

**SUMMARY OF GROUNDWATER WATER QUALITY PARAMETERS  
JEFFERSON PROVING GROUND  
MADISON, INDIANA**

**Groundwater Sampling Water Quality Measurements**

Quarterly Event	Sample ID	Water Quality Parameters					
		Temperature (°C)	pH (S.U.)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Redox (mV)
April 2008	MW-RS-1	10.80	7.62	0.999	47.8	0.58	-13
	MW-RS-2	12.10	8.36	0.559	9.4	1.30	-104
	MW-RS-3	11.10	7.50	0.999	17.1	0.16	-30
	MW-RS-4	13.01	6.77	0.296	49.2	0.26	138
	MW-RS-5	10.59	5.90	0.086	217.0	4.41	196
	MW-RS-6	10.46	6.84	0.808	25.6	0.00	177
	MW-RS-7	12.80	7.87	1.770	21.8	1.20	-57
	MW-RS-8	10.80	5.69	0.066	197.0	0.00	200
	MW-1 (April)	15.80	7.96	0.673	23.5	8.36	78
	MW-1 (May)	15.28	7.49	0.596	23.2	10.76	106
	MW-2 (April)	13.80	7.61	0.887	13.0	3.63	80
	MW-2 (May)	14.65	7.11	0.793	13.2	10.10	110
	MW-3 (April)	14.10	7.49	0.952	47.7	0.94	107
	MW-3 (May)	13.92	7.33	0.819	11.4	8.55	121
	MW-4 (April)	10.27	6.75	0.658	7.2	1.46	163
	MW-4 (May)	16.41	5.81	0.662	39.8	6.20	158
	MW-5 (April)	13.20	8.00	3.430	45.8	3.02	NR
	MW-5 (May)	14.97	6.74	6.750	24.9	6.94	120
	MW-6 (April)	13.29	7.08	0.440	28.9	3.13	190
	MW-6 (May)	15.32	7.37	0.611	22.2	9.39	127
	MW-7 (April)	13.20	7.70	0.999	19.0	0.00	-117
	MW-7 (May)	14.67	7.13	0.885	13.8	7.48	122
	MW-8 (April)	12.92	7.00	0.401	1.8	8.69	162
	MW-8 (May)	15.60	6.27	0.600	33.8	10.45	88
	MW-9 (April)	bailer used to sample well, no water quality measurements from Horiba					
	MW-9 (May)	well was dry, thus no sample collected					
	MW-10 (April)	14.10	7.70	0.999	26.4	1.91	84
	MW-10 (May)	14.82	6.77	0.869	25.3	4.09	129
	MW-11 (April)	18.50	8.44	0.795	10.1	8.88	65
	MW-11 (May)	13.99	7.34	0.384	37.0	12.13	103
	JPG-DU-01I	12.00	7.71	3.130	16.1	0.78	-110
	JPG-DU-01D	hydrasleeve used to sample well, no water quality measurements from Horiba					
	JPG-DU-02I	11.40	7.98	0.702	0.0	0.00	-82

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JPG-DU-02D	hydrasleeve used to sample well, no water quality measurements from Horiba					
JPG-DU-03I	13.80	7.98	1.290	18.4	2.15	-15
JPG-DU-03O	11.10	7.55	0.999	31.7	0.61	-32
JPG-DU-04I	12.40	7.77	1.130	49.0	0.92	-126
JPG-DU-04D	hydrasleeve used to sample well, no water quality measurements from Horiba					
JPG-DU-04O	11.70	8.01	1.160	42.3	0.69	-148
JPG-DU-05I	12.10	7.98	0.910	16.4	0.87	-28
JPG-DU-05D	hydrasleeve used to sample well, no water quality measurements from Horiba					
JPG-DU-06I	13.00	7.75	1.010	32.1	0.77	-176
JPG-DU-06D	14.00	7.00	16.300	61.2	0.34	-249
JPG-DU-06O	11.20	7.64	0.990	29.8	0.43	78
JPG-DU-07I	hydrasleeve used to sample well, no water quality measurements from Horiba					
JPG-DU-07D	hydrasleeve used to sample well, no water quality measurements from Horiba					
JPG-DU-08I	14.00	7.84	9.600	1.5	1.13	-29
JPG-DU-08D	hydrasleeve used to sample well, no water quality measurements from Horiba					
JPG-DU-09I	10.10	7.74	0.999	16.2	0.98	24
JPG-DU-09D	11.80	7.17	85.600	0.0	0.00	38
JPG-DU-09O	11.30	8.00	0.999	25.9	1.21	-105
JPG-DU-10O	14.60	7.82	1.080	30.2	0.00	-213
JPG-DU-10D	14.80	7.74	9.260	2.1	0.08	-248

**Notes:**

S.U.-Standard Units

mS/cm-millisiemens per centimeter

mV-millivolts

mg/L-milligrams per Liter

NTU-nephelometric turbidity units

For Wells MW-1 through MW-11, an April set of measurements and a May set of measurements are displayed. The reason is due to an error in collecting total/isotopic uranium samples in April (having a preservative in the sample bottle when there shouldn't be any) and then recollecting them in May.

Total/isotopic uranium samples are the only ones affected by the error.

NR - Not recorded

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Quarterly Event	Sample ID	Temperature (°C)	pH (S.U.)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Redox (mV)
July 2008	MW-RS-1	17.30	6.97	0.874	74.4	0.00	-85
	MW-RS-2	14.50	7.71	0.450	14.5	0.47	-83
	MW-RS-3	16.80	7.10	0.957	5.8	0.00	-131
	MW-RS-4	21.30	7.21	0.521	43.3	0.00	-37
	MW-RS-5	19.10	7.45	0.378	641.0	1.47	-90
	MW-RS-6	15.77	7.09	0.832	47.9	0.00	82
	MW-RS-7	17.50	6.67	1.880	NR	1.09	-107
	MW-RS-8	17.00	5.78	0.162	40.2	0.00	-19
	MW-1	18.70	7.37	0.749	154.0	10.20	110
	MW-2	15.60	7.31	0.760	4.8	0.44	-49
	MW-3	14.70	7.17	0.820	22.8	0.00	16
	MW-4	19.00	7.28	0.852	16.7	0.35	-2
	MW-5	16.30	7.13	6.060	26.5	0.11	-18
	MW-6	18.01	7.51	0.794	244.0	5.19	56
	MW-7	14.60	7.28	0.990	6.7	0.00	-150
	MW-8	17.40	7.61	0.594	20.2	9.63	-2
	MW-9	bailer used to sample well, no water quality measurements from Horiba					
	MW-10	13.90	6.74	0.980	212.0	7.89	153
	MW-11	bailer used to sample well, no water quality measurements from Horiba					
	JPG-DU-01I	15.40	7.29	3.090	30.6	0.00	-122
	JPG-DU-01D	hydrasleeve used to sample well, no water quality measurements from Horiba					
	JPG-DU-02I	16.37	7.27	0.594	4.7	0.04	-142
	JPG-DU-02D	bailer used to sample well, no water quality measurements from Horiba					
	JPG-DU-03I	16.90	7.27	1.490	27.4	0.00	-102
	JPG-DU-03O	16.57	6.94	0.807	29.3	0.00	-45
	JPG-DU-04I	14.20	7.29	1.040	35.2	0.00	-188
	JPG-DU-04D	hydrasleeve used to sample well, no water quality measurements from Horiba					
	JPG-DU-04O	15.50	7.34	1.120	45.8	0.00	-157
	JPG-DU-05I	19.40	7.39	0.920	7.8	0.00	-150
	JPG-DU-05D	hydrasleeve used to sample well, no water quality measurements from Horiba					
	JPG-DU-06I	16.12	7.20	0.986	46.5	0.00	-158
	JPG-DU-06D	16.87	6.99	37.200	104.0	0.01	-170
	JPG-DU-06O	14.82	7.13	0.989	40.5	0.00	-30
	JPG-DU-07I	hydrasleeve used to sample well, no water quality measurements from Horiba					

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JPG-DU-07D	hydrasleeve used to sample well, no water quality measurements from Horiba					
JPG-DU-08I	bailer used to sample well, no water quality measurements from Horiba					
JPG-DU-08D	bailer used to sample well, no water quality measurements from Horiba					
JPG-DU-09I	21.92	7.25	0.882	60.5	1.31	84
JPG-DU-09D	18.53	6.71	82.100	219.0	0.12	-5
JPG-DU-09O	20.50	7.54	0.920	41.7	0.00	-202
JPG-DU-10O	17.12	7.14	1.450	-5*	0.14	-167
JPG-DU-10D	21.16	7.18	9.780	37.9	0.05	-213

**Notes:**

S.U.-Standard Units

mS/cm-millisiemens per centimeter

mV-millivolts

mg/L-milligrams per Liter

NTU-nephelometric turbidity units (\* = negative turbidity values or turbidity values greater than 999 denote measurement as out of calibration range)

NR = not recorded

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Quarterly Event	Sample ID	Temperature (°C)	pH (S.U.)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Redox (mV)
October 2008	MW-RS-1	17.70	7.19	0.999	27.0	0.00	-83
	MW-RS-2	16.40	7.75	0.593	3.0	0.57	-26
	MW-RS-3	21.80	6.70	0.999*	150.0	0.41*	-52
	MW-RS-4	18.80	7.04	0.708	800.0	0.00	-19
	MW-RS-5	bailer used to sample well, no water quality measurements from Horiba					
	MW-RS-6	17.60	6.8*	NR*	-6*	0.79	35
	MW-RS-7	19.40	7.26	1.850	990*	0.00	-133
	MW-RS-8	bailer used to sample well, no water quality measurements from Horiba					
	MW-1	14.40	6.82	0.908	7.0	8.70	23
	MW-2	16.60	6.50	0.750	17.5	0.04	-79
	MW-3	15.20	6.19	0.750	21.6	0.00	10
	MW-4	18.60	6.27	0.825	20.2	0.00	80
	MW-5	14.80	6.18	14.700	1.0	2.86	221
	MW-6	14.30	6.08	0.9*	220.0	6.23	216
	MW-7	15.10	6.43	0.933	18.2	0.00	-131
	MW-8	13.00	6.71	0.722	-6.4*	0.87	48
	MW-9	bailer used to sample well, no water quality measurements from Horiba					
	MW-10	13.00	6.84	0.787	8.9	0.57	-27
	MW-11	15.80	6.73	6.110	22.8	1.29	-3
	JPG-DU-01I	16.30	4.04	3.040	31.0	0.00	-119
	JPG-DU-01D	hydrasleeve used to sample well, no water quality measurements from Horiba					
	JPG-DU-02I	16.10	7.00	1.290	0.0	0.02	-181
	JPG-DU-02D	bailer used to sample well, no water quality measurements from Horiba					
	JPG-DU-03I	14.80	6.99	1.400	500.0	0.07	-137
	JPG-DU-03O	17.50	6.92	0.900	24.0	0.00	-72
	JPG-DU-04I	13.10	7.03	1.010	27.0	0.00	-182
	JPG-DU-04D	hydrasleeve used to sample well, no water quality measurements from Horiba					
	JPG-DU-04O	14.60	7.05	1.140	47.0	0.00	-138
	JPG-DU-05I	18.80	6.63	0.924	21.3	0.00	-183
	JPG-DU-05D	hydrasleeve used to sample well, no water quality measurements from Horiba					
	JPG-DU-06I	15.30	6.76	0.990	42.7	0.05	-209
	JPG-DU-06D	14.80	6.46	38.200	14.3	0.04	-197
	JPG-DU-06O	16.50	6.49	1.000	28.7	0.02	-49
	JPG-DU-07I	hydrasleeve used to sample well, no water quality measurements from Horiba					

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JPG-DU-07D	bailer used to sample well, no water quality measurements from Horiba					
JPG-DU-08I	bailer used to sample well, no water quality measurements from Horiba					
JPG-DU-08D	bailer used to sample well, no water quality measurements from Horiba					
JPG-DU-09I	15.20	6.62	0.860	0.0	0.39	-11
JPG-DU-09D	14.10	6.37	75.900	4.0	0.09	-88
JPG-DU-09O	16.10	6.83	0.897	1.1	0.14	-195
JPG-DU-10O	15.30	6.99	1.200	-5*	0.26	-209
JPG-DU-10D	14.70	6.83	9.500	30.5	0.07	-235

**Notes:**

S.U.-Standard Units (\* = denote pH measurement as out of calibration range)

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Quarterly Event	Sample ID	Temperature (°C)	pH (S.U.)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Redox (mV)
February 2009	MW-RS-1	9.56	7.23	0.829	26.4	0.00	-67
	MW-RS-2	11.41	7.79	0.419	15.4	1.20	147
	MW-RS-3	9.37	7.25	0.893	27.1	1.11	94
	MW-RS-4	6.07	6.35	0.076	26.6	7.14	230
	MW-RS-5	8.10	6.22	0.064	927.0	7.08	284
	MW-RS-6	9.37	6.22	0.082	87.2	9.76	285
	MW-RS-7	7.97	7.53	1.720	62.5	1.21	80
	MW-RS-8	6.68	5.35	0.070	99.8	7.37	260
	MW-1	10.70	7.43	0.697	7.4	7.73	107
	MW-2	13.98	7.28	0.780	9.0	1.91	91
	MW-3	13.05	7.31	0.640	17.0	1.88	60
	MW-4	9.13	7.26	0.721	1.1	3.37	244
	MW-5	10.07	7.17	10.600	0.0	0.02	0
	MW-6	12.72	7.63	0.450	584.0	5.16	84
	MW-7	13.42	7.28	0.805	16.3	0.00	-113
	MW-8	12.52	7.34	0.580	0.0	4.85	106
	MW-9	bailer used to sample well, no water quality measurements from Horiba					
	MW-10	10.26	7.41	0.805	26.9	1.98	107
	MW-11	13.75	7.62	1.210	0.0*	7.37	60
	JPG-DU-01I	9.19	7.46	3.010	3.5	0.00	-115
	JPG-DU-01D	hydrasleeve used to sample well, no water quality measurements from Horiba					
	JPG-DU-02I	9.59	7.45	0.534	3.8	0.11	-89
	JPG-DU-02D	bailer used to sample well, no water quality measurements from Horiba					
	JPG-DU-03I	11.53	7.55	1.370	28.3	2.14	-34
	JPG-DU-03O	11.40	7.16	0.731	23.1	0.11	-33
	JPG-DU-04I	11.84	7.12	1.000	0.0*	0.08	-175
	JPG-DU-04D	hydrasleeve used to sample well, no water quality measurements from Horiba					
	JPG-DU-04O	8.29	7.51	1.010	190.0	0.00	-128
	JPG-DU-05I	8.95	7.40	0.824	0.0*	0.35	-97
	JPG-DU-05D	bailer used to sample well, no water quality measurements from Horiba					
	JPG-DU-06I	13.97	6.74	0.960	0.0	0.00	-146
	JPG-DU-06D	13.59	6.45	39.700	0.0*	0.00	-130
	JPG-DU-06O	12.55	6.60	0.950	24.6	0.00	22
	JPG-DU-07I	bailer used to sample well, no water quality measurements from Horiba					

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JPG-DU-08I	bailer used to sample well, no water quality measurements from Horiba					
JPG-DU-08D	bailer used to sample well, no water quality measurements from Horiba					
JPG-DU-09I	12.81	6.86	0.712	2.0	2.06	34
JPG-DU-09D	11.41	6.93	87.000	41.3	0.02	17
JPG-DU-09O	13.57	7.02	0.725	6.9	0.31	-127
JPG-DU-10O	13.01	7.53	0.980	793.0	0.52	-145
JPG-DU-10D	8.34	7.40	8.820	0.0	0.01	-177

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