GWDP
Q4 2019

PARAMETER	UNIT	Maximum Daily Limit for Downgradient Wells Only	QAL008A Nov 2019 11/04/19 (Downgradient)	Q	QAL008D Nov 2019 11/04/19 (Downgradient)	Q	QAL025D Nov 2019 11/05/19	Q	QAL026A Nov 2019 11/04/19	Q	QAL026D Nov 2019 11/04/19	Q	QAL029A Nov 2019 11/05/19	Q	QAL029D Nov 2019 11/05/19	Q	QAL050A Nov 2019 11/04/19 (Downgradient)	Q	QAL051A Nov 2019 11/04/19 (Downgradient)	Q	QAL051D Nov 2019 11/04/19 (Downgradient)	Q	QAL052A Nov 2019 11/04/19 (Downgradient)	Q	QAL053A Nov 2019 11/04/19	Q	QAL055A Nov 2019 11/04/19	Q	QAL056A Nov 2019 11/04/19	Q	QAL057A Nov 2019 11/04/19 (Downgradient)	Q	QAL057D Nov 2019 11/04/19 (Downgradient)	Q	QAL075A Nov 2019 11/05/19 (Downgradient)	Q	QAL075D Nov 2019 11/05/19 (Downgradient)	Q
Field																																					
D.O.	ppm	NA	9.8		6.5		4.8		12		13		13		8.5		11		12		5.7		4.1		3.0		6.7		10		10		5.6		10		0.8	
ORP	mV	NA	147		146		146		312		272		321		290		198		228		141		200		189		108		155		151		115		153		131	
pH	SU	6.5-9.7	9.5		9.0		9.1		5.7		8.7		6.1		6.7		8.7		8.4		8.5		8.2		8.3		8.5		9.5		9.1		8.6		9.3		8.9	
Specific Conductance	µS/cm @ 25°C	NA	75		93		100		62		69		2909		549		156		108		116		126		126		821		78		159		277		86		126	
Temperature	°C	NA	14		10		6.7		7.0		7.3		7.6		7.5		11		7.6		9.7		10		8.7		10		12		11		10		8		8	
Turbidity	NTU	NA	<1		<1		<1		<1		<1		<1		<1		<1		<1		<1		<1		<1		<1		<1		<1		<1		<1		<1	
Water Elevation	ft MSL	NA	1394.98		1356.28		1414.27		1418.41		1411.22		1414.61		1408.10		1367.51		1369.23		1369.16		1355.30		1387.72		1369.33		1396.25		1366.71		1366.79		1350.35		1351.80	
Metals																																						
Aluminum	ug/L	150	<50.0		<50.0		<50.0		66.0		<50.0		77.1		<50.0		<50.0		<50.0		<50.0		52.7		<50.0		<50.0		<50.0		<50.0		<50.0		<50.0		<50.0	
Antimony	ug/L	5.0	<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Arsenic	ug/L	6.0	<1.0		2.9		2.9		<1.0		<1.0		<1.0		<1.0		<1.0		1.3		4.9		1.4		7.6		<1.0		<1.0		<1.0		2.0		1.2		2.0	
Barium	ug/L	1000	<5.0		7.9		5.2		6.3		<5.0		483		19.4		7.5		6.3		13.4		5.7		8.2		47.4		<5.0		8.6		12.5		5.2		5.4	
Beryllium	ug/L	3.0	<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Boron	ug/L	285	<20.0	e	<20.0	e	<20.0	e	<20.0	e	<20.0	e	<20.0	e	<20.0	e	<20.0	e	<20.0	e	<20.0	e	<20.0	e	35.9	e	<20.0	e	<20.0	e	<20.0	e	23.0	e	<20.0	e	21.5	e
Cadmium	ug/L	3.0	<0.20		<0.20		<0.20		<0.20		<0.20		0.57		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20	
Chromium	ug/L	52	<1.0		1.7		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		1.0		<1.0		10.8		<1.0		<1.0		1.2		<1.0		1.3	
Cobalt	ug/L	23	<15.0		<15.0		<15.0		<15.0		<15.0		<15.0		<15.0		<15.0		<15.0		<15.0		<15.0		<15.0		<15.0		<15.0		<15.0		<15.0		<15.0		<15.0	
Copper	ug/L	10	<1.0		1.1		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		1.7		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Iron	ug/L	NA	<50.0		<50.0		<50.0		77.8		<50.0		<50.0		<50.0		<50.0		<50.0		<50.0		86.0		<50.0		93.8		<50.0		<50.0		<50.0		<50.0		<50.0	
Lead	ug/L	3.0	<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Lithium	ug/L	88	<8.0		<8.0		<8.0		<8.0		<8.0		<8.0		<8.0		<8.0		<8.0		<8.0		<8.0		<8.0		<8.0		<8.0		<8.0		<8.0		<8.0		<8.0	
Manganese	ug/L	50	<5.0		<5.0		<5.0		<5.0		<5.0		35.4		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0	
Mercury	ng/L	NA	<0.50		<0.50		<0.50		<0.50		<0.50		4.69		1.53		<0.50		<0.50		<0.50		<0.50		<0.50		<0.50		<0.50		<0.50		<0.50		<0.50		<0.50	
Molybdenum	ug/L	22	<5.0		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0	
Nickel	ug/L	57	<2.0		<2.0		<2.0		<2.0		<2.0		<2.0		<2.0		<2.0		<2.0		<2.0		<2.0		<2.0		3.1		<2.0		<2.0		<2.0		<2.0		<2.0	
Selenium	ug/L	5.0	<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Silver	ug/L	0.40	<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20		<0.20	
Strontium	ug/L	2300	11.4		42.2		33.1		29.0		11.8		690		35.1		33.9		21.9		82.0		49.1		82.2		165		11.1		26.9		116		17.7		55.1	
Thallium	ug/L	1.0	<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Uranium	ug/L	NA	<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Vanadium	ug/L	3.1	1.5		2.0		4.0		<1.0		<1.0		<1.0		<1.0		<1.0		3.6		3.0		1.9		1.5		<1.0		1.2		<1.0		<1.0		3.0		1.5	
Zinc	ug/L	1200	<10.0		<10.0		<10.0		<10.0		<10.0		<10.0		<10.0		<10.0		<10.0		<10.0		<10.0		<10.0		<10.0		<10.0		<10.0		<10.0		<10.0		<10.0	
Major Anions																																						
Alkalinity, Bicarbonate	mg/L	NA	31.5		44.5		42.8		27.5		31.3		18.8		87.9		49.4		28.8		46.2		51.9		54.0		80.7		33.0		50.5		65.7		36.9		56.6	
Chloride	mg/L	NA	3.0		5.5		<1.0		<1.0		<1.0		748		98.6		11.2		1.8		1.6		1.3		<1.0		181		<1.0		15.3		38.5		<1.0		<1.0	
Fluoride	mg/L	1.0	<0.10		<0.10		<0.10		<0.10		<0.10		<0.10		<0.10		<0.10		<0.10		<0.10		<0.10		<0.10		<0.10		<0.10		<0.10		<0.10		<0.10		<0.10	
Nitrogen, Ammonia	mg/L	10	<0.020	e	<0.020	e	<0.020	e	<0.020	e	<0.020	e	<0.020	e	<0.020	e	<0.020	e	<0.020	e	<0.020	e	<0.020	e	<0.020	e	<0.020	e	<0.020	e	<0.020	e	<0.020	e	<0.020	e	<0.020	e
Nitrogen, Nitrate	mg/L	10	1.6	e	0.19	e	0.13	e	0.54	e	0.13	e	10.4	e	0.85	e	0.72	e	3.8	e	0.59	e	0.27	e	0.052	e	0.72	e	0.95	e	0.98	e	0.34	e	0.91	e	0.060	e
Nitrogen, Nitrite	mg/L	NA	<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050	
Nitrogen, Total Inorganic	mg/L	10	1.6		0.19		0.13		0.55		0.13		10.4		0.85		0.73		3.8		0.60		0.27		0.055		0.72		0.95		0.98		0.34		0.91		0.062	
Phosphorus, Total	mg/L	NA	<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050	
Sulfate	mg/L	250	<1.0		4.0		5.1		2.0		1.9		24.5		8.1		3.6		1.6		3.4		5.0		6.1		8.5		<1.0		<1.0		4.6		1.1		6.1	
Major Cations																																						
Calcium	mg/L	NA	8.5	e	16.3	e	12.4	e	8.7	e	10.2	e	130	e	12.2	e	20.3	e	14.1	e	14.3	e	17.0	e	16.3	e	64.1	e	8.8	e	20.3	e	37.2	e	12.1	e	17.4	e
Magnesium	mg/L	NA	1.2	e	3.4	e	2.8	e	1.5	e	1.5	e	20.3	e	4.7	e	3.9	e	2.4	e	3.0	e	3.9	e	4.0	e	15.9	e	1.4	e	3.8	e	7.4	e	2.4	e	3.9	e
Potassium	mg/L	NA	0.90		0.91		0.67		1.1		<0.50		8.4		1.5		0.97		0.60		1.1		1.1		1.3		2.5		0.88		0.94		1.5		0.68		1.1	
Sodium	mg/L	NA	8.0		1.3		3.6		1.3		<1.0		369		82.3		3.2		1.5		2.4		1.6		2.0		70.6		5.3		5.1		3.3		1.4		1.4	
General																																						
Hardness	mg/L	NA																																				

Notes:
e: estimated value. The laboratory statement of data qualifications indicates that a quality control limit for this parameter was exceeded.
nm: not measured. ns: not sampled.
*The 3.1 ug/L MDL for vanadium does not apply to monitoring wells QAL008A and QAL051A.
Value is outside of maximum daily limit as stipulated in Permit GW1810162 for compliance monitoring locations.