

Groundwater Monitoring Form

For DNR Use Only

Facility Name : MADISON GAS & ELECTRIC COMPENSATORY RECHARGE
 Contact Address : PO Box 1231
 Madison, WI 53701-1231
 Facility Contact : Jeffrey Marcouiller, Mng Energy Prod Support Serv
 Phone Number : 608-251-5320
 Reporting Period : 10/01/2020 - 12/31/2020
 Form Due Date : 02/15/2021
 Permit Number : **0063088**

Date Received:
 DOC: 458351
 FIN: 31792
 FID: 113353020
 Region: South Central Region
 Permit Drafter: Brenda L Howald
 Reviewer: Nathan J Wells
 Office: Fitchburg

Well No/Description: 801/MW-1 Infiltration Area Well

WI Unique No: Sample Date: 10/06/2020
 Casing Top Elevation(Feet, MSL): 1007.47
 Casing Top Elevation New(Feet, MSL):
 Well Is: Broken: N Frozen: N Dry: N Sample Has: Odor: N Color: N Turbidity: N
 Abandoned On: Abandoned By:

Parameter	Sample Value	Units	PALs	ESs	LOD	LOQ	Lab Certification Number
166 - Depth To Groundwater	24.70	feet					
227 - Groundwater Elevation	982.77	feet MSL					
105 - Chloride	51.0	mg/L	125	250			405132750
447 - Sodium Dissolved	33.2	mg/L	136				405132750
274 - Manganese Dissolved	<1.2	ug/L	60	300	1.2	4.0	405132750
330 - Nitrogen, Nitrite + Nitrate Total	0.24	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.92	su	8				
462 - Solids, Total Dissolved	242	mg/L	940				405132750
833 - Arsenic Dissolved	0.31	ug/L	1	10	0.28	1.0	405132750
261 - Lead Dissolved	<0.24	ug/L	1.5	15	0.24	1.0	405132750
248 - Iron Dissolved	<0.058	mg/L	0.15	0.3			405132750
809 - Calcium Dissolved	32100	ug/L					405132750
735 - Potassium Dissolved	2830	ug/L					405132750
734 - Magnesium Dissolved	12500	ug/L					405132750
204 - Fecal Coliform	<10	#/100 ml					
186 - Dissolved Oxygen	1.45	mg/L					
420 - Turbidity	2.52	NTU					

Well No/Description: 802/MW-2 Background Well

WI Unique No: Sample Date: 10/06/2020
 Casing Top Elevation(Feet, MSL): 1018.95
 Casing Top Elevation New(Feet, MSL):
 Well Is: Broken: N Frozen: N Dry: N Sample Has: Odor: N Color: N Turbidity: N
 Abandoned On: Abandoned By:

Parameter	Sample Value	Units	PALs	ESs	LOD	LOQ	Lab Certification Number
166 - Depth To Groundwater	36.25	feet					
227 - Groundwater Elevation	982.70	feet MSL					
105 - Chloride	333	mg/L	125	250			405132750
447 - Sodium Dissolved	189	mg/L	136				405132750
274 - Manganese Dissolved	<1.2	ug/L	60	300	1.2	4.0	405132750
330 - Nitrogen, Nitrite + Nitrate Total	3.0	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.10	su	8				
462 - Solids, Total Dissolved	1060	mg/L	940				405132750
833 - Arsenic Dissolved	0.87	ug/L	1	10	0.28	1.0	405132750
261 - Lead Dissolved	0.48	ug/L	1.5	15	0.24	1.0	405132750
248 - Iron Dissolved	<0.058	mg/L	0.15	0.3			405132750
809 - Calcium Dissolved	113000	ug/L					405132750
735 - Potassium Dissolved	822	ug/L					405132750

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734 - Magnesium Dissolved	49400	ug/L					405132750
204 - Fecal Coliform	<10	#/100 ml					
186 - Dissolved Oxygen	9.43	mg/L					
420 - Turbidity	1.82	NTU					

Well No/Description: 803/MW-3 Downgradient Well

WI Unique No: Sample Date: 10/06/2020
 Casing Top Elevation(Feet, MSL): 999.50
 Casing Top Elevation New(Feet, MSL):
 Well Is: Broken: N Frozen: N Dry: N Sample Has: Odor: N Color: N Turbidity: N
 Abandoned On: Abandoned By:

Parameter	Sample Value	Units	PALs	ESs	LOD	LOQ	Lab Certification Number
166 - Depth To Groundwater	40.85	feet					
227 - Groundwater Elevation	958.65	feet MSL					
105 - Chloride	22.8	mg/L	125	250			405132750
447 - Sodium Dissolved	19.8	mg/L	136				405132750
274 - Manganese Dissolved	<1.2	ug/L	60	300	1.2	4.0	405132750
330 - Nitrogen, Nitrite + Nitrate Total	1.0	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.49	su	8				
462 - Solids, Total Dissolved	292	mg/L	940				405132750
833 - Arsenic Dissolved	1.1	ug/L	1	10	0.28	1.0	405132750
261 - Lead Dissolved	0.72	ug/L	1.5	15	0.24	1.0	405132750
248 - Iron Dissolved	<0.058	mg/L	0.15	0.3			405132750
809 - Calcium Dissolved	47900	ug/L					405132750
735 - Potassium Dissolved	658	ug/L			237	789	405132750
734 - Magnesium Dissolved	20500	ug/L					405132750
204 - Fecal Coliform	<10	#/100 ml					
186 - Dissolved Oxygen	4.23	mg/L					
420 - Turbidity	5.01	NTU					

Well No/Description: 804/MW-4 Downgradient Well

WI Unique No: Sample Date: 10/06/2020
 Casing Top Elevation(Feet, MSL): 992.72
 Casing Top Elevation New(Feet, MSL):
 Well Is: Broken: N Frozen: N Dry: N Sample Has: Odor: N Color: N Turbidity: N
 Abandoned On: Abandoned By:

Parameter	Sample Value	Units	PALs	ESs	LOD	LOQ	Lab Certification Number
166 - Depth To Groundwater	22.70	feet					
227 - Groundwater Elevation	970.02	feet MSL					
105 - Chloride	108	mg/L	125	250			405132750
447 - Sodium Dissolved	75.0	mg/L	136				405132750
274 - Manganese Dissolved	1.7	ug/L	60	300	1.2	4.0	405132750

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Parameter	Sample Value	Units	PALs	ESs	LOD	LOQ	Lab Certification Number
330 - Nitrogen, Nitrite + Nitrate Total	1.6	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.27	su	8				
462 - Solids, Total Dissolved	500	mg/L	940				405132750
833 - Arsenic Dissolved	1.3	ug/L	1	10	0.28	1.0	405132750
261 - Lead Dissolved	0.35	ug/L	1.5	15	0.24	1.0	405132750
248 - Iron Dissolved	<0.058	mg/L	0.15	0.3			405132750
809 - Calcium Dissolved	70400	ug/L					405132750
735 - Potassium Dissolved	1680	ug/L					405132750
734 - Magnesium Dissolved	30800	ug/L					405132750
204 - Fecal Coliform	<10	#/100 ml					
186 - Dissolved Oxygen	4.81	mg/L					
420 - Turbidity	1.48	NTU					

Well No/Description: 805/MW-5 Downgradient Piezometer

WI Unique No: Sample Date: 10/06/2020
 Casing Top Elevation(Feet, MSL): 1001.11
 Casing Top Elevation New(Feet, MSL):
 Well Is: Broken: N Frozen: N Dry: N Sample Has: Odor: N Color: N Turbidity: Y
 Abandoned On: Abandoned By:

Parameter	Sample Value	Units	PALs	ESs	LOD	LOQ	Lab Certification Number
166 - Depth To Groundwater	96.93	feet					
227 - Groundwater Elevation	904.18	feet MSL					
105 - Chloride	1.8	mg/L	125	250	0.43	2.0	405132750
447 - Sodium Dissolved	3.18	mg/L	136				405132750
274 - Manganese Dissolved	<1.2	ug/L	60	300	1.2	4.0	405132750
330 - Nitrogen, Nitrite + Nitrate Total	1.2	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.23	su	8				
462 - Solids, Total Dissolved	354	mg/L	940				405132750
833 - Arsenic Dissolved	0.31	ug/L	1	10	0.28	1.0	405132750
261 - Lead Dissolved	<0.24	ug/L	1.5	15	0.24	1.0	405132750
248 - Iron Dissolved	<0.058	mg/L	0.15	0.3			405132750
809 - Calcium Dissolved	68800	ug/L					405132750
735 - Potassium Dissolved	1340	ug/L					405132750
734 - Magnesium Dissolved	35300	ug/L					405132750
204 - Fecal Coliform	<20	#/100 ml					
186 - Dissolved Oxygen	4.35	mg/L					
420 - Turbidity	143.7	NTU					

Well No/Description: 806/MW-6 Downgradient Piezometer

WI Unique No: Sample Date: 10/06/2020
 Casing Top Elevation(Feet, MSL): 992.63
 Casing Top Elevation New(Feet, MSL):
 Well Is: Broken: N Frozen: N Dry: N Sample Has: Odor: N Color: N Turbidity: N
 Abandoned On: Abandoned By:

Parameter	Sample Value	Units	PALs	ESs	LOD	LOQ	Lab Certification Number
Groundwater Monitoring Parameter							
Facility Name: MADISON GAS & ELECTRIC COMPENSATORY RECHARGE							
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Parameter	Sample Value	Units	PALs	ESs	LOD	LOQ	Lab Certification Number
166 - Depth To Groundwater	90.65	feet					
227 - Groundwater Elevation	901.98	feet MSL					
105 - Chloride	0.92	mg/L	125	250	0.43	2.0	405132750
447 - Sodium Dissolved	2.78	mg/L	136				405132750
274 - Manganese Dissolved	145	ug/L	60	300	1.2	4.0	405132750
330 - Nitrogen, Nitrite + Nitrate Total	<0.059	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.17	su	8				
462 - Solids, Total Dissolved	332	mg/L	940				405132750
833 - Arsenic Dissolved	<0.28	ug/L	1	10	0.28	1.0	405132750
261 - Lead Dissolved	<0.24	ug/L	1.5	15	0.24	1.0	405132750
248 - Iron Dissolved	<0.058	mg/L	0.15	0.3			405132750
809 - Calcium Dissolved	74700	ug/L					405132750
735 - Potassium Dissolved	1270	ug/L					405132750
734 - Magnesium Dissolved	32300	ug/L					405132750
204 - Fecal Coliform	<10	#/100 ml					
186 - Dissolved Oxygen	0.88	mg/L					
420 - Turbidity	0	NTU					

Sample Collected By:

Personnel Name: Jackie Rennebohm Organization: SCS Engineers for Madison Gas and Electric

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General Remarks

MW-2, Background Well: Chloride result of 333 mg/L is over the ES, Nitrogen, Nitrite + Nitrate Total result of 3.0 mg/L is over the PAL, Sodium Dissolved result of 189 mg/L is over the PAL, and Total Dissolved Solids result of 1060 mg/L is over the PAL.
MW-3, Downgradient Well: Arsenic Dissolved result of 1.1 microgram/L is over the PAL.
MW-4, Downgradient Well: Arsenic Dissolved result of 1.3 microgram/L is over the PAL.
MW-5, Downgradient Piezometer had slight turbidity when sampled.
MW-6, Downgradient Piezometer: Manganese Dissolved result of 145 microgram/L is over the PAL.

Laboratory Quality Control Comments