

Water Quality Analysis
Morgan Mill Groundwater Monitoring and Research Station
MW - Cluster 1

Station ID	Sampling Date	Sampling Depth (ft)	Dissolved Oxygen (mg/L)	pH WH, Field (standard units)	pH-Lab WH, Lab (standard units)	Specific Cond., Field (us/cm)	Specific Cond., Lab (us/cm)	Water Temp. (deg C)
MW-1S	11/3/2008	34	0.4	6.1	6.6	na	na	16.3
	1/26/2009	34	1.3	6.2	6.3	194	na	16.0
	4/6/2009	34	0.5	6.0	6.2	141	na	16.3
	8/17/2009	34	0.5	5.7	6.4	138	na	16.1
CH-1	11/3/2008	40	0.2	7.4	7.6	na	na	16.1
	1/26/2009	40	0.4	7.4	7.6	301	na	15.8
	4/6/2009	40	0.3	7.4	7.4	280	na	16.2
	8/17/2009	40	0.3	7.3	7.6	275	na	16.3
MW-1D	11/3/2008	118	0.6	7.5	7.6	na	na	16.7
	1/26/2009	118	0.4	7.5	7.7	292	na	16.8
	4/6/2009	118	0.2	7.5	7.7	284	na	16.6
	5/11/2009	70	0.9	7.4	7.6	283	na	16.6
	8/17/2009	118	0.4	7.6	7.8	258	na	16.9
MW-2D	11/12/2008	118	0.4	7.5	7.8	na	na	17.0
	1/26/2009	118	0.2	7.7	7.7	na	na	16.8
	4/6/2009	118	0.2	7.7	7.6	292	na	16.7
	5/12/2009	70	0.8	7.5	7.7	282	na	16.6
	8/17/2009	118	0.2	7.6	7.9	191	na	16.9

Station ID	Sampling Date	Sampling Depth (ft)	Hardness, non-carb diss fld. as CaCO3 (mg/l)	Hardness Total (mg/l as CaCO3)	Calcium Dissolved (mg/l as Ca)	Magnesium Dissolved (mg/l as Mg)	Potassium Dissolved (mg/l as K)	Sodium Dissolved (mg/l as Na)
MW-1S	11/3/2008	34			17	8.7	1.00	14
	1/26/2009	34			14	7.0	0.78	14
	4/6/2009	34			12	6.8	0.83	13
	8/17/2009	34			14	6.6	0.72	13
CH-1	11/3/2008	40			40	5.1	0.85	20
	1/26/2009	40			40	5.1	0.57	21
	4/6/2009	40			37	4.9	0.60	21
	8/17/2009	40			41	4.7	0.52	19
MW-1D	11/3/2008	118			40	4.6	0.35	20
	1/26/2009	118			43	4.5	0.39	21
	4/6/2009	118			40	4.5	0.40	21
	5/11/2009	70			41	4.4	0.39	21
	8/17/2009	118			42	4.4	0.34	21
MW-2D	11/12/2008	118			40	6.1	0.41	23
	1/26/2009	118			40	5.9	0.34	22
	4/6/2009	118			43	6.1	0.40	23
	5/12/2009	70			40	5.7	0.41	21
	8/17/2009	118			44	5.7	0.38	21

Station ID	Sampling Date	Sampling Depth (ft)	Sodium Adsorption Ratio	Sodium Percent	ANC, TIT. 4.5, L (mg/l as CaCO3)	ANC, Unfilt IT Field (mg/L as CaCO3)	Bicarbonate Dissolved (mg/L as HCO3)	Bromide Dissolved (mg/l as Br)
MW-1S	11/3/2008	34					33	
	1/26/2009	34					39	
	4/6/2009	34					35	
	8/17/2009	34					42	
CH-1	11/3/2008	40					110	
	1/26/2009	40					120	
	4/6/2009	40					120	
	8/17/2009	40					110	
MW-1D	11/3/2008	118					110	
	1/26/2009	118					120	
	4/6/2009	118					120	
	5/11/2009	70					120	
	8/17/2009	118					120	
MW-2D	11/12/2008	118					120	
	1/26/2009	118					120	
	4/6/2009	118					130	
	5/12/2009	70					130	
	8/17/2009	118					120	

Station ID	Sampling Date	Sampling Depth (ft)	Chloride Dissolved (mg/l as Cl)	Fluoride Dissolved (mg/l as F)	Silica Dissolved (mg/l as SiO2)	Sulfate Dissolved (mg/l as SO4)	Solids Dissolved (mg/l)	Solids, Residue at 180 deg C (mg/l)
MW-1S	11/3/2008	34	3.7	<0.4	35	55	152	<6.2
	1/26/2009	34	7.9 J8	<0.4 J8	na	40 J8	144	na
	4/6/2009	34	4.7	<0.4	38	35	135 J2	na
	8/17/2009	34	11	<0.4	na	34	138	na
CH-1	11/3/2008	40	15	<0.4	23	15	182	<6.2
	1/26/2009	40	16 J8	<0.4 J8	na	14 J8	179	na
	4/6/2009	40	15	<0.4	25	13	190 J2	na
	8/17/2009	40	17	<0.4	na	14	180	na
MW-1D	11/3/2008	118	15	<0.4	25	11	178	<6.2
	1/26/2009	118	16 J8	<0.4 J8	na	12 J8	178	na
	4/6/2009	118	15	<0.4	25	12	193 J2	na
	5/11/2009	70	18	<0.4	25	14	190	na
	8/17/2009	118	18	<0.4	na	13	183	na
MW-2D	11/12/2008	118	17	<0.4	26	13	193	<6.2
	1/26/2009	118	17 J8	<0.4 J8	na	13 J8	186	na
	4/6/2009	118	17	<0.4	26	14	202 J2	na
	5/12/2009	70	20	<0.4	26	15	206	na
	8/17/2009	118	19	<0.4	na	15	184	na

Station ID	Sampling Date	Sampling Depth (ft)	Solids, sum of constituents diss. (mg/l)	Nitrogen Ammonia (mg/L as N)	Nitrogen Ammonia + Organic	Nitrogen Ammonia (mg/L as NH4)	Nitrogen dissolved (mg/l as N)	NO2 + NO3 diss. (mg/L as N)
MW-1S	11/3/2008	34						<0.02
	1/26/2009	34						<0.02
	4/6/2009	34						<0.02
	8/17/2009	34						<0.02
CH-1	11/3/2008	40						<0.02
	1/26/2009	40						<0.02
	4/6/2009	40						<0.02
	8/17/2009	40						<0.02
MW-1D	11/3/2008	118						0.06
	1/26/2009	118						0.03
	4/6/2009	118						0.02
	5/11/2009	70						<0.02
	8/17/2009	118						0.03
MW-2D	11/12/2008	118						<0.02
	1/26/2009	118						<0.02
	4/6/2009	118						<0.02
	5/12/2009	70						<0.02
	8/17/2009	118						<0.02

Station ID	Sampling Date	Sampling Depth (ft)	Nitrogen Nitrite Dis (mg/l as N)	Nitrogen, Nitrate Dis (mg/L as N)	Nitrogen, Nitrate Dis (mg/L as NO3)	Nitrogen Nitrite Dis (mg/l as NO2)	Nitrogen Organic Dis (mg/l as N)	Phosphate Ortho, dis (mg/l as PO4)
MW-1S	11/3/2008	34						
	1/26/2009	34						
	4/6/2009	34						
	8/17/2009	34						
CH-1	11/3/2008	40						
	1/26/2009	40						
	4/6/2009	40						
	8/17/2009	40						
MW-1D	11/3/2008	118						
	1/26/2009	118						
	4/6/2009	118						
	5/11/2009	70						
	8/17/2009	118						
MW-2D	11/12/2008	118						
	1/26/2009	118						
	4/6/2009	118						
	5/12/2009	70						
	8/17/2009	118						

Station ID	Sampling Date	Sampling Depth (ft)	Phosphorus Ortho, dis (mg/l as P)	Carbon Dioxide, dis (mg/l as CO2)	Aluminum Dissolved (ug/l as Al)	Antimony Dissolved (ug/l as Sb)	Arsenic Dissolved (ug/l as As)	Barium Dissolved (ug/l as Ba)
MW-1S	11/3/2008	34			<50		<5.0	<10
	1/26/2009	34			<50		2.4	<10
	4/6/2009	34			<50		2.1	<10
	8/17/2009	34			<50		<2.0	<10
CH-1	11/3/2008	40			<50		<5.0	<10
	1/26/2009	40			<50		3.6	12
	4/6/2009	40			<50		4.1	10
	8/17/2009	40			<50		4.0	<10
MW-1D	11/3/2008	118			<50		5.7	<10
	1/26/2009	118			<50		6.9	<10
	4/6/2009	118			<50		7.4	<10
	5/11/2009	70			<50		7.0	<10
	8/17/2009	118			<50		7.5	<10
MW-2D	11/12/2008	118			<50		2.2	34
	1/26/2009	118			<50		3.6	34
	4/6/2009	118			<50		3.9	35
	5/12/2009	70			<50		3.9	32
	8/17/2009	118			<50		4.0	32

Station ID	Sampling Date	Sampling Depth (ft)	Beryllium Dissolved (ug/l as Be)	Boron Dissolved (ug/l as B)	Cadmium Dissolved (ug/l as Cd)	Chromium Dissolved (ug/l as Cr)	Cobalt Dissolved (ug/l as Co)	Copper Dissolved (ug/l as Cu)
MW-1S	11/3/2008	34			<1.0	<10		<2.0
	1/26/2009	34			<1.0	<10		<2.0
	4/6/2009	34			<1.0	<10		<2.0
	8/17/2009	34			<1.0	<10		<2.0
CH-1	11/3/2008	40			<1.0	<10		<2.0
	1/26/2009	40			<1.0	<10		<2.0
	4/6/2009	40			<1.0	<10		<2.0
	8/17/2009	40			<1.0	<10		<2.0
MW-1D	11/3/2008	118			<1.0	<10		<2.0
	1/26/2009	118			<1.0	<10		<2.0
	4/6/2009	118			<1.0	<10		<2.0
	5/11/2009	70			<1.0	<10		<2.0
	8/17/2009	118			<1.0	<10		<2.0
MW-2D	11/12/2008	118			<1.0	<10		<2.0
	1/26/2009	118			<1.0	<10		<2.0
	4/6/2009	118			<1.0	<10		<2.0
	5/12/2009	70			<1.0	<10		<2.0
	8/17/2009	118			<1.0	<10		<2.0

Station ID	Sampling Date	Sampling Depth (ft)	Iron Dissolved (ug/l as Fe)	Lead Dissolved (ug/l as Pb)	Manganese Dissolved (ug/l as Mn)	Mercury Dissolved (ug/l as Hg)	Molybdenum Dissolved (ug/l as Mo)	Nickel Dissolved (ug/l as Ni)
MW-1S	11/3/2008	34	910	<10	350			15
	1/26/2009	34	1400	<10	280			<10
	4/6/2009	34	1100	<10	220			<10
	8/17/2009	34	2000	<10	310			<10
CH-1	11/3/2008	40	150	<10	180			<10
	1/26/2009	40	280	<10	150			<10
	4/6/2009	40	250	<10	140			<10
	8/17/2009	40	540	<10	140			<10
MW-1D	11/3/2008	118	<50	<10	33			<10
	1/26/2009	118	<50	<10	30			<10
	4/6/2009	118	<50	<10	26			<10
	5/11/2009	70	<50	<10	36			<10
	8/17/2009	118	<50	<10	29			<10
MW-2D	11/12/2008	118	120	<10	88			<10
	1/26/2009	118	170	<10	98			<10
	4/6/2009	118	180	<10	98			<10
	5/12/2009	70	220	<10	110			<10
	8/17/2009	118	150	<10	90			<10

Station ID	Sampling Date	Sampling Depth (ft)	Selenium Dissolved (ug/l as Se)	Silver Dissolved (ug/l as Ag)	Zinc Dissolved (ug/l as Zn)	Alpha count, 2 sigma wat dis as TH-230 (pci/l)	Alpha radio, wat dis as TH-230 (pci/l)	Beta, 2 sigma wat dis as CS-137 (pci/l)
MW-1S	11/3/2008	34	<5.0	<5.0	10			
	1/26/2009	34	<5.0	<5.0	17			
	4/6/2009	34	<5.0	<5.0	14			
	8/17/2009	34	<5.0	<5.0	<10			
CH-1	11/3/2008	40	<5.0	<5.0	<10			
	1/26/2009	40	<5.0	<5.0	<10			
	4/6/2009	40	<5.0	<5.0	<10			
	8/17/2009	40	<5.0	<5.0	<10			
MW-1D	11/3/2008	118	<5.0	<5.0	<10			
	1/26/2009	118	<5.0	<5.0	<10			
	4/6/2009	118	<5.0	<5.0	<10			
	5/11/2009	70	<5.0	<5.0	<10			
	8/17/2009	118	<5.0	<5.0	<10			
MW-2D	11/12/2008	118	<5.0	<5.0	82			
	1/26/2009	118	<5.0	<5.0	170			
	4/6/2009	118	<5.0	<5.0	32			
	5/12/2009	70	<5.0	<5.0	40			
	8/17/2009	118	<5.0	<5.0	27			

Station ID	Sampling Date	Sampling Depth (ft)	Gross alpha, 2x cl, ss mdc, wat filt (pci/l)	Gross beta, diss as CS-137 (pci/l)	Gross Beta, 2x cl, ss mdc, wat filt (pci/l)	N-15 / N-14 Stable Isotope Ratio (per mil)	Radon 222 total (pci/l)	Radon 222, 2x cl, ss mdc, wat unfilt (pci/l)
MW-1S	11/3/2008	34						
	1/26/2009	34						
	4/6/2009	34						
	8/17/2009	34						
CH-1	11/3/2008	40						
	1/26/2009	40						
	4/6/2009	40						
	8/17/2009	40						
MW-1D	11/3/2008	118						
	1/26/2009	118						
	4/6/2009	118						
	5/11/2009	70						
	8/17/2009	118						
MW-2D	11/12/2008	118						
	1/26/2009	118						
	4/6/2009	118						
	5/12/2009	70						
	8/17/2009	118						

Station ID	Sampling Date	Sampling Depth (ft)	RN-222 2 sigma wat total (pci/l)	Uranium Nat, dissolv (ug/l as U)	Sulfide Dissolved (ug/L as S)	Total Organic Carbon total (mg/L)	Turbidity total (NTU)
MW-1S	11/3/2008	34				<2	1.5
	1/26/2009	34			<0.1	<2	na
	4/6/2009	34			<0.1	na	na
	8/17/2009	34			na	na	na
CH-1	11/3/2008	40				<2	2.4
	1/26/2009	40			<0.1	<2	na
	4/6/2009	40			<0.1	na	na
	8/17/2009	40			na	na	na
MW-1D	11/3/2008	118				<2	<1
	1/26/2009	118			<0.1	<2	na
	4/6/2009	118			<0.1	na	na
	5/11/2009	70				na	na
	8/17/2009	118			na	na	na
MW-2D	11/12/2008	118				<2	2.6
	1/26/2009	118			<0.1	<2	na
	4/6/2009	118			<0.1	na	na
	5/12/2009	70				na	na
	8/17/2009	118			na	na	na