

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 : 07/01/2021 - 09/30/2021
 Form Due Date : 11/15/2021
 Permit Number : **0063088**

Date Received:
 DOC: 474583
 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: 08/20/2021
 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	24.21	feet					
227 - Groundwater Elevation	983.26	feet MSL					
105 - Chloride	49.6	mg/L	125	250			405132750
447 - Sodium Dissolved	34.3	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	10.05	su	8				
462 - Solids, Total Dissolved	274	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	32400	ug/L					405132750
735 - Potassium Dissolved	2580	ug/L					405132750
734 - Magnesium Dissolved	12800	ug/L					405132750
204 - Fecal Coliform	<9	#/100 ml					
186 - Dissolved Oxygen	7.25	mg/L					
420 - Turbidity	0.00	NTU					

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

WI Unique No: Sample Date: 08/20/2021
 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	40.08	feet					
227 - Groundwater Elevation	978.87	feet MSL					
105 - Chloride	1290	mg/L	125	250			405132750
447 - Sodium Dissolved	672	mg/L	136				405132750
274 - Manganese Dissolved	6.2	ug/L	60	300	1.2	4.0	405132750
330 - Nitrogen, Nitrite + Nitrate Total	4.2	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.78	su	8				
462 - Solids, Total Dissolved	2520	mg/L	940				405132750
833 - Arsenic Dissolved	0.51	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	0.160	mg/L	0.15	0.3			405132750
809 - Calcium Dissolved	179000	ug/L					405132750
735 - Potassium Dissolved	1400	ug/L					405132750

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Parameter	Sample Value	Units	PALs	ESs	LOD	LOQ	Lab Certification Number
734 - Magnesium Dissolved	70300	ug/L					405132750
204 - Fecal Coliform	<9	#/100 ml					
186 - Dissolved Oxygen	9.54	mg/L					
420 - Turbidity	0.00	NTU					

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

WI Unique No: Sample Date: 08/20/2021
 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	23.41	feet					
227 - Groundwater Elevation	976.09	feet MSL					
105 - Chloride	37.3	mg/L	125	250			405132750
447 - Sodium Dissolved	20.3	mg/L	136				405132750
274 - Manganese Dissolved	<1.2	ug/L	60	300	1.2	4.0	405132750
330 - Nitrogen, Nitrite + Nitrate Total	0.93	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.76	su	8				
462 - Solids, Total Dissolved	272	mg/L	940				405132750
833 - Arsenic Dissolved	0.37	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	49300	ug/L					405132750
735 - Potassium Dissolved	520	ug/L			237	789	405132750
734 - Magnesium Dissolved	21600	ug/L					405132750
204 - Fecal Coliform	36	#/100 ml					
186 - Dissolved Oxygen	3.44	mg/L					
420 - Turbidity	0.00	NTU					

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

WI Unique No: Sample Date: 08/20/2021
 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	26.65	feet					
227 - Groundwater Elevation	966.07	feet MSL					
105 - Chloride	133	mg/L	125	250			405132750
447 - Sodium Dissolved	79.8	mg/L	136				405132750
274 - Manganese Dissolved	2.4	ug/L	60	300	1.2	4.0	405132750

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330 - Nitrogen, Nitrite + Nitrate Total	2.0	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.45	su	8				
462 - Solids, Total Dissolved	496	mg/L	940				405132750
833 - Arsenic Dissolved	0.71	ug/L	1	10	0.28	1.0	405132750
261 - Lead Dissolved	0.30	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	74000	ug/L					405132750
735 - Potassium Dissolved	1680	ug/L					405132750
734 - Magnesium Dissolved	32500	ug/L					405132750
204 - Fecal Coliform	<9	#/100 ml					
186 - Dissolved Oxygen	6.08	mg/L					
420 - Turbidity	0.00	NTU					

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

WI Unique No: Sample Date: 09/08/2021
 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	100.03	feet					
227 - Groundwater Elevation	901.08	feet MSL					
105 - Chloride	2.4	mg/L	125	250			405132750
447 - Sodium Dissolved	4.02	mg/L	136				405132750
274 - Manganese Dissolved	2.3	ug/L	60	300	1.2	4.0	405132750
330 - Nitrogen, Nitrite + Nitrate Total	1.4	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.22	su	8				
462 - Solids, Total Dissolved	446	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	62100	ug/L					405132750
735 - Potassium Dissolved	1260	ug/L					405132750
734 - Magnesium Dissolved	36300	ug/L					405132750
204 - Fecal Coliform	<9	#/100 ml					
186 - Dissolved Oxygen	4.04	mg/L					
420 - Turbidity	195.81	NTU					

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

WI Unique No: Sample Date: 09/08/2021
 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: 07/01/2021 to 09/30/2021							

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Parameter	Sample Value	Units	PALs	ESs	LOD	LOQ	Lab Certification Number
166 - Depth To Groundwater	93.88	feet					
227 - Groundwater Elevation	898.75	feet MSL					
105 - Chloride	0.97	mg/L	125	250	0.43	2.0	405132750
447 - Sodium Dissolved	3.27	mg/L	136				405132750
274 - Manganese Dissolved	155	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	7.09	su	8				
462 - Solids, Total Dissolved	336	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	70000	ug/L					405132750
735 - Potassium Dissolved	1290	ug/L					405132750
734 - Magnesium Dissolved	35000	ug/L					405132750
204 - Fecal Coliform	<9	#/100 ml					
186 - Dissolved Oxygen	1.55	mg/L					
420 - Turbidity	1.76	NTU					

Sample Collected By:

Personnel Name: Adam Watson Organization: SCS Engineers for MGE

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General Remarks

MW-1: pH was over PAL; resampled 9/8/21 at 7.90
MW-2 (Background Well): Chloride sample of 1290 mg/L was over ES; Sodium Dissolved sample of 672 mg/L was over PAL; Nitrogen, Nitrite + Nitrate Total sample of 4.2 mg/L was over PAL; Total Dissolved Solids sample of 2520 mg/L was over PAL; Iron Dissolved sample of 0.160 mg/L was over PAL
MW-4: Chloride sample of 133 mg/L was over PAL; Nitrogen, Nitrite + Nitrate Total sample of 2.0 was equal to PAL
MW-6 Manganese Dissolved sample of 155 ug/L was over PAL

Laboratory Quality Control Comments