

APPENDIX
DATA TABLES

The following tables contain a list of the sampling points as shown on the 2000' = 1" map in Appendix B and on the Project Area Maps. These discharges are classified under Type Discharge as (D) deep mine discharge or (S) strip mine discharge. The tables contain data for six months of sampling for which these discharges were analyzed for flow, pH, Alkalinity, Acidity, Iron, and Sulphates. The values for Alkalinity, Acidity, Iron, and Sulphates were then converted into pounds per day.

If no data is recorded in the spaces in the Tables, there was no flow from the discharge during this period.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
MINE DRAINAGE STUDY
MAHONING CREEK WATERSHED

Sampling Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
February																			
Type Discharge	S	S	S	S	S	S	S	S	S	S	S	S	S	D	D	D	D	D	D
Flow GPM	5	15	10	10	25	75	10	25	15	20	10	25	15	10	5	5	5	5	D
Ph.	6.0	6.0	6.5	6.0	6.2	5.0	6.6	7.0	5.5	7.0	5.0	4.5	5.1	4.8	4.2	4.5	4.5	6.5	6.5
P.P.M.																			
Alkalinity	2	10	12	2	2	0	15	10	0	60	2	0	2	0	0	0	0	0	5
Acidity	2	2	2	2	2	20	2	0	8	5	20	25	5	25	48	45	2	2	2
Iron	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sulphates	57	19	10	30	10	20	25	22	110	125	115	140	138	55	94	74	90	50	50
P.P.D.																			
Alkalinity	.1	1.8	1.4	.1	.6	0	1.8	3.0	0	14.4	.2	0	4	0	0	0	0	.3	.3
Acidity	.1	4	.2	.2	.6	18.0	.2	0	1.4	1.2	2.4	7.5	.9	3.0	2.9	2.7	.1	.1	.1
Iron	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sulphates	.3	3.4	1.2	3.6	3.0	18.0	3.0	6.6	19.8	30.0	13.8	42.0	24.8	6.6	5.6	4.4	5.4	3.0	3.0
March																			
Type Discharge	S	S	S	S	S	S	S	S	S	S	S	S	S	D	D	D	D	D	D
Flow GPM	5	3	5	2	5	5	18	8	10	10	3	3	3	10	2	15	5	12	8
Ph.	4.8	6.0	6.5	5.5	6.0	5.5	6.5	6.5	4.9	4.5	5.0	5.2	6.0	5.0	5.7	6.0	6.2	5.8	6.0
P.P.M.																			
Alkalinity	2	2	5	2	10	2	2	2	5	2	5	2	2	0	2	2	2	2	2
Acidity	5	2	2	2	2	25	2	2	20	17	20	5	2	20	8	2	2	5	2
Iron	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sulphates	35	130	16	52	30	20	46	18	12	35	12	144	8	45	32	134	10	72	72
P.P.D.																			
Alkalinity	.1	.1	.3	.05	.6	.1	.4	.6	.6	.2	.2	.1	.1	0	.05	.4	.1	1.7	.2
Acidity	.3	.1	.1	.05	.1	1.5	.4	.2	2.4	2.0	.7	.2	.1	2.4	.2	.4	.1	.7	.2
Iron	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sulphates	2.1	4.7	1.0	1.2	1.8	1.2	9.9	1.7	1.4	4.2	.4	5.2	.3	5.4	.8	24.1	.6	10.4	6.9
April																			
Type Discharge	S	S	S	S	S	S	S	S	S	S	S	S	S	D	D	D	D	D	D
Flow GPM	4	3	5	2	3	3	15	2	10	6	2	3	2	4	2	12	5	8	10
Ph.	4.7	6.2	6.5	5.3	6.9	6.8	7.0	7.0	4.5	6.6	6.5	6.2	6.8	5.2	5.5	5.7	6.0	6.0	7.0
P.P.M.																			
Alkalinity	0	8	2	2	7	25	45	10	0	10	12	6	20	0	0	2	2	10	30
Acidity	18	5	2	8	2	2	0	2	15	2	2	4	0	14	18	12	2	2	0
Iron	3	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0
Sulphates	55	110	12	49	16	74	25	8	33	22	40	40	15	12	35	15	300	82	76
P.P.D.																			
Alkalinity	0	3	.1	0	0	9	8.1	.2	0	.7	.3	.2	.5	0	0	3	.1	.9	3.6
Acidity	.8	2	.1	0	0	.1	0	.1	3.2	.1	.04	.14	0	.8	.43	1.8	.1	.1	.2
Iron	.2	0	0	0	0	0	0	0	0	0	0	0	0	.19	0	0	0	0	.1
Sulphates	2.6	4.0	.7	1.2	.5	2.7	4.5	.2	6.4	1.6	.10	.5	1.7	1.9	.4	43.2	4.9	7.3	11.0

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
MINE DRAINAGE STUDY
MAHONING CREEK WATERSHED

Sampling Point	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
February																			
Type Discharge	D	S	S	S	S	S	S	S	S	D	S	S	S	S	S	S	S	S	S
Flow GPM	5	10	15	10	5	5	40	15	75	15	5	3	25	10	5	10	75	40	5
Ph.	4.8	6.0	6.8	4.5	4.6	5.4	6.0	5.4	5.0	4.5	6.5	4.8	6.5	5.8	5.5	6.2	6.0	5.8	4.5
P.P.M.																			
Alkalinity	0	2	30	0	0	0	0	2	0	0	10	2	15	2	0	5	2	2	0
Acidity	30	2	0	15	18	8	15	5	18	30	2	5	0	10	10	2	2	2	15
Iron	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sulphates	185	42	21	9.6	12.5	220	60	9.5	350	240	65	90	25	45	10	185	47	82	41
P.P.D.																			
Alkalinity	0	2	5.4	0	0	0	0	.4	0	0	.6	.1	4.5	.2	0	.6	1.8	.9	0
Acidity	1.8	2	0	1.8	1.1	5	7.2	.9	16.2	5.4	.1	.2	0	1.2	.6	.2	1.8	.9	.9
Iron	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sulphates	11.1	5.0	3.8	11.5	7.5	13.2	28.8	17.1	315.2	43.2	3.9	3.2	7.5	5.4	.6	22.2	42.3	39.4	2.5
March																			
Type Discharge	D	S	S	S	S	S	S	S	S	D	S	S	S	S	S	S	S	S	S
Flow GPM	8	15	15	12	5	18	20	5	40	15	5	3	20	5	5	5	10	5	15
Ph.	4.2	6.2	6.5	4.8	4.5	5.2	5.8	5.5	6.5	4.5	5.6	4.7	5.0	6.0	6.0	6.5	5.8	5.0	4.6
P.P.M.																			
Alkalinity	0	35	20	0	0	0	2	2	0	0	2	2	2	5	5	2	2	2	2
Acidity	65	0	0	18	25	12	5	8	20	18	20	10	5	2	2	2	8	12	21
Iron	12	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0
Sulphates	235	120	20	80	95	225	60	50	78	450	74	62	137	42	66	117	88	20	55
P.P.D.																			
Alkalinity	0	6.3	3.6	0	0	0	.5	.1	0	0	.1	.1	.5	.3	.3	.1	.2	.1	.4
Acidity	6.2	0	0	2.6	1.5	2.6	1.2	.5	9.6	3.2	1.2	.4	1.2	.1	.1	.1	1.0	.7	3.8
Iron	1.1	0	0	0	0	0	0	0	0	0	0	0	.2	0	0	0	0	0	0
Sulphates	22.6	21.6	3.6	11.5	5.7	48.6	14.4	3.0	37.5	81.1	4.4	2.2	32.4	2.5	4.0	7.0	10.6	1.2	9.9
April																			
Type Discharge	D	S	S	S	S	S	S	S	S	D	S	S	S	S	S	S	S	S	S
Flow GPM	5	10	10	10	4	12	12	2	10	12	2	2	9	4	5	2	3	3	2
Ph.	4.5	6.3	6.8	4.5	4.8	5.5	5.7	5.4	4.8	4.2	4.5	4.5	6.8	6.0	5.8	6.5	6.8	5.2	4.5
P.P.M.																			
Alkalinity	0	15	25	0	0	5	2	0	5	0	0	0	15	2	5	5	10	2	2
Acidity	50	2	0	15	12	5	8	22	25	32	2	10	2	2	2	2	2	5	18
Iron	8	1	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
Sulphates	220	134	25	96	84	240	75	60	525	410	76	76	8	30	76	170	76	60	120
P.P.D.																			
Alkalinity	0	1.8	5.2	0	0	.7	.3	0	.6	0	0	0	1.6	.1	.3	.1	.4	.1	.1
Acidity	2.8	.3	0	1.8	5.8	.7	1.6	.5	3.0	4.5	.2	.2	.2	.1	.1	.1	.1	.3	.4
Iron	5	1	0	0	0	0	0	0	0	0	.1	0	0	0	0	0	0	0	0
Sulphates	23.1	160.2	5.2	20.1	40.3	34.6	10.8	1.4	63.1	59.1	1.8	1.8	.6	1.4	4.5	4.1	2.7	3.6	2.9

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
MINE DRAINAGE STUDY
MAHONING CREEK WATERSHED

Sampling Point	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
February																			
Type Discharge	S	S	S	S	S	S	S	S	S	S	S	S	S	S	D&S	S	S	D	D
Flow GPM	10	10	12	25	5	12	20	25	10	10	5	8	10	25	10	35	5	10	8
Ph.	6.0	5.7	5.6	5.5	4.8	6.7	5.8	5.7	5.8	5.2	5.4	4.8	4.6	7.0	6.6	5.0	6.5	4.4	5.2
P.P.M.																			
Alkalinity	5	2	0	0	0	15	5	4	12	0	0	0	0	0	5	0	10	0	0
Acidity	2	8	15	12	20	0	8	10	2	10	8	15	21	10	0	30	2	30	10
Iron	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sulphates	14	13	65	92	74	125	170	165	46	65	50	48	25	58	12	35	20	112	90
P.P.D.																			
Alkalinity	6	2	0	0	0	2.2	1.2	1.2	1.7	0	0	0	0	0	6	0	.6	0	0
Acidity	2	9	2.2	3.6	1.2	0	1.9	3.0	2	1.2	.5	1.4	2.5	3.0	0	12.6	.1	3.6	1.0
Iron	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sulphates	1.7	1.6	9.4	27.6	4.4	18.0	40.8	49.5	5.5	7.8	3.0	4.6	3.0	17.4	1.4	14.7	1.2	13.4	8.6
March																			
Type Discharge	S	S	S	S	S	S	S	S	S	S	S	S	S	S	D&S	S	S	D	D
Flow GPM	5	8	15	5	10	8	15	12	2	10	4	3	5	8	4	12	4	8	5
Ph.	5.0	4.7	5.2	6.0	5.5	6.5	5.0	5.3	5.0	5.4	4.8	4.7	5.6	6.5	7.0	5.7	6.5	4.5	6.4
P.P.M.																			
Alkalinity	2	2	2	2	0	2	2	2	2	2	0	2	2	30	30	5	25	0	12
Acidity	14	22	8	2	10	5	5	5	8	5	23	10	20	2	2	2	0	20	0
Iron	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
Sulphates	95	115	120	62	42	64	137	105	20	48	108	62	74	36	25	80	35	15	36
P.P.D.																			
Alkalinity	.1	.2	.4	.1	0	.2	.4	.3	.05	.2	0	.07	.1	2.9	1.4	.7	1.2	0	.7
Acidity	.8	2.1	1.4	.1	1.2	.5	.9	.7	.2	.6	1.1	.4	1.2	.2	.1	.3	0	1.9	0
Iron	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.3	0
Sulphates	5.7	11.0	21.6	3.7	5.0	6.1	24.7	15.1	.5	5.8	5.2	2.2	4.4	3.5	1.2	11.5	1.7	1.4	2.2
April																			
Type Discharge	S	S	S	S	S	S	S	S	S	S	S	S	S	S	D&S	S	S	D	D
Flow GPM	3	5	8	8	3	5	5	12	8	5	3	2	3	2	5	10	2	8	5
Ph.	4.8	4.5	4.8	5.8	5.2	7.0	6.2	6.3	5.0	4.5	4.3	4.5	6.8	6.0	5.2	4.5	6.2	4.5	4.8
P.P.M.																			
Alkalinity	2	2	2	2	2	20	5	5	2	0	0	0	15	5	2	0	10	0	0
Acidity	21	15	18	2	7	2	5	5	18	12	30	10	2	2	8	30	2	25	12
Iron	0	0	0	0	0	0	0	0	0	2	4	1	0	0	0	0	0	3	2
Sulphates	110	115	105	68	65	104	120	180	82	76	38	85	8	62	75	150	35	113	88
P.P.D.																			
Alkalinity	.1	.1	.2	.2	.1	1.8	.3	.7	.2	0	0	0	.5	.1	.1	0	.2	0	0
Acidity	.6	.9	1.7	.2	.1	.3	.7	.7	1.7	.7	1	.2	.1	.5	.5	3.6	.1	2.4	.7
Iron	0	0	0	0	0	0	0	0	0	1	1	.1	0	0	0	0	0	.3	.1
Sulphates	3.9	6.9	10.1	6.5	2.3	6.2	7.2	26.9	7.9	4.6	13.7	8.1	.3	1.5	4.5	18.0	.8	10.8	5.1

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
MINE DRAINAGE STUDY
MAHONING CREEK WATERSHED

Sampling Point	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	
February																				
Type Discharge	D	S	D	D	D	D	D	S	D	D	D	D	D	D	D	D	D	D	D	D
Flow GPM	10	12	15	25	12	5	3	125	240	10	4	5	12	5	15	8	5	30	5	
Ph.	4.6	4.5	6.2	6.7	5.2	4.8	6.0	6.8	7.5	7.5	7.0	5.8	5.4	6.8	6.5	6.5	7.2	7.0	7.5	
P.P.M.																				
Alkalinity	0	0	10	45	2	0	28	35	95	70	30	2	2	0	0	2	70	65	85	
Acidity	20	30	2	0	15	30	0	0	0	0	0	2	5	18	15	24	0	0	0	
Iron	0	0	0	0	0	0	0	0	22	5	0	0	0	0	12	0	0	0	0	
Sulphates	124	95	46	150	133	145	72	56	134	124	28	63	110	18	36	24	45	52	65	
P.P.D.																				
Alkalinity	0	0	1.8	13.5	3	0	1.0	8.8	0	0	0	1	.3	0	0	2	4.2	23.4	5.1	
Acidity	2.4	4.3	4	0	2.2	1.8	0	0	273.8	8.4	1.4	1	.7	1.1	2.7	2.3	0	0	0	
Iron	0	0	0	0	0	0	0	0	63.4	0	0	0	0	0	2.2	0	0	0	0	
Sulphates	14.9	13.7	8.3	45.0	19.2	8.7	2.6	84.0	386.2	14.9	1.3	3.8	15.8	1.1	6.5	2.3	2.7	18.7	3.9	
March																				
Type Discharge	D	S	D	D	D	D	D	S	D	D	D	D	D	D	D	D	D	D	D	
Flow GPM	8	3	10	15	10	5	6	65	450	10	15	12	4	8	10	5	10	35	5	
Ph.	5.8	4.5	6.5	7.3	5.3	5.3	5.8	6.8	6.5	6.5	6.5	5.7	7.0	6.5	7.0	7.0	7.5	7.5	7.5	
P.P.M.																				
Alkalinity	2	0	10	50	5	2	2	35	100	20	5	5	30	30	40	15	6.5	70	60	
Acidity	5	28	2	0	5	2	2	0	25	2	2	2	0	0	0	2	0	0	0	
Iron	3	8	0	0	0	0	0	0	20	0	0	0	0	4	12	0	0	0	0	
Sulphates	85	52	35	98	92	84	54	90	30	22	13	80	25	36	74	16	41	39	62	
P.P.D.																				
Alkalinity	.2	0	1.2	9.0	.6	.1	.1	27.3	540.4	2.4	.9	.7	1.4	2.9	4.8	.9	7.8	29.4	3.6	
Acidity	.5	1.0	.2	0	.6	.1	.1	0	135.1	1.2	.4	.3	0	0	0	.1	0	0	0	
Iron	.3	.3	0	0	0	0	0	0	108.1	0	0	0	0	.4	1.4	0	0	0	0	
Sulphates	8.2	1.9	4.2	17.6	11.0	5.0	3.9	70.2	702.6	2.6	2.3	11.5	1.2	3.5	8.9	.9	4.9	16.4	3.7	
April																				
Type Discharge	D	S	D	D	D	D	D	S	D	D	D	D	D	D	D	D	D	D	D	
Flow GPM	5	3	4	15	8	3	12	35	285	15	5	10	10	5	5	3	5	25		
Ph.	5.6	4.7	6.7	7.4	5.0	5.3	6.8	7.0	7.5	6.5	6.5	5.2	7.0	7.0	6.8	6.7	7.5	7.5		
P.P.M.																				
Alkalinity	2	2	25	100	5	7	22	40	115	20	40	15	40	30	32	45	85	85		
Acidity	20	10	2	0	20	2	2	0	0	2	0	2	0	0	0	0	0	0		
Iron	2	5	0	0	0	0	0	0	30	.2	0	0	0	0	0	0	0	0		
Sulphates	74	62	24	168	158	115	124	85	192	.6	26	40	22	92	104	41	60	55		
P.P.D.																				
Alkalinity	1	6	2.1	18.0	.5	.1	3.2	16.8	393.6	3.6	2.4	1.8	4.8	1.8	1.9	1.6	5.1	5.1		
Acidity	1.2	1.2	.2	0	1.9	0	.3	0	0	.4	0	.3	0	0	0	.1	0	0		
Iron	1	1	0	0	0	0	0	0	72.7	0	0	0	.6	0	.3	0	0	0		
Sulphates	4.3	2.3	8.0	30.2	15.2	4.2	17.9	35.7	657.1	2.9	1.6	16.8	2.6	10.3	6.2	1.5	3.0	16.5		

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
MINE DRAINAGE STUDY
MAHONING CREEK WATERSHED

Sampling Point	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	
February																				
Type Discharge	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
Flow GPM	10	5.0	4.5	10	3.5	5	2.50	5.5	1300	60	8	5	5	2100	5	5	5	5	5	5
Ph.	7.2	7.4	7.0	7.2	6.5	6.8	7.0	6.4	6.2	7.2	7.4	7.5	7.3	6.2	7.5	6.8	6.7	6.5	6.5	6.5
P.P.M.																				
Alkalinity	90	180	195	75	40	30	310	0	0	180	195	140	105	0	80	35	30	142	156	
Acidity	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0	0	0	0	0	0
Iron	0	0	0	0	0	0	0	42	38	22	18	15	12	20	15	12	14	12	15	0
Sulphates	54	72	80	96	48	54	46	1950	625	225	185	90	145	170	60	165	168	160	175	
P.P.D.																				
Alkalinity	10.8	1118.9	105.4	9.0	37.8	1.8	930.7	0	0	129.7	18.7	8.4	6.3	0	4.8	8.1	23.4	76.7	28.1	
Acidity	0	0	0	0	0	0	0	0	0	0	0	0	0	564.8	0	0	0	0	0	0
Iron	0	0	0	0	0	0	0	27.7	593.3	15.9	1.7	9	7	504.4	9	7	2.5	6.5	2.7	
Sulphates	6.5	475.6	43.2	11.5	20.2	3.2	138.1	1288.0	975.8	162.1	17.8	5.4	8.7	4287.4	3.6	9.9	30.3	86.5	31.5	
March																				
Type Discharge	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
Flow GPM	10	250	50	18	7.5	8	7.5	50	850	55	5	5	5	2800	150	8	15	40	15	
Ph.	7.5	7.6	7.5	7.0	7.0	6.8	7.2	6.8	6.0	7.0	7.6	7.0	7.5	5.5	5.0	6.7	6.5	7.2	6.5	
P.P.M.																				
Alkalinity	70	150	200	20	50	15	55	250	85	200	210	145	75	5	0	100	100	160	110	
Acidity	0	0	0	0	0	0	0	20	60	0	0	0	0	7.5	180	20	45	455	25	
Iron	0	0	0	0	0	0	0	30	28	18	28	12	10	18	55	12	15	18	15	
Sulphates	49	6.6	62	65	52	65	72	400	450	52	600	110	92	145	450	260	160	175	184	
P.P.D.																				
Alkalinity	8.4	450.3	120.1	4.3	45.0	1.4	49.5	150.1	867.7	132.1	12.6	8.7	4.5	168.1	0	9.6	18.0	76.9	19.8	
Acidity	0	0	0	0	0	0	0	12.0	612.5	0	0	0	0	2225.0	324.1	1.9	8.1	2.4	4.5	
Iron	0	0	0	0	0	0	0	18.0	285.8	11.9	1.7	7	6	605.3	99.1	1.2	2.7	8.6	2.7	
Sulphates	5.9	198.1	37.2	14.1	46.8	6.2	64.9	240.1	4593.7	34.3	36.0	6.6	5.5	4875.9	810.6	24.9	28.8	84.1	33.1	
April																				
Type Discharge	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
Flow GPM	5	275	40	5	30	5	60	45	1150	55	5	5	3	1925	100					
Ph.	7.5	7.6	7.5	7.0	7.0	6.5	7.0	6.6	6.0	7.5	7.6	7.5	7.5	4.7	4.5					
P.P.M.																				
Alkalinity	60	220	205	75	35	20	35	300	100	200	210	120	85	0	0					
Acidity	0	0	0	0	0	2	0	35	30	0	0	10	10	30	200					
Iron	0	0	0	0	0	0	0	40	38	20	22	0	0	25	25					
Sulphates	92	74	79	62	62	82	72	2900	395	180	170	172	54	116	300					
P.P.D.																				
Alkalinity	3.6	726.6	98.5	4.5	12.6	1.3	25.2	162.1	138.1	132.0	12.6	7.2	3.1	0	0					
Acid.	0	0	0	0	0	0	0	18.9	414.3	0	0	0	0	693.5	240.2					
Iron	0	0	0	0	0	0	0	21.6	524.8	13.2	1.3	0	0	577.9	30.0					
Sulphates	5.5	244.4	66.4	3.7	22.3	4.9	25.8	1567.2	1545.5	118.8	10.2	10.3	1.9	2681.7	4443.6					

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
MINE DRAINAGE STUDY
MAHONING CREEK WATERSHED

Sampling Point	96	97	98	99	100	101	102	103	104	105
February										
Type Discharge	D	D	S	GP	GP	S	S	S	D	D
Flow GPM	25	30	12	8	5	13	5	10	8	5
Ph.	6.6	6.4	6.6	4.2	4.3	6.1	5.2	5.3	4.5	4.8
P.P.M.										
Alkalinity	140	133	110	0	0	10	2	2	0	0
Acidity	0	0	0	7.0	6.0	2	8	6	54	82
Iron	10	12	0	15	18	0	2	0	5	0
Sulphates	182	164	155	360	375	135	122	130	145	128
P.P.D.										
Alkalinity	42.0	47.9	15.8	0	0	1.8	.1	.2	0	0
Acidity	0	0	0	7.0	3.0	4	.5	.7	5.2	4.9
Iron	3.0	4.3	0	1.4	1.1	0	1	0	5	3.9
Sulphates	54.6	59.1	22.3	34.6	22.5	24.3	7.3	15.6	13.9	7.7
March										
Type Discharge	D	D	S	GP	GP	S	S	S	D	D
Flow GPM	20	30	15	8	5	15	10	8	5	10
Ph.	6.3	6.3	6.8	7.0	4.5	5.8	5.2	5.5	4.7	4.2
P.P.M.										
Alkalinity	120	110	140	80	0	20	2	2	0	0
Acidity	20	20	0	2	300	0	7	10	60	150
Iron	15	18	5	20	8	1	0	0	5	0
Sulphates	196	178	135	52	600	120	135	155	105	142
P.P.D.										
Alkalinity	28.8	39.6	25.2	7.7	0	3.6	.2	.2	0	0
Acidity	4.8	7.2	0	.2	18.0	0	.8	.9	3.6	18.0
Iron	3.6	6.5	9	1.9	.5	.2	0	0	.3	0
Sulphates	47.1	64.1	24.3	4.9	36.0	21.6	16.2	14.9	6.3	17.1
April										
Type Discharge	D	D	S	GP	GP	S	S	S	D	D
Flow GPM	2.5	30	8	5	3	8	5	5	3	5
Ph.	6.5	6.5	6.5	4.5	4.5	6.0	5.0	5.3	4.5	4.5
P.P.M.										
Alkalinity	105	110	100	0	0	35	5	5	0	0
Acidity	10	12	0	320	330	0	35	2	100	120
Iron	15	20	5	60	23	1	0	2	2	0
Sulphates	172	176	140	4600	5250	128	140	121	136	160
P.P.D.										
Alkalinity	33.0	37.8	9.6	0	0	3.4	.3	.3	0	0
Acidity	0	0	0	19.2	11.9	0	3.3	.1	0	100
Iron	4.5	6.6	.5	3.6	.8	0	0	0	3.6	0
Sulphates	51.7	63.4	13.4	336.3	189.2	12.3	8.4	7.3	4.9	9.6

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
MINE DRAINAGE STUDY
MAHONING CREEK WATERSHED

Sampling Point	MC 100	MC 101	MC 102	MC 103	MC 104	MC 105	MC 106	MC 107	MC 108	MC 109	MC 110	MC 111	MC 112
February													
Type Discharge													
Flow GPM	10,800	72,000	17,500	18,000	3,500	1,500	500	2,500	3,000	400	150	125	125
Ph.	6.5	6.4	7.0	5.8	6.7	6.5	6.7	6.5	6.0	6.2	6.4	6.3	6.7
P.P.M.													
Alkalinity	20	30	30	10	110	8	110	10	10	15	8	10	5
Acidity	5	5	5	12	60	0	60	5	5	0	2	0	2
Iron	2	0	0	1	0	0	3	0	0	0	0	0	0
Sulphates	52	54	26	36	86	94	92	27	67	21	56	32	75
P.P.D.													
Alkalinity	2,594	2,594	630.5	216.2	4,673	144.1	660.5	30.0	360.1	72.1	14.4	15.0	7.5
Acidity	648.5	432.3	105.0	259.4	252	0	360.3	15.0	180.1	0	3.6	0	3.0
Iron	259.4	0	0	21.6	0	0	18.0	0	0	0	0	0	0
Sulphates	6,744.6	4,669.3	546.4	778.2	3615	1,693.4	552.4	81.1	2,413.9	100.9	100.9	48.0	112.6
March													
Type Discharge													
Flow GPM	15,000	12,000	3,500	3,500	7,000	2,500	250	75	450.0	400	250	125	175
Ph.	6.5	6.5	7.0	5.5	7.0	6.5	6.6	6.4	5.8	6.0	6.0	6.0	5.8
P.P.M.													
Alkalinity	10	5	30	2	15	20	18	5	5	5	2	2	2
Acidity	2	2	0	8	0	0	0	2	2	2	2	2	2
Iron	0	0	0	2	0	0	0	0	0	0	1	0	0
Sulphates	66	63	36	35	20	124	39	74	17	24	65	20	30
P.P.D.													
Alkalinity	180.4	72.1	1,261.0	84.1	1,261.0	600.5	54.0	4.5	240	24.0	6.0	3.0	4.2
Acidity	360.3	288.2	0	336.3	0	0	0	1.8	959.2	9.6	6.0	3.0	4.2
Iron	0	0	0	84.1	0	0	0	0	0	0	3.0	0	0
Sulphates	11,889.5	9,079.3	1513.2	1,471.2	1,681.3	3,722.9	117.1	66.7	815.6	115.3	195.2	30.0	62.1
April													
Type Discharge													
Flow GPM	8,000	7,500	2,600	2,100	4,000	1,800	40	90	2,500	300	125	75	90
Ph.	7.0	7.0	7.5	5.4	6.5	6.7	6.5	6.0	6.5	6.6	6.2	6.2	7.0
P.P.M.													
Alkalinity	45	15	65	5	5	15	25	12	10	5	5	2	0
Acidity	0	2	0	12	2	2	2	2	2	2	2	2	0
Iron	0	0	0	0	0	0	0	4	0	0	0	0	3
Sulphates	7.0	0	58	62	18	255	65	95	18	22	80	28	96
P.P.D.													
Alkalinity	432.4	120	202.9	1,261.1	240.2	324.3	12.0	13	300.2	7.5	7.5	1.8	0
Acidity	0	135.1	0	314.25	96.1	43.2	96	2.2	60.1	3.0	3	1.8	0
Iron	0	180.1	0	0	0	0	0	4.4	0	0	0	0	3.2
Sulphates	6,725.4	10,808.6	1,811.0	1,563.6	8,647.5	12.4	31.22	102.7	5,404	79.26	120	25.2	102

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
MINE DRAINAGE STUDY
MAHONING CREEK WATERSHED

Sampling Point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
May																				
Type Discharge			S	S	S		S	S	S	S			S	D	D	D	D	D	D	D
Flow GPM			5	3	5		18	8	8	4			6.7	3	2	10	3	4	8	
Ph.		6.6	6.0	7.0		6.8	4.8	6.2						5.0	5.3	6.2	6.0	6.4	6.8	
P.P.M.																				
Alkalinity		20	5	30		35	0	12					22	0	0	5	5	15	20	
Acidity		2	2	0		0	0	14		2			0	18	22	2	5	0	2	
Iron		0	0	0		0	0	3		0			0	0	0	0	0	0	0	
Sulphates		17	40	88		30	28	20		20			8	12	18	220	65	144	60	
P.P.D.																				
Alkalinity		1.2	.2	1.8		7.6	0	.6		.6			.5	0	0	.6	.2	.1	1.9	
Acidity		.1	.1	0		0	1.3	.1		.1			0	.7	.5	.2	.2	.4	.2	
Iron		0	0	0		0	.3	0		0			0	0	0	0	0	0	0	
Sulphates		1.0	1.4	5.3		6.5	2.7	1.0		1.0			.2	.4	.4	26.4	2.3	7.5	5.8	
June																				
Type Discharge			S	S			S	S		S			S	D	D	D	D	D	D	D
Flow GPM			3	1		10	8	5		5			1	2	1	5	5	5	8	
Ph.		6.8	6.0			7.2	4.5	4.5		4.5			6.8	5.5		5.6	5.8	6.2	6.8	
P.P.M.																				
Alkalinity		7	10			30	0	0		0			20	2	2	2	2	10	15	
Acidity		2	2			2	15	7		7			0	8	15	15	5	2	2	
Iron		2	1			0	0	3		3			0	0	0	0	0	0	0	
Sulphates		24	50			8.6	30	95		95			12	45	76	72	72	60	80	
P.P.D.																				
Alkalinity		.3	0			3.6	0	.4		.4			.2	.1	.2	.2	.3	.6	1.4	
Acidity		.1	0			.2	3.2	.1		.1			0	2	.2	.2	.1	.1	.2	
Iron		0	0			0	0	.2		.2			0	0	0	0	0	0	0	
Sulphates		.9	0			10.3	6.4	57.0		57.0			.1	1.1	.9	4.3	3.6	8.2		
July																				
Type Discharge			S				S	S		S			S	D				D	D	D
Flow GPM			8			8	5	3		3			2	1				3	8	
Ph.		6.8				6.5	6.0	4.5		4.5			5.0	5.2				5.8	6.8	
P.P.M.																				
Alkalinity		45				25	15	0		0			5	0				2	35	
Acidity		2				0	2	30		15			5	15				8	0	
Iron		1				0	0	0		0			0	0				0	0	
Sulphates		158				25	290	410		315			520	290	15			70	65	
P.P.D.																				
Alkalinity		4.3				2.4	.9	0		.3			.1	0				.1	0	
Acidity		.2				0	.1	1.1		.9			.1	.2				.3	3.4	
Iron		.1				0	0	.1		.0			.0	0				.0	0	
Sulphates		0				2.4	17.4	14.7		18.9			12.5	7.0	.2			2.5	6.2	

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
MINE DRAINAGE STUDY
MAHONING CREEK WATERSHED

Sampling Point	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
May																			
Type Discharge	D	S	S	S	S	S	S	S	S	D		S	S	S	S	S	S	S	S
Flow GPM	3	10	10	8	3	10	4	2	80	8		2	8	5	2	2	4	4	
Ph.	4.8	7.0	6.1	4.8	4.6	5.3	5.7	5.8	4.6	4.5		4.8	6.6	5.7	5.7	6.5	7.0	5.4	
P.P.M.																			
Alkalinity	0	22	28	0	0	2	2	2	2	0		0	12	2	5	20	12	2	
Acidity	45	0	0	12	15	10	5	2	35	30		8	2	5	5	2	2	6	
Iron	5	2	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	
Sulphates	205	156	31	86	95	356	82	75	540	305		65	12	15	86	158	65	55	
P.P.D.																			
Alkalinity	0	2.6	3.4	0	0	2	1	1	1.9	0		0	1.2	1	1	1	1.2	1	
Acidity	1.6	0	0	1.2	1.5	1.2	2	1	33.6	2.9		2	2	3	1	1	1	3	
Iron	2	2	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	
Sulphates	7.4	18.7	3.7	8.3	3.4	42.8	3.9	1.8	518.8	29.0		1.6	1.2	9	2.1	5.8	2.9	2.6	
June																			
Type Discharge		S	S	S	S	S	S	S	S			S	S	S	S	S	S	S	S
Flow GPM		8	5	4		10	10	1	5			3	8	5	3	3	5	2	
Ph.		6.7	6.8	4.6		5.6	6.0	5.5	4.2			4.5	6.7	6.7	6.8	8.0	6.9		
P.P.M.																			
Alkalinity		18	12	0		0	5	0	0			0	12	20	35	95	15		
Acidity		0	2	18		15	5	24	50			10	0	2	0	0	0	2	
Iron		0	0	0		0	0	0	3			2	0	3	0	0	4	0	
Sulphates		145	90	110		95	85	65	620			84	15	15	65	180	180		
P.P.D.																			
Alkalinity		1.7	7	0		0	6	0	0			0	1.2	1.2	1.3	5.7	3		
Acidity		1.0	1	9		1.8	6	3	3.0			4	0	1	0	0	0	1	
Iron		0	0	0		10.1	0	0	2			1	0	2	0	0	2	0	
Sulphates		13.9	5.4	5.3		11.4	10.2	8	37.2			3.0	1.4	9	2.3	10.8	4.3		
July																			
Type Discharge	S	S	S			S	S	S	S	D			S			S	S		
Flow GPM	1	5	4			8	4	5	5	2			5			2	3		
Ph.	4.7	6.2	6.7			5.2	5.8	5.0	4.5	4.5			5.0			7.0	5.5		
P.P.M.																			
Alkalinity	0	12	18			0	12	0	0	0			0		35	2			
Acidity	42	0	0			18	5	18	45	35			8		0	10			
Iron	6	0	0			0	0	0	0	0			0		0	0			
Sulphates	110	125	30			245	65	450	700	350			110		45	75			
P.P.D.																			
Alkalinity	0	7	9			0	6	0	0	0			0		.8	1			
Acidity	5	0	0			1.7	2	10	2.7	8			.5		0	0	.4		
Iron	1	0	0			0	0	0	0	0			0		0	0	0		
Sulphates	1.3	7.5	1.4			22.5	3.1	27.0	42.0	8.4			6.6		1.1	2.7			

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
MINE DRAINAGE STUDY
MAHONING CREEK WATERSHED

Sampling Point	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	
May																				
Type Discharge	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Flow GPM	3	5	5	6		5	5	10	5	5	4	4	5	4	4	4	1	3	D	D
Ph.	4.5	5.0	5.0	6.0		7.0	4.9	5.2	4.8			4.8	6.8			4.6	6.8	4.5	3	6.8
P.P.M.																				
Alkalinity	2	2	2	10		3.5	2	2	2			0	15			0	10	5	4.5	4.5
Acidity	18	10	2	2		2	10	5	10			12	2			2.2	0	20	2	2
Iron	0	0	0	2		3	2	1	1			1	0			0	0	3	1	1
Sulphates	130	115	73			102	136	160	86			85	8			135	25	127	128	128
P.P.D.																				
Alkalinity	1	1	1	7		2.1	1	2	1			0	.9			0	1	2	1.6	1.6
Acidity	6	6	6	1		1	6	6	6			.6	1			1.1	0	.7	1	1
Iron	0	0	0	1		.2	1	1	1			1	0			0	0	1	0	0
Sulphates	4.7	6.9	5.3			6.1	16.3	19.2	5.2			4.0	.5			6.5	.3	4.6	4.6	4.6
June																				
Type Discharge	S	S	S	S		S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Flow GPM	2	2	5	5		8	10	12	3			5	4			5	4	3	D	D
Ph.	4.5	6.7	6.8			7.5	6.5	5.7	5.5			4.2	7.0			4.2	7.0	4.3		
P.P.M.																				
Alkalinity	0	40	30			50	10	10	2			0	30			0	30	0	0	0
Acidity	20	0	2			0	7	7	8			3.5	0			3.5	0	15	15	15
Iron	15	0	5			5	1	1	0			0	0			0	0	3	3	3
Sulphates	125	100	50			198	78	140	90			165	10			165	10	144		
P.P.D.																				
Alkalinity	5	1.0	1.8			4.8	1.2	1.4	7			0	1.4			0	1.4	0	0	0
Acidity	4	0	1			0	2	1.0	3			2.1	0			2.1	0	.4	.4	.4
Iron	3.0	0	3			.5	1	1	0			0	0			0	0	1	1	1
Sulphates	3.0	2.4	3.0			19.0	9.4	20.2	3.2			9.9	5			9.9	5	5.2	5.2	5.2
July																				
Type Discharge						S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Flow GPM						4	5		4			5	1			5	1	2	D	D
Ph.						7.3	5.2		6.0	5.8		4.2	6.5			4.2	6.5	4.0		
P.P.M.																				
Alkalinity						7.5	10		2.5	1.5		0	1.5			0	1.5	0	0	0
Acidity						0	3.5		5	0		4.5	0			4.5	0	30	30	30
Iron						0	2		3	0		0	0			0	0	0	0	0
Sulphates						148	104		135	110		7.5	2.5			7.5	2.5	1.80		
P.P.D.																				
Alkalinity						3.6	6		1.2	.2		0	.2			0	.2	0	0	0
Acidity						0	2.1		1.2	0		2.7	0			2.7	0	.7	.7	.7
Iron						0	1		1	0		0	0			0	0	0	0	0
Sulphates						7.1	6.2		6.5	1.3		4.5	.3			4.5	.3	4.3	4.3	4.3

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
MINE DRAINAGE STUDY
MAHONING CREEK WATERSHED

Sampling Point	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	
May																				
Type Discharge	D	S	D	D	D			S	D	D	D	D	D	D	D	D	D	D	D	D
Flow GPM	4	3	5	12	5			25	190	15	10	8	8	4	5	3	5	15		
Ph.	5.8	4.5	6.5	6.8	5.2			6.8	6.6	7.4	6.8	5.5	7.0	6.8	6.8	6.4	7.5	7.5		
P.P.M.																				
Alkalinity	5	0	15	6.0	2			2.5	11.0	4.5	3.5	8	15	12	2.5	4.0	9.0	10.0		
Acidity	12	15	2	0	15			0	1.0	0	0	2	0	2	0	2	0	0		
Iron	3	8	3	0	0			0	4.2	4	0	0	0	0	8	0	0	0		
Sulphates	7.2	6.5	2.1	14.5	16.0			9.0	18.0	2.4	2.2	13.5	3.5	7.5	10.2	2.4	7.6	6.2		
P.P.D.																				
Alkalinity	.21	0	.9	8.7	.1			7.5	251.0	8.1	4.2	.8	1.4	.6	1.5	1.4	5.4	18.0		
Acidity	.6	.5	.1	0	.9			0	22.8	0	0	.2	0	.1	0	.1	0	0		
Iron	.1	.3	.2	0	0			0	95.8	.7	0	0	0	0	.5	0	0	0		
Sulphates	3.5	2.3	1.3	20.9	9.6			27.0	410.7	4.3	2.6	13.0	3.4	3.6	6.1	.8	4.6	11.2		
June																				
Type Discharge	D		D	D				S	D	D	D	D	D	D	D	D	D	D	D	D
Flow GPM	3		5	3				2.5	47.5	12	5	2		3	3	1	5	10		
Ph.	5.8		7.0	5.3				6.8	6.5	7.5	6.9	7.4		6.7	7.2	7.0	8.0	7.0		
P.P.M.																				
Alkalinity	2		9.5	5				3.5	12.5	6.5	3.0	4.5		6.0	3.0	5.5	1.0	12.0		
Acidity	15		2	30				0	2.5	2	2	2		0	20	2	0	0		
Iron	3		1	2				0	12	5	4	1		1	12	0	0	2		
Sulphates	6.5		1.80	16.8				7.0	17.5	3.0	1.20	1.2		3.2	1.20	4.8	7.2	6.6		
P.P.D.																				
Alkalinity	.1		5.7	1.1				10.5	713.1	9.4	1.8	1.0		2.2	1.10	0	10.2	14.4		
Acidity	.5		0	.2				0	142.8	.3	.1	.1		0	.7	0	0	0		
Iron	.1		0	0				0	68.5	.7	.2	.02		.04	.4	0	0	.2		
Sulphates	2.3		10.8	6.1				21.0	998.3	4.3	7.2	.3		1.2	4.3	.6	4.3	7.9		
July																				
Type Discharge					D			S	D	D	D			D	D		D	D	D	D
Flow GPM					3			5	4.50	5	3			2	3		3	5		
Ph.					5.3			7.5	6.7	6.5	6.6			6.8	7.2		7.5	7.7		
P.P.M.																				
Alkalinity					10			14.0	130	140	6.5			5.5	3.0		16.0	13.0		
Acidity					7			0	20	10	0			0	0		0	0		
Iron					0			0	16	15	3			1	15		0	0		
Sulphates					176			19.2	19.0	196	40			2.8	9.6		100	9.8		
P.P.D.																				
Alkalinity					4			16.8	2.7	702.5	8.4	2.3		1.3	1.0		5.8	7.8		
Acidity					.3			0	108.0	.6	0			0	0		0	0		
Iron					0			0	81.0	.9	.1			.02	.5		0	0		
Sulphates					6.3			23.1	4.2	1026.8	11.8	1.4		.7	3.4		3.6	5.9		

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
MINE DRAINAGE STUDY
MAHONING CREEK WATERSHED

Sampling Point	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
May																			
Type Discharge	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
Flow GPM	5	35	20	8	20	6	25	40	85	40	5	5	2	1800	125		15	0	0
Ph.	7.3	8.0	7.5	6.7	7.2	6.7	7.2	6.8	6.5	7.2	7.5	7.2	7.6	4.5	4.5		7.2	7.5	8.0
P.P.M.																			
Alkalinity	8.0	180	190	35	50	20	48	350	130	185	215	110	220	0	0		105	140	115
Acidity	0	0	0	2	0	2	0	0	25	0	0	0	0	80	210		0	0	0
Iron	0	0	0	1	0	0	0	45	35	25	20	15	12	22	20		12	14	10
Sulphates	110	82	65	68	70	94	70	2800	370	190	175	160	170	340	390		172	172	180
P.P.D.																			
Alkalinity	4.8	75.7	45.6	1	12.0	1.4	14.4	168.1	132.7	88.8	12.9	6.6	5.3	0	0		12.6	42.0	27.6
Acidity	0	0	0	0	0	0	0	0	251.0	0	0	0	0	1729	315.2		0	0	0
Iron	0	0	0	0	0	0	0	21.6	22.8	12.0	1.2	.9	.3	475.6	30.0		.2	4.2	2.4
Sulphates	6.6	34.5	15.6	6.5	6.9	6.8	21.0	1345.0	377.7	91.3	10.5	9.6	4.1	7440	585.4		20.6	51.6	43.2
June																			
Type Discharge	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D				
Flow GPM	2	15	12	10	15	3	40	50	550	40	5	2	2	1200	120		15	30	15
Ph.	6.6	7.8	7.7	6.2	7.0	6.8	7.0	8.0	6.3	8.0	8.0	8.5	8.0	4.5	4.5		7.7	6.5	8.0
P.P.M.																			
Alkalinity	70	200	255	40	50	35	48	350	120	210	200	210	120	5	0		110	140	125
Acidity	0	0	0	2	0	0	0	0	65	0	0	0	0	20	120		0	0	0
Iron	2	1	1	1	2	0	0	28	18	15	15	5	8	35	8		1	25	15
Sulphates	134	98	72	72	76	68	70	3950	440	175	190	172	106	275	285		228	164	140
P.P.D.																			
Alkalinity	1.7	1.7	36.7	4.8	9.0	1.3	23.1	210.1	792	34.5	12.0	5.1	8.9	28.0	0		19.8	50.4	22.5
Acidity	0	0	0	.2	0	0	0	0	429.3	0	0	0	0	72.2	172.9		0	0	0
Iron	1	0	0	0	.4	0	0	16.8	118.9	4.5	10	.1	.2	288.2	11.5		2.0	4.5	2.7
Sulphates	3.2	58.8	13.8	8.6	13.7	2.4	33.6	2371.8	290.6	0	11.4	4.1	2.5	3963	346.4		41.1	59.1	25.2
July																			
Type Discharge	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D				
Flow GPM	3	40	12	15	5		25	40	500	25				1100	110		12	12	15
Ph.	6.8	7.9	7.2	7.5	7.0		6.8	7.0	6.3	7.5				5.0	4.3		7.5	7.5	7.5
P.P.M.																			
Alkalinity	70	250	180	60	80		30	360	175	125				30	0		115	140	140
Acidity	0	0	0	0	0		0	25	30	0				80	90		0	0	0
Iron	0	0	0	0	0		0	28	15	22				22	18		15	15	15
Sulphates	196	140	65	94	102		62	1875	450	160				300	180		204	210	220
P.P.D.																			
Alkalinity	2.5	120.1	25.9	10.8	4.8		9.0	172.9	105.1	37.5				396.3	0		16.5	20.2	25.2
Acidity	0	0	0	0	0		0	12.0	1.2	0				1058	118.9		0	0	0
Iron	0	0	0	0	0		0	13.4	3.6	6.6				390.6	23.8		2.2	2.2	2.7
Sulphates	7.1	67.3	9.4	18.9	6.1		18.6	900.7	2702.1	48.0				3963	1237.8		11.7	29.4	30.3

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
MINE DRAINAGE STUDY
MAHONING CREEK WATERSHED

Sampling Point	96	97	98	99	100	101	102	103	104	105
May										
Type Discharge	D	D	S	GP	GP	S	S	S	D	D
Flow GPM	15	15	6	3	2	5	4	5	2	4
Ph.	7.0	6.7	6.5	4.2	4.5	5.8	6.0	5.5	4.5	6.0
P.P.M.										
Alkalinity	130	120	90	0	0	30	15	18	0	20
Acidity	0	20	0	350	320	0	5	2	90	0
Iron	12	12	4	50	35	0	0	0	0	0
Sulphates	180	172	130	4500	4800	128	135	130	140	165
P.P.D.										
Alkalinity	23.4	21.6	6.5	12.6	7.7	1.8	.7	1.1	0	1.0
Acidity	0	3.6	0	0	0	0	.2	.1	2.2	0
Iron	2.2	2.2	.3	1.8	.8	0	0	0	0	0
Sulphates	32.4	31.0	9.4	162.1	115.3	7.7	6.5	7.8	3.4	7.9
June										
Type Discharge		D	S	GP			S	S	D	
Flow GPM		25	5	2			5	5	1	
Ph.		8.0	7.5	4.5			5.8	5.2	5.5	
P.P.M.										
Alkalinity		115	80	0			15	10	6	
Acidity		0	0	390			2	2	4	
Iron		15	8	13			0	3	0	
Sulphates		440	310	6100			120	118	115	
P.P.D.										
Alkalinity		792.6	4.8	0			.9	.6	.1	
Acidity		0	0	9.4			.1	.1	.1	
Iron		118.9	.5	.3			.0	.2	.0	
Sulphates		290.6	18.6	195.3			7.3	7.1	1.4	
July										
Type Discharge		D	S	GP		S	S	S	D	D
Flow GPM		20	2	2		3	2	3	2	3
Ph.		7.0	6.2	4.0		5.8	6.2	5.2	4.5	4.5
P.P.M.										
Alkalinity		150	25	0		5	10	0	0	0
Acidity		5	0	425		2	0	15	95	135
Iron		15	0	45		0	0	0	0	0
Sulphates		170	60	3800		120	65	110	170	155
P.P.D.										
Alkalinity		26.0	.6	0		.2	.2	0	0	0
Acidity		1.2	0	10.2		.1	0	.5	2.3	4.9
Iron		3.6	0	1.1		0	0	0	0	0
Sulphates		40.8	1.4	91.3		4.3	1.3	3.4	4.1	5.6

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
MINE DRAINAGE STUDY
MAHONING CREEK WATERSHED

Sampling Point	MC100	MC101	MC102	MC103	MC104	MC105	MC106	MC107	MC108	MC109	MC110	MC111	MC112
May													
Type Discharge													
Flow GPM	5500	3800	700	750	1500	600	25	75	1200	225	110	45	60
Ph.	6.7	6.4	6.7	6.0	6.6	6.5	6.6	5.7	6.7	6.6	6.7	6.5	6.8
P.P.M.													
Alkalinity	60	40	85	15	10	18	30	15	12	5	5	8	40
Acidity	0	2	0	2	2	2	2	12	2	2	2	5	0
Iron	0	0	0	0	0	0	0	1	0	0	0	0	0
Sulphates	130	158	76	98	77	240	68	110	15	20	21	39	85
P.P.D.													
Alkalinity	396.3	182.5	74.5	135.1	180.1	129.7	9.0	13.5	172.93	13.51	6.6	4.0	28.82
Acidity	0	91.3	0	18.0	36.1	14.4	6	10.8	26.8	5.40	2.6	2.7	0
Iron	0	0	0	0	0	0	0	900	0	0	0	0	0
Sulphates	8586	7211	638.9	882.8	1387	1729	20.4	99.07	3194	54.04	27.2	21.0	61.25
June													
Type Discharge													
Flow GPM	2400	2100	400	150	800	200	20	50	700	125	100	30	40
Ph.	7.5	7.7	7.3	6.0	7.2	7.5	7.3	6.7	7.2	7.3	6.0	6.5	6.5
P.P.M.													
Alkalinity	75	90	40	20	30	50	20	20	20	35	20	25	22
Acidity	2	0	2	2	2	0	2	2	2	0	2	0	2
Iron	2	0	0	0	1	0	0	0	0	0	0	0	0
Sulphates	235	154	164	76	32	325	80	100	85	45	124	44	80
P.P.D.													
Alkalinity	216.0	226.9	192.1	36.02	288	120.0	4.8	12.0	168	52.5	24.0	9.0	10.6
Acidity	572	0	9.6	3.6	19.2	0	.5	1.2	16.8	0	2.4	0	0
Iron	572	0	0	0	8.6	0	0	0	0	0	0	0	0
Sulphates	342.3	388.3	787.8	36.9	307.8	7746	19.21	60.04	745	67.5	148.9	15.9	38.4
July													
Type Discharge													
Flow GPM	2000	1800	150	125	250	150	25	50	300	60	75	40	25
Ph.	7.4	7.5	6.8	6.8	7.0	7.5	6.5	6.2	7.0	6.7	7.0	6.2	6.8
P.P.M.													
Alkalinity	45	100	35	20	30	75	20	15	30	8	25	15	20
Acidity	2	0	2	2	2	0	4	5	0	2	2	2	2
Iron	0	1	0	0	0	0	0	0	0	0	0	0	0
Sulphates	144	86	172	98	32	325	50	85	32	18	776	22	80
P.P.D.													
Alkalinity	1080	2162	630	300	198	135.1	6	9	108.1	5.8	22.5	7.2	6
Acidity	480	0	3.6	2	13.2	0	1.2	3.0	7.2	1.4	1.8	1.0	6
Iron	0	21.6	0	0	0	0	0	0	0	0	0	0	0
Sulphates	3458	188.30	309.8	147.1	212.5	585.47	15.0	51.0	115.3	13.0	699.0	10.6	24.0

SAMPLING POINTS

	Flow GPM	pH	Parts per Million			Pounds per Day			Sulphat	
			Alkalinity	Acidity	Iron	Sulphates	Alkalinity	Acidity		Iron
MC-3										
Maximum	10	6.8	45	2	2	158	4.3	.2	.1	3.8
Average	6	6.6	15	2	0	39	1.9	.1	0	1.3
Minimum	2	6.5	2	2	0	10	.3	.1	0	0
MC-7										
Maximum	18	7.2	45	2	0	74	8.1	2.4	0	10.3
Average	13	6.7	25	1	0	34.8	3.9	.5	0	5.3
Minimum	8	6.5	2	0	0	8.6	.4	0	0	2.4
MC-9										
Maximum	15	6.0	15	20	3	290	.9	3.2	.3	19.8
Average	9	5.0	3	12	.5	80	.25	1.9	.05	9.0
Minimum	5	4.5	0	2	0	8	0	.1	0	1.4
MC-10										
Maximum	20	7.0	60	30	3	410	14.4	2.0	.2	57.0
Average	8	5.6	14	10.5	.5	120	2.7	.8	.05	18.1
Minimum	3	4.5	0	2	0	20	0	.1	0	1.0
MC-13										
Maximum	15	6.8	22	5	0	290	.5	.9	0	24.8
Average	4	6.2	12	2	0	78	.3	.2	0	6.0
Minimum	1	5.1	2	0	0	8	.1	0	0	.1
MC-14										
Maximum	10	5.5	2	25	4	55	.1	3.0	.19	6.6
Average	5	5.1	.3	17	.7	31	.02	1.2	.03	2.6
Minimum	1	4.8	0	8	0	12	0	.2	0	.2
MC-18										
Maximum	12	6.5	15	8	0	144	1.7	.7	0	10.4
Average	6	6.1	7	3	0	86	.6	.3	0	6.1
Minimum	3	5.8	2	0	0	70	.1	.1	0	2.5
MC-19										
Maximum	10	7.0	35	2	1	80	3.6	3.4	.1	8.2
Average	8	6.6	18	1.3	.2	67	1.2	.7	.02	6.8
Minimum	5	6.5	2	0	0	50	0	.1	0	3.0
MC-21										
Maximum	15	7.0	35	2	2	156	6.3	1.0	.2	160.2
Average	10	6.4	17	.7	.5	120	2.2	.2	.05	37.8
Minimum	5	6.0	2	0	0	42	.2	0	0	5.0
MC-22										
Maximum	15	6.8	30	2	0	90	5.4	.1	0	5.4
Average	10	6.6	22	.3	0	36	3.2	.02	0	3.8
Minimum	4	6.1	12	0	0	20	.7	0	0	1.4

	Flow GPM	pH	Parts per Million			Pounds per Day			Sulphat	
			Alkalinity	Acidity	Iron	Sulphates	Alkalinity	Acidity		Iron
<u>MC-25</u>										
Maximum	18	5.6	5	18	0	356	.7	2.6	10.1	48.6
Average	10	5.3	1	11	0	230	.15	1.4	1.7	28.8
Minimum	5	5.2	0	5	0	95	0	.5	0	11.4
<u>MC-26</u>										
Maximum	40	6.0	12	15	0	85	.6	7.2	0	28.8
Average	15	5.8	4	7	0	71	.4	1.8	0	11.9
Minimum	4	5.7	0	5	0	60	0	.2	0	3.1
<u>MC-27</u>										
Maximum	15	5.8	2	24	0	450	.4	1.0	0	27.0
Average	5	5.4	1	13	0	132	.1	.6	0	10.2
Minimum	1	5.0	0	2	0	50	0	.1	0	.8
<u>MC-28</u>										
Maximum	80	6.5	5	50	3	700	1.9	33.6	.2	518.8
Average	36	4.3	1	32	.5	469	.4	11.4	.03	169.0
Minimum	5	4.2	0	18	0	78	0	3.0	0	37.2
<u>MC-32</u>										
Maximum	25	6.8	15	8	0	137	4.5	1.2	.2	32.4
Average	12	6.1	9	3	0	51	1.5	.4	.03	8.3
Minimum	5	5.0	0	0	0	8	0	0	0	.6
<u>MC-35</u>										
Maximum	10	7.0	35	2	0	185	1.3	.2	0	22.2
Average	4	6.6	17	1.3	0	123	.5	.9	0	7.09
Minimum	2	6.2	2	0	0	45	.1	0	0	1.1
<u>MC-36</u>										
Maximum	75	8.0	95	10	4	180	5.7	1.8	.2	42.3
Average	17	6.5	60.5	4	.7	80	1.6	.6	.03	12.0
Minimum	3	5.5	2	0	0	47	.1	0	0	2.7
<u>MC-44</u>										
Maximum	12	7.5	75	5	5	198	4.8	.5	.5	19.0
Average	7	7.0	29	1.5	1.3	122.5	2.45	.1	.1	10.4
Minimum	4	6.5	2	0	0	64	.2	0	0	6.1
<u>MC-45</u>										
Maximum	20	6.5	10	35	2	170	1.2	2.1	.1	40.8
Average	10	5.6	5.6	10	.9	116	.6	1.0	.05	16.6
Minimum	5	4.9	2	2	0	78	.1	.2	0	6.2
<u>MC-47</u>										
Maximum	10	6.0	25	18	3	135	1.7	1.7	.1	7.9
Average	5.3	5.3	7.5	8.5	6.6	77	.73	.5	.03	6.8
Minimum	2	4.8	2	2	0	20	.1	.2	0	.5

	Flow GPM	Parts per Million				Pounds per Day				
		pH	Alkalinity	Acidity	Iron	Sulphates	Alkalinity	Acidity	Iron	Sulphate
<u>MC-54</u>										
Maximum	35	5.7	5	45	0	165	.7	12.6	0	18.0
Average	12	4.7	.9	22.3	0	98.3	.1	3.56	0	10.8
Minimum	5	4.2	0	2	0	35	0	.3	0	4.5
<u>MC-55</u>										
Maximum	5	7.0	30	2	0	35	1.6	.1	0	1.7
Average	2.9	6.6	16.6	.6	0	25	.6	.02	0	.8
Minimum	1	6.2	10	0	0	10	.1	0	0	.3
<u>MC-56</u>										
Maximum	10	4.5	5	30	3	180	.2	3.7	.3	13.4
Average	5.7	4.37	.9	23	2	115	.03	1.6	1.3	5.1
Minimum	2	4.0	0	15	0	15	0	.4	0	1.4
<u>MC-65</u>										
Maximum	65	7.2	45	0	0	90	27.3	0	0	84.0
Average	27.9	6.9	36	0	0	77	12.1	0	0	39.7
Minimum	5	6.8	25	0	0	56	2.7	0	0	4.2
<u>MC-66</u>										
Maximum	475	7.5	130	25	42	192	713.1	273.8	108.1	1026.8
Average	348	6.9	112	13	24	167	435.1	130.4	75.2	480.3
Minimum	190	6.5	95	0	12	130	0	0	63.4	386.2
<u>MC-67</u>										
Maximum	15	7.5	140	10	15	196	9.4	8.4	.9	14.9
Average	11	7.0	33	3	4.9	66.1	5.3	1.8	.4	6.8
Minimum	5	6.5	20	0	0	.6	0	0	0	2.6
<u>MC-68</u>										
Maximum	15	7.0	65	2	4	120	4.2	1.4	.2	7.2
Average	7	6.7	34	.7	1	42	1.9	.3	.05	2.7
Minimum	3	6.5	5	0	0	13	0	0	0	1.3
<u>MC-71</u>										
Maximum	8	7.0	60	18	4	92	2.9	1.1	.4	10.3
Average	4	6.8	31	3.3	1	42	1.5	.2	.02	3.4
Minimum	2	6.5	0	0	0	18	0	0	0	.7
<u>MC-72</u>										
Maximum	15	7.2	40	20	15	120	4.8	2.7	2.2	8.9
Average	7	6.9	26	6	11	88	1.7	.6	.9	5.9
Minimum	3	6.5	0	0	5	36	0	0	.3	3.4
<u>MC-74</u>										
Maximum	10	8.0	170	0	0	100	10.2	0	0	4.9
Average	5.5	7.5	107.	0	0	64	6.4	0	0	3.8
Minimum	3	7.2	65	0	0	41	4.2	0	0	2.7

	Flow GPM	pH	Parts per Million			Pounds per Day				
			Alkalinity	Acidity	Iron	Sulphates	Alkalinity	Acidity	Iron	Sulphate
<u>MC-75</u>										
Maximum	35	7.7	130	0	2	98	29.4	0	.2	18.7
Average	20	7.4	95	0	.5	62	16.4	0	.03	12.8
Minimum	5	7.0	65	0	0	39	5.1	0	0	5.9
<u>MC-77</u>										
Maximum	10	7.5	90	0	0	196	10.8	0	.1	7.1
Average	6	7.2	73	0	0	106	5.3	0	.02	5.8
Minimum	2	6.6	60	0	0	49	1.7	0	0	3.2
<u>MC-78</u>										
Maximum	550	8.0	250	0	1	140	1118.9	0	0	475.6
Average	194	6.9	197	0	.16	87	415.37	0	0	178.7
Minimum	15	7.4	150	0	0	66	1.7	0	0	34.5
<u>MC-79</u>										
Maximum	50	7.7	255	0	1	80	105.4	0	0	66.4
Average	30	7.3	204	0	.16	65.5	53.7	0	0	30.9
Minimum	12	7.0	180	0	0	62	25.9	0	0	9.4
<u>MC-80</u>										
Maximum	18	7.5	75	2	1	96	10.8	.2	0	16.9
Average	11	6.9	51	.67	.3	76	5.6	.03	0	10.2
Minimum	5	6.2	20	0	0	62	.1	0	0	3.7
<u>MC-81</u>										
Maximum	75	7.2	80	0	2	102	45.0	0	.4	46.8
Average	30	6.9	51	0	.3	68.3	20.3	0	.67	19.3
Minimum	5	6.5	35	0	0	48	4.8	0	0	6.1
<u>MC-83</u>										
Maximum	250	7.2	310	0	0	72	930.7	0	0	138.1
Average	87.5	7.3	87.7	0	0	65.3	34.9	0	0	30.3
Minimum	25	6.8	30	0	0	46	9.0	0	0	18.6
<u>MC-84</u>										
Maximum	55	8.0	360	35	45	3950	210.1	18.9	27.27	2371.8
Average	46.7	6.9	268	13	39	2312.5	143.9	7.2	21.5	1285.7
Minimum	40	6.4	0	0	28	400	0	0	13.4	240.1
<u>MC-85</u>										
Maximum	1300	6.5	175	65	38	625	1381.1	612.5	593.3	9757.8
Average	739	6.2	101.7	38	29	435	700.8	284.7	258.2	4512.75
Minimum	85	6.0	0	0	15	370	0	0	3.6	290.6
<u>MC-86</u>										
Maximum	60	8.0	210	0	25	225	132.1	0	15.9	162.1
Average	45.9	7.4	183	0	20	163	94.1	0	10.7	75.75
Minimum	25	7.0	125	0	15	52	34.5	0	4.5	0

Flow GPM	pH	Parts per Million				Pounds per Day			
		Alkalinity	Acidity	Iron	Sulphates	Alkalinity	Acidity	Iron	Sulphates

MC-90

Maximum	2800	5.3	30	80	35	340	396.3	2225.0	605.3	7440
Average	1820	4.87	6.7	39.9	23.7	224	98.6	1055.4	473.6	4535.2
Minimum	1100	4.5	0	7.5	18	116	0	72.2	288.2	2681.7

MC-91

Maximum	150	7.5	80	210	55	450	4.8	324.1	99.1	4443.6
Average	101.7	5.05	13.3	133	23.5	277.5	.8	195.2	32.6	1071.7
Minimum	5	4.3	0	0	8	60	0	0	.9	3.6

MC-93

Maximum	15	7.7	130	45	18	228	23.4	8.1	3.2	41.1
Average	14.5	7.15	108	10	10	184	17.75	1.35	2.1	30.2
Minimum	12	6.5	90	0	1	160	12.6	0	.2	20.6

MC-94

Maximum	45	7.5	160	455	125	210	117.7	2.4	16.8	147.9
Average	32	6.97	144	77.8	34	176	63.98	.4	6.8	76.6
Minimum	12	6.5	140	0	12	160	20.2	0	2.2	30.3

MC-97

Maximum	30	8.0	150	20	20	440	792.6	7.2	118.9	290.6
Average	25	6.8	123	9.5	15.3	216.7	160.9	2.0	23.7	91.3
Minimum	15	6.3	110	0	12	164	21.6	0	2.2	31.0

MC-98

Maximum	15	7.5	140	0	8	340	25.2	0	.9	24.3
Average	8	6.7	545	0	3.7	155	10.4	0	.37	14.6
Minimum	2	6.2	25	0	0	60	.6	0	0	1.4

MC-99

Maximum	8	7.0	80	425	60	6100	12.6	19.2	3.6	336.3
Average	4.7	4.7	13.3	248	34.7	3235.3	3.4	6.5	1.7	137.4
Minimum	2	4.0	0	0	13	52	0	0	.3	4.9

MC-102

Maximum	10	6.2	15	35	2	140	.9	3.3	.1	16.2
Average	5.2	5.4	8.1	9.5	.3	118	.4	.8	.017	7.8
Minimum	2	5.0	2	0	0	55	0	0	0	1.3

MC-103

Maximum	10	5.5	18	15	3	155	1.1	.9	.2	15.6
Average	6	5.3	6.1	7.8	.83	127.3	.4	.4	.03	9.3
Minimum	3	5.2	0	2	0	110	0	.1	0	3.4

MC-104

Maximum	8	5.5	6	100	5	170	.1	5.2	3.6	13.9
Average	3.5	4.7	1	67.2	2	135.2	.02	2.2	.7	5.7
Minimum	1	4.5	0	4	0	105	0	.1	0	1.4

MAIN STREAM SAMPLES

	Flow GPM	pH	Parts per Million				Pounds per Day			
			Alkalinity	Acidity	Iron	Sulphates	Alkalinity	Acidity	Iron	Sulphate
<u>MC-100</u>										
Maximum	15000	7.5	75	5	2	235	4323.4	648.5	259.4	11889.5
Average	7283	6.9	42.5	1.8	.67	105.7	1346.1	185.5	52.8	6292.6
Minimum	2000	6.5	10	0	0	7.0	216.0	0	0	342.3
<u>MC-101</u>										
Maximum	12000	7.7	100	5	1	158	2594.0	1351.1	180.1	10808.6
Average	5733	6.9	46.7	2.8	.17	85.8	1233.3	260.5	33.6	5973.25
Minimum	1800	6.4	5	0	0	0	72.1	0	0	188.30
<u>MC-102</u>										
Maximum	3500	7.5	85	5	0	172	1261.0	105.0	0	1811.0
Average	1517	7.05	47.05	1.5	0	88.7	510.7	19.7	0	934.5
Minimum	150	6.7	30	0	0	26	63.0	0	0	309.8
<u>MC-103</u>										
Maximum	3500	6.8	20	12	2	98	1261.1	31425	84.1	1563.6
Average	1404	5.9	12	6.3	.5	67.05	293.8	5240.4	17.6	829.97
Minimum	125	5.4	2	2	0	35	30.0	.2	0	136.9
<u>MC-104</u>										
Maximum	7000	7.2	110	60	1	86	4673	2521	8.6	3615
Average	2918	6.9	33.3	11.3	.1	44.15	1140.1	447.6	1.43	1136.7
Minimum	250	6.5	5	0	0	18	180.1	0	0	212.5
<u>MC-105</u>										
Maximum	2500	7.5	75	2	0	325	600.5	43.2	0	7746
Average	1125	6.87	31	.6	0	230.5	242.3	9.6	0	3498.19
Minimum	150	6.5	8	0	0	94	144.1	0	0	585.47
<u>MC-106</u>										
Maximum	500	7.3	110	60	3	92	660.5	360.3	18.0	552.4
Average	143.3	6.7	37.1	11.67	.05	65.7	124.4	60.59	3	129.5
Minimum	20	6.5	18	0	0	39	4.8	0	0	15.0
<u>MC-107</u>										
Maximum	250	6.7	20	12	4	110	30.0	15.0	4.4	102.7
Average	98.3	6.2	12.8	4.67	.9	81.8	12.0	5.6	.9	76.8
Minimum	50	5.7	5	2	0	27	4.5	1.2	0	51.0
<u>MC-108</u>										
Maximum	4500	7.2	30	5	0	85	360.1	959.2	0	3194
Average	2033	6.5	14.5	2.1	0	39	224.9	208.7	0	1304.03
Minimum	300	5.8	5	0	0	15	108.1	7.2	0	115.3
<u>MC-109</u>										
Maximum	400	7.3	35	2	0	45	72.1	9.6	0	115.3
Average	251.7	6.57	9.69	1.3	0	25	29.23	3.2	0	71.7
Minimum	60	6.0	.15	0	0	18	5.8	0	0	13.0

MAIN STREAM SAMPLES

	Flow GPM	pH	Parts per Million				Pounds per Day			
			Alkalinity	Acidity	Iron	Sulphates	Alkalinity	Acidity	Iron	Sulphate
<u>MC-110</u>										
Maximum	250	7.0	25	2	1	776	24.0	6.0	3.0	699.0
Average	135	6.4	10.8	2	.1	287	13.5	3.23	.5	297.2
Minimum	75	6.0	2	2	0	21	6.0	1.8	0	27.2
<u>MC-111</u>										
Maximum	125	6.5	28	5	0	44	15.0	3.0	0	48.0
Average	73.3	6.3	10.3	2.8	0	30.8	6.6	1.4	0	25.1
Minimum	30	6.0	2	0	0	20	1.8	0	0	10.6
<u>MC-112</u>										
Maximum	175	7.0	40	2	3	96	28.82	4.2	3.2	112.6
Average	85.8	6.6	14.9	1.3	.5	71	9.52	1.3	.5	66.7
Minimum	25	5.8	0	0	0	30	0	0	0	24.0