

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 : 07/01/2023 - 09/30/2023
 Form Due Date : 11/15/2023
 Permit Number : **0063088**

Date Received:
 DOC: 524498
 FIN: 31792
 FID: 113353020
 Region: South Central Region
 Permit Drafter: Brenda L Howald
 Reviewer: Kenzie L Ostien
 Office: Fitchburg

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

WI Unique No: Sample Date: 08/29/2023
 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	31.58	feet					
227 - Groundwater Elevation	975.89	feet MSL					
105 - Chloride	20.5	mg/L	125	250			405132750
447 - Sodium Dissolved	23.8	mg/L	136				405132750
274 - Manganese Dissolved	1.3	ug/L	60	300	1.2	4.0	405132750
330 - Nitrogen, Nitrite + Nitrate Total	0.72	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	8.32	su	8				
462 - Solids, Total Dissolved	198	mg/L	940				405132750
833 - Arsenic Dissolved	0.48	ug/L	1	10	0.28	1.0	405132750
261 - Lead Dissolved	0.56	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	24800	ug/L					405132750
735 - Potassium Dissolved	1940	ug/L					405132750
734 - Magnesium Dissolved	9780	ug/L					405132750
204 - Fecal Coliform	<1	#/100 ml					113133790
186 - Dissolved Oxygen	11.71	mg/L					
420 - Turbidity	1.46	NTU					

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

WI Unique No: Sample Date: 08/29/2023
 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	44.9	feet					
227 - Groundwater Elevation	974.05	feet MSL					
105 - Chloride	917	mg/L	125	250			405132750
447 - Sodium Dissolved	442	mg/L	136				405132750
274 - Manganese Dissolved	4.0	ug/L	60	300	1.2	4.0	405132750
330 - Nitrogen, Nitrite + Nitrate Total	0.88	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.36	su	8				
462 - Solids, Total Dissolved	1910	mg/L	940				405132750
833 - Arsenic Dissolved	0.91	ug/L	1	10	0.28	1.0	405132750
261 - Lead Dissolved	0.69	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	141000	ug/L					405132750
735 - Potassium Dissolved	1120	ug/L					405132750

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734 - Magnesium Dissolved	71900	ug/L					405132750
204 - Fecal Coliform	<1	#/100 ml					113133790
186 - Dissolved Oxygen	9.18	mg/L					
420 - Turbidity	0.82	NTU					

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

WI Unique No: Sample Date: 08/29/2023
 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	39.5	feet					
227 - Groundwater Elevation	960.0	feet MSL					
105 - Chloride	16.8	mg/L	125	250			405132750
447 - Sodium Dissolved	18.60	mg/L	136				405132750
274 - Manganese Dissolved	1.3	ug/L	60	300	1.2	4.0	405132750
330 - Nitrogen, Nitrite + Nitrate Total	2.2	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.29	su	8				
462 - Solids, Total Dissolved	344	mg/L	940				405132750
833 - Arsenic Dissolved	0.45	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	59200	ug/L					405132750
735 - Potassium Dissolved	656	ug/L			237	789	405132750
734 - Magnesium Dissolved	27000	ug/L					405132750
204 - Fecal Coliform	3	#/100 ml					113133790
186 - Dissolved Oxygen	4.89	mg/L					
420 - Turbidity	0.29	NTU					

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

WI Unique No: Sample Date: 08/29/2023
 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	29.79	feet					
227 - Groundwater Elevation	962.93	feet MSL					
105 - Chloride	199	mg/L	125	250			405132750
447 - Sodium Dissolved	97.40	mg/L	136				405132750
274 - Manganese Dissolved	2.8	ug/L	60	300	1.2	4.0	405132750

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330 - Nitrogen, Nitrite + Nitrate Total	1.8	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.05	su	8				
462 - Solids, Total Dissolved	646	mg/L	940				405132750
833 - Arsenic Dissolved	0.71	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	79400	ug/L					405132750
735 - Potassium Dissolved	1840	ug/L					405132750
734 - Magnesium Dissolved	33300	ug/L					405132750
204 - Fecal Coliform	<1	#/100 ml					113133790
186 - Dissolved Oxygen	5.91	mg/L					
420 - Turbidity	0	NTU					

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

WI Unique No: Sample Date: 08/29/2023
 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: N
 Abandoned On: Abandoned By:

Parameter	Sample Value	Units	PALs	ESs	LOD	LOQ	Lab Certification Number
166 - Depth To Groundwater	104.87	feet					
227 - Groundwater Elevation	896.24	feet MSL					
105 - Chloride	2.2	mg/L	125	250			405132750
447 - Sodium Dissolved	2.98	mg/L	136				405132750
274 - Manganese Dissolved	<1.2	ug/L	60	300	1.2	4.0	405132750
330 - Nitrogen, Nitrite + Nitrate Total	1.5	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.37	su	8				
462 - Solids, Total Dissolved	314	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	69000	ug/L					405132750
735 - Potassium Dissolved	1270	ug/L					405132750
734 - Magnesium Dissolved	34500	ug/L					405132750
204 - Fecal Coliform	<1	#/100 ml					113133790
186 - Dissolved Oxygen	5.24	mg/L					
420 - Turbidity	4.20	NTU					

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

WI Unique No: Sample Date: 08/29/2023
 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: 07/01/2023 to 09/30/2023							

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Parameter	Sample Value	Units	PALs	ESs	LOD	LOQ	Lab Certification Number
166 - Depth To Groundwater	99.88	feet					
227 - Groundwater Elevation	892.75	feet MSL					
105 - Chloride	1.7	mg/L	125	250	0.43	2.0	405132750
447 - Sodium Dissolved	2.75	mg/L	136				405132750
274 - Manganese Dissolved	143	ug/L	60	300	1.2	4.0	405132750
330 - Nitrogen, Nitrite + Nitrate Total	0.090	mg/L	2	10	0.059	0.25	405132750
377 - pH Field	7.24	su	8				
462 - Solids, Total Dissolved	326	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	74000	ug/L					405132750
735 - Potassium Dissolved	1270	ug/L					405132750
734 - Magnesium Dissolved	31000	ug/L					405132750
204 - Fecal Coliform	<1	#/100 ml					113133790
186 - Dissolved Oxygen	0.38	mg/L					
420 - Turbidity	0	NTU					

Sample Collected By:

Personnel Name: Colin Gloede Organization: SCS Engineers for MGE

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General Remarks

MW-1 - pH was over PAL
MW-2 - Chloride was over Enforcement Standard, Sodium and TDS were over PAL
MW-3 - Nitrogen was over PAL
MW-4 - Chloride was over PAL
MW-6 - Manganese was over PAL

Laboratory Quality Control Comments