

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 : 10/01/2021 - 12/31/2021
 Form Due Date : 02/15/2022
 Permit Number : **0063088**

Date Received:
 DOC: 478222
 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: 10/01/2021
 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	24.29	feet					
227 - Groundwater Elevation	983.18	feet MSL					
105 - Chloride	33.0	mg/L	125	250			405132750
447 - Sodium Dissolved	30.500	mg/L	136				405132750
274 - Manganese Dissolved	<1.2	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	8.11	su	8				
462 - Solids, Total Dissolved	126	mg/L	940				405132750
833 - Arsenic Dissolved	0.48	ug/L	1	10	0.28	1.0	405132750
261 - Lead Dissolved	0.44	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	20300	ug/L					405132750
735 - Potassium Dissolved	2420	ug/L					405132750
734 - Magnesium Dissolved	8380	ug/L					405132750
204 - Fecal Coliform	<9	#/100 ml					
186 - Dissolved Oxygen	0.65	mg/L					
420 - Turbidity	1.96	NTU					

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

WI Unique No: Sample Date: 10/01/2021
 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	40.16	feet					
227 - Groundwater Elevation	978.79	feet MSL					
105 - Chloride	1380	mg/L	125	250			405132750
447 - Sodium Dissolved	650.000	mg/L	136				405132750
274 - Manganese Dissolved	2.1	ug/L	60	300	1.2	4.0	405132750
330 - Nitrogen, Nitrite + Nitrate Total	3.3	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.23	su	8				
462 - Solids, Total Dissolved	2470	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	169000	ug/L					405132750
735 - Potassium Dissolved	1380	ug/L					405132750

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734 - Magnesium Dissolved	68800	ug/L					405132750
204 - Fecal Coliform	<9	#/100 ml					
186 - Dissolved Oxygen	8.42	mg/L					
420 - Turbidity	0.66	NTU					

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

WI Unique No: Sample Date: 10/01/2021
 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	23.5	feet					
227 - Groundwater Elevation	976.0	feet MSL					
105 - Chloride	40.9	mg/L	125	250			405132750
447 - Sodium Dissolved	22.500	mg/L	136				405132750
274 - Manganese Dissolved	<1.2	ug/L	60	300	1.2	4.0	405132750
330 - Nitrogen, Nitrite + Nitrate Total	0.58	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.80	su	8				
462 - Solids, Total Dissolved	222	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	39800	ug/L					405132750
735 - Potassium Dissolved	541	ug/L			237	789	405132750
734 - Magnesium Dissolved	18800	ug/L					405132750
204 - Fecal Coliform	<9	#/100 ml					
186 - Dissolved Oxygen	2.63	mg/L					
420 - Turbidity	2.39	NTU					

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

WI Unique No: Sample Date: 10/01/2021
 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	27.01	feet					
227 - Groundwater Elevation	965.71	feet MSL					
105 - Chloride	132	mg/L	125	250			405132750
447 - Sodium Dissolved	73.100	mg/L	136				405132750
274 - Manganese Dissolved	<1.2	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	1.8	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.29	su	8				
462 - Solids, Total Dissolved	432	mg/L	940				405132750
833 - Arsenic Dissolved	0.62	ug/L	1	10	0.28	1.0	405132750
261 - Lead Dissolved	0.26	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	64500	ug/L					405132750
735 - Potassium Dissolved	1620	ug/L					405132750
734 - Magnesium Dissolved	30200	ug/L					405132750
204 - Fecal Coliform	<9	#/100 ml					
186 - Dissolved Oxygen	4.94	mg/L					
420 - Turbidity	0	NTU					

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

WI Unique No: Sample Date: 10/01/2021
 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	100.32	feet					
227 - Groundwater Elevation	900.79	feet MSL					
105 - Chloride	1.9	mg/L	125	250	0.43	2.0	405132750
447 - Sodium Dissolved	3.260	mg/L	136				405132750
274 - Manganese Dissolved	<1.2	ug/L	60	300	1.2	4.0	405132750
330 - Nitrogen, Nitrite + Nitrate Total	1.3	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.55	su	8				
462 - Solids, Total Dissolved	284	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	63400	ug/L					405132750
735 - Potassium Dissolved	1210	ug/L					405132750
734 - Magnesium Dissolved	35400	ug/L					405132750
204 - Fecal Coliform	<9	#/100 ml					
186 - Dissolved Oxygen	4.76	mg/L					
420 - Turbidity	204.5	NTU					

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

WI Unique No: Sample Date: 10/01/2021
 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							
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Reporting Period: 10/01/2021 to 12/31/2021							

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Parameter	Sample Value	Units	PALs	ESs	LOD	LOQ	Lab Certification Number
166 - Depth To Groundwater	94.09	feet					
227 - Groundwater Elevation	898.54	feet MSL					
105 - Chloride	1.8	mg/L	125	250	0.43	2.0	405132750
447 - Sodium Dissolved	3.370	mg/L	136				405132750
274 - Manganese Dissolved	140	ug/L	60	300	1.2	4.0	405132750
330 - Nitrogen, Nitrite + Nitrate Total	0.064	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.24	su	8				
462 - Solids, Total Dissolved	284	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	70600	ug/L					405132750
735 - Potassium Dissolved	1210	ug/L					405132750
734 - Magnesium Dissolved	33000	ug/L					405132750
204 - Fecal Coliform	<9	#/100 ml					
186 - Dissolved Oxygen	1.09	mg/L					
420 - Turbidity	0	NTU					

Sample Collected By:

Personnel Name: Ryan Matzuk Organization: SCS Engineers for MGE

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General Remarks

MW1 - pH sample was over PAL; MW2 (Background well) - Nitrogen, Nitrite + Nitrate, Sodium, and Total Dissolved Solids samples were over PAL and Chloride sample was over the ES; MW4- Chloride sample was over PAL; MW5 - showed slightly cloudy; MW6 - Manganese sample was over PAL.

Laboratory Quality Control Comments