

Table 16
Stream Water Quality
Blacklick Creek South 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
BCSB-146	Pergrin Run #1	2/3/1995	11/6/1998	958.68	2.86	25	18	74.41	25	152.68	23	8.23	24	1011.26	2	506.00	350.52
BCSB-088	Pergrin Run	2/3/1995	10/18/2002	1487.85	2.88	35	28	56.85	35	76.27	35	2.84	35	799.64	12	500.28	287.18
BCSB-171	Revloc Refuse Site	6/28/1996	10/24/2002		5.24	5	5	46.65	5	1.31	5	3.74	5	643.30	3	498.60	238.72
BCSB-053	Below Pergrin Run and Webster discharge	5/23/1995	10/18/2002	24557.53	3.83	37	31	20.21	37	26.31	37	1.34	37	459.28	12	182.82	137.99
BCSB-148	SBBC #2	6/4/1997	12/17/1997	9251.67	6.65	6	5	0.90	5	0.41	5	0.28	6	490.67			123.06
BCSB-150	SBBC #4	6/4/1997	7/17/2000	9183.00	5.43	10	10	2.35	10	5.19	10	3.82	10	396.90	1	148.00	111.25
BCSB-177	Chickaree	12/16/1998	11/28/2001		3.58	5	5	33.15	5	4.42	5	7.80	5	218.50	5	261.60	105.09
BCSB-178	TR No. 1, Laurel Land Dev.-L. K. mine discharge	9/30/1988	8/14/2001	36.42	3.03	53	35	11.06	53	6.35	53	2.59	53	319.38	2	119.00	91.68
BCSB-153	SBBC #6	10/18/1997	12/17/1997	1394.00	3.00	1	1	50.40	1	65.80	1	2.15	1	248.00			91.59
BCSB-058	Below Revloc refuse piles	7/14/1988	10/18/2002	4854.03	4.65	54	54	31.86	54	1.52	54	1.91	54	334.87	6	36.57	81.35
BCSB-052	Blacklick before Coalpit Run	3/22/1993	10/18/2002	27431.00	4.95	16	10	4.74	16	2.85	16	0.63	16	306.26	7	35.74	70.04
BCSB-123	SBBC above Nanty Glo Mine 31 refuse	2/3/1995	12/21/1998	15625.00	6.11	26	19	1.75	26	0.71	26	0.32	6	327.65	3	3.93	66.87
BCSB-051	Mouth of SBBC	2/16/2002	10/18/2002	36587.00	4.56	6	6	4.71	6	3.02	6	0.79	6	256.83	6	44.53	61.98
BCSB-116	SBBC Downstream	3/22/1993	7/16/1997		5.06	10	4	4.17	10	2.35	10	0.56	10	285.91	1	14.20	61.44
BCSB-138	SBBC, S.E. of permit, upstream	9/10/1996	4/10/1997		5.22	6	6	3.30	6	2.49	6	0.39	6	232.33			59.63
BCSB-061	Mouth of Bracken Run	6/4/1997	10/18/2002	6377.46	4.75	12	12	3.67	12	1.83	12	1.11	12	258.50	6	26.18	58.26
BCSB-078	Coal Pit Run Site 4	7/24/2002	1/14/2003	508.70	3.58	5	5	7.34	5	0.96	5	1.57	5	200.34			52.55
BCSB-105	Coalpit Run downstream	5/28/1992	7/9/1997	454.63	3.90	26	9	5.00	26	1.16	26	1.67	26	184.31			48.03
BCSB-152	Pergrin Run #2	8/5/1997	12/16/1997	188.03	6.46	5	5	0.31	5	9.31	5	0.34	5	167.00			44.24
BCSB-169	TJ No. 1	7/24/1996	11/10/1999		4.14	16	16	4.58	16	0.47	16	1.43	16	171.81	16	40.18	43.69
BCSB-096	Coalpit Run Down Stream	8/28/1984	12/29/1997	116.47	4.21	56	16	5.20	56	0.73	56	1.55	56	165.79			43.32
BCSB-070	Tributary to Coal Pit Run #2	7/25/2002	1/14/2003	76.09	6.00	5	5	2.52	5	3.41	5	1.55	5	164.04			42.88
BCSB-136	SBBC, S.W. of permit, downstream	9/10/1996	6/12/1998		4.95	7	7	0.47	7	1.93	7	2.82	7	164.29			42.38
BCSB-165	Coal Pit Run	3/22/1993	1/14/2003	2483.80	4.26	23	16	4.38	23	0.60	23	0.94	23	156.73	9	45.73	41.68
BCSB-071	Coal Pit Run Site 18	3/4/1997	1/14/2003	153.12	4.40	11	11	4.07	11	0.82	11	1.58	11	155.44	6	39.87	40.35
BCSB-115	Coal Pit Run Upstream	11/26/1993	11/6/2000	396.67	4.11	12	8	4.48	12	0.37	12	1.12	12	152.08	5	43.60	40.33
BCSB-067	Coal Pit Run Site 14	7/25/2002	1/14/2003	210.66	4.62	5	5	2.76	5	0.15	5	1.36	5	149.86			38.53
BCSB-175	McFadden No. 1 Mine	4/2/1997	3/23/2002	0.84	5.88	11	7	0.29	9	0.17	9	0.07	11	181.77	6	2.73	37.01
BCSB-054	Below Mine 31 AMD treatment plant	2/15/2002	10/18/2002	22624.17	6.42	6	6	0.52	6	0.56	6	0.25	6	148.50	6	-1.97	29.57
BCSB-137	Unnamed Trib. To SBBC, south of permit	9/10/1996	10/22/1996	500.00	4.03	2	2	3.70	2	0.23	2	1.74	2	78.00			20.91
BCSB-056	Below Beth NRG Mines Inc. Treat. Facility,	2/15/2002	10/18/2002	11804.17	6.41	6	6	0.78	6	0.33	6	0.37	6	88.67	6	2.85	18.60
BCSB-077	Tributary to Coal Pit Run #1	7/24/2002	1/14/2003	238.76	6.98	5	5	0.25	5	0.15	5	0.25	5	73.40			18.51
BCSB-057	Above Beth NRG Mines Inc. Treat. Facility,	6/4/1997	10/18/2002	8180.09	5.67	12	12	3.67	12	0.50	12	0.57	12	71.58	6	4.07	16.08
BCSB-076	Coal Pit Run Site 22	7/25/2002	1/14/2003	55.66	7.04	5	5	0.25	5	0.22	5	0.13	5	60.74			15.34
BCSB-176	State Gamelands No. 79 Mine	6/22/1999	3/6/2002		6.98	5	5	0.25	5	0.15	5	0.03	5	56.72			14.29
BCSB-141	Unnamed trib.SBBC S. of permit, downstream	9/10/1996	3/6/2002	114.43	6.09	15	15	1.12	15	1.03	15	0.21	15	62.63	3	5.53	14.10
BCSB-055	Above Mine 31 AMD treatment plant	2/15/2002	10/18/2002	20189.67	6.63	6	6	0.17	6	0.32	6	0.14	6	62.00	6	-4.53	11.62
BCSB-059	Above Revloc refuse piles	9/22/1987	10/18/2002	3277.50	6.78	53	53	0.97	53	1.12	53	0.28	53	57.30	6	-8.70	10.19
BCSB-172	State Gamelands No. 79 Mine	6/22/1999	3/6/2002	0.50	5.08	4	4	0.55	4	0.53	4	0.44	4	24.58	3	20.73	9.37
BCSB-163	Bracken Run	9/22/1998	8/28/2002	4.00	4.37	3	3	1.38	3	0.15	3	0.68	3	27.67	3	13.80	8.74
BCSB-151	Steward Run	6/4/1997	12/15/1997	1172.83	6.47	6	6	0.10	6	0.17	6	0.03	6	33.17			8.37
BCSB-140	Unnamed trib.SBBC S. of permit, downstream	9/10/1996	3/6/2002	6.67	6.72	12	12	0.17	12	0.13	12	0.02	12	33.13			8.36
BCSB-173	McFadden No. 1 Mine	4/2/1997	3/20/2001		5.30	1	1	0.25	1	0.76	1	0.97	1	28.90	1	10.40	8.26
BCSB-098	Griffitown Reservoir	8/28/1984	12/29/1997	33.86	6.66	45	6	0.37	45	0.19	45	0.11	45	28.87			7.38
BCSB-107	Unnamed tributary to SBBC	10/25/1988	7/9/1997	42.01	4.74	26	7	0.52	26	0.60	26	1.67	26	22.88			6.42
BCSB-113	Unnamed Trib. To SBBC	3/19/1993	4/2/1997	182.29	4.64	9	4	0.52	9	0.10	9	0.28	9	17.44	1	10.00	5.67
BCSB-097	Coalpit Run Upstream	8/28/1984	12/29/1997	31.75	6.33	54	15	0.42	54	0.41	54	0.12	54	19.87			5.20
BCSB-060	Unnamed Trib along 422N	2/16/2002	10/18/2002	177.67	5.84	5	6	0.48	6	0.12	6	0.20	6	19.00	6	5.55	5.07
BCSB-144	Mouth of Williams Run	2/15/2002	10/18/2002	5560.17	6.40	6	6	0.09	6	0.31	6	0.05	6	11.33	6	2.23	2.80

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BCSB-142	Mouth of Stewart Run	2/15/2002	10/18/2002	4359.33	6.80	6	6	0.06	6	0.23	6	0.03	6	15.33	6	-13.27	0.48

Table 17 - Discharge Water Quality Rankings
Blacklick Creek South 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
BCSB-025	Twin Rocks Mine	11/12/1973	5/13/1974	52.95	6.55	8	20					8	0.10	0.10	20					8	78.50	78.50	19	8	5.25	5.25	20	19.75

Table 19
Blacklick Creek South 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 Reactor	Active Treatment	Comments
1	2	1	BCSB-124 Discharge #6 SBBC Project 1960202 R2-A	S. Branch Blacklick Creek	Low flow; Very high AL (432 mg/l); Moderate FE (45 gm/l); Very high SO4, MN; No Acidity values; Very low pH <2.80.	4-28						X	X	Extremely high Al concentration requires further evaluation; although the other concentrations also indicate extremely bad water quality; low flows permit passive treatment methods, but high Al precludes use of wetlands or oxic/anoxic LS systems; insufficient information to evaluate source reduction
3	3	4	BCSB-164 Discharge 11970106 MP14	S. Branch Blacklick Creek	Low flow; High AL (66 mg/l), Low FE (10 mg/l); High MN, SO4, Acidity. Low pH < 3.20	20-40						X	X	pH and Al values preclude use of wetlands or oxic/anoxic LS systems; insufficient information to evaluate source reduction
4	8	8	BCSB-099	S. Branch Blacklick Creek	Low flow; Very high AL (362 mg/l); Low FE (3 mg/l);	< 1-40						X	X	Extremely high Al concentration requires further evaluation; Fe concentration is low, although high Mn indicates extremely bad water quality; low flows permit passive treatment methods, but high Al precludes use of wetlands or oxic/anoxic LS systems; insufficient information to evaluate source reduction
8	10	15	BCSB-100 Discharges #2 and #3 SBBC Project 11880201 4(A), 4(B)		Moderate MN; Very high SO4; No Acidity values; Low pH <3.10.									
5	6	14	BCSB-080 Mine Discharge to CPR. CoalPit Run Project Site 6	Coalpit Run	Moderate flow; Moderate AL (17 mg/l); Low FE (5.3 mg/l), MN; Moderate SO4; No Acidity values. low pH 3.00	7-166						X	X	Moderately high Al concentration precludes use of wetlands or oxic/anoxic LS systems; insufficient information to evaluate source reduction
6	7	17	BCSB-065 Mine Discharge to CPR. CoalPit Run Project Site 12	Coalpit Run	Moderate flow; Moderate AL (20 mg/l); Low FE (2.4 mg/l), MN Moderate SO4; No Acidity values; Low pH < 3.20	4-148						X	X	Moderately high Al concentration precludes use of wetlands or oxic/anoxic LS systems; insufficient information to evaluate source reduction
7	9	16	BCSB-079 Mine Discharges to CPR CoalPit Run Project Site 5	Coalpit Run	Moderate flow; Moderate AL (16 mg/l); Low FE (5.5 mg/l), MN SO4; No Acidity values. Low pH < 3.10.	6-74						X	X	Moderately high Al concentration precludes use of wetlands or oxic/anoxic LS systems; insufficient information to evaluate source reduction
9	4	28	BCSB-066 Mine Discharge to CPR CoalPit Run Project Site 13	Coalpit Run	High flow; Moderate Al (11 mg/l); Very low FE (3.1 mg/l); Low MN, SO4; No Acidity values; Low pH < 3.2.	36-362						X	X	Moderately high Al concentration precludes use of wetlands or oxic/anoxic LS systems; insufficient information to evaluate source reduction

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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 Reactor	Active Treatment	Comments
10	5	25	BCSB-068 Mine Discharge to CPR CoalPit Run Project Site 15	Coalpit Run	Moderate flow; Moderate AL (11 mg/l); Very low FE (3 mg/l), MN; Low SO4; No Acidity values; Low pH < 3.1.	44-250						X	X	Moderately high Al concentration precludes use of wetlands or oxic/anoxic LS systems; insufficient information to evaluate source reduction
11	15	6	BCSB-017 Drift Mine SBBC Proj. 11970106 MP7	S. Branch Blacklick Creek	Moderate flow; Moderate AL (22.6 mg/l), FE (16.6 mg/l); High MN; Moderat SO4, Acidity; Low pH < 3.1.	0-193						X	X	Moderately high Al concentration precludes use of wetlands or oxic/anoxic LS systems; insufficient information to evaluate source reduction
12	12	13	BCSB-112 Deep Mine West Area CoalPit Run Project Site 2	Coalpit Run	Low flow; High AL (20.4 mg/l); Moderate FE (25.5 mg/l); Low MN; Moderate SO4, Acidity; Very low pH < 2.80.	1-100						X	X	Moderately high Al concentration precludes use of wetlands or oxic/anoxic LS systems; insufficient information to evaluate source reduction