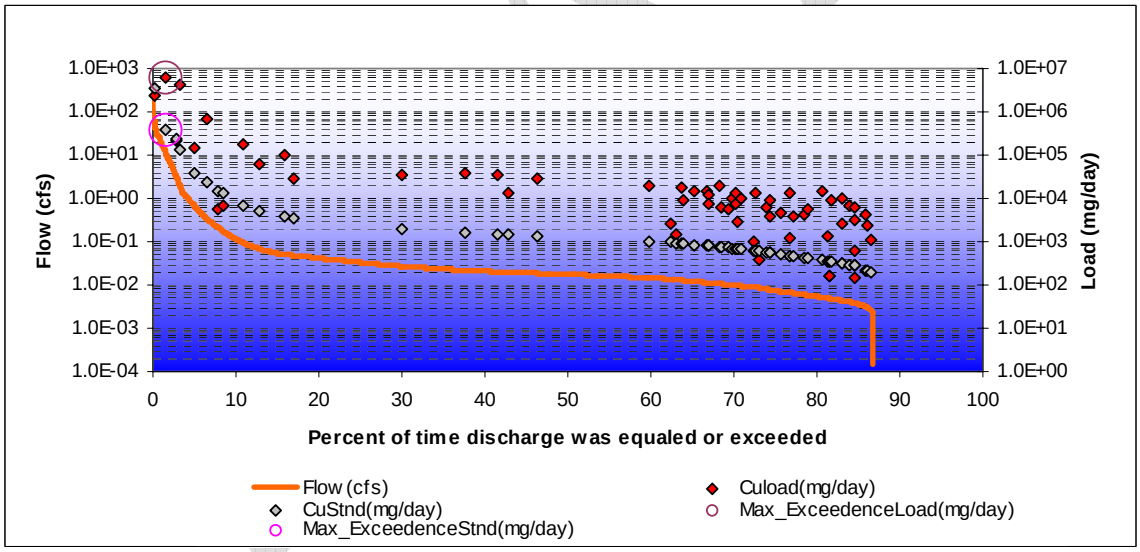
Reduction Percentage	Existing	TMDL	LA	MOS
87%	1.24E+06	1.56E+05	1.48E+05	7.78E+03

Cu loadings at subwatershed 23



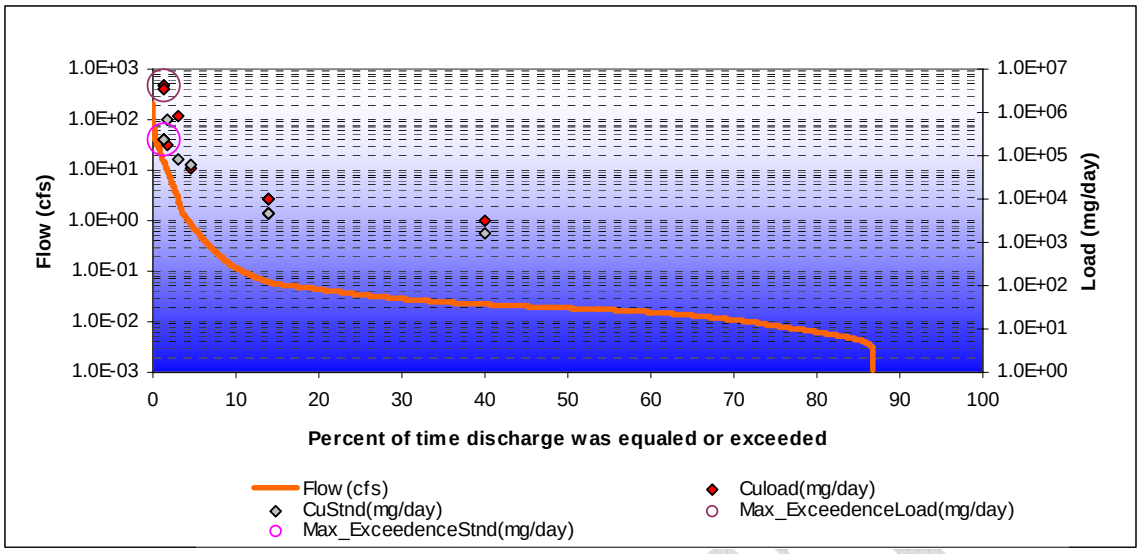
Reduction Percentage	Existing	TMDL	LA	MOS
63%	7.92E+06	2.90E+06	2.76E+06	1.45E+05

Cu loadings at subwatershed 22



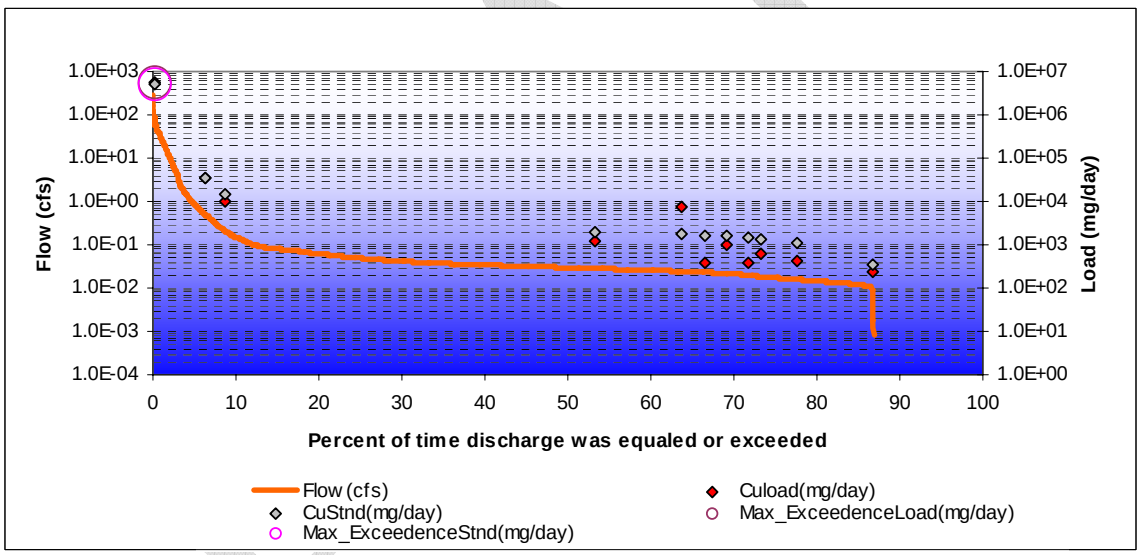
Reduction Percentage	Existing	TMDL	LA	MOS
94%	5.96E+06	3.74E+05	3.56E+05	1.87E+04

Cu loadings at subwatershed 20



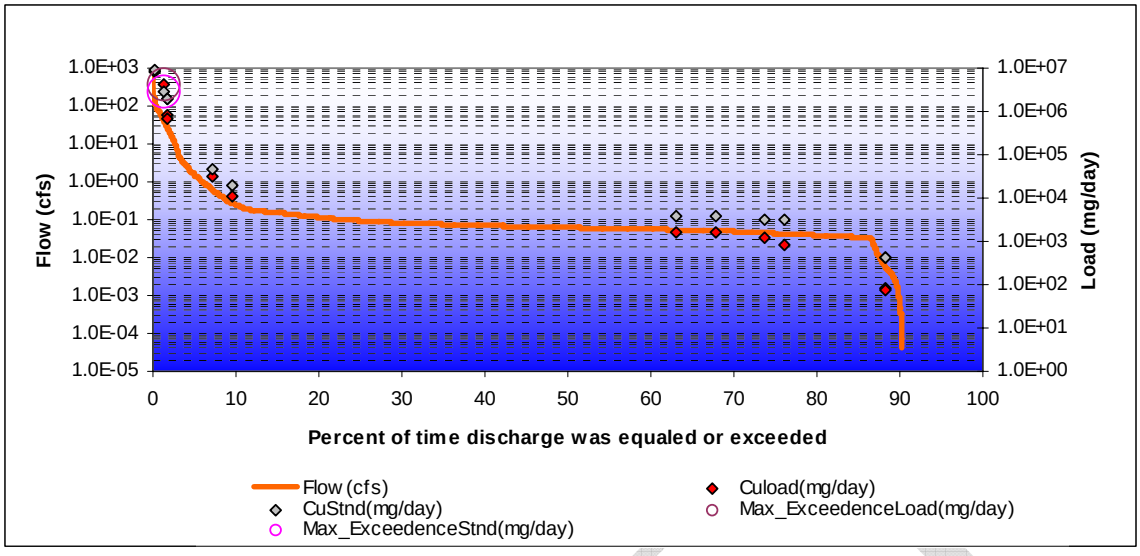
Reduction Percentage	Existing	TMDL	LA	MOS
95%	4.25E+06	2.31E+05	2.20E+05	1.16E+04

Cu loadings at subwatershed 19



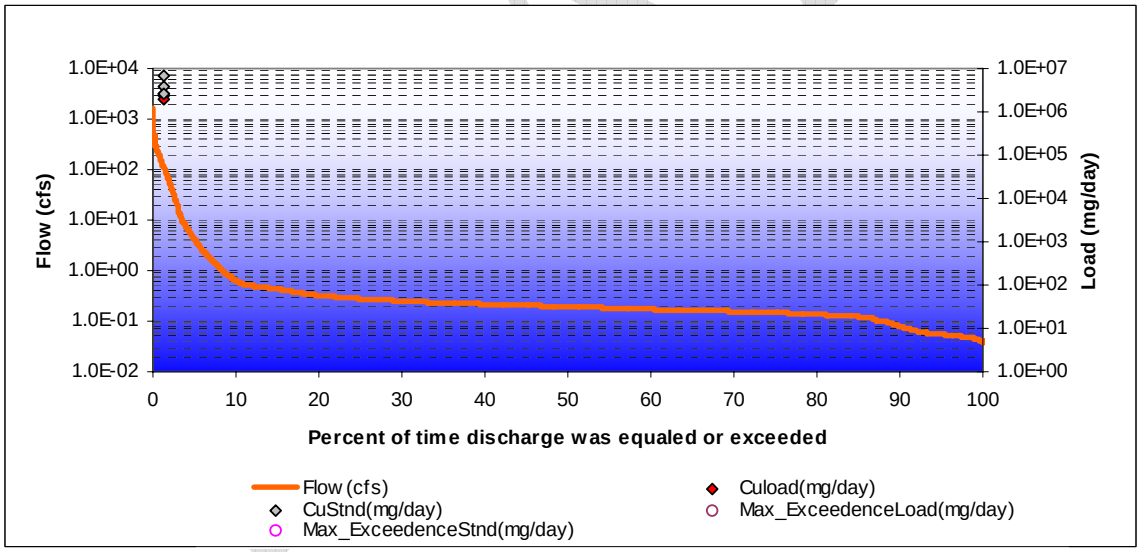
Reduction Percentage	Existing	TMDL	LA	MOS
11%	5.56E+06	4.93E+06	4.68E+06	2.47E+05

Cu loadings at subwatershed 15

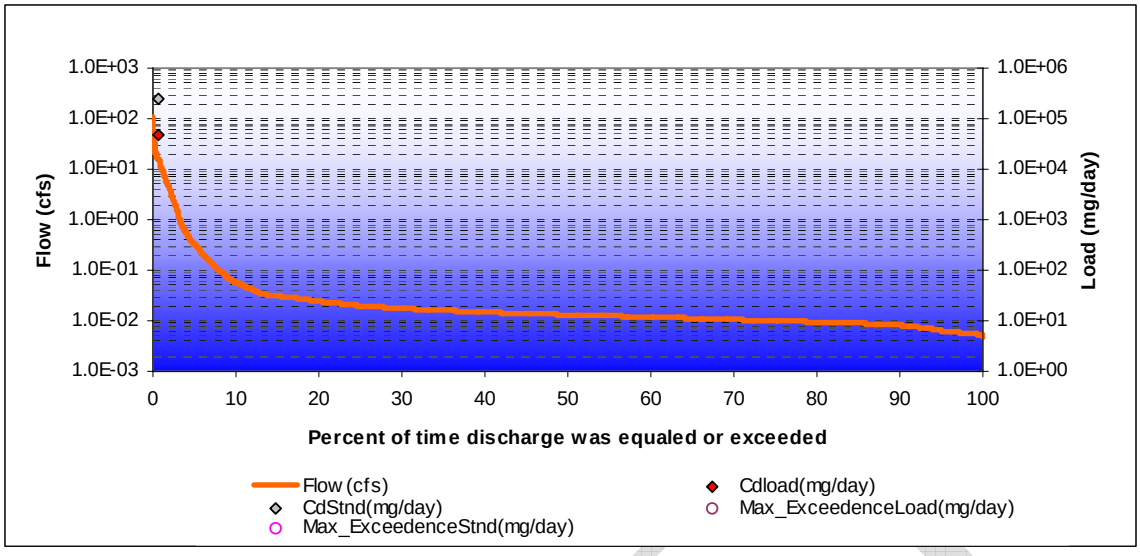


Reduction Percentage	Existing	TMDL	LA	MOS
33%	4.22E+06	2.81E+06	2.67E+06	1.40E+05

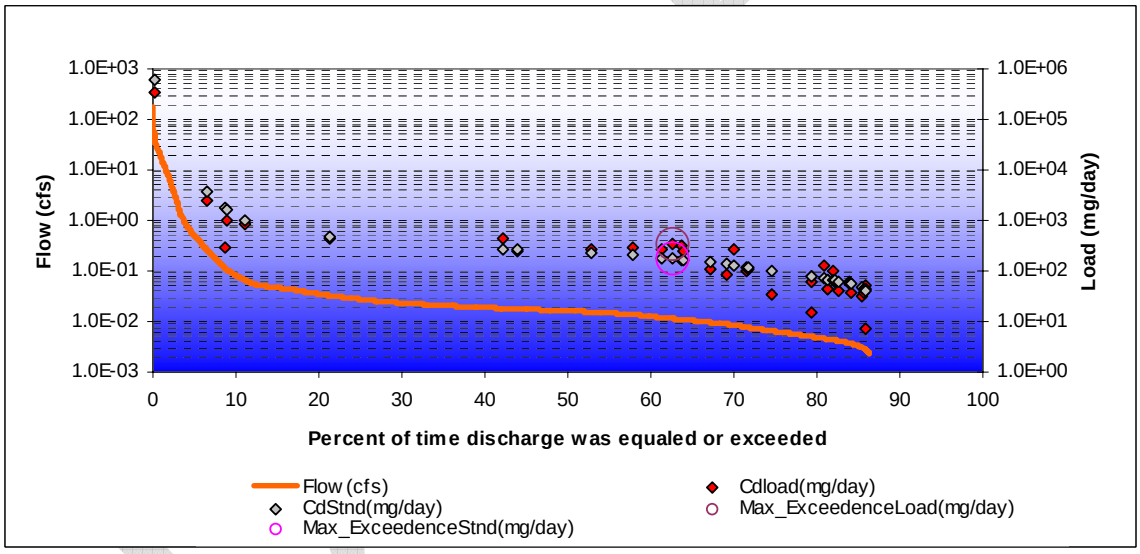
Cu loadings at subwatershed 13



Cu loadings at subwatershed 1

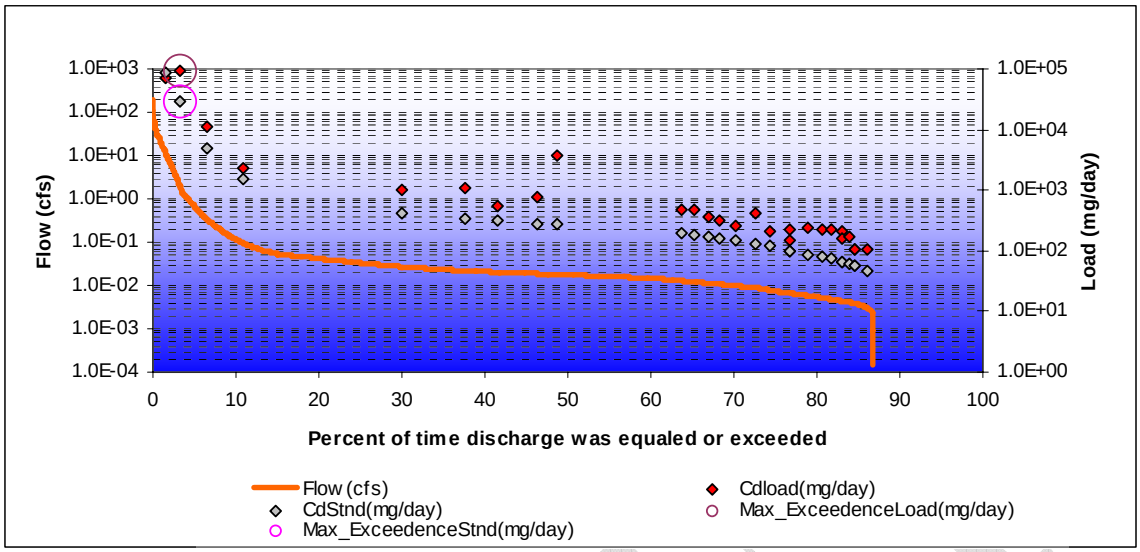


Cd loadings at subwatershed 23



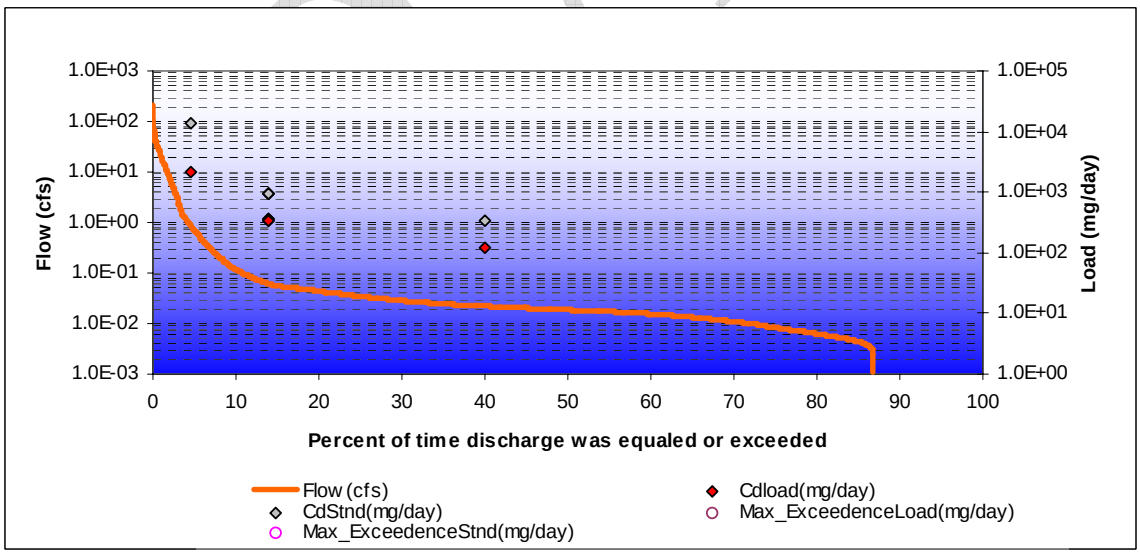
Reduction Percentage	Existing	TMDL	LA	MOS
48%	3.35E+02	1.74E+02	1.65E+02	8.69E+00

Cd loadings at subwatershed 22

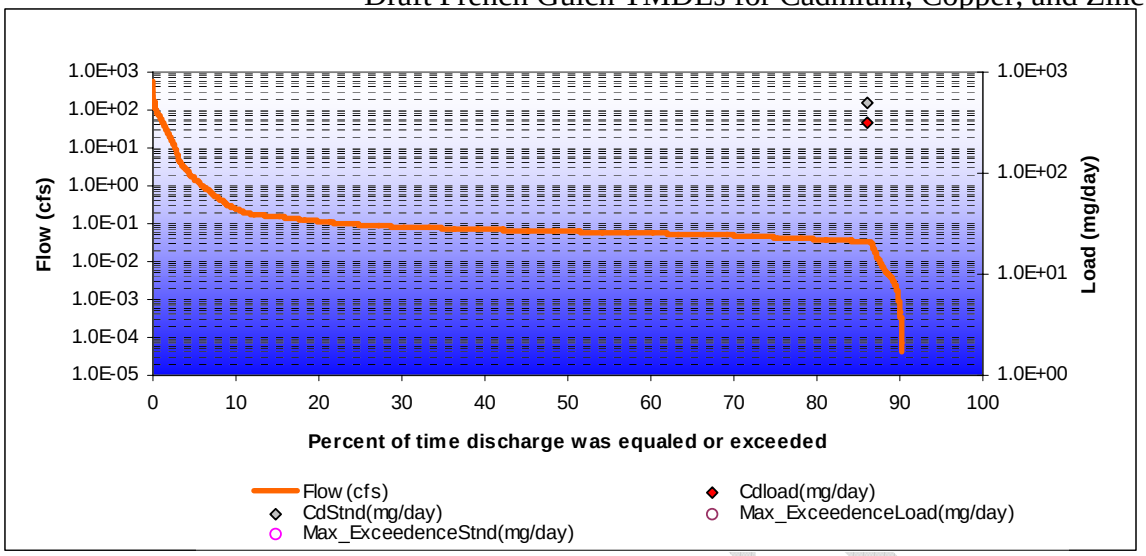


Reduction Percentage	Existing	TMDL	LA	MOS
69%	9.51E+04	2.96E+04	2.81E+04	1.48E+03

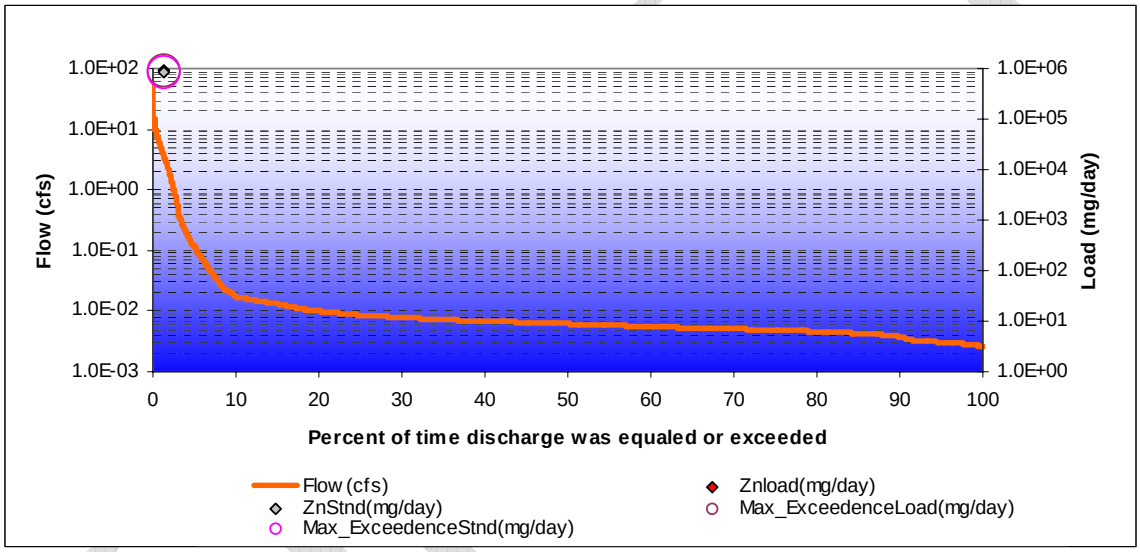
Cd loadings at subwatershed 20



Cd loadings at subwatershed 19

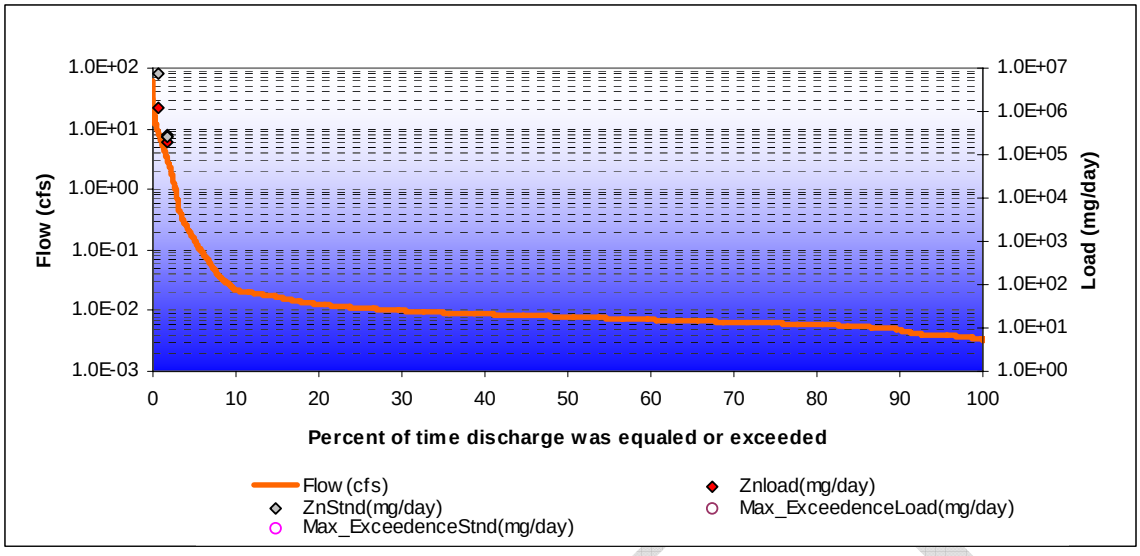


Cd loadings at subwatershed 13

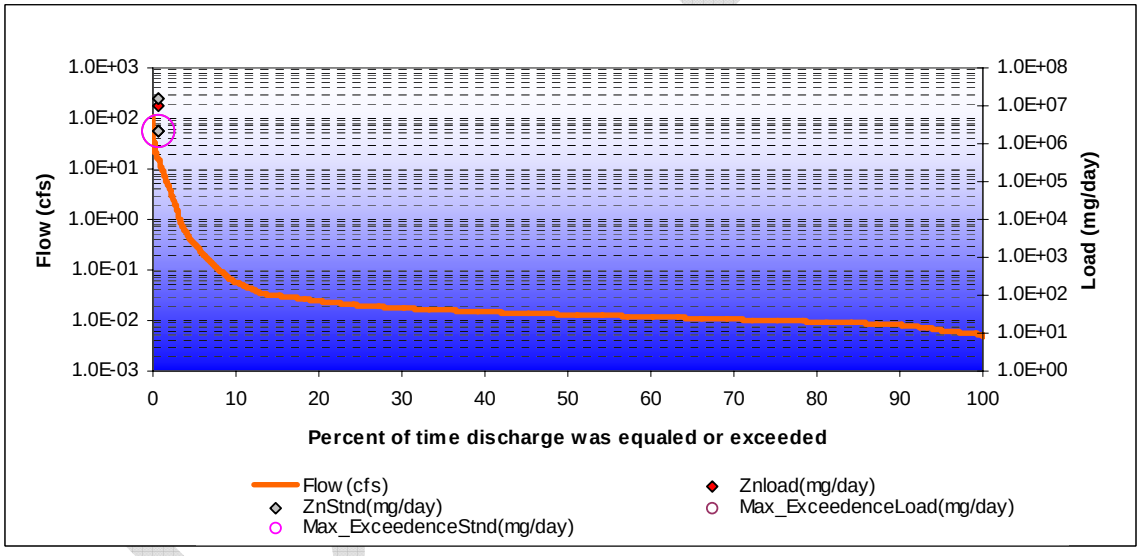


Reduction Percentage	Existing	TMDL	LA	MOS
11%	9.22E+05	8.16E+05	7.75E+05	4.08E+04

Zn loadings at subwatershed 26

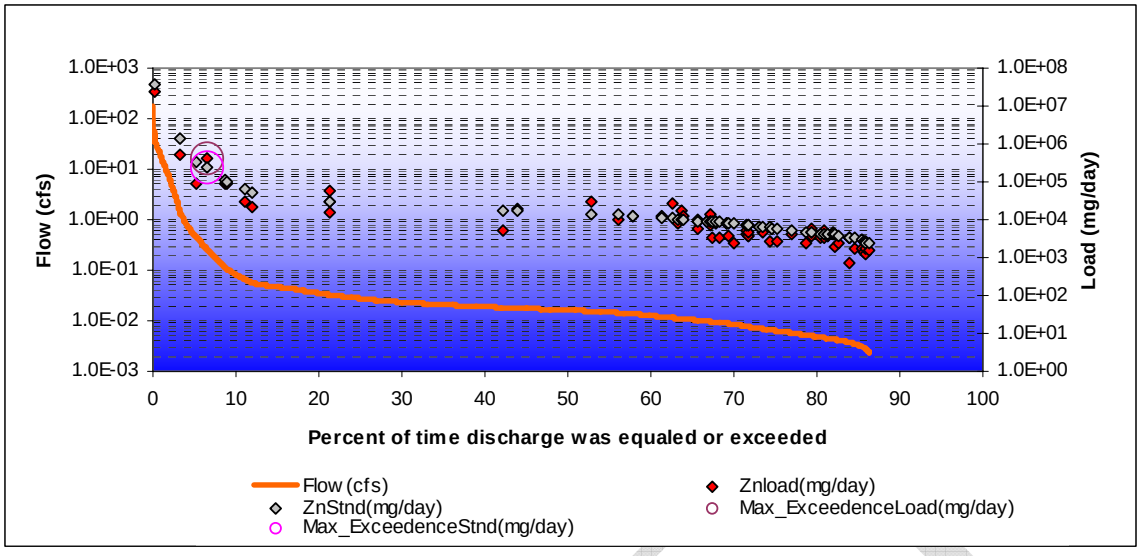


Zn loadings at subwatershed 25



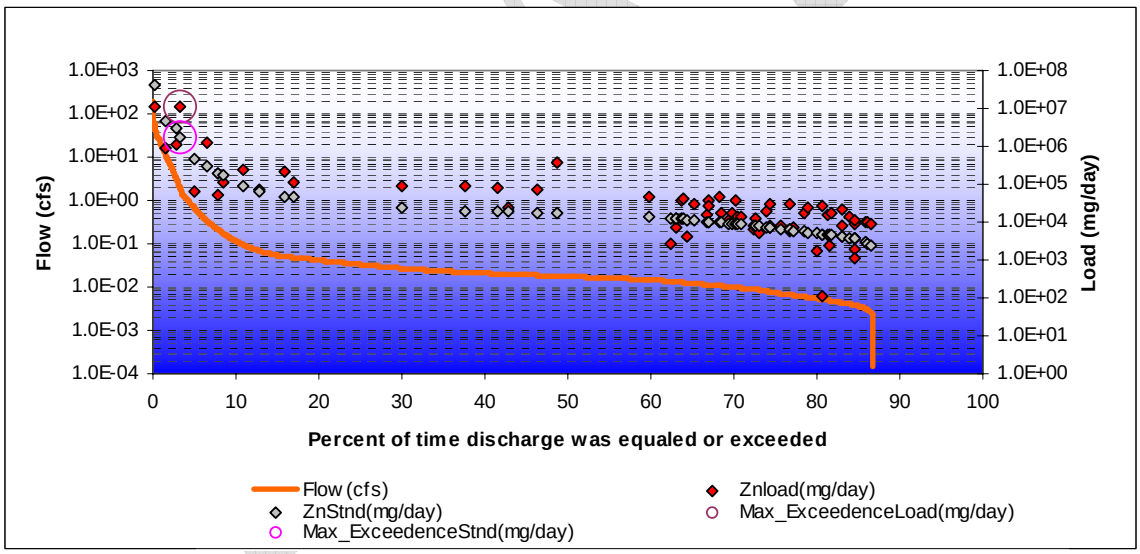
Reduction Percentage	Existing	TMDL	LA	MOS
6%	2.17E+06	2.05E+06	1.95E+06	1.02E+05

Zn loadings at subwatershed 23



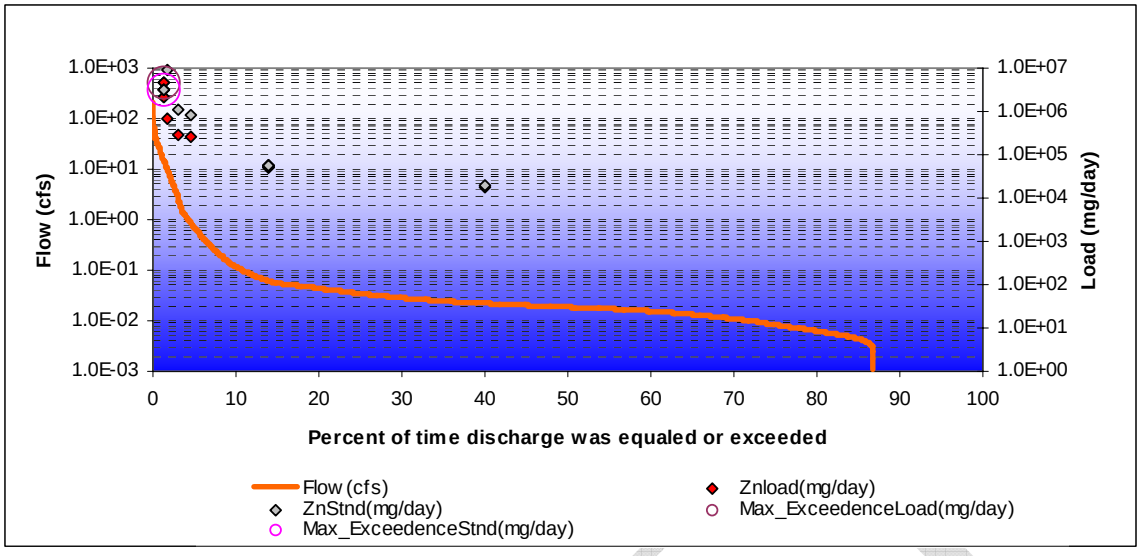
Reduction Percentage	Existing	TMDL	LA	MOS
44%	4.21E+05	2.35E+05	2.23E+05	1.17E+04

Zn loadings at subwatershed 22



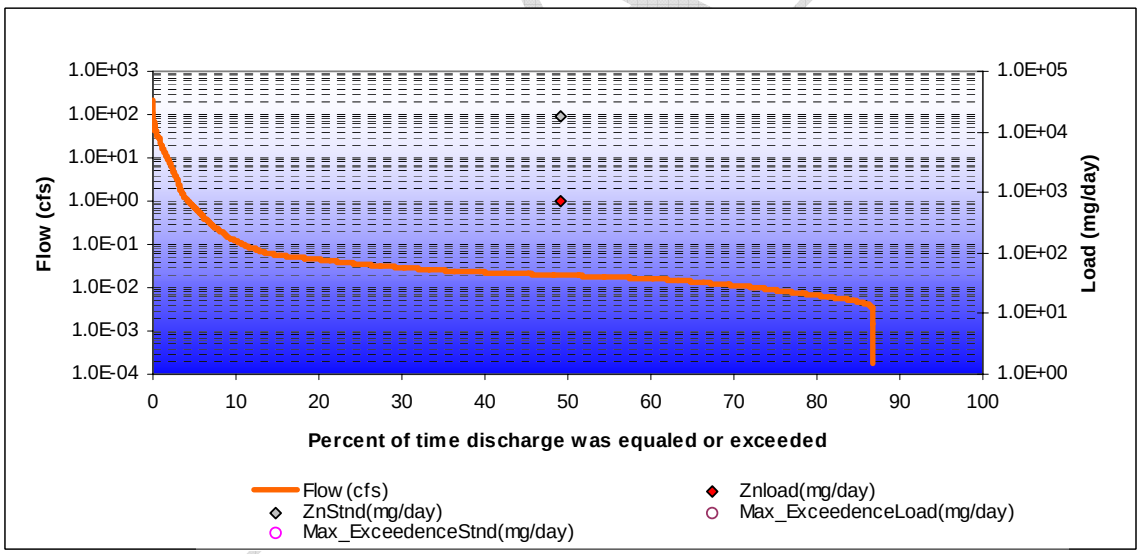
Reduction Percentage	Existing	TMDL	LA	MOS
83%	1.07E+07	1.80E+06	1.71E+06	9.02E+04

Zn loadings at subwatershed 20

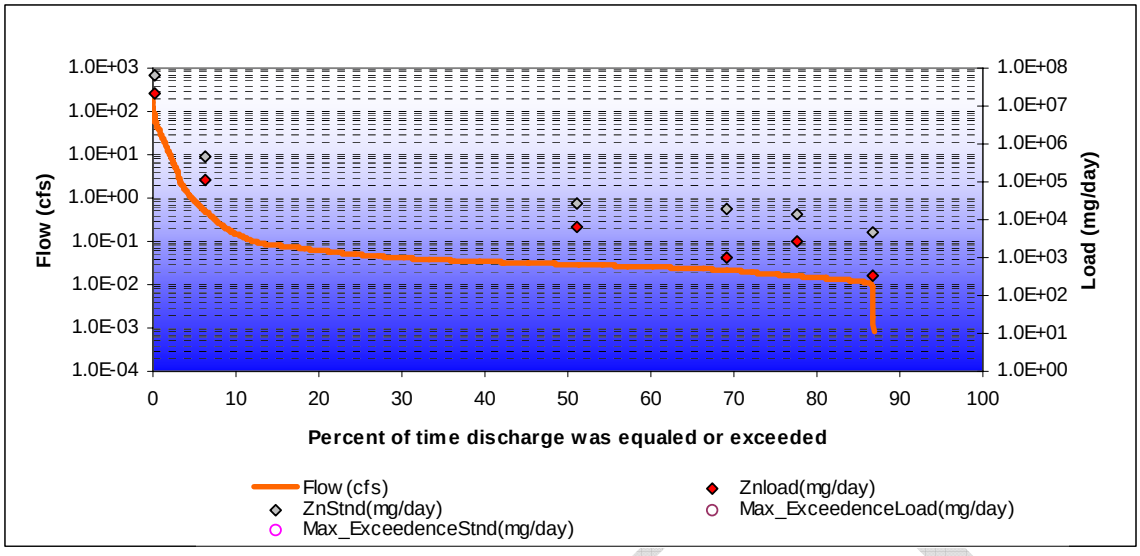


Reduction Percentage	Existing	TMDL	LA	MOS
34%	4.61E+06	3.03E+06	2.88E+06	1.52E+05

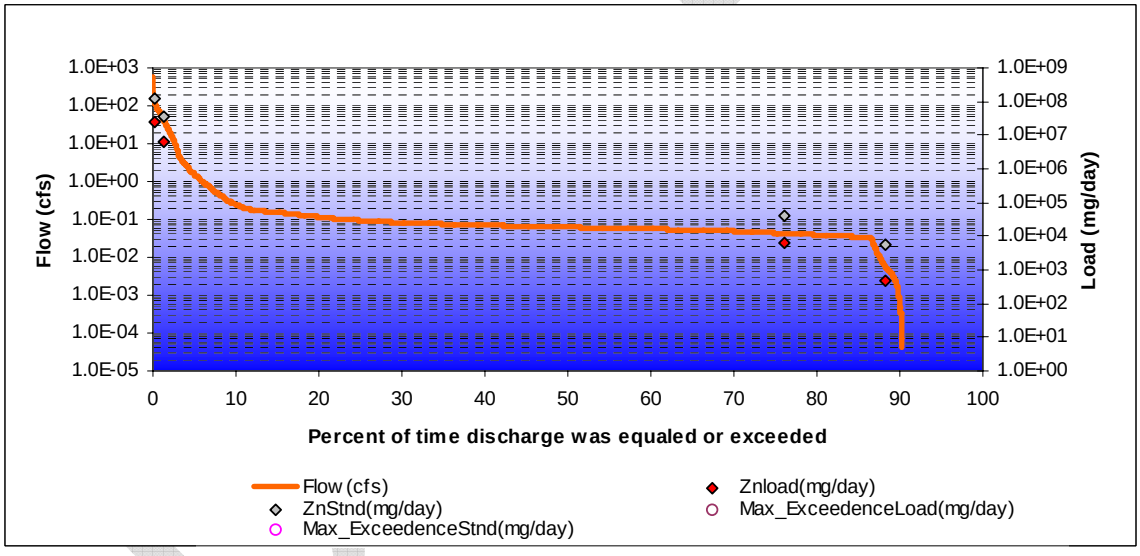
Zn loadings at subwatershed 19



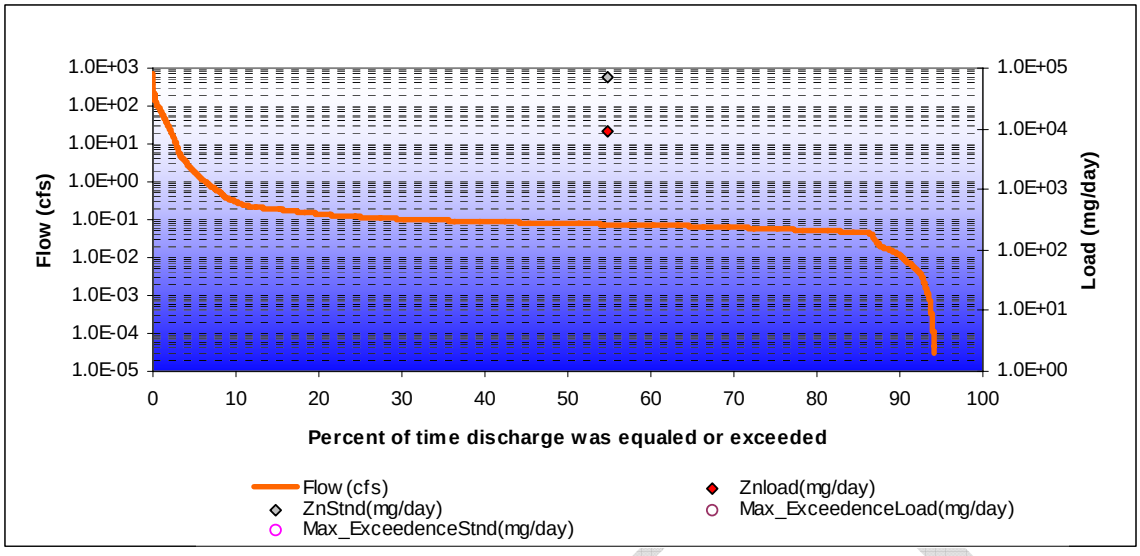
Zn loadings at subwatershed 18



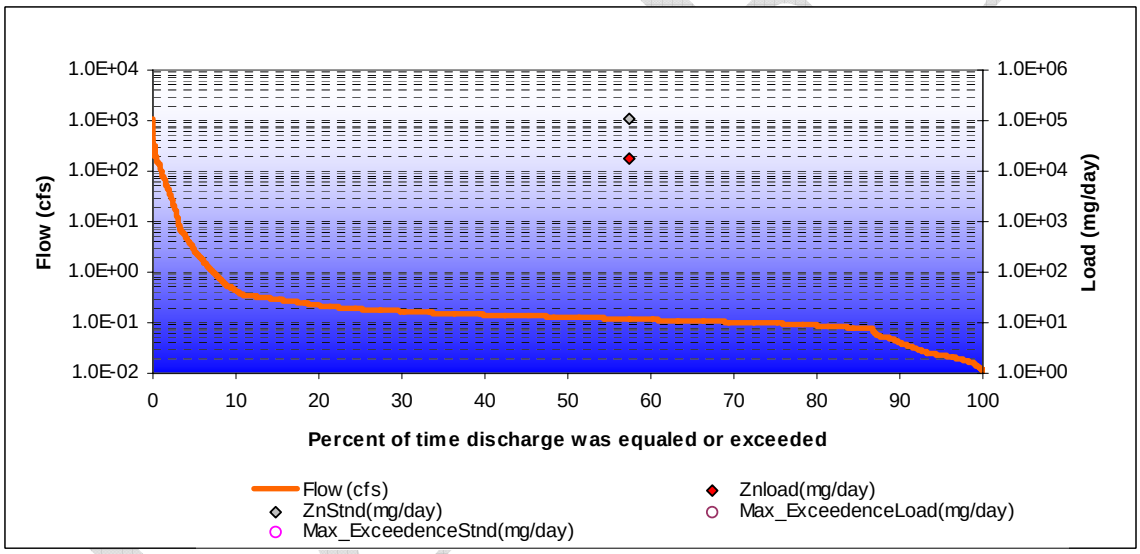
Zn loadings at subwatershed 15



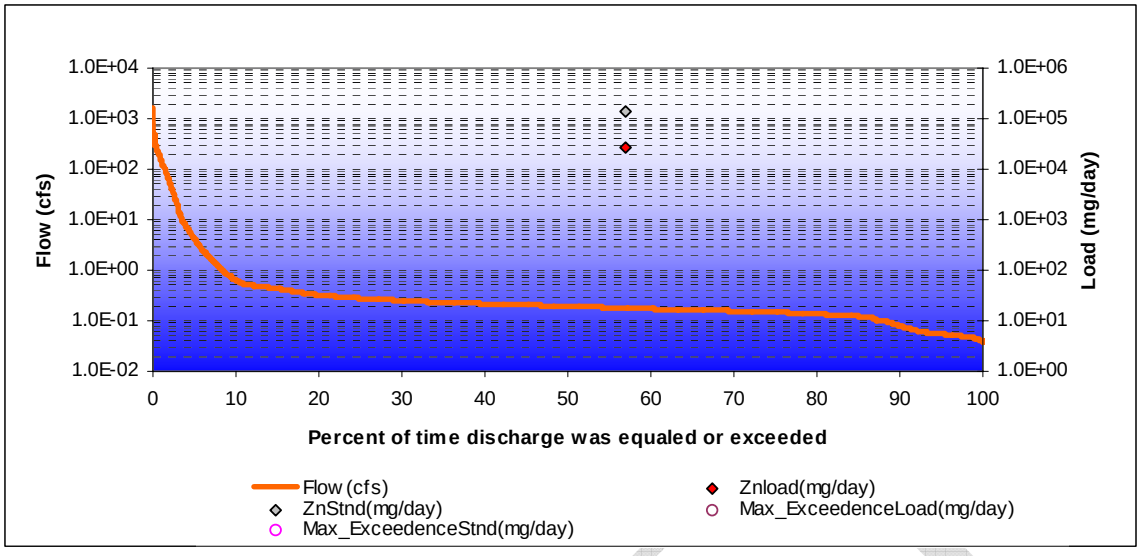
Zn loadings at subwatershed 13



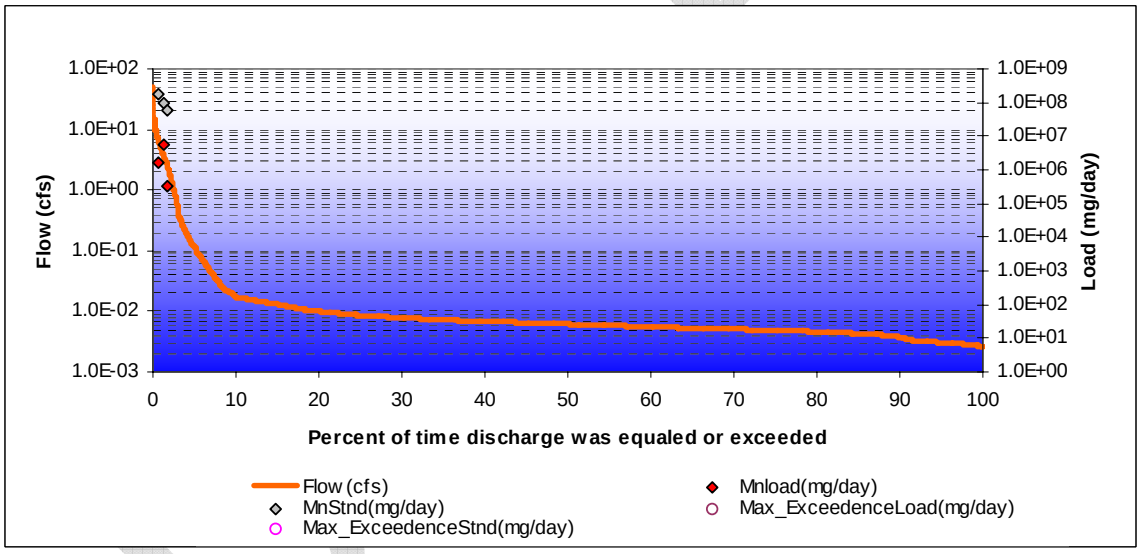
Zn loadings at subwatershed 11



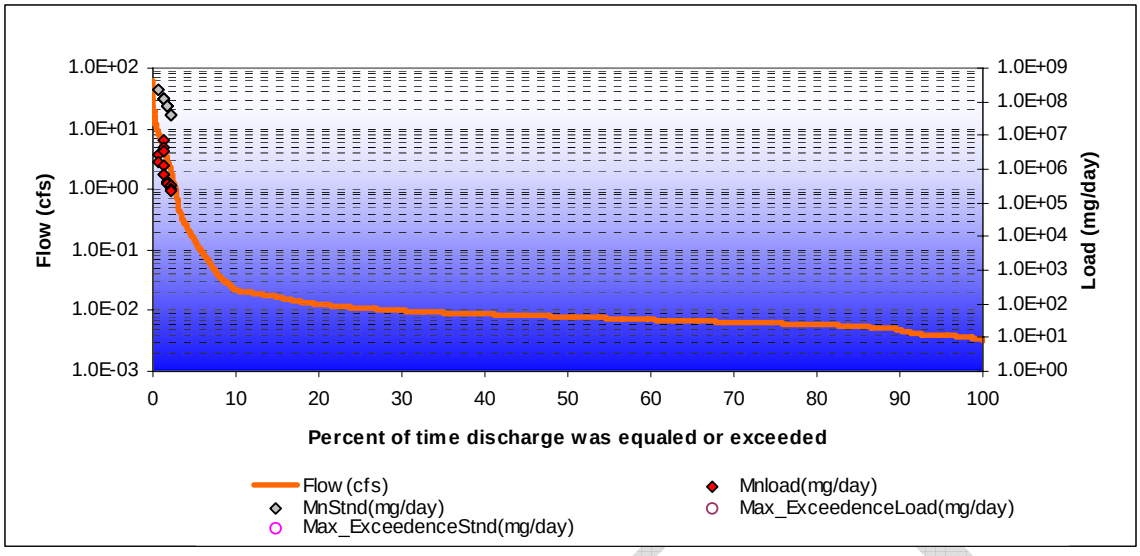
Zn loadings at subwatershed 7



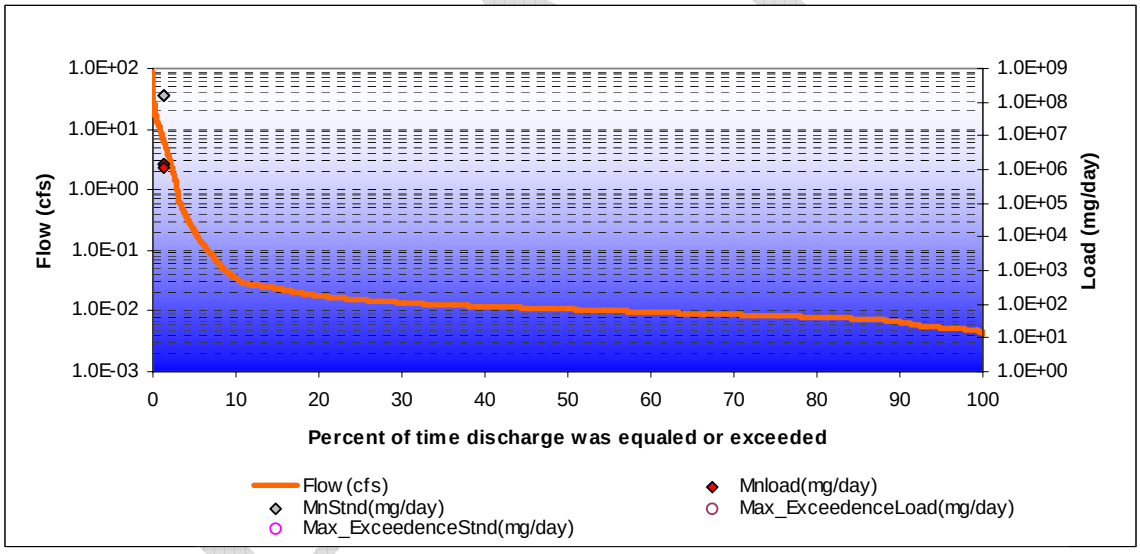
Zn loadings at subwatershed 1



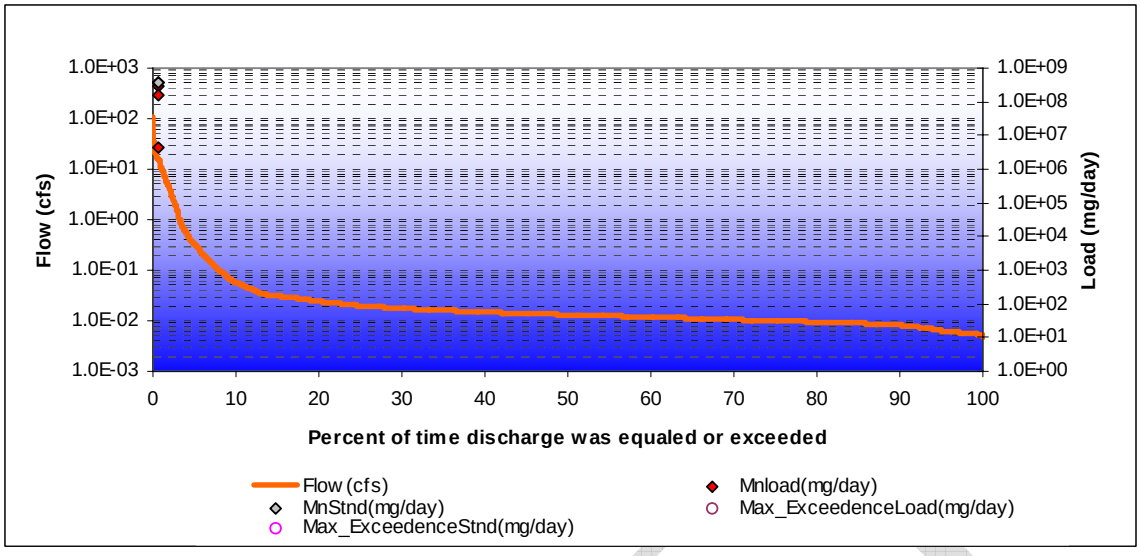
Mn loadings at subwatershed 26



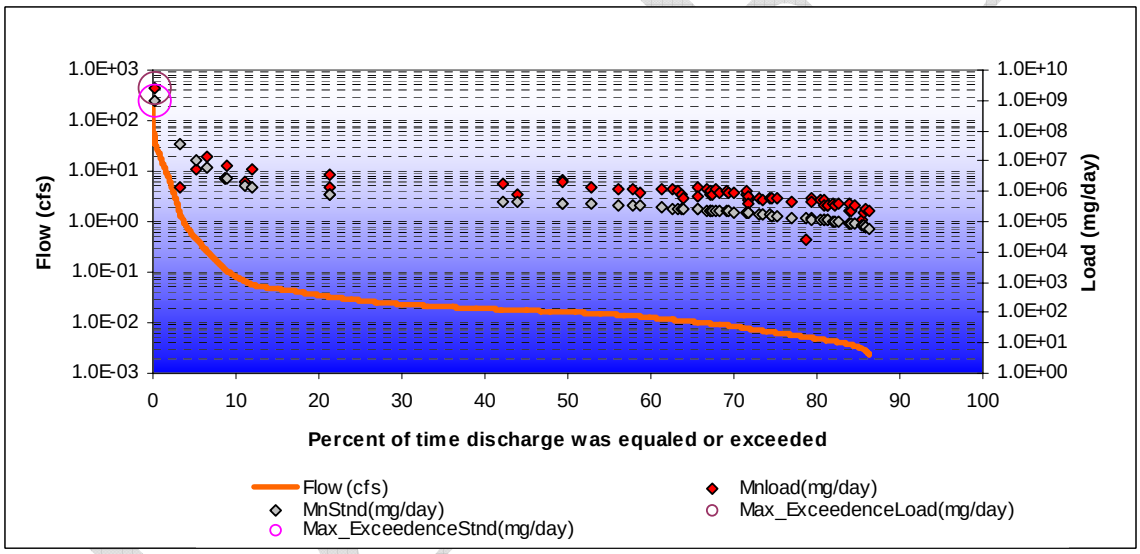
Mn loadings at subwatershed 25



Mn loadings at subwatershed 24

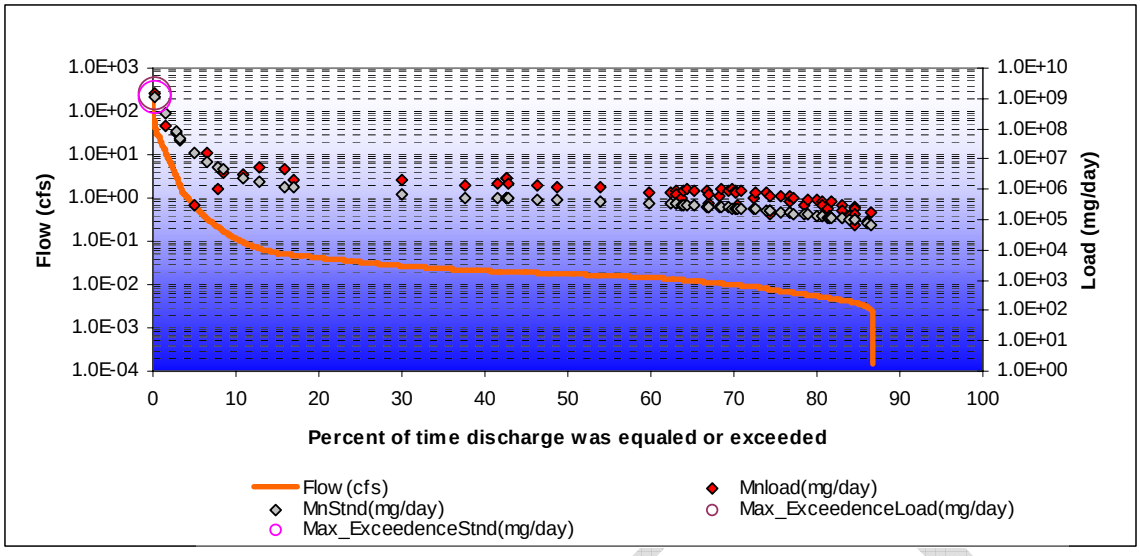


Mn loadings at subwatershed 23



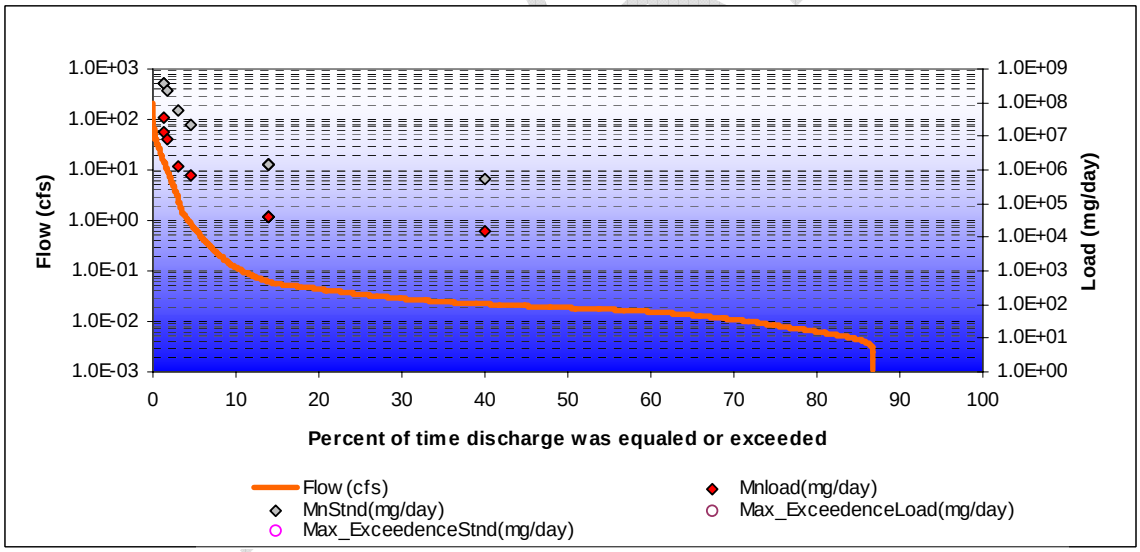
Reduction Percentage	Existing	TMDL	LA	MOS
63%	2.67E+09	9.91E+08	9.41E+08	4.95E+07

Mn loadings at subwatershed 22

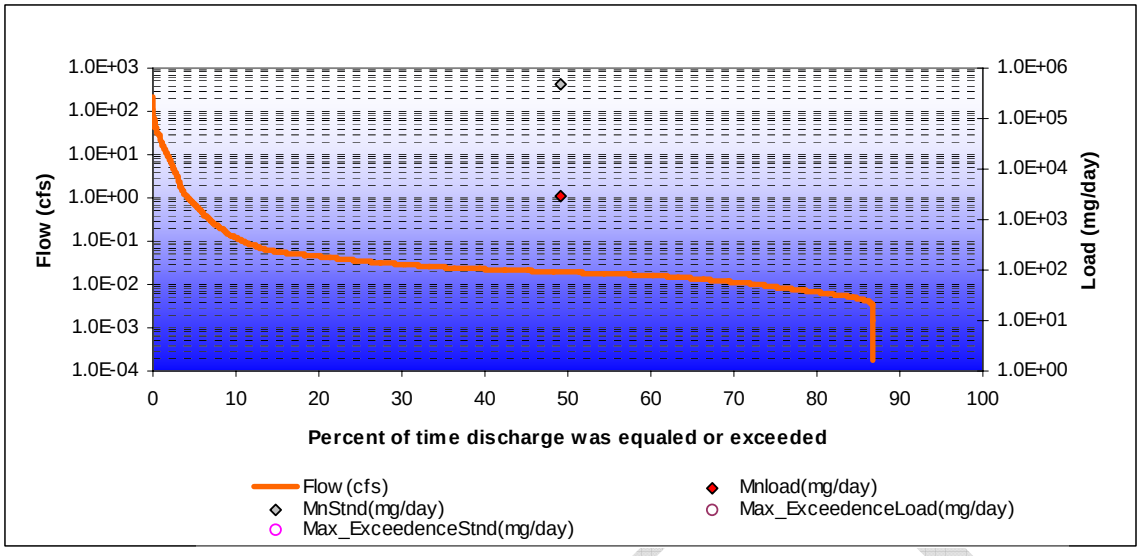


Reduction Percentage	Existing	TMDL	LA	MOS
17%	1.39E+09	1.16E+09	1.10E+09	5.78E+07

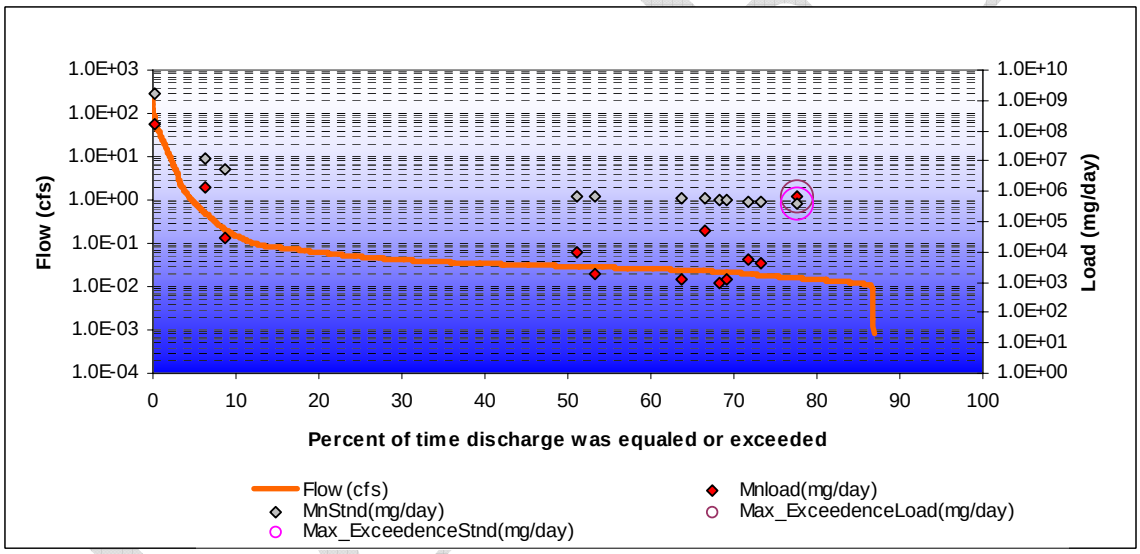
Mn loadings at subwatershed 20



Mn loadings at subwatershed 19

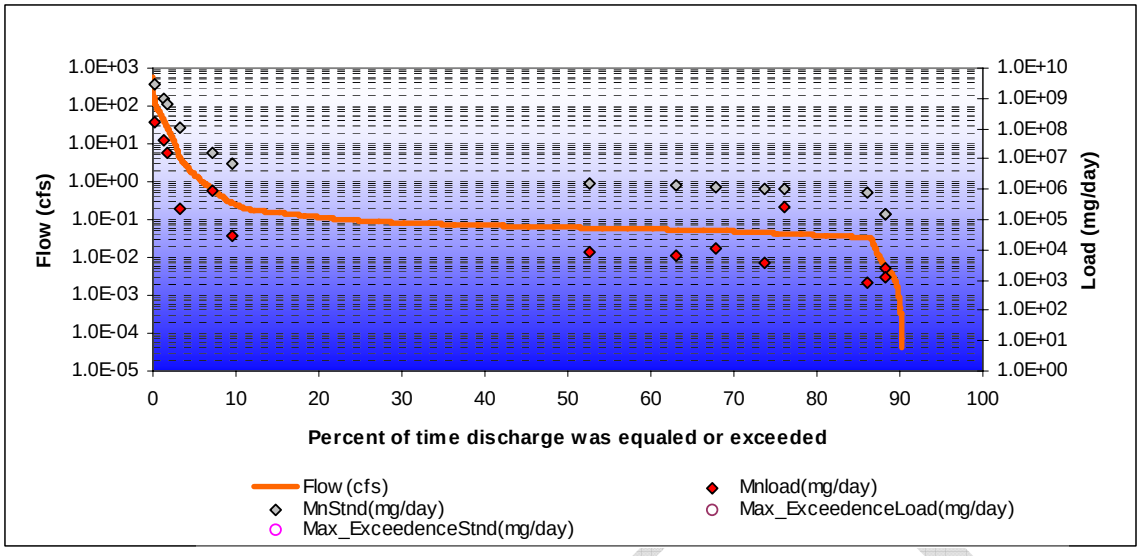


Mn loadings at subwatershed 18

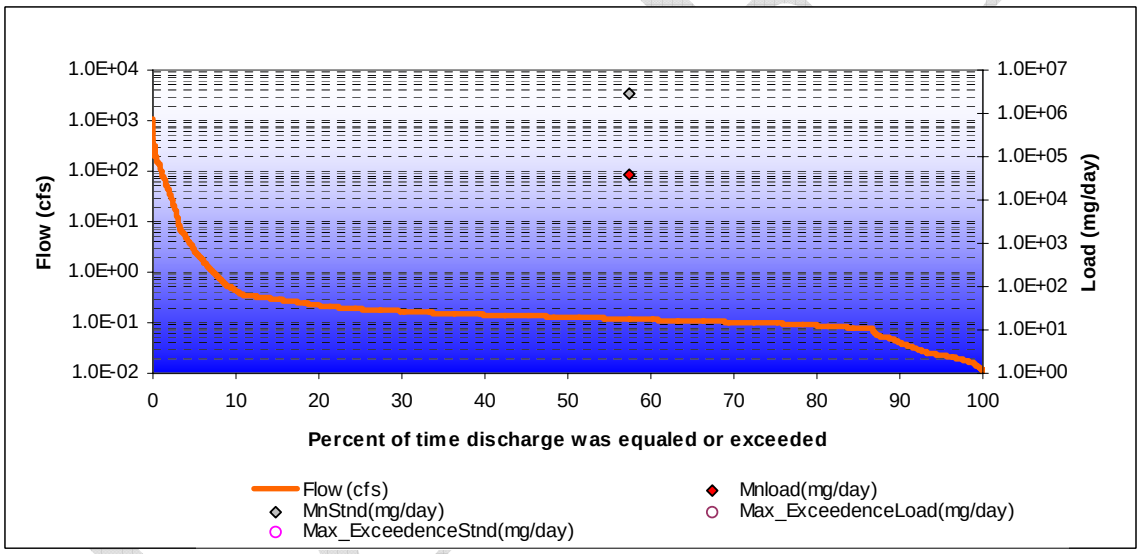


Reduction Percentage	Existing	TMDL	LA	MOS
46%	7.18E+05	3.86E+05	3.67E+05	1.93E+04

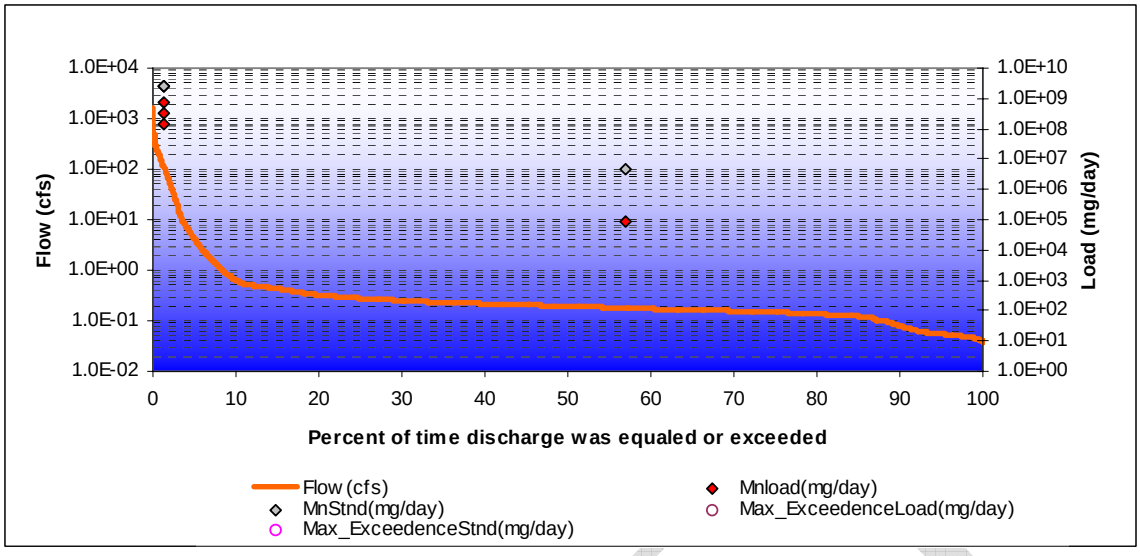
Mn loadings at subwatershed 15



Mn loadings at subwatershed 13



Mn loadings at subwatershed 7



Mn loadings at subwatershed 1

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APPENDIX G
LOADS, TMDLS, AND ALLOCATIONS
USING A 20% MOS and a Re-Calculated %-Reduction

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Table G-1. Region 2 - Cadmium below Zonia Mine

Flow (cfs)	Interval (percentile)	Existing (mg/day)	LA (mg/day)	MOS (mg/day)	TMDL (mg/day)	% reduction
2.11E+02	0.015	3.85E+06	7.02E+05	1.75E+05	8.77E+05	81.77%
5.74E+01	0.15	1.81E+05	1.91E+05	4.78E+04	2.39E+05	no reduction required
1.18E-01	10	6.81E+02	3.94E+02	9.84E+01	4.92E+02	42.14%
4.41E-02	20	2.71E+02	1.47E+02	3.67E+01	1.84E+02	45.76%
2.84E-02	30	1.58E+02	9.44E+01	2.36E+01	1.18E+02	40.25%
2.20E-02	40	1.08E+02	7.33E+01	1.83E+01	9.17E+01	32.13%
1.87E-02	50	8.02E+01	6.21E+01	1.55E+01	7.77E+01	22.57%
1.56E-02	60	6.30E+01	5.20E+01	1.30E+01	6.50E+01	17.46%
1.09E-02	70	5.13E+01	3.62E+01	9.05E+00	4.53E+01	29.43%
6.27E-03	80	4.30E+01	2.09E+01	5.21E+00	2.61E+01	51.40%
0.00E+00	90	3.67E+01	0.00E+00	0.00E+00	0.00E+00	no reduction required

Table G-2. Region 2 - Copper below Zonia Mine

Flow (cfs)	Interval (percentile)	Existing (mg/day)	LA (mg/day)	MOS (mg/day)	TMDL (mg/day)	% reduction
2.11E+02	0.015	5.83E+09	2.69E+06	6.73E+05	3.36E+06	99.95%
5.74E+01	0.15	7.35E+07	7.33E+05	1.83E+05	9.16E+05	99.00%
1.18E-01	10	2.52E+04	1.51E+03	3.77E+02	1.89E+03	94.01%
4.41E-02	20	6.76E+03	5.63E+02	1.41E+02	7.04E+02	91.67%
2.84E-02	30	3.13E+03	3.62E+02	9.05E+01	4.53E+02	88.43%
2.20E-02	40	1.81E+03	2.81E+02	7.03E+01	3.52E+02	84.48%
1.87E-02	50	1.19E+03	2.38E+02	5.96E+01	2.98E+02	80.00%
1.56E-02	60	8.38E+02	1.99E+02	4.99E+01	2.49E+02	76.25%
1.09E-02	70	6.26E+02	1.39E+02	3.47E+01	1.74E+02	77.80%
6.27E-03	80	4.85E+02	8.00E+01	2.00E+01	1.00E+02	83.51%
0.00E+00	90	3.88E+02	0.00E+00	0.00E+00	0.00E+00	no reduction required

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Table G-3. Region 2 - Zinc below Zonia Mine

Flow (cfs)	Interval (percentile)	Existing (mg/day)	LA (mg/day)	MOS (mg/day)	TMDL (mg/day)	% reduction
2.11E+02	0.015	1.19E+09	1.88E+07	4.71E+06	2.36E+07	98.42%
5.74E+01	0.15	4.48E+07	9.57E+06	2.39E+06	1.20E+07	78.64%
1.18E-01	10	1.13E+05	1.98E+04	4.94E+03	2.47E+04	82.48%
4.41E-02	20	4.20E+04	7.37E+03	1.84E+03	9.22E+03	82.45%
2.84E-02	30	2.35E+04	4.75E+03	1.19E+03	5.94E+03	79.79%
2.20E-02	40	1.56E+04	3.69E+03	9.22E+02	4.61E+03	76.35%
1.87E-02	50	1.14E+04	3.12E+03	7.81E+02	3.91E+03	72.63%
1.56E-02	60	8.76E+03	2.62E+03	6.54E+02	3.27E+03	70.09%
1.09E-02	70	7.04E+03	1.82E+03	4.55E+02	2.27E+03	74.15%
6.27E-03	80	5.82E+03	1.05E+03	2.62E+02	1.31E+03	81.96%
0.00E+00	90	4.92E+03	0.00E+00	0.00E+00	0.00E+00	no reduction required

Table G-4. Region 3 - Copper below Placerita Gulch

Flow(cfs)	Interval (percentile)	Existing (mg/day)	LA (mg/day)	MOS (mg/day)	TMDL (mg/day)	% reduction
5.60E+02	0.015	3.58E+09	3.21E+07	8.02E+06	4.01E+07	99.10%
1.62E+02	0.135	7.11E+07	9.26E+06	2.31E+06	1.16E+07	86.98%
2.50E-01	10	3.29E+04	1.43E+04	3.58E+03	1.79E+04	56.53%
1.16E-01	20	9.57E+03	6.64E+03	1.66E+03	8.30E+03	30.62%
8.24E-02	30	4.65E+03	4.72E+03	1.18E+03	5.90E+03	no reduction required
7.00E-02	40	2.78E+03	4.01E+03	1.00E+03	5.02E+03	no reduction required
6.20E-02	50	1.87E+03	3.55E+03	8.88E+02	4.44E+03	no reduction required
5.58E-02	60	1.35E+03	3.20E+03	7.99E+02	3.99E+03	no reduction required
4.90E-02	70	1.03E+03	2.81E+03	7.01E+02	3.51E+03	no reduction required
3.90E-02	80	8.08E+02	2.23E+03	5.58E+02	2.79E+03	no reduction required
6.48E-04	90	6.55E+02	3.71E+01	9.28E+00	4.64E+01	no reduction required

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Table G-5. Region 3 - Zinc below Placerita Gulch

Flow (cfs)	Interval (percentile)	Existing (mg/day)	LA (mg/day)	MOS (mg/day)	TMDL (mg/day)	% reduction
5.60E+02	0.015	5.39E+09	2.11E+08	5.27E+07	2.64E+08	96.09%
1.62E+02	0.135	1.24E+08	1.17E+08	2.92E+07	1.46E+08	no reduction required
2.50E-01	10	7.69E+04	1.85E+05	4.63E+04	2.32E+05	no reduction required
1.16E-01	20	2.34E+04	8.60E+04	2.15E+04	1.08E+05	no reduction required
8.24E-02	30	1.17E+04	6.12E+04	1.53E+04	7.64E+04	no reduction required
7.00E-02	40	7.13E+03	5.20E+04	1.30E+04	6.50E+04	no reduction required
6.20E-02	50	4.86E+03	4.60E+04	1.15E+04	5.75E+04	no reduction required
5.58E-02	60	3.56E+03	4.14E+04	1.03E+04	5.17E+04	no reduction required
4.90E-02	70	2.73E+03	3.63E+04	9.08E+03	4.54E+04	no reduction required
3.90E-02	80	2.17E+03	2.89E+04	7.23E+03	3.62E+04	no reduction required
6.48E-04	90	1.77E+03	4.04E+02	1.01E+02	5.06E+02	77.18%

Table G-6 Copper - Subwatershed 26

Flow (cfs)	Interval (percentile)	Existing (mg/day)	LA (mg/day)	MOS (mg/day)	TMDL (mg/day)	% reduction
1.50E+01	0.12	6.49E+04	1.55E+04	3.88E+03	1.94E+04	76.09%

Table G-7 Zinc - Subwatershed 26

Flow (cfs)	Interval (percentile)	Existing (mg/day)	LA (mg/day)	MOS (mg/day)	TMDL (mg/day)	% reduction
1.50E+01	0.12	9.22E+05	6.53E+05	1.63E+05	8.16E+05	29.18%

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