

SAMPLE		PARAMETER (UNITS)	pH (s.u.)	TEMP (°C)	CONDUCTIVITY (µS/cm) @ 25°C	DISSOLVED OXYGEN (mg/L)
PA Fork Dunkard Creek	1.1 miles US jct WV Fork @ Shamrock	<u>9/10/2009</u>	7.9	18.1	336	7.78
		<u>9/15/2009</u>	7.6	19.2	424	6.48
		<u>9/21/2009</u>	8.1	18.7	438	6.78
		<u>9/29/2009</u>	7.9	14.4	395	8.88
		<u>10/6/2009</u>	7.4	11	395	9.65
		<u>10/21/2009</u>		9.9	279	10.23
		<u>11/4/2009</u>	8.1	7.6	258	10.51
		<u>11/18/2009</u>	7.8	10.5	325	
		<u>12/2/2009</u>	7.9	7.4	304	
WV Fork Dunkard Creek	50' US Blacksville #2 Mine Outfall 005	<u>9/15/2009</u>			5000-10,000	
		<u>9/21/2009</u>		20	3,740	
		<u>9/29/2009</u>	8.2	14.1	3,290	9.9
		<u>10/6/2009</u>	7.5	12.7	1,770	10.7
		<u>10/21/2009</u>		9.7	655	11.04
		<u>11/4/2009</u>	8.4	7.6	595	12.07
		<u>11/18/2009</u>	7.9	10.1	2,900	
		<u>12/2/2009</u>	7.9	6	1,420	
Blacksville #2 Mine Outfall 005 Discharge to WV Fork	2000' US jct PA Fork @ Shamrock	<u>9/15/2009</u>			24,600	
		<u>9/17/2009</u>		21.9	26,700	
		<u>9/21/2009</u>	7.8	22.2	27,200	7.64
		<u>9/29/2009</u>	7.9	13.8	13,190	10.14
		<u>10/6/2009</u>	6.9	13.2	19,010	9.8
		<u>10/21/2009</u>		10.6	8,140	9.94
		<u>11/4/2009</u>	7.6	8.1	7,570	10.7
		<u>11/18/2009</u>	7.3	9.8	9,110	
		<u>12/2/2009</u>	7.4	6.6	10,080	
WV Fork Dunkard Creek	1000' US jct PA Fork @ Shamrock	<u>9/10/2009</u>	8.5	22.6	24,500	13.67
		<u>9/15/2009</u>	8.1	20.6	19,760	9.98
		<u>9/17/2009</u>			17,000	
		<u>9/21/2009</u>	8.3	20.9	6,710	10.55
		<u>9/29/2009</u>	8.3	14.2	3,610	9.7
		<u>10/6/2009</u>	7.4	14.4	1,966	10.08
		<u>10/21/2009</u>		10.7	711	10.52
		<u>11/4/2009</u>	8.4	7.4	640	12.12
		<u>11/18/2009</u>	7.8	10.2	2,900	
<u>12/2/2009</u>	7.8	5.3	1,540			

SAMPLE		PARAMETER (UNITS)	pH (s.u.)	TEMP (°C)	CONDUCTIVITY (µS/cm) @ 25°C	DISSOLVED OXYGEN (mg/L)
Dunkard Creek @ Brave	DS Cerro Fabricated Products, 1.4 miles DS Shamrock	<u>9/10/2009</u>	8.3	21.9	6,290	16.01
		<u>9/15/2009</u>	8.4	23.5	6,550	16.95
		<u>9/21/2009</u>	8.3		7,740	11.1
		<u>9/29/2009</u>	8.4	15.4	4,110	10.95
		<u>10/6/2009</u>	7.6	15.9	2,200	12.06
		<u>10/21/2009</u>		11.5	599	10.05
		<u>11/4/2009</u>	8.1	7.9	467	10.47
		<u>11/18/2009</u>	7.7	10.8	1,332	
		<u>12/2/2009</u>	7.8	5.7	1,360	
Miracle Run @ Mouth	3.2 miles DS Shamrock	<u>9/17/2009</u>		20.6	3,940	
		<u>9/21/2009</u>	7.8	20.8	4,610	8.88
		<u>9/29/2009</u>	7.9	14.3	2,660	10.55
		<u>10/6/2009</u>	7.4	15	2,690	10.91
		<u>10/21/2009</u>		12	1,160	10.02
		<u>11/4/2009</u>	8	7.7	1,767	11.45
		<u>11/18/2009</u>	7.7	11.3	2,650	
		<u>12/2/2009</u>	7.6	4.4	1,479	
Dunkard Creek @ Blacksville, WV	4.9 miles DS Shamrock	<u>9/17/2009</u>	8.2	21.4	4,030	10.98
		<u>9/21/2009</u>	8.7	21.3	4,760	13.94
		<u>9/29/2009</u>	8.1	14.8	3,610	9.41
		<u>10/6/2009</u>	7.7	15	2,490	11.46
		<u>10/21/2009</u>		10.6	811	10.81
		<u>11/4/2009</u>	8.3	7.7	712	12.3
		<u>11/18/2009</u>	7.7	11.5	1,612	
		<u>12/2/2009</u>	7.7	5	1,354	

SAMPLE		PARAMETER (UNITS)	pH (s.u.)	TEMP (°C)	CONDUCTIVITY (µS/cm) @ 25°C	DISSOLVED OXYGEN (mg/L)
Dunkard Creek @ Route 7 bridge in Pentress	11.5 miles DS Shamrock	<u>9/29/2009</u>	8.3	15.5	3,390	10.3
		<u>10/6/2009</u>	8.5	16.4	2,780	14.92
		<u>10/21/2009</u>		12.8	813	9.97
		<u>11/4/2009</u>	8.2	8.6	664	11.43
		<u>11/18/2009</u>	8	11.5	1,084	
		<u>12/2/2009</u>	7.7	5.4	1,530	
Dunkard Creek @ Mason Dixon Park	19 miles DS Shamrock	<u>9/15/2009</u>	8.8	23.7	2,330	12.67
		<u>9/21/2009</u>	8.7	23.3	2,600	11.31
		<u>9/29/2009</u>	8.4	15.2	2,680	10.2
		<u>10/6/2009</u>	8.6	16.9	2,750	13.7
		<u>10/21/2009</u>		15.1	814	11.26
		<u>11/4/2009</u>	8.5	8.5	622	11.99
		<u>11/18/2009</u>	7.9	12.4	847	
		<u>12/2/2009</u>	7.7	5.4	1,530	
Dunkard Creek @ end of Bald Hill Church Road	30.9 miles DS Shamrock	<u>9/10/2009</u>	8.6	22	1,575	11.44
		<u>9/15/2009</u>	8.5	24.8	1,870	13.34
		<u>9/21/2009</u>	8.9	23.3	1,774	14.93
		<u>9/29/2009</u>	8.2	15.9	2,022	9.15
		<u>10/6/2009</u>	8.2	16.5	2,340	11.2
		<u>10/21/2009</u>		14	750	9.82
		<u>11/4/2009</u>	8.4	9.3	583	11.06
		<u>11/18/2009</u>	8.1	12.3	702	
		<u>12/2/2009</u>	7.7	6.3	1,057	
Shannopin Mine Discharge	31 miles DS Shamrock	<u>9/15/2009</u>	8.3	23.5	13,660	8.25
		<u>9/21/2009</u>	8.1	22.6	13,460	8.8
		<u>9/29/2009</u>	8	18	14,020	9.36
		<u>10/6/2009</u>	7.8	18.6	11,800	7.89
		<u>10/21/2009</u>		19.7	13,320	9.34
		<u>11/4/2009</u>	8.1	16.4	13,810	7.84
		<u>11/18/2009</u>	8.1	16	12,410	
		<u>12/2/2009</u>	7.6	15.6	11,660	
Dunkard Creek @ LR2008 Bridge	35.1 miles DS Shamrock	<u>9/21/2009</u>	7.7	22.9	10,500	10.73
		<u>9/29/2009</u>	8	15.4	6,510	10.55
		<u>10/6/2009</u>	7.6	16.5	8,010	12.32
		<u>10/21/2009</u>		15.2	4,670	10.23
		<u>11/4/2009</u>	8.3	9.7	4,270	11.86
		<u>11/18/2009</u>	8.1	16	12,410	
		<u>12/2/2009</u>	7.8	8.6	3,670	

SAMPLE			PARAMETER (UNITS)	pH (s.u.)	TEMP (°C)	CONDUCTIVITY (μS/cm) @ 25°C	DISSOLVED OXYGEN (mg/L)
Sample Location US = upstream DS = downstream	DATE COLLECTED						
USGS Shannopin Guage (readings at noon)	37.2 miles DS Shamrock	<u>9/10/2009</u>				broken	
		<u>9/15/2009</u>				broken	
		<u>9/17/2009</u>				broken	
		<u>9/21/2009</u>				broken	
		<u>9/29/2009</u>		7.3	16.1	5,140	
		<u>10/6/2009</u>		7.5	12.9	8,170	
		<u>10/21/2009</u>		7.3	9.9	3,990	
		<u>11/4/2009</u>		7.4	8.6	4,370	
		<u>11/18/2009</u>		8	10.1	6,100	
		<u>12/2/2009</u>	7.5	6.1	6,440		
Algae Sampling Point	40.66 miles DS of Shamrock	<u>11/18/2009</u>		7.52	10.29	3,810	10.73
Dunkard Creek @ Route 88	41.7 miles DS Shamrock & 0.1 miles US Mon River	<u>9/21/2009</u>		7.7	24.8	519	9.65
		<u>9/29/2009</u>		7.9	18	826	9.34
		<u>10/6/2009</u>		7.6	19.4	641	9.93
		<u>10/21/2009</u>			17.9	642	9.04
		<u>11/4/2009</u>		8.4	11.3	236	10.65
		<u>11/18/2009</u>		7.7	12.9	655	
		<u>12/2/2009</u>		7.8	9.3	379	

SAMPLE		FLOW (cfs)	FLOW (mgd)	AVG VELOCITY (ft/s)	AVG VELOCITY (miles/day)	
						Sample Location US = upstream DS = downstream
PA Fork Dunkard Creek	1.1 miles US jct WV Fork @ Shamrock	<u>9/10/2009</u>				
		<u>9/15/2009</u>				
		<u>9/21/2009</u>	0.32	0.21	0.01	0.18
		<u>9/29/2009</u>	1.9	1.2	0.05	0.9
		<u>10/6/2009</u>	1.4	0.9	0.04	0.66
		<u>10/21/2009</u>	6.2	4	0.15	2.5
		<u>11/4/2009</u>	7.45	4.8	0.162	2.65
		<u>11/18/2009</u>	2.85	1.8	0.237	3.88
	<u>12/2/2009</u>	6.34	4.1	0.144	2.36	
WV Fork Dunkard Creek	50' US Blacksville #2 Mine Outfall 005	<u>9/15/2009</u>				
		<u>9/21/2009</u>				
		<u>9/29/2009</u>	5	3.2	0.3	5
		<u>10/6/2009</u>				
		<u>10/21/2009</u>				
		<u>11/4/2009</u>				
		<u>11/18/2009</u>				
	<u>12/2/2009</u>					
Blacksville #2 Mine Outfall 005 Discharge to WV Fork	2000' US jct PA Fork @ Shamrock	<u>9/15/2009</u>				
		<u>9/17/2009</u>		0.2500		
		<u>9/21/2009</u>		0.0250		
		<u>9/29/2009</u>		0.0216		
		<u>10/6/2009</u>		0.0050		
		<u>10/21/2009</u>		0.0173		
		<u>11/4/2009</u>		0.0170		
		<u>11/18/2009</u>		0.0060		
	<u>12/2/2009</u>		0.0060			
WV Fork Dunkard Creek	1000' US jct PA Fork @ Shamrock	<u>9/10/2009</u>				
		<u>9/15/2009</u>				
		<u>9/17/2009</u>				
		<u>9/21/2009</u>	0.61	0.39	0.08	1.3
		<u>9/29/2009</u>	4.5	2.9	0.41	6.7
		<u>10/6/2009</u>	1.62	1	0.18	2.9
		<u>10/21/2009</u>	6.8	4.4	0.52	8.5
		<u>11/4/2009</u>	10.87	7.0	0.604	9.88
		<u>11/18/2009</u>	3.42	2.2	0.611	9.99
	<u>12/2/2009</u>	5.81	3.8	0.528	8.64	

SAMPLE		FLOW (cfs)	FLOW (mgd)	AVG VELOCITY (ft/s)	AVG VELOCITY (miles/day)	
						Sample Location US = upstream DS = downstream
Dunkard Creek @ Brave	DS Cerro Fabricated Products, 1.4 miles DS Shamrock	<u>9/10/2009</u>				
		<u>9/15/2009</u>				
		<u>9/21/2009</u>				
		<u>9/29/2009</u>				
		<u>10/6/2009</u>				
		<u>10/21/2009</u>				
		<u>11/4/2009</u>				
		<u>11/18/2009</u>				
	<u>12/2/2009</u>					
Miracle Run @ Mouth	3.2 miles DS Shamrock	<u>9/17/2009</u>				
		<u>9/21/2009</u>	0.98	0.63	0.1	1.6
		<u>9/29/2009</u>	4.3	2.8	0.3	4.9
		<u>10/6/2009</u>	1	0.68	0.3	4.8
		<u>10/21/2009</u>	7.6	4.9	1.4	23
		<u>11/4/2009</u>	6.4	4.1	0.441	7.22
		<u>11/18/2009</u>	4.54	2.9	1.621	26.53
	<u>12/2/2009</u>	7.3	4.7	1.973	32.23	
Dunkard Creek @ Blacksville, WV	4.9 miles DS Shamrock	<u>9/17/2009</u>				
		<u>9/21/2009</u>				
		<u>9/29/2009</u>	13.8	8.9	1.1	17.4
		<u>10/6/2009</u>	5.8	3.7	0.66	10.8
		<u>10/21/2009</u>	18.7	12.1	1.6	25
		<u>11/4/2009</u>	24.58	15.9	1.489	24.37
		<u>11/18/2009</u>	11.48	7.4	0.897	14.67
	<u>12/2/2009</u>	22.05	14.3	1.336	21.86	

SAMPLE		FLOW (cfs)	FLOW (mgd)	AVG VELOCITY (ft/s)	AVG VELOCITY (miles/day)	
						Sample Location US = upstream DS = downstream
Dunkard Creek @ Route 7 bridge in Pentress	11.5 miles DS Shamrock	<u>9/29/2009</u>	18.3	11.8	0.43	7
		<u>10/6/2009</u>	8.8	5.7	0.34	5.6
		<u>10/21/2009</u>	28.8	18.6	0.67	10.9
		<u>11/4/2009</u>	33.13	21.4	0.631	10.32
		<u>11/18/2009</u>	12.85	8.3	0.378	6.18
		<u>12/2/2009</u>	41.71	27	1.127	18.44
Dunkard Creek @ Mason Dixon Park	19 miles DS Shamrock	<u>9/15/2009</u>				
		<u>9/21/2009</u>	2.9	1.9	0.15	2.4
		<u>9/29/2009</u>	28.4	18.4	0.72	11.8
		<u>10/6/2009</u>	10	6.5	0.35	5.8
		<u>10/21/2009</u>	35.3	22.8	0.95	15.6
		<u>11/4/2009</u>	46.51	30.1	1.191	19.48
		<u>11/18/2009</u>	16.94	10.9	0.44	7.2
Dunkard Creek @ end of Bald Hill Church Road	30.9 miles DS Shamrock	<u>9/10/2009</u>				
		<u>9/15/2009</u>				
		<u>9/21/2009</u>				
		<u>9/29/2009</u>				
		<u>10/6/2009</u>				
		<u>10/21/2009</u>				
		<u>11/4/2009</u>				
		<u>11/18/2009</u>				
Shannopin Mine Discharge	31 miles DS Shamrock	<u>12/2/2009</u>	45.69	29.5	0.768	12.56
		<u>9/15/2009</u>				
		<u>9/21/2009</u>				
		<u>9/29/2009</u>				
		<u>10/6/2009</u>				
		<u>10/21/2009</u>				
		<u>11/4/2009</u>				
Dunkard Creek @ LR2008 Bridge	35.1 miles DS Shamrock	<u>11/18/2009</u>				
		<u>12/2/2009</u>	63.63	41.1	1.178	19.28
		<u>9/21/2009</u>	31.9	20.6	1.46	24
		<u>9/29/2009</u>	54.7	35.4	1.38	22.6
		<u>10/6/2009</u>				
		<u>10/21/2009</u>				
<u>11/4/2009</u>	82.78	53.5	1.224	20.02		

SAMPLE						
		FLOW (cfs)	FLOW (mgd)	AVG VELOCITY (ft/s)	AVG VELOCITY (miles/day)	
Sample Location US = upstream DS = downstream		DATE COLLECTED				
USGS Shannopin Guage (readings at noon)	37.2 miles DS Shamrock	<u>9/10/2009</u>	30	19.4		
		<u>9/15/2009</u>	16	10.3		
		<u>9/17/2009</u>	22	14.2		
		<u>9/21/2009</u>	22	14.2		
		<u>9/29/2009</u>	46	29.7		
		<u>10/6/2009</u>	24	15.5		
		<u>10/21/2009</u>	52	33.6		
		<u>11/4/2009</u>	59	38.1		
		<u>11/18/2009</u>	32	20.7		
	<u>12/2/2009</u>	48	31.0			
Algae Sampling Point	40.66 miles DS of Shamrock	<u>11/18/2009</u>			-0.0328	-0.537
Dunkard Creek @ Route 88	41.7 miles DS Shamrock & 0.1 miles US Mon River	<u>9/21/2009</u>				
		<u>9/29/2009</u>				
		<u>10/6/2009</u>				
		<u>10/21/2009</u>				
		<u>11/4/2009</u>				
		<u>11/18/2009</u>				
	<u>12/2/2009</u>					



SAMPLE		TDS @ 105°C (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)	BROMIDE (mg/L)	OSMOTIC PRESSURE (MOSM)	BOD-5 DAY (mg/L)	
								Sample Location US = upstream DS = downstream
PA Fork Dunkard Creek	1.1 miles US jct WV Fork @ Shamrock	<u>9/10/2009</u>	206	5.98	32.5	~		
		<u>9/15/2009</u>	254	14.9	42.7	~	4	
		<u>9/21/2009</u>	282	15.9	42.4	~	5	1.7
		<u>9/29/2009</u>	234	14.1	45.1	~	5	
		<u>10/6/2009</u>	230	13.2	37	~	4	
		<u>10/21/2009</u>	164	7.92	34	~	1	
		<u>11/4/2009</u>	162	7.16	31.1	~	5	
		<u>11/18/2009</u>	206	9.2	36.5	~	5	
		<u>12/2/2009</u>	194	9.27	34.2	~	1	
WV Fork Dunkard Creek	50' US Blacksville #2 Mine Outfall 005	<u>9/15/2009</u>						
		<u>9/21/2009</u>	2406	410	1016	2.5	49	
		<u>9/29/2009</u>	2,128	336	868	2.1	47	
		<u>10/6/2009</u>	1,088	167	425	1	25	
		<u>10/21/2009</u>	406	48.9	127	0.3	6	
		<u>11/4/2009</u>	362	46.3	140	0.3	8	
		<u>11/18/2009</u>	1852	317	755	2	42	
		<u>12/2/2009</u>	886	134	360	0.8	17	
Blacksville #2 Mine Outfall 005 Discharge to WV Fork	2000' US jct PA Fork @ Shamrock	<u>9/15/2009</u>						
		<u>9/17/2009</u>	20528	4450	8821	30.1	409	
		<u>9/21/2009</u>	21,764	4,780	6,643	32.3	434	4
		<u>9/29/2009</u>	9,652	2,129	3,796	11.2	194	
		<u>10/6/2009</u>	14,482	3,230	6,006	19.9	296	
		<u>10/21/2009</u>	5,620	1,259	2,241	7.8	117	1.6
		<u>11/4/2009</u>	5,236	1,161	2,027	7.2	107	1.5
		<u>11/18/2009</u>	6,458	1,361	2,509	9.6	129	0.9
		<u>12/2/2009</u>	7,186	1,566	2,829	10.1	147	1.2
WV Fork Dunkard Creek	1000' US jct PA Fork @ Shamrock	<u>9/10/2009</u>	18,856	4,255	7,867	27.4		
		<u>9/15/2009</u>	14,782	1,588	3,177	20.4	298	
		<u>9/17/2009</u>	12404	2689	5429	17.6	255	
		<u>9/21/2009</u>	4,582	860	1,825	5.7	95	10.9
		<u>9/29/2009</u>	2,312	383	967	2.4	49	
		<u>10/6/2009</u>	1,240	195	486	1.2	24	
		<u>10/21/2009</u>	442	57.2	143	0.3	7	
		<u>11/4/2009</u>	380	49	120	0.3	8	
		<u>11/18/2009</u>	1,868	325	765	1.9	39	
		<u>12/2/2009</u>	980	147	389	0.8	21	

SAMPLE		TDS @ 105°C (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)	BROMIDE (mg/L)	OSMOTIC PRESSURE (MOSM)	BOD-5 DAY (mg/L)	
								Sample Location US = upstream DS = downstream
Dunkard Creek @ Brave	DS Cerro Fabricated Products, 1.4 miles DS Shamrock	<u>9/10/2009</u>	3938	840	1622	5.2		
		<u>9/15/2009</u>	4,392	948	1,799	5.8	90	
		<u>9/21/2009</u>	5,304	1,097	2,058	7.4	110	14.4
		<u>9/29/2009</u>	2,622	477	1,073	3.1	55	
		<u>10/6/2009</u>	1,350	227	527	1.5	26	
		<u>10/21/2009</u>	350	43	109	0.3	6	
		<u>11/4/2009</u>	292	31	78.7	~	6	
		<u>11/18/2009</u>	846	132	299	0.8	17	
	<u>12/2/2009</u>	850	125	333	0.6	21		
Miracle Run @ Mouth	3.2 miles DS Shamrock	<u>9/17/2009</u>	2816	195	1555	1.2	53	
		<u>9/21/2009</u>	3,472	239	1,854	1.5	60	2.1
		<u>9/29/2009</u>	1,816	132	994	0.7	31	
		<u>10/6/2009</u>	1,892	135	1,011	0.8	36	
		<u>10/21/2009</u>	790	49.9	359	0.3	13	
		<u>11/4/2009</u>	1,230	79.6	598	0.5	17	
		<u>11/18/2009</u>	1,838	139	975	0.8	35	
		<u>12/2/2009</u>	1,010	67.1	489	0.4	16	
Dunkard Creek @ Blacksville, WV	4.9 miles DS Shamrock	<u>9/17/2009</u>						
		<u>9/21/2009</u>						
		<u>9/29/2009</u>	2,400	383	1,066	2.5	50	
		<u>10/6/2009</u>	1,632	219	743	1.4	29	
		<u>10/21/2009</u>	528	56.1	198	0.3	8	
		<u>11/4/2009</u>	444	39	180	0.2	6	
		<u>11/18/2009</u>	1080	115	476	0.6	22	
		<u>12/2/2009</u>	862	99.4	361	0.6	18	

SAMPLE		TDS @ 105°C (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)	BROMIDE (mg/L)	OSMOTIC PRESSURE (MOSM)	BOD-5 DAY (mg/L)	
								Sample Location US = upstream DS = downstream
Dunkard Creek @ Route 7 bridge in Pentress	11.5 miles DS Shamrock	<u>9/29/2009</u>	2,234	381	975	2.6	46	
		<u>10/6/2009</u>	1,772	282	789	1.9	38	
		<u>10/21/2009</u>	524	59.8	186	0.4	9	
		<u>11/4/2009</u>	404	39.9	148	0.2	6	
		<u>11/18/2009</u>	692	77	272	0.5	13	
		<u>12/2/2009</u>	992	107	445	0.7	15	
Dunkard Creek @ Mason Dixon Park	19 miles DS Shamrock	<u>9/15/2009</u>	1,518	248	647	1.6	32	
		<u>9/21/2009</u>	1,726	241	776	1.6	34	15.8
		<u>9/29/2009</u>	1,752	276	738	1.9	37	
		<u>10/6/2009</u>	1,722	300	740	2	38	
		<u>10/21/2009</u>	520	52.3	197	0.3	8	
		<u>11/4/2009</u>	386	34	135	~	8	
		<u>11/18/2009</u>	548	50	203	0.3	11	
		<u>12/2/2009</u>	992	107	445	0.7	15	
Dunkard Creek @ end of Bald Hill Church Road	30.9 miles DS Shamrock	<u>9/10/2009</u>	1,008	152	406	0.9		
		<u>9/15/2009</u>	1,186	192	473	1.2	28	
		<u>9/21/2009</u>	1,162	189	447	1.3	24	28.5
		<u>9/29/2009</u>	1,316	196	556	1.3	25	
		<u>10/6/2009</u>	1,504	240	637	1.7	32	
		<u>10/21/2009</u>	472	45.1	172	0.3	8	
		<u>11/4/2009</u>	344	29.3	115	~	3	
		<u>11/18/2009</u>	444	35.8	151	0.2	3	
		<u>12/2/2009</u>	700	69.7	259	0.5	10	
Shannopin Mine Discharge	31 miles DS Shamrock	<u>9/15/2009</u>	12,782	252	8285	1.6		
		<u>9/21/2009</u>	12,734	258	7,878	1.9	181	7
		<u>9/29/2009</u>	13,024	270	8,006	1.8	187	
		<u>10/6/2009</u>	11,098	157	6,914	1.2	151	
		<u>10/21/2009</u>	12,194	318	7,533	2	180	8.2
		<u>11/4/2009</u>	12,722	263	7,969	1.8	181	8.9
		<u>11/18/2009</u>	10,532	297	6,507	2.1	160	1.8
		<u>12/2/2009</u>	13,362	149	6,711	1.1	146	9.8
Dunkard Creek @ LR2008 Bridge	35.1 miles DS Shamrock	<u>9/21/2009</u>	9,410	190	5,832	1.4	133	7.6
		<u>9/29/2009</u>	5,470	202	3,151	1.4	120	
		<u>10/6/2009</u>	6,828	222	4,185	1.6	105	
		<u>10/21/2009</u>	3,640	129	2,156	0.8	60	
		<u>11/4/2009</u>	3,344	95.9	2,010	0.6	53	
		<u>11/18/2009</u>	10,532	297	6,507	2.1	160	1.8
		<u>12/2/2009</u>	2,860	105	1,650	0.6	47	

SAMPLE		TDS @ 105°C (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)	BROMIDE (mg/L)	OSMOTIC PRESSURE (MOSM)	BOD-5 DAY (mg/L)	
								Sample Location US = upstream DS = downstream
USGS Shannopin Guage (readings at noon)	37.2 miles DS Shamrock	<u>9/10/2009</u>						
		<u>9/15/2009</u>						
		<u>9/17/2009</u>						
		<u>9/21/2009</u>						
		<u>9/29/2009</u>						
		<u>10/6/2009</u>						
		<u>10/21/2009</u>						
		<u>11/4/2009</u>						
		<u>11/18/2009</u>						
	<u>12/2/2009</u>							
Algae Sampling Point	40.66 miles DS of Shamrock	<u>11/18/2009</u>	776	21.5	450	<0.2	10	
Dunkard Creek @ Route 88	41.7 miles DS Shamrock & 0.1 miles US Mon River	<u>9/21/2009</u>	400	12.11	185	~	2	2.1
		<u>9/29/2009</u>	568	17	309	~	8	
		<u>10/6/2009</u>	382	14.1	211	~	5	
		<u>10/21/2009</u>	428	15.6	234	~	5	
		<u>11/4/2009</u>	142	5.79	64.4	~	~	
		<u>11/18/2009</u>	446	13.1	252	~	5	
		<u>12/2/2009</u>	230	7.38	123	~	1	

SAMPLE		TSS (mg/L)	AMMONIA NITROGEN (mg/L)	NITRATE (mg/L)	NITRITE (mg/L)	
						Sample Location US = upstream DS = downstream
PA Fork Dunkard Creek	1.1 miles US jct WV Fork @ Shamrock	<u>9/10/2009</u>				
		<u>9/15/2009</u>				
		<u>9/21/2009</u>	5	0.02		
		<u>9/29/2009</u>				
		<u>10/6/2009</u>		~	~	~
		<u>10/21/2009</u>		~		
		<u>11/4/2009</u>		~	~	~
		<u>11/18/2009</u>		~		
		<u>12/2/2009</u>		~		
WV Fork Dunkard Creek	50' US Blacksville #2 Mine Outfall 005	<u>9/15/2009</u>				
		<u>9/21/2009</u>				
		<u>9/29/2009</u>				
		<u>10/6/2009</u>		~	~	~
		<u>10/21/2009</u>		0.03		
		<u>11/4/2009</u>		0.27	~	~
		<u>11/18/2009</u>		~		
				<u>12/2/2009</u>		~
Blacksville #2 Mine Outfall 005 Discharge to WV Fork	2000' US jct PA Fork @ Shamrock	<u>9/15/2009</u>				
		<u>9/17/2009</u>				
		<u>9/21/2009</u>	64	3.4		
		<u>9/29/2009</u>				
		<u>10/6/2009</u>		0.61	0.53	0.29
		<u>10/21/2009</u>		0.28		
		<u>11/4/2009</u>		0.2		
		<u>11/18/2009</u>		0.28		
		<u>12/2/2009</u>		0.31		
WV Fork Dunkard Creek	1000' US jct PA Fork @ Shamrock	<u>9/10/2009</u>				
		<u>9/15/2009</u>				
		<u>9/17/2009</u>				
		<u>9/21/2009</u>	22	<.02		
		<u>9/29/2009</u>				
		<u>10/6/2009</u>		~	~	~
		<u>10/21/2009</u>		0.04		
		<u>11/4/2009</u>		~	~	~
		<u>11/18/2009</u>		~		
		<u>12/2/2009</u>		~		

SAMPLE		TSS (mg/L)	AMMONIA NITROGEN (mg/L)	NITRATE (mg/L)	NITRITE (mg/L)	
						Sample Location US = upstream DS = downstream
Dunkard Creek @ Brave	DS Cerro Fabricated Products, 1.4 miles DS Shamrock	<u>9/10/2009</u>				
		<u>9/15/2009</u>				
		<u>9/21/2009</u>	35	0.05		
		<u>9/29/2009</u>				
		<u>10/6/2009</u>		0.03	~	~
		<u>10/21/2009</u>		0.06		
		<u>11/4/2009</u>		~		
		<u>11/18/2009</u>		0.05		
		<u>12/2/2009</u>		~		
Miracle Run @ Mouth	3.2 miles DS Shamrock	<u>9/17/2009</u>				
		<u>9/21/2009</u>	10	0.03		
		<u>9/29/2009</u>				
		<u>10/6/2009</u>		~	0.04	5.95
		<u>10/21/2009</u>		0.04		
		<u>11/4/2009</u>		0.75		
		<u>11/18/2009</u>		0.85		
		<u>12/2/2009</u>		1.83		
Dunkard Creek @ Blacksville, WV	4.9 miles DS Shamrock	<u>9/17/2009</u>				
		<u>9/21/2009</u>				
		<u>9/29/2009</u>				
		<u>10/6/2009</u>		~	0.01	1.79
		<u>10/21/2009</u>		~		
		<u>11/4/2009</u>		0.08		
		<u>11/18/2009</u>		0.09		
		<u>12/2/2009</u>		0.46		

SAMPLE		TSS (mg/L)	AMMONIA NITROGEN (mg/L)	NITRATE (mg/L)	NITRITE (mg/L)	
						Sample Location US = upstream DS = downstream
Dunkard Creek @ Route 7 bridge in Pentress	11.5 miles DS Shamrock	<u>9/29/2009</u>				
		<u>10/6/2009</u>		~	0.03	0.76
		<u>10/21/2009</u>		~		
		<u>11/4/2009</u>		0.03		
		<u>11/18/2009</u>		~		
		<u>12/2/2009</u>		0.47		
Dunkard Creek @ Mason Dixon Park	19 miles DS Shamrock	<u>9/15/2009</u>				
		<u>9/21/2009</u>	26	<.02		
		<u>9/29/2009</u>				
		<u>10/6/2009</u>		~	0.03	0.1
		<u>10/21/2009</u>		0.05		
		<u>11/4/2009</u>		~		
		<u>11/18/2009</u>		~		
<u>12/2/2009</u>		0.47				
Dunkard Creek @ end of Bald Hill Church Road	30.9 miles DS Shamrock	<u>9/10/2009</u>				
		<u>9/15/2009</u>				
		<u>9/21/2009</u>	84	<.02		
		<u>9/29/2009</u>				
		<u>10/6/2009</u>		~	~	~
		<u>10/21/2009</u>		~		
		<u>11/4/2009</u>		~		
		<u>11/18/2009</u>		~		
<u>12/2/2009</u>		~				
Shannopin Mine Discharge	31 miles DS Shamrock	<u>9/15/2009</u>				
		<u>9/21/2009</u>	5	7.77		
		<u>9/29/2009</u>				
		<u>10/6/2009</u>		5.1	1.17	0.1
		<u>10/21/2009</u>		4.67		
		<u>11/4/2009</u>		2.35		
		<u>11/18/2009</u>		5.04		
<u>12/2/2009</u>		3.58				
Dunkard Creek @ LR2008 Bridge	35.1 miles DS Shamrock	<u>9/21/2009</u>	23	0.81		
		<u>9/29/2009</u>				
		<u>10/6/2009</u>		0.22	0.17	1.8
		<u>10/21/2009</u>		0.53		
		<u>11/4/2009</u>		0.42		
		<u>11/18/2009</u>		5.04		
		<u>12/2/2009</u>		0.17		

SAMPLE		TSS (mg/L)	AMMONIA NITROGEN (mg/L)	NITRATE (mg/L)	NITRITE (mg/L)	
						Sample Location US = upstream DS = downstream
USGS Shannopin Guage (readings at noon)	37.2 miles DS Shamrock	<u>9/10/2009</u>				
		<u>9/15/2009</u>				
		<u>9/17/2009</u>				
		<u>9/21/2009</u>				
		<u>9/29/2009</u>				
		<u>10/6/2009</u>				
		<u>10/21/2009</u>				
		<u>11/4/2009</u>				
		<u>11/18/2009</u>				
	<u>12/2/2009</u>					
Algae Sampling Point	40.66 miles DS of Shamrock	<u>11/18/2009</u>				
Dunkard Creek @ Route 88	41.7 miles DS Shamrock & 0.1 miles US Mon River	<u>9/21/2009</u>	<5	0.03		
		<u>9/29/2009</u>				
		<u>10/6/2009</u>		0.11	0.02	0.6
		<u>10/21/2009</u>		0.14		
		<u>11/4/2009</u>		0.05		
		<u>11/18/2009</u>		0.1		
		<u>12/2/2009</u>		0.05		



SAMPLE		DATE COLLECTED	NITRATE / NITRITE	TKN	PHOSPHORUS
			(mg/L)	(mg/L)	(mg/L)
Sample Location US = upstream DS = downstream		DATE COLLECTED			
PA Fork Dunkard Creek	1.1 miles US jct WV Fork @ Shamrock	<u>9/10/2009</u>			
		<u>9/15/2009</u>			
		<u>9/21/2009</u>			0.091
		<u>9/29/2009</u>			
		<u>10/6/2009</u>		~	0.028
		<u>10/21/2009</u>	~	~	0.032
		<u>11/4/2009</u>	0.024		
		<u>11/18/2009</u>	~	~	0.02
		<u>12/2/2009</u>	~	~	0.015
WV Fork Dunkard Creek	50' US Blacksville #2 Mine Outfall 005	<u>9/15/2009</u>			
		<u>9/21/2009</u>			
		<u>9/29/2009</u>			
		<u>10/6/2009</u>		~	0.027
		<u>10/21/2009</u>	0.09	~	1.08
		<u>11/4/2009</u>	~	~	0.015
		<u>11/18/2009</u>	~	~	0.022
		<u>12/2/2009</u>	0.14	~	0.017
Blacksville #2 Mine Outfall 005 Discharge to WV Fork	2000' US jct PA Fork @ Shamrock	<u>9/15/2009</u>			
		<u>9/17/2009</u>			
		<u>9/21/2009</u>			0.051
		<u>9/29/2009</u>			
		<u>10/6/2009</u>		1.72	0.05
		<u>10/21/2009</u>	0.55	~	0.039
		<u>11/4/2009</u>	0.3	~	0.029
		<u>11/18/2009</u>	0.28	~	0.022
		<u>12/2/2009</u>	0.33	~	0.021
WV Fork Dunkard Creek	1000' US jct PA Fork @ Shamrock	<u>9/10/2009</u>			
		<u>9/15/2009</u>			
		<u>9/17/2009</u>			
		<u>9/21/2009</u>			0.116
		<u>9/29/2009</u>			
		<u>10/6/2009</u>		~	0.028
		<u>10/21/2009</u>	0.11	~	0.018
		<u>11/4/2009</u>	~	~	0.014
		<u>11/18/2009</u>	0.28	~	0.022
		<u>12/2/2009</u>	0.13	~	0.016

SAMPLE		NITRATE / NITRITE (mg/L)	TKN (mg/L)	PHOSPHORUS (mg/L)	
					Sample Location US = upstream DS = downstream
Dunkard Creek @ Brave	DS Cerro Fabricated Products, 1.4 miles DS Shamrock	<u>9/10/2009</u>			
		<u>9/15/2009</u>			
		<u>9/21/2009</u>			0.214
		<u>9/29/2009</u>			
		<u>10/6/2009</u>		~	0.056
		<u>10/21/2009</u>	0.11	~	0.028
		<u>11/4/2009</u>	~	~	0.022
		<u>11/18/2009</u>	~	~	0.032
		<u>12/2/2009</u>	~	~	0.019
Miracle Run @ Mouth	3.2 miles DS Shamrock	<u>9/17/2009</u>			
		<u>9/21/2009</u>			0.029
		<u>9/29/2009</u>			
		<u>10/6/2009</u>		~	0.025
		<u>10/21/2009</u>	1.79	~	0.015
		<u>11/4/2009</u>	3.53	1.03	0.01
		<u>11/18/2009</u>	4.47	1.19	0.014
		<u>12/2/2009</u>	2.22	2.13	0.013
Dunkard Creek @ Blacksville, WV	4.9 miles DS Shamrock	<u>9/17/2009</u>			
		<u>9/21/2009</u>			
		<u>9/29/2009</u>			
		<u>10/6/2009</u>		~	0.033
		<u>10/21/2009</u>	0.46	~	0.022
		<u>11/4/2009</u>	0.84	~	0.017
		<u>11/18/2009</u>	1.54	~	0.019
		<u>12/2/2009</u>	0.76	~	0.016

SAMPLE		DATE COLLECTED	NITRATE / NITRITE	TKN	PHOSPHORUS
			(mg/L)	(mg/L)	(mg/L)
Sample Location US = upstream DS = downstream		DATE COLLECTED			
Dunkard Creek @ Route 7 bridge in Pentress	11.5 miles DS Shamrock	<u>9/29/2009</u>			
		<u>10/6/2009</u>		~	0.067
		<u>10/21/2009</u>	0.61	~	0.023
		<u>11/4/2009</u>	0.6	~	0.018
		<u>11/18/2009</u>	0.58	~	0.023
		<u>12/2/2009</u>	1.12	~	0.016
Dunkard Creek @ Mason Dixon Park	19 miles DS Shamrock	<u>9/15/2009</u>			
		<u>9/21/2009</u>			0.134
		<u>9/29/2009</u>			
		<u>10/6/2009</u>		1.02	0.057
		<u>10/21/2009</u>	0.62	~	0.021
		<u>11/4/2009</u>	0.36	~	0.017
		<u>11/18/2009</u>	0.32	~	0.018
		<u>12/2/2009</u>	1.12	~	0.016
Dunkard Creek @ end of Bald Hill Church Road	30.9 miles DS Shamrock	<u>9/10/2009</u>			
		<u>9/15/2009</u>			
		<u>9/21/2009</u>			0.432
		<u>9/29/2009</u>			
		<u>10/6/2009</u>		~	0.077
		<u>10/21/2009</u>	0.58	~	0.023
		<u>11/4/2009</u>	0.1	~	0.016
		<u>11/18/2009</u>	0.06	~	0.024
		<u>12/2/2009</u>	0.52	~	0.021
Shannopin Mine Discharge	31 miles DS Shamrock	<u>9/15/2009</u>			
		<u>9/21/2009</u>			0.152
		<u>9/29/2009</u>			
		<u>10/6/2009</u>		4.57	0.198
		<u>10/21/2009</u>	1.32	3.98	0.387
		<u>11/4/2009</u>	1.19	4.67	0.219
		<u>11/18/2009</u>	1.35	3.52	1.161
		<u>12/2/2009</u>	1.8	3.88	0.43
Dunkard Creek @ LR2008 Bridge	35.1 miles DS Shamrock	<u>9/21/2009</u>			0.152
		<u>9/29/2009</u>			
		<u>10/6/2009</u>		~	0.086
		<u>10/21/2009</u>	1.11	~	0.056
		<u>11/4/2009</u>	0.84	~	0.06
		<u>11/18/2009</u>	1.35	3.52	1.161
		<u>12/2/2009</u>	1.36	~	0.073

SAMPLE		DATE COLLECTED	NITRATE / NITRITE	TKN	PHOSPHORUS
			(mg/L)	(mg/L)	(mg/L)
Sample Location US = upstream DS = downstream		DATE COLLECTED			
<b>USGS Shannopin Guage (readings at noon)</b>	37.2 miles DS Shamrock	<u>9/10/2009</u>			
		<u>9/15/2009</u>			
		<u>9/17/2009</u>			
		<u>9/21/2009</u>			
		<u>9/29/2009</u>			
		<u>10/6/2009</u>			
		<u>10/21/2009</u>			
		<u>11/4/2009</u>			
		<u>11/18/2009</u>			
<u>12/2/2009</u>					
<b>Algae Sampling Point</b>	40.66 miles DS of Shamrock	<u>11/18/2009</u>			
<b>Dunkard Creek @ Route 88</b>	41.7 miles DS Shamrock & 0.1 miles US Mon River	<u>9/21/2009</u>			0.017
		<u>9/29/2009</u>			
		<u>10/6/2009</u>		~	0.021
		<u>10/21/2009</u>	0.43	~	0.012
		<u>11/4/2009</u>	0.36	~	0.022
		<u>11/18/2009</u>	1.61	~	0.054
		<u>12/2/2009</u>	0.33	~	0.013

SAMPLE		METALS						
		Mg (mg/L)	Zn (ug/L)	Mn (ug/L)	Ba (ug/L)	Ca (mg/L)	Fe (mg/L)	
Sample Location US = upstream DS = downstream		DATE COLLECTED						
PA Fork Dunkard Creek	1.1 miles US jct WV Fork @ Shamrock	<u>9/10/2009</u>	7.4	~	72	66	36.2	534
		<u>9/15/2009</u>	8.1	~	126	75	42.1	1030
		<u>9/21/2009</u>	8.015	~	145	74	40.5	283
		<u>9/29/2009</u>	7.44	~	47	63	38.2	335
		<u>10/6/2009</u>	7.388	~	38	59	36.2	177
		<u>10/21/2009</u>	5.372	~	24	48	28.05	274
		<u>11/4/2009</u>	5.541	~	27	49	30.9	261
		<u>11/18/2009</u>	6.69	~	46	58	35.4	225
		<u>12/2/2009</u>	6.58	~	21	54	37.2	237
WV Fork Dunkard Creek	50' US Blacksville #2 Mine Outfall 005	<u>9/15/2009</u>						
		<u>9/21/2009</u>	31.1	~	443	90	80.8	511
		<u>9/29/2009</u>	23.2	~	95	69	44.3	341
		<u>10/6/2009</u>	14.5	~	91	51	39.2	298
		<u>10/21/2009</u>	7.253	29	53	45	34.38	295
		<u>11/4/2009</u>	7.04	~	53	48	30.1	285
		<u>11/18/2009</u>	21.1	~	76	96	47.4	368
		<u>12/2/2009</u>	14	~	47	55	38	313
Blacksville #2 Mine Outfall 005 Discharge to WV Fork	2000' US jct PA Fork @ Shamrock	<u>9/15/2009</u>						
		<u>9/17/2009</u>	302	~	876	~	566	182
		<u>9/21/2009</u>	308	~	906	11	580	731
		<u>9/29/2009</u>	141	~	824	17	298	1,190
		<u>10/6/2009</u>	218	~	1,745	19	441	2,827
		<u>10/21/2009</u>	85.75	~	967	32	201.6	933
		<u>11/4/2009</u>	85	~	841	31	177	830
		<u>11/18/2009</u>	109	~	946	29	254	939
		<u>12/2/2009</u>	126	~	1,020	31	287	942
WV Fork Dunkard Creek	1000' US jct PA Fork @ Shamrock	<u>9/10/2009</u>	313	12	606	33	620	480
		<u>9/15/2009</u>	219	~	566	36	421	255
		<u>9/17/2009</u>	175	~	385	37	339	296
		<u>9/21/2009</u>	59	~	285	71	128	472
		<u>9/29/2009</u>	26.6	~	96	68	51.9	310
		<u>10/6/2009</u>	16.6	~	78	48	45.1	317
		<u>10/21/2009</u>	7.757	~	54	45	35.04	304
		<u>11/4/2009</u>	7.052	~	50	45	31.4	263
		<u>11/18/2009</u>	23.4	~	70	96	54.3	377
		<u>12/2/2009</u>	14.4	~	49	56	38.4	308

SAMPLE		METALS						
		Mg (mg/L)	Zn (ug/L)	Mn (ug/L)	Ba (ug/L)	Ca (mg/L)	Fe (mg/L)	
Sample Location US = upstream DS = downstream		DATE COLLECTED						
<b>Dunkard Creek @ Brave</b>	DS Cerro Fabricated Products, 1.4 miles DS Shamrock	<u>9/10/2009</u>	67.5	~	455	90	135	242
		<u>9/15/2009</u>	69.2	~	325	77	147	219
		<u>9/21/2009</u>	77.31	~	606	87	192	250
		<u>9/29/2009</u>	35.2	~	220	73	79.6	365
		<u>10/6/2009</u>	19.3	~	95	59	53.1	218
		<u>10/21/2009</u>	7.105	~	59	47	36.76	419
		<u>11/4/2009</u>	6.253	~	47	47	31.8	283
		<u>11/18/2009</u>	12.4	~	90	71	43.1	365
		<u>12/2/2009</u>	14.1	~	93	62	44.4	319
<b>Miracle Run @ Mouth</b>	3.2 miles DS Shamrock	<u>9/17/2009</u>	56.6	~	88	69	115	227
		<u>9/21/2009</u>	60	12	85	76	129	175
		<u>9/29/2009</u>	35.1	~	55	47	81	171
		<u>10/6/2009</u>	36.51	~	42	49	84.39	125
		<u>10/21/2009</u>	17.54	25	70	44	58.51	309
		<u>11/4/2009</u>	24.9	~	104	50	62.9	239
		<u>11/18/2009</u>	38.9	~	151	57	81.6	240
		<u>12/2/2009</u>	21.8	~	113	42	58.1	266
<b>Dunkard Creek @ Blacksville, WV</b>	4.9 miles DS Shamrock	<u>9/17/2009</u>						
		<u>9/21/2009</u>						
		<u>9/29/2009</u>	39.1	~	85	58	91.1	142
		<u>10/6/2009</u>	26.8	~	45	47	64.7	109
		<u>10/21/2009</u>	10.77	~	49	43	43.66	350
		<u>11/4/2009</u>	10.5	~	34	41	3801	206
		<u>11/18/2009</u>	19.4	~	75	61	55.3	216
		<u>12/2/2009</u>	16.7	~	57	54	50.5	253

SAMPLE		METALS						
		Mg (mg/L)	Zn (ug/L)	Mn (ug/L)	Ba (ug/L)	Ca (mg/L)	Fe (mg/L)	
Sample Location US = upstream DS = downstream	DATE COLLECTED							
Dunkard Creek @ Route 7 bridge in Pentress	11.5 miles DS Shamrock	<u>9/29/2009</u>	38.7	~	64	67	96.9	181
		<u>10/6/2009</u>	28.4	~	59	59	72.1	161
		<u>10/21/2009</u>	10.12	~	34	47	45.97	244
		<u>11/4/2009</u>	10.1	~	34	42	42.7	236
		<u>11/18/2009</u>	14.2	~	59	56	53.2	225
		<u>12/2/2009</u>	21	~	35	71	65.6	209
Dunkard Creek @ Mason Dixon Park	19 miles DS Shamrock	<u>9/15/2009</u>	25.3	~	268	93	67.7	395
		<u>9/21/2009</u>	30	~	197	92	75.6	212
		<u>9/29/2009</u>	31.5	~	77	83	86.5	315
		<u>10/6/2009</u>	29.1	~	65	67	73.9	131
		<u>10/21/2009</u>	10.96	~	26	49	48.08	203
		<u>11/4/2009</u>	9.82	~	25	43	39.2	157
		<u>11/18/2009</u>	12.5	~	46	52	45.5	189
		<u>12/2/2009</u>	21	~	35	71	65.6	209
Dunkard Creek @ end of Bald Hill Church Road	30.9 miles DS Shamrock	<u>9/10/2009</u>	21	10	191	109	68.2	573
		<u>9/15/2009</u>	23.3	~	205	108	70.2	265
		<u>9/21/2009</u>	24.6	~	270	94	60.5	~
		<u>9/29/2009</u>	24.3	~	118	96	69.5	194
		<u>10/6/2009</u>	28.3	~	95	101	81.2	210
		<u>10/21/2009</u>	12.4	~	32	51	49.63	315
		<u>11/4/2009</u>	8.997	~	23	41	40.8	141
		<u>11/18/2009</u>	11.9	~	68	50	44.3	236
<u>12/2/2009</u>	16	~	42	63	57.9	242		
Shannopin Mine Discharge	31 miles DS Shamrock	<u>9/15/2009</u>						
		<u>9/21/2009</u>						
		<u>9/29/2009</u>	264	~	788	~	748	276
		<u>10/6/2009</u>	217.8	~	510	4,000	758.6	250
		<u>10/21/2009</u>	232	~	355	~	603.4	577
		<u>11/4/2009</u>	252	~	333	~	725	1043
		<u>11/18/2009</u>	180	~	142	~	564	203
		<u>12/2/2009</u>	220	~	474	~	841	235
Dunkard Creek @ LR2008 Bridge	35.1 miles DS Shamrock	<u>9/21/2009</u>	189	14	589	24	573	726
		<u>9/29/2009</u>	112	~	304	50	327	307
		<u>10/6/2009</u>	140	~	348	41,000	430.2	610
		<u>10/21/2009</u>	78.86	~	138	36	211.8	323
		<u>11/4/2009</u>	76.5	~	123	29	206.5	343
		<u>11/18/2009</u>	180	~	142	~	564	203
		<u>12/2/2009</u>	62.6	~	121	~	221	332

SAMPLE		METALS						
		Mg (mg/L)	Zn (ug/L)	Mn (ug/L)	Ba (ug/L)	Ca (mg/L)	Fe (mg/L)	
Sample Location US = upstream DS = downstream		DATE COLLECTED						
USGS Shannopin Guage (readings at noon)	37.2 miles DS Shamrock	<u>9/10/2009</u>						
		<u>9/15/2009</u>						
		<u>9/17/2009</u>						
		<u>9/21/2009</u>	233	~	484	~	637	594
		<u>9/29/2009</u>						
		<u>10/6/2009</u>						
		<u>10/21/2009</u>						
		<u>11/4/2009</u>						
		<u>11/18/2009</u>						
Algae Sampling Point	40.66 miles DS of Shamrock	<u>11/18/2009</u>						
Dunkard Creek @ Route 88	41.7 miles DS Shamrock & 0.1 miles US Mon River	<u>9/21/2009</u>	1.06	5,000	53	41	36	74
		<u>9/29/2009</u>	15.3	~	95	39	51.8	229
		<u>10/6/2009</u>	10.8	~	120	43	37.7	147
		<u>10/21/2009</u>	11.58	~	123	39	39.44	277
		<u>11/4/2009</u>	4.25	~	45	28	19	281
		<u>11/18/2009</u>	115	~	232	30	368	305
		<u>12/2/2009</u>	6.94	~	133	34	27.8	338



SAMPLE		METALS						
		K (mg/L)	Na (ug/L)	Al (ug/L)	Cu (ug/L)	Se (ug/L)	Sr (ug/L)	Pb (ug/L)
Sample Location US = upstream DS = downstream		DATE COLLECTED						
PA Fork Dunkard Creek	1.1 miles US jct WV Fork @ Shamrock	<u>9/10/2009</u>	3	23	311	~	~	~
		<u>9/15/2009</u>	2.9	40.7	451	~	~	~
		<u>9/21/2009</u>	3.061	38.4	116,000	2,000	~	~
		<u>9/29/2009</u>	3.44	31.6	207	~	~	191
		<u>10/6/2009</u>	3.114	30.6	~	~	~	178
		<u>10/21/2009</u>	2.268	16.03	~	~	~	123
		<u>11/4/2009</u>	2.085	13.6	~	~	~	126
		<u>11/18/2009</u>	2.05	21	~	~	~	168
		<u>12/2/2009</u>	1.96	21.7	~	~	~	165
WV Fork Dunkard Creek	50' US Blacksville #2 Mine Outfall 005	<u>9/15/2009</u>						~
		<u>9/21/2009</u>	5.2	738	~	~	~	~
		<u>9/29/2009</u>	5.03	623	~	~	~	611
		<u>10/6/2009</u>	3.598	299	27,000	~	~	406
		<u>10/21/2009</u>	2.152	97.18	~	~	~	200
		<u>11/4/2009</u>	1.908	80.6	~	~	~	201
		<u>11/18/2009</u>	3.33	517	~	~	~	704
		<u>12/2/2009</u>	2.62	253	~	~	~	412
Blacksville #2 Mine Outfall 005 Discharge to WV Fork	2000' US jct PA Fork @ Shamrock	<u>9/15/2009</u>						~
		<u>9/17/2009</u>	15	5890	~	~	~	~
		<u>9/21/2009</u>	14.1	5700	~	~	~	~
		<u>9/29/2009</u>	8.84	2,610	~	~	~	3,640
		<u>10/6/2009</u>	10.57	3,600	~	~	~	5,899
		<u>10/21/2009</u>	6.326	1,542	~	~	7	2,313
		<u>11/4/2009</u>	5.743	1,360	~	~	~	1,999
		<u>11/18/2009</u>	6.29	1,690	~	~	~	2,490
		<u>12/2/2009</u>	6.92	1,950	~	~	~	3,050
WV Fork Dunkard Creek	1000' US jct PA Fork @ Shamrock	<u>9/10/2009</u>	13.7	5480	~	~	~	~
		<u>9/15/2009</u>	12.2	4080	~	~	~	~
		<u>9/17/2009</u>	10.5	3600	~	~	~	~
		<u>9/21/2009</u>	7.013	1,120	~	~	~	~
		<u>9/29/2009</u>	5.14	710	~	~	~	680
		<u>10/6/2009</u>	3.783	353	~	~	~	462
		<u>10/21/2009</u>	2.27	104	~	~	~	243
		<u>11/4/2009</u>	1.89	88	~	~	~	201
		<u>11/18/2009</u>	3.51	567	~	~	~	723
		<u>12/2/2009</u>	2.69	278	~	~	~	433

SAMPLE		METALS							
		K (mg/L)	Na (ug/L)	Al (ug/L)	Cu (ug/L)	Se (ug/L)	Sr (ug/L)	Pb (ug/L)	
Sample Location US = upstream DS = downstream	DATE COLLECTED								
Dunkard Creek @ Brave	DS Cerro Fabricated Products, 1.4 miles DS Shamrock	<u>9/10/2009</u>	5.3	1210	~	~	~		~
		<u>9/15/2009</u>	5	1280	~	~	~		~
		<u>9/21/2009</u>	6.934	1,450	~	~	~		~
		<u>9/29/2009</u>	4.97	766	~	~	~	911	~
		<u>10/6/2009</u>	4.302	374	~	~	~	546	~
		<u>10/21/2009</u>	2.462	79	~	~	~	231	~
		<u>11/4/2009</u>	2.124	52	~	~	~	168	~
		<u>11/18/2009</u>	2.41	221	~	~	~	362	~
	<u>12/2/2009</u>	2.48	232	~	~	~	408	~	
Miracle Run @ Mouth	3.2 miles DS Shamrock	<u>9/17/2009</u>	6	746	~	~	~		~
		<u>9/21/2009</u>	6.814	825	~	~	~		~
		<u>9/29/2009</u>	4.43	441	~	~	~	988	~
		<u>10/6/2009</u>	4.303	423	~	~	~	1,051	~
		<u>10/21/2009</u>	2.658	178.1	~	~	~	458	~
		<u>11/4/2009</u>	2.951	292	~	~	~	658	1.3
		<u>11/18/2009</u>	3.8	472	~	~	~	1050	~
	<u>12/2/2009</u>	2.77	229	~	~	~	626	~	
Dunkard Creek @ Blacksville, WV	4.9 miles DS Shamrock	<u>9/17/2009</u>							~
		<u>9/21/2009</u>							~
		<u>9/29/2009</u>	4.91	616	~	~	~	1,040	~
		<u>10/6/2009</u>	4.238	413	~	~	~	743	~
		<u>10/21/2009</u>	2.449	122.1	~	~	~	296	~
		<u>11/4/2009</u>	2.074	91.9	~	~	~	240	~
		<u>11/18/2009</u>	2.86	275	~	~	~	566	~
	<u>12/2/2009</u>	2.58	223	~	~	~	475	~	

SAMPLE		METALS							
		K (mg/L)	Na (ug/L)	Al (ug/L)	Cu (ug/L)	Se (ug/L)	Sr (ug/L)	Pb (ug/L)	
Sample Location US = upstream DS = downstream	DATE COLLECTED								
Dunkard Creek @ Route 7 bridge in Pentress	11.5 miles DS Shamrock	<u>9/29/2009</u>	6.13	571	~	~	~	1,060	~
		<u>10/6/2009</u>	5.236	473	~	~	~	791	~
		<u>10/21/2009</u>	3.109	106.9	~	~	~	325	~
		<u>11/4/2009</u>	2.557	78.1	~	~	~	249	~
		<u>11/18/2009</u>	3.46	142	~	~	~	436	~
		<u>12/2/2009</u>	3.61	243	~	~	~	580	~
Dunkard Creek @ Mason Dixon Park	19 miles DS Shamrock	<u>9/15/2009</u>	5.6	383	~	~	~		~
		<u>9/21/2009</u>	5.887	461	~	~	~		~
		<u>9/29/2009</u>	6.06	472	~	~	~	906	~
		<u>10/6/2009</u>	5.201	476	~	~	~	814	~
		<u>10/21/2009</u>	3.365	110.1	~	~	~	330	~
		<u>11/4/2009</u>	2.533	71.7	~	~	~	245	~
		<u>11/18/2009</u>	2.84	108	~	~	~	354	~
<u>12/2/2009</u>	3.61	243	~	~	~	580	~		
Dunkard Creek @ end of Bald Hill Church Road	30.9 miles DS Shamrock	<u>9/10/2009</u>	4.6	261	369	~	~		~
		<u>9/15/2009</u>	4.8	316	~	~	~		~
		<u>9/21/2009</u>	5.83	336	~	~	~		~
		<u>9/29/2009</u>	5.09	365	~	~	~	708	~
		<u>10/6/2009</u>	5.677	370	~	~	~	840	~
		<u>10/21/2009</u>	3.185	97.25	~	~	~	362	~
		<u>11/4/2009</u>	2.514	63.2	~	~	~	252	~
		<u>11/18/2009</u>	2.69	80.6	~	~	~	344	~
<u>12/2/2009</u>	2.89	151	~	~	~	446	~		
Shannopin Mine Discharge	31 miles DS Shamrock	<u>9/15/2009</u>							~
		<u>9/21/2009</u>							~
		<u>9/29/2009</u>	13.2	2,810	~	~	~	5,090	~
		<u>10/6/2009</u>	11.78	2,040	~	~	~	4,962	~
		<u>10/21/2009</u>	15.95	2,560	~	~	~	4,744	~
		<u>11/4/2009</u>	14.1	2,740	~	~	~	4,021	~
		<u>11/18/2009</u>	13.6	2,510	~	~	~	3,460	~
<u>12/2/2009</u>	12.2	2,000	~	~	~	4,700	~		
Dunkard Creek @ LR2008 Bridge	35.1 miles DS Shamrock	<u>9/21/2009</u>	10.76	1,880	647	~	~		~
		<u>9/29/2009</u>	7.47	1,130	237	~	~	2,230	~
		<u>10/6/2009</u>	8.34	1,340	503	~	~	3,154	~
		<u>10/21/2009</u>	6.726	864	203	~	~	1,688	~
		<u>11/4/2009</u>	4.864	680	214	~	~	1,250	~
		<u>11/18/2009</u>	13.6	2,510	~	~	~	3,460	~
<u>12/2/2009</u>	5.26	588	~	~	~	1,550	~		

SAMPLE		METALS							
		K (mg/L)	Na (ug/L)	Al (ug/L)	Cu (ug/L)	Se (ug/L)	Sr (ug/L)	Pb (ug/L)	
Sample Location US = upstream DS = downstream	DATE COLLECTED								
USGS Shannopin Guage (readings at noon)	37.2 miles DS Shamrock	<u>9/10/2009</u>							~
		<u>9/15/2009</u>							~
		<u>9/17/2009</u>							~
		<u>9/21/2009</u>	13.13	2,570	~	~	8.3		~
		<u>9/29/2009</u>							~
		<u>10/6/2009</u>							~
		<u>10/21/2009</u>							~
		<u>11/4/2009</u>							~
		<u>11/18/2009</u>							~
	<u>12/2/2009</u>							~	
Algae Sampling Point	40.66 miles DS of Shamrock	<u>11/18/2009</u>							
Dunkard Creek @ Route 88	41.7 miles DS Shamrock & 0.1 miles US Mon River	<u>9/21/2009</u>	2.128	46.3	~	2,000	~		~
		<u>9/29/2009</u>	2.4	95.3	~	~	~	373	~
		<u>10/6/2009</u>	2.108	58.6	~	~	~	277	~
		<u>10/21/2009</u>	1.901	78.79	~	~	~	270	~
		<u>11/4/2009</u>	1.419	16.3	~	~	~	92	~
		<u>11/18/2009</u>	7.69	1,140	220	~	~	2,380	~
		<u>12/2/2009</u>	1.44	36.2	265	~	~	153	~

**Footnotes:**

- 1) Flow & velocity measurements were made using Marsh-McBirney doppler meter. Readings may be subject to significant error, particularly at low flow conditions. Readings from the USGS Shannopin Gage are not subject to this advisory. Outfall 002 was measured with bucket & stopwatch.
- 2.) Additional Metals Analyzed: Thallium, Arsenic, Antimony, Chromium, Silver, Beryllium, Nickel, Vanadium, Cadmium, Cobalt
- 3) (-) Indicates the parameter was analyzed for, but not detected.