

March 3, 2001

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Water testing by Alternative Testing Labs., Inc.
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To: Dunkard Creek Watershed Assoc., Inc.
Attn: Betty L. Wiley – President, 373 Dunkard Avenue, Morgantown, WV 26501

On the following pages are test results from the Dunkard Creek water samples collected by the Dunkard Creek Watershed Association, Inc., February 18, 2001 monthly through December 2001 and quarterly through 2002.

Collection Sites 1 through 8 are:

1. Miracle Run before it intersects with Dunkard coming down from Brave, at bridge by the “cliff.”
2. About 50 yards downstream from site 1, after two streams meet.
3. Behind and slightly upstream from Clay-Battelle High School backstop at ballfield.
4. Across the side road from funeral home, just downstream of Blacksville bridge and upstream of a small drainpipe.
5. West side of Mason-Dixon Park, upstream of the wooden arch bridge, where a “jetty” slopes down to the stream.
6. Dolls Run, under the bridge before the stream runs into Dunkard.
7. East side of Mason-Dixon Park, down over the bank from the Mason Pavilion.
8. Vannoy’s ford, at the Buckeye Church parking lot.

Note that 5 precedes the Park’s sewage treatment plant drain, the LaPoe mobile home park septic lagoon, and one residence, and that before the lagoon area, Dolls Run enters Dunkard. Note the numbers for coliform bacteria in those areas especially.

Dunkard Creek Water Samples Collected February 18, 2001

		DC001	DC002	DC003	DC004	DC005	DC006	DC007	DC008
		#1	#2	#3	#4	#5	#6	#7	#8
pH		6.78	6.67	6.75	6.78	6.73	6.96	6.88	6.99
Conductivity	umhos	292	254	268	240	242	228	239	235
Fecal Coliform	colonies/100 ml	375	260	220	170	135	70	225	205
Chloride	mg/l	12.5	11.8	11.0	11.8	10.5	7.5	9.6	10.0
Aluminum	mg/l	<0.001	<0.001	<0.001	<0.001	0.020	<0.001	<0.001	<0.001
Cadmium	mg/l	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001
Iron	mg/l	0.13	0.12	0.11	0.13	0.17	0.13	0.13	0.13
Manganese	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001
Lead	mg/l	<0.001	<0.001	<0.001	0.001	--	<0.001	0.001	0.001

Dunkard Creek Water Samples collected on March 18, 2001

	DC009 #1	DC010 #2	DC011 #3	DC012 #4	DC013 #5	DC014 #6	DC015 #7	DC016 #8	CM001*
pH	7.65	7.47	7.55	7.62	7.54	7.74	7.59	7.62	8.22
Conductivity umhos	296	261	272	260	252	234	236	243	532
Fecal Coliform colonies/100 ml	210	300	250	480	460	180	510	150	--
Chloride mg/l	11.7	19.0	16.2	15.3	12.0	4.8	11.0	10.9	2600
Aluminum mg/l	0.46	0.56	0.55	0.54	0.70	0.33	0.74	0.78	0.21
Arsenic mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium mg/l	20.6	18.7	18.8	19.4	18.9	19.6	18.9	19.4	71
Copper mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium mg/l	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Iron mg/l	0.54	0.58	0.60	0.62	0.76	0.42	0.78	0.83	0.40
Lead mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Magnesium mg/l	5.45	4.26	4.47	4.63	4.57	5.44	4.67	4.72	23
Manganese mg/l	0.06	0.05	0.05	0.05	0.05	0.03	0.05	0.05	0.09
Mercury mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Potassium mg/l	0.47	0.47	0.47	0.50	0.50	0.48	0.53	0.54	3.2
Sodium mg/l	17.2	21.1	19.6	18.5	16.4	10.3	16.1	16.2	1500
Zinc mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

*Craig Mains – collected sample from Peabody Coal Company’s Federal 2 Mine outfall on Range Run, a tributary of Dunkard Creek. Range Run confluence is upstream of Blacksville #2 mine; downstream of the South Fork of the WV Fork – which is the tributary for the beaver pond.

Dunkard Creek Water Samples Collected on June 19, 2001

		DC033	DC034	DC035	DC036	DC037	DC038	DC039	DC040	DC041 XTRA**
		#1	#2	#3	#4	#5	#6	#7	#8	
pH		7.96	8.28	7.99	8.17	7.98	7.93	7.93	8.14	7.61
Conductivity	umhos	815	440	475	433	367	390	368	350	655
Fecal Coliform	colonies/100 ml	820	360	510	TNTC*	370	560	TNTC*	260	TNTC*
Chloride	mg/l	19.2	9.8	11.5	9.6	6.2	4.6	5.9	5.9	29.0
Aluminum	mg/l	0.12	0.38	0.10	0.21	0.34	0.15	0.30	0.40	0.01
Arsenic	mg/l	0.03	0.01	0.02	<0.01	0.01	0.01	<0.01	0.01	0.01
Cadmium	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium	mg/l	56.9	29.8	34.0	30.8	31.6	33.1	32.3	31.7	73.3
Copper	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	mg/l	0.36	0.58	0.26	0.37	0.50	0.32	0.48	0.55	0.28
Lead	mg/l	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Magnesium	mg/l	13.6	6.10	6.77	6.03	5.84	7.53	5.91	5.78	11.1
Manganese	mg/l	0.09	0.14	0.07	0.07	0.07	0.04	0.07	0.06	0.24
Mercury	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Potassium	mg/l	2.30	1.40	1.38	1.35	1.44	1.39	1.46	1.41	3.52
Sodium	mg/l	83.9	32.3	33.3	28.9	18.5	18.6	17.0	17.2	27.2
Zinc	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01

*TNTC – Too Numerous to Count

**Location uncertain but because it is numbered, we are not deleting it

Dunkard Creek Water Samples Collected on July 17, 2001

		DC042	DC043	DC044	DC045	DC046	DC047	DC048	DC049	DC050 XTRA**
		#1	#2	#3	#4	#5	#6	#7	#8	
pH		7.53	7.79	7.79	7.94	7.92	7.81	8.02	8.06	7.66
Conductivity	umhos	850	630	645	640	435	370	445	465	590
Fecal Coliform	colonies/100 ml	240	10	47	320	130	430	270	0	280
Chloride	mg/l	52.6	37.8	41.0	42.4	25.8	13.0	27.3	34.6	58.0
Aluminum	mg/l	0.04	0.09	0.08	0.09	0.20	0.04	0.18	0.16	0.17
Arsenic	mg/l	0.02	0.01	0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01
Cadmium	mg/l	0.006	0.005	0.004	0.005	0.005	0.004	0.004	0.003	<0.001
Calcium	mg/l	67.0	42.2	46.4	45.4	37.3	35.9	38.0	39.8	70.1
Copper	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	mg/l	0.23	0.34	0.30	0.30	0.43	0.14	0.40	0.34	0.55
Lead	mg/l	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Magnesium	mg/l	14.9	9.28	10.1	9.64	7.04	8.09	7.10	7.11	6.44
Manganese	mg/l	0.08	0.09	0.09	0.08	0.09	0.02	0.07	0.05	0.13
Mercury	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Potassium	mg/l	2.54	1.87	1.97	1.96	1.93	1.53	1.82	1.72	2.92
Sodium	mg/l	93.1	62.9	69.0	62.5	31.5	19.8	30.6	30.8	24.5
Zinc	mg/l	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	0.09	<0.01	0.14

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Dunkard Creek Water Samples Collected on August 14, 2001

		DC051	DC052	DC053	DC054	DC055	DC056	DC057	DC058
		#1	#2	#3	#4	#5	#6	#7	#8
pH		---	7.78	7.80	7.84	7.67	7.92	7.63	7.67
Conductivity	umhos	---	385	390	380	350	360	350	355
Fecal Coliform	colonies/100 ml	---	680	770	700	350	80	240	210
Chloride	mg/l	---	13.6	13.9	13.6	11.2	11.4	11.0	10.9
Aluminum	mg/l	---	0.11	0.06	0.13	0.12	0.18	0.52	0.51
Arsenic	mg/l	---	0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01
Cadmium	mg/l	---	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	0.003
Calcium	mg/l	---	27.8	27.1	27.5	24.2	34.4	23.2	26.1
Copper	mg/l	---	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	mg/l	---	<0.01	<0.01	0.05	0.04	0.04	<0.01	<0.01
Iron	mg/l	---	0.34	0.16	0.42	0.35	0.36	0.79	0.75
Lead	mg/l	---	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01
Magnesium	mg/l	---	3.03	1.60	2.53	2.37	2.21	4.65	5.31
Manganese	mg/l	---	0.10	0.03	0.05	0.06	0.06	0.07	0.06
Mercury	mg/l	---	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Potassium	mg/l	---	1.23	1.11	1.18	0.94	0.79	1.74	1.88
Sodium	mg/l	---	15.5	8.05	13.3	11.1	10.2	23.5	25.5
Zinc	mg/l	---	0.07	0.01	0.02	0.04	0.03	0.01	0.01

Dunkard Creek Water Samples Collected on September 18, 2001

		DC059	DC060	DC061	DC062	DC063	DC064	DC065	DC066	DC067 XTRA**
		#1	#2	#3	#4	#5	#6	#7	#8	
pH		8.11	8.22	8.16	8.38	8.12	7.97	8.20	8.04	7.36
Conductivity	umhos	1175	1025	880	895	730	440	715	740	695
Fecal Coliform	colonies/100 ml	230	140	270	TNTC*	40	100	270	120	180
Chloride	mg/l	107	104	86	94	67	18.5	65	73	92
Aluminum	mg/l	0.02	0.06	0.06	0.09	0.13	0.03	0.12	0.13	<0.01
Arsenic	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium	mg/l	94.9	65.2	59.0	57.6	47.1	46.5	49.7	51.5	77.2
Copper	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	mg/l	0.18	0.19	0.18	0.19	0.23	0.12	0.25	0.24	3.48
Lead	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Magnesium	mg/l	21.3	14.3	13.1	12.8	12.2	11.0	12.4	12.8	11.0
Manganese	mg/l	0.05	0.11	0.08	0.07	0.07	0.02	0.10	0.08	1.44
Mercury	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Potassium	mg/l	1.81	1.46	1.36	1.37	1.32	1.07	1.37	1.53	3.31
Sodium	mg/l	202	167	137	138	98.1	37.8	105	109	71.6
Zinc	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

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Dunkard Creek Water Samples Collected on October 16, 2001

		DC068	DC069	DC070	DC071	DC072	DC073	DC074	DC075
		#1	#2	#3	#4	#5	#6	#7	#8
pH		7.69	7.98	7.93	8.03	7.58	8.50	7.71	8.18
Conductivity	umhos	1010	1020	1150	1200	1100	425	1025	1055
Fecal Coliform	colonies/100 ml	1200	80	260	450	70	110	140	70
Chloride	mg/l	98.2	127	156	160	147	21.6	145	148
Aluminum	mg/l	0.04	0.09	0.04	0.08	0.23	0.04	0.13	0.17
Arsenic	mg/l	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium	mg/l	0.008	0.008	0.008	0.008	0.013	0.010	0.013	0.014
Calcium	mg/l	64.2	49.8	57.4	57.7	54.3	39.5	55.0	53.3
Copper	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	mg/l	0.16	0.24	0.16	0.27	0.55	0.10	0.34	0.36
Lead	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Magnesium	mg/l	16.2	12.8	15.1	14.7	15.3	10.7	15.5	15.3
Manganese	mg/l	0.04	0.06	0.10	0.09	0.12	0.01	0.12	0.10
Mercury	mg/l	0.002	<0.001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001
Potassium	mg/l	4.02	3.71	4.12	4.21	4.64	3.10	4.88	4.55
Sodium	mg/l	151	170	200	199	171	37.0	169	169
Zinc	mg/l	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01

Dunkard Creek Water Samples Collected on April 23, 2002

		DC100	DC101	DC102	DC103	DC104	DC105	DC106	DC107
		#1	#2	#3	#4	#5	#6	#7	#8
pH		7.52	7.49	7.59	7.60	7.54	7.79	7.60	7.57
Conductivity	umhos	312	362	346	331	316	249	306	302
Fecal Coliform	colonies/100 ml	370	265	340	450	500	210	400	250
Chloride	mg/l	10.8	16.8	15.2	14.4	13.3	6.70	13.1	12.2
Nitrate	mg/l as N	1.22	0.52	0.49	0.51	0.58	0.46	0.52	0.59
Aluminum	mg/l	0.43	0.47	0.29	0.24	0.36	0.17	0.31	0.35
Arsenic	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Calcium	mg/l	26.0	22.9	23.6	23.1	23.3	23.6	23.2	23.2
Cadmium	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	mg/l	0.50	0.64	0.46	0.40	0.50	0.26	0.51	0.57
Mercury	mg/l	<0.001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.001
Potassium	mg/l	1.12	1.05	1.00	1.03	1.11	1.07	1.08	1.08
Magnesium	mg/l	7.21	6.24	6.46	6.16	6.19	7.06	6.23	6.19
Manganese	mg/l	0.07	0.08	0.06	0.06	0.05	0.03	0.05	0.05
Sodium	mg/l	19.1	32.6	29.5	26.9	23.1	10.0	21.9	20.8
Phosphorus	mg/l	0.06	0.02	0.01	0.01	0.03	<0.01	<0.01	<0.01
Zinc	mg/l	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01
Dissolved Oxygen	mg/l	10.2	11.1	10.7	11.5	9.80	10.3	10.5	10.5

Dunkard Creek Water Samples Collected on June 17, 2002

		DC108	DC109	DC110	DC111	DC112	DC113	DC114	DC115
		#1	#2	#3	#4	#5	#6	#7	#8
pH		7.78	7.82	7.85	7.88	8.27	8.06	8.47	8.32
Conductivity	umhos	1267	864	945	1026	786	468	775	836
Fecal Coliform	colonies/100 ml	270	TNTC*	300	0	0	80	10	40
Chloride	mg/l	69.0	52.8	53.5	69.0	45.5	12.4	46.0	48.5
Nitrate	mg/l as N	5.40	1.42	1.93	2.02	0.69	0.19	0.46	0.44
Dissolved Oxygen	mg/l	7.08	7.62	7.54	8.07	8.45	8.06	**	8.61
Aluminum	mg/l	0.08	0.17	0.25	0.14	0.23	0.06	0.15	0.21
Arsenic	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Calcium	mg/l	74.2	43.8	48.3	49.2	42.4	39.2	36.0	41.3
Cadmium	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	mg/l	0.23	0.37	0.38	0.31	0.29	0.18	0.23	0.31
Mercury	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Potassium	mg/l	3.35	2.77	2.91	2.99	2.84	2.11	2.33	2.82
Magnesium	mg/l	18.4	10.8	12.3	12.2	10.8	9.40	9.59	10.7
Manganese	mg/l	0.05	0.08	0.07	0.06	0.05	0.03	0.04	0.04
Sodium	mg/l	164	111	124	139	104	35.4	88.3	109
Phosphorus	mg/l	0.18	0.17	0.25	0.21	0.16	0.18	0.04	0.05
Lead	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc	mg/l	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

*TNTC – Too Numerous to Count

** No sample

Dunkard Creek Water Samples Collected on October 15, 2002

		DC116	DC117	DC118	DC119	DC120	DC121	DC122	DC123
		#1	#2	#3	#4	#5	#6	#7	#8
pH		7.60	7.48	7.61	7.57	7.36	7.48	7.54	7.53
Conductivity	umhos	1103	2030	1684	1625	1388	1188	1357	1162
Fecal Coliform	colonies/100 ml	60	2400	228	48	20	44	16	12
Dissolved Oxygen	mg/l	9.42	7.97	8.77	8.85	7.83	9.10	8.43	8.25
Chloride	mg/l	72	225	182	187	128	298	130	108
Nitrate	mg/l as N	19.0	5.24	7.00	6.45	4.90	4.04	3.40	2.67
Aluminum	mg/l	0.01	0.05	0.04	0.05	0.10	0.06	0.08	0.05
Arsenic	mg/l	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01
Calcium	mg/l	81.2	91.1	81.7	79.6	80.8	95.3	76.2	69.8
Cadmium	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	mg/l	0.17	0.19	0.16	0.18	0.23	0.23	0.20	0.14
Mercury	mg/l	<0.001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.001
Potassium	mg/l	3.49	5.06	4.55	4.66	5.22	5.03	5.00	4.55
Magnesium	mg/l	17.8	22.9	19.9	18.9	21.7	19.4	21.1	17.1
Manganese	mg/l	0.02	0.11	0.05	0.04	0.05	0.05	0.05	0.03
Sodium	mg/l	140	374	268	255	203	122	188	151
Phosphorus	mg/l	0.04	0.21	0.07	<0.01	0.14	0.11	0.04	0.11
Lead	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc	mg/l	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	<0.01

