Supplementary Materials

The Dynamics of the Concentration and Speciation of Arsenic in Private Drinking Water Wells in Eastern Wisconsin, USA

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Figure S1. The map of counties within Wisconsin where the research was performed.

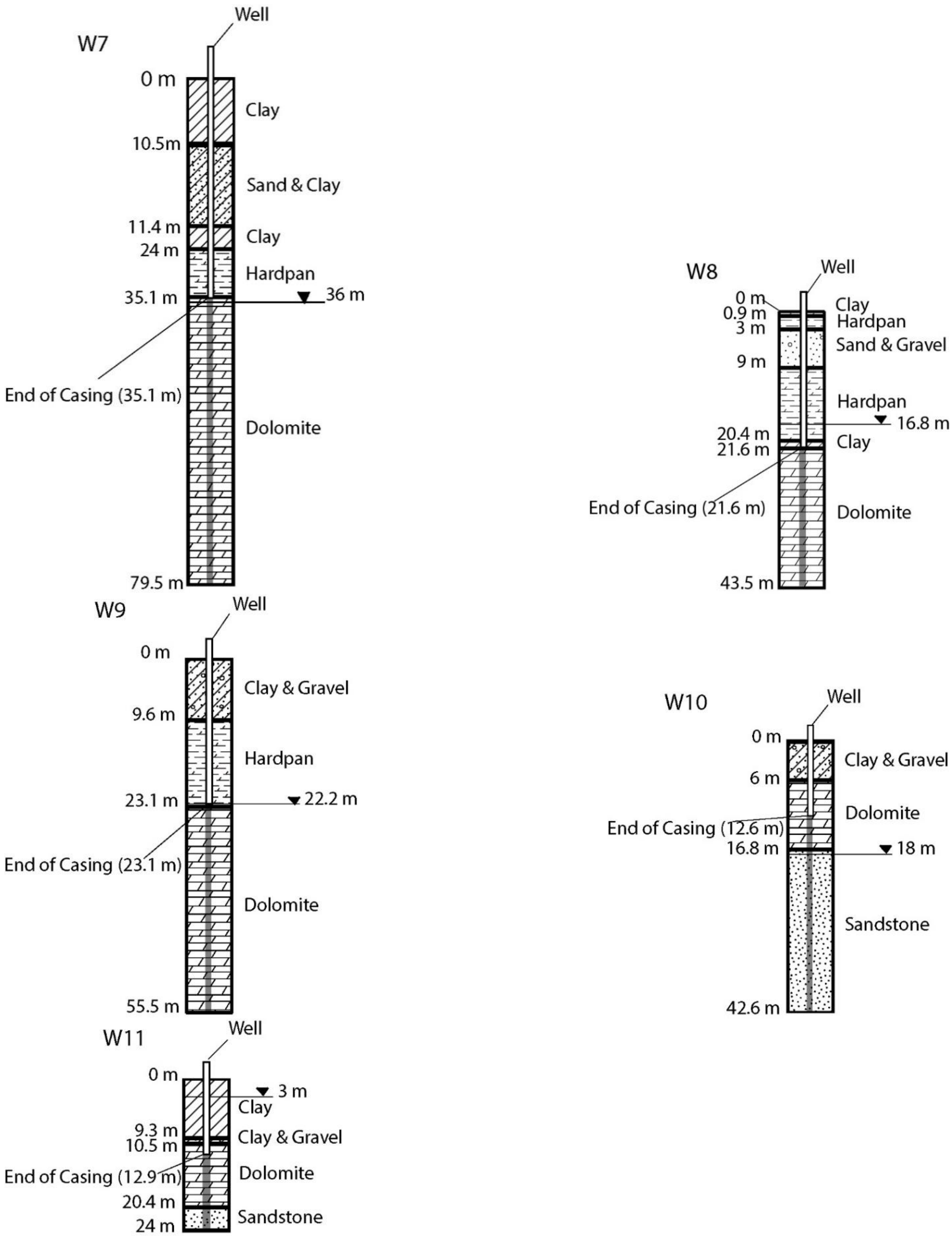

Figure S2. Boring log reports for wells W7 – W11 that were studied in this research.

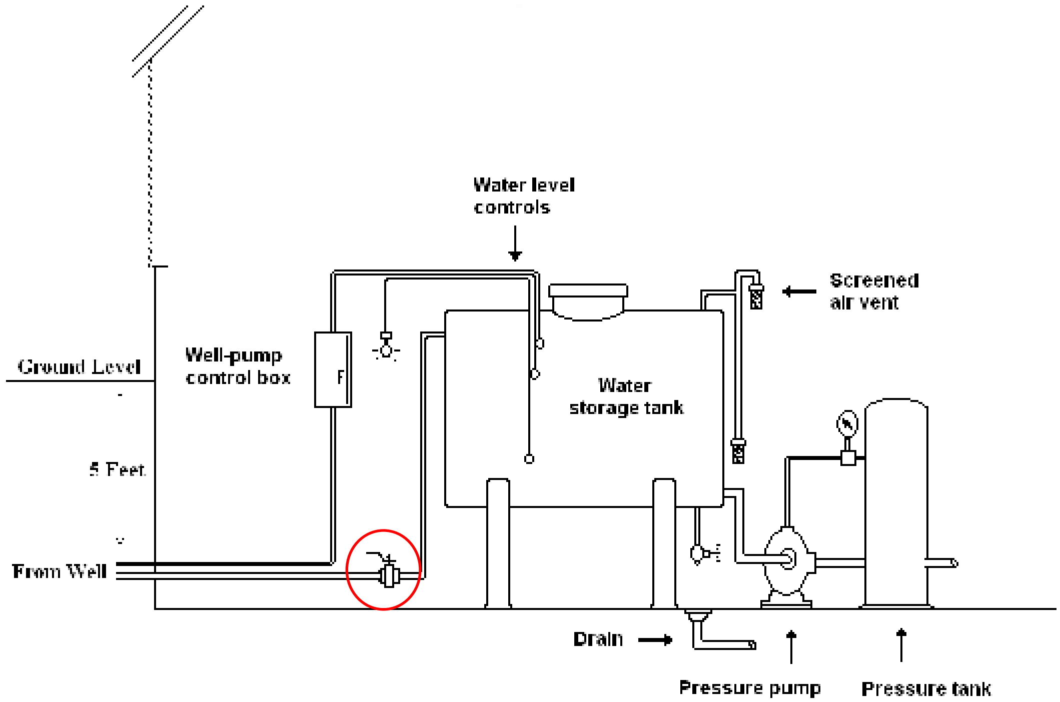

Figure S3. Illustration of private well water supply system and the location of water sample collection (Source: [39]). The spigot is hilighted with the red circle.

Table S1. Background water quality results for the selected 11 wells (*n* =3, exepct for bicarbonate measurements). BDL means below detection limit. NA means not available. For $NaHCO_3^-$, only one measurement was performed due to time limit. The average ratio of cations and anions charges was 91.2%.

Well #	pH	Specific conductivity (μS/cm)	Tempera ture (°C)	Eh (mV)	Ca^{2+} (mg/L)	Mg^{2+} (mg/L)	K^+ (mg/L)	Na^+ (mg/L)	Cl^- (mg/L)	$NaHCO_3^-$ (mg/L)	NO_3^- (mg/L)	PO_4^{3-} (mg/L)	SO_4^{2-} (mg/L)
W1	7.44±0.01	1224.75±38.53	11.6±0.3	-285.90±8.64	80.36±3.03	46.93±1.49	0.93±0.25	0.55±0.03	23.17±2.32	595	BDL	BDL	51.74±4.16
W2	7.77±0.03	332.85±92.68	11.2±1.00	-285.23±23.46	50.16±0.96	34.20±0.64	1.92±0.13	3.01±0.10	1.52±1.32	206	BDL	BDL	5.65±0.41
W3	7.23±0.00	1008.50±49.70	12.6±1.9	-223.80±0.42	69.15±0.67	38.16±0.12	1.67±0.39	0.39±0.04	3.82±0.64	578	0.36±0.12	BDL	5.99±0.37
W4	7.00±0.41	941.25±195.17	12.9±2.2	-247.48±3.18	71.80±0.61	39.89±0.40	0.66±0.29	0.48±0.01	1.89±0.98	562	BDL	BDL	3.87±0.71
W5	7.85±0.02	857.25±20.76	10.9±0.1	-303.15±18.06	48.90±0.17	38.59±1.29	2.83±0.22	0.37±0.01	1.10±0.05	626	BDL	BDL	2.16±0.02
W6	7.36±0.01	1250.75±437.33	12.9±0.9	-284.83±8.34	79.78±0.83	60.18±0.54	0.39±0.14	2.36±0.03	60.42±1.32	651	BDL	BDL	54.38±0.69
W7	7.00±0.00	908.50±2.12	13.4±1.3	-240.58±8.28	55.75±4.16	54.20±2.64	3.16±0.43	38.73±0.59	37.72±1.10	214	BDL	BDL	117.72±3.79
W8	7.11±0.16	1415.50±464.57	12.6±1.1	-251.10	107.62±3.12	67.35±0.32	0.77±0.04	6.80±8.68	97.10±18.89	NA	BDL	BDL	67.09±1.81
W9	7.13±0.89	898±270.11	12.0±0.4	-286.40	64.44±1.83	52.00±0.35	0.18±0.05	4.07±5.11	26.24±21.06	NA	1.51±0.43	BDL	27.39±4.81
W10	6.88±0.33	807.33±200.68	12.2±0.6	-299.50±2.40	78.75±3.94	40.47±1.02	0.59±0.49	0.73±1.18	0.76±0.20	635	BDL	BDL	43.17±22.85
W11	7.31±0.01	1128.00±25.55	11.9±0.5	-246.85±7.54	79.93±1.22	33.14±1.35	1.24±0. 92	0.77±0.03	19.83±1.19	515	BDL	BDL	55.56±9.69