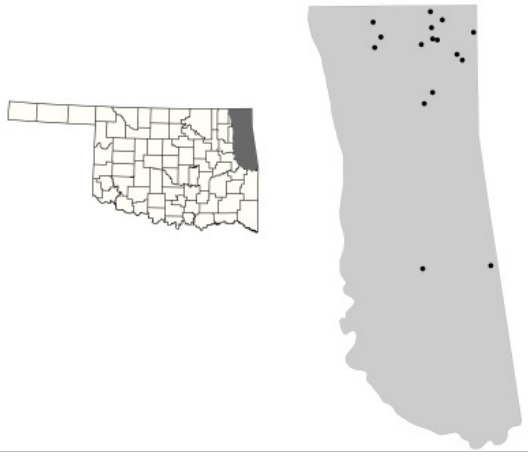
Roubidoux Aquifer

Baseline Sample Period	Sampling Sites	Water Level Sites
September-November 2017	17	9



General	
Location	Runs through Northeast Oklahoma
Area (km^2)	11,655
Capacity (acre-feet)	43 million
Primary Uses	Public Supply
Category	Bedrock

Parameters — General Field

Parameter	Mean	SEM[1]	Minimum	25%	Median	75%	Maximum	Comments
Well Depth (ft)	1137	56	600	1011	1145	1328	1526	N=20
Depth to Water (ft)	240.40	29.46	127.92	169.05	216.39	318.66	392.50	Below ground surface; N=9
Temperature (°C)	20.30	0.59	16.17	19.20	19.84	21.34	25.55	
Specific Conductance (µS/cm)	873.76	167.50	277.70	298.80	553.30	1328.95	2337.00	
Dissolved Oxygen (mg/L)	2.06	0.82	0.20	0.40	0.55	1.83	12.20	
pH (units)	7.72	0.10	7.09	7.47	7.72	7.92	8.91	SMCL: 6.5-8.5; 0 under, 1 over
Reduction Potential (mV)	86.99	28.57	-73.60	5.60	74.50	152.55	313.90	
Alkalinity (mg/L)	157	19	81	109	138	187	390	
Hardness (mg/L)	159	22	38	118	141	201	435	
Calculated Bicarbonate (mg/L)	182	24	22	129	150	222	476	
Total Dissolved Solids (mg/L)	474	89	136	173	330	680	1281	SMCL: 500; 8 over

Parameters — Nutrient Constituents

Parameter	Mean	SEM[1]	Minimum	25%	Median	75%	Maximum	Comments
Ammonia N (mg/L)	0.14	0.04	<0.05	<0.05	0.07	0.21	0.48	HA: 30; 0 over
Nitrate & Nitrite N (mg/L)	All values <0.05, except 1 (0.10)							MCL: 10; 0 over
Total Dissolved Phosphorus (mg/L)	All values <0.015, except 1 (0.029)							

Parameters — Mineral Constituents

Parameter	Mean	SEM[1]	Minimum	25%	Median	75%	Maximum	Comments
Bromide (mg/L)	0.57	0.11	<0.50	<0.50	<0.50	0.90	1.5	
dissolved Calcium (mg/L)	39.8	5.83	11.0	28.2	29.4	51.1	100	
Chloride (mg/L)	148	46.1	5.73	10.9	27.4	258	605	SMCL: 250; 1 over
Fluoride (mg/L)	1.3	0.39	<0.10	0.21	0.42	1.9	5.4	MCL: 4; 0 over SMCL: 2; 0 over
dissolved Magnesium (mg/L)	13.6	2.10	1.52	8.86	13.1	14.3	41.2	
dissolved Potassium (mg/L)	3.66	0.680	0.660	1.51	2.32	4.93	10.0	
dissolved Silica (mg/L)	9.73	0.170	8.33	9.44	9.60	10.2	11.1	
dissolved Sodium (mg/L)	122	37.0	6.36	10.4	25.0	220	447	
Sulfate (mg/L)	23.3	12.8	1.99	8.57	12.4	13.8	227	SMCL: 250; 0 over

Parameters	Parameter	Mean	SEM[i]	Minimum	25%	Median	75%	Maximum	Comments
Metal & Trace Element Constituents	dissolved Arsenic (µg/L)	1.05	0.24	<1.00	<1.00	<1.00	1.59	3.76	MCL: 10; 0 over
	dissolved Barium (µg/L)	75.7	30.2	9.55	13.4	33.4	65.1	498	MCL: 2000; 0 over
	dissolved Boron (µg/L)	339	110	10.0	45.6	90.1	617	1370	HA: 6000; 0 over
	dissolved Chromium (µg/L)	4.18	1.08	<1.00	1.08	2.20	7.17	16.4	MCL: 100; 0 over
	dissolved Chromium VI (µg/L)	All values <0.1, except 1 (0.69)							
	dissolved Copper (µg/L)	All values <1, except 2 (1.05, 2.42)							MCL: 1300; 0 over SMCL: 1000; 0 over
	dissolved Iron (µg/L)	78.8	35.3	<20.0	<20.0	36.3	74.1	614	SMCL: 300; 1 over
	dissolved Lead (µg/L)	All values <1, except 2 (1.34, 1.48)							MCL: 15; 0 over
	dissolved Molybdenum (µg/L)	1.42	0.480	<1.00	<1.00	<1.00	<1.00	2.54	HA: 40; 0 over
	dissolved Radium-226 & Radium-228 (combined) (pCi/L)	2.5	0.57	<0.50	<0.50	1.4	4.1	8.3	MCL: 5 pCi/L; 3 over ±1
	dissolved Selenium (µg/L)	2.16	0.770	<1.00	<1.00	<1.00	3.15	12.5	MCL: 50; 0 over
	dissolved Vanadium (µg/L)	1.50	0.440	<1.00	<1.00	<1.00	2.06	7.04	
	dissolved Zinc (µg/L)	All values <35, except 2 (110, 165)							SMCL: 5000; 0 over HA: 2000; 0 over

Parameters	Parameters Below Detectable Limits				
		Aluminum Antimony Beryllium	Cadmium Cobalt Manganese	Mercury Nickel Silver	Thallium Uranium

[i] Standard Error of the Mean