

March 3, 2001

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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**

|                |                 | <b>DC001</b> | <b>DC002</b> | <b>DC003</b> | <b>DC004</b> | <b>DC005</b> | <b>DC006</b> | <b>DC007</b> | <b>DC008</b> |
|----------------|-----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                |                 | <b>#1</b>    | <b>#2</b>    | <b>#3</b>    | <b>#4</b>    | <b>#5</b>    | <b>#6</b>    | <b>#7</b>    | <b>#8</b>    |
| 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  | DC010  | DC011  | DC012  | DC013  | DC014  | DC015  | DC016  | CM001* |
|----------------|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                |                 | #1     | #2     | #3     | #4     | #5     | #6     | #7     | #8     |        |
| 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         |

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

## 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        |

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

## 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  |



