

Table 12
Stream Water Quality
Blacklick Creek North Branch

Location ID	Name	Beginning Sample Date	Ending Sample Date	Flow	Average pH	Number of pH Samples	Number of Al Samples	Average Al	Number of Iron Samples	Average Iron	Number of Mn Samples	Average Mn	Number of Sulfate Samples	Average Sulfate	Number of Acidity Samples	Average Acidity	Total Average
BCNB-037	Below Colver refuse pile	2/22/2002	11/8/2002	1516.17	3.58	6	6	36.08	6	23.87	6	0.92	6	518.50	6	271.98	170.27
BCNB-015	Mouth of Crooked Run	2/22/2002	11/8/2002	4270.33	4.00	6	6	13.56	6	8.17	6	1.77	6	245.67	6	103.08	74.45
BCNB-018	Below Eastern Associated Coal Corp.	2/22/2002	11/8/2002	13440.17	6.94	6	6	1.58	6	2.28	6	0.48	6	229.83	6	-44.25	37.99
BCNB-039	Elk Creek before NB Blacklick	6/26/2003	5/14/2004	35389.82	7.20	12	12	1.74	12	2.24	12	0.35	12	180.01	12	4.97	37.86
BCNB-017	Mouth of Elk Creek	2/22/2002	11/8/2002	16865.17	6.95	7	7	1.37	7	2.01	7	0.39	7	205.29	7	-30.79	35.65
BCNB-019	Above Eastern Associated Coal Corp.	2/22/2002	11/8/2002	11327.67	6.53	6	6	2.28	6	2.56	6	0.46	6	194.67	6	-29.32	34.13
BCNB-029	North Branch	4/19/2000	4/19/2000		6.30	1	1	0.27	1	8.70	1	0.90	1	120.00			32.47
BCNB-025	North Branch Twolick Creek	6/1/2002	6/1/2002		6.30	1	1	1.56	1	2.06	1	0.30	1	145.00	1	1.00	29.98
BCNB-027	North Branch Twolick Creek	6/1/2002	6/1/2002		6.50	1	1	1.14	1	2.85	1	0.25	1	130.00	1	1.00	27.05
BCNB-032	NB Blacklick Creek above Red Mill discharge	6/27/2003	5/14/2004	81540.58	7.23	12	12	0.98	12	1.30	12	0.20	12	118.19	12	3.70	24.87
BCNB-013	Mouth of California Run	2/22/2002	5/14/2004	2957.66	6.62	18	18	0.52	18	2.03	18	1.41	18	49.08	18	4.53	11.52
BCNB-028	Carney Run	6/1/2002	6/1/2002		5.93	1	1	0.42	1	0.22	1	0.15	1	41.00	1	1.00	8.56
BCNB-030	Mouth of Little Elk Creek	2/22/2002	11/8/2002	1590.00	6.10	6	6	0.09	6	0.17	6	0.08	6	11.50	6	3.03	2.98
BCNB-038	Mouth of Crooked Run #2	2/22/2002	11/8/2002	1560.00	6.47	5	5	0.05	5	0.37	5	0.17	5	12.80	5	-3.06	2.06
BCNB-021	Above Colver refuse pile	2/22/2002	11/8/2002	365.67	6.84	6	6	0.05	6	0.17	6	0.04	6	31.33	6	-25.03	1.31
BCNB-016	Upstream of Crooked Run	2/22/2002	11/8/2002	319.67	6.49	6	6	0.14	6	0.47	6	0.13	6	11.50	6	-7.13	1.02

Table 13 - Discharge Water Quality Rankings
Blacklick Creek North Branch

Location ID	Name	Beginning Sample Date	Ending Sample Date	Flow	Average pH	Number of pH Samples	pH Rank	Number of Al Samples	Average Al	Al Rank Factor	Al Rank	Number of Iron Samples	Average Iron	Iron Rank Factor	Iron Rank	Number of Mn Samples	Average Mn	Mn Rank Factor	Mn Rank	Number of Sulfate Samples	Average Sulfate	Sulfate Rank Factor	Sulfate Rank	Number of Acidity Samples	Average Acidity	Acidity Rank Factor	Acidity Rank	FINAL AVERAGE RANK
BCNB-005	Red Mill Mine & Refuse discharge	6/26/2003	5/14/2004		3.85	11	4	11	10.09	10.09	3	11	117.58	117.58	1	11	2.28	2.28	2	11	742.85	742.85	1	11	346.07	346.07	1	2.00
BCNB-001	RedMill Mine, Mine #16	5/10/1974	5/14/2004	3343.11	3.14	42	1	30	7.88	7.88	4	41	69.65	69.65	2	30	1.75	1.75	3	41	438.89	438.89	3	42	263.27	263.27	2	2.50
BCNB-010	Refuse Pile seep	6/26/2003	5/14/2004	3666.14	3.49	12	3	12	23.47	23.47	1	12	18.56	18.56	3	12	1.10	1.10	4	12	437.65	437.65	4	12	178.22	178.22	3	3.00

Table 14
 Discharge Loading Rankings
 Blacklick Creek North Branch

Location ID	Name	Beginning Sample Date	Ending Sample Date	Average Flow	Number of Al Loading Samples	Average Al Loading	AL Loading Rank Factor	AL Loading Rank	Number of Iron Loading Samples	Average Iron Loading	Iron Loading Rank Factor	Iron Loading Rank	Number of Mn Loading Samples	Average Mn Loading	Mn Loading Rank Factor	Mn Loading Rank	Number of Sulfate Loading Samples	Average Sulfate Loading	Sulfate Loading Rank Factor	Sulfate Loading Rank	Number of Acidity Loading Samples	Average Acidity Loading	Acidity Loading Rank Factor	Acidity Loading Rank	FINAL LOADING AVG RANK	FINAL WATER QUALITY AVG RANK	FINAL AVG RANK	FINAL RANK
BCNB-001	RedMill Mine, Mine #16	5/10/1974	5/14/2004	3343.11	29	442.32	442.32	2	40	2331.27	2331.27	1	29	69.91	69.91	1	40	17236.07	17236.07	1	41	10245.26	10245.26	1	1.20	2.50	2.45	1
BCNB-005	Red Mill Mine & Refuse discharge	6/26/2003	5/14/2004																						2.00	2.00	3.00	2
BCNB-010	Refuse Pile seep	6/26/2003	5/14/2004	3666.14	12	890.93	890.93	1	12	715.07	715.07	2	12	45.04	45.04	2	12	16989.63	16989.63	2	12	6814.90	6814.90	2	1.80	3.00	3.30	3

Table 15
 Blacklick Creek North Branch
 Prioritized Sites and General Recommendations

Assessed Rank	Loading Rank	Water Quality Rank	Site Designation/Name	Subwatershed	Principal Problem's	Range of Flows (gpm)	Source Reduction	Aerobic Wetlands	Anaerobic Wetlands	Oxic LS Channel	Anoxic LS Trench	Vertical Flow Reactors	Active Treatment	Comments
1	1	2	BCNB-001 RedMill Mine, Mine #16 BCWA Assessment IUP - NB-5	N. Branch Blacklick Creek	Very high flow; High FE (70 mg/l); Moderate/low AL (8 mg/l), MN, SO4, Acidity. Low pH < 3.2.	302-5966						X	X	Very high flows may preclude passive treatment; if the flow can be limited to less than 300 gpm, then reconsider passive treatment. pH and Al values preclude use of wetlands or oxic/anoxic LS systems; insufficient information to evaluate source reduction
2	2	1	BCNB-005 Red Mill Mine & Refuse discharge BCWA Assessment IUP - NB-6	Elk Creek	Unknown flow; High FE (118 mg/l); Moderate AL (10 mg/l), MN; Moderate to high SO4 and Acidity. Moderate pH < 4.00	--						X	X	Lack of flow data makes selection of passive treatment technique difficult; pH and Al values preclude use of wetlands or oxic/anoxic LS systems; insufficient information to evaluate source reduction
3	3	3	BCNB-010 Refuse Pile seep BCWA Assessment IUP - NB-1	N. Branch Blacklick Creek	Very high flow; High AL (24 mg/l); Moderate FE (19 mg/l), SO4 Low MN, Acidity. Moderate pH < 3.5.	1173-6788						X	X	Very high flows may preclude passive treatment; if the flow can be limited to less than 300 gpm, then reconsider passive treatment. pH and Al values preclude use of wetlands or oxic/anoxic LS systems; insufficient information to evaluate source reduction (Flow may not be representative of the actual discharge.)