

**A.7 Other**  
**Groundwater NA Indicator Results**  
**A to Z Sales & Service – LGU BRRTS #03-59-190963**

**Well MW-1/MW-1R**

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
01/30/18	0.33	6.60	-94.5	9.48	1469	<0.36	10.2	51.1	<b>4790</b>
05/01/18	0.66	6.77	-13	9.1	423.4	NS	NS	NS	NS
06/23/19	WELL ABANDONED AND REMOVED DURING EXCAVATION PROJECT								
07/30/19	MW-1 REPLACE WITH MW-1R								
08/27/19	1.25	6.43	-83.8	15.3	748	NS	NS	NS	NS
11/19/19	0.99	6.69	-103.7	13.29	756	NS	NS	NS	NS
02/11/20	2.72	6.71	-105.3	8.56	1092	NS	NS	NS	NS
ENFORCEMENT STANDARD = <b>ES – Bold</b>						<b>10</b>	-	-	<b>300</b>
PREVENTIVE ACTION LIMIT = <i>PAL – Italics</i>						<i>2</i>	-	-	<i>60</i>

(ppb) = parts per billion (ppm) = parts per million

ns = not sampled

nm = not measured

ORP = Oxidation Reduction Potential

Note: Elevations are presented in feet mean sea level (msl).

**Well MW-2**

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
01/30/18	0.86	6.74	-102.5	9.41	1483	<0.36	4.26	26.6	<b>2570</b>
05/01/18	1.88	7.08	-41	9.1	732	NS	NS	NS	NS
08/27/19	1.23	7.01	-135.5	12.54	900	NS	NS	NS	NS
11/19/19	0.84	6.92	-82.0	11.62	876	NS	NS	NS	NS
02/11/20	2.81	6.78	-100.7	8.69	1537	NS	NS	NS	NS
ENFORCEMENT STANDARD = <b>ES – Bold</b>						<b>10</b>	-	-	<b>300</b>
PREVENTIVE ACTION LIMIT = <i>PAL – Italics</i>						<i>2</i>	-	-	<i>60</i>

(ppb) = parts per billion (ppm) = parts per million

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ORP = Oxidation Reduction Potential

Note: Elevations are presented in feet mean sea level (msl).

**Well MW-3**

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
01/30/18	1.12	7.08	46.3	9.40	1073	0.39	14.0	0.29	<b>390</b>
05/01/18	3.44	7.48	229	9.6	640	NS	NS	NS	NS
08/27/19	1.48	7.19	182.5	11.33	1106	NS	NS	NS	NS
11/19/19	1.04	7.10	203.8	12.12	901	NS	NS	NS	NS
02/11/20	4.75	7.02	209.0	9.36	1370	NS	NS	NS	NS
ENFORCEMENT STANDARD = <b>ES – Bold</b>						<b>10</b>	-	-	<b>300</b>
PREVENTIVE ACTION LIMIT = <i>PAL – Italics</i>						<i>2</i>	-	-	<i>60</i>

(ppb) = parts per billion (ppm) = parts per million

ns = not sampled

nm = not measured

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**Well MW-4**

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp ( C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
01/30/18	2.45	7.06	181.4	9.00	479	0.56	9.33	0.57	90.2
05/01/18	6.57	7.41	262	8.7	412.6	NS	NS	NS	NS
08/27/19	4.82	7.05	215.2	13.71	721	NS	NS	NS	NS
11/19/19	4.01	6.98	264.8	12.04	558	NS	NS	NS	NS
02/11/20	6.75	6.94	215.8	9.00	705	NS	NS	NS	NS
ENFORCEMENT STANDARD = <b>ES – Bold</b>						<b>10</b>	-	-	<b>300</b>
PREVENTIVE ACTION LIMIT = <i>PAL – Italics</i>						<i>2</i>	-	-	<i>60</i>

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ORP = Oxidation Reduction Potential

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**Well MW-5**

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp ( C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
01/30/18	3.02	7.01	188.4	8.50	342	2.32	12.5	0.14	43
05/01/18	6.84	7.11	247	6.6	262.1	NS	NS	NS	NS
08/27/19	4.13	6.19	229.1	15.04	398	NS	NS	NS	NS
11/19/19	2.94	6.28	180.8	11.79	256	NS	NS	NS	NS
02/11/20	6.03	6.51	237.4	8.21	344	NS	NS	NS	NS
ENFORCEMENT STANDARD = <b>ES – Bold</b>						<b>10</b>	-	-	<b>300</b>
PREVENTIVE ACTION LIMIT = <i>PAL – Italics</i>						<i>2</i>	-	-	<i>60</i>

(ppb) = parts per billion (ppm) = parts per million

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Note: Elevations are presented in feet mean sea level (msl).

**Well MW-6**

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp ( C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
01/30/18	3.65	6.78	-120.0	9.44	844	0.45	5.64	2.01	1480
05/01/18	1.59	7.22	21	9.9	482.5	NS	NS	NS	NS
08/27/19	5.36	6.32	165.2	11.9	126	NS	NS	NS	NS
11/19/19	4.27	6.24	189.7	11.35	102	NS	NS	NS	NS
02/11/20	6.63	6.52	0.8	8.19	299	NS	NS	NS	NS
ENFORCEMENT STANDARD = <b>ES – Bold</b>						<b>10</b>	-	-	<b>300</b>
PREVENTIVE ACTION LIMIT = <i>PAL – Italics</i>						<i>2</i>	-	-	<i>60</i>

(ppb) = parts per billion (ppm) = parts per million

ns = not sampled

nm = not measured

ORP = Oxidation Reduction Potential

Note: Elevations are presented in feet mean sea level (msl).

**A.7 Other**  
**Groundwater NA Indicator Results**  
**A to Z Sales & Service – LGU BRRTS #03-59-190963**

**Well MW-7**

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp ( C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Man-ganese (ppb)
08/27/19	5.60	6.97	181.0	11.73	479	NS	NS	NS	NS
11/19/19	3.30	7.06	267.8	11.76	385	NS	NS	NS	NS
02/11/20	6.77	7.06	251.7	8.85	530	NS	NS	NS	NS
ENFORCEMENT STANDARD = <b>ES – Bold</b>						<b>10</b>	-	-	<b>300</b>
PREVENTIVE ACTION LIMIT = <i>PAL – Italics</i>						<i>2</i>	-	-	<i>60</i>

(ppb) = parts per billion (ppm) = parts per million

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ORP = Oxidation Reduction Potential

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**A.7 Other**  
**Flow Velocity Calculations**  
**A to Z Auto Sales, WDNR BRRS# 03-59-190963**

**MW-1**

	<b>ft/s</b>	<b>ft/year</b>	<b>cm/s</b>	<b>m/yr</b>
K	7.99E-05	2.52E+03	2.44E-03	768.0126
	<b>sq ft/s</b>	<b>sq cm/s</b>		
T	3.75E-04	3.48E-01		

**MW-2**

	<b>ft/s</b>	<b>ft/year</b>	<b>cm/s</b>	<b>m/yr</b>
K	1.06E-04	3.34E+03	3.23E-03	1018.8903
	<b>sq ft/s</b>	<b>sq cm/s</b>		
T	5.49E-04	5.10E-01		

**MW-3**

	<b>ft/s</b>	<b>ft/year</b>	<b>cm/s</b>	<b>m/yr</b>
K	1.65E-05	5.20E+02	5.03E-04	158.6009
	<b>sq ft/s</b>	<b>sq cm/s</b>		
T	6.06E-05	5.63E-02		

Date	Elv. (High)	Elv. (Low)	Distance (ft)	Hyd Grad (l)
01/30/18	1065.10	1064.60	112	4.46E-03
05/01/18	1066.00	1065.00	49	2.04E-02
08/27/19	1067.00	1066.00	150	6.67E-03
11/19/19	1067.25	1065.75	225	6.67E-03
02/11/20	1066.75	1065.25	200	7.50E-03
			<b>Average</b>	9.14E-03

	Average			Flow Velocity
	K (m/yr)	Hyd Grad (l)	Porosity (n)	(m/yr)
MW-1	768.0126	9.14E-03	0.3	23.4017
MW-2	1018.8903	9.14E-03	0.3	31.0461
MW-3	158.6009	9.14E-03	0.3	4.8327
			Average	19.7602