

Appendix D

Dissolved Metals Data, Water Quality Criteria Violations & Summary Statistics

STATION	DISSOLVED/CLEAN METALS (ug/L)																	
	Cr	Mn	Ni	Cu	Zn	As	Se	Ag	Cd	Sb	Hg	Tl	Pb	Al	Ba	Ca	Mg	Fe
Anderson Ferry																		
# Samples	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
# Detects	20	23	23	23	15	23	10	0	0	22	1	0	3	23	23	23	23	1
Maximum	1.3	9.7	2.1	2.0	3.7	1.4	0.7	0	0	0.3	0.00154	0	0.2	9.8	62.0	40200	15000	118.0
Minimum	0.1	0.9	1.2	1.0	1.0	0.4	0.5	0	0	0.1	0	0	0.1	4.3	33.0	21000	6900	0
Mean	0.3	5.0	1.6	1.5	1.9	0.9	0.6	0	0	0.2	0.00007	0	0.2	7.3	39.6	32243	10294	0
Std. Deviation	0.3	3.5	0.3	0.3	0.8	0.3	0.1	0	0	0.1	0.00032	0	0.1	1.7	6.9	4728	2189	0
Belleville																		
# Samples	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
# Detects	12	19	19	19	14	19	9	0	0	13	1	0	0	19	19	19	19	0
Maximum	1.0	9.4	3.0	3.1	3.2	1.5	0.7	0	0	0.3	0.00193	0	0	8.1	52.0	48900	13600	0
Minimum	0.1	0.5	1.2	0.8	1.0	0.3	0.5	0	0	0.1	0	0	0	3.8	31.0	25500	6000	0
Mean	0.3	3.2	2.1	1.6	1.8	0.7	0.6	0	0	0.2	0.00010	0	0	6.1	40.5	34547	9715	0
Std. Deviation	0.3	3.2	0.5	0.6	0.8	0.3	0.1	0	0	0.1	0.00044	0	0	1.5	7.3	6677	2468	0
Cannelton																		
# Samples	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
# Detects	7	8	8	8	4	8	4	0	0	3	0	0	0	8	8	8	8	0
Maximum	1.0	3.2	1.5	1.8	3.6	1.3	0.7	0	0	0.2	0	0	0	9.4	34.0	38000	9000	0
Minimum	0.2	0.7	0.9	1.0	1.1	0.3	0.5	0	0	0.2	0	0	0	3.7	31.0	29000	7600	0
Mean	0.6	1.6	1.2	1.3	2.1	0.7	0.6	0	0	0.2	0	0	0	7.0	32.1	32050	8288	0
Std. Deviation	0.3	0.9	0.2	0.3	1.3	0.4	0.1	0	0	0.0	0	0	0	1.8	1.4	2882	461.2	0
Greenup																		
# Samples	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
# Detects	3	4	4	4	3	4	2	0	1	4	0	0	0	4	4	4	4	0
Maximum	0.8	67.0	2.7	1.6	2.5	0.7	0.6	0	0.1	0.2	0	0	0	13.0	38.0	32000	8100	0
Minimum	0.1	2.2	1.2	0.9	1.5	0.3	0.6	0	0.1	0.1	0	0	0	8.9	27.0	24000	5700	0
Mean	0.4	23.3	1.9	1.2	1.9	0.4	0.6	0	0.1	0.1	0	0	0	11.5	33.8	28200	7450	0
Std. Deviation	0.3	29.6	0.7	0.3	0.5	0.2	0.0	0	0	0.0	0	0	0	1.8	4.8	3525	1168	0
Hannibal																		
# Samples	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
# Detects	8	8	8	8	4	8	7	0	0	6	1	0	0	8	8	8	8	0
Maximum	0.7	76.0	2.1	2.7	2.7	1.1	0.8	0	0	0.3	0.00289	0	0	14.0	51.0	43800	11900	0
Minimum	0.1	1.5	1.6	1.6	1.1	0.3	0.6	0	0	0.2	0	0	0	4.8	34.0	23000	5700	0
Mean	0.3	25.5	1.8	2.0	1.8	0.7	0.6	0	0	0.2	0.00036	0	0	10.3	41.6	32588	8096	0
Std. Deviation	0.2	31.8	0.2	0.4	0.7	0.3	0.1	0	0	0.1	0.00102	0	0	3.3	6.2	6864	2162	0
JT Myers																		
# Samples	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
# Detects	15	20	20	20	8	20	7	0	0	19	1	0	3	20	20	20	20	0
Maximum	1.5	37.0	2.1	2.7	5.4	1.8	0.9	0	0	0.3	0.00150	0	0.1	15.0	48.0	47600.0	15000.0	0
Minimum	0.1	0.2	0.9	0.7	1.1	0.4	0.5	0	0	0.1	0	0	0.1	2.7	25.0	23000.0	6440.0	0
Mean	0.3	5.0	1.4	1.5	2.2	1.1	0.6	0	0	0.2	0.00008	0	0.1	6.3	37.1	37042.0	10433.0	0
Std. Deviation	0.4	9.3	0.3	0.5	1.5	0.4	0.1	0	0	0.1	0.00034	0	0.0	2.8	6.4	5762.5	2406.8	0
Lock & Dam #52																		
# Samples	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
# Detects	4	7	7	7	5	7	3	0	0	4	1	0	0	7	7	7	7	0
Maximum	1.1	15.0	1.6	1.8	1.8	1.6	0.6	0	0	0.2	0.00192	0	0	25.0	43.0	39000	9900	0
Minimum	0.2	2.7	0.9	1.2	1.0	0.4	0.5	0	0	0.1	0	0	0	3.8	31.0	32000	7900	0
Mean	0.6	7.3	1.3	1.5	1.5	0.9	0.6	0	0	0.2	0.00027	0	0	8.1	35.4	36300	9131	0
Std. Deviation	0.5	4.7	0.2	0.2	0.3	0.4	0.1	0	0	0	0.00073	0	0	7.5	4.3	2665	780	0
Louisville																		
# Samples	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
# Detects	7	9	9	9	4	9	4	0	1	8	0	0	1	9	9	9	9	0
Maximum	0.7	24.0	1.7	1.8	4.4	1.9	0.6	0	0.1	0.4	0	0	0.1	34.0	46.0	38000	13800	0
Minimum	0.1	4.6	1.0	0.8	1.4	0.4	0.5	0	0.1	0.1	0	0	0.1	4.5	30.0	28000	8400	0
Mean	0.4	9.0	1.3	1.4	2.3	1.1	0.6	0	0.1	0.2	0	0	0.1	10.5	36.7	36222	9556	0

<u>STATION</u>	<u>DISSOLVED/CLEAN METALS (ug/L)</u>																	
	<u>Cr</u>	<u>Mn</u>	<u>Ni</u>	<u>Cu</u>	<u>Zn</u>	<u>As</u>	<u>Se</u>	<u>Ag</u>	<u>Cd</u>	<u>Sb</u>	<u>Hg</u>	<u>Tl</u>	<u>Pb</u>	<u>Al</u>	<u>Ba</u>	<u>Ca</u>	<u>Mg</u>	<u>Fe</u>
Std. Deviation	0.3	6.5	0.3	0.3	1.4	0.6	0	0	0	0.1	0	0	0	9.0	5.9	3323	1783	0
<u>Markland</u>																		
# Samples	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
# Detects	6	6	6	6	5	6	6	0	0	5	0	0	0	6	6	6	6	0
Maximum	1.1	25.0	2.0	2.0	2.7	1.3	0.6	0	0	0.2	0	0	0	13.0	44.0	38000	10400	0
Minimum	0.1	2.1	1.2	1.0	1.1	0.3	0.5	0	0	0.1	0	0	0	5.1	28.0	28000	7200	0
Mean	0.5	7.5	1.5	1.5	1.5	0.7	0.6	0	0	0.1	0	0	0	8.5	36.5	32817	8800	0
Std. Deviation	0.4	8.7	0.3	0.4	0.7	0.4	0.1	0	0	0	0	0	0	2.6	5.9	3976	1110	0
<u>Meldahl</u>																		
# Samples	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
# Detects	4	7	7	7	5	7	5	0	0	6	0	0	1	7	7	7	7	0
Maximum	1.1	27.0	2.4	1.7	5.3	1.4	0.8	0	0	0.4	0	0	0.1	14.0	64.0	38700	14800	0
Minimum	0.1	0.3	1.2	0.9	1.0	0.3	0.5	0	0	0.1	0	0	0.1	4.2	27.0	25000	6600	0
Mean	0.6	6.5	1.6	1.4	3.1	0.8	0.7	0	0	0.2	0	0	0.1	8.5	39.1	30500	9000	0
Std. Deviation	0.5	9.4	0.4	0.3	1.6	0.4	0.1	0	0	0.1	0	0	0	3.9	12.1	4226	2810	0
<u>New Cumberland</u>																		
# Samples	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
# Detects	11	22	22	22	18	21	4	0	0	15	1	0	4	22	22	22	22	0
Maximum	1.0	179.0	5.0	5.3	6.9	1.3	0.7	0	0	0.3	0.00247	0	0.2	24.0	56.0	49100.0	98500.0	0
Minimum	0.1	0.5	1.4	1.2	1.2	0.3	0.5	0	0	0.1	0	0	0.1	6.8	30.0	19800.0	4600.0	0
Mean	0.5	62.4	2.9	2.7	3.7	0.7	0.6	0	0	0.2	0.00011	0	0.1	14.0	40.5	32445.5	12349.1	0
Std. Deviation	0.4	69.7	1.1	1.4	1.6	0.3	0.1	0	0	0.1	0.00053	0	0	5.4	6.3	7259.8	19379.1	0
<u>Newburgh</u>																		
# Samples	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
# Detects	6	6	6	6	2	6	2	0	0	4	0	0	0	6	6	6	6	0
Maximum	1.1	3.8	1.7	1.8	2.7	1.5	0.7	0	0	0.2	0	0	0	9.5	36.0	37000	8700	0
Minimum	0.1	0.4	1.1	1.1	1.3	0.4	0.5	0	0	0.1	0	0	0	3.7	27.0	31000	7300	0
Mean	0.5	2.1	1.2	1.5	2.0	0.8	0.6	0	0	0.2	0	0	0	6.7	32.5	33983	8302	0
Std. Deviation	0.3	1.5	0.2	0.3	1.0	0.4	0.1	0	0	0	0	0	0	2.2	3.4	2209	537	0
<u>Pike Island</u>																		
# Samples	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
# Detects	12	21	21	21	18	20	8	0	0	13	0	0	2	21	21	21	21	0
Maximum	1.0	175.0	3.7	3.2	6.0	1.3	0.7	0	0	0.3	0	0	0.3	24.0	52.0	44500	12700	0
Minimum	0.1	0.7	1.5	0.5	1.1	0.3	0.5	0	0	0.1	0	0	0.1	7.1	23.0	16000	3700	0
Mean	0.3	57.4	2.5	1.6	2.7	0.7	0.6	0	0	0.2	0	0	0.2	13.1	39.5	32148	8373	0
Std. Deviation	0.3	55.9	0.7	0.8	1.3	0.3	0.1	0	0	0.1	0	0	0.1	4.9	7.8	8602	2643	0
<u>RC Byrd</u>																		
# Samples	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
# Detects	14	23	23	23	12	22	4	0	0	16	1	0	1	23	23	23	23	0
Maximum	1.1	79.0	3.6	3.4	7.0	1.2	0.6	0	0	0.3	0.00163	0	0.1	16.0	54.0	43200	13300	0
Minimum	0.1	8.8	0.8	0.7	1.0	0.3	0.5	0	0	0.1	0	0	0.1	4.1	26.0	16000	4640	0
Mean	0.2	41.7	1.7	1.3	2.1	0.7	0.6	0	0	0.2	0.00007	0	0.1	9.1	38.8	28474	8238	0
Std. Deviation	0.3	23.6	0.7	0.6	1.7	0.3	0	0	0	0.1	0.00034	0	0	3.6	8.3	6946	2341	0
<u>Smithland</u>																		
# Samples	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
# Detects	16	22	22	22	7	22	12	0	0	20	0	0	1	22	22	22	22	2
Maximum	1.1	7.7	2.2	2.2	2.6	2.7	0.6	0	0	0.3	0	0	0.1	14.0	53.0	53200	17900	135.0
Minimum	0.1	0.2	0.7	0.7	1.0	0.5	0.5	0	0	0.1	0	0	0.1	1.1	31.0	32300	8300	131.0
Mean	0.3	1.7	1.4	1.5	1.6	1.3	58.0	0	0	0.2	0	0	0.1	5.0	38.0	41168	12330	133.0
Std. Deviation	0.3	1.6	0.4	0.3	0.5	0.5	0	0	0	0.1	0	0	0	3.1	5.7	6996	2849	2.8
<u>West Point</u>																		
# Samples	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
# Detects	21	21	21	21	16	21	21	1	0	20	6	0	1	21	21	21	21	0
Maximum	1.3	182.0	3.0	6.0	3.9	2.3	2.6	0.1	0	0.5	0.00227	0	0.1	14.0	55.0	57100	18500	0
Minimum	0.1	2.1	1.5	1.1	1.0	0.4	0.6	0.1	0	0.1	0	0	0.1	5.6	29.0	32000	8200	0

<u>STATION</u>	<u>DISSOLVED/CLEAN METALS (ug/L)</u>																	
	<u>Cr</u>	<u>Mn</u>	<u>Ni</u>	<u>Cu</u>	<u>Zn</u>	<u>As</u>	<u>Se</u>	<u>Ag</u>	<u>Cd</u>	<u>Sb</u>	<u>Hg</u>	<u>Tl</u>	<u>Pb</u>	<u>Al</u>	<u>Ba</u>	<u>Ca</u>	<u>Mg</u>	<u>Fe</u>
Mean	0.3	29.7	2.0	2.1	2.0	1.4	1.3	0.1	0	0.3	0.00055	0	0.1	9.8	41.0	43919	12990	0
Std. Deviation	0.3	37.8	0.5	1.4	0.9	0.6	0.5	0	0	0.1	0.00090	0	0	2.1	7.8	6174	3104	0
<u>Willow Island</u>																		
# Samples	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
# Detects	10	18	18	18	15	16	6	0	0	12	1	0	2	18	18	18	18	0
Maximum	1.2	116.0	3.6	3.1	4.0	1.2	0.8	0	0	0.4	0.00321	0	0.2	20.0	51.0	41800	11300	0
Minimum	0.1	1.7	1.1	0.9	1.0	0.4	0.5	0	0	0.1	0.0	0	0.1	4.9	30.0	21800	4800	0
Mean	0.4	38.3	2.2	1.6	2.2	0.7	0.6	0	0	0.2	0.00018	0	0.1	12.1	39.6	30078	7957	0
Std. Deviation	0.4	33.1	0.7	0.6	0.9	0.2	0.1	0	0	0.1	0.00076	0	0	4.5	6.6	6646	2190	0

Detailed Budget Breakdown by Department									
Department	Category	Sub-Category	Item	Unit	Quantity	Unit Price	Total Price	Notes	Approval
Department A	Office Supplies	Stationery	Ballpoint Pen	1000	0.10	100.00			
			Printer Paper	5000	0.20	1000.00			
		Furniture	Office Chair	50	20.00	1000.00			
			Desk	30	30.00	900.00			
			Bookshelf	10	10.00	100.00			
	Travel	Hotel	Room	100	50.00	5000.00			
			Breakfast	100	5.00	500.00			
		Transportation	Car Rental	5	100.00	500.00			
			Gasoline	100	1.00	100.00			
			Taxi	50	2.00	100.00			
Department B	IT Equipment	Computer	Laptop	20	500.00	10000.00			
			Monitor	20	200.00	4000.00			
		Network	Router	5	100.00	500.00			
			Switch	5	150.00	750.00			
			Cable	100	10.00	1000.00			
	Software	License	Microsoft Office	20	250.00	5000.00			
			Adobe Photoshop	10	300.00	3000.00			
		Subscription	Cloud Storage	100	10.00	1000.00			
			VPN Service	20	50.00	1000.00			
			Security Software	10	100.00	1000.00			
Department C	Marketing	Advertising	TV Commercial	30	100.00	3000.00			
			Radio Spot	60	50.00	3000.00			
		Publicity	Press Release	10	10.00	100.00			
			Press Conference	5	20.00	100.00			
			Press Kit	5	10.00	50.00			
	Sales	Commission	Salesperson	10	100.00	1000.00			
			Commission	10	100.00	1000.00			
		Promotion	Discount	10	10.00	100.00			
			Gift	10	10.00	100.00			
			Event	10	10.00	100.00			
Department D	Maintenance	Repairs	Plumbing	10	100.00	1000.00			
			Electrical	10	100.00	1000.00			
		Supplies	Paint	10	10.00	100.00			
			Tools	10	10.00	100.00			
			Materials	10	10.00	100.00			
	Security	Alarm	Alarm System	10	100.00	1000.00			
			Alarm System	10	100.00	1000.00			
		Guard	Guard	10	10.00	100.00			
			Guard	10	10.00	100.00			
			Guard	10	10.00	100.00			
Department E	Training	Course	Course	10	100.00	1000.00			
			Course	10	100.00	1000.00			
		Instructor	Instructor	10	10.00	100.00			
			Instructor	10	10.00	100.00			
			Instructor	10	10.00	100.00			
	Research	Study	Study	10	100.00	1000.00			
			Study	10	100.00	1000.00			
		Equipment	Equipment	10	10.00	100.00			
			Equipment	10	10.00	100.00			
			Equipment	10	10.00	100.00			
Department F	Legal	Consulting	Consulting	10	100.00	1000.00			
			Consulting	10	100.00	1000.00			
		Litigation	Litigation	10	10.00	100.00			
			Litigation	10	10.00	100.00			
			Litigation	10	10.00	100.00			
	Compliance	Audit	Audit	10	100.00	1000.00			
			Audit	10	100.00	1000.00			
		Regulation	Regulation	10	10.00	100.00			
			Regulation	10	10.00	100.00			
			Regulation	10	10.00	100.00			
Department G	Human Resources	Recruitment	Recruitment	10	100.00	1000.00			
			Recruitment	10	100.00	1000.00			
		Training	Training	10	10.00	100.00			
			Training	10	10.00	100.00			
			Training	10	10.00	100.00			
	Employee Relations	Compensation	Compensation	10	100.00	1000.00			
			Compensation	10	100.00	1000.00			
		Benefits	Benefits	10	10.00	100.00			
			Benefits	10	10.00	100.00			
			Benefits	10	10.00	100.00			
Department H	Facilities	Maintenance	Maintenance	10	100.00	1000.00			
			Maintenance	10	100.00	1000.00			
		Supplies	Supplies	10	10.00	100.00			
			Supplies	10	10.00	100.00			
			Supplies	10	10.00	100.00			
	Safety	Training	Training	10	100.00	1000.00			
			Training	10	100.00	1000.00			
		Equipment	Equipment	10	10.00	100.00			
			Equipment	10	10.00	100.00			
			Equipment	10	10.00	100.00			
Department I	Information Systems	Software	Software	10	100.00	1000.00			
			Software	10	100.00	1000.00			
		Hardware	Hardware	10	10.00	100.00			
			Hardware	10	10.00	100.00			
			Hardware	10	10.00	100.00			
	Data Management	Storage	Storage	10	100.00	1000.00			
			Storage	10	100.00	1000.00			
		Backup	Backup	10	10.00	100.00			
			Backup	10	10.00	100.00			
			Backup	10	10.00	100.00			
Department J	Quality Control	Inspection	Inspection	10	100.00	1000.00			
			Inspection	10	100.00	1000.00			
		Testing	Testing	10	10.00	100.00			
			Testing	10	10.00	100.00			
			Testing	10	10.00	100.00			
	Customer Service	Support	Support	10	100.00	1000.00			
			Support	10	100.00	1000.00			
		Training	Training	10	10.00	100.00			
			Training	10	10.00	100.00			
			Training	10	10.00	100.00			