

APPENDIX J

Water Quality Data

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Groundwater Monitoring Results Through 2018  
Lisbon Valley Mining Company

FC = Laboratory flag code  
VC = Validation code  
U = not detected at value given  
B = detected at a value between method detection limit (MDL) and practical quantitation limit (PQL)  
H = analysis exceeded method hold time  
J = estimated detected value  
T = analysis exceeded method receiving temperature  
FB = detected in field rinsate blank  
R = result rejected, does not conform to historical well chemistry  
n/a = not applicable  
NC = not calculated as of this time  
mg/l = milligrams per liter  
 $\mu\text{S/cm}$  = micromhos per centimeter  
s.u. = standard international units  
pCi/l = picocuries per liter  
x = mean value  
std = standard deviation

**0.91** Bolded and boxed results indicate that the parameter exceeds the maximum background level for ambient monitoring wells, or exceeds Utah GWQS for well(s) for which pre-mining background concentration have not been calculated.

**0.12** Shaded results exceed Utah Groundwater Quality standards. Pre-mining maximum background concentrations have not been determined for this parameter in this well.

(1) If no value is given, a groundwater standard has not been established for that parameter.

(2)

The mean background concentration and standard deviation numbers are shown in the Permit (Table 1, Part II of the State of Utah Ground Water Quality Discharge Permit No. UGW37005, dated 29 May 2015 for ambient monitoring wells.

(3) The maximum background concentration was calculated as specified in (a-j).

(4)

The standard is that activity which will cause a 4 mrem/year exposure; converted to pCi/L assuming that the beta activity is due to Sr-90 and a 2-liter per day intake of water.

(a) Protection limit specified in 2015 groundwater permit.

(b) For detected amount of background concentration, protection limit equal to 1.5 times mean background concentration.

(c) For detected amount of background concentration, protection limit equal to 0.5 times groundwater quality standard.

(d)

For detected amount of background concentration, protection limit equal to mean background concentration plus two standard deviations.

(e) For detected amount of background concentration, protection limit equal to groundwater quality standard.

(f) For non-detected amount of background concentration, protection limit equal to 0.5 times groundwater quality standard.

(g) For non-detected amount of background concentration, protection limit equal to limit of detection.

(h) For TDS, protection limit equal to 1.25 times mean background concentration.

(i) For TDS, protection limit equal to mean background concentration plus two standard deviations.

(j)

Phosphorous added to analytical suite in 2012 and maximum background levels have not been calculated for this parameter.













Groundwater Monitoring Results - SLV3 Cumulative Water Quality

Station Name	Units	SLV3 SLV3-01-01			SLV3 SLV3-01-02			SLV3 SLV3-01-02D			SLV3 SLV3-01-03			SLV3 SLV3-01-04			SLV3 SLV3-01-05			SLV3 SLV3			SLV3 SLV3			SLV3 SLV3			SLV3 SLV3			SLV3 SLV3			SLV3 SLV3			SLV3 SLV3																				
Field Sample ID																																																										
Lab Sample ID																																																										
Sample Date		10/1/1994			3/1/1995			3/1/1995			5/1/1995			8/1/1995			11/1/1995			4/3/1996			6/1/1996			6/13/1996			9/1/1996			12/1/1996			3/11/1997			97-U005539			5/20/1997			8/28/1997			97-U013506			98-U001067			98-U003959					
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC															
<b>Major Ions + Indicator Parameters</b>																																																										
Alkalinity (as CaCO <sub>3</sub> )	mg/l	399			417			421			420			442			464			560			571			541			439			415			354			292			381			474			473			430								
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l																																																									
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	398.6			416.6			420.7			419.9			441.2			435.5			560.2			571.7			540.5			438.8			415			354.3			292.8			380.6			474.1			473.2			356								
Carbonate (as CaCO <sub>3</sub> )	mg/l	<1.7	U		<1.7	U		<1.7	U		<1.7	U		<1.7	U		<1.7	U		<1.7	U		<1.7	U		0			<3.3	U		<1.7	U		<3.3	U		<3.3	U		<3.3	U		<1.7	U		<3.3	U		<3.3	U							
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2.9	U		<2.9	U		<2.9	U		<2.9	U		<2.9	U		<2.9	U		<2.9	U		<2.9	U		<2.9	U		<5.9	U		<2.9	U		<5.9	U		<5.9	U		<5.9	U		<5.9	U		<2.9	U		<5.9	U							
Hardness (as CaCO <sub>3</sub> )	mg/l	1,390			1,320			1,320			1,550			1,570			1,290			1,210			1,140			1,140			1,170			806			850			838			1,240			1,380			1,210			1,140								
Calcium, dissolved	mg/l	318			326			338			384			345			333			339			339			339			291			175			188			159			316			322			301			298								
Magnesium, dissolved	mg/l	116			102			107			113			124			94.9			95.4			101			101			92.3			99.8			77.4			86.8			106			103			103			96.8								
Potassium, dissolved	mg/l	15.8			14.7			15.7			15.3			17.7			14.6			15.7			13.7			12			13			13			13.2			15.6			15.5			14.7			13.8											
Sodium, dissolved	mg/l	68.9			70.6			74.1			70.2			68.4			98.8			109			77.7			64.8			92.9			83.2			76			70.4			64.6			67.2			64.6											
Chloride	mg/l	27			24			24			26.9			23			24			24			23			23			24			25			22			24			24			23			25											
Fluoride	mg/l	<1	U		0.39			0.41			0.37			<0.5	U		<0.5	U		<0.5	U		<1	U		<0.5	U		0.4			0.3			0.2			0.4			0.3			0.37			0.5											
Silica	mg/l	8			19.7			20.1			9			10.3			9.8			12.2			12.2			12.6			7.9			5.1			7.3			5.6			<10.1	U		10.1			10.7			6.6								
Sulfate	mg/l	1,100			1,080			1,070			1,280			1,270			1,070			982			992			936			810			786			894			894			1,060			1,030			982											
Total Dissolved Solids	mg/l	2,030	J		1,932	J		1,924	J		2,190	J		2,260	J		1,940	J		1,830	J		1,800	J		1,960	J		1,680	J		1,560	J		1,850	J		1,840	J		2,050	J		1,960	J		1,940	J										
Total Suspended Solids	mg/l	380	J		19	J		18	J		11	J		419	J		572	J		1680	J		962	J		580	J		462	J		356	J		226	J		1650	J		344	J		864	J		872	J										
pH, Lab	s.u.	7.51	J		6.87	J		6.8	J		7.26	J		6.99	J		7.44	J		6.9	J		7.1	J		7	J		6.6	J		6.53	J		6.6	J		6.8	J		6.6	J		6.9	J		6.8	J		6.8	J							
E.C., Lab	uS/cm	2,270	J		2,260	J		2,250	J		2,420	J		2,580	J		2,340	J		2,290	J		2,260	J		2,370	J		2,190	J		1,980	J		2,172	J		2,165	J		2,394	J		2,247	J		2,228	J										
<b>Nutrients</b>																																																										
Phosphorus, total as P	mg/l																																																									
Nitrate as N, dissolved	mg/l	1.54	J		0.029	J		0.104	J		<0.02	U	J	<0.02	U	J	0.02	J		0.05	J		<0.04	U		<0.04	U		<0.08	U	J	<0.8	U		<0.02	U		0.18	J		<0.15	U		<0.29	U		<0.08	U		<0.2	U							
Nitrite as N, dissolved	mg/l				<0.005	U	J	<0.005	U		<0.005	U	J	<0.005	U	J	0.009	J		<0.005	U	J	0.007	J		0.007	J		0.009	J		<0.005	U	J	<0.013	U	J	<0.005	U		0.006	J		0.005	J		<0.005	U	J	<0.008	U							
Nitrate/Nitrite as N, dissolved	mg/l	1.54	J		0.029	J		0.104	J		<0.02	U		<0.02	U		0.03	J		0.05	J		<0.04	U		<0.04	U		<0.08	U	J	<0.08	U		<0.02	U	J	0.18	J		<0.16	U		<0.3	U		<0.08	U		<0.2	U							
Nitrogen, ammonia	mg/l	<0.8	U		<0.4	U		<0.4	U		<0.4	U		<0.8	U		<0.8	U		<0.4	U		1	J		<1	U		<0.5	U		0.3	J		<0.5	U		<0.2	U		0.3	J		0.4	J		0.44	J		<0.2	U							
<b>Metals</b>																																																										
Aluminum, dissolved	mg/l	<0.02	U		<0.05	U		<0.05	U		<0.01	U		<0.01	U		0.03	J		<0.03	U		0.02	J		<0.05	U		<0.05	U		<0.03	U		<0.03	U		<0.03	U		<0.03	U		<0.02	U		<0.04	U		<0.17	U							
Antimony, dissolved	mg/l	<0.002	U		<0.006	U		<0.006	U		<0.003	U		<0.003	U		<0.003	U		<0.003	U		<0.003	U		<0.003	U		<0.003	U		<0.003	U		<0.003	U		<0.003	U		<0.003	U		<0.003	U		<0.004	U		<0.01	U	J						
Arsenic, dissolved	mg/l	<0.005	U		<0.01	U		<0.01	U		0.04	J		<0.005	U		<0.02	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		0.005	J				
Barium, dissolved	mg/l	<0.01	U		0.012	J		0.011	J		<0.01	U		0.01	J		0.02	J		0.04	J		0.024	J		0.02	J		<0.01	U		0.03	J		<0.01	U		0.01	J		0.01	J		0.015	J		0.012	J		0.012	J		0.012	J				
Beryllium, dissolved	mg/l	<0.005	U		<0.004	U		<0.004	U		<0.01	U		<0.001	U		<0.001	U		<0.001	U		<0.0002	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		0.001	J				
Cadmium, dissolved	mg/l	<0.001	U		<0.005	U		<0.005	U		<0.001	U		<0.001	U		<0.005	U		<0.005	U		0.001	J		<0.005	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.0005	U		<0.001	U		<0.001	U		<0.001	U		0.001	J				
Chromium, dissolved	mg/l	<0.005	U		<0.01	U		<0.01	U		<0.01	U		<0.005	U		<0.005	U		0.006	J		<0.001	U		0.021	J		0.005	J		<0.005	U		0.005	J		<0.005	U		<0.005	U	J	<0.005	U		<0.005	U		<0.005	U		0.005	J				
Copper, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		0.01	J		<0.01	U		<0.002	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U	J	0.01	J		<0.01	U		<0.01	U		0.01	J		0.01	J	
Iron, dissolved	mg/l	4.9	J																																																							

Groundwater Monitoring Results - SLV3 Cumulative Water Quality

Station Name	Units	SLV3 SLV3 98-U007049	SLV3 SLV3 11/21/1998	SLV3 SLV3-99-01 99-U004716	SLV3 SLV3-99-02 99-U011147	SLV3 SLV3-00-01 00-U004033	SLV3 SLV3-00-02 L29875-04	SLV3 SLV3-01-01 L31974-11	SLV3 SLV3-01-02 L34914-03	SLV3 SLV3 L38903-13	SLV3 SLV3 L43331-01	SLV3 SLV3 L48197-07	SLV3 SLV3-04-D L48197-08	SLV3 SLV3 L54034-01	SLV3 SLU3-05-1 10/31/2005	SLV3 SLV3-06-1 L55699-01	SLV3 SLV3-07 L55699
Field Sample ID		8/21/1998	11/21/1998	5/19/1999	11/11/1999	5/7/2000	11/16/2000	5/8/2001	11/14/2001	10/9/2002	10/6/2003	10/4/2004	10/4/2004	10/26/2005	10/31/2005	3/14/2006	3/14/2006
Lab Sample ID		Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC
Sample Date		Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC
<b>Major Ions + Indicator Parameters</b>																	
Alkalinity (as CaCO <sub>3</sub> )	mg/l	409	449	475	397	484	383	408	344	397	375	399	404	470		470	469
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l			271.5	388.8	353.5											
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	409.3	448.6	475.7	397	483.9	314.1	331.3	344	397	375	399	404	470		470	469
Carbonate (as CaCO <sub>3</sub> )	mg/l	<3.3 U	<3.3 U	<1.7 U	1.7	<3.3 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U		<2.0 U	<2.0
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<5.9 U	<5.9 U	<2.9 U	2.9	<5.9 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U		<2.0 U	<2.0
Hardness (as CaCO <sub>3</sub> )	mg/l	1,150	1,100	1,230	1,090	1,230	1,210	1,200	1,200	1,220	1,190	1,150	1,140	1,590		1,530	1,490
Calcium, dissolved	mg/l	291	278	340	280	310	310	309	318	307	307	303	301	421		400	391
Magnesium, dissolved	mg/l	103	97.4	92	94	110	105	105	99.2	111	102	95.4	94.8	131		128	125
Potassium, dissolved	mg/l	14.3	13.2	15	12	14	13.3	14.4	14.1	14.7	14	14.1	14.1	15.3		16	14.8
Sodium, dissolved	mg/l	70.7	64.5	68	56	74	75.4	71.3	71	66.9	59.4	64.1	63.7	73.6		76.8	74.2
Chloride	mg/l	23	22	23	22	21	24	22	27	22	21	19	19	32		24	24
Fluoride	mg/l	0.4	0.5	0.5	0.4	0.55926	0.7	0.6	0.3	0.4	0.4	0.4	0.4	0.3		<0.1 U	<0.1
Silica	mg/l	8.1	8.6	19.3	7.9	9.4	9	8.5	9.3	10	8.5	8.8	8.7	10.5		10.4	10
Sulfate	mg/l	909	884	1,030	959	921	1,030	971	980	940	850	910	890	1,190		1,150	1,150
Total Dissolved Solids	mg/l	1,920	1,760	1,930	1,870	1,810	1,810	1,780	1,780	1,690	1,650	1,740	1,720	2,220		2,120	2,170
Total Suspended Solids	mg/l	650	1050	976	306	924	232	168	526	118	146	12	10	<5		48	<5
pH, Lab	s.u.	7	7.1	7.06	6.9	6.87	7.1	7.2	7.5	6.9	7.9	7.3	7.2	7.8		7.8	7.8
E.C., Lab	uS/cm	2,260	2,130	2,110	2,100	2,100	2,080	2,070	959	2,090	1,920	2,080	2,040	2,550		2,410	2,400
<b>Nutrients</b>																	
Phosphorus, total as P	mg/l	<0.1 U	1	1.2	1.7	0.4	<0.02 U	<0.1 U	0.05 B	0.03 B	<0.02 U	<0.02 U	<0.02 U	<0.02 U		<0.02 U	0.03
Nitrate as N, dissolved	mg/l	0.005 J	<0.005 U	0.006	<0.005 U	0.008	<0.01 U	<0.05 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U		<0.01 U	<0.01
Nitrite as N, dissolved	mg/l	<0.1 U	1	1.2	1.7	0.4	<0.02 U	<0.1 U	0.05 B	<0.02 U	<0.02 U	<0.02 U	<0.02 U	<0.02 U		<0.02 U	0.03
Nitrate/Nitrite as N, dissolved	mg/l	0.2	<0.2 U	0.2	0.3	0.2	0.17 B	0.19 B	0.2 B	0.13 B	0.2 B	0.25 B	0.17 B	0.18 B		0.19 B	0.2
<b>Metals</b>																	
Aluminum, dissolved	mg/l	0.09	<0.15 U	0.16	0.16	0.12	<0.003 U	<0.03 U	<0.03 U	<0.03 U	<0.03 U	<0.03 U	<0.03 U	<0.03 U		0.04 B	<0.03
Antimony, dissolved	mg/l	<0.002 U	<0.002 U	0.005	<0.003 U	0.0022	0.004 B	<0.002 U	<0.002 U	<0.002 U	<0.0004 U	<0.0004 U	<0.0004 U	<0.0004 U		<0.0008 U	<0.0008
Arsenic, dissolved	mg/l	<0.005 U	0.005	<0.005 U	<0.005 U	0.0017	<0.005 U	<0.001 U	<0.001 U	0.002 B	0.0007 B	<0.001 U	<0.001 U	<0.001 U		<0.001 U	<0.001
Barium, dissolved	mg/l	0.013	0.015	0.027	0.01	0.27	0.182	0.286	0.399	0.009 B	0.011	0.009 B	0.01 B	0.013 B		0.01	0.009
Beryllium, dissolved	mg/l	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.005 U	<0.0001 U	<0.0001 U	<0.0001 U	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U		<0.0002 U	<0.0002
Cadmium, dissolved	mg/l	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.0005 U	<0.005 U	<0.0001 U	0.0003 B	<0.0001 U	<0.0002 U	0.0006 B	0.0006 B	0.0038		0.0041	0.0043
Chromium, dissolved	mg/l	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.0004 B	0.0005	0.0002 B	<0.0002 U	0.0007 B	0.0007 B	<0.0002 U		0.0002 B	<0.0002
Copper, dissolved	mg/l	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U		<0.01 U	<0.01
Iron, dissolved	mg/l	<0.02 U	10.6	0.18	12	16	15.9	0.81	11.2	16.6	11	1.86	0.05 B		0.47	0.46	0.46
Lead, dissolved	mg/l	<0.005 U	0.01	<0.005 U	<0.005 U	<0.0005 U	0.002 B	0.004 B	<0.001 U	<0.001 U	<0.0002 U	0.0005 B	0.0005 B	<0.0002 U		0.001 B	0.001
Manganese, dissolved	mg/l	0.73	0.66	0.28	0.76	0.97	0.936	0.764	0.829	1.23	0.75	0.545	0.547	0.75		0.733	0.698
Mercury, dissolved	mg/l	<0.0005 U	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U	<0.002 U	<0.0002 U	<0.0002 U	<0.0002 U	<0.0003 U	0.0003 B	0.0003 B	<0.0002 U		<0.0002 U	<0.0002
Molybdenum, dissolved	mg/l	<0.01 U	<0.01 U	0.02 B	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U		<0.01 U	0.03
Nickel, dissolved	mg/l	<0.01 U	<0.01 U	0.01 B	0.01	0.01	<0.01 U	<0.01 U	0.02 B	0.01 B	0.02 B	0.01 B	0.01 B	<0.02 U		0.01 B	<0.02
Selenium, dissolved	mg/l	0.007	0.002	<0.002 U	<0.002 U	0.0121	0.004 B	0.002 B	0.003 B	0.002 B	0.001 B	<0.001 U	<0.001 U	<0.001 U		<0.001 U	<0.001
Silver, dissolved	mg/l	0.0011	<0.0005 U	<0.0005 U	<0.0005 U	<0.0005 U	<0.003 U	<0.0005 U	<0.0005 U	<0.0005 U	<0.0001 U	<0.0001 U	<0.0001 U	<0.0001 U		<0.0001 U	<0.0001
Strontium, dissolved	mg/l																
Thallium, dissolved	mg/l	<0.002 U	<0.001 U	<0.001 U	<0.001 U	<0.0005 U	<0.003 U	<0.0005 U	<0.0005 U	<0.0005 U	0.0002 B	0.0008 B	0.0009 B	0.0007 B		0.0007 B	0.0007
Uranium, total	mg/l	0.1351	0.0158	0.113043	0.0884058	0.113188	0.114	0.00922	0.0989	0.0938	0.0899	0.0922	0.0923	0.117		0.101	0.0952
Vanadium, dissolved	mg/l	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.01 U		<0.01 U	<0.01
Zinc, dissolved	mg/l	0.01	<0.01 U	0.01	0.07	0.28	0.6	0.11	0.24	0.07	0.2	0.48	0.48	0.07 B		0.02 B	0.02
<b>Radiological</b>																	
Gross Alpha, total	pCi/l	56±8.5	0.4±9	81.5±11.1	43±21	111±53.7	70±23	56±16	69±18	54.4±17	43.4±14	62.3±14	73.2±16	94±20		70±18	71±17
Gross Beta, total	pCi/l	81±7.8	54±7.1	78.6±7.7	44±14	206±15	65±14	53±11	51.2±11	37.5±12	35.9±8.3	40.7±8.4	29.4±7.6	77±12		27±9.3	25±9.8
Radium 226, total	pCi/l	6.1±1.7	5.6±0.6	5.3±0.4	2.1±0.6	5.5±0.4	4.5±0.6	4.6±0.6	5.21±0.8	3.82±0.4	5.13±0.5	7.69±0.6	5.32±0.5	4.3±0.5		4.9±0.48	4.6±0.54
Radium 228, total	pCi/l	1.7±0.5	3±1.3	3.9±0.7	2.3±1.2	2.5±0.6	2.1±1.1	2.7±0.6	4.12±1.4	1.26±1.1	4.55±0.8	1.91±0.7	1.75±0.7	1.7±0.65		1.7±0.65	1.9±0.63
Thorium 230, total	pCi/l	1.3±0.7	3±1.1	2.3±0.5	4.5±1.4	5.4±1.9	0.33±0.15	-0.29±0.48	0.26±0.4		0.03±0.36	1.48±0.49	-0.42±0.28	-0.42±0.48		-0.28±0.41	-0.08±0.39
Thorium 232, total	pCi/l	0.8±0.4	0.4±0.3		1.1±0.79	1.4±0.9	0.17±0.15	0.11±0.48	0.46±0.4		0.05±0.33	0.13±0.3	0.18±0.35	0.31±0.54		0.03±0.41	0±0.36
<b>QC</b>																	
Sum of Anions	meq/l			27.56	28.4	26.87			28.2	28.3	26	27.6	27.3	35.3		34.2	34.2
Sum of Cations	meq/l			27.91	25.11	28.97			28.2	28.8	27.3	26.5	26.3	35.5		34.4	33.5
Cation-Anion Balance	%			0.62	6.15	3.77			0	0.9	2.4	2	1.9	0.3		0.3	1
TDS (calculated)	mg/l								1,740	1,730	1,600	1,660	1,640	2,160		2,090	2,070
TDS (ratio - measured/calculated)	Unitless								1.02	0.98	1.03	1.05	1.05	1.03		1.01	1.05
<b>Field Parameters</b>																	
Temperature, Field	deg C	14.6	12.4	15.7	13.1	14.2	11.9	14.9	15.2	15.4	17.7	15.8	15.8	16.6		14.8	20.3
pH, Field	s.u.	7.48	7.32	7.64	7.28	7.28	7.20	6.96	6.67	6.94	6.75	6.67	6.67	6.77		7.06	5.85
E.C., Field, 25C	uS/cm	2,180	2,040	2,160	2,210	2,3											

Groundwater Monitoring Results - SLV3 Cumulative Water Quality

Station Name Field Sample ID Lab Sample ID Sample Date	Units	-4D +02 006 FC VC	Utah Groundwater Quality Standard <sup>(1)</sup>	Background Levels		
				Mean <sup>(2)</sup> (x)	Standard Deviation (std) <sup>(2)</sup>	Maximum Background <sup>(3)</sup> Concentration
<b>Major Ions + Indicator Parameters</b>						
Alkalinity (as CaCO <sub>3</sub> )	mg/l		----	----	----	
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l		----	----	----	
Bicarbonate (as CaCO <sub>3</sub> )	mg/l		----	----	----	
Carbonate (as CaCO <sub>3</sub> )	mg/l	U	----	----	----	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	U	----	----	----	
Hardness (as CaCO <sub>3</sub> )	mg/l		----	----	----	
Calcium, dissolved	mg/l		----	----	----	
Magnesium, dissolved	mg/l		----	----	----	
Potassium, dissolved	mg/l		----	----	----	
Sodium, dissolved	mg/l		----	----	----	
Chloride	mg/l		----	----	----	
Fluoride	mg/l	U	4.0	0.403	0.116	0.636 (c)
Silica	mg/l		----	----	----	
Sulfate	mg/l		----	----	----	
Total Dissolved Solids	mg/l		10000	1861	153	2167 (h)
Total Suspended Solids	mg/l	U	----	----	----	
pH, Lab	s.u.		6.5 - 8.5	7.025	0.308	7.64 (e)
E.C., Lab	uS/cm		----	----	----	
<b>Nutrients</b>						
Phosphorus, total as P	mg/l		0.05	n/a	n/a	n/a (j)
Nitrate as N, dissolved	mg/l		10.0	0.252	0.473	1.199 (c)
Nitrite as N, dissolved	mg/l	U	1.0	0.006	0.004	0.014 (c)
Nitrate/Nitrite as N, dissolved	mg/l		10.0	0.240	0.474	1.188 (c)
Nitrogen, ammonia	mg/l		----	----	----	
<b>Metals</b>						
Aluminum, dissolved	mg/l	U	----	----	----	
Antimony, dissolved	mg/l	U	0.006	0.002	0.004	0.010 (d)
Arsenic, dissolved	mg/l	U	0.05	0.004	0.007	0.018 (c)
Barium, dissolved	mg/l		2.0	0.052	0.099	0.250 (c)
Beryllium, dissolved	mg/l	U	0.004	0.001	0.001	0.003 (d)
Cadmium, dissolved	mg/l		0.005	0.001	0.001	0.003 (d)
Chromium, dissolved	mg/l	U	0.1	0.003	0.004	0.011 (c)
Copper, dissolved	mg/l	U	1.3	0.01	0.002	0.010 (c)
Iron, dissolved	mg/l		----	----	----	
Lead, dissolved	mg/l		0.015	0.003	0.002	0.008 (d)
Manganese, dissolved	mg/l		----	----	----	
Mercury, dissolved	mg/l	U	0.002	0.0003	0.0004	0.0010 (d)
Molybdenum, dissolved	mg/l		----	----	----	
Nickel, dissolved	mg/l	U	----	----	----	
Selenium, dissolved	mg/l	U	0.05	0.005	0.007	0.018 (c)
Silver, dissolved	mg/l	U	0.1	0.022	0.066	0.154 (d)
Strontium, dissolved	mg/l		----	----	----	
Thallium, dissolved	mg/l		0.002	0.001	0.0007	0.0022 (d)
Uranium, total	mg/l		0.03	0.13	0.20	0.54 (d)
Vanadium, dissolved	mg/l	U	----	----	----	
Zinc, dissolved	mg/l		5.0	0.154	0.192	0.538 (c)
<b>Radiological</b>						
Gross Alpha, total	pCi/l		15	86.4897	49	185 (d)
Gross Beta, total	pCi/l		8 <sup>(4)</sup>	77.4138	43	164 (d)
Radium 226, total	pCi/l					
Radium 228, total	pCi/l					
Thorium 230, total	pCi/l					
Thorium 232, total	pCi/l					
<b>QC</b>						
Sum of Anions	meq/l					
Sum of Cations	meq/l					
Cation-Anion Balance	%					
TDS (calculated)	mg/l					
TDS (ratio - measured/calculated)	Unitless					
<b>Field Parameters</b>						
Temperature, Field	deg C					
pH, Field	s.u.					
E.C., Field, 25C	uS/cm					
Depth to Water	ft					
Water Elevation	ft					

Groundwater Monitoring Results - PW-1 Cumulative Water Quality

Station Name	Units	PW-1	
Field Sample ID		PW97-1	
Lab Sample ID		97-U012734	
Sample Date		11/12/1997	
		Result	FC VC
<b>Major Ions + Indicator Parameters</b>			
Alkalinity (as CaCO <sub>3</sub> )	mg/l	245	
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	244.4	
Carbonate (as CaCO <sub>3</sub> )	mg/l	<1	U
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<1	U
Hardness (as CaCO <sub>3</sub> )	mg/l	416	
Calcium, dissolved	mg/l	95.8	
Magnesium, dissolved	mg/l	38.8	
Potassium, dissolved	mg/l	2.4	
Sodium, dissolved	mg/l	93.7	
Chloride	mg/l	9	
Fluoride	mg/l	0.32	
Silica	mg/l	19.7	
Sulfate	mg/l	315	
Total Dissolved Solids	mg/l	776	
Total Suspended Solids	mg/l	25	
pH, Lab	s.u.	7.4	
E.C., Lab	µS/cm	1,126	
<b>Nutrients</b>			
Nitrate as N, dissolved	mg/l	1.1	
Nitrite as N, dissolved	mg/l	0.006	
Nitrate/Nitrite as N, dissolved	mg/l	1.1	
Nitrogen, ammonia	mg/l	1.27	
<b>Metals</b>			
Aluminum, dissolved	mg/l	<0.03	U
Antimony, dissolved	mg/l	<0.002	U
Arsenic, dissolved	mg/l	<0.005	U
Barium, dissolved	mg/l	0.013	
Beryllium, dissolved	mg/l	<0.001	U
Cadmium, dissolved	mg/l	<0.001	U
Chromium, dissolved	mg/l	<0.005	U
Copper, dissolved	mg/l	<0.01	U
Iron, dissolved	mg/l	0.041	
Lead, dissolved	mg/l	<0.005	U
Manganese, dissolved	mg/l	0.133	
Mercury, dissolved	mg/l	<0.0002	U
Molybdenum, dissolved	mg/l	<0.02	U
Nickel, dissolved	mg/l	<0.01	U
Selenium, dissolved	mg/l	<0.01	U
Silver, dissolved	mg/l	<0.0005	U
Thallium, dissolved	mg/l	<0.001	U
Uranium, total	mg/l	0.00289855	
Vanadium, dissolved	mg/l	<0.01	U
Zinc, dissolved	mg/l	<0.01	U
<b>Radiological</b>			
Radium 226, total	pCi/l	0.4±0.2	
Thorium 230, total	pCi/l	0	
Thorium 232, total	pCi/l	0	
<b>QC</b>			
Sum of Anions	meq/l	11.65	
Sum of Cations	meq/l	12.11	
Cation-Anion Balance	%	1.95	
<b>Field Parameters</b>			
Temperature, Field	deg C	14.6	
pH, Field	s.u.	7.57	
E.C., Field 25C	µS/cm	1,438	

### Groundwater Monitoring Results - PW-1 Cumulative Water Quality

Station Name	Units	PW-1
Field Sample ID		PW97-1
Lab Sample ID		97-U012734
Sample Date		11/12/1997
Depth to Water	ft	67.92
Water Elevation	ft	6,298.38

Groundwater Monitoring Results - PW-2 Cumulative Water Quality

Station Name	Units	PW-2			PW-2			PW-2			PW-2			PW-2		
Field Sample ID		PW97-2			PW-2			PW-2			PW-2-12-3			PW-2-13-2		
Lab Sample ID		97-U013068			L46215-01			L58789-03			L96069-01			L12274-03		
Sample Date		11/20/1997			6/11/2004			9/7/2006			8/6/2012			5/22/2013		
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC
<b>Major Ions + Indicator Parameters</b>																
Alkalinity (as CaCO <sub>3</sub> )	mg/l	216			234			232			214			229		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	212.4			234			232			199			218		
Carbonate (as CaCO <sub>3</sub> )	mg/l	3.3			<2	U		<2	U		15	B		11	B	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<1	U		<2	U		<2	U		<2	U		<2	U	
Hardness (as CaCO <sub>3</sub> )	mg/l	75			166			176			72			72		
Calcium, dissolved	mg/l	22.8			48.9			48.7			19.8			19.8		
Magnesium, dissolved	mg/l	5.31			10.7			13.1			5.5			5.5		
Potassium, dissolved	mg/l	4.2			4.4			4.8			4.2			3.9		
Sodium, dissolved	mg/l	144			131			134			171			171		
Chloride	mg/l	37.7			32			30			40			39		
Fluoride	mg/l	0.86			0.8			0.7			1.1			1		
Silica	mg/l	10.3			11.2			10.4			9.2			9.4		
Sulfate	mg/l	115			190			190			180			180		
Total Dissolved Solids	mg/l	448			550			580			560			540		
Total Suspended Solids	mg/l	45			<5	U		8			<5	U		<5	U	
pH, Lab	s.u.	7.9			7.7			8.1			8.5	H		8.5	H	
E.C., Lab	µS/cm	786.8			780			1,070			941			890		
<b>Nutrients</b>																
Phosphorus, total as P	mg/l										0.02	B		<0.01	U	
Nitrate as N, dissolved	mg/l	0.12			0.11			0.08			0.08	B H		0.06	B H	
Nitrite as N, dissolved	mg/l	0.031			<0.01	U		<0.01	U		<0.01	U H		<0.01	U H	
Nitrate/Nitrite as N, dissolved	mg/l	0.15			0.11			0.08			0.08	B H		0.06	B H	
Nitrogen, ammonia	mg/l	<0.2	U		0.13			0.15			0.14	B		0.12	B	
<b>Metals</b>																
Aluminum, dissolved	mg/l	<0.03	U		<0.03	U		0.17			0.09	B		0.03	B	
Antimony, dissolved	mg/l	<0.004	U		0.0015			<0.0004	U		<0.0004	U		<0.0004	U	
Arsenic, dissolved	mg/l	<0.005	U		0.0021			0.0022			0.0015			0.0016		
Barium, dissolved	mg/l	0.04			0.224			0.033			0.042			0.027		
Beryllium, dissolved	mg/l	<0.001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.00005	U	
Cadmium, dissolved	mg/l	0.0028			0.0005			<0.0001	U		<0.0001	U		<0.0001	U	
Chromium, dissolved	mg/l	<0.005	U		0.0003			<0.0001	U		<0.0005	U		<0.0005	U	
Copper, dissolved	mg/l	<0.01	U		<0.01	U		0.01			<0.01	U		<0.01	U	
Iron, dissolved	mg/l	<0.02	U		0.03			0.12			<0.02	U		0.36		
Lead, dissolved	mg/l	<0.005	U		0.0001			<0.0001	U		0.0002	B		<0.0001	U	
Manganese, dissolved	mg/l	0.025			0.05			0.047			0.014	B		0.024	B	
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U	
Molybdenum, dissolved	mg/l	<0.02	U		<0.01	U		<0.01	U		<0.01	U		<0.02	U	
Nickel, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U	
Selenium, dissolved	mg/l	<0.002	U		<0.001	U		<0.001	U		<0.001	U		0.0014	B	
Silver, dissolved	mg/l	<0.0005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U	
Strontium, dissolved	mg/l				1.4											
Thallium, dissolved	mg/l	<0.001	U		<0.00005	U		<0.0001	U		<0.0001	U		<0.0001	U	
Uranium, total	mg/l	<0.00048	U		0.0297			0.0375			0.0281			0.0215		
Vanadium, dissolved	mg/l	<0.01	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U	
Zinc, dissolved	mg/l	<0.01	U		0.23			0.08			0.05	B		0.05	B	
<b>Radiological</b>																
Gross Alpha, total	pCi/l	59.2±3.1			35.5			11±5.8			25±5.8			14±4.7		
Gross Beta, total	pCi/l	5.9±1.6			11.7			16±4.1			11±3.2			7.6±4		
Radium 226, total	pCi/l	0±0														
Radium 228, total	pCi/l	0±0														
Thorium 230, total	pCi/l	0±0														
Thorium 232, total	pCi/l	0±0														
<b>QC</b>																
Sum of Anions	meq/l	7.74			9.6			9.5			9.2			9.5		
Sum of Cations	meq/l	7.95			9.2			9.5			9.1			9.1		

## Groundwater Monitoring Results - PW-2 Cumulative Water Quality

Station Name	Units	PW-2	PW-2	PW-2	PW-2	PW-2
Field Sample ID		PW97-2	PW-2	PW-2	PW-2-12-3	PW-2-13-2
Lab Sample ID		97-U013068	L46215-01	L58789-03	L96069-01	L12274-03
Sample Date		11/20/1997	6/11/2004	9/7/2006	8/6/2012	5/22/2013
Cation-Anion Balance	%	1.34	2.1	0	-0.5	-2.2
TDS (calculated)	mg/l		572	572	560	568
TDS (ratio - measured/calculated)	Unitless		0.96	1.01	1	0.95
<b>Field Parameters</b>						
Temperature, Field	deg C	12.8	16.1	16.3		16.1
pH, Field	s.u.	8.11	7.69	7.31		8.01
E.C., Field 25C	µS/cm	863	942	1,060		965
Depth to Water	ft	141.19		201.25		225.07
Water Elevation	ft	6,256.41		6,196.35		6,172.53

Groundwater Monitoring Results - PW-3 Cumulative Water Quality

Station Name	Units	PW-3			PW-3			PW-3			PW-3			PW-3			PW-3			PW-3			PW-3			PW-3							
		PW4-3-040525	PW-3-06-2	PW-3-06-3	PW3-06-4	PW-3-07-1	PW-3-07-2	PW-3-07-3	PW-3-07-4	PW-3-08-1	PW-3-08-2	PW-3-08-3	PW-3-08-4	PW-3-09-1	PW-3-09-2	PW-3-09-3	PW-3-09-4																
Field Sample ID	Lab Sample ID	Sample Date	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	
<b>Major Ions + Indicator Parameters</b>																																	
Alkalinity (as CaCO <sub>3</sub> )	mg/l	382	JT	352		343		322		331		344		332		331		342		336		338		318		316		355		313		283	R
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	382	JT	352		343		322		331		344		332		331		342		336		338		318		316		355		313		270	R
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U JT	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	13	B R
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U JT	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U R
Hardness (as CaCO <sub>3</sub> )	mg/l	765		950		941		954		878		950		852		802		789		960		981		846		925		931		840		118	R
Calcium, dissolved	mg/l	194		237		243		244		221		235		210		199		194		234		241		207		228		224		202		20.5	R
Magnesium, dissolved	mg/l	68.1		87		81.2		83.6		79.1		88.3		79.6		74.2		74		92		92		80		86.3		90.3		81.6		16.2	R
Potassium, dissolved	mg/l	10.1		13.2		12.3		12.9		12.1		13.5		12.7		13		12.4		15.9		13.1		13.5		15.3		14.8		12.9		8.8	R
Sodium, dissolved	mg/l	57.5		52.5		53.7		54.1		51.9		54.8		52.5		48.6		53.4		62.2		60.6		53.1		52.5		60.4		74.3		160	R
Chloride	mg/l	14	J	19		18		19		19		18		19		19		21		19		21		19		21		20		27	B	64	R
Fluoride	mg/l	0.5	J	0.2	B	0.3	B	0.3	B	0.3	B	0.3	B	0.3	B	0.3	B	0.3	B	0.4	B	0.4	B	0.4	B	0.4	B	0.3	B	0.5		1.8	R
Silica	mg/l	12.3		10.8		10.3		6.8		11		10.2		10.9		11		10.3		10.9		11		10.7		9.4		10.4		13.5		10.8	R
Sulfate	mg/l	470	JT	640		650		650		600		670		620		570		580		680		690		620		760		650		610		130	R
Total Dissolved Solids	mg/l	1,010	JT	1,320		1,350		1,240		1,190		1,360		1,270		1,190		1,230		1,370		1,370		1,370		1,250		1,310		1,330		570	R
Total Suspended Solids	mg/l	<5.0	U JT	6	B	12	B J	8	B J	46		<5.0	U	22	H	<5.0	U J	7	B	5	B	5	B	5	B	17	B H FB	6	B FB	38	J	5	B R
pH, Lab	s.u.	7.2	H JT	7.9	H	7.7	H	7.7	H	7.8	H	8	H	7.9	H	7.8	H	8.3	H	7.7	H	8.1	H	7.8	H	8.1	H	8.1	H	7.8	H	8.5	H R
E.C., Lab	µS/cm	1,390	JT	1,620		1,630		1,350		1,720		1,770		1,630		1,530		1,580		1,780		1,710		1,570		1,600		1,700		1,550		1,010	R
<b>Nutrients</b>																																	
Phosphorus, total as P	mg/l																																
Nitrate as N, dissolved	mg/l	0.03	B JT	<0.02	U	0.08	B FB J	<0.02	U	<0.02	U	<0.02	U	<0.02	U	0.15		0.07	B	0.07	B	0.04	B	0.1		0.29		<0.02	U	0.03	B	<0.02	U R
Nitrite as N, dissolved	mg/l	<0.01	U H JT	0.02	B H FB	<0.01	U H	0.02	B	<0.01	U H	<0.01	U H J	<0.01	U H	<0.01	U H	0.01	B H	<0.01	U H	<0.01	U H	0.01	B H FB	<0.01	U H	<0.01	U H	<0.01	U H	<0.01	U H R
Nitrate/Nitrite as N, dissolved	mg/l	0.03	B H JT	0.03	B H FB	0.08	B H FB J	<0.02	U	<0.02	U H	<0.02	U H J	<0.02	U H	0.15	H	0.08	B H	0.07	B	0.04	B H	0.11	H FB	0.29	H	<0.02	U H	0.03	B H	<0.02	U H R
Nitrogen, ammonia	mg/l	0.25	B JT	0.23	B	0.22	B FB	0.24	B FB	0.19	B	0.29	B	0.1	B FB	0.08	B	0.24	B	0.09	B	0.25	B	0.17	B J	0.07	B	0.21	B	0.49	B	0.14	B R
<b>Metals</b>																																	
Aluminum, dissolved	mg/l	<0.03	U	<0.06	U J	<0.03	U	<0.03	U	<0.03	U	0.06	B	<0.03	U	<0.03	U	0.03	B FB	0.16	B	<0.03	U	<0.03	U	<0.03	U	<0.03	U	<0.03	U	<0.03	U R
Antimony, dissolved	mg/l	0.0021		<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U R
Arsenic, dissolved	mg/l	0.0022	B	0.001	B	0.0006	B	0.0009	B	0.0014		0.0013		0.0011		0.001		0.0017		0.013	B FB	0.014	B	0.008	B	0.011	B	0.01	B	0.011	B FB	0.022	B R
Barium, dissolved	mg/l	0.518		0.01	B	0.01	B	0.01	FB	0.011	B	0.01	B FB	0.017	B	0.012	B	0.013	B FB	0.014	B	0.008	B	0.011	B	0.01	B	0.011	B FB	0.022		0.03	R
Beryllium, dissolved	mg/l	<0.0002	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U R
Cadmium, dissolved	mg/l	<0.0002	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	0.0002	B	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U R
Chromium, dissolved	mg/l	0.0002	B	0.0003	B FB	<0.0001	U	<0.0001	U	<0.0001	U	0.0004	B	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0005	U	<0.0005	U	<0.0005	U R
Copper, dissolved	mg/l	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U R
Iron, dissolved	mg/l	0.98		3.28	J	1.86		1.77		7.19		1.35		1.39		1.31		3.68		1.37		0.98		1.31		4.79		1.23		23.7		0.17	R
Lead, dissolved	mg/l	0.0007	B	0.0009	FB	<0.0001	U	<0.0001	U	<0.0001	U	0.0002	B FB	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	0.0002	B FB	0.0003	B	<0.0001	U	0.0007	FB	<0.0001	U	<0.0001	U R
Manganese, dissolved	mg/l	0.173		0.18	J	0.176		0.172		0.21		0.155		0.137		0.126		0.167		0.148		0.152		0.135		0.142		0.143		0.175		0.01	B R
Mercury, dissolved	mg/l	<0.0002	U J	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U R
Molybdenum, dissolved	mg/l	0.04	B	<0.02	U	0.03	B	0.01	B	0.04	B	0.03	B	0.02	B	0.01	B	0.05		0.03	B	0.01	B	0.03	B	0.03	B	<0.01	U	0.06		<0.01	U R
Nickel, dissolved	mg/l	<0.01	U	<0.02	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.05	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U R
Selenium, dissolved	mg/l	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U R
Silver, dissolved	mg/l	<0.0001	U	0.00013	B FB	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U R
Strontium, dissolved	mg/l	6.82																															
Thallium, dissolved	mg/l	0.0029		<0.0001	U	<0.0001	U	0.0002	B FB	<0.0001	U	0.0001	B	<0.0001	U	<0.0001	U	<0.0001															







Groundwater Monitoring Results - PW-3 Cumulative Water Quality

Station Name	Units	
Field Sample ID		
Lab Sample ID		(3)
Sample Date		on
<b>Major Ions + Indicator Parameters</b>		
Alkalinity (as CaCO <sub>3</sub> )	mg/l	
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	
Carbonate (as CaCO <sub>3</sub> )	mg/l	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	
Hardness (as CaCO <sub>3</sub> )	mg/l	
Calcium, dissolved	mg/l	
Magnesium, dissolved	mg/l	
Potassium, dissolved	mg/l	
Sodium, dissolved	mg/l	
Chloride	mg/l	
Fluoride	mg/l	(c)
Silica	mg/l	
Sulfate	mg/l	
Total Dissolved Solids	mg/l	(h)
Total Suspended Solids	mg/l	
pH, Lab	s.u.	(e)
E.C., Lab	µS/cm	
<b>Nutrients</b>		
Phosphorus, total as P	mg/l	(j)
Nitrate as N, dissolved	mg/l	(c)
Nitrite as N, dissolved	mg/l	(c)
Nitrate/Nitrite as N, dissolved	mg/l	(c)
Nitrogen, ammonia	mg/l	
<b>Metals</b>		
Aluminum, dissolved	mg/l	
Antimony, dissolved	mg/l	(d)
Arsenic, dissolved	mg/l	(c)
Barium, dissolved	mg/l	(c)
Beryllium, dissolved	mg/l	(d)
Cadmium, dissolved	mg/l	(d)
Chromium, dissolved	mg/l	(c)
Copper, dissolved	mg/l	(c)
Iron, dissolved	mg/l	
Lead, dissolved	mg/l	(d)
Manganese, dissolved	mg/l	
Mercury, dissolved	mg/l	(d)
Molybdenum, dissolved	mg/l	
Nickel, dissolved	mg/l	
Selenium, dissolved	mg/l	(c)
Silver, dissolved	mg/l	(d)
Strontium, dissolved	mg/l	
Thallium, dissolved	mg/l	(d)
Uranium, total	mg/l	(d)
Vanadium, dissolved	mg/l	
Zinc, dissolved	mg/l	(c)
<b>Radiological</b>		
Gross Alpha, total	pCi/l	(d)
Gross Beta, total	pCi/l	(d)
<b>QC</b>		
Sum of Anions	meq/l	
Sum of Cations	meq/l	
Cation-Anion Balance	%	
TDS (calculated)	mg/l	
TDS (ratio - measured/calculated)	Unitless	
<b>Field Parameters</b>		
Temperature, Field	deg C	
pH, Field	s.u.	
E.C., Field, 25C	µS/cm	
Depth to Water	ft	
Water Elevation	ft	



### Groundwater Monitoring Results - PW-4 Cumulative Water Quality

Station Name	Units	PW-4	PW-4	PW-4	PW-4	PW-4	PW-4	PW-4	PW-4	PW-4	PW-4
Field Sample ID		PW-4	PW-4-11-4	PW-4-12-3	PW-4-13-2	PW-4-14-3	PW-4-15-2	PW-4-15-3	PW-4-15-4	PW-4-16-1	PW-4
Lab Sample ID		L46130-01	L92269-09	L96069-03	L12237-01	L20070-02	L24371-04	L26230-03	L27661-03	L29133-03	L3057
Sample Date		6/4/2004	12/7/2011	8/6/2012	5/21/2013	8/18/2014	5/14/2015	8/19/2015	11/5/2015	2/24/2016	5/18/;
Temperature, Field	deg C	16.1	13.7		14.7	30.3	14.7	13.2	13.1	9.5	13.9
pH, Field	s.u.	6.85	6.83		6.74	6.99	7.41	7.31	7.19	6.84	6.57
E.C., Field 25C	µS/cm	2,140	2.67		3,640	1,438	1,654	2,240	4,210	2,970	3,220
Depth to Water	ft	113.12	139.27		316.71	221.32	213.28	114.88	133.61	131.67	130
Water Elevation	ft	6,240.17	6,214.02		6,036.58	6,131.97	6,140.01	6,238.41	6,219.68	6,221.62	6,223.29

Groundwater Monitoring Results - PW-4 Cumulative Water Quality

Station Name	Units	-4	PW-4			PW-4		
Field Sample ID		16-2	PW-4-16-3					
Lab Sample ID		9-02	L32467-01					
Sample Date		2016	8/17/2016			11/28/2016		
		FC VC	Result	FC	VC	Result	FC	VC
<b>Major Ions + Indicator Parameters</b>								
Alkalinity (as CaCO <sub>3</sub> )	mg/l		339					
Bicarbonate (as CaCO <sub>3</sub> )	mg/l		339					
Carbonate (as CaCO <sub>3</sub> )	mg/l	U	<2	U				
Hydroxide (as CaCO <sub>3</sub> )	mg/l	U	<2	U				
Hardness (as CaCO <sub>3</sub> )	mg/l		1,800					
Calcium, dissolved	mg/l		508					
Magnesium, dissolved	mg/l		129					
Potassium, dissolved	mg/l		8.6					
Sodium, dissolved	mg/l		40.8					
Chloride	mg/l		19.1					
Fluoride	mg/l	B	0.3	B				
Silica	mg/l		9.8					
Sulfate	mg/l		1,580					
Total Dissolved Solids	mg/l	H J	2,590					
Total Suspended Solids	mg/l		49.0					
pH, Lab	s.u.	H J	7.7	H	J			
E.C., Lab	µS/cm		2,570					
<b>Nutrients</b>								
Phosphorus, total as P	mg/l		1.4					
Nitrate as N, dissolved	mg/l	U H J	<0.02	U H	J			
Nitrite as N, dissolved	mg/l	U H J	<0.01	U H	J			
Nitrate/Nitrite as N, dissolved	mg/l	U H J	<0.02	U H	J			
Nitrogen, ammonia	mg/l		0.86					
<b>Metals</b>								
Aluminum, dissolved	mg/l	B	0.08	B				
Antimony, dissolved	mg/l	U	0.0008	B				
Arsenic, dissolved	mg/l		0.0240					
Barium, dissolved	mg/l	B	0.031					
Beryllium, dissolved	mg/l	U	<0.0001	U				
Cadmium, dissolved	mg/l	U	<0.0002	U				
Chromium, dissolved	mg/l	U	<0.001	U				
Copper, dissolved	mg/l	U	<0.02	U				
Iron, dissolved	mg/l		28.90					
Lead, dissolved	mg/l	U	<0.0002	U				
Manganese, dissolved	mg/l		1.42					
Mercury, dissolved	mg/l	U	<0.0002	U				
Molybdenum, dissolved	mg/l		0.06			B		
Nickel, dissolved	mg/l	B	<0.02	U				
Selenium, dissolved	mg/l	U	0.0003	B				
Silver, dissolved	mg/l	U	<0.0001	U				
Strontium, dissolved	mg/l							
Thallium, dissolved	mg/l	U	<0.0002	U				
Uranium, total	mg/l		0.0316					
Vanadium, dissolved	mg/l	U	<0.01	U				
Zinc, dissolved	mg/l		0.27					
<b>Radiological</b>								
Gross Alpha, total	pCi/l		50±15					
Gross Beta, total	pCi/l		33±11					
<b>QC</b>								
Sum of Anions	meq/l		41					
Sum of Cations	meq/l		40					
Cation-Anion Balance	%		-1.2					
TDS (calculated)	mg/l		2,540					
TDS (ratio - measured/calculated)	Unitless		1.02					
<b>Field Parameters</b>								

### Groundwater Monitoring Results - PW-4 Cumulative Water Quality

Station Name	Units	-4	PW-4	PW-4
Field Sample ID		16-2	PW-4-16-3	
Lab Sample ID		9-02	L32467-01	
Sample Date		2016	8/17/2016	11/28/2016
Temperature, Field	deg C		13.0	
pH, Field	s.u.		6.64	
E.C., Field 25C	μS/cm		2,920	
Depth to Water	ft		130.33	129.95
Water Elevation	ft		6,222.96	6,223.34

Groundwater Monitoring Results - PW-5 Cumulative Water Quality

Station Name	Units	PW-5 PW-5			PW-5 PW-5			PW-5 PW-5-07-4			PW-5 PW-5-11-4			PW-5 PW-5-12-3			PW-5 PW-5-13-2		
Field Sample ID		L46130-02			L58789-01			L65561-04			L92269-06			L96069-04			L12275-03		
Lab Sample ID		6/7/2004			9/7/2006			10/8/2007			12/7/2011			8/6/2012			5/22/2013		
Sample Date		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC
<b>Major Ions + Indicator Parameters</b>																			
Alkalinity (as CaCO <sub>3</sub> )	mg/l	258			326			405			325			302			302		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	258			322			381			294			294			293		
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U		4			23			31			8	B		9	B	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U		<2	U		<2	U		<2	U	
Hardness (as CaCO <sub>3</sub> )	mg/l	126			247			109			218			258			217		
Calcium, dissolved	mg/l	29.5			58.5			24.9			51.2			60.7			51.2		
Magnesium, dissolved	mg/l	12.6			24.5			11.4			22			25.8			21.6		
Potassium, dissolved	mg/l	9.5			10.3			8.2			9.9			10			10.2		
Sodium, dissolved	mg/l	220			242			361			273			236			264		
Chloride	mg/l	15			16			19			19			18			18		
Fluoride	mg/l	0.9			0.3			1			0.7			0.6			0.6		
Silica	mg/l	10.2			10.5			8.8			10.5			10.4			9.7		
Sulfate	mg/l	280			440			480			470			450			490		
Total Dissolved Solids	mg/l	800			980			1,160			1,080			980			1,030		
Total Suspended Solids	mg/l	8			<5	U		<5	U		<5	U		<5	U		<5	U	
pH, Lab	s.u.	8.2			8.3			8.5	H		8.6	H		8.3	H		8.3	H	
E.C., Lab	µS/cm	1,200			1,770			1,880			1,520			1,440			1,570		
<b>Nutrients</b>																			
Phosphorus, total as P	mg/l													0.04	B		<0.01	U	
Nitrate as N, dissolved	mg/l	0.09			0.03			<0.02	U		<0.02	U H		<0.02	U H		0.06	B H	
Nitrite as N, dissolved	mg/l	0.02			<0.01	U		<0.01	U H		<0.01	U H		<0.01	U H		0.02	B H	
Nitrate/Nitrite as N, dissolved	mg/l	0.11			0.03			<0.02	U H		<0.02	U H		<0.02	U H		0.08	B H	
Nitrogen, ammonia	mg/l	0.15			0.22			<0.05	U		0.18	B		0.21	B		0.22	B	
<b>Metals</b>																			
Aluminum, dissolved	mg/l	<0.03	U		<0.03	U		<0.03	U		<0.03	U		<0.03	U		<0.03	U	
Antimony, dissolved	mg/l	0.0004			<0.0004	U		<0.0004	U		<0.002	U		<0.0004	U		<0.0004	U	
Arsenic, dissolved	mg/l	0.0014			0.0029			0.0037			<0.003	U		0.0018			<0.0002	U	
Barium, dissolved	mg/l	0.015			0.014			0.008	B		0.013	B		0.014	B		0.013	B	
Beryllium, dissolved	mg/l	<0.0001	U		<0.0001	U		<0.0001	U		<0.0005	U		<0.0001	U		<0.00005	U	
Cadmium, dissolved	mg/l	0.0001			<0.0001	U		<0.0001	U		<0.0005	U		<0.0001	U		<0.0001	U	
Chromium, dissolved	mg/l	<0.0001	U		<0.0001	U		<0.0001	U		<0.003	U		<0.0005	U		<0.0005	U	
Copper, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U	
Iron, dissolved	mg/l	0.11			0.03			0.04	B		1.01			0.23			0.08		
Lead, dissolved	mg/l	0.0002			0.0001			<0.0001	U		<0.0005	U		0.0001	B		<0.0001	U	
Manganese, dissolved	mg/l	0.028			0.067			0.031			0.076			0.074			0.043		
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U	
Molybdenum, dissolved	mg/l	0.04			0.43			0.11			0.07			0.21			0.03	B	
Nickel, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U	
Selenium, dissolved	mg/l	<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U	
Silver, dissolved	mg/l	<0.00005	U		<0.00005	U		<0.00005	U		<0.0003	U		<0.00005	U		<0.00005	U	
Strontium, dissolved	mg/l	2.53																	
Thallium, dissolved	mg/l	0.00031			<0.0001	U		<0.0001	U		<0.0005	U		<0.0001	U		<0.0001	U	
Uranium, total	mg/l	0.0018			0.0024			0.0022			0.0017			0.003			0.0007		
Vanadium, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U	
Zinc, dissolved	mg/l	0.1			<0.01	U		<0.01	U		0.03	B		0.07			0.16		
<b>Radiological</b>																			
Gross Alpha, total	pCi/l	22.3			5.5±7.2			22±7.3			19±6.6			9±4.1			2.9±3.6		
Gross Beta, total	pCi/l	19.6			12±5.3			15±5.2			19±5.1			10±3.7			16±4.9		
<b>QC</b>																			
Sum of Anions	meq/l	11.5			16.2			18.7			16.9			16			16.9		
Sum of Cations	meq/l	12.5			15.9			18.3			16.7			15.8			16.2		
Cation-Anion Balance	%	4.2			0.9			-1.1			-0.6			-0.6			-2.1		
TDS (calculated)	mg/l	736			1,000			1,170			1,050			993			1,050		
TDS (ratio - measured/calculated)	Unitless	1.09			0.98			0.99			1.03			0.99			0.98		
<b>Field Parameters</b>																			



### Groundwater Monitoring Results - PW-5 Cumulative Water Quality

Station Name	Units	PW-5	PW-5	PW-5	PW-5	PW-5	PW-5
Field Sample ID		PW-5	PW-5	PW-5-07-4	PW-5-11-4	PW-5-12-3	PW-5-13-2
Lab Sample ID		L46130-02	L58789-01	L65561-04	L92269-06	L96069-04	L12275-03
Sample Date		6/7/2004	9/7/2006	10/8/2007	12/7/2011	8/6/2012	5/22/2013
Temperature, Field	deg C	65	19.9	17.9	16.9		18.3
pH, Field	s.u.	7.67	7.76	8.04	7.69		7.38
E.C., Field 25C	μS/cm	1,330	1,704	2,010	1,572		1,670
Depth to Water	ft	267.56	377.38	383.05	471.1		586.01
Water Elevation	ft	6,165.54	6,055.72	6,050.05	5,962		5,847.09

Groundwater Monitoring Results - PW-6 Cumulative Water Quality

Station Name	Units	PW-6 PW-6 L51582-02 5/5/2005	PW-6 PW-6 L51226-01 5/20/2005	PW-6 PW-6-06-2 L56714-07 5/19/2006	PW-6 PW-6-06-3 L58732-08 9/5/2006	PW-6 PW-6 L59815-09 11/3/2006	PW-6 PW-6-07-1 L61458-02 3/8/2007	PW-6 PW-6-07-2 L62389-02 5/2/2007	PW-6 PW-6-07-3 L64248-01 8/1/2007	PW-6 PW-6-07-4 L65561-02 10/8/2007	PW-6 PW-6-08-1 L67798-07 2/20/2008	PW-6 PW-6-08-2 L69808-06 6/11/2008	PW-6 PW-6-08-3 L71439-07 8/27/2008	PW-6 PW-6-08-4 L72744-04 10/29/2008	PW-6 PW-6-09-1 L74510-05 2/17/2009	PW-6 PW-6-09-2 L76119-06 5/28/2009	PW-6 PW-6-09-3 L77520-07 8/12/2009			
Field Sample ID		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	
<b>Major Ions + Indicator Parameters</b>																				
Alkalinity (as CaCO <sub>3</sub> )	mg/l	275			259			253			265			261			256			245
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	275			259			253			265			261			256			245
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2
Hardness (as CaCO <sub>3</sub> )	mg/l	748			501			494			529			511			544			497
Calcium, dissolved	mg/l	184			123			122			131			134			123			134
Magnesium, dissolved	mg/l	70.1			47.2			46.1			43.9			47.6			50.9			46
Potassium, dissolved	mg/l	9			8.3			7.9			8.6			8.4			8.6			8.3
Sodium, dissolved	mg/l	117			91.7			105			122			119			124			130
Chloride	mg/l	61			23			21			29			22			22			20
Fluoride	mg/l	1.3			0.1	B		0.3	B		0.3	B		0.3	B		0.4	B		0.3
Silica	mg/l	17.4			13.9			13.2			13			13.4			13.4			12.9
Sulfate	mg/l	590			370			440			380			480			500			500
Total Dissolved Solids	mg/l	1,220			920			950			880			1,010			960			1,030
Total Suspended Solids	mg/l	8			<5.0	U		<5.0	U	J	12	B	J	<5.0	U		16	B	H	<5.0
pH, Lab	s.u.	6.8			7.8	H		7.8	H		7.9	H		8	H		7.9	H		8.2
E.C., Lab	µS/cm	1,500			1,190			1,280			1,120			1,470			1,430			1,370
<b>Nutrients</b>																				
Phosphorus, total as P	mg/l	0.48			1.54	B	H	0.95	J		0.07	B		0.36			0.43			0.55
Nitrate as N, dissolved	mg/l	0.02			0.01	B	H	<0.01	U	H	0.02	B		<0.01	U	H	<0.01	U	H	<0.01
Nitrite as N, dissolved	mg/l	0.5			1.55	H	FB	0.95	H	J	0.09	B		0.36	H		0.43	H	J	0.55
Nitrate/Nitrite as N, dissolved	mg/l	<0.05	U		<0.05	U		<0.05	U		<0.05	U		<0.05	U		0.05	B		8.85
Nitrogen, ammonia	mg/l																			
<b>Metals</b>																				
Aluminum, dissolved	mg/l	<0.03	U		0.86	FB	J	<0.03	U		<0.03	U		<0.03	U		<0.03	U		0.04
Antimony, dissolved	mg/l	0.0028			<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004
Arsenic, dissolved	mg/l	0.0177			0.0005	B		0.0006	B		0.0028	B		<0.0005	U		0.0006	B		0.0006
Barium, dissolved	mg/l	0.345			0.013			0.014			0.026			0.014	B		0.012	B	FB	0.007
Beryllium, dissolved	mg/l	<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001
Cadmium, dissolved	mg/l	0.026			0.0158			0.017			0.0012			0.0161			0.0179			0.0185
Chromium, dissolved	mg/l	0.0001			0.0001	B	FB	<0.0001	U		<0.0001	U		<0.0001	U		0.0003	B		<0.0001
Copper, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01
Iron, dissolved	mg/l	0.6			1.17	FB	J	0.05			2.47			0.55			0.46			0.08
Lead, dissolved	mg/l	0.0002			0.0002	B	FB	0.0002	B		<0.0001	U		<0.0001	U		0.0003	B	FB	0.0002
Manganese, dissolved	mg/l	0.243			0.08	J		0.008	B		0.258			0.02	B		0.018	B		0.009
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		0.0003	B		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002
Molybdenum, dissolved	mg/l	0.02			<0.02	U		0.01	B		0.03	B		0.02	B		0.02	B		0.02
Nickel, dissolved	mg/l	<0.01	U		<0.02	U		0.02	B		0.03	B		<0.01	U		<0.01	U		<0.01
Selenium, dissolved	mg/l	0.002			0.007			0.008			<0.001	U		0.003	B		0.002	B		0.003
Silver, dissolved	mg/l	<0.00005	U		0.00005	B	FB	<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005
Strontium, dissolved	mg/l	4.48																		
Thallium, dissolved	mg/l	<0.0001	U		0.0002	B		0.0002	B		0.0002	B		0.0002	B		0.0003	B		0.0002
Uranium, total	mg/l	0.0292			0.03			0.033			0.0249			0.0329			0.033			0.033
Vanadium, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005
Zinc, dissolved	mg/l	0.37			0.06	FB		0.04	B		0.02	B		0.03	B		0.02	B	FB	0.04
<b>Radiological</b>																				
Gross Alpha, total	pCi/l	48			16±5.6			18±5.8			16±7.2			21±8.3			17±5.3			16±5.4
Gross Beta, total	pCi/l	44			17±4			17±5			11±4.8			15±5.7			12±4.3			16±4.2
<b>QC</b>																				
Sum of Anions	meq/l	19.7			13.7			15			14.1			16			15.9			16.4
Sum of Cations	meq/l	20.5			14.4			14.7			15.2			16.1			16.2			16.4
Cation-Anion Balance	%	2			2.5			1			3.8			0.3			0.9			0
TDS (calculated)	mg/l	1,220			842			912			876			982			983			1,010
TDS (ratio - measured/calculated)	Unitless	1			1.09			1.04			1			0.98			1.03			1.05
<b>Field Parameters</b>																				
Temperature, Field	deg C	18			20.2			19			16.7			16.7			17.4			20.1
pH, Field	s.u.	6.85			7.67			6.85			7.16			6.84			6.74			6.82
E.C., Field, 25C	µS/cm	1,052			840			1,520			1,670			1,677			1,608			1,460
Depth to Water	ft	267.26			389.35			392.25			358.58			368.06			420.7			426.99
Water Elevation	ft	6,168.59			6,046.50			6,043.60			6,077.27			6,067.79			6,015.15			6,008.86







Groundwater Monitoring Results - PW-7 Cumulative Water Quality

Station Name	Units	PW-7	PW-7	PW-7	PW-7	PW-7	PW-7	PW-7	PW-7	PW-7	PW-7
Field Sample ID		PW-7	PW-7	PW-7-07-4	PW-7-08-4	PW-7-09-4	PW-7-10-4	PW-7-11-3	PW-7-12-4	PW-7-13-3	PW-7-14-3
Lab Sample ID		L51741-01	L58789-02	L65561-01	L72766-02	L79105-01	L85105-01	L89953-03	L97887-02	L14123-02	L20139-02
Sample Date		6/16/2005	9/7/2006	10/8/2007	10/29/2008	10/26/2009	10/27/2010	8/18/2011	11/13/2012	8/26/2013	8/20/2014
TDS (calculated)	mg/l	1,030	530	456	680	450	381	433	422	432	498
TDS (ratio - measured/calculated)	Unitless	1.04	0.98	0.96	0.94	1	0.92	0.97	1	0.94	0.88
<b>Field Parameters</b>											
Temperature, Field	deg C	20.6	23.2	23.61	16.7	24	23.6	25	23.1	23.9	20.3
pH, Field	s.u.	7.6	7.53	7.42	7.3	7.56	7.61	7.25	7.5	7.68	7.36
E.C., Field 25C	µS/cm	1,050	979	743	1,110	728	588	721	572	502	746
Depth to Water	ft	620.90	909.53	671.25	664.35			888.10		950.41	959.70
Water Elevation	ft	5,755.11	5,466.48	5,704.76	5,711.66			5,487.91		5,425.60	5,416.31

**Groundwater Monitoring Results - PW-7 Cumulative Water Quality**

Station Name	Units		PW-7			PW-7			PW-7			PW-7		
Field Sample ID			PW-7-15-3			PW-7-16-2			PW-7-16-4			PW-7-17-2		
Lab Sample ID			L26180-03			L30615-02			L34193-02			L37951-03		
Sample Date			8/18/2015			5/19/2016			11/15/2016			6/19/2017		
		VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC
<b>Major Ions + Indicator Parameters</b>														
Alkalinity (as CaCO <sub>3</sub> )	mg/l	T	249			228			214			216		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	T	249			222			212			211		
Carbonate (as CaCO <sub>3</sub> )	mg/l	T	<2	U		6.3	B		2.0	B		4.8	B	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	T	<2	U		<2	U		<2	U		<2	U	
Hardness (as CaCO <sub>3</sub> )	mg/l		270			155			171			170		
Calcium, dissolved	mg/l		66			38.5			41.3			41.0		
Magnesium, dissolved	mg/l		25.5			14.2			16.4			16.5		
Potassium, dissolved	mg/l		7.3			6.3			7.1			6.9		
Sodium, dissolved	mg/l		108			79.9			96.5			97.2		
Chloride	mg/l		37.4			40.5			67.5			71.1		
Fluoride	mg/l	J	0.56			0.6			0.57			0.58		
Silica	mg/l		14.8			13.4			13.1			14.0		
Sulfate	mg/l	T	234			84.1			87.8			90.7		
Total Dissolved Solids	mg/l	T	654			400			458			472		
Total Suspended Solids	mg/l	T	5	B		<5	U		<5	U		5.0	B	J
pH, Lab	s.u.	JT	8.2	H	J	8.4	H	J	8.3	H	J	8.3	H	J
E.C., Lab	µS/cm	T	1,000			687			727			753		
<b>Nutrients</b>														
Phosphorus, total as P	mg/l	T	0.03	B		<0.02	U		<0.02	U		0.13		
Nitrate as N, dissolved	mg/l	JT	<0.02	U	H	J	0.02	B	H	J	<0.02	U	H	J
Nitrite as N, dissolved	mg/l	JT	<0.01	U	H	J	<0.01	U	H	J	<0.01	U	H	J
Nitrate/Nitrite as N, dissolved	mg/l	T	<0.02	U	H	J	0.02	B	H	J	<0.02	U	H	J
Nitrogen, ammonia	mg/l	T	0.1	B		<0.05	U		<0.05	U		0.10	B	
<b>Metals</b>														
Aluminum, dissolved	mg/l		<0.03	U		<0.03	U		<0.03	U		<0.03	U	
Antimony, dissolved	mg/l		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U	
Arsenic, dissolved	mg/l		0.0476			0.0227			0.0138			0.0127		
Barium, dissolved	mg/l		0.063			0.048			0.049			0.047		
Beryllium, dissolved	mg/l		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U	
Cadmium, dissolved	mg/l		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U	
Chromium, dissolved	mg/l		<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U	
Copper, dissolved	mg/l		<0.01	U		<0.01	U		<0.01	U		<0.01	U	
Iron, dissolved	mg/l	J	5.11			0.17			0.21			0.44		
Lead, dissolved	mg/l		0.0008			<0.0001	U		<0.0001	U		<0.0001	U	
Manganese, dissolved	mg/l		0.111			0.032			0.027	B		0.032		
Mercury, dissolved	mg/l		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U	
Molybdenum, dissolved	mg/l	J	0.04	B		0.04	B		0.03	B		0.03	B	
Nickel, dissolved	mg/l		<0.008	U		<0.008	U		<0.008	U		<0.008	U	
Selenium, dissolved	mg/l		<0.001	U		<0.001	U		<0.0001	U		<0.0001	U	
Silver, dissolved	mg/l		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U	
Strontium, dissolved	mg/l													
Thallium, dissolved	mg/l		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U	
Uranium, total	mg/l		0.0036			0.001			0.0008			0.0006		
Vanadium, dissolved	mg/l		<0.005	U		<0.005	U		<0.005	U		<0.005	U	
Zinc, dissolved	mg/l		<0.01	U		<0.01	U		<0.01	U		<0.01	U	
<b>Radiological</b>														
Gross Alpha, total	pCi/l	J	2.9±3.4			0.51±1.9			-0.33±2.4			2.3±3		
Gross Beta, total	pCi/l		16±4.8			8.2±3.6			6.9±3.6			7.3±3.8		
Radium 226, total	pCi/l													
Radium 228, total	pCi/l													
Thorium 230, total	pCi/l													
Thorium 232, total	pCi/l													
<b>QC</b>														
Sum of Anions	meq/l		11			7.5			8.0			8.2		
Sum of Cations	meq/l		11			6.8			7.9			7.9		
Cation-Anion Balance	%		0			-4.9			-0.6			-1.9		

## Groundwater Monitoring Results - PW-7 Cumulative Water Quality

Station Name	Units	PW-7	PW-7	PW-7	PW-7
Field Sample ID		PW-7-15-3	PW-7-16-2	PW-7-16-4	PW-7-17-2
Lab Sample ID		L26180-03	L30615-02	L34193-02	L37951-03
Sample Date		8/18/2015	5/19/2016	11/15/2016	6/19/2017
TDS (calculated)	mg/l	655	421	465	474
TDS (ratio - measured/calculated)	Unitless	1	0.95	0.98	1.00
<b>Field Parameters</b>					
Temperature, Field	deg C	21.2	23.7	20.0	23.2
pH, Field	s.u.	7.73	7.91	7.68	7.63
E.C., Field 25C	μS/cm	1,082	560	775	599
Depth to Water	ft	732.63	735.27	769.99	938.95
Water Elevation	ft	5,643.38	5,640.74	5,606.02	5,437.06





Groundwater Monitoring Results - PW-8 Cumulative Water Quality

Station Name	Units	PW-8	PW-8	PW-8	PW-8	PW-8	PW-8	PW-8	PW-8	PW-8	PW-8
Field Sample ID		PW-8-070610	PW-8-11-3	PW-8-12-3	PW-8-13-2	PW-8-14-3	PW-8-15-3	PW-8-16-3	PW-8-17-2	PW-8-18-1	PW-8-18-2
Lab Sample ID		L63155-01	L89953-01	L96069-06	L12237-03	L20139-04	L26230-01	L32468-02	L37953-03	L43212-01	L44605-01
Sample Date		6/10/2007	8/18/2011	8/6/2012	5/21/2013	8/20/2014	8/19/2015	8/18/2016	6/20/2017	3/14/2018	5/29/2018
pH, Field	s.u.	7.75	7.62		7.77	7.75	7.74	8.17	7.83	7.83	7.46
E.C., Field 25C	µS/cm	888	94.3		1,134	1,410	1,174	1,112	900	1,140	1,166
Depth to Water	ft		934.5	J						NM	NM
Water Elevation	ft		R	5,479.23	J						

Groundwater Monitoring Results - PW-8 Cumulative Water Quality

Station Name	Units		PW-8			PW-8		
Field Sample ID			PW-8-18-3			PW-8-18-4		
Lab Sample ID			L46441-03			L47792-02		
Sample Date			8/21/2018			10/23/2018		
		VC	Result	FC	VC	Result	FC	VC
<b>Major Ions + Indicator Parameters</b>								
Alkalinity (as CaCO <sub>3</sub> )	mg/l		314			313		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l		306			313		
Carbonate (as CaCO <sub>3</sub> )	mg/l		8.8	B		<2	U	
Hydroxide (as CaCO <sub>3</sub> )	mg/l		<2	U		<2	U	
Hardness (as CaCO <sub>3</sub> )	mg/l		120			118		
Calcium, dissolved	mg/l		21.4			21.2		
Magnesium, dissolved	mg/l		16.1			15.9		
Potassium, dissolved	mg/l		8.6			8.7		
Sodium, dissolved	mg/l		214			215		
Chloride	mg/l		129			144		
Fluoride	mg/l		2.67			2.54		
Silica	mg/l		11.3			11.5		
Sulfate	mg/l		112			115		
Total Dissolved Solids	mg/l		676			716		
Total Suspended Solids	mg/l		<5	U		<5	U	
pH, Lab	s.u.	J	8.3	H	J	8.3	H	J
E.C., Lab	µS/cm		1,200			1,180		
<b>Nutrients</b>								
Phosphorus, total as P	mg/l		<0.02	U		<0.02	U	
Nitrate as N, dissolved	mg/l	J	<0.02	U H	J	<0.02	U H	J
Nitrite as N, dissolved	mg/l	J	<0.01	U H	J	<0.01	U H	J
Nitrate/Nitrite as N, dissolved	mg/l	J	<0.02	U H	J	<0.02	U H	J
Nitrogen, ammonia	mg/l		0.14	B		0.13	B	
<b>Metals</b>								
Aluminum, dissolved	mg/l		<0.03	U		<0.03	U	
Antimony, dissolved	mg/l		<0.0004	U		<0.0004	U	
Arsenic, dissolved	mg/l		<0.0002	U		<0.0002	U	
Barium, dissolved	mg/l		0.049			0.044		
Beryllium, dissolved	mg/l		<0.00005	U		<0.00005	U	
Cadmium, dissolved	mg/l		<0.0001	U		<0.00005	U	
Chromium, dissolved	mg/l		<0.0005	U		<0.0005	U	
Copper, dissolved	mg/l		<0.01	U		<0.01	U	
Iron, dissolved	mg/l		0.13			<0.02	U	
Lead, dissolved	mg/l		<0.0001	U		<0.0001	U	
Manganese, dissolved	mg/l		0.010	B		<0.005	U	
Mercury, dissolved	mg/l		<0.0002	U		<0.0002	U	
Molybdenum, dissolved	mg/l		<0.02	U		<0.02	U	
Nickel, dissolved	mg/l		<0.008	U		<0.008	U	
Selenium, dissolved	mg/l	J	0.163			0.0647		
Silver, dissolved	mg/l		<0.001	U		<0.0001	U	
Thallium, dissolved	mg/l		<0.0001	U		<0.0001	U	
Uranium, total	mg/l		<0.0001	U		<0.0001	U	
Vanadium, dissolved	mg/l		<0.005	U		<0.005	U	
Zinc, dissolved	mg/l		<0.01	U		<0.01	U	
<b>Radiological</b>								
Gross Alpha, total	pCi/l		0.56±1.5			0.11±1.7		
Gross Beta, total	pCi/l		13±3.6			6.8±3		
<b>QC</b>								
Sum of Anions	meq/l		12			13		
Sum of Cations	meq/l		12.0			12		
Cation-Anion Balance	%		0.0			-4.0		
TDS (calculated)	mg/l		710			728		
TDS (ratio - measured/calculated)	Unitless		0.95			0.98		
<b>Field Parameters</b>								
Temperature, Field	deg C		24.7			25.1		

Groundwater Monitoring Results - PW-8 Cumulative Water Quality

Station Name	Units	PW-8	PW-8
Field Sample ID		PW-8-18-3	PW-8-18-4
Lab Sample ID		L46441-03	L47792-02
Sample Date		8/21/2018	10/23/2018
pH, Field	s.u.	7.47	7.52
E.C., Field 25C	μS/cm	1,015	1,163
Depth to Water	ft	NM	NM
Water Elevation	ft		

Groundwater Monitoring Results - PW-9 Cumulative Water Quality

Station Name	Units	PW-9			PW-9			PW-9			PW-9			PW-9			PW-9			PW-9								
Field Sample ID		PW-9-070913			PW-9-15-4			PW-9-16-1			PW-9-16-2			PW-9-16-3			PW-9-16-4			PW-9-17-1			PW-9-17-2					
Lab Sample ID		L65058-01			L27661-01			L29130-01			L30613-02			L32469-02			L34194-02			L35911-01			L37993-02					
Sample Date		9/13/2007			11/4/2015			2/23/2016			5/19/2016			8/17/2016			11/15/2016			3/7/2017			6/20/2017					
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC			
<b>Major Ions + Indicator Parameters</b>																												
Alkalinity (as CaCO <sub>3</sub> )	mg/l	411			310			356			320			310			293			313			296					
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	411			298			338			310			295			274			289			278					
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U		11.9	B		17.7	B		10.1	B		15.2	B		18.6	B		24.5			18.1	B				
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U				
Hardness (as CaCO <sub>3</sub> )	mg/l	503			227			326			283			244			196			216			228					
Calcium, dissolved	mg/l	120			33.5			69.7			54			41.1			26.0			32.2			35.2					
Magnesium, dissolved	mg/l	49.3			34.8			37			36.1			34.4			31.9			32.9			34.1					
Potassium, dissolved	mg/l	11.4			10.1			9.7			10.3			10			9.9			9.6			10.3					
Sodium, dissolved	mg/l	120			124			103			110			113			131			114			133					
Chloride	mg/l	10			14.4			10.3			10.1			9.8			9.3			9.9			10.2					
Fluoride	mg/l	0.6			0.39			0.5			0.42			0.39			0.40			0.39			0.40					
Silica	mg/l	8.2			7.6			7			4.3			3.4			2.9			3.1			3.7					
Sulfate	mg/l	340			210		J	253			217			200	H	J	210			199			228		J			
Total Dissolved Solids	mg/l	900			612			668			626			664			632			644			632					
Total Suspended Solids	mg/l	<5	U		450			51			44			164			68.0			136			22.0	J				
pH, Lab	s.u.	8	H		8.4	H	J	8.4	H	J	8.4	H	J	8.4	H	J	8.5	H	J	8.5	H	J	8.5	H	J			
E.C., Lab	μS/cm	1,390			983			1,080			971			959			899			958			956					
<b>Nutrients</b>																												
Phosphorus, total as P	mg/l				0.04	B		<0.02	U		<0.02	U		<0.02	U		<0.02	U		0.03	B		<0.02	U				
Nitrate as N, dissolved	mg/l	0.02	B		<0.02	U	H	J		<0.02	U	H	J		<0.02	U	H	J		0.03	B	H	J		<0.02	U	H	J
Nitrite as N, dissolved	mg/l	<0.01	U	H	<0.01	U	H	J		<0.01	U	H	J		<0.01	U	H	J		<0.01	U	H	J		<0.01	U	H	J
Nitrate/Nitrite as N, dissolved	mg/l	0.02	B	H	<0.02	U	H	J		<0.02	U	H	J		<0.02	U	H	J		0.03	B	H	J		<0.02	U	H	J
Nitrogen, ammonia	mg/l	<0.05	U		<0.05	U	J	0.16	B		<0.05	U		0.07	B		<0.05	U		0.11	B		0.10	B				
<b>Metals</b>																												
Aluminum, dissolved	mg/l	0.06	B		<0.03	U		<0.03	U		<0.03	U		<0.03	U		<0.03	U		<0.03	U		<0.03	U				
Antimony, dissolved	mg/l	0.0005	B		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U				
Arsenic, dissolved	mg/l	0.0023			0.0072			0.0055			0.0013			0.0014			0.0009	B		0.0012			0.0012					
Barium, dissolved	mg/l	0.021			0.02			0.02			0.012	B		0.011	B		0.009	B		0.007	B		0.014	B				
Beryllium, dissolved	mg/l	<0.0001	U		0.00008	B		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U				
Cadmium, dissolved	mg/l	0.0001	B		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U				
Chromium, dissolved	mg/l	<0.0001	U		<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U				
Copper, dissolved	mg/l	0.01	B		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U				
Iron, dissolved	mg/l	0.35			39.3			22			1.01			0.93			0.02	B		0.19			0.57					
Lead, dissolved	mg/l	0.0001	B		0.0002	B		0.0001	B		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U				
Manganese, dissolved	mg/l	0.164			0.119			0.19			0.121			0.093			0.040			0.043			0.042					
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U				
Molybdenum, dissolved	mg/l	0.02	B		<0.02	U		<0.02	U		<0.02	U		<0.02	U		<0.02	U		<0.02	U		<0.02	U				
Nickel, dissolved	mg/l	<0.01	U		<0.008	U		<0.008	U		<0.008	U		<0.008	U		<0.008	U		<0.008	U		<0.008	U				
Selenium, dissolved	mg/l	<0.001	U		<0.001	U		0.0041	B		<0.001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.001	U				
Silver, dissolved	mg/l	<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U				
Strontium, dissolved	mg/l																											
Thallium, dissolved	mg/l	0.0001	B		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U				
Uranium, total	mg/l	0.0215			0.0016			0.0012			0.0007			0.0007			0.0003	B		0.0003	B		0.0002	B				
Vanadium, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U				
Zinc, dissolved	mg/l	0.04	B		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U				
<b>Radiological</b>																												
Gross Alpha, total	pCi/l	12±5			9.3±5.4			9.5±5.5			4.7±4.1			0.3±2.7			1.7±3.1			3.3±3.2			4±3.3					
Gross Beta, total	pCi/l	18±4.7			36±5.8			17±5.2			16±5.8			16±4			14±4.2			18±4.5			15±4.5					
Radium 226, total	pCi/l																											
Radium 228, total	pCi/l																											
Thorium 230, total	pCi/l																											
Thorium 232, total	pCi/l																											
<b>QC</b>																												
Sum of Anions	meq/l	15.7			11			13			11			11			11			11			11.0					
Sum of Cations	meq/l	15.7			12			13			11			10			9.9			9.6			11					
Cation-Anion Balance	%	0			4.3			0			0			-4.8			-5.3			-6.8			0.0					

Groundwater Monitoring Results - PW-9 Cumulative Water Quality

Station Name	Units	PW-9	PW-9	PW-9	PW-9	PW-9	PW-9	PW-9	PW-9
Field Sample ID		PW-9-070913	PW-9-15-4	PW-9-16-1	PW-9-16-2	PW-9-16-3	PW-9-16-4	PW-9-17-1	PW-9-17-2
Lab Sample ID		L65058-01	L27661-01	L29130-01	L30613-02	L32469-02	L34194-02	L35911-01	L37993-02
Sample Date		9/13/2007	11/4/2015	2/23/2016	5/19/2016	8/17/2016	11/15/2016	3/7/2017	6/20/2017
TDS (calculated)	mg/l	907	665	731	640	603	601	593	637
TDS (ratio - measured/calculated)	Unitless	0.99	0.92	0.91	0.98	1.10	1.05	1.09	0.99
<b>Field Parameters</b>									
Temperature, Field	deg C	16.4	12	7.3	16.4	11.8	12.0	11.9	16.9
pH, Field	s.u.	7.3	8.28	7.74	7.64	8.26	8.7	8.66	8.23
E.C., Field 25C	µS/cm	1,415	1,081	1,165	844	957	936	767	997
Depth to Water	ft		R 147.41	146.14	146.45	146.87	147.19	147.79	148.12
Water Elevation	ft		R 6,154.65	6,156.46	6,155.61	6,155.19	6,154.87	6,154.27	6,153.94

**Groundwater Monitoring Results - PW-11 Cumulative Water Quality**

Station Name	Units	PW-11			PW-11			PW-11			PW-11			PW-11			PW-11		
Field Sample ID		PW-11-13-4			PW-11-14-3			PW-11-15-3			PW-11-16-4			PW-11-17-1			PW-11-17-2		
Lab Sample ID		L15893-06			L20070-04			L26180-02			L34193-01			L35911-03			L37953-01		
Sample Date		12/5/2013			8/18/2014			8/18/2015			11/15/2016			3/8/2017			6/19/2017		
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC
<b>Major Ions + Indicator Parameters</b>																			
Alkalinity (as CaCO <sub>3</sub> )	mg/l	200			203		T	211			199			209			199		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	196			203		T	211			197			200			194		
Carbonate (as CaCO <sub>3</sub> )	mg/l	4	B		<2		U	<2		U	<2		U	9.3		B	4.4		B
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2		U	<2		U	<2		U	<2		U	<2		U	<2		U
Hardness (as CaCO <sub>3</sub> )	mg/l	182			184			177			189			177			185		
Calcium, dissolved	mg/l	40.8			40.5			40.1			42.9			39.7			41.5		
Magnesium, dissolved	mg/l	19.4			20.1			18.7			20			18.9			19.7		
Potassium, dissolved	mg/l	8.5			8.4			8.1			8.7			8.1			8.4		
Sodium, dissolved	mg/l	119			119			114			119			115			120		
Chloride	mg/l	120			110			109			112			116			115		
Fluoride	mg/l	0.6			0.58			0.53			0.53			0.53			0.57		
Silica	mg/l	13.9			13.1			12.7			12.5			12.4			13.2		
Sulfate	mg/l	110			120		T	92.7			88.2			102			94.6		
Total Dissolved Solids	mg/l	530			510		T	524			538			540			532		
Total Suspended Solids	mg/l	<5		U	<5		U	<5		U	<5		U	<5		U	<5		U
pH, Lab	s.u.	8.3		H	8.2		H	8.3		H	8.3		H	8.4		H	8.3		H
E.C., Lab	µS/cm	1,690			908		T	908			879			877			888		
<b>Nutrients</b>																			
Phosphorus, total as P	mg/l	<0.01		U	<0.01		U	<0.01		U	<0.02		U	<0.02		U	<0.02		U
Nitrate as N, dissolved	mg/l	<0.02		U	<0.02		U	<0.02		U	<0.02		U	<0.02		U	<0.02		U
Nitrite as N, dissolved	mg/l	<0.01		U	<0.01		U	<0.01		U	<0.01		U	<0.01		U	<0.01		U
Nitrate/Nitrite as N, dissolved	mg/l	<0.02		U	<0.02		U	<0.02		U	<0.02		U	<0.02		U	<0.02		U
Nitrogen, ammonia	mg/l	0.12		B	<0.05		U	<0.05		U	0.05		B	0.10		B	0.06		B
<b>Metals</b>																			
Aluminum, dissolved	mg/l	<0.03		U	0.04		B	<0.03		U	<0.03		U	<0.03		U	<0.03		U
Antimony, dissolved	mg/l	<0.0004		U	<0.0004		U	<0.0004		U	<0.0004		U	<0.0004		U	<0.0004		U
Arsenic, dissolved	mg/l	0.0055			0.0055			0.0042			0.0043			0.006			0.0062		
Barium, dissolved	mg/l	0.044			0.044			0.045			0.051			0.039			0.051		
Beryllium, dissolved	mg/l	<0.00005		U	<0.00005		U	<0.00005		U	<0.00005		U	<0.00005		U	<0.00005		U
Cadmium, dissolved	mg/l	<0.0001		U	<0.0001		U	<0.0001		U	<0.0001		U	<0.0001		U	<0.0001		U
Chromium, dissolved	mg/l	<0.0005		U	<0.0005		U	<0.0005		U	<0.0005		U	<0.0005		U	<0.0005		U
Copper, dissolved	mg/l	<0.01		U	<0.01		U	<0.01		U	<0.01		U	<0.01		U	<0.01		U
Iron, dissolved	mg/l	0.38			0.71		J	0.99			0.19			1.53			1.82		
Lead, dissolved	mg/l	<0.0001		U	<0.0001		U	0.001			<0.0001		U	<0.0001		U	<0.0001		U
Manganese, dissolved	mg/l	0.021		B	0.027		B	0.03			0.031			0.030			0.037		
Mercury, dissolved	mg/l	<0.0002		U	<0.0002		U	<0.0002		U	<0.0002		U	<0.0002		U	<0.0002		U
Molybdenum, dissolved	mg/l	<0.02		U	<0.02		U	<0.02		U	<0.02		U	<0.02		U	<0.02		U
Nickel, dissolved	mg/l	<0.01		U	<0.008		U	<0.008		U	<0.008		U	<0.008		U	<0.008		U
Selenium, dissolved	mg/l	<0.001		U	<0.001		U	<0.001		U	<0.001		U	<0.001		U	<0.001		U
Silver, dissolved	mg/l	<0.00005		U	<0.00005		U	<0.00005		U	<0.00005		U	<0.00005		U	<0.00005		U
Strontium, dissolved	mg/l																		
Thallium, dissolved	mg/l	<0.0001		U	<0.0001		U	<0.0001		U	<0.0001		U	<0.0001		U	<0.0001		U
Uranium, total	mg/l	<0.0001		U	<0.0001		U	<0.0001		U	<0.0001		U	<0.0001		U	<0.0001		U
Vanadium, dissolved	mg/l	<0.005		U	<0.005		U	<0.005		U	<0.005		U	<0.005		U	<0.005		U
Zinc, dissolved	mg/l	0.26			0.08			<0.01		U	<0.01		U	<0.01		U	<0.01		U
<b>Radiological</b>																			
Gross Alpha, total	pCi/l	3.8±4.2			1.4±3		J	-0.39±2.5			1.1±2.8			1.1±2.9			3.9±3.4		
Gross Beta, total	pCi/l	13±5.2			8.4±4.2			6.1±3.9			12±4.1			9.1±4			18±4.8		
Radium 226, total	pCi/l																		
Radium 228, total	pCi/l																		
Thorium 230, total	pCi/l																		
Thorium 232, total	pCi/l																		
<b>QC</b>																			
Sum of Anions	meq/l	9.7			9.7			9.3			9			9.6			9.2		
Sum of Cations	meq/l	9.1			9.2			8.8			9.3			8.9			9.3		
Cation-Anion Balance	%	-3.2			-2.6			-2.8			1.6			-3.8			0.5		

Groundwater Monitoring Results - PW-11 Cumulative Water Quality

Station Name	Units	PW-11	PW-11	PW-11	PW-11	PW-11	PW-11
Field Sample ID		PW-11-13-4	PW-11-14-3	PW-11-15-3	PW-11-16-4	PW-11-17-1	PW-11-17-2
Lab Sample ID		L15893-06	L20070-04	L26180-02	L34193-01	L35911-03	L37953-01
Sample Date		12/5/2013	8/18/2014	8/18/2015	11/15/2016	3/8/2017	6/19/2017
TDS (calculated)	mg/l	553	560	529	528	545	539
TDS (ratio - measured/calculated)	Unitless	0.96	0.91	0.99	1.02	0.99	0.99
<b>Field Parameters</b>							
Temperature, Field	deg C	25.5	21.6	23.2	20.7	23.7	23.6
pH, Field	s.u.	7.45	7.59	7.91	7.77	7.84	7.79
E.C., Field 25C	µS/cm	994	902	946	907	731	713
Depth to Water	ft	1,391.12	1,351.12	714.28		1,222.88	1,241.95
Water Elevation	ft	4,940.28	4,980.28	5,617.12		5,108.52	5,089.45





Groundwater Monitoring Results - MW06-15 Cumulative Water Quality

Station Name	Units	MW06-15			MW06-15			MW06-15			MW06-15			MW06-15			MW06-15			MW06-15			MW06-15			MW06-15			MW06-15			MW06-15																				
Field Sample ID		MW06-15-06-1			MW06-15-07-1			MW06-15-07-2			MW06-15-07-3			MW06-15-07-4			MW06-15-08-2			MW06-15-08-3			MW06-15-08-4			MW06-15-09-1			MW06-15-09-2			MW06-15-09-3			MW06-15-09-4			MW06-15-10-2			MW06-15-10-3			MW06-15-10-4			MW06-15-11-1					
Lab Sample ID		L60462-01			L61458-01			L62366-05			L64248-03			L65640-03			L69808-04			L71439-04			L72744-05			L74510-02			L76119-03			L77520-02			L79137-04			L82430-01			L84025-02			L85105-07			L86704-03					
Sample Date		12/18/2006			3/8/2007			5/2/2007			8/1/2007			10/10/2007			6/10/2008			8/26/2008			10/29/2008			2/17/2009			5/28/2009			8/12/2009			10/27/2009			5/26/2010			8/25/2010			10/28/2010			2/22/2011					
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC
<b>Major Ions + Indicator Parameters</b>																																																				
Alkalinity (as CaCO <sub>3</sub> )	mg/l	382			383			394			369			404			386			394			406			393			400			407			436			419			404			397								
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	350			371			341			364			360			347			334			354			343			346			345			331			356			346			329								
Carbonate (as CaCO <sub>3</sub> )	mg/l	31			12	B		53			5	B		43			39			60			52			50			54			61			105			63			58			69								
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U							
Hardness (as CaCO <sub>3</sub> )	mg/l	37			27			25			23			22			21			22			21			21			22			23			21			20			21			23								
Calcium, dissolved	mg/l	9.2			6.2			5.7			4.8			4.6			4.6			4.5			4.4			4.2			4.4			4.7			4.2			4.2			4.3			4.8								
Magnesium, dissolved	mg/l	3.4			2.7			2.6			2.6			2.5			2.4			2.5			2.5			2.5			2.6			2.7			2.5			2.4			2.4			2.6								
Potassium, dissolved	mg/l	8			7.7			7.1			6.8			7			8.3			5.8			6.5			6.4			6.2			6.5			7			5.8			6.3			6								
Sodium, dissolved	mg/l	271			295			285			283			288			287			278			302			295			275			269			281			289			276			286								
Chloride	mg/l	133			140			140			140			150			150			160			180			170			170			160			160			160			160			150								
Fluoride	mg/l	2.6			2.5			2.4			2.6			2.6			2.7			2.7			2.7			2.7			2.7			2.6			2.5			2.7			2.6			2.6								
Silica	mg/l	10.2			13.3			14			14			12.6			12.3			11.8			13.3			12.1			11.1			10.6			10.1			10.9			10.3			9.9								
Sulfate	mg/l	90			30	B		50			80	FB		30	B		30	B	FB			40	B		50	B	FB			40	B	FB			30	B	FB	40	B		40	B	40	B								
Total Dissolved Solids	mg/l	700			740			750			750			730			740			740			750			760			760			790			750			750			730			770								
Total Suspended Solids	mg/l	566		J	338			328			232	H		162			120			225			344			420	H		558			238	J		380			124			50			69								
pH, Lab	s.u.	8.7	H		8.4	H		8.9	H		8.3	H		8.9	H		8.8	H		9.1	H		8.9	H		9	H		9	H		9	H		9	H		8.9	H		9	H										
E.C., Lab	µS/cm	1,230			1,350			1,330			1,300			1,300			1,350			1,300			1,230			1,250			1,330			1,220			1,280			1,290			1,260			1,310								
<b>Nutrients</b>																																																				
Phosphorus, total as P	mg/l	<0.02	U		0.02	B		0.05	B		<0.02	U		0.03	B		0.04	B		0.04	B		0.04	B		0.03	B	FB	<0.02	U		0.1			0.04	B		<0.02	U		<0.02	U		<0.02	U							
Nitrate as N, dissolved	mg/l	<0.01	U	H	<0.01	U	H	0.03	B	J	<0.01	U	H	<0.01	U	H	<0.01	U	H	<0.01	U	H	<0.01	U		<0.01	U	H	<0.01	U	H	<0.01	U	H	<0.01	U	H	<0.01	U	H	<0.01	U	H	<0.01	U	H						
Nitrite as N, dissolved	mg/l	<0.02	U	H	0.02	B	H	0.08	B	J	<0.02	U	H	0.03	B	H	0.04	B	H	0.04	B	H	0.04	B		0.03	B	H	FB	<0.02	U	H	0.1	H		0.04	B	H	<0.02	U	H	<0.02	U	H	<0.02	U	H					
Nitrate/Nitrite as N, dissolved	mg/l	<0.02	U	H	0.02	B	H	0.08	B	J	<0.02	U	H	0.03	B	H	0.04	B	H	0.04	B	H	0.04	B		0.03	B	H	FB	<0.02	U	H	0.1	H		0.04	B	H	<0.02	U	H	<0.02	U	H	<0.02	U	H					
Nitrogen, ammonia	mg/l	0.43	B	FB	0.66			0.68			0.16	B	FB	0.14	B		0.21	B		0.17	B		0.2	B		<0.5	U		0.23	B		0.15	B		0.22	B		0.16	B		0.1	B		0.05	B							
<b>Metals</b>																																																				
Aluminum, dissolved	mg/l	0.06	B	FB	0.12	B		0.53			0.43			0.1	B		0.13	B		<0.03	U		0.08	B	J	0.06	B	J	0.06	B	FB	0.06	B		0.11	B		0.07	B		0.03	B		0.08	B							
Antimony, dissolved	mg/l	0.0017	B		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U		<0.0008	U		<0.0008	U		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U							
Arsenic, dissolved	mg/l	<0.0005	U		0.0018			<0.0005	U		0.0014			0.0041			0.0019			<0.0005	U		<0.01	U		<0.01	U		0.0015	B		0.02	B		<0.0001	U		<0.01	U		0.0013	B		<0.01	U							
Barium, dissolved	mg/l	0.05		FB	0.056			0.079			0.08			0.074			0.078			0.068			0.076			0.081			0.084			0.084			0.086			0.103			0.112			0.092								
Beryllium, dissolved	mg/l	<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.002	U		<0.002	U		<0.0001	U		<0.003	U		<0.002	U		<0.0001	U		<0.003	U		<0.003	U							
Cadmium, dissolved	mg/l	<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.002	U		<0.002	U		<0.0001	U		<0.003	U		<0.002	U		<0.0001	U		<0.003	U		<0.003	U							
Chromium, dissolved	mg/l	<0.0001	U		0.0008			0.0003	B		0.0013			<0.0001	U		0.0002	B		<0.0001	U		<0.002	U		<0.002	U		<0.0005	U		<0.01	U		<0.01	U		<0.01	U		<0.0067	U		<0.01	U							
Copper, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U							
Iron, dissolved	mg/l	<0.02	U		0.1			0.32			0.25			0.03	B	J	0.05			0.05	B		0.05			0.03	B		0.02	B	FB	0.03	B		0.03	B		0.19			0.02	B		0.07	FB							
Lead, dissolved	mg/l	0.0002	B	FB	0.0002	B		0.0002	B	FB	0.0001	B		<0.0001	U		<0.0001	U		<0.0001	U		<0.002	U		0.009	B	FB	0.0002	B	FB	<0.003	U		<0.002	U		0.0004	B		<0.003	U		0.002	B							
Manganese, dissolved	mg/l	0.084			0.115			0.082			0.06			0.047			0.031			0.033			0.032			0.03			0.029	B		0.029	B		0.021	B		0.023	B		0.011	B		0.017	B							
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U							
Molybdenum, dissolved	mg/l	0.04	B		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U							
Nickel, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		0.01	B		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		0.01	B		0.03	B		<0.01	U		0.01	B							
Selenium, dissolved	mg/l	<0.001	U		<0.001	U																																														

Groundwater Monitoring Results - MW06-15 Cumulative Water Quality

Station Name	Units	MW06-15			MW06-15			MW06-15			MW06-15			MW06-15			MW06-15			MW06-15			MW06-15			MW06-15			MW06-15																																				
Field Sample ID		MW06-15-11-2			MW06-15-11-3			MW06-15-11-4			MW06-15-12-1			MW06-15-12-2			MW06-15-12-3			MW06-15-12-4			MW06-15-13-1			MW06-15-13-2			MW06-15-13-3			MW06-15-14-1			MW06-15-14-2			MW06-15-14-3			MW06-15-14-4			MW06-15-15-1			MW06-15-15-2			MW06-15-15-3			MW06-15-15-4												
Lab Sample ID		L87733-04			L89954-04			L92269-03			L93313-04			L94460-05			L96104-01			L97918-01			L10648-01			L12276-02			L14146-03			L17249-04			L18406-01			L20104-03			L21464-03			L23283-02			L24350-01			L26182-03			L27660-02												
Sample Date		5/3/2011			8/17/2011			12/6/2011			2/21/2012			5/9/2012			8/7/2012			11/15/2012			2/11/2013			5/22/2013			8/27/2013			3/14/2014			5/21/2014			8/19/2014			11/5/2014			3/11/2015			5/13/2015			8/18/2015			11/4/2015												
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC																
<b>Major Ions + Indicator Parameters</b>																																																																	
Alkalinity (as CaCO <sub>3</sub> )	mg/l	386			390			429			420			429			413			427			407			422			406			373			370			447	J		436			439			441			437			441												
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	321			330			335			345			357			361			359			342			347			338			313			299			367			352			360			342			360			356												
Carbonate (as CaCO <sub>3</sub> )	mg/l	65			60			93			76			72			52			67			64			75			68			60			71			80.1			84.2			79.1			98.8			77.2			84.3												
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U														
Hardness (as CaCO <sub>3</sub> )	mg/l	23			19			20			21			21			22			21			21			20			22			20			21			22			22			23			22			23			26.7												
Calcium, dissolved	mg/l	4.9			3.9			4.1		FB	4.1			4.2			4.3			4.3			4.2			4.2			4.7			4.2			4.3			4.7			4.4		FB	4.4			4.4			4.6			5.9												
Magnesium, dissolved	mg/l	2.5			2.2			2.3			2.5			2.6			2.7			2.6			2.5			2.4			2.6			2.4			2.5			2.6			2.7			2.8			2.6			2.8			2.9												
Potassium, dissolved	mg/l	6.2			5.6			6			6.1			6.2			6.2			6			5.8			5.9			6.3			5.8			6.1			6.1			5.9			5.9			6			6			6												
Sodium, dissolved	mg/l	285			263			283			286			293			286			286			282			274			287			280			296			296			273			280			275			279			285												
Chloride	mg/l	150			160			170			170			170			180			170			180			170			180			170			177			166			162			167			170			177			169												
Fluoride	mg/l	2.6			2.5			2.5			2.5			2.6			2.5			2.5			2.7			2.5			2.6			2.6			2.8			2.6			2.5			2.5			2.63			2.55			2.52												
Silica	mg/l	10.4			9.9			10.4		FB	10.6			10.3			11.2			10.1			10.2			9.5			10.2			10.3			10.3			10.3			10.3			9.9			9.9			9.8			10.4												
Sulfate	mg/l	40	B	FB	30	B	FB	40	B	FB	40	B		40	B		40	B		30	B		30	B		30	B		30	B		40	B	FB	40	B	FB	40	B		50		FB	40	B	FB	40	B	FB	22.2			46.2			46.2									
Total Dissolved Solids	mg/l	770			740			770			750			750			760			770			750			750			800			760			790			790			752			770			766			758			758												
Total Suspended Solids	mg/l	407			37		FB	276			131			610			472			95			67			115			79			662	H	J	1,090	H	J	206	H	J	158	H	J	286	H	J	1,120	H	J	362	H	J	72	H	J	72	H	J							
pH, Lab	s.u.	9		H	8.9		H	9.2		H	9.1		H	9.1		H	8.8		H	9		H	9		H	9.0		H	9.0		H	8.9		H	J	8.9		H	J	8.9		H	J	8.9		H	J	9.2		H	J	9.0		H	J	9.0		H	J						
E.C., Lab	µS/cm	1,300			1,280			1,250			1,270			1,300			1,280			1,280			1,300			1,290			1,300			1,340			1,320			1,300			1,320			1,330			1,310			1,300			1,320			1,320									
<b>Nutrients</b>																																																																	
Phosphorus, total as P	mg/l	0.11	H	FB	<0.02	U	H	<0.02	U	H	0.05	B	H	0.24	H		0.29	H	FB	0.06			0.07			0.07			0.05			0.17			0.29			0.15			0.07			0.12			0.3			0.1			0.04	B											
Nitrate as N, dissolved	mg/l	0.01	B	H	<0.01	U	H	<0.01	U	H	0.06	H		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.1	U		<0.02	U		<0.02	U	H	J	<0.02	U	H	J	<0.02	U	H	J	<0.01	U	H	J	<0.01	U	H	J	<0.01	U	H	J	<0.01	U	H	J
Nitrite as N, dissolved	mg/l	0.01	B	H	<0.01	U	H	<0.01	U	H	0.06	H		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U	H	J	<0.01	U	H	J	<0.01	U	H	J	<0.01	U	H	J	<0.01	U	H	J					
Nitrate/Nitrite as N, dissolved	mg/l	0.12	H	FB	<0.02	U	H	<0.02	U	H	0.11	H		<0.02	U		<0.02	U		<0.02	U		<0.02	U		<0.02	U		<0.02	U		<0.02	U		<0.02	U		<0.02	U		<0.02	U	H	J	<0.02	U	H	J	<0.02	U	H	J	<0.02	U	H	J									
Nitrogen, ammonia	mg/l	0.14	B		0.12	B		0.08	B		0.12	B		0.09	B		<0.05	U		0.09	B		<0.05	U		0.16	B		0.25	B		0.21	B		0.16	B		<0.05	U		0.13	B		0.18	B		0.06	B		0.09	B		<0.05	U		<0.05	U								
<b>Metals</b>																																																																	
Aluminum, dissolved	mg/l	0.05	B		<0.03	U		0.06	B		0.06	B		0.04	B		0.26	B	FB	0.03	B	FB	0.07	B		0.04	B		0.06	B		0.08	B		0.05	B		0.06	B		0.04	B		<0.03	U		0.05	B		0.05	B		0.18	B		0.18	B								
Antimony, dissolved	mg/l	<0.01	U		0.04	B		<0.01	U		<0.01	U		<0.02	U		<0.01	U		<0.02	U		<0.0004	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U					
Arsenic, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.03	U		<0.005	U		<0.01	U		<0.0002	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U					
Barium, dissolved	mg/l	0.099			0.113			0.137			0.156			0.165			0.164			0.172			0.188			0.176			0.192			0.174			0.182			0.191			0.184			0.18			0.189			0.189			0.211			0.									

Groundwater Monitoring Results - MW06-15 Cumulative Water Quality

Station Name	Units	MW06-15		MW06-15		MW06-15		MW06-15		MW06-15		MW06-15		MW06-15		Ug Groundwater Quality Standard <sup>(1)</sup>	Background Levels								
		Result	FC	Result	FC	Result	FC	Result	FC	Result	FC	Result	FC	Result	FC		Mean <sup>(2)</sup> (x)	Standard Deviation (std) <sup>(2)</sup>	Maximum Background <sup>(3)</sup> Concentration						
<b>Major Ions + Indicator Parameters</b>																									
Alkalinity (as CaCO <sub>3</sub> )	mg/l	438		466		410		440		433		444		439		438		433		426	H J	-----	-----	-----	
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	355		369		334		361		338		367		337		334		336		349		-----	-----	-----	
Carbonate (as CaCO <sub>3</sub> )	mg/l	82.5		96.1		75.6		79.1		94.5		76.3		102		104		96.6		76.4	H J	-----	-----	-----	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U H J	-----	-----	-----	
Hardness (as CaCO <sub>3</sub> )	mg/l	21		22		22		23		21		22		24.0		23		23.0		22		-----	-----	-----	
Calcium, dissolved	mg/l	4.3		4.6		4.4		4.5		4.3		4.4		5.0		4.6		4.6		4.6		-----	-----	-----	
Magnesium, dissolved	mg/l	2.6		2.6		2.6		2.8		2.6		2.7		2.8		2.9		2.8		2.6		-----	-----	-----	
Potassium, dissolved	mg/l	5.9		5.9		5.9		6		5.7		5.9		5.8		6.0		6.1		6.0		-----	-----	-----	
Sodium, dissolved	mg/l	274		276		280		299		275		288		283		289		302		301		-----	-----	-----	
Chloride	mg/l	158		180	H J	185		165		181		177		196		188		189		188		-----	-----	-----	
Fluoride	mg/l	2.45		2.57		2.44		2.58		2.48		2.58		2.83		2.79		2.60		2.79		4.0	2.593	0.0874	3.89 (a)
Silica	mg/l	9.3		9.6		9.3		10		9.4		9.4		10.1		9.7		9.9		9.7		-----	-----	-----	
Sulfate	mg/l	17.1	J	17.9	FB	21.4		25.9		25.0		22.9	H J	17.8		21.3		4.17	FB	53.0		-----	-----	-----	
Total Dissolved Solids	mg/l	742		776		760		814		876		692	J	826.0		808		810		832		10,000	753	19.18	941.3 (a)
Total Suspended Solids	mg/l	152	J	165		134		368		928		89.0		139		103	J	211		163		-----	-----	-----	
pH, Lab	s.u.	9.0	H J	9.2	H J	9.0	H J	9.0	H J	9.3	H J	9.0	H J	9.0	H J	9.1	H J	9.1	H J	9.0	H J	6.5 - 8.5	8.922	0.195	6.5 - 8.5 (a)
E.C., Lab	µS/cm	1,340		1,290		1,270		1,230		1,310		1,250		1,350		1,360		1,360		1,320		-----	-----	-----	
<b>Nutrients</b>																									
Phosphorus, total as P	mg/l	0.06		0.11		0.05		0.08		0.15		0.04	B	0.06		0.07		0.09		0.07		0.05	NC	NC	NC (j)
Nitrate as N, dissolved	mg/l	<0.2	U H J	<0.2	U H J	<0.2	U H J	<0.2	U H J	<0.2	U	0.02	B	<0.2	U H J	<0.2	U H J	<0.2	U H J	<0.2	U H J	10.0	0.0277	0.0262	5 (a)
Nitrite as N, dissolved	mg/l	<0.01	U H J	<0.01	U H J	<0.01	U H J	<0.01	U H J	<0.01	U	<0.01	U	<0.01	U H J	<0.01	U H J	<0.01	U H J	<0.01	U H J	1.0	0.00463	0.0126	0.50 (a)
Nitrate/Nitrite as N, dissolved	mg/l	<0.2	U H J	<0.2	U H J	<0.2	U H J	<0.2	U H J	<0.2	U	0.02	B	<0.2	U H J	<0.2	U H J	<0.2	U H J	<0.2	U H J	10.0	-----	-----	-----
Nitrogen, ammonia	mg/l	0.11	B	0.08	B	0.09	B	0.09	B	0.12	B FB	0.12	B	<0.05	U	0.06	B	0.14	B	0.16	B FB	-----	-----	-----	
<b>Metals</b>																									
Aluminum, dissolved	mg/l	<0.03	U	<0.03	U	0.04	B	<0.03	U	0.11	B	0.08	B	0.27		<0.03	U	0.04	B	<0.03	U	-----	-----	-----	
Antimony, dissolved	mg/l	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	0.006	NC	NC	0.003 (a)
Arsenic, dissolved	mg/l	<0.0002	U	<0.0005	U	<0.0002	U	0.013	B	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0005	U	<0.0002	U	0.05	0.00274	0.0013	0.025 (a)
Barium, dissolved	mg/l	0.184		0.135		0.187		0.197		0.164		0.194		0.214		0.192		0.204		0.195		2.0	0.112	0.0442	0.2004 (a)
Beryllium, dissolved	mg/l	<0.00005	U	<0.001	U	<0.00005	U	<0.001	U	<0.00005	U	<0.00005	U	0.00011	B	<0.00005	U	<0.001	U	<0.0005	U	0.004	NC	NC	0.002 (a)
Cadmium, dissolved	mg/l	<0.0001	U	<0.003	U	<0.0001	U	<0.001	U	<0.0001	U	<0.001	U	<0.0001	U	<0.003	U	<0.0005	U	<0.0005	U	0.005	NC	NC	0.0025 (a)
Chromium, dissolved	mg/l	0.0027		<0.01	U	<0.0005	U	<0.01	U	0.001	B	<0.0005	U	0.0084		0.0006	B	<0.01	U	<0.005	U	0.1	0.00060	0.00138	0.05 (a)
Copper, dissolved	mg/l	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	1.3	NC	NC	0.65 (a)
Iron, dissolved	mg/l	0.03	B	0.22		0.02	B	<0.02	U	0.05		0.04	B	0.27		0.03	B	<0.02	U	<0.02	U	-----	-----	-----	
Lead, dissolved	mg/l	<0.0001	U	<0.003	U	<0.0001	U	<0.003	U	0.0002	B	<0.0001	U	0.0009		<0.001	U	<0.003	U	<0.001	U	0.015	0.0007	0.00185	0.0075 (a)
Manganese, dissolved	mg/l	0.006	B	0.012	B	<0.005	U	<0.005	U	<0.005	U	<0.005	U	0.014	B	<0.005	U	<0.005	U	<0.005	U	-----	NC	NC	NC
Mercury, dissolved	mg/l	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	0.002	NC	NC	0.001 (a)
Molybdenum, dissolved	mg/l	<0.02	U	<0.02	U	<0.02	U	<0.02	U	<0.02	U	<0.02	U	<0.02	U	<0.02	U	<0.02	U	<0.02	U	-----	-----	-----	
Nickel, dissolved	mg/l	<0.008	U	0.015	B	<0.008	U	<0.008	U	<0.008	U	<0.008	U	<0.008	U	<0.008	U	<0.008	U	<0.008	U	-----	-----	-----	
Selenium, dissolved	mg/l	<0.001	U	<0.001	U	0.0216		0.339	J	0.0004	J	0.0941		0.0472		0.0291	J	0.026	J	2.65	J	0.05	NC	NC	0.025 (a)
Silver, dissolved	mg/l	<0.00005	U	<0.001	U	<0.003	U	<0.005	U	<0.00005	U	<0.003	U	<0.00005	U	<0.001	U	<0.001	U	<0.001	U	0.1	NC	NC	0.05 (a)
Thallium, dissolved	mg/l	<0.0001	U	<0.003	U	<0.0001	U	<0.003	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	0.003	B	<0.001	U	0.002	NC	NC	0.001 (a)
Uranium, total	mg/l	0.0003	B	0.0007		0.0003	B	0.0004	B	0.0006	B	0.0003	B	0.0005	B	0.0006	B	0.0005	B	0.0005	B	0.03	0.0010	0.0009	0.015 (a)
Vanadium, dissolved	mg/l	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	-----	NC	NC	NC
Zinc, dissolved	mg/l	0.03	B	0.08	FB	0.01	B	<0.01	U	0.03	B	<0.01	U	0.20		0.01	B	<0.01	U	<0.01	U	5.0	0.0411	0.0483	2.5 (a)
<b>Radiological</b>																									
Gross Alpha, total	pCi/l	1.3±3.6		7.2±5.7		5.2±3.9		4±4.2		8.2±5.1		2±3.4		6.9±4.5		1.9±4.2		5.9±4		5.9±3.5		15	6.415	5.19	16.795 (a)
Gross Beta, total	pCi/l	16±4.7		29±7		17±4.6		17±5.5		25±6.7		15±5.4		26±6.6		13±6.7		9±5.2		15±4.3		g <sup>(4)</sup>	20.5	11.86	44.2 (a)
<b>QC</b>																									
Sum of Anions	meq/l	14		15		14		14		14		14		15		15		14		15.0					
Sum of Cations	meq/l	13		13		13		14		13		13		13		13		14		14					
Cation-Anion Balance	%	-3.7		-7.1		-3.7		0.0		-3.7		-3.7		-7.1		-7.1		0.0		-3.4					
TDS (calculated)	mg/l	742		785		763		786		771		785		794		793		787		829					
TDS (ratio - measured/calculated)	Unitless	1		0.99		1.00		1.04		1.14		0.88		1.04		1.02		1.03		1.00					
<b>Field Parameters</b>																									
Temperature, Field	deg C	14.7		18.5		15.3		13.0		16.1		15.9		18.4		19.2		21.8		18.3					
pH, Field	s.u.	8.66		8.47		8.76		8.60		8.77		8.54		8.78		8.23		8.30		8.34					
E.C., Field, 25C	µS/cm	1,395		1,093		1,302		1,361		1,089		1,361		1,297		1,359		1,140		1,435					
Depth to Water	ft	796.20		795.67		796.41</																			







Groundwater Monitoring Results - MW96-7A Cumulative Water Quality

Station Name	Units	MW96-7A	MW96-7A	MW96-7A	MW96-7A	MW96-7A	MW96-7A	MW96-7A	MW96-7A	MW96-7A	MW96-7A	MW96-7A	MW96-7A	MW96-7A	MW96-7A	MW96-7A	MW96-7A	MW96-7A	MW96-7A
Field Sample ID		MW96-7A-12-4	MW96-7A-13-1	MW96-7A-13-2	MW96-7A-13-3	MW96-7A-13-4	MW96-7A-14-1	MW96-7A-14-2	MW96-7A-14-3	MW96-7A-14-4	MW96-7A-15-1	MW96-7A-15-2	MW96-7A-15-3	MW96-7A-15-4	MW96-7A-16-1	MW96-7A-16-2	MW96-7A-16-3	MW96-7A-18-1	
Lab Sample ID		L97918-03	L10648-02	L12275-02	L14146-02	L15893-03	L17248-03	L18406-02	L20104-02	L21464-01	L23284-02	L24349-02	L26181-02	L27661-02	L29134-03	L30578-02	L32431-01	L43213-01	
Sample Date		11/15/2012	2/11/2013	5/22/2013	8/27/2013	12/4/2013	3/14/2014	5/21/2014	8/19/2014	11/5/2014	3/11/2015	5/13/2015	8/18/2015	11/4/2015	2/23/2016	5/18/2016	8/17/2016	3/14/2018	
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC
<b>Major Ions + Indicator Parameters</b>																			
Alkalinity (as CaCO <sub>3</sub> )	mg/l	288			287			284			285			282			244		
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l	288			287			284			285			282			244		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U		<2	U		<2	U		<2	U	
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U		<2	U		<2	U		<2	U	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	938			945			859			911			920			859		
Hardness (as CaCO <sub>3</sub> )	mg/l	209			207			180			202			204			184		
Calcium, dissolved	mg/l	101			104			99.6			98.7			97			97		
Magnesium, dissolved	mg/l	14			14.5			14			14.6			14.5			14.2		
Potassium, dissolved	mg/l	92.6			96.2			95			95.1			95			94.4		
Sodium, dissolved	mg/l	24			21			22			22			25			21	B	
Chloride	mg/l	0.3	B		0.3	B	J	0.2	B		0.2	B		0.3	B		0.3	B	
Fluoride	mg/l	8.3			8.2			7.2			8			7.1			7.9		
Silica	mg/l	760			760			780			770			790			800		
Sulfate	mg/l	1,480			1,470			1,420			1,510			1,450			1,480	H	J
Total Dissolved Solids	mg/l	550			530			310			346			462			578		J
Total Suspended Solids	mg/l	pH, Lab	s.u.		8.1	H		8.2	H		8	H		8.1	H		8.1	H	J
pH, Lab	s.u.	E.C., Lab	µS/cm		1,810			1,860			1,860			1,880			1,830		
E.C., Lab	µS/cm	<b>Nutrients</b>																	
Phosphorus, total as P	mg/l	0.1			0.13			0.1			0.08			0.11			0.12		
Nitrate as N, dissolved	mg/l	0.09	B		0.12	H	FB	0.04	B	H	0.02	B	H	0.01	B	H	0.03	B	H
Nitrite as N, dissolved	mg/l	0.01	B		0.04	B	H	0.03	B	H	0.02	B	H	0.01	B	H	0.07	B	H
Nitrate/Nitrite as N, dissolved	mg/l	0.1	B		0.16	H	FB	0.07	B	H	0.02	B	H	0.02	B	H	0.02	B	H
Nitrogen, ammonia	mg/l	0.24	B		0.2	B		0.26	B		0.38	B		0.33	B		0.24	B	
<b>Metals</b>																			
Aluminum, dissolved	mg/l	<0.03	U		0.03	B		<0.03	U		0.03	B		<0.03	U		0.03	B	
Antimony, dissolved	mg/l	<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U	
Arsenic, dissolved	mg/l	0.0015			0.0017			0.0015			0.0013			0.0015			0.0012		J
Barium, dissolved	mg/l	0.014	B		0.013	B		0.014	B		0.014	B		0.015	B		0.017	B	FB
Beryllium, dissolved	mg/l	<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U	
Cadmium, dissolved	mg/l	<0.0001	U		<0.0001	U		<0.0001	U		0.0003	B		<0.0001	U		<0.0001	U	
Chromium, dissolved	mg/l	<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U	
Copper, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U	
Iron, dissolved	mg/l	4.82	FB		4.66			5.77			5.21			5.84			6.22		
Lead, dissolved	mg/l	<0.0001	U		0.0001	B		<0.0001	U		<0.0001	U		<0.0001	U		0.0004	B	FB
Manganese, dissolved	mg/l	0.289			0.293			0.274			0.297			0.287			0.249		
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U	
Molybdenum, dissolved	mg/l	<0.01	U		0.02	B		<0.02	U		<0.02	U		<0.02	U		<0.02	U	J
Nickel, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.008	U	
Selenium, dissolved	mg/l	<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U	J
Silver, dissolved	mg/l	<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U	
Strontium, dissolved	mg/l	<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U	
Thallium, dissolved	mg/l	0.0044			0.0054			0.0041			0.0038			0.004			0.0044		
Uranium, total	mg/l	<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U	
Vanadium, dissolved	mg/l	0.02	B		0.07			0.28			0.08			0.03	B	FB	0.03	B	
Zinc, dissolved	mg/l	<b>Radiological</b>																	
Gross Alpha, total	pCi/l	12±7.7			16±7.4			17±7.7			7.7±7			18±9.5			29±12		J
Gross Beta, total	pCi/l	33±7.6			33±8			32±8.2			33±8.5			40±9.9			46±12		J
Radium 226, total	pCi/l																		
Radium 228, total	pCi/l																		
Thorium 228, total	pCi/l																		
Thorium 230, total	pCi/l																		
Thorium 232, total	pCi/l																		
<b>QC</b>																			
Sum of Anions	meq/l	22.4			22.3			22.7			23			23			22		
Sum of Cations	meq/l	23.5			23.8			22.1			23			23			22		
Cation-Anion Balance	%	2.4			3.3			-1.3			0			4.5			0		
TDS (calculated)	mg/l	1,390			1,390			1,380			1,390			1,410			1,370		
TDS (ratio - measured/calculated)	Unitless	1.06			1.06			1.03			1.09			1.03			1.08		
<b>Field Parameters</b>																			
Temperature, Field	deg C	13.7			13.2			14			14.4			10			9.9		
pH, Field	s.u.	7.09			7.04			6.97			7.37			7.22			7.16		
E.C., Field, 25C	µS/cm	1,557			1,897			2,240			2,590			1,882			1,786		
Depth to Water	ft	349.23			347.77			348.14			347.77			348.4			349.3		
Water Elevation	ft	6,098.87			6,100.67			6,100.33			6,099.96			6,099.70			6,098.80		



Groundwater Monitoring Results - MW96-7A Cumulative Water Quality

Station Name Field Sample ID Lab Sample ID Sample Date	Units	MW96-7A		MW96-7A		MW96-7A		Utah Groundwater Quality Standard <sup>(1)</sup>	Background Levels							
		MW96-7A-18-2		MW96-7A-18-3		MW96-7A-18-4			Mean <sup>(2)</sup> (x)	Standard Deviation (std) <sup>(2)</sup>	Maximum Background <sup>(3)</sup> Concentration					
		Result	FC	VC	Result	FC	VC					Result	FC	VC		
<b>Major Ions + Indicator Parameters</b>																
Alkalinity (as CaCO <sub>3</sub> )	mg/l	284			293			282	H	J	-----	-----	-----			
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l										-----	-----	-----			
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	284			293			282	H	J	-----	-----	-----			
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U	H	J	-----	-----			
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U	H	J	-----	-----			
Hardness (as CaCO <sub>3</sub> )	mg/l	1,030			1,030			1,000			-----	-----	-----			
Calcium, dissolved	mg/l	232			231			226			-----	-----	-----			
Magnesium, dissolved	mg/l	109			109			106			-----	-----	-----			
Potassium, dissolved	mg/l	13.6			13.8			13.5			-----	-----	-----			
Sodium, dissolved	mg/l	105			104			101			-----	-----	-----			
Chloride	mg/l	26.3			27.0			26.5			-----	-----	-----			
Fluoride	mg/l	0.37			0.29	B		0.24	B		4.0	0.412	0.105	2.0	(a)	
Silica	mg/l	7.6			7.6			7.4			-----	-----	-----	-----		
Sulfate	mg/l	917			970			1,070			-----	-----	-----	-----		
Total Dissolved Solids	mg/l	1,660			1,650			1,650			10,000	1,321.8	169.8	1,652.3	(a)	
Total Suspended Solids	mg/l	55.0		J	14.0	B	J	35.0			-----	-----	-----	-----		
pH, Lab	s.u.	8.3	H	J	8.3	H	J	8.3	H	J	6.5 - 8.5	6.976	0.300	6.5 - 8.5	(a)	
E.C., Lab	µS/cm	1,980			2,030			1,970			-----	-----	-----	-----		
<b>Nutrients</b>																
Phosphorus, total as P	mg/l	0.02	B		<0.02	U		<0.02	U		0.05	n/a	n/a	n/a	(j)	
Nitrate as N, dissolved	mg/l	<0.02	U	H	J			<0.02	U	H	J	10.0	0.147	0.150	5.0	(a)
Nitrite as N, dissolved	mg/l	<0.01	U	H	J			<0.01	U	H	J	1.0	0.008	0.008	0.50	(a)
Nitrate/Nitrite as N, dissolved	mg/l	<0.02	U	H	J			<0.02	U	H	J	10.0	0.150682	0.149541	5.0	(c)
Nitrogen, ammonia	mg/l	0.23			0.27			0.30			-----	-----	-----	-----		
<b>Metals</b>																
Aluminum, dissolved	mg/l	0.03	B		<0.03	U		<0.03	U		-----	-----	-----	-----		
Antimony, dissolved	mg/l	<0.0004	U		<0.0004	U		<0.0004	U		0.006	0.0028	0.0034	0.0060	(a)	
Arsenic, dissolved	mg/l	0.0005	B		0.0007	B		0.0005	B		0.05	0.005	0.003	0.025	(a)	
Barium, dissolved	mg/l	0.019	B		0.016	B		0.013	B		2.0	0.096	0.183	1.0	(a)	
Beryllium, dissolved	mg/l	<0.00005	U		<0.00005	U		<0.00005	U		0.004	0.0004	0.0003	0.002	(a)	
Cadmium, dissolved	mg/l	<0.0001	U		<0.0001	U		<0.00005	U		0.005	0.001	0.001	0.0025	(a)	
Chromium, dissolved	mg/l	<0.0005	U		<0.0005	U		<0.0005	U		0.1	0.002	0.002	0.050	(a)	
Copper, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		1.3	0.006	0.002	0.650	(a)	
Iron, dissolved	mg/l	6.54			5.58			2.93			-----	-----	-----	-----		
Lead, dissolved	mg/l	<0.0001	U		<0.0001	U		<0.0001	U		0.015	0.0032	0.0031	0.015	(a)	
Manganese, dissolved	mg/l	0.356			0.343			0.323			-----	-----	-----	-----		
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		<0.0002	U		0.002	0.00026	0.00058	0.002	(a)	
Molybdenum, dissolved	mg/l	<0.02	U		<0.02	U		<0.02	U		-----	-----	-----	-----		
Nickel, dissolved	mg/l	<0.008	U		<0.008	U		<0.008	U		-----	-----	-----	-----		
Selenium, dissolved	mg/l	<0.0001	U		<0.0001	U		<0.0001	U		0.05	0.003	0.003	0.025	(a)	
Silver, dissolved	mg/l	<0.00005	U		<0.00005	U		<0.0001	U		0.1	0.062	0.132	0.100	(a)	
Strontium, dissolved	mg/l										-----	-----	-----	-----		
Thallium, dissolved	mg/l	<0.0001	U		0.0001	B		<0.0001	U		0.002	0.0008	0.0012	0.002	(a)	
Uranium, total	mg/l	0.0033			0.003			0.0027			0.03	0.013	0.004	0.0261	(a)	
Vanadium, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		-----	-----	-----	-----		
Zinc, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		5.0	0.365	0.628	2.5	(a)	
<b>Radiological</b>																
Gross Alpha, total	pCi/l	19±15			15±7.1			14±6.3			15	50.3	58.9	154	(a)	
Gross Beta, total	pCi/l	31±18			17±6.2			17±5.8			8 <sup>(4)</sup>	33.1	25.5	78	(a)	
Radium 226, total	pCi/l															
Radium 228, total	pCi/l															
Thorium 228, total	pCi/l															
Thorium 230, total	pCi/l															
Thorium 232, total	pCi/l															
<b>QC</b>																
Sum of Anions	meq/l	26			27.0			29								
Sum of Cations	meq/l	26			26			25.0								
Cation-Anion Balance	%	0.0			-1.9			-7.4								
TDS (calculated)	mg/l	1,590			1,650			1,730								
TDS (ratio - measured/calculated)	Unitless	1.04			1.00			0.95								
<b>Field Parameters</b>																
Temperature, Field	deg C	14.7			15.2			13.1								
pH, Field	s.u.	8.10			8.06			8.08								
E.C., Field, 25C	µS/cm	1,949			1,701			1,885								
Depth to Water	ft	359.61			359.64			IM								
Water Elevation	ft	6,088.47			6,088.46											



Groundwater Monitoring Results - MW96-7B Cumulative Water Quality

Station Name	Units	MW96-7B	MW96-7B	MW96-7B	MW96-7B	MW96-7B	MW96-7B	MW96-7B	MW96-7B	MW96-7B	MW96-7B	MW96-7B	MW96-7B	MW96-7B	MW96-7B	MW96-7B	MW96-7B	MW96-7B	MW96-7B	MW96-7B			
Field Sample ID		96MW7B-01-01	MW96-7B-01-02	MW96-7B	MW96-7B	MW96-7B-04-1	MW96-7B	MW96-7B	MW96-7B	MW96-7B-06-2	MW96-7B-07-4	MW96-7B-08-4	MW96-7B-09-4	MW96-7B-100217	MW96-7B-100331	MW96-7B-100527	MW96-7B	MW96-7B-100825	MW96-7B	MW96-7B-10-			
Lab Sample ID		L31974-14	L34902-01	L38903-14	L43331-13	L48197-03	L53966-04	L55728-02	L57220-02	L65640-01	L72766-01	L79159-02	L80789-04	L81414-01	L82430-04	L83395-01	L84025-06	L85084-03	L85084-03	L85084-03	L85084-03		
Sample Date		5/9/2001	11/14/2001	10/9/2002	10/8/2003	10/6/2004	10/24/2005	3/16/2006	6/16/2006	10/10/2007	10/29/2008	10/28/2009	2/17/2010	3/31/2010	5/27/2010	7/20/2010	8/25/2010	10/26/2010	10/26/2010	10/26/2010			
Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC
<b>Major Ions + Indicator Parameters</b>																							
Alkalinity (as CaCO <sub>3</sub> )	mg/l	258	214	239	233	220	H	221	239	245	233	253	337	295	303	232	222	223	221				
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l																						
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	210.8	198	219	215	195	H	219	213	228	211	225	311	275	279	194	198	188	185				
Carbonate (as CaCO <sub>3</sub> )	mg/l	16	11	20	18	26	H	<2	U	26	17	B	22	28	26	37	24	35	36				
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U
Hardness (as CaCO <sub>3</sub> )	mg/l	73	69	71	76	67		71	72	73	71	78	149	148	148	83	82	79	79				
Calcium, dissolved	mg/l	9.3	FB	8.2	8.3	7.5		8.5	8.3	8	7.8	9.1	29.8	21.7	22.3	9.5	9.7	8.9	8.7				
Magnesium, dissolved	mg/l	12.1	FB	11.9	12.2	13.2		11.8	12.2	13	12.5	13.4	26.3	23	22.5	14.4	14	13.8	13.8				
Potassium, dissolved	mg/l	7.5		7	7.6	7.5		7.7	7.6	8.2	8	9.1	11.1	9.8	9.7	7.8	8.4	7.6	7.5				
Sodium, dissolved	mg/l	159	FB	142	145	145		136	144	155	141	172	190	176	182	136	127	130	127				
Chloride	mg/l	13		11	12	11		11	10	10	12	14	19	17	17	12	11	11	11				
Fluoride	mg/l	0.8		0.8	0.5	0.6		0.4	0.5	0.4	B	0.5	B	0.5	B	0.4	B	0.5	B	0.4	B	0.4	B
Silica	mg/l	9.4	FB	9.6	10.5	9.9		9.3	10.4	9.8	12	9.2	12	12	11.6	10.8	10.1	9.8	9.9				
Sulfate	mg/l	180		160	140	150		140	130	130	130	170	270	230	240	140	130	130	120				
Total Dissolved Solids	mg/l	530		500	J	480		470	430	420	440	450	660	660	660	450	420	430	430				
Total Suspended Solids	mg/l	599		178		164		78	J	204	258	J	84	1,400	1,470	32	8	B	5	U	5	B	
pH, Lab	s.u.	8.5	J	8.3		8.5	H	8.6		8.4	H	8.8	H	8.6	H	8.6	H	8.9	H	8.9	H	9	H
E.C., Lab	µS/cm	825		780		786		817		744		729		737		1,060		689		718			
<b>Nutrients</b>																							
Phosphorus, total as P	mg/l	<0.1	U	<0.02	U	0.02	B	0.03	B	0.03	B	0.03	B	0.02	U	<0.02	U	<0.02	U	<0.02	U	<0.02	U
Nitrate as N, dissolved	mg/l	<0.05	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U
Nitrite as N, dissolved	mg/l	<0.05	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U
Nitrate/Nitrite as N, dissolved	mg/l	<0.1	U	<0.02	U	<0.02	U	0.03	B	0.03	B	0.03	B	<0.02	U	<0.02	U	<0.02	U	<0.02	U	<0.02	U
Nitrogen, ammonia	mg/l	0.18	B	0.18	B	0.23	B	0.16	B	0.18	B	0.07	B	0.13	B	0.13	B	0.08	B	<1.0	U	0.23	B
<b>Metals</b>																							
Aluminum, dissolved	mg/l	<0.03	U	<0.03	U	<0.03	U	<0.03	U	0.04	B	0.07	B	<0.03	U	0.03	B	0.03	B	<0.03	U	0.05	B
Antimony, dissolved	mg/l	<0.002	U	<0.002	U	<0.002	U	<0.0004	U	0.0006	B	<0.0004	U	0.0009	B	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U
Arsenic, dissolved	mg/l	0.116		0.13		0.184		0.0436		0.0266		0.0879		0.0523		0.0507		0.746		0.54		0.703	
Barium, dissolved	mg/l	0.306	FB	0.07	FB	0.066		0.07		0.047		0.498		0.052		0.047		0.097		0.098		0.096	
Beryllium, dissolved	mg/l	<0.0001	U	<0.0002	U	<0.0001	U	<0.0002	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Cadmium, dissolved	mg/l	<0.0001	U	<0.0002	U	<0.0001	U	0.0002	B	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Chromium, dissolved	mg/l	0.0004	B	<0.0002	U	0.0002	B	0.0001	B	0.0002	B	0.0011	B	<0.0001	U	<0.0001	U	<0.0005	U	0.0008	B	<0.0005	U
Copper, dissolved	mg/l	<0.01	U	<0.01	U	<0.01	U	<0.01	U	0.01	B	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U
Iron, dissolved	mg/l	<0.01	U	0.01	B	0.05	FB	0.02	B	0.03	B	0.91	J	0.12		0.08	B	0.03	B	0.14		0.09	
Lead, dissolved	mg/l	<0.001	U	<0.001	U	<0.001	U	<0.0001	U	0.0009	J	<0.0001	U	<0.0001	U	<0.0001	U	0.0002	B	0.0001	B	0.0002	B
Manganese, dissolved	mg/l	0.01	FB	0.006	B	0.007	B	0.023	B	0.017	B	0.009	B	0.01	B	0.008	B	0.028	B	0.063	B	0.021	B
Mercury, dissolved	mg/l	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U
Molybdenum, dissolved	mg/l	0.07		0.05		0.06		0.08		0.03	B	0.04	B	0.03	B	0.09		0.26		0.2		0.22	
Nickel, dissolved	mg/l	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	0.03	B	0.01	B	<0.01	U
Selenium, dissolved	mg/l	<0.001	U	<0.06	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U
Silver, dissolved	mg/l	<0.00005	U	<0.0001	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U
Strontium, dissolved	mg/l					1.68																	
Thallium, dissolved	mg/l	<0.00005	U	<0.0001	U	<0.00005	U	<0.00005	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U
Uranium, total	mg/l	0.00047		0.00036		0.0007		0.00028	B	0.00016	B	0.0003	B	0.0004	B	0.0006		0.0005		0.0017		0.003	B
Vanadium, dissolved	mg/l	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U
Zinc, dissolved	mg/l	0.01	FB	0.02	B	0.02	B	<0.01	U	0.02	B	0.01	B	0.03	B	<0.01	U	0.04	B	0.02	B	<0.01	U
<b>Radiological</b>																							
Gross Alpha, total	pCi/l	2.7±2.9		4.45±3	FB	0±2.4	FB	5.03±3.7		5.24±4.7		17±5.7	FB	1.2±2.9	FB	1.3±3		4.9±3.2		21±8.3		14±4	
Gross Beta, total	pCi/l	7.2±3.3		11.4±3.7	FB	11.2±3.9		8.32±3.6		12.2±4.2	FB	22±4.3	FB	6.7±3.4		15±4.3		14±3.8		36±8.8		32±4.5	
Radium 226, total	pCi/l	0.22±0.2	FB	0.23±0.3	FB	0.32±0.2		0.88±0.3		0.35±0.2		0.46±0.2		0.3±0.12								150±18	
Radium 228, total	pCi/l	0±1.1	J	2.11±1.3		2.17±1.1		1.63±0.8	FB	0.7±0.7	FB	2.3±0.6	FB	1.2±0.53								77±11	
Thorium 228, total	pCi/l			0.12±0.22		0.18±0.23		-0.12±0.17		0.05±0.21		0±0.2		0.09±0.21								61±20	
Thorium 230, total	pCi/l	0.24±0.87		-0.05±0.34		0.84±0.39		-0.24±0.3		0.41±0.44		-0.06±0.47		-0.34±0.39								26±9.7	
Thorium 232, total	pCi/l	-2.1±0		0.27±0.36		0.16±0.27		-0.07±0.29		0.08±0.35		0.13±0.45											

Groundwater Monitoring Results - MW96-7B Cumulative Water Quality

Station Name	Units	
Field Sample ID		
Lab Sample ID		
Sample Date		
<b>Major Ions + Indicator Parameters</b>		
Alkalinity (as CaCO <sub>3</sub> )	mg/l	
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l	
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	
Carbonate (as CaCO <sub>3</sub> )	mg/l	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	
Hardness (as CaCO <sub>3</sub> )	mg/l	
Calcium, dissolved	mg/l	
Magnesium, dissolved	mg/l	
Potassium, dissolved	mg/l	
Sodium, dissolved	mg/l	
Chloride	mg/l	
Fluoride	mg/l	
Silica	mg/l	
Sulfate	mg/l	
Total Dissolved Solids	mg/l	
Total Suspended Solids	mg/l	
pH, Lab	s.u.	
E.C., Lab	µS/cm	
<b>Nutrients</b>		
Phosphorus, total as P	mg/l	
Nitrate as N, dissolved	mg/l	
Nitrite as N, dissolved	mg/l	
Nitrate/Nitrite as N, dissolved	mg/l	
Nitrogen, ammonia	mg/l	
<b>Metals</b>		
Aluminum, dissolved	mg/l	
Antimony, dissolved	mg/l	
Arsenic, dissolved	mg/l	
Barium, dissolved	mg/l	
Beryllium, dissolved	mg/l	
Cadmium, dissolved	mg/l	
Chromium, dissolved	mg/l	
Copper, dissolved	mg/l	
Iron, dissolved	mg/l	FB
Lead, dissolved	mg/l	FB
Manganese, dissolved	mg/l	
Mercury, dissolved	mg/l	
Molybdenum, dissolved	mg/l	
Nickel, dissolved	mg/l	
Selenium, dissolved	mg/l	
Silver, dissolved	mg/l	
Strontium, dissolved	mg/l	
Thallium, dissolved	mg/l	
Uranium, total	mg/l	
Vanadium, dissolved	mg/l	
Zinc, dissolved	mg/l	
<b>Radiological</b>		
Gross Alpha, total	pCi/l	
Gross Beta, total	pCi/l	
Radium 226, total	pCi/l	
Radium 228, total	pCi/l	
Thorium 228, total	pCi/l	
Thorium 230, total	pCi/l	
Thorium 232, total	pCi/l	
<b>QC</b>		
Sum of Anions	meq/l	
Sum of Cations	meq/l	
Cation-Anion Balance	%	
TDS (calculated)	mg/l	
TDS (ratio - measured/calculated)	Unitless	
<b>Field Parameters</b>		
Temperature, Field	deg C	
pH, Field	s.u.	
E.C., Field, 25C	µS/cm	
Depth to Water	ft	
Water Elevation	ft	



Groundwater Monitoring Results - MW96-7B Cumulative Water Quality

Station Name Field Sample ID Lab Sample ID Sample Date	Units	MW96-7B MW96-7B-15-3 L26231-02 8/19/2015			MW96-7B MW96-7B-15-4 L27662-02 11/4/2015			MW96-7B MW96-7B-16-1 L29132-01 2/23/2016			MW96-7B MW96-7B-160322 L29580-01 3/22/2016			MW96-7B MW96-7B-160420 L30028-01 4/20/2016			MW96-7B MW96-7B-16-2 L30615-01 5/19/2016			Utah Groundwater Quality Standard <sup>(1)</sup>	Background Levels						
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC		Standard <sup>(2)</sup> Mean (x)	Deviation (std) <sup>(2)</sup>	Maximum Background <sup>(3)</sup> Concentration				
<b>Major Ions + Indicator Parameters</b>																											
Alkalinity (as CaCO <sub>3</sub> )	mg/l	398			439			446			427			406			418			-----	-----	-----					
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l																			-----	-----	-----					
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	398			439			446			427			406			418			-----	-----	-----					
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		-----	-----	-----					
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		-----	-----	-----					
Hardness (as CaCO <sub>3</sub> )	mg/l	1,050			1,250			1,310			1,250			1,200			1,070			-----	-----	-----					
Calcium, dissolved	mg/l	271			323			344			324			303			267			-----	-----	-----					
Magnesium, dissolved	mg/l	91.3			107			110			108			107			98.1			-----	-----	-----					
Potassium, dissolved	mg/l	12.9			13.6			13.3			13.1			13.4			13.2			-----	-----	-----					
Sodium, dissolved	mg/l	89.6			86.1			77.7			76			80.9			84			-----	-----	-----					
Chloride	mg/l	20			22.4			25.6			25.8			25.6			24			-----	-----	-----					
Fluoride	mg/l	0.35			0.32			0.33		B	0.25			0.39		B	0.29		B	4.0	0.679	0.242	2.0 (a)				
Silica	mg/l	9.5			10			9.1			8.8			8.9			8.3			-----	-----	-----					
Sulfate	mg/l	828			945		J	1,130			1,050			951			879			-----	-----	-----					
Total Dissolved Solids	mg/l	1,660			1,870			1,950			2,040			1,810			1,700			10,000	604.8	219.6	756.0 (a)				
Total Suspended Solids	mg/l	46			225			29			30			40			78			-----	-----	-----					
pH, Lab	s.u.	8.0	H	J	7.8	H	J	8.0	H	J	7.9	H	J	7.8	H	J	7.9	H	J	6.5 - 8.5	8.246	0.313	6.5 - 8.5 (a)				
E.C., Lab	µS/cm	1,680			1,870			2,310			2,310			2,210			2,040			-----	-----	-----					
<b>Nutrients</b>																											
Phosphorus, total as P	mg/l	0.01	B		0.19			<0.02	U		<0.02	U		<0.02	U		<0.02	U	0.05	n/a	n/a	n/a (j)					
Nitrate as N, dissolved	mg/l	<0.02	U	H	J	0.03	B	H	J	<0.02	U	H	J	0.05	B	H	J	0.02	B	H	J	<0.02	U	10.0	0.196	0.440	5.0 (a)
Nitrite as N, dissolved	mg/l	<0.01	U	H	J	<0.01	U	H	J	<0.01	U	H	J	<0.01	U	H	J	0.03	B	H	J	0.01	B	1.0	0.011	0.016	0.50 (a)
Nitrate/Nitrite as N, dissolved	mg/l	<0.02	U	H	J	0.03	B	H	J	<0.02	U	H	J	0.05	B	H	J	0.05	B	H	J	<0.02	U	10.0	1.84217	8.31956	5.0 (c)
Nitrogen, ammonia	mg/l	0.2			0.15	B	J	0.23			0.11	B		0.12	B		<0.05	U		-----	-----	-----					
<b>Metals</b>																											
Aluminum, dissolved	mg/l	<0.03	U		0.1	B		0.08	B		<0.06	U		0.03	B		0.04	B		-----	-----	-----					
Antimony, dissolved	mg/l	<0.0004	U		0.0007	B		<0.0004	U		<0.0008	U		<0.0004	U		<0.0004	U	0.006	0.0020	0.0015	0.0060 (a)					
Arsenic, dissolved	mg/l	0.0011			0.0265	B		0.0003	B		0.001	B		0.0004	B		0.0016		0.05	0.091	0.127	0.314 (a)					
Barium, dissolved	mg/l	0.008	B		0.01	B		0.009	B		0.011	B		0.006	B		0.009	B	2.0	0.134	0.182	1.0 (a)					
Beryllium, dissolved	mg/l	<0.00005	U		<0.00005	U		<0.00005	U		<0.0001	U		<0.00005	U		<0.00005	U	0.004	0.0008	0.0004	0.002 (a)					
Cadmium, dissolved	mg/l	<0.0001	U		<0.0001	U		<0.0001	U		<0.0002	U		<0.0001	U		<0.0001	U	0.005	0.001	0.003	0.0025 (a)					
Chromium, dissolved	mg/l	0.0006	B		0.0293			<0.0005	U		<0.001	U		<0.0005	U		<0.0005	U	0.1	0.002	0.001	0.050 (a)					
Copper, dissolved	mg/l	<0.01	U		0.02	B		<0.01	U		<0.02	U		<0.01	U		<0.01	U	1.3	0.008	0.006	0.650 (a)					
Iron, dissolved	mg/l	18.8			53.2			12			46.6			59.4			51.3			-----	-----	-----					
Lead, dissolved	mg/l	<0.0001	U		0.0008			<0.0001	U		<0.0002	U		<0.0001	U		<0.0001	U	0.015	0.0026	0.0024	0.015 (a)					
Manganese, dissolved	mg/l	0.424			0.745			0.51			0.69			0.699			0.596			-----	-----	-----					
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U	0.002	0.00057	0.00219	0.002 (a)					
Molybdenum, dissolved	mg/l	<0.02	U		<0.02	U		<0.02	U		<0.04	U		<0.02	U		<0.02	U		-----	-----	-----					
Nickel, dissolved	mg/l	<0.008	U		0.05			<0.008	U		0.03	B		<0.008	U		<0.008	U		-----	-----	-----					
Selenium, dissolved	mg/l	<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U	0.05	0.005	0.012	0.050 (a)					
Silver, dissolved	mg/l	<0.00005	U		<0.0005	U		<0.00005	U		<0.0001	U		<0.00005	U		<0.00005	U	0.1	0.053	0.122	0.100 (a)					
Strontium, dissolved	mg/l																										
Thallium, dissolved	mg/l	<0.0001	U		<0.0001	U		<0.0001	U		<0.0002	U		<0.0001	U		<0.0001	U	0.002	0.0009	0.0014	0.002 (a)					
Uranium, total	mg/l	0.0039			0.1149			0.0106			0.0066			0.0036			0.0007		0.03	0.001	0.001	0.03 (a)					
Vanadium, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		<0.01	U		<0.005	U		<0.005	U		-----	-----	-----					
Zinc, dissolved	mg/l	<0.01	U		0.09			<0.01	U		<0.02	U		<0.01	U		<0.01	U	5.0	0.021	0.036	2.5 (a)					
<b>Radiological</b>																											
Gross Alpha, total	pCi/l	1.7±9.3			140±28			15±12			14±8.1			13±8.9			12±8.8		15	25.3	40.7	128.1 (a)					
Gross Beta, total	pCi/l	26±13			63±13			26±9.2			23±9.8			30±11			32±11		8 <sup>(4)</sup>	30.3	46.8	112.5 (a)					
Radium 226, total	pCi/l																										
Radium 228, total	pCi/l																										
Thorium 228, total	pCi/l																										
Thorium 230, total	pCi/l																										
Thorium 232, total	pCi/l																										
<b>QC</b>																											
Sum of Anions	meq/l	26			29			33			31			29			28										
Sum of Cations	meq/l	26			32			31			31			31			28										
Cation-Anion Balance	%	0			4.9			-3.1			0			3.3			0										
TDS (calculated)	mg/l	1,590			1,830			2,000			1,920			1,800			1,680										
TDS (ratio - measured/calculated)	Unitless	1.04			1.02			0.98			1.06			1.01			1.01										
<b>Field Parameters</b>																											
Temperature, Field	deg C	14			11.5			7.5			11.4			14.3			14.8										
pH, Field	s.u.	6.93			7.10			6.82			6.93			7.47			7.55										
E.C., Field, 25C	µS/cm	2,250			3,890			2,680			1,096			802			1,826										
Depth to Water	ft	915.57			911.45			896.98			699.49			699.56			699.45										
Water Elevation	ft	5,532.73			5,536.85			5,551.32			5,748.81			5,748.74			5,748.85										

Groundwater Monitoring Results - MW97-9 Cumulative Water Quality

Station Name	Units	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	
Field Sample ID		MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	
Lab Sample ID		97-U010611	97-U010933	97-U011268	97-U013067	98-U001068	98-U002603	98-U003961	98-U007042	98-U007042	98-U007042	98-U007042	98-U007042	98-U007042	98-U007042	98-U007042	98-U007042	
Sample Date		9/17/1997	9/27/1997	10/6/1997	11/20/1997	2/10/1998	4/2/1998	5/19/1998	8/20/1998	8/20/1998	10/16/1998	11/1/1998	11/21/1998	5/18/1999	11/10/1999	5/7/2000	11/15/2000	5/9/2001
		Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC
<b>Major Ions + Indicator Parameters</b>																		
Alkalinity (as CaCO <sub>3</sub> )	mg/l	338	319	311	318	290	285	283	271	278			275	264	258	249	249	248
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l													232.1	254.3	253.4		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	325.6	319	310.8	311.7	285.4	273.1	271.5	271.5	277.2			274.8	264.1	257.5	249.3	204.2	217.3
Carbonate (as CaCO <sub>3</sub> )	mg/l	11.7	<1.0 U	1.7	6.7	5	3.3	3.3	<3.3 U	<3.3 U			<1.7 U	<1.7 U	1.7	<3.3 U	<2 U	<2 U
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<2.9 U	5.9	5.9	<5.9 U	<5.9 U			<2.9 U	<2.9 U	2.9	<5.9 U	<2 U	<2 U
Hardness (as CaCO <sub>3</sub> )	mg/l	104	109	118	110	99	103	98	110	106			128	118	112	123	131	141
Calcium, dissolved	mg/l	26.9	26.7	27.2	27.1	22.9	22.1	21.9	24.3	22.9			27.5	26	25	26	28.2	30.7 FB
Magnesium, dissolved	mg/l	11.3	12.5	12.4	12.5	10.4	10.4	10.5	11.9	11.9			14.5	13	12	14	14.6	15.6 FB
Potassium, dissolved	mg/l	7.8	7.4	7.1	7.6	6.6	6.52 J	6.3	6.4 J	6.9			6.6	6.5	5.3	6	6	6.3 FB
Sodium, dissolved	mg/l	168	147	150	148	140	137	127	114	113			119	110	90	100	99.4	98.4 FB
Chloride	mg/l	13.5	11.7	10	11.7	9.8	10.8	10	9	8			8	9	7	8	7	9
Fluoride	mg/l	0.92	0.87	0.85	0.78	0.78	0.87	0.8	0.8	0.8			0.8	0.8	0.73	0.75356	1	0.9
Silica	mg/l	12.6	12.6	11.8	13.9	12.9	9.8	8.3	12.6	11.6			11.6	10.9	10.9	12.4	13.6	13.4 FB
Sulfate	mg/l	190	161	157	144	128	137	126	122	104			106	94	95	81	80 FB	90
Total Dissolved Solids	mg/l	816	664	648	644	532	528	548	624	524			452 J	408	448	396	390	410
Total Suspended Solids	mg/l	343	570	494	910	756	399	275	108	66			125 J	72	180 J	223 J	126	28 FB
pH, Lab	s.u.	7.8	7.6	7.5	7.5	7.5 J	7.4 J	7.7 J	7.9 J	7.4 J			7.7 J	7.67 J	7.54 J	7.54 J	7.9 J	7.8 J
E.C., Lab	µS/cm	1,068	970	962	893	834	835	816	808	1,000			733	696	670	640	605	629
<b>Nutrients</b>																		
Phosphorus, total as P	mg/l																	
Nitrate as N, dissolved	mg/l	0.08	0.1	<0.08 U	<0.08 U	<0.08 U	0.1	<0.2 U	<0.1 U J	0.1			<0.1 U	<0.1 U	<0.0 U	0.3	0.38 FB	<0.1 U
Nitrite as N, dissolved	mg/l	0.012	0.048	0.094	0.08	<0.005 U J	<0.005 U J	<0.01 U	0.08 J	<0.005 U J			<0.005 U J	<0.005 U	<0.0 U J	<0.005 U	<0.01 U J	<0.05 U
Nitrate/Nitrite as N, dissolved	mg/l	0.08	0.15	0.13	<0.08 U	<0.08 U	0.1	<0.2 U	<0.2 U J	0.1			<0.1 U	<0.1 U	<0.0 U	0.3	0.38 FB	<0.1 U
Nitrogen, ammonia	mg/l	0.3	0.28	0.28	0.51	0.55	0.55	<0.4 U	0.3	0.3			0.2	0.3 J	0.2 J	<0.2 U	0.1 B	0.14 B
<b>Metals</b>																		
Aluminum, dissolved	mg/l	0.32	0.04	<0.03 U	<0.03 U	<0.03 U	0.03	<0.08 U	<0.03 U	<0.04 U J			<0.03 U	<0.03 U	0.11 J	0.03	<0.03 U	<0.03 U
Antimony, dissolved	mg/l	<0.002 U	0.007	<0.01 U	<0.004 U	<0.004 U	0.002	<0.002 U J	<0.002 U J	<0.002 U J			<0.002 U	0.008 J	0.004 FB	0.0017 FB J	<0.002 U	<0.002 U
Arsenic, dissolved	mg/l	0.01	0.008	0.009	0.011	0.007	0.009	0.007	<0.005 U	<0.005 U			<0.005 U	<0.005 U	<0.005 U	0.0012	<0.001 U	<0.001 U
Barium, dissolved	mg/l	0.193	0.216	0.193	0.207	0.154	0.146 J	0.149	0.123	0.121			0.112	0.1	0.48 J	0.49 J	0.518	0.444 FB
Beryllium, dissolved	mg/l	<0.001 U	<0.001 U	<0.005 U	<0.001 U	<0.001 U	0.001	0.001	<0.001 U	<0.001 U			<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.0002 U	<0.0001 U
Cadmium, dissolved	mg/l	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	0.001	0.001	<0.001 U	<0.001 U			<0.001 U	<0.001 U	<0.001 U	<0.0005 U	<0.0002 U	<0.0001 U
Chromium, dissolved	mg/l	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.005	<0.005 U	<0.005 U	<0.005 U			<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.0005 B	0.0004 B FB
Copper, dissolved	mg/l	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	0.01	0.01	<0.01 U	<0.01 U			<0.01 U	0.01 FB	<0.01 U J	<0.01 U	<0.01 U	<0.01 U
Iron, dissolved	mg/l	0.188	<0.02 U	0.076	0.169	0.392	0.409	0.43	<0.02 U	<0.02 U			0.2	0.27	0.15	0.17	0.33	0.01 B
Lead, dissolved	mg/l	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.005	0.005	<0.005 U J	<0.005 U			<0.005 U	<0.005 U	<0.005 U	<0.0005 U	0.001 B	<0.001 U
Manganese, dissolved	mg/l	0.048	0.243	0.246	0.448	0.421	<0.44 U	<0.35 U	0.24	0.23			0.18	0.12	0.1	0.11	0.12	0.067 FB
Mercury, dissolved	mg/l	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U	0.0002	0.0002	<0.0006 U	<0.0002 U J			<0.0002 U	0.0003 B FB	<0.0002 U J	<0.0002 U	<0.0002 U	<0.0002 U
Molybdenum, dissolved	mg/l	0.11	0.126	0.142	0.134	0.07	0.067	0.06	0.01 J	<0.02 U			<0.01 U	<0.01 U	0.01	<0.01 U	<0.01 U	<0.01 U
Nickel, dissolved	mg/l	0.014	0.013	<0.01 U	<0.01 U	<0.01 U	0.014	0.01	<0.01 U	<0.01 U			<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
Selenium, dissolved	mg/l	0.004	<0.004 U	<0.008 U	<0.004 U	<0.002 U	0.002	0.002	<0.002 U J	<0.002 U			<0.002 U	0.007	<0.002 U	0.0005	<0.001 U	<0.001 U
Silver, dissolved	mg/l	<0.0005 U	<0.0005 U	<0.0005 U	<0.0005 U	<0.5 U	0.0005	<0.0005 U	<0.0005 U	<0.0005 U			<0.0005 U	<0.0005 U	<0.0005 U	<0.0005 U	<0.0001 U	<0.0005 U
Strontium, dissolved	mg/l																	
Thallium, dissolved	mg/l	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U J	<0.001 U	<0.001 U J	0.001			<0.002 U	<0.001 U	<0.001 U J	<0.0005 U	<0.0001 U	<0.0005 U
Uranium, total	mg/l	0.01	0.01	0.0087	0.0026087	0.001	<0.001 U	<0.001 U	<0.001 U J	<0.001 U J			<0.001 U J	<0.001014 U	0.01 FB	<0.001014 U	0.0006 B	0.0003
Vanadium, dissolved	mg/l	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	0.01	0.01	<0.01 U	<0.01 U			<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.005 U	<0.005 U
Zinc, dissolved	mg/l	0.111	0.019	0.02	<0.01 U	<0.01 U	0.01	0.01	<0.01 U	<0.01 U			<0.01 U	0.01 FB	0.02 FB J	0.01 J	0.08 FB	0.01
<b>Radiological</b>																		
Gross Alpha, total	pCi/l	277±49.9	67.2±13.5	18±8	14.4±3.6	13.1±3.2 J	5.1±2.6	3±1.7	9±2.3	1.3±0.9			0.3±1.4 J	7.8±2.1	5.1±4.9	37±10.7	2.1±4.9 J	3.6±3.2 FB
Gross Beta, total	pCi/l	237±28.2	57.3±13.5	32±8	7.4±1.8	20±1.8	27.2±2.7	10±1.5	14±2.3	8±1.7 J			7±1.4 J	20.2±1.9	8.8±4.2	31.5±2.5 FB	15±3.9 J	7.8±3.8
<b>QC</b>																		
Sum of Anions	meq/l	10.82	9.73	9.27	9.4									6.89	7.3	7.02		
Sum of Cations	meq/l	9.82	8.95	9.09	9.02									7.33	6.31	6.96		
Cation-Anion Balance	%	4.8	4.18	0.99	2.07									3.1	7.27	0.4		
TDS (calculated)	mg/l																	
TDS (ratio - measured/calculated)	Unitless																	
<b>Field Parameters</b>																		
Temperature, Field	deg C	22.1	19	20.2	15.2	18.5	18.7	18.8	18.8	17.6				19.8	18.5	18.8	17.1	18.2
pH, Field	s.u.	8.09	8	7.91	7.69	7.72	7.63	7.59	7.67	7.48				8.07	7.93	7.76	7.96	7.68
E.C., Field, 25C	µS/cm	993	1025	988	961	591	430	417	495	501				664	466	477	431	611
Depth to Water	ft	966.5				985.6	986.42	986.53	986.49	986.01				985.45	985.64	985.26	985.24	982.89
Water Elevation	ft	5,557.40				5,538.30	5,537.48	5,537.37	5,537.41	5,537.89				5,538.45	5,538.26	5,538.64	5,538.66	5,541.01

Groundwater Monitoring Results - MW97-9 Cumulative Water Quality

Station Name	Units	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9				
Field Sample ID		MW97-9-01-02	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9	MW97-9-07-4	MW97-9-08-4	MW97-9-09-4	MW97-9-10-4	MW97-9-11-4	MW97-9-12-4	MW97-9-13-4	MW97-9-14-3	MW97-9-15-3				
Lab Sample ID		L34914-02	L38903-08	L43331-08	L48197-10	L53966-09	L55728-04	L57184-02	L65591-02	L72720-04	L79137-02	L85105-05	L92284-02	L97917-03	L15893-04	L20070-05	L26182-02					
Sample Date		11/14/2001	10/8/2002	10/7/2003	10/7/2004	10/26/2005	3/16/2006	6/14/2006	10/9/2007	10/28/2008	10/27/2009	10/27/2010	12/8/2011	11/14/2012	12/4/2013	8/18/2014	8/18/2015					
Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC		
<b>Major Ions + Indicator Parameters</b>																						
Alkalinity (as CaCO <sub>3</sub> )	mg/l	226		248		228		231		244		240		248		241		228		231		
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l																					
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	226		248		228		231		244		240		247		240		228		227		
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	4	B	<2		
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2		
Hardness (as CaCO <sub>3</sub> )	mg/l	134		127		147		132		142		140		138		127		124		140		
Calcium, dissolved	mg/l	29.5		27.6		32.2		28.7		33.4		30.3		30.2		27.3		26.7		30.7		
Magnesium, dissolved	mg/l	14.7		14		16.1		14.7		14.2		15.7		15.3		14.3		13.9		15.4		
Potassium, dissolved	mg/l	6.4		6.2		6		5.9		5.9		6		6		6.3		5.9		6.8		
Sodium, dissolved	mg/l	88.8		86.1		73.6		81.8		77.4		76.1		74.7		73.4		67.6		63.6		
Chloride	mg/l	6	FB	7		6		7		7		6		7		7		6		6		
Fluoride	mg/l	0.2	FB	1		0.9		0.7		0.7		0.8		0.8		0.7		0.7		0.7		
Silica	mg/l	13.3		12.9		13.5		13		12.4		14.2		12.9		12.8		16		12.8		
Sulfate	mg/l	80	FB	70		70		70		50		60		60		50		70		70		
Total Dissolved Solids	mg/l	380		360		330		360		330		320		320		320		340		330		
Total Suspended Solids	mg/l	24		46		10		38	H	1,730	J	36		12	B	316		1,410		1,840		
pH, Lab	s.u.	7.9		7.7	H	8.2		7.4		8.2	H	8.1		8.3		8.3	H	8.3	H	8.3		
E.C., Lab	µS/cm	267		627		617		551		595		552		575		551		562		539		
<b>Nutrients</b>																						
Phosphorus, total as P	mg/l																			0.46		
Nitrate as N, dissolved	mg/l	0.03	B	FB	<0.02	U	0.02	B	FB	0.05	B	<0.02	U	0.29	FB	<0.02	U	0.05	B	0.04		
Nitrite as N, dissolved	mg/l	<0.01	U	H	<0.01	U	H	<0.01	U	H	<0.01	U	H	<0.01	U	H	<0.01	U	<0.01	U	<0.01	
Nitrate/Nitrite as N, dissolved	mg/l	0.03	B	FB	<0.02	U	H	0.02	B	H	FB	0.05	B	H	FB	<0.02	U	H	0.05	B	H	
Nitrogen, ammonia	mg/l	0.16	B		0.06	B		0.13	B		0.14	B		0.07	B		0.13	B		<0.05	U	
<b>Metals</b>																						
Aluminum, dissolved	mg/l	<0.03	U	<0.03	U	<0.03	U	<0.03	U	0.09	B	<0.03	U	<0.03	U	J	0.05	B	0.52	J	0.13	
Antimony, dissolved	mg/l	<0.002	U	<0.002	U	0.0004	B	<0.0002	U	0.0005	B	<0.0004	U	<0.0004	U	<0.0004	U	0.0007	B	<0.0004	U	
Arsenic, dissolved	mg/l	<0.001	U	<0.001	U	0.0008		<0.0005	U	0.002	B	0.0006	B	<0.0005	U	0.0011		0.0015	B	0.0008	B	
Barium, dissolved	mg/l	0.091		0.08		0.082		0.081		0.142		0.09		0.079		0.088		0.091		0.119		
Beryllium, dissolved	mg/l	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	
Cadmium, dissolved	mg/l	<0.0001	U	<0.0001	U	<0.0001	U	0.0001	B	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	
Chromium, dissolved	mg/l	0.0006	FB	0.0001	B	FB	0.0003	B	FB	0.0006	B	0.0005	J	0.0004	B	FB	0.0006	B	0.0001	B	J	
Copper, dissolved	mg/l	<0.01	U	<0.01	U	<0.01	U	<0.01	U	0.01	B	J	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U
Iron, dissolved	mg/l	0.22		0.2		0.33		0.34		0.16	J	0.36		0.25		0.29		0.63		0.24		
Lead, dissolved	mg/l	<0.001	U	<0.001	U	<0.0001	U	<0.0001	U	0.001	J	<0.0001	U	<0.0001	U	0.0001	B	J	0.0009	0.0011		
Manganese, dissolved	mg/l	0.07		0.057		0.079		0.08		0.107		0.074		0.054	J	0.065		0.093		0.078		
Mercury, dissolved	mg/l	<0.0002	U	<0.0002	U	<0.0002	U	0.0003	B	FB	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	
Molybdenum, dissolved	mg/l	<0.01	U	<0.01	U	<0.01	U	<0.01	U	0.02	B	<0.01	U	<0.01	U	<0.01	U	<0.01	U	0.02	B	
Nickel, dissolved	mg/l	<0.01	U	<0.01	U	<0.01	U	<0.01	U	0.02	B	<0.01	U	<0.01	U	<0.01	U	<0.05	U	0.02	B	
Selenium, dissolved	mg/l	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	
Silver, dissolved	mg/l	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	
Strontium, dissolved	mg/l					1.62																
Thallium, dissolved	mg/l	<0.00005	U	<0.00005	U	<0.00005	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	
Uranium, total	mg/l	0.00025		0.00036		0.00026	B	FB	0.0003		0.0041		0.0003	B		0.0007		0.0033		0.0072		
Vanadium, dissolved	mg/l	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	0.014	B	
Zinc, dissolved	mg/l	0.01	B	<0.01	U	0.02	B	FB	<0.01	U	0.07	<0.01	U	0.06	FB	<0.01	U	0.12	B	FB		
<b>Radiological</b>																						
Gross Alpha, total	pCi/l	10.9±4.8	FB	3.27±2.9	FB	0.85±2.1		0±3		82±19		4.3±3.2	FB	2.3±3.5	FB	9±3.5		32±10		46±14		
Gross Beta, total	pCi/l	11.8±3.6	FB	6.28±3.4		4.68±3.3		8.24±3.7	FB	110±13	J	4.9±3.1		5.1±3.6		13±3.5		89±11		120±16		
<b>QC</b>																						
Sum of Anions	meq/l	6.5		6.6		6.2		6.3		6.5		6		6.4		6		5.8		6.3		
Sum of Cations	meq/l	6.7		6.5		6.3		6.4		6.4		6.3		6.2		5.9		5.7		5.8		
Cation-Anion Balance	%	1.5		0		0.8		0.8		0.8		2.4		1.6		-0.8		-0.9		-4.1		
TDS (calculated)	mg/l	379		374		356		363		368		345		355		336		326		347		
TDS (ratio - measured/calculated)	Unitless	1		0.96		0.93		0.99		0.9		0.93		0.9		0.95		1.04		0.95		
<b>Field Parameters</b>																						
Temperature, Field	deg C	18.7		20.4		19.9		15.8		22.3		16.6		21.5		19.6		18.6		19.6		
pH, Field	s.u.	7.67		7.87		7.17		7.17		7.14		8.3		7.93		7.36		7.41		7.59		
E.C., Field, 25C	µS/cm	668		630		585		585		585		485		531		585		537		537		
Depth to Water	ft	985.77		985.62		985.9		986.13		986.2		986.74		986.13		987.1		986.85		988.65		
Water Elevation	ft	5,538.13		5,538.28		5,538.00		5,537.77		5,537.70		5,537.16		5,537.80		5,536.80		5,537.05		5,535.25		



Groundwater Monitoring Results - MW97-9 Cumulative Water Quality

Station Name Field Sample ID Lab Sample ID Sample Date	Units	MW97-9			MW97-9			Utah Groundwater Quality Standard <sup>(1)</sup>	Background Levels		
		MW97-9-16-3			MW97-9-18-3				Mean <sup>(2)</sup> (x)	Standard Deviation (std) <sup>(2)</sup>	Maximum Background <sup>(3)</sup> Concentration
		Result	FC	VC	Result	FC	VC				
<b>Major Ions + Indicator Parameters</b>											
Alkalinity (as CaCO <sub>3</sub> )	mg/l	218			223			-----	-----	-----	-----
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l							-----	-----	-----	-----
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	210			223			-----	-----	-----	-----
Carbonate (as CaCO <sub>3</sub> )	mg/l	8.2	B		<2	U		-----	-----	-----	-----
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		-----	-----	-----	-----
Hardness (as CaCO <sub>3</sub> )	mg/l	141			146			-----	-----	-----	-----
Calcium, dissolved	mg/l	31			31.6			-----	-----	-----	-----
Magnesium, dissolved	mg/l	15.4			16.3			-----	-----	-----	-----
Potassium, dissolved	mg/l	5.4			5.5			-----	-----	-----	-----
Sodium, dissolved	mg/l	50.1			50.8			-----	-----	-----	-----
Chloride	mg/l	10.6			9.5			-----	-----	-----	-----
Fluoride	mg/l	0.71			0.73		4.0	0.798	0.159	2.0	(c)
Silica	mg/l	11.6			12.3			-----	-----	-----	-----
Sulfate	mg/l	29.7			36.4			108.2	34.3	176.8	(d)
Total Dissolved Solids	mg/l	294			288		10,000	488.9	129.1	746.97	(i)
Total Suspended Solids	mg/l	327			488			-----	-----	-----	-----
pH, Lab	s.u.	8.4	H	J	8.2	H	J	6.5 - 8.5	0.832	6.5 - 8.5	(e)
E.C., Lab	µS/cm	476			497			-----	-----	-----	-----
<b>Nutrients</b>											
Phosphorus, total as P	mg/l	0.14			0.16		0.05	n/a	n/a	n/a	(j)
Nitrate as N, dissolved	mg/l	0.04	B	H	<0.02	U	10.0	0.119	0.129	5.0	(c)
Nitrite as N, dissolved	mg/l	<0.01	U	H	<0.01	U	1.0	0.019	0.029	0.5	(c)
Nitrate/Nitrite as N, dissolved	mg/l	0.04	B	H	<0.02	U	10.0	0.128	0.127	5.0	(c)
Nitrogen, ammonia	mg/l	<0.05	U		<0.05	U		-----	-----	-----	-----
<b>Metals</b>											
Aluminum, dissolved	mg/l	<0.03	U		<0.03	U		-----	-----	-----	-----
Antimony, dissolved	mg/l	<0.0004	U		<0.0004	U	0.006	0.002	0.002	0.006	(d)
Arsenic, dissolved	mg/l	<0.0002	U		<0.0002	U	0.05	0.004	0.004	0.025	(c)
Barium, dissolved	mg/l	0.103			0.107		2.0	0.214	0.145	1.000	(c)
Beryllium, dissolved	mg/l	<0.00005	U		<0.00005	U	0.004	0.0005	0.0005	0.0020	(c)
Cadmium, dissolved	mg/l	<0.0001	U		<0.0001	U	0.005	0.0004	0.0003	0.0025	(c)
Chromium, dissolved	mg/l	<0.0005	U		<0.0005	U	0.1	0.002	0.001	0.050	(c)
Copper, dissolved	mg/l	<0.01	U		<0.01	U	1.3	0.006	0.002	0.650	(c)
Iron, dissolved	mg/l	<0.02	U		<0.02	U		-----	-----	-----	-----
Lead, dissolved	mg/l	<0.0001	U		<0.0001	U	0.015	0.002	0.002	0.0075	(c)
Manganese, dissolved	mg/l	0.017	B		0.017	B		-----	-----	-----	-----
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U	0.002	0.00014	0.00007	0.001	(c)
Molybdenum, dissolved	mg/l	<0.02	U		<0.02	U		-----	-----	-----	-----
Nickel, dissolved	mg/l	<0.008	U		<0.008	U		-----	-----	-----	-----
Selenium, dissolved	mg/l	0.0001	B		0.012	J	0.05	0.002	0.002	0.025	(c)
Silver, dissolved	mg/l	<0.003	U		<0.0005	U	0.1	0.048	0.101	0.2488	(d)
Strontium, dissolved	mg/l							-----	-----	-----	-----
Thallium, dissolved	mg/l	<0.0001	U		<0.0001	U	0.002	0.000	0.000	0.001	(d)
Uranium, total	mg/l	0.0006	B		0.0008		0.03	0.002	0.002	0.015	(c)
Vanadium, dissolved	mg/l	<0.005	U		<0.005	U		-----	-----	-----	-----
Zinc, dissolved	mg/l	<0.01	U		<0.01	U	5.0	0.018	0.027	2.5	(c)
<b>Radiological</b>											
Gross Alpha, total	pCi/l	7.7±4.1			12±5		15	25.9	59.9	145.7	(d)
Gross Beta, total	pCi/l	38±5.8			26±4.9		8 <sup>(4)</sup>	28.0	49.5	127.1	(d)
<b>QC</b>											
Sum of Anions	meq/l	5.3			5.5						
Sum of Cations	meq/l	5.2			5.3						
Cation-Anion Balance	%	-1.0			-1.9						
TDS (calculated)	mg/l	291			302						
TDS (ratio - measured/calculated)	Unitless	1.01			0.95						
<b>Field Parameters</b>											
Temperature, Field	deg C	15.6			19.2						
pH, Field	s.u.	7.81			7.69						
E.C., Field, 25C	µS/cm	512			395						
Depth to Water	ft	992.49			994.05						
Water Elevation	ft	5,531.41			5,529.85						

Groundwater Monitoring Results - MW97-11 Cumulative Water Quality

Station Name	Units	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11		
Field Sample ID		MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11		
Lab Sample ID		97-U011609	97-U011268	97-U012136	98-U000997	98-U002604	98-U003907	98-U007038													
Sample Date		10/16/1997	10/20/1997	10/28/1997	2/9/1998	4/3/1998	5/18/1998	8/20/1998	10/16/1998	11/20/1998	5/18/1999	11/9/1999	00-U004030	129875-06	131974-03	134902-08	10/8/2002	10/7/2003			
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC		
<b>Major Ions + Indicator Parameters</b>																					
Alkalinity (as CaCO <sub>3</sub> )	mg/l	251			257			273			340			371			382			375	
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l																				
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	251			256.7			273.1			339.5			370.7			382.2			374.8	
Carbonate (as CaCO <sub>3</sub> )	mg/l	<1.0	U		<1.0	U		<1.0	U		<1.7	U		<3.3	U		<3.3	U		<3.3	U
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<1.0	U		<1.0	U		<1.0	U		<2.9	U		<5.9	U		<5.9	U		<5.9	U
Hardness (as CaCO <sub>3</sub> )	mg/l	206			205			223			212			115			118			104	
Calcium, dissolved	mg/l	55.8			54			60			53.4			29.5			30.9			26.8	
Magnesium, dissolved	mg/l	19			18.9			21.2			18.1			9.5			9.7			9.1	
Potassium, dissolved	mg/l	6.8			6.6			7			5.1			7.5	J		3.72			5.4	
Sodium, dissolved	mg/l	120			126			141			170			210			188			195	
Chloride	mg/l	88.7			95.4			103			121			136			134			139	
Fluoride	mg/l	0.56			0.55			0.56			0.61			0.8			0.7			0.6	
Silica	mg/l	17.2			16.9			18.4			22			18.8			19.3			25.9	
Sulfate	mg/l	115			128			128			83			6			27			10	
Total Dissolved Solids	mg/l	620			640			808			796			764			764			784	
Total Suspended Solids	mg/l	74			333			428			273			30			128			47	
pH, Lab	s.u.	7.3			7.4			7.2			6.9	J		6.4	J		6.4	J		6.6	
E.C., Lab	µS/cm	992			1,066			1,087			1,175			1,244			1,200			1,170	
<b>Nutrients</b>																					
Phosphorus, total as P	mg/l																				
Nitrate as N, dissolved	mg/l	0.11			<0.08	U		<0.08	U		<0.08	U		<0.1	U		<0.2	U		<0.1	
Nitrite as N, dissolved	mg/l	<0.005	U		0.02			0.007			<0.005	U		<0.006	U	J	<0.018	U		0.01	
Nitrate/Nitrite as N, dissolved	mg/l	0.11			0.09			<0.08	U		<0.08	U		<0.1	U	J	<0.2	U		0.1	
Nitrogen, ammonia	mg/l	<0.2	U		<0.2	U		<0.2	U		0.25			0.29			0.2			<0.2	
<b>Metals</b>																					
Aluminum, dissolved	mg/l	0.1			0.04			<0.03	U		<0.03	U		<0.03	U		<0.04	U		<0.03	
Antimony, dissolved	mg/l	<0.008	U		0.004			<0.004	U		<0.004	U		<0.01	U		0.01			<0.002	
Arsenic, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		0.023			<0.005	U		0.008			<0.005	
Barium, dissolved	mg/l	0.067			0.064			0.078			1.29			0.75	J		1.15			0.708	
Beryllium, dissolved	mg/l	<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		0.001			<0.001	
Cadmium, dissolved	mg/l	<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	
Chromium, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		0.005			<0.005	
Copper, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		0.01			<0.01	
Iron, dissolved	mg/l	0.061			<0.02	U		<0.02	U		15.7			0.88			12.3			1.96	
Lead, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	
Manganese, dissolved	mg/l	0.066			0.128			0.652			1.77			<1.01	U		<1.31	U		0.89	
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		0.00079			<0.0002	U		<0.0002	U		0.0002			<0.0002	
Molybdenum, dissolved	mg/l	<0.02	U		<0.02	U		<0.02	U		<0.02	U		<0.01	U		<0.03	U		<0.01	
Nickel, dissolved	mg/l	0.012			0.013			0.027			0.032			0.02			0.01			<0.03	
Selenium, dissolved	mg/l	<0.008	U		0.003			<0.002	U		<0.002	U		<0.002	U		0.002			<0.002	
Silver, dissolved	mg/l	<0.0005	U		<0.0005	U		<0.0005	U		<0.5	U		0.0039			0.0005			<0.0005	
Strontium, dissolved	mg/l																				
Thallium, dissolved	mg/l	<0.001	U		<0.001	U		<0.001	U		0.002			<0.001	U	J	<0.003	U		<0.001	
Uranium, total	mg/l	0.10087			0.111159			0.0001			0.01			0.0012			<0.0043	U		0.0038	
Vanadium, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	
Zinc, dissolved	mg/l	1.32			1.14			0.534			<0.01	U		0.02			0.01			<0.01	
<b>Radiological</b>																					
Gross Alpha, total	pCi/l	66±30.2			53.1±5.2			44±3.1			7.3±5.7			5.9±3.2			9±2.8			15±3.7	
Gross Beta, total	pCi/l	37.5±12.7			21.1±2.8			33±2.6			2.5±4.8			15.4±2.7			8.7±2			16±3.4	
Radium 226, total	pCi/l	1±0.3			2±0.4			1.36±0.2			2.6±0.3	J		1±0.2			0.7±0.2			1.1±0.3	
Radium 228, total	pCi/l	2.9±0.6			2.9±0.6			2.9±0.6			0.8±0.4			0.8±0.4			0.6±0.3			0.9±0.4	
Thorium 228, total	pCi/l																				
Thorium 230, total	pCi/l	2.5±0.9			2.1±0.8			0.42±0.1			0.8±0.7			1.8±0.8			1±1.4			0.4±0.5	
Thorium 232, total	pCi/l	0.6±0.4			0.7±0.4			0.17±0.1			0.1±0.1	J		0.5±0.4			0.5±0.5			0.5±0.3	
<b>QC</b>																					
Sum of Anions	meq/l	9.93			10.5			10.94												12.7	
Sum of Cations	meq/l	9.76			9.9			11.05												12.9	
Cation-Anion Balance	%	0.87			2.92			0.49												0.8	
TDS (calculated)	mg/l																			745	
TDS (ratio - measured/calculated)	Unitless																			0.98	
<b>Field Parameters</b>																					
Temperature, Field	deg C	16.2			13.7			14.4			16.1			16			17.3			17.5	
pH, Field	s.u.	7.43			7.54			7.42			6.76			6.5			6.64			6.61	
E.C., Field, 25C	µS/cm	1,041			1,039			1,165			1,450			606			940			1,110	
Depth to Water	ft	857.85			857.85			851.71			852.51			852.51			852.76			851.76	
Water Elevation	ft	5,748.95			5,748.95			5,755.09			5,754.29			5,754.04			5,755.04			5,755.04	

Groundwater Monitoring Results - MW97-11 Cumulative Water Quality

Station Name	Units	MW97-11		
Field Sample ID		MW97-11-04-1		
Lab Sample ID		L48197-12		
Sample Date		10/6/2004		
		Result	FC	VC
<b>Major Ions + Indicator Parameters</b>				
Alkalinity (as CaCO <sub>3</sub> )	mg/l	290		
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l			
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	290		
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U	
Hardness (as CaCO <sub>3</sub> )	mg/l	245		
Calcium, dissolved	mg/l	63.1		
Magnesium, dissolved	mg/l	21.3		
Potassium, dissolved	mg/l	6.3		
Sodium, dissolved	mg/l	157		
Chloride	mg/l	124		
Fluoride	mg/l	0.6		
Silica	mg/l	16.6		
Sulfate	mg/l	160		
Total Dissolved Solids	mg/l	710		
Total Suspended Solids	mg/l	62		
pH, Lab	s.u.	7.5		
E.C., Lab	µS/cm	1,150		
<b>Nutrients</b>				
Phosphorus, total as P	mg/l			
Nitrate as N, dissolved	mg/l	<0.02	U	
Nitrite as N, dissolved	mg/l	<0.01	U	
Nitrate/Nitrite as N, dissolved	mg/l	<0.02	U	
Nitrogen, ammonia	mg/l	0.07		
<b>Metals</b>				
Aluminum, dissolved	mg/l	<0.03	U	
Antimony, dissolved	mg/l	<0.0002	U	
Arsenic, dissolved	mg/l	0.0034		
Barium, dissolved	mg/l	0.059		
Beryllium, dissolved	mg/l	<0.0001	U	
Cadmium, dissolved	mg/l	<0.0001	U	
Chromium, dissolved	mg/l	0.0001		
Copper, dissolved	mg/l	<0.01	U	
Iron, dissolved	mg/l	0.73		
Lead, dissolved	mg/l	0.0002		
Manganese, dissolved	mg/l	0.421		
Mercury, dissolved	mg/l	<0.0002	U	
Molybdenum, dissolved	mg/l	0.01		
Nickel, dissolved	mg/l	0.01		
Selenium, dissolved	mg/l	<0.001	U	
Silver, dissolved	mg/l	<0.00005	U	
Strontium, dissolved	mg/l	2.2		
Thallium, dissolved	mg/l	<0.0001	U	
Uranium, total	mg/l	0.0107		
Vanadium, dissolved	mg/l	<0.005	U	
Zinc, dissolved	mg/l	1.94		
<b>Radiological</b>				
Gross Alpha, total	pCi/l	15.1±5.9		
Gross Beta, total	pCi/l	15.2±4.2		
Radium 226, total	pCi/l	0.76±0.4		
Radium 228, total	pCi/l	1.79±0.7		
Thorium 228, total	pCi/l	-0.29±0.16		
Thorium 230, total	pCi/l	0.29±0.55		
Thorium 232, total	pCi/l	0.18±0.48		
<b>QC</b>				
Sum of Anions	meq/l	12.7		
Sum of Cations	meq/l	12.2		
Cation-Anion Balance	%	2		
TDS (calculated)	mg/l	728		
TDS (ratio - measured/calculated)	Unitless	0.98		
<b>Field Parameters</b>				
Temperature, Field	deg C	15.3		
pH, Field	s.u.	6.52		
E.C., Field, 25C	µS/cm	1,590		
Depth to Water	ft	851.99		
Water Elevation	ft	5,754.81		

Groundwater Monitoring Results - MW97-11 Cumulative Water Quality

Station Name	Units	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	MW97-11	Utah	Background Levels			
Field Sample ID		MW97-11-05-1	MW97-11-06-1	MW97-11-07-1	MW97-11-07-4	MW97-11-08-4	MW97-11-09-4	MW97-11-10-4	MW97-11-11-4	MW97-11-12-4	MW97-11-13-4	MW97-11-14-3	MW97-11-15-3	MW97-11-16-3	MW97-11-18-3			Groundwater	Mean <sup>(2)</sup>	Standard	Maximum	
Lab Sample ID		L53966-08	L55722-01	L57184-01	L65591-01	L72744-01	L79137-01	L85105-03	L92284-01	L97917-01	L15893-05	L20104-05	L26181-04	L32433-01	L46503-01			Quality	(x)	(std) <sup>(2)</sup>	Background <sup>(3)</sup>	
Sample Date		10/26/2005	3/15/2006	6/14/2006	10/9/2007	10/28/2008	10/27/2009	10/27/2010	12/8/2011	11/14/2012	12/4/2013	8/19/2014	8/19/2015	8/16/2016	8/22/2018			Standard <sup>(1)</sup>				
<b>Major Ions + Indicator Parameters</b>																						
Alkalinity (as CaCO <sub>3</sub> )	mg/l	268	301	314	292	269	179	278	281	294	289	297	309	294	304							
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l																					
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	268	301	314	292	269	179	278	262	288	283	297	309	289	299							
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U	<2	U	<2	U	<2	U	19	B	6	B	5.0	B							
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U							
Hardness (as CaCO <sub>3</sub> )	mg/l	241	255	262	254	269	282	276	269	257	258	268	264	258	273							
Calcium, dissolved	mg/l	63.4	65.4	67.2	63.5	67.4	73	69.7	67.4	63.8	64.7	67.2	66.3	65.3	67.3							
Magnesium, dissolved	mg/l	20.1	22.2	22.8	23.1	24.5	24.2	24.7	24.5	23.7	23.4	24.3	23.9	23.1	25.5							
Potassium, dissolved	mg/l	6	6.5	6.6	7.1	7.2	7.2	7.4	7.2	6.8	6.8	6.6	6.6	6.4	7.0							
Sodium, dissolved	mg/l	167	161	174	154	169	166	165	155	153	152	154	140	147	150							
Chloride	mg/l	148	147	126	120	148	310	180	130	130	120	107	115	114	112							
Fluoride	mg/l	0.4	B	0.6	0.6	0.5	<0.1	U	0.4	B	0.6	0.7	0.55	0.59	0.55			4.0	0.660	0.108	2.0 (c)	
Silica	mg/l	15	17	16.1	16.2	17.2	13.3	15.2	19.8	16.8	16.6	16.9	15.3	15.1	16.3							
Sulfate	mg/l	140	140	160	150	140	120	140	160	150	150	170	150	156	177							
Total Dissolved Solids	mg/l	690	670	700	680	700	860	740	680	690	700	690	710	760	850	H	J	10,000	730.737	57.148	913.42 (h)	
Total Suspended Solids	mg/l	154	J	42	24	690	764	1,330	1,050	1,700	1,560	1,310	1,980	4,510	5,320							
pH, Lab	s.u.	7.9	H	7.9	H	8.1	H	8.2	H	8.5	H	8.3	H	8.3	H			6.5 - 8.5	7.005	0.423	6.5 - 8.5 (e)	
E.C., Lab	µS/cm	1,200		1,180		1,250		1,170		1,140		1,530		1,190								
<b>Nutrients</b>																						
Phosphorus, total as P	mg/l									0.78		0.61		0.56		1.61		0.05	n/a	n/a	n/a (j)	
Nitrate as N, dissolved	mg/l	<0.02	U	0.5	FB	0.22	H	FB	0.03	B	0.13	FB	0.04	B	<0.02	U	H	10.0	0.089	0.117	5.0 (c)	
Nitrite as N, dissolved	mg/l	<0.01	U	0.1	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	1.0	0.007	0.006	0.5 (c)	
Nitrate/Nitrite as N, dissolved	mg/l	<0.02	U	0.5	H	FB	0.22	H	FB	0.03	B	0.13	U	0.04	B	<0.02	U	10.0	0.095	0.116	5.000 (c)	
Nitrogen, ammonia	mg/l	<0.05	U	<0.05	U	<0.05	U	<0.05	U	0.52		0.05	B	<0.05	U	<0.05	U					
<b>Metals</b>																						
Aluminum, dissolved	mg/l	<0.03	U	0.03	B	<0.03	U	J	0.04	B	<0.03	U	1.12	0.13	B	FB	<0.03	U	0.01	0.002	0.002	0.0070 (d)
Antimony, dissolved	mg/l	<0.0004	U	<0.0004	U	0.0008	B	<0.0004	U	0.0005	B	0.0005	B	<0.0004	U	<0.0004	U	0.006	0.002	0.002	0.0025 (c)	
Arsenic, dissolved	mg/l	<0.0005	U	0.0019	B	0.0018	B	0.0018	U	0.0012	B	0.0006	B	0.0014	B	0.0018	U	0.05	0.007	0.006	0.025 (c)	
Barium, dissolved	mg/l	0.061	U	0.057	U	0.331	U	0.052	U	0.086	U	0.102	U	0.042	U	0.039	U	2.0	0.423	0.416	1.255 (d)	
Beryllium, dissolved	mg/l	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0005	U	<0.0005	U	0.004	0.00041	0.00024	0.002 (c)	
Cadmium, dissolved	mg/l	0.0002	B	J	<0.0001	U	<0.0001	U	<0.0001	U	0.0001	B	<0.0001	U	<0.0001	U	<0.0001	0.005	0.00039	0.00024	0.0025 (c)	
Chromium, dissolved	mg/l	0.0805	J	0.0003	B	FB	0.0002	B	FB	<0.0001	U	0.0002	B	0.0011	B	FB	0.0162	0.1055	0.0031	FB	0.007 (c)	
Copper, dissolved	mg/l	0.02	B	J	<0.01	U	<0.01	U	<0.01	U	0.01	B	<0.01	U	<0.01	U	<0.01	U	1.3	0.006	0.002	0.65 (c)
Iron, dissolved	mg/l	0.37	J	0.38	U	<0.02	U	J	0.1	<0.02	U	0.07	0.3	2.38	0.16	FB	0.07	0.28	0.22	0.05	<0.02 (c)	
Lead, dissolved	mg/l	0.0006	J	<0.0001	U	<0.0001	U	0.0001	B	J	<0.0001	U	<0.0001	U	0.0011	U	0.0011	0.015	0.002	0.001	0.0075 (c)	
Manganese, dissolved	mg/l	0.932	U	0.435	U	0.375	J	0.162	U	0.797	U	0.5	2.95	0.38	0.233	U	0.105	0.07	0.327	0.062	0.168	
Mercury, dissolved	mg/l	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	0.002	0.0001	0.0002	0.001 (c)	
Molybdenum, dissolved	mg/l	0.03	B	<0.01	U	<0.01	U	<0.01	U	0.02	B	<0.01	U	<0.02	U	<0.02	U					
Nickel, dissolved	mg/l	2.08	U	0.18	U	0.04	B	0.05	B	2.05	U	17.3	10	0.16	0.64	U	0.22	0.097	0.807	0.028	0.305	
Selenium, dissolved	mg/l	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	0.0025	B	0.0004	0.0003	
Silver, dissolved	mg/l	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U	0.1	0.066	0.113	0.292 (d)	
Strontium, dissolved	mg/l	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	0.002	0.001	0.002	0.005 (d)	
Thallium, dissolved	mg/l	0.012	U	0.0111	U	0.0107	U	0.0241	U	0.0196	U	0.0185	U	0.0235	U	0.0207	U	0.03	0.022	0.035	0.092 (d)	
Vanadium, dissolved	mg/l	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U	<0.005	U					
Zinc, dissolved	mg/l	0.75	U	0.19	U	3.79	U	0.15	J	7.62	U	20.8	J	7.16	U	0.45	0.29	5.0	0.334	0.546	2.500 (c)	
<b>Radiological</b>																						
Gross Alpha, total	pCi/l	30±8.2	FB	14±5.8	U	5±4.8	FB	21±6.9	U	26±9.1	U	22±8.5	U	30±11	U	65±17	U	50±13	U	42±17	U	
Gross Beta, total	pCi/l	26±5.6	FB	12±4.8	U	9.9±4.1	U	39±6.9	U	27±8	U	39±8.9	U	71±10	U	94±14	U	83±11	U	84±16	U	
Radium 226, total	pCi/l	0.51±0.2	U	0.76±0.19	U		U		U		U		U		U		U		42±16	J	94±35	
Radium 228, total	pCi/l	1.7±0.6	FB	0.96±0.57	U		U		U		U		U		U		U		65±16	J	170±35	
Thorium 228, total	pCi/l	0±0.2	U	0.11±0.21	U		U		U		U		U		U		U				64±17	
Thorium 230, total	pCi/l	0.03±0.41	U	-0.21±0.35	U		U		U		U		U		U		U				130±15	
Thorium 232, total	pCi/l	0.2±0.39	U	0.08±0.36	U		U		U		U		U		U		U				160±36	
<b>QC</b>																						
Sum of Anions	meq/l	12.5		13.1		13.2		12.4		12.5		14.8		13.6		12.7		12		13		
Sum of Cations	meq/l	12.4		12.4		13.2		12.1		13.3		14.2		13.4		12.7		12		12		
Cation-Anion Balance	%	0.4		2.7		0		-1.2		3.1		-2.1		-0.7		0		-4		-4		
TDS (calculated)	mg/l	723		744		767		710		744		848		780		738		708		733		
TDS (ratio - measured/calculated)	Unitless	0.95		0.9		0.91		0.96		0.94		1.01		0.95		0.92		0.99		0.94		
<b>Field Parameters</b>																						
Temperature, Field	deg C	19.1		15.5		19.4		17.7		18.3		17.1		17.6		17.3		16.9		16.7		
pH, Field	s.u.	6.5																				

## Groundwater Monitoring Results - MW97-12 Cumulative Water Quality

Station Name	Units	MW97-12			MW97-12			MW97-12			MW97-12			MW97-12			MW97-12			MW97-12			MW97-12								
Field Sample ID		MW97-12			MW97-12			MW97-12			MW97-12			MW97-12			MW97-12			MW97-12			MW97-12								
Lab Sample ID		97-U012137			97-U012137			97-U012733			97-U012854			98-U002602			98-U003960			98-U007045			10/15/1998			11/21/1998					
Sample Date		10/29/1997			11/3/1997			11/13/1997			11/17/1997			2/11/1998			4/2/1998			5/19/1998			8/20/1998			10/15/1998			11/21/1998		
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC			
<b>Major Ions + Indicator Parameters</b>																															
Alkalinity (as CaCO <sub>3</sub> )	mg/l	234			255			286			294			384			338			338			374			332			337		
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l																														
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	234.6			255.1			286.2			294.4			383.8			284.6			289.5			374			332.2			337.1		
Carbonate (as CaCO <sub>3</sub> )	mg/l	<0	U		<0	U		<0	U		<0	U		<1.7	U		3.3			3.3			<3.3	U		<3.3	U		<3.3	U	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2.9	U		<2.9	U		<2.9	U		<0	U		<2.9	U		5.9			5.9			<5.9	U		<5.9	U		<5.9	U	
Hardness (as CaCO <sub>3</sub> )	mg/l	166			179			188			196			213			209			209			206			195			201		
Calcium, dissolved	mg/l	46.7			46.7			47.3			43.7			47.3			44.4			44.6			45.9			43.3			44.2		
Magnesium, dissolved	mg/l	17.2			19.9			20.4			19.1			22.2			20.4			20.2			22.3			21.1			21.9		
Potassium, dissolved	mg/l	8.2			8.1			7.8			7.5			11.2			7.19	J		7.3			7.5	J		7.3			6.9		
Sodium, dissolved	mg/l	93.6			107			100			99.6			102			101			107			105			104			106		
Chloride	mg/l	31.4			26			22.6			20.1			27.1			26.8			25			19			18			18		
Fluoride	mg/l	0.58			0.47			0.44			0.46			0.43			0.48			0.5			0.4			0.5			0.5		
Silica	mg/l	13.7			13.6			14.1			13.5			15.1			10.4			9.8			14.1			12.2			13		
Sulfate	mg/l	115			129			118			123			130			137			129			118			118			123		
Sodium Absorption Ratio (SAR)	%																														
Total Dissolved Solids	mg/l	688			676			596			784			664			608			660			860			800			588	J	
Total Suspended Solids	mg/l	419			86			154			75			2,360			1,430			1,380			4,020			976			632	J	
pH, Lab	s.u.	7.5			7.5			7.4			7.4			7.4	J		7.3	J		7.3	J		7.7	J		7.1	J		7.3	J	
E.C., Lab	µS/cm	771.8			804.6			835.9			838.9			871.3			874.7			878.5			896			968			892		
<b>Nutrients</b>																															
Nitrate as N, dissolved	mg/l	0.28			<0	U		0.1			<0	U		0.2			0.2			3			<0.1	U	J	<0.1	U		<0.1	U	
Nitrite as N, dissolved	mg/l	0.038			0.005			0.007			0.023			0.007			<0.06	U	J	<0.026	U		0.009	J		0.01	J		0.006	J	
Nitrate/Nitrite as N, dissolved	mg/l	0.32			<0	U		0.11			<0	U		0.21			0.2			3.1			<0.1	U	J	0.1			<0.1	U	
Nitrogen, ammonia	mg/l	<0	U		<0	U		0.2			0.23			0.4			0.47			<0.3	U		0.2			<0.2	U		<0.2	U	
<b>Metals</b>																															
Aluminum, dissolved	mg/l	<0.03	U		0.08			<0.03	U		<0.03	U		0.06			0.03			0.1			<0.03	U		0.04	J		<0.04	U	
Antimony, dissolved	mg/l	<0.002	U		0.006			<0.02	U		<0.02	U		<0.002	U		0.002			<0.002	U	J	<0.002	U	J	<0.002	U		<0.002	U	
Arsenic, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		0.005			0.005			<0.005	U		<0.005	U		<0.005	U	
Barium, dissolved	mg/l	0.081			0.066			0.07			0.072			0.042			0.044	J		0.067			0.037			0.038			0.035		
Beryllium, dissolved	mg/l	<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		0.001			0.001			<0.001	U		<0.001	U		<0.001	U	
Cadmium, dissolved	mg/l	<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		0.001			0.001			<0.001	U		<0.001	U		<0.001	U	
Chromium, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		0.005			0.008			<0.005	U		<0.005	U		<0.005	U	
Copper, dissolved	mg/l	<0.01	U		0.013			<0.01	U		<0.01	U		<0.01	U		0.01			0.01			<0.01	U		<0.01	U		<0.01	U	
Iron, dissolved	mg/l	<0.02	U		0.103			<0.02	U		<0.02	U		0.049			0.033			0.09			0.04			<0.02	U		0.27		
Lead, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		0.005			0.005			<0.005	U	J	<0.005	U		<0.005	U	
Manganese, dissolved	mg/l	0.085			0.137			0.288			0.352			0.162			<0.31	U	J	<0.5	U		0.12			0.14			0.1		
Mercury, dissolved	mg/l	0.00084			<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		0.0002			0.0002			<0.0004	U		<0.0004	U		<0.0002	U	
Molybdenum, dissolved	mg/l	<0.02	U		<0.02	U		0.029			<0.02	U		<0.02	U		0.018			<0.02	U		<0.01	U	J	<0.01	U		<0.01	U	
Nickel, dissolved	mg/l	<0.01	U		0.01			<0.01	U		<0.01	U		0.109			0.299			0.05			<0.03	U		0.02			0.1	J	
Selenium, dissolved	mg/l	0.028			0.009			<0.01	U		0.003			<0.002	U		0.002			0.002			0.002	J		<0.002	U		<0.002	U	
Silver, dissolved	mg/l	<0.5	U		<0.0005	U		<0.0005	U		<0.0005	U		<0.5	U		0.0005			0.0005			<0.0005	U		<0.0005	U		<0.0005	U	
Strontium, dissolved	mg/l																														
Thallium, dissolved	mg/l	<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U	J	<0.002	U		<0.003	U		0.02			<0.001	U	
Uranium, total	mg/l	0.043913			0.0762319			0.0585507			0.0327536			0.158			0.24			0.194			0.14			0.111			0.1855	J	
Vanadium, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		0.01			0.01			<0.01	U		<0.01	U		<0.01	U	
Zinc, dissolved	mg/l	0.016			0.012			0.011			<0.01	U		<0.01	U		0.01			0.01			<0.01	U		<0.01	U		<0.01	U	
<b>Radiological</b>																															
Gross Alpha, total	pCi/l	34			66			57.6			47.1						94.1±5.8			102±6.2			94±5.8			83±4.5			0.6±5.5	J	
Gross Beta, total	pCi/l	20			22			10.8			19.1						57.4±2.8			49.7±2.9			72±3.8			41±2.6	J		60±3.1	J	
Radium 226, total	pCi/l	0.92			0.81			1.1			1.2			6.2±0.5			3.5±0.3			3.2±0.3			3.2±0.4			4.2±0.4			2±90		
Radium 228, total	pCi/l	1.4												2.4±0.4			1.6±0.4			2±0.4			1.9±0.5			0.7±0.3			2.7±1.2		
Thorium 228, total	pCi/l																														
Thorium 230, total	pCi/l	0.39																													

Groundwater Monitoring Results - MW97-12 Cumulative Water Quality

Station Name	Units	MW97-12	MW97-12	MW97-12	MW97-12	MW97-12	MW97-12	MW97-12	MW97-12	MW97-12	MW97-12
Field Sample ID		MW97-12	MW97-12	MW97-12	MW97-12	MW97-12	MW97-12	MW97-12	MW97-12	MW97-12	MW97-12
Lab Sample ID		97-U012137	97-U012137	97-U012733	97-U012854	97-U012855	98-U002602	98-U003960	98-U007045		
Sample Date		10/29/1997	11/3/1997	11/13/1997	11/17/1997	2/11/1998	4/2/1998	5/19/1998	8/20/1998	10/15/1998	11/21/1998
Sum of Anions	meq/l										
Sum of Cations	meq/l										
Cation-Anion Balance	%										
TDS (calculated)	mg/l										
TDS (ratio - measured/calculated)	Unitless										
<b>Field Parameters</b>											
Temperature, Field	deg C	16.4	13.3	14.8	10.9	17.5	18	19.2	20.6	18.1	17.6
pH, Field	s.u.	7.88	7.62	7.52	7.5	7.56	7.1	7.56	7.92	7.78	7.57
E.C., Field 25C	µS/cm	839	942	949	953	592	462	454	576	560	520
Depth to Water	ft		929.9			931.1	931.87	931.94	930.83	930.45	930.88
Water Elevation	ft		5,539.1			5,537.9	5,537.13	5,537.06	5,538.17	5,538.55	5,538.12

### Groundwater Monitoring Results - MW97-12 Cumulative Water Quality

Station Name	Units	MW97-12			MW97-12			MW97-12			MW97-12			MW97-12			MW97-12			MW97-12								
Field Sample ID		MW97-12-99-01			MW97-12-99-02			MW97-12-00-01			MW97-12-00-02			MW97-12-01-01			MW97-12-01-02			MW97-12			MW97-12					
Lab Sample ID		99-U004718			99-U011090			00-U004038			L29875-03			L31974-13			L34902-10			L38903-11			L43331-05			L48197-05		
Sample Date		5/19/1999			11/9/1999			5/6/2000			11/15/2000			5/9/2001			11/13/2001			10/9/2002			10/7/2003			10/5/2004		
	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	
<b>Major Ions + Indicator Parameters</b>																												
Alkalinity (as CaCO <sub>3</sub> )	mg/l	347			383			355			316			317			281			319			307			317	H	
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l	249.3			321.5			324.8																				
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	347.7			383			354.3			259.2			262.5			281			319			307			317	H	
Carbonate (as CaCO <sub>3</sub> )	mg/l	<1.7	U		<3.3	U		<3.3	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U H	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2.9	U		<5.9	U		<5.9	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U H	
Hardness (as CaCO <sub>3</sub> )	mg/l	205			208			212			217			219			211			204			225			210		
Calcium, dissolved	mg/l	46			47			47			48.1			49.4	FB		46			45.9			50.5			47.2		
Magnesium, dissolved	mg/l	22			22			23			23.6			23.3	FB		23.4			21.7			24.1			22.5		
Potassium, dissolved	mg/l	6.9			6.3			6			6.6			6.5	FB		6.6			6.7			6.8			6.5		
Sodium, dissolved	mg/l	110			120			120			121			116	FB		123			117			118			116		
Chloride	mg/l	19			16			16			20			24			17			18			16			16		
Fluoride	mg/l	0.5			0.43			0.44633			0.6	FB		0.6			0.5			0.4	B		0.5	B		0.5	B	
Silica	mg/l	11.8			13.9			13.5			14.1			14.1	FB		14.6			13.8			14.5			14.3		
Sulfate	mg/l	125			134			137			150			160			170			140			150			150		
Sodium Absorption Ratio (SAR)	%																3.73			3.61								
Total Dissolved Solids	mg/l	632			600			564			560			570			580			550			550			550	H	
Total Suspended Solids	mg/l	144			2,310		J	1,280		J	482			1,200			396			970			128			1,400	H	
pH, Lab	s.u.	7.39			7.4		J	7.41		J	7.6			7.7	J		7.6			7.4	H		8.1			7.9		
E.C., Lab	µS/cm	846			850			851			868			864			891			899			878			764	H	
<b>Nutrients</b>																												
Nitrate as N, dissolved	mg/l	0.3		FB	0.1		FB	0.3			0.07	B	FB	<0.1	U		0.04	B	FB J	<0.02	U		<0.02	U		0.08	B	
Nitrite as N, dissolved	mg/l	<0.005	U		<0.005	U	J	<0.005	U		<0.01	U	J	<0.05	U	J	<0.01	U	J	<0.01	U H		<0.01	U H		<0.01	U H	
Nitrate/Nitrite as N, dissolved	mg/l	0.3		FB	0.1			0.3			0.07	B	FB	<0.1	U		0.04	B	FB J	<0.02	U H		<0.02	U H		0.08	B H	
Nitrogen, ammonia	mg/l	0.2		J	0.2		J	<0.2	U		0.11	B		0.07	B		0.09	B		0.06	B		0.08	B		0.08	B	
<b>Metals</b>																												
Aluminum, dissolved	mg/l	0.05			0.09		J	0.04			<0.03	U		<0.03	U		<0.03	U		<0.03	U		<0.03	U		<0.03	U	
Antimony, dissolved	mg/l	<0.003	U	J	<0.003	U		0.0029		FB J	<0.002	U		<0.002	U		0.002	B		<0.002	U		0.0002	B		0.0003	B	
Arsenic, dissolved	mg/l	<0.005	U		<0.005	U		<0.0005	U		0.001	B		0.001	B	FB	0.002	B		0.001	B		0.0017			0.0012	B	
Barium, dissolved	mg/l	0.035			0.53		J	0.71		J	0.324			0.312	FB		0.449			0.032			0.035			0.036		
Beryllium, dissolved	mg/l	<0.001	U		<0.001	U		<0.001	U		<0.0002	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U	
Cadmium, dissolved	mg/l	<0.001	U		<0.001	U		<0.0005	U		<0.0002	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U	
Chromium, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		0.0034			0.0008	B	FB	0.0032			0.0003		FB	0.0006		FB	0.004		
Copper, dissolved	mg/l	0.01		FB	0.01		J	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U	
Iron, dissolved	mg/l	0.09			0.3			0.35			0.62			0.01	B		0.17			0.03		FB	0.13			0.09		
Lead, dissolved	mg/l	<0.005	U		<0.005	U		<0.0005	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.0001	U		0.0001	B	
Manganese, dissolved	mg/l	0.08			0.11			0.12			0.268			0.161	FB		0.157			0.065			0.052			0.088		
Mercury, dissolved	mg/l	<0.0002	U		0.0002		FB J	<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		0.0006	B		0.0002	B	
Molybdenum, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U	
Nickel, dissolved	mg/l	0.1			0.22			0.31			0.21			0.06	FB		0.02	B		0.02	B		0.04	B		0.02	B	
Selenium, dissolved	mg/l	<0.002	U		<0.002	U		0.0019			<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U	
Silver, dissolved	mg/l	<0.0005	U		<0.0005	U		<0.0005	U		<0.0001	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U	
Strontium, dissolved	mg/l																									3.57		
Thallium, dissolved	mg/l	<0.001	U		<0.001	U	J	<0.0005	U		<0.0001	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.0001	U	
Uranium, total	mg/l	0.144928			0.0492754		FB	0.0453623			0.0537			0.0307			0.0252			0.0562			0.0233			0.0507		
Vanadium, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U	
Zinc, dissolved	mg/l	<0.01	U		0.19		J	0.2			0.11	FB		0.14	FB		0.14			<0.01	U		0.02	B	FB	0.01	B	
<b>Radiological</b>																												
Gross Alpha, total	pCi/l	144±9.8			74±17			470±131			24±7.2	J		62±10			37.2±8.3			106±19			27±10			144±25		
Gross Beta, total	pCi/l	98.6±5.4			55±11			324±23.6			23±4	J		30±4.6			51±7.5			94.2±11			16.4±7.7			134±14		
Radium 226, total	pCi/l	5.2±0.4			9.3±1.2			8±0.4			2.6±1	J		3.4±0.7	J		3.37±0.7			5.59±0.6			3.83±0.4			7.9±0.7		
Radium 228, total	pCi/l	2.1±0.7			3.1±1.2			2.4±0.5			6.1±0.4			0.83±1	J		4.58±1.4			1.78±1.2			1.48±0.7	FB		2.23±0.8	FB	
Thorium 228, total	pCi/l																2.57±0.25			2.88±0.49			0.85±0.31			-0.06±0.19		
Thorium 230, total	pCi/l	4.2±0.9	J		3.7±1.2			3.4±1	FB		1±1.1	J		1.9±1.2			1.49±2.8			1.12±0.57			-0.07±0.35			1.09±0.59	FB J	
Thorium 232, total	pCi/l	0.7±0.3			1±0.75			0.5±0.3			0.6±0.25	FB J		0.94±0.94			2.39±2.7			1.12±0.47			0.44±0.39			1.12±0.55	FB	

QC

Groundwater Monitoring Results - MW97-12 Cumulative Water Quality

Station Name	Units	MW97-12	MW97-12	MW97-12	MW97-12	MW97-12	MW97-12	MW97-12	MW97-12	MW97-12
Field Sample ID		MW97-12-99-01	MW97-12-99-02	MW97-12-00-01	MW97-12-00-02	MW97-12-01-01	MW97-12-01-02	MW97-12	MW97-12	MW97-12
Lab Sample ID		99-U004718	99-U011090	00-U004038	L29875-03	L31974-13	L34902-10	L38903-11	L43331-05	L48197-05
Sample Date		5/19/1999	11/9/1999	5/6/2000	11/15/2000	5/9/2001	11/13/2001	10/9/2002	10/7/2003	10/5/2004
Sum of Anions	meq/l	8.15	9.69	9.82			9.9	9.8	9.7	9.9
Sum of Cations	meq/l	9.08	9.56	9.64			9.8	9.4	9.8	9.5
Cation-Anion Balance	%	5.37	0.66	0.97			0.5	0	0.5	2.1
TDS (calculated)	mg/l						578	555	565	567
TDS (ratio - measured/calculated)	Unitless						1	0.99	0.97	0.97
<b>Field Parameters</b>										
Temperature, Field	deg C	19.3	19.5	18.2	17.3	19.8	17.5	17.9	17.3	17.7
pH, Field	s.u.	7.68	7.57	7.82	7.62	7.86	7.58	7.47	7.38	7.68
E.C., Field 25C	µS/cm	826	599	618	610	940	950	894	950	936
Depth to Water	ft	930.75	930.48	930.39	930.33	929.85	930.48	930.68	930.55	930.84
Water Elevation	ft	5,538.25	5,538.52	5,538.61	5,538.67	5,539.15	5,538.52	5,538.32	5,538.45	5,538.16



**Groundwater Monitoring Results - MW97-12 Cumulative Water Quality**

Station Name	Units	MW97-12			MW97-12			MW97-12			MW97-12			MW97-12			MW97-12					
Field Sample ID		MW97-12			MW97-12-06-1			MW97-12			MW97-12			MW97-12-07-1			MW97-12-07-4					
Lab Sample ID		L53966-10			L55722-03			L57184-03			L58833-01			L59815-07			L61422-05					
Sample Date		10/26/2005			3/15/2006			6/14/2006			9/11/2006			11/2/2006			3/7/2007					
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC			
<b>Major Ions + Indicator Parameters</b>																						
Alkalinity (as CaCO <sub>3</sub> )	mg/l	326			332			334			304			302			310			324		
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l																					
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	326			332			334			304			302			305			324		
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U		<2	U		<2	U		6	B		<2	U	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U	
Hardness (as CaCO <sub>3</sub> )	mg/l	224			226			226			228			232			241			221		
Calcium, dissolved	mg/l	50.7			50.8			51.3			51.6			53.6			54.1			49.7		
Magnesium, dissolved	mg/l	23.6			24.2			23.9			24.2			23.9			25.8			23.6		
Potassium, dissolved	mg/l	6.7			6.5			6.8			7.1			6.9			7.4			6.7		
Sodium, dissolved	mg/l	117			121			120			114			121			129			116		
Chloride	mg/l	16			14			16			26			17			22			16		
Fluoride	mg/l	0.4	B		0.3	B		0.4	B		0.5	B		0.4	B		0.3	B		0.4	B	
Silica	mg/l	14.2			16.1			14.5			13.8			15.5			15.6			15.6		
Sulfate	mg/l	160			140			140			150			130			140			180		
Sodium Absorption Ratio (SAR)	%																					
Total Dissolved Solids	mg/l	530			520			540		H	520	H		540			540			600		
Total Suspended Solids	mg/l	860		J	722		J	1,080			120			610		J	154			1,810		
pH, Lab	s.u.	8.3	H		8.1	H		8.3	H		8.2	H		8.1	H		8.3	H		8.2	H	
E.C., Lab	µS/cm	884			857			916			845			806			931			873		
<b>Nutrients</b>																						
Nitrate as N, dissolved	mg/l	<0.02	U		0.03	B	FB	<0.02	U		0.22			0.07	B		0.12			0.02	B	
Nitrite as N, dissolved	mg/l	<0.01	U	H	<0.01	U	H	<0.01	U	H	0.02	B	H	<0.01	U	H	0.01	B	H	0.02	B	H
Nitrate/Nitrite as N, dissolved	mg/l	0.02	B	H	0.03	B	H	FB	<0.02	U	0.24	H		0.07	B	H	0.13	H		0.04	B	H
Nitrogen, ammonia	mg/l	<0.05	U		0.24	B		0.1	B		0.07	B		0.47	B		0.12	B		0.22	B	
<b>Metals</b>																						
Aluminum, dissolved	mg/l	<0.03	U		0.03	B		<0.03	U	J	0.04	B		<0.03	U		<0.03	U		0.23		
Antimony, dissolved	mg/l	0.0004	B		<0.0004	U		<0.0004	U		0.0007	B		<0.0004	U		0.0007	B		<0.0004	U	
Arsenic, dissolved	mg/l	0.0012	B		0.0013	B		0.0017	B		0.0009	B		0.0009	B		0.0011			0.0014		
Barium, dissolved	mg/l	0.033			0.032			0.037			0.044			0.037			0.041			0.04		
Beryllium, dissolved	mg/l	<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U	
Cadmium, dissolved	mg/l	0.0001	B	J	<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U	
Chromium, dissolved	mg/l	0.0032		J	0.0003	B	FB	0.0004	B	FB	0.0173			0.0027			<0.0005	U		0.0037	J	
Copper, dissolved	mg/l	0.01	B	J	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U	
Iron, dissolved	mg/l	<0.02	U		0.02	B		<0.02	U	J	0.06			<0.02	U		<0.02	U		0.18		
Lead, dissolved	mg/l	0.0002	B	J	0.0001	B		<0.0001	U		0.0002	B		<0.0001	U		<0.0001	U		0.0007	J	
Manganese, dissolved	mg/l	<0.005	U		0.031			0.067		J	0.091			0.051			0.079			0.035		
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U	
Molybdenum, dissolved	mg/l	0.03	B		<0.01	U		0.01	B		0.06			<0.01	U		0.02	B		<0.01	U	
Nickel, dissolved	mg/l	0.07			<0.01	U		<0.01	U		0.03	B		0.02	B		0.02	B		0.01	B	
Selenium, dissolved	mg/l	<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U	
Silver, dissolved	mg/l	<0.00005	U		<0.00005	U		0.00005	B	FB	<0.00005	U		<0.00005	U		<0.0003	U		<0.00005	U	
Strontium, dissolved	mg/l																					
Thallium, dissolved	mg/l	<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		0.0002	B	FB	<0.0001	U		<0.0001	U	
Uranium, total	mg/l	0.0233			0.0353			0.0303			0.0159			0.0188			0.0223			0.0191		
Vanadium, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U	
Zinc, dissolved	mg/l	<0.01	U		<0.01	U		0.01	B	FB	1.91			1.16			0.59			0.06	J	
<b>Radiological</b>																						
Gross Alpha, total	pCi/l	110±22			74±15			83±20			27±6.8			28±9.3			22±7.6			50±14		
Gross Beta, total	pCi/l	100±12		J	45±7.2			74±12			30±5.6			26±6			22±5.3			86±13		
Radium 226, total	pCi/l	4.6±0.6			5.7±0.5																	
Radium 228, total	pCi/l	3.3±0.6		FB	3.3±0.64																	
Thorium 228, total	pCi/l	1.8±0.37			2.3±0.42																	
Thorium 230, total	pCi/l	1.7±0.68			0.18±0.44																	
Thorium 232, total	pCi/l	1.78±0.65			0.87±0.49																	
<b>QC</b>																						

Groundwater Monitoring Results - MW97-12 Cumulative Water Quality

Station Name		MW97-12	MW97-12	MW97-12	MW97-12	MW97-12	MW97-12	MW97-12
Field Sample ID		MW97-12	MW97-12-06-1	MW97-12	MW97-12	MW97-12	MW97-12-07-1	MW97-12-07-4
Lab Sample ID		L53966-10	L55722-03	L57184-03	L58833-01	L59815-07	L61422-05	L65591-03
Sample Date		10/26/2005	3/15/2006	6/14/2006	9/11/2006	11/2/2006	3/7/2007	10/9/2007
Sum of Anions	meq/l	10.3	9.9	10.1	10	9.2	9.8	10.7
Sum of Cations	meq/l	9.7	10	9.9	9.8	10.2	10.7	9.7
Cation-Anion Balance	%	3	0.5	1	1	5.2	4.4	-4.9
TDS (calculated)	mg/l	584	573	573	573	551	585	603
TDS (ratio - measured/calculated)	Unitless	0.91	0.91	0.94	0.91	0.98	0.92	1
<b>Field Parameters</b>								
Temperature, Field	deg C	17.7	17.4	21.8	20.3	15.8	17.4	18.9
pH, Field	s.u.	7.55	7.96	7.58	7.45	7.47	7.62	7.36
E.C., Field 25C	µS/cm	990	715	648	921	1,010	1,027	933
Depth to Water	ft	930.95	931.66			931.7		
Water Elevation	ft	5,538.05	5,537.34			5,537.3		

Groundwater Monitoring Results - MW97-13 Cumulative Water Quality

Station Name	Units	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13
Field Sample ID		MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13
Lab Sample ID		97-U012732	97-U012852	97-U012853	97-U012853	98-U000989	98-U002600	98-U003905	98-U007036	10/15/1998	11/20/1998	5/17/1999	99-U011086	00-U004028	L29875-12	L31974-01	L34902-05	L38903-01
Sample Date		11/10/1997	11/14/1997	11/16/1997	11/21/1997	2/8/1998	4/1/1998	5/18/1998	8/20/1998	10/15/1998	11/20/1998	5/17/1999	11/8/1999	5/5/2000	11/14/2000	5/7/2001	11/12/2001	10/7/2002
		Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC	Result FC VC
<b>Major Ions + Indicator Parameters</b>																		
Alkalinity (as CaCO <sub>3</sub> )	mg/l	359	355	403	401	394	388	357	339	361	339	339	332	319	272	313	255	284
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l											185.4	328.1	319				
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	359.2	355.1	402.7	401.1	394.5	333	351	338.7	360.9	338.7	339.5	331.3	319	223.1	232.9	255	284
Carbonate (as CaCO <sub>3</sub> )	mg/l	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.7 U	3.3	3.3	<3.3 U	<3.3 U	<1.7 U	<1.7 U	<1.7 U	<1.7 U	<2 U	<2 U	<2 U	<2 U
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<2.9 U	5.9	5.9	<5.9 U	<5.9 U	<2.9 U	<2.9 U	<2.9 U	<2.9 U	<2 U	<2 U	<2 U	<2 U
Hardness (as CaCO <sub>3</sub> )	mg/l	440	495	515	556	509	536	444	400	439	345	395	390	375	352	299	376	319
Calcium, dissolved	mg/l	122	121	126	141	126	124	104	99.7	110	86.2	99	97	91	86.9	95	72.7	79.3
Magnesium, dissolved	mg/l	37.7	37.8	40.7	46.1	42.9	42.6	37.3	36.6	39.8	31.6	36	36	36	32.8	33.8	28.5	29.5
Potassium, dissolved	mg/l	11.5	11.8	12.1	12.6	10.8	11	9.7	11.1	11.7	8.9	10	9.6	10	8.9	8.5	8.3	8.9
Sodium, dissolved	mg/l	149	154	174	186	166	159	142	136	158	142	150	140	140	142	149	118	124
Chloride	mg/l	15.5	14.8	18	18.7	19.4	22.3	22.5	21	24	24	32	30	31	32	40	32	39
Fluoride	mg/l	0.38	0.46	0.45	0.42	0.47	0.51	0.5	0.5	0.5	0.5	0.5	0.52	0.56918	0.8	0.7	0.6	0.7
Silica	mg/l	12.9	13.6	11.7	13.2	14.7	11.1	10.7	14.8	13.5	12	11.8	12	13	13.7	13.7	14.6	13.9
Sulfate	mg/l	408	444	508	533	469	523	443	349	418	347	381	387	331	330	330	270	280
Sodium Absorption Ratio (SAR)	%																3	3.05
Total Dissolved Solids	mg/l	1,070	1,340	1,440	1,240	1,120	1,200	1,060	1,060	1,110	876	928	948	816	820	860	660	710
Total Suspended Solids	mg/l	795	140	541	474	227	486	83	28	160	32	151	73	18	14	50	8	32
pH, Lab	s.u.	7.1	7.1	7	7	7	6.9	7	7.2	7	7	7.16	7.23	7	7.5	7.5	7.5	7.2
E.C., Lab	µS/cm	1,454	1,534	1,660	1,715	1,623	1,650	1,482	1,380	910	1,330	1,370	1,330	1,230	1,200	1,200	1,060	1,120
<b>Nutrients</b>																		
Phosphorus, total as P	mg/l																	
Nitrate as N, dissolved	mg/l	0.15	0.11	0.12	<0.08 U	0.09	0.2	<0.2 U	<0.2 U	0.1	0.1	<0.1 U	0.1	0.5	0.11	0.2	0.06	<0.02 U
Nitrite as N, dissolved	mg/l	<0.005 U	0.012	0.016	0.025	<0.005 U	<0.005 U	<0.015 U	0.005	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.01 U	<0.05 U	<0.01 U	<0.01 U
Nitrate/Nitrite as N, dissolved	mg/l	0.15	0.12	0.13	0.1	0.09	0.2	<0.2 U	<0.2 U	0.1	0.1	<0.1 U	0.1	0.5	0.11	0.2	0.06	<0.02 U
Nitrogen, ammonia	mg/l	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	0.66	0.2	0.2	<0.2 U	<0.2 U	0.2	0.2	<0.2 U	<0.05 U	0.08	0.05	<0.05 U
<b>Metals</b>																		
Aluminum, dissolved	mg/l	<0.03 U	<0.03 U	<0.03 U	<0.03 U	0.04	0.03	<0.05 U	0.04	0.05	<0.06 U	0.07	0.06	0.05	<0.03 U	<0.03 U	<0.03 U	<0.03 U
Antimony, dissolved	mg/l	<0.02 U	<0.02 U	<0.02 U	<0.008 U	<0.002 U	0.002	0.01	<0.002 U	<0.002 U	<0.002 U	0.005	<0.003 U	0.0005	0.005	0.003	<0.002 U	<0.002 U
Arsenic, dissolved	mg/l	0.008	0.007	0.008	0.015	0.018	0.033	0.024	0.016	0.011	0.019	0.018	0.028	0.0222	0.016	0.008	0.012	0.016
Barium, dissolved	mg/l	0.194	0.172	0.147	0.133	0.098	0.073	0.079	0.075	0.067	0.062	0.069	0.36	0.074	0.367	0.377	0.425	0.078
Beryllium, dissolved	mg/l	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	0.001	0.001	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.0005 U	<0.0001 U	<0.0001 U	<0.0001 U
Cadmium, dissolved	mg/l	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	0.001	0.001	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.0005 U	<0.0001 U	0.0001	0.0001	<0.0001 U
Chromium, dissolved	mg/l	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.005	0.005	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.0005 U	0.0002	0.0004	0.0001
Copper, dissolved	mg/l	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	0.01	0.01	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
Iron, dissolved	mg/l	<0.02 U	0.327	0.348	0.676	0.045	1.06	0.684	0.2	<0.02 U	0.31	0.39	0.31	0.33	0.29	0.05	0.11	0.2
Lead, dissolved	mg/l	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	0.005	0.005	<0.005 U	0.005	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U
Manganese, dissolved	mg/l	0.21	0.417	0.625	1.06	0.875	<0.77 U	<0.57 U	0.49	0.48	0.32	0.32	0.27	0.27	0.233	0.226	0.193	0.19
Mercury, dissolved	mg/l	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U	0.0002	0.0002	<0.0004 U	<0.0002 U	<0.0002 U	0.0002	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U
Molybdenum, dissolved	mg/l	0.697	0.816	0.84	0.672	0.385	0.305	0.305	0.23	0.28	0.2	0.22	0.21	0.2	0.17	0.12	0.14	0.14
Nickel, dissolved	mg/l	0.024	0.14	0.037	0.025	0.019	0.024	0.01	<0.02 U	<0.01 U	0.02	0.01	0.01	<0.01 U	0.01	0.01	0.01	<0.01 U
Selenium, dissolved	mg/l	<0.01 U	<0.002 U	<0.002 U	<0.008 U	<0.002 U	0.002	0.002	0.004	0.004	<0.002 U	0.002	<0.002 U	0.0008	<0.001 U	<0.001 U	<0.001 U	<0.001 U
Silver, dissolved	mg/l	<0.0005 U	<0.0005 U	<0.0005 U	<0.0005 U	<0.5 U	0.0005	0.0005	<0.0005 U	<0.0005 U	<0.0005 U	<0.0005 U	<0.0005 U	<0.0005 U	<0.0003 U	<0.0005 U	<0.0005 U	<0.0005 U
Thallium, dissolved	mg/l	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	0.001	0.001	0.002	<0.002 U	<0.001 U	<0.001 U	0.001	<0.0005 U	<0.0003 U	<0.0005 U	<0.0005 U	<0.0005 U
Uranium, total	mg/l	0.034058	0.0457971	0.0443478	0.0385507	0.05	0.038	0.031	0.0029	0.022	0.0142	0.0131884	0.026087	0.0113043	0.009	0.0066	0.00506	0.00509
Vanadium, dissolved	mg/l	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	0.01	0.01	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U
Zinc, dissolved	mg/l	<0.01 U	0.028	0.011	<0.01 U	<0.02 U	0.012	0.02	0.05	<0.01 U	<0.01 U	0.01	0.2	<0.01 U	0.33	0.23	0.11	<0.01 U
<b>Radiological</b>																		
Gross Alpha, total	pCi/l	51±6.5	43.4±6.5	50.6±7.4	34.3±7.7	27.3±8.8	29.6±5.9	20±3.9	14±3.5	22±3.9	13±2.9	25.1±11.8	6.9±8.1	16.8±8.2	6.5±6.1	61±11	3.9±2.9	11.6±5.1
Gross Beta, total	pCi/l	5.7±2.5	7.7±3.2	18.1±3.6	32.7±3.9	22.7±5.5	44.2±4.3	25±2.6	16±3.1	36±5.1	13±2.7	33.3±8.4	12±8.9	19.6±3.1	15±4.2	50±6.5	13.7±3.8	10±4.1
Radium 226, total	pCi/l	1.8±0.4	1.8±0.4	2.3±0.4	1.4±0.2	1.1±0.2	2.3±0.3	1.6±0.3	1±0.3	1.5±0.3	1.1±0.3	1.2±0.2	2.9±0.8	1.4±0.2	0.9±0.3	0.86±0.3	1.34±0.6	1.26±0.3
Radium 228, total	pCi/l				1.4±0.4	0.6±0.3	1±0.4	1±0.7	0.9±0.4	1±0.3	2.7±1.1	1.9±0.7	1.8±1.1	3.5±0.6	2.2±1	1.2±0.5	1.34±0.7	2.91±1.3
Thorium 228, total	pCi/l																0.07±0.21	0.21±0.32
Thorium 230, total	pCi/l					0.7±0.6	3±1.2	0.7±0.9	0.8±0.8	3.7±1.4	2±0.9	1.7±0.5	2.2±0.9	0.5±0.4	-0.15±0.24	-0.16±0.45	-0.05±0.34	-0.28±0.46
Thorium 232, total	pCi/l					0.3±0.2	0.6±0.5	0.7±0.4	0.5±0.4	1.1±0.7	0.8±0.5	0.3±0.2	0.63±0.58	0.09±0.12	-0.91±0.21	-0.05±0.3	-0.07±0.31	
<b>QC</b>																		
Sum of Anions	meq/l	15.46	14.85	16.4	17.6							15.65	15.49	14.18			11.8	12.7
Sum of Cations	meq/l	15.97	16.17	17.53	19.28							1						

Groundwater Monitoring Results - MW97-13 Cumulative Water Quality

Station Name	Units	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	MW97-13	Utah																			
Field Sample ID		MW97-13	MW97-13-04-01	MW97-13	MW97-13-06-1	MW97-13	MW97-13-07-4	MW97-13-08-4	MW97-13-09-4	MW97-13-10-4	MW97-13-11-4	MW97-13-12-4	MW97-13-13-4	MW97-13-14-3	MW97-13-15-3	MW97-13-16-3	MW97-13-18-3		Groundwater																			
Lab Sample ID		L43331-03	L48197-01	L53966-02	L55699-03	L57220-01	L65561-05	L72720-03	L79104-01	L85084-04	L92269-07	L97887-06	L15877-03	L20070-01	L26180-01	L32432-03	L46440-03		Quality																			
Sample Date		10/6/2003	10/5/2004	10/25/2005	3/14/2006	6/15/2006	10/8/2007	10/27/2008	10/26/2009	10/26/2010	12/7/2011	11/13/2012	12/3/2013	8/18/2014	8/18/2015	8/16/2016	8/21/2018		Standard <sup>(1)</sup>																			
Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Standard <sup>(1)</sup>											
<b>Major Ions + Indicator Parameters</b>																																						
Alkalinity (as CaCO <sub>3</sub> )	mg/l	264		260		243		272		277		239		222		223		217		209		208		204	J	213	T	203		195		208		----				
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l																																	----				
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	264		260		243		272		277		232		222		220		217		195		203		198	J	213	T	199		194		208		----				
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U	<2	U	<2	U	<2	U	<2	U	6	B	<2	U	3	B	<2	U	14	B	5	B	6	B	J	<2	U	T	4.5	B	<2	U	<2	U	----		
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	<2	U	J	<2	U	T	<2	U	<2	U	<2	U	----		
Hardness (as CaCO <sub>3</sub> )	mg/l	294		299		201		300		296		218		213		183		206		188		176		189		194		193		190		190		190		----		
Calcium, dissolved	mg/l	72.6		74.3		48.7		74.3		72.3		52.8		51.4		44.7		50.1		45.6		43		47.9		48.5		49.7		48.5		48.9		48.9		----		
Magnesium, dissolved	mg/l	27.3		27.5		19.3		27.7		28		21		20.6		17.4		19.6		18		16.7		16.9		17.8		16.8		16.8		16.6		16.6		----		
Potassium, dissolved	mg/l	8.1		8.5		7.1		8.8		9.2		7.4		7.1		6.8		7		6.5		6.3		6.3		6.3		6		6.1		6.0		6.0		----		
Sodium, dissolved	mg/l	114		118		87.5		116		123		88.4		87.3		79		82.5		75		73.8		71.9		74.1		70.6		71.4		72.1		72.1		----		
Chloride	mg/l	36		41		29		44		47		38		40		39		43		43		41		49		47.3		51.1		51		50.9		50.9		----		
Fluoride	mg/l	0.6		0.6		0.6		0.1	B	0.4	B	0.6		0.6		0.6		0.6		0.6		0.6		0.7		0.6		0.6		0.60		0.60		0.60		----		
Silica	mg/l	14		14.2		16.5		14.5		13.7		14.3		14.4		13.4		14.1		15		14.9		14.8		15.1		14.6		14.1		15.2		15.2		----		
Sulfate	mg/l	230		250		110		220		210		130		130		100		110		90		100		100		110	J	110		98.8		102		95.8		----		
Sodium Absorption Ratio (SAR)	%																																			----		
Total Dissolved Solids	mg/l	630		680	H	440		630		650		490		490		440		440		440		400		420		390		428		420		492	H	J		10,000		
Total Suspended Solids	mg/l	18		44	H	32	J	108	J	88		98		233		512		560		301		1,160		582		500	T	1,080		350		1,540		----				
pH, Lab	s.u.	8.1		7.8		8.3	H	8.2	H	8.2	H	8.3	H	8.3	H	8.3	H	8.3	H	8.5	H	8.3	H	8.3	H	J	8.2	H	J	8.3	H	J	8.2	H	J		6.5 - 8.5	
E.C., Lab	µS/cm	1,020		896		741		1,010		1,040		841		778		756		735		670		656		721	J	700	T	726		680		717		----				
<b>Nutrients</b>																																						
Phosphorus, total as P	mg/l																						0.61		0.18	J	0.29	T	0.28	J	0.16	J	0.50	J	0.05			
Nitrate as N, dissolved	mg/l	<0.02	U	<0.02	U	<0.02	U	0.17	FB	<0.02	U	<0.02	U	<0.02	U	0.02	B	<0.02	UH	<0.02	UH	<0.02	UH	0.02	BH	FB	<0.02	UH	J	<0.02	UH	J	<0.02	UH	J	10.0		
Nitrite as N, dissolved	mg/l	<0.01	UH	<0.01	UH	<0.01	UH	<0.01	UH	<0.01	UH	<0.01	UH	<0.01	UH	<0.01	UH	<0.01	UH	<0.01	UH	<0.01	UH	<0.01	UH	<0.01	UH	J	<0.01	UH	J	<0.01	UH	J	<0.01	UH	J	1.0
Nitrate/Nitrite as N, dissolved	mg/l	<0.02	UH	<0.02	UH	<0.02	UH	0.17	H	FB	<0.02	UH	<0.02	UH	<0.02	UH	0.02	BH	<0.02	UH	<0.02	UH	<0.02	UH	0.02	BH	FB	<0.02	UH	J	<0.02	UH	J	<0.02	UH	J	10.0	
Nitrogen, ammonia	mg/l	0.08	B	0.09	B	<0.05	U	0.07	B	FB	0.08	B	<0.05	U	0.08	B	J	0.05	B	0.05	B	<0.05	U	0.07	B	<0.05	U	J	<0.05	U	0.07	B	0.07	B	----			
<b>Metals</b>																																						
Aluminum, dissolved	mg/l	<0.03	U	<0.03	U	0.03	B	0.08	B	<0.03	U	<0.03	U	<0.03	U	<0.06	U	<0.03	U	<0.03	U	<0.03	U	<0.03	U	0.05	B	0.05	B	<0.03	U	<0.03	U	----				
Antimony, dissolved	mg/l	0.0005	B	0.0006	B	<0.0004	U	0.0009	B	0.0011	B	0.0008	B	0.001	B	0.0007	B	0.0005	B	<0.002	U	<0.0004	U	<0.0004	U	<0.0004	U	<0.0004	U	0.0005	B	<0.0004	U	0.0006		0.006		
Arsenic, dissolved	mg/l	0.0214		0.0205		0.0128		0.0312		0.0182		0.0124		0.0087		0.0074		0.0105		0.007	B	0.0079	FB	0.0095		0.0136		0.0096		0.0107		0.0093		0.01		0.05		
Barium, dissolved	mg/l	0.068		0.085		0.068		0.078		0.077		0.099		0.106		0.104		0.109		0.092		0.109		0.11		0.089		0.104		0.088		0.384		2.0		2.0		
Beryllium, dissolved	mg/l	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U	0.00006	B	<0.00005	U	<0.00005	U	0.004		0.004		
Cadmium, dissolved	mg/l	0.0004	B	0.0002	B	0.0003	B	0.0001	B	0.0001	B	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0005	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	<0.0001	U	0.005		0.005		
Chromium, dissolved	mg/l	<0.0001	U	0.0002	B	0.0006	J	0.0002	B	0.0001	B	<0.0001	U	<0.0001	U	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U	<0.0005	U	0.1		0.1
Copper, dissolved	mg/l	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	1.3		1.3
Iron, dissolved	mg/l	0.16		0.11		0.04	B	0.15	B	<0.02	U	0.07		0.03	B	0.39		0.36		0.23		0.57	FB	0.49		0.4	J	0.38		0.39		0.19		----		----		
Lead, dissolved	mg/l	<0.0001	U	0.0002	B	0.0003	B	<0.0001	U	0.0001	B	<0.0001	U	0.0003	B	<0.0001	U	0.0003	B	<0.0001	U	0.0003	B	<0.0001	U	<0.0001	U	0.0014		<0.0001	U	<0.0001	U	<0.0001	U	0.015		0.015
Manganese, dissolved	mg/l	0.161		0.166		0.078		0.163		0.156	J	0.101		0.113		0.115		0.12		0.108		0.114		0.132		0.12		0.149		0.116		0.145		0.145		----		
Mercury, dissolved	mg/l	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	<0.0002	U	0.002		0.002
Molybdenum, dissolved	mg/l	0.11		0.11		0.06		0.14		0.11		0.06		0.07		0.04	B	0.04	B	0.04	B	0.04	B	0.03	B	0.04	B	0.04	B	0.03	B	0.03	B	0.03	B	----		----
Nickel, dissolved	mg/l	0.01	B	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.05	U	0.03	B	<0.01	U	<0.01	U	<0.01	U	<0.01	U	<0.008	U	<0.008	U	<0.008	U	<0.008	U	<0.008	U	----		----
Selenium, dissolved	mg/l	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	<0.001	U	0.05		0.05
Silver, dissolved	mg/l	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	<0.00005	U	0.1		0.1
Thallium, dissolved	mg/l	<0.00005	U	0.0001	B	<0.0001	U	<0.0001	U	<0.0001	U	0.0001	B	<0.0001	U	<0.0001	U	<0.000																				

Groundwater Monitoring Results - MW97-13 Cumulative Water Quality

Station Name Field Sample ID Lab Sample ID Sample Date	Units	Background Levels		
		Mean <sup>(2)</sup>	Standard Deviation	Maximum Background <sup>(3)</sup>
		(x)	(std) <sup>(2)</sup>	Concentration
<b>Major Ions + Indicator Parameters</b>				
Alkalinity (as CaCO <sub>3</sub> )	mg/l	----	----	----
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l	----	----	----
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	----	----	----
Carbonate (as CaCO <sub>3</sub> )	mg/l	----	----	----
Hydroxide (as CaCO <sub>3</sub> )	mg/l	----	----	----
Hardness (as CaCO <sub>3</sub> )	mg/l	----	----	----
Calcium, dissolved	mg/l	----	----	----
Magnesium, dissolved	mg/l	----	----	----
Potassium, dissolved	mg/l	----	----	----
Sodium, dissolved	mg/l	----	----	----
Chloride	mg/l	----	----	----
Fluoride	mg/l	0.543	0.101	2.0 (c)
Silica	mg/l	----	----	----
Sulfate	mg/l	378.6	90.2	567.86 (d)
Sodium Absorption Ratio (SAR)	%	----	----	----
Total Dissolved Solids	mg/l	970.857	229.094	1429.045 (i)
Total Suspended Solids	mg/l	----	----	----
pH, Lab	s.u.	7.217	0.308	6.5 - 8.5 (e)
E.C., Lab	µS/cm	----	----	----
<b>Nutrients</b>				
Phosphorus, total as P	mg/l	n/a	n/a	n/a (j)
Nitrate as N, dissolved	mg/l	0.109	0.105	5.0 (c)
Nitrite as N, dissolved	mg/l	0.007	0.007	0.5 (c)
Nitrate/Nitrite as N, dissolved	mg/l	0.115	0.104	5.0 (c)
Nitrogen, ammonia	mg/l	----	----	----
<b>Metals</b>				
Aluminum, dissolved	mg/l	----	----	----
Antimony, dissolved	mg/l	0.004	0.004	0.0114 (d)
Arsenic, dissolved	mg/l	0.017	0.007	0.031 (d)
Barium, dissolved	mg/l	0.151	0.121	0.393 (d)
Beryllium, dissolved	mg/l	0.0004	0.0003	0.002 (c)
Cadmium, dissolved	mg/l	0.0004	0.0003	0.0025 (c)
Chromium, dissolved	mg/l	0.002	0.002	0.005 (c)
Copper, dissolved	mg/l	0.006	0.002	0.65 (c)
Iron, dissolved	mg/l	----	----	----
Lead, dissolved	mg/l	0.002	0.002	0.0075 (c)
Manganese, dissolved	mg/l	----	----	----
Mercury, dissolved	mg/l	0.00012	0.00004	0.001 (c)
Molybdenum, dissolved	mg/l	----	----	----
Nickel, dissolved	mg/l	----	----	----
Selenium, dissolved	mg/l	0.002	0.001	0.025 (c)
Silver, dissolved	mg/l	0.012	0.055	0.121 (d)
Thallium, dissolved	mg/l	0.0005	0.0005	0.00153 (d)
Uranium, total	mg/l	0.022	0.017	0.0548 (d)
Vanadium, dissolved	mg/l	----	----	----
Zinc, dissolved	mg/l	0.052	0.090	2.500 (c)
<b>Radiological</b>				
Gross Alpha, total	pCi/l	23.603	16.356	56.316 (d)
Gross Beta, total	pCi/l	21.562	13.011	47.583 (d)
Radium 226, total	pCi/l			
Radium 228, total	pCi/l			
Thorium 228, total	pCi/l			
Thorium 230, total	pCi/l			
Thorium 232, total	pCi/l			
<b>QC</b>				
Sum of Anions	meq/l			
Sum of Cations	meq/l			
Cation-Anion Balance	%			
TDS (calculated)	mg/l			
TDS (ratio - measured/calculated)	Unitless			
<b>Field Parameters</b>				
Temperature, Field	deg C			
pH, Field	s.u.			
E.C., Field, 25C	µS/cm			
Depth to Water	ft			
Water Elevation	ft			

Groundwater Monitoring Results - 94MW4 Cumulative Water Quality

Station Name Field Sample ID Lab Sample ID Sample Date	Units	94MW4 94MW4-01-04		94MW4 94MW4-01-05		94MW4 94MW4-01-06		94MW4 94MW4		94MW4 94MW4		94MW4 94MW4		94MW4 94MW4		94MW4 94MW4		94MW4 94MW4		94MW4 94MW4		94MW4 94MW4		Utah Groundwater Quality Standard <sup>(1)</sup>	Background Levels																								
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result		FC	VC	Mean <sup>(2)</sup> (X)	Standard Deviation (std) <sup>(2)</sup>	Protection Limit <sup>(2)</sup>																				
		8/1/1995			11/1/1995			4/2/1996			6/1/1996			9/1/1996			12/1/1996			3/1/1997			5/1/1997							8/1/1997			97-U013512 12/3/1997			2/1/1998			98-U002601 4/2/1998			5/1/1998			98-U007046 8/20/1998				
<b>Major Ions + Indicator Parameters</b>																																																	
Alkalinity (as CaCO <sub>3</sub> )	mg/l	561			411			363			306			396			319			386			421			390			324			1210			284														
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	215.7			216.5			347.7			292			386.3			303.5			386.3			406.8			301.8			324			389.6			284.6														
Carbonate (as CaCO <sub>3</sub> )	mg/l							<1.7		U				16.7			<1.7		U	13.3			88.4			<3.3		U	10			<3.3		U															
Hydroxide (as CaCO <sub>3</sub> )	mg/l							<2.9		U				<14.7		U	<2.9		U	<8.8		U	<8.8		U	<5.9		U	14.7			<5.9		U															
Hardness (as CaCO <sub>3</sub> )	mg/l	26			20			31			235			23			33			24			23			34			23			21			81														
Calcium, dissolved	mg/l	7.2			4.9			7.23			6.73			6.25			9.5			6.1			5.9			10.1			6.95			6.34			28.5														
Magnesium, dissolved	mg/l	2.1			1.5			2.19			1.45			1.67			3.1			1.8			1.5			2.8			1.6			1.45			2.3														
Potassium, dissolved	mg/l	2.3			2			2.28			2.05			2			2			2			5.5			2.6			2.09			3			3														
Sodium, dissolved	mg/l	216			212			210			228			219			222			182			152			182			213			253																	
Chloride	mg/l	16			29			28			29			30			30			30			74			68			70.8			77																	
Fluoride	mg/l	2.8			2.5			1.3			2.8			3.8			3.1			2.9			2.6			0.5			1.42			1.5			4			2.64		0.9	3.96		(a)						
Silica	mg/l	9			2.1			9.6			9.9			9.5			8.3			9.4			13.7			12.2			10.2			13.3																	
Sulfate	mg/l	286			282			275			137			240			224			245			243			56			57			68			86														
Total Dissolved Solids	mg/l	734			826		J	820			470		J	810			856		J	890		J	776			1,280			612			1,080			2,360			10,000											
Total Suspended Solids	mg/l	1,410			1,900		J	1,120			664			1,540			844			1,930			1,790			192			6,030			647																	
pH, Lab	s.u.	8.64		J	7.46		J	8.5		J	8.8		J	8.7		J	8.2		J	8.23		J	8		J	8.3		J	7.8		J	8		J	5.9		J	6.5 - 8.5			8.42		J	0.55		6.5 - 8.5	(a)		
E.C., Lab	uS/cm	1,132			1,120			1,120			1,110			1,180			1,130			1,080			1,123			868			925			1,103			2,690														
<b>Nutrients</b>																																																	
Phosphorus, total as P	mg/l	<0.2		U	<1.0		U	0.06		J	1.19		J	1		J	0.74		J	1.35		J	0.68		J	0.69		J	<0.08		U	0.1		J	0.05		J	n/a		J	n/a		J	n/a		J			
Nitrate as N, dissolved	mg/l	1.65		J	2.6		J	1.3		J	1.2		J	1.24		J	0.98		J	0.6		J	1.2		J	<0.025		U	0.008		J	<0.01		U	10		J	0.69		J	0.52		J	5.0		(a)			
Nitrite as N, dissolved	mg/l	1.28		J	2.02		J	1.34		J	2.41		J	2.2		J	1.72		J	1.94		J	1.91		J	0.69		J	<0.08		U	0.1		J	10		J	2.28		J	1.11		J	6.59		(c)			
Nitrate/Nitrite as N, dissolved	mg/l	<0.8		U	<0.8		U	<0.7		U	<0.4		U	<0.7		U	0.4		J	0.4		J	<0.4		J	0.4		J	0.3		J	0.6		J	0.4		J			J			J						
<b>Metals</b>																																																	
Aluminum, dissolved	mg/l	0.16			0.29			0.25			0.07			0.15			<0.05		U	0.13			0.29			0.26			0.06			0.2			0.43														
Antimony, dissolved	mg/l	0.013						0.005			0.003			0.005			0.003		J	0.027		J	0.027		J	<0.005		U	<0.002		U	0.01		J	0.0067		J	0.0077		J	0.007		(a)						
Arsenic, dissolved	mg/l	0.01			0.009			0.01			0.011			0.014			0.011			0.01			0.011			<0.005		U	<0.005		U	0.005		J	0.011		J	0.002		J	0.025		(a)						
Barium, dissolved	mg/l	0.01			0.01			1.3			0.014			0.018			0.02			0.02			0.02			0.026			0.015		J	0.043		J	0.094		J	0.27		J	0.577		J	1.0		(a)			
Beryllium, dissolved	mg/l	<0.001		U	0.0037			<0.0005		U	<0.0002		U	<0.0002		U	<0.001		U	<0.001		U	<0.001		U	<0.001		U	<0.001		U	0.001		J	<0.001		U	n/a		J	0.002		(a)						
Cadmium, dissolved	mg/l	<0.001		U	<0.001		U	<0.002		U	<0.001		U	<0.001		U	<0.005		U	<0.001		U	<0.001		U	<0.0005		U	<0.001		U	<0.001		U	0.005		J	<0.001		U	n/a		J	0.003		(a)			
Chromium, dissolved	mg/l	<0.005		U	<0.005		U	<0.002		U	<0.001		U	0.002		J	<0.005		U	<0.005		U	<0.005		U	<0.005		U	<0.005		U	0.005		J	<0.005		U	<0.005		U	0.1		J	<0.005		J	0.05		(a)
Copper, dissolved	mg/l	<0.01		U	<0.01		U	<0.01		U	0.038		J	0.004		J	<0.01		U	<0.01		U	<0.01		U	<0.01		U	0.01		J	0.01		J	<0.01		U	1.3		J	0.011		J	0.015		J	0.65		(a)
Iron, dissolved	mg/l	0.1			0.17			0.153			0.039			0.091			0.02			0.1			0.11			0.05			0.251			0.96																	
Lead, dissolved	mg/l	<0.005		U	<0.01		U	<0.005		U	<0.005		U	<0.005		U	<0.005		U	<0.005		U	<0.005		U	<0.005		U	<0.005		U	0.005		J	<0.005		U	<0.005		U	n/a		J	0.008		(a)			
Manganese, dissolved	mg/l	<0.01		U	<0.01		U	0.002		J	0.003		J	<0.01		U	0.02		J	<0.01		U	0.02		J	0.02		J	<0.01		U	0.24		J	0.52		J			J			J						
Mercury, dissolved	mg/l	<0.0002		U	<0.0002		U	<0.0002		U	<0.0002		U	<0.0002		U	<0.0002		U	<0.0002		U	<0.0002		U	<0.0002		U	0.0002		J	0.0002		J	<0.0005		U	0.002		J	<0.0002		U	n/a		J	0.001		(a)
Molybdenum, dissolved	mg/l	<0.04		U	0.02		J	0.02		J	0.015		J	0.016		J	<0.02		J	<0.02		J	<0.02		J	0.02		J	0.02		J	0.029		J	0.03		J			J			J						
Nickel, dissolved	mg/l	<0.01		U	<0.01		U	0.005		J	0.002		J	0.004		J	<0.01		U	<0.01		U	<0.01		U	<0.01		U	<0.01		U	0.01		J	<0.01		U			J			J						
Selenium, dissolved	mg/l	0.002		J	<0.002		U	<0.002		U	<0.004		J	0.002		J	0.003		J	<0.005		J	<0.005		J	<0.004		J	<0.004		J	0.002		J	0.002		J	0.002		J	0.001		J	0.025		(a)			
Silver, dissolved	mg/l	<0.002		U	<0.002		U	<0.002		U	<0.002		U	0.006		J	<0.005		J	<0.001		U	<0.001		U	0.9		J	<0.5		J	0.0005		J	<0.0005		U	0.1		J	<0.002		J	n/a		J	0.05		(a)
Thallium, dissolved	mg/l	<0.001		U	<0.001		U	<0.001		U	<0.001		U	<0.001		U	0.002		J	<0.001		U	<0.001		U	<0.001		U	<0.001		U	<0.001		U	0.002		J	<0.001		U	n/a		J	0.001		(a)			
Uranium, total	mg/l							0.007			0.011			0.007			0.007			0.008			0.008			0.0088			0.003			0.011			0.02														

Groundwater Monitoring Results - 94MW2 Cumulative Water Quality

Station Name	Units	94MW2			94MW2			94MW2			94MW2			94MW2			94MW2			94MW2			94MW2			94MW2			94MW2																																
Field Sample ID		94MW2-01-01			94MW2-01-02			94MW2-01-03			94MW2-01-04			94MW2-01-05			94MW2			94MW2			94MW2			94MW2			94MW2			94MW2																													
Lab Sample ID		10/1/1994			3/1/1995			5/1/1995			8/1/1995			11/1/1995			4/3/1996			6/1/1996			9/1/1996			12/17/1996			3/17/1997			5/20/1997			8/28/1997			12/3/1997			2/9/1998			5/20/1998			8/20/1998			11/21/1998			5/17/1999								
Sample Date		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC												
<b>Major Ions + Indicator Parameters</b>																																																													
Alkalinity (as CaCO <sub>3</sub> )	mg/l	1,517			870			254			213			186			203			181			191			190			180			170			180			173			202			186			175			184			173								
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l																																																												
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	1,517.3			869.4			254.3			212.4			180.4			202.6			180.4			190.3			189.5			180.4			169.8			180.4			173.1			201.8			183.7			174.7			183.7											
Carbonate (as CaCO <sub>3</sub> )	mg/l	<1.7	U		<1.7	U		<1.7	U																	<8.3	U		<3.3	U		<5.0	U		<3.3	U		<3.3	U		<1.7	U		5			<3.3	U		<3.3	U		<1.7	U							
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2.9	U		<2.9	U		<2.9	U																	<14.7	U		<5.9	U		<8.8	U		<5.9	U		<5.9	U		<2.9	U		8.8			<5.9	U		<5.9	U		<2.9	U							
Hardness (as CaCO <sub>3</sub> )	mg/l	645			616			486			481			420			413			420			410			423			408			417			395			395			404			391			407			422			374								
Calcium, dissolved	mg/l	162			176			119			125			100			113			96.5			119			100			92.7			109			93.6			101			93.6			103			106			92											
Magnesium, dissolved	mg/l	51.5			54.8			35.8			40.1			35.3			38			34.4			39.9			36.7			35.2			32.9			38.5			34.2			37.2			34.1			36.4			38.3			35								
Potassium, dissolved	mg/l	13.6			11.9			9.1			10.5			8.8			9.8			9.21			11			9			9			8.5			10.5			9.1			8.8			8.68			9.4			9.4			8.9								
Sodium, dissolved	mg/l	79.4			91.2			75.6			80.3			76.1			85.1			73.4			80.8			81.7			76.6			71.8			82.1			72.4			75.4			71.6			87.3			75											
Chloride	mg/l	26			29			35.5			24			25			26			25			26			26			26			26			24			26			27			26			25			27											
Fluoride	mg/l	<1	U		0.59			0.41			<0.5	U		<0.5	U		<0.5	U		0.4			<0.5	U		0.5			0.4			0.5			0.3			0.41			0.49			0.4			0.2			0.4											
Silica	mg/l	11			24.8			11.4			15			11.8			13.3			11.4			12			12			12.4			12			<18.4	U		12.4			12.8			8.6			12.2			11.3			10.9								
Sulfate	mg/l	627			589			412			420			420			358			389			382			321			381			344			322			363			384			392			320			384			337								
Total Dissolved Solids	mg/l	1,120	J		1,085	J		847	J		823	J		855	J		784	J		740	J		816	J		800	J		856	J		804	J		816	J		820	J		864	J		1,060	J		1,110	J		944	J		968	J							
Total Suspended Solids	mg/l	11,700	J		571	J		2,590	J		3,420	J		3,860	J		4,420	J		3,140	J		2,830	J		2,370	J		2,240	J		3,930	J		3,160	J		1,640	J		9,800	J		438	J		3,160	J		4,270	J		2,140	J							
pH, Lab	s.u.	7.33	J		7.25	J		7.62	J		7.05	J		6.33	J		6.7	J		7	J		7	J		6.3	J		6.5	J		6.7	J		6.8	J		6.4	J		6.6	J		6.6	J		6.8	J		6.6	J		6.64	J							
E.C., Lab	uS/cm	1,451	J		1,398	J		1,163	J		1,155	J		1,090	J		1,140	J		1,080	J		1,120	J		1,110	J		1,120	J		1,059	J		1,077	J		1,101	J		1,143	J		1,109	J		1,120	J		1,100	J		1,050	J							
<b>Nutrients</b>																																																													
Phosphorus, total as P	mg/l																																																												
Nitrate as N, dissolved	mg/l	0.071	J		0.069	J		0.037	J		<0.02	U	J	0.08	J		0.04	J		<0.04	U		<0.08	U	J	<0.08	U	J	0.014	J		<0.019	U	J	1.59			<0.08	U		<0.08	U		<0.08	U		<0.2	U		<0.2	U	J	0.1			0.1			FB		
Nitrite as N, dissolved	mg/l	<0.005	U	J	<0.005	U	J	<0.005	U	J	0.011	J		<0.005	U	J	0.007	J		<0.005	U	J	0.009	J		0.013	J		0.014	J		<0.019	U	J	<0.005	U		<0.005	U		<0.005	U		<0.011	U		0.008	J		0.005	J		<0.005	U		<0.005	U		<0.005	U	
Nitrate/Nitrite as N, dissolved	mg/l	0.085	J		0.069	J		0.037	J		<0.02	U		0.08	J		0.05	J		<0.04	U		<0.08	U	J	<0.08	U	J	<0.08	U		<0.02	U		1.59			<0.08	U		<0.08	U		<0.08	U		<0.2	U		<0.2	U	J	0.1			0.1			FB		
Nitrogen, ammonia	mg/l	<0.4	U		<0.4	U		<0.4	U		<0.8	U		<0.8	U		<0.4	U		<0.4	U		<0.4	U		<0.4	U		<0.4	U		<0.2	U		<0.2	U		<0.2	U		<0.2	U		0.4			<0.2	U		<0.2	U		<0.2	U	J	<0.2	U	J			
<b>Metals</b>																																																													
Aluminum, dissolved	mg/l	<0.05	U		<0.05	U		0.016			0.97	J		<0.02	U		<0.03	U		0.01			<0.03	U		<0.05	U		<0.03	U		0.98			<0.03	U		<0.03	U		<0.06	U		<0.03	U		0.07	J		0.06											
Antimony, dissolved	mg/l	0.0068			<0.006	U		<0.003	U		0.007			<0.003	U		<0.003	U		<0.003	U		<0.003	U		<0.003	U		0.003	J		0.012			<0.005	U		<0.009	U		0.002			<0.002	U	J	<0.002	U		<0.003	U	J	<0.003	U	J						
Arsenic, dissolved	mg/l	<0.005	U		<0.01	U		<0.04	U		0.011			<0.02	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U							
Barium, dissolved	mg/l	0.026			0.026			0.02			0.03			0.02			0.02			0.014			0.02			0.02			0.02			0.0216			0.013			0.017			0.015			0.015			0.014			0.017			0.017								
Beryllium, dissolved	mg/l	<0.005	U		<0.004	U		<0.01	U		0.0012			<0.001	U		<0.002	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		0.001			<0.001	U		<0.001	U		<0.001	U							
Cadmium, dissolved	mg/l	<0.001	U		<0.005	U		0.0096			0.018	J		0.012			0.011			0.008			0.012			0.014			0.015			0.004			0.019			0.02			0.009			0.001			0.009			0.009			0.008								
Chromium, dissolved	mg/l	<0.005	U		<0.01	U		<0.01	U		<0.005	U		<0.005	U		<0.005	U		<0.001	U		0.014			<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		0.005			<0.005	U		<0.005	U		<0.005	U		<0.005	U							
Copper, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		0.01			<0.01	U		<0.002	U		<0.01	U		<0.01	U		<0.01	U		<0.02	U	J	0.01			<0.01	U		<0.01	U		0.01			<0.01	U		<0.01	U		0.01			0.01			FB		
Iron, dissolved	mg/l	0.026			0.031			0.012			1.52	J		0.11			0.02			0.026			<0.01	U																																					

Groundwater Monitoring Results - 94MW2 Cumulative Water Quality

Station Name	Units	94MW2			94MW2		
Field Sample ID		94MW2-99-02			94MW2-00-01		
Lab Sample ID		99-U011087			00-U004029		
Sample Date		11/8/1999			5/5/2000		
		Result	FC	VC	Result	FC	VC
<b>Major Ions + Indicator Parameters</b>							
Alkalinity (as CaCO <sub>3</sub> )	mg/l	163			167		
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l	162.4			163.2		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	163.2			167.3		
Carbonate (as CaCO <sub>3</sub> )	mg/l	<3.3	U		<3.3	U	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<5.9	U		<5.9	U	
Hardness (as CaCO <sub>3</sub> )	mg/l	383			387		
Calcium, dissolved	mg/l	94			94		
Magnesium, dissolved	mg/l	36			37		
Potassium, dissolved	mg/l	8.5			9.2		
Sodium, dissolved	mg/l	77			79		
Chloride	mg/l	26			25		
Fluoride	mg/l	0.43			0.40792		
Silica	mg/l	11.3			12		
Sulfate	mg/l	381			365		
Total Dissolved Solids	mg/l	820			792		
Total Suspended Solids	mg/l	5,160	J		3,560	J	
pH, Lab	s.u.	6.73	J		6.63	J	
E.C., Lab	uS/cm	1,050			1,050		
<b>Nutrients</b>							
Phosphorus, total as P	mg/l						
Nitrate as N, dissolved	mg/l	0.8	FB		0.7		
Nitrite as N, dissolved	mg/l	0.006	J		0.005		
Nitrate/Nitrite as N, dissolved	mg/l	0.8			0.7		
Nitrogen, ammonia	mg/l	0.3	J		<0.2	U	
<b>Metals</b>							
Aluminum, dissolved	mg/l	0.06	J		0.04		
Antimony, dissolved	mg/l	0.004	FB		0.0008	FB J	
Arsenic, dissolved	mg/l	0.005			0.0038		
Barium, dissolved	mg/l	0.28	J		0.016	FB J	
Beryllium, dissolved	mg/l	<0.001	U		<0.001	U	
Cadmium, dissolved	mg/l	0.012			0.0085		
Chromium, dissolved	mg/l	<0.005	U		<0.005	U	
Copper, dissolved	mg/l	<0.01	U J		<0.01	U	
Iron, dissolved	mg/l	0.07			0.17		
Lead, dissolved	mg/l	<0.005	U		<0.0005	U	
Manganese, dissolved	mg/l	0.15			0.16		
Mercury, dissolved	mg/l	<0.0002	U J		<0.0002	U	
Molybdenum, dissolved	mg/l	0.04			0.04		
Nickel, dissolved	mg/l	0.01			0.01		
Selenium, dissolved	mg/l	<0.002	U		0.002		
Silver, dissolved	mg/l	<0.0005	U		<0.0005	U	
Strontium, dissolved	mg/l						
Thallium, dissolved	mg/l	<0.001	U J		<0.0005	U	
Uranium, total	mg/l	0.110145			0.0885507		
Vanadium, dissolved	mg/l	<0.01	U		<0.01	U	
Zinc, dissolved	mg/l	0.23	J		0.03	J	
<b>Radiological</b>							
Gross Alpha, total	pCi/l	120±30			290±155		
Gross Beta, total	pCi/l	75±21			207±12.9		
Radium 226, total	pCi/l	14±1.4			6.2±0.3		
Radium 228, total	pCi/l	5.9±1.3			2±0.5		
Thorium 228, total	pCi/l						
Thorium 230, total	pCi/l	5.1±1.5			7±1.6	FB	
Thorium 232, total	pCi/l	1.7±0.95			1.6±0.7		
<b>QC</b>							
Sum of Anions	meq/l	11.95			11.6		
Sum of Cations	meq/l	11.23			11.42		
Cation-Anion Balance	%	3.09			0.77		
TDS (calculated)	mg/l						
TDS (ratio - measured/calculated)	Unitless						
<b>Field Parameters</b>							
Temperature, Field	deg C	14.2			14.8		
pH, Field	s.u.	6.98			6.78		
E.C., Field, 25C	uS/cm	723			1,070		
Depth to Water	ft	249.26			248.76		
Water Elevation	ft	6,165.84			6,166.34		



Groundwater Monitoring Results - 94MW2 Cumulative Water Quality

Station Name Field Sample ID Lab Sample ID Sample Date	Units	94MW2 94MW2-00-02 L29875-13 11/14/2000			94MW2 94MW2-01-01 L31974-07 5/10/2001			94MW2 94MW2-01-02 L34902-06 11/13/2001			94MW2 94MW2-01-02D L34902-07 11/13/2001			94MW2 94MW2-02-1 L38903-03 10/7/2002			94MW2 94MW2 L43331-04 10/6/2003			94MW2 94MW2-04-1 L48197-09 10/4/2004			94MW2 94MW2 L53966-05 10/24/2005			Utah Groundwater Quality Standard <sup>(1)</sup>	Background Levels		
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Mean <sup>(2)</sup> (x)	Standard Deviation (std) <sup>(2)</sup>	Maximum Background <sup>(3)</sup> Concentration				
<b>Major Ions + Indicator Parameters</b>																													
Alkalinity (as CaCO <sub>3</sub> )	mg/l	171			166			148			150			163			163			174			125			----	----	----	
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l																												
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	140.2			140.2			148			150			163			163			174			125			----	----	----	
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		----	----	----	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		----	----	----	
Hardness (as CaCO <sub>3</sub> )	mg/l	387			408			379			377			385			403			380			625			----	----	----	
Calcium, dissolved	mg/l	96.2			102			93.5			92.7			97.1			102			95.3			168			----	----	----	
Magnesium, dissolved	mg/l	35.7			37.3			35.4			35.3			34.5			36			34.4			49.9			----	----	----	
Potassium, dissolved	mg/l	7.7			9			7.7			7.5			8.5			9.4			8.9			10.1			----	----	----	
Sodium, dissolved	mg/l	84.4			81.1		FB	79.2			80.5			71.6			76.8			76.4			79.5			----	----	----	
Chloride	mg/l	25			27			25			25			27			27			26			25			----	----	----	
Fluoride	mg/l	0.6		FB	0.6			0.3		B	0.3			0.5		B	0.4		B	0.4		B	0.7		4.0	0.400	0.113	0.626 (c)	
Silica	mg/l	12.6			12.9		FB	12.7			12.6			12.5			12.7			12.7			16.7			----	----	----	
Sulfate	mg/l	400			400			400			400			370			350			360			640			----	----	----	
Total Dissolved Solids	mg/l	760			760			750			750			710			710			700		H	1,030		10,000	845	118	1081 (i)	
Total Suspended Solids	mg/l	586			908			662			660			1,380			1,470			1,840		H	846			----	----	----	
pH, Lab	s.u.	6.8		J	6.8		J	7			6.8			6.5		H	7.6			6.7		H	7.5		6.5 - 8.5	6.79	0.35	7.49 (e)	
E.C., Lab	uS/cm	1,050			1,060			1,040			1,040			1,060			1,040			1,030			1,370		----	----	----	----	
<b>Nutrients</b>																													
Phosphorus, total as P	mg/l							0.13			0.09			<0.02	U		0.41			<0.02	U		<0.02	U	0.05	n/a	n/a	n/a (j)	
Nitrate as N, dissolved	mg/l	0.03	B	FB	<0.1	U		0.13		FB	0.09			<0.02	U		0.41			<0.02	U		<0.02	U	10.0	0.166	0.334	0.834 (c)	
Nitrite as N, dissolved	mg/l	<0.01	U	J	<0.05	U		<0.01	U	J	<0.01	U		<0.01	U	H	<0.01	U	H	<0.01	U	H	<0.01	U	1.0	0.007	0.005	0.017 (c)	
Nitrate/Nitrite as N, dissolved	mg/l	0.03	B	FB	<0.1	U		0.13		FB	0.09			<0.02	U	H	<0.02	U	H	<0.02	U	H	<0.02	U	10.0	0.167	0.334	0.834 (c)	
Nitrogen, ammonia	mg/l	<0.05	U		0.08	B		<0.05	U		<0.05	U		<0.05	U		<0.05	U		<0.05	U		<0.05	U	----	----	----	----	
<b>Metals</b>																													
Aluminum, dissolved	mg/l	<0.03	U		<0.03	U		<0.03	U		<0.03	U		<0.03	U		<0.03	U		<0.03	U		0.06	B	----	----	----	----	
Antimony, dissolved	mg/l	0.004	B	FB	0.003	B	FB	0.005	B		0.003			<0.002	U		0.0018			0.0008	B		0.0017	B	0.006	0.003	0.003	0.008 (d)	
Arsenic, dissolved	mg/l	0.002	B		0.002	B	FB	0.003	B		0.002			0.002	B		0.0027			0.0031			0.0033		0.05	0.004	0.0038	0.0115 (f)	
Barium, dissolved	mg/l	0.299			0.171		FB	0.715			0.75			0.015			0.015		FB	0.015			0.02		2.0	0.099	0.193	0.485 (c)	
Beryllium, dissolved	mg/l	<0.0005	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U	0.004	0.001	0.001	0.003 (f)	
Cadmium, dissolved	mg/l	0.0061			0.0098			0.0096			0.0092			0.0086			0.0086			0.0104			0.0597	J	0.005	0.010	0.005	0.019 (d)	
Chromium, dissolved	mg/l	<0.0005	U		0.0004	B	FB	0.0004	B	FB	0.0004			<0.0001	U		0.0002	B	FB	0.0001	B	FB	0.0006	J	0.1	0.003	0.0026	0.0078 (f)	
Copper, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U	1.3	0.01	0.0021	0.0100 (f)	
Iron, dissolved	mg/l	0.21			0.11			0.12			0.12			0.23			0.25			0.16			0.27	J	----	----	----	----	
Lead, dissolved	mg/l	0.001	B		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.0001	U		<0.0001	U		0.0005	B	0.015	0.005	0.013	0.031 (d)	
Manganese, dissolved	mg/l	0.155			0.178		FB	0.159			0.158			0.169			0.173			0.181			0.372		----	----	----	----	
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		0.0003	B	FB	<0.0002	U	0.002	0.0001	0.00004	0.0002 (f)	
Molybdenum, dissolved	mg/l	0.03	B		0.03	B		0.02	B		0.03			0.02	B		0.02	B		<0.01	U		0.09		----	----	----	----	
Nickel, dissolved	mg/l	<0.01	U		0.01	B	FB	0.01	B		0.01			0.01	B		0.02	B		<0.01	U		0.1		----	----	----	----	
Selenium, dissolved	mg/l	<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U	0.05	0.004	0.006	0.016 (d)	
Silver, dissolved	mg/l	<0.0003	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U	0.1	0.040	0.114	0.269 (c)	
Strontium, dissolved	mg/l																2.39			0.0004	B		0.0008		0.002	0.001	0.003	0.006 (f)	
Thallium, dissolved	mg/l	<0.0003	U		<0.00005	U		<0.00005	U		<0.00005	U		0.00027	B		0.00041			0.0004	B		0.0008		0.002	0.001	0.003	0.006 (f)	
Uranium, total	mg/l	0.077			0.0826			0.0984			0.0888			0.0569			0.0601			0.0287			0.267		0.03	0.102	0.060	0.222 (d)	
Vanadium, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U	n/a	----	----	----	
Zinc, dissolved	mg/l	0.52			0.17		FB	0.33			0.31			0.03	B		0.07		FB	0.03	B		0.12		5.0	0.396	0.456	1.308 (c)	
<b>Radiological</b>																													
Gross Alpha, total	pCi/l	260±47		J	69±11			57.1±9.3			69±12			79.3±18			51.6±12			70.5±16			230±31		15	225.514	214	653 (d)	
Gross Beta, total	pCi/l	140±22		J	44±5.4			72.8±7.5			80.4±9.8			97.3±13			38.3±8.2			33.5±8.3			180±15		8 <sup>(4)</sup>	188.731	165	520 (d)	
Radium 226, total	pCi/l	12±0.9		J	6.5±0.7		J	5.31±1			7.62±1.3			0.91±0.3			5.4±0.5			4.85±0.5			11±0.7			----	----	----	
Radium 228, total	pCi/l	3.5±1			3±0.5		J	4.05±0.7			1.96±0.6			1.94±1.4			3.2±1.4		FB	2.04±0.8		FB	4.7±0.7			----	----	----	
Thorium 228, total	pCi/l						J	0.97±0.3			1.2±0.35			0.95±0.32			1.27±0.36			0.32±0.22			1.1±0.32			----	----	----	
Thorium 230, total	pCi/l	3.9±0.65		J	3.1±1.1			1.87±0.71			2.04±0.61			1.87±0.6			3.54±0.73			0.4±0.98			1.4±0.6			----	----	----	
Thorium 232, total	pCi/l	0.8±0.31		FB	1.8±0.89			0.																					

Groundwater Monitoring Results - 94MW6 Cumulative Water Quality

Station Name	Units	94MW6			94MW6			94MW6			94MW6			94MW6			94MW6			94MW6			94MW6									
Field Sample ID		94MW6-01-02			94MW6-01-01			94MW6-01-03			94MW6-01-04			94MW6-01-05			94MW6-01-06			94MW6			94MW6			94MW6			94MW6-15-4			
Lab Sample ID		3/1/1994			10/1/1994			5/1/1995			8/1/1995			11/1/1995			4/2/1996			6/1/1996			9/25/1996			12/1/1996			11/6/2015			
Sample Date		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	
<b>Major Ions + Indicator Parameters</b>																																
Alkalinity (as CaCO <sub>3</sub> )	mg/l	1,846		J	10,200			1,920			1,530			1,500			1,610			1,560			1,470			1,500			1,460			
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	1,845.4			10,211			1,919.2			1,533.7			1,410.7			1,607.5			1,558.3			1,476.3			1,410.7			1,460			
Carbonate (as CaCO <sub>3</sub> )	mg/l	<1.7		U	<1.7		U	<1.7		U							<1.7		U						88.4			<2		U		
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2.9		U	<2.9		U	<2.9		U							<2.9		U						<0		U	<2		U		
Hardness (as CaCO <sub>3</sub> )	mg/l	180		J	145			158			200			197			235			150			275			282			296			
Calcium, dissolved	mg/l	40.5			27.9			28.2			42			43.4			54.3			41.7			52.6			61.7			64.3			
Magnesium, dissolved	mg/l	23.1			17.4			18.3			23.6			23.7			27.6			22.6			25.7			37.6			32.9			
Potassium, dissolved	mg/l	11.8			12			9.4			11.9			10.8			11.3			11.6			6.9			12			11.6			
Sodium, dissolved	mg/l	1,250			938			1,010			1,220			1,210			1,290			1,180			1,360			1,390			1,260			
Chloride	mg/l	127			118			142			113			116			110			225			116			113			111			
Fluoride	mg/l	0.92			1.82			0.86			0.9			0.9			0.9			0.9			1.2			0.9			0.81			
Silica	mg/l	23.3			16.6			11.6			11.1			11.3			10.5			11.1			9			9.2			18			
Sulfate	mg/l	1,510		J	1,010			1,150			1,280			1,310			1,340			1,300			1,490			1,680			1,550		J	
Total Dissolved Solids	mg/l	3,930			6,910		J	3,240		J	3,560			3,460		J	3,700			3,740		J	3,860			4,090		J	3,680			
Total Suspended Solids	mg/l	2,240			10,600		J	2,240			156			516		J	662			302			301			142			88			
pH, Lab	s.u.	8.39		J	8.12		J	8.21		J	7.52		J	7.75		J	7.2		J	7.5		J	7.3		J	7.2		J	8		H J	
E.C., Lab	µS/cm	5,260			450		J	4,510			5,090			5,050			5,240			5,160			5,670			5,470			4,570			
<b>Nutrients</b>																																
Phosphorus, total as P	mg/l																															0.09
Nitrate as N, dissolved	mg/l	0.438		J	0.03		J	0.028		J	<0.02		U J	0.06		J	0.07		J	<0.4		U	0.41		J	<0.08		U	<0.02		U J	
Nitrite as N, dissolved	mg/l	0.011		J				<0.005		U J	<0.005		U J	0.005		J	<0.005		U J	<0.005		U J	<0.005		U J	<0.005		U J	<0.01		U	
Nitrate/Nitrite as N, dissolved	mg/l	0.449			0.036		J	0.028			<0.02		U	0.06			0.07		J	<0.4		U	0.41		J	<0.08		U	<0.02		U	
Nitrogen, ammonia	mg/l	0.9			0.69			0.69			0.7			0.8			0.8			0.8			1.3			1.3			0.8			
<b>Metals</b>																																
Aluminum, dissolved	mg/l	<0.05		U	<0.05		U	0.015			0.02			0.05			<0.15		U	0.1			<0.04		U	<0.05		U	1.64			
Antimony, dissolved	mg/l	<0.005		U	<0.002		U	<0.003		U	<0.003		U				<0.003		U	<0.003		U	0.005			<0.003		U	<0.0008		U	
Arsenic, dissolved	mg/l	<0.01		U	<0.005		U	0.016			<0.005		U	<0.02		U	<0.005		U	<0.005		U	<0.005		U	<0.005		U	<0.0004		U	
Barium, dissolved	mg/l	0.04			0.068			0.046			0.04			0.02			<0.05		U	0.019			0.022			0.02			0.042			
Beryllium, dissolved	mg/l	<0.004		U	<0.005		U	<0.01		U	<0.001		U	<0.001		U	<0.005		U	<0.002		U	<0.0002		U	<0.001		U	<0.0001		U	
Cadmium, dissolved	mg/l	<0.005		U	<0.001		U	<0.001		U	<0.001		U	<0.005		U	<0.025		U	<0.001		U	0.001			<0.005		U	<0.0002		U	
Chromium, dissolved	mg/l	<0.01		U	<0.005		U	<0.01		U	<0.005		U	<0.005		U	<0.025		U	<0.001		U	0.026			<0.005		U	0.003		B	
Copper, dissolved	mg/l	<0.01		U	<0.01		U	<0.01		U	<0.01		U	<0.01		U	<0.05		U	0.011			0.002			<0.01		U	<0.02		U	
Iron, dissolved	mg/l	0.038			0.021			0.024			0.24			0.14			0.19			0.238			0.229			0.19			0.97			
Lead, dissolved	mg/l	0.0037			<0.005		U	<0.005		U	<0.005		U	<0.005		U	<0.005		U	<0.02		U	<0.005		U	<0.005		U	0.0008		B	
Manganese, dissolved	mg/l	0.034			0.016		J	0.095			0.02			0.02			<0.05		U	0.013			0.019			<0.001		U	0.02		B	
Mercury, dissolved	mg/l	<0.0002		U	<0.0002		U	<0.0002		U	<0.0002		U	0.0002			<0.0002		U	<0.0002		U	<0.0002		U	<0.0002		U	<0.0002		U	
Molybdenum, dissolved	mg/l	0.018			<0.01		U	<0.04		U	<0.04		U	<0.01		U	<0.1		U	<0.005		U	<0.005		U	<0.02		U	<0.04		U	
Nickel, dissolved	mg/l	<0.01		U	<0.01		U	<0.01		U	<0.01		U	<0.01		U	<0.05		U	0.002			<0.002		U	<0.01		U	<0.02		U	
Selenium, dissolved	mg/l	0.017			<0.002		U	<0.002		U	0.006			0.004			<0.004		U	<0.004		U	0.007			<0.002		U	<0.001		U	
Silver, dissolved	mg/l	<0.01		U	<0.005		U	<0.01		U	<0.002		U	<0.005		U	<0.025		U	<0.002		U	<0.001		U	<0.005		U	<0.0003		U	
Strontium, dissolved	mg/l																															
Thallium, dissolved	mg/l	<0.002		U	<0.001		U	<0.005		U	<0.001		U				<0.001		U	<0.001		U	<0.01		U	0.008			<0.0005		U	
Uranium, total	mg/l																						0.002			0.003			0.002			
Vanadium, dissolved	mg/l	<0.01		U	0.01			<0.04		U	<0.04		U	<0.01		U	<0.05		U	<0.002		U	0.003			<0.01		U	<0.01		U	
Zinc, dissolved	mg/l	0.014			0.011			0.012			<0.05		U	0.03			<0.05		U	0.014			0.028			0.01			0.06		B	
<b>Radiological</b>																																
Gross Alpha, total	pCi/l	76.6±41			248±41			223±66.7			2.6±7.7			23			2±25			221±43			63±26			35±21.8			5.3±18			
Gross Beta, total	pCi/l	228±44.7			122±12			168±43.3			25±23			12			54±59			133±46			19±11			44±10.5			20±21			
Radium 226, total	pCi/l																						0.5±0.3			1±0.3						
Radium 228, total	pCi/l																						0.9±0.4			1.2±0.5						
Thorium 230, total	pCi/l																						1±0.7			0.8±0.6						
Thorium 232, total	pCi/l					</																										

Groundwater Monitoring Results - 94MW6 Cumulative Water Quality

Station Name	Units	94MW6	94MW6	94MW6	94MW6	94MW6	94MW6	94MW6	94MW6	94MW6	94MW6
Field Sample ID		94MW6-01-02	94MW6-01-01	94MW6-01-03	94MW6-01-04	94MW6-01-05	94MW6-01-06	94MW6	94MW6	94MW6	94MW6-15-4
Lab Sample ID											L27676-01
Sample Date		3/1/1994	10/1/1994	5/1/1995	8/1/1995	11/1/1995	4/2/1996	6/1/1996	9/25/1996	12/1/1996	11/6/2015
TDS (calculated)	mg/l										3,950
TDS (ratio - measured/calculated)	Unitless										0.93
<b>Field Parameters</b>											
Temperature, Field	deg C		15.8	13.2	18.4	10.6	11.3	14.1	13	11.5	11.8
pH, Field	s.u.		7.96	7.65	6.59	7.6	6.68	7.23	7.39	7.43	7.79
E.C., Field 25C	µS/cm		4,850	5,160	4,150	4,160	3,630	4,090	4,170	3,820	7,510
Depth to Water	ft		60.03	60.18	60.03	60.31	60.39	60.69	60.63	60.65	62.63
Water Elevation	ft		6,227.47	6,227.32	6,227.47	6,227.19	6,227.11	6,226.81	6,226.87	6,226.85	6,224.87

Groundwater Monitoring Results - 94MW6 Cumulative Water Quality

Station Name	Units	94MW6			94MW6			94MW6			94MW6			94MW6			94MW6		
Field Sample ID		94MW6-16-1			94MW6-16-2			94MW6-16-3			94MW6-16-4			94MW6-17-1			94MW6-17-2		
Lab Sample ID		L29147-01			L30614-01			L32467-03			L34234-02			L35912-03			L37992-03		
Sample Date		2/24/2016			5/19/2016			8/17/2016			11/16/2016			3/7/2017			6/21/2017		
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC
<b>Major Ions + Indicator Parameters</b>																			
Alkalinity (as CaCO <sub>3</sub> )	mg/l	1,380			1,350			1,200			1,240			1,270			1,330		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	1,380			1,350			1,200			1,240			1,270			1,330		
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U		<2	U		<2	U		<2	U	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U		<2	U		<2	U		<2	U	
Hardness (as CaCO <sub>3</sub> )	mg/l	724			817			874			892			820			838		
Calcium, dissolved	mg/l	148			164			172			171			157			159		
Magnesium, dissolved	mg/l	86			99			108			113			104			107		
Potassium, dissolved	mg/l	18			18			18			19			18			18		
Sodium, dissolved	mg/l	1,750			1,780			1,770			1,790			1,730			1,900		
Chloride	mg/l	91.1			83.6			80.7			74			78.8			83.9		
Fluoride	mg/l	0.58			0.54			0.56			0.54			0.55			0.57		
Silica	mg/l	11			11			11			11			11			11		
Sulfate	mg/l	3,530			3,570			3,520			3,350			3,350			3,590 H J		
Total Dissolved Solids	mg/l	6,360			5,900			6,360			6,550			6,480			6,140 H J		
Total Suspended Solids	mg/l	22			37			159			48.0			30.0			68.0 B		
pH, Lab	s.u.	8.1	H	J	7.9	H	J	8.0	H	J	8.1	H	J	8.1	H	J	8.0	H	J
E.C., Lab	µS/cm	7,350			7,730			7,150			7,130			7,340			7,180		
<b>Nutrients</b>																			
Phosphorus, total as P	mg/l	0.06			0.06			0.06			0.07			0.02 B			0.04 B		
Nitrate as N, dissolved	mg/l	<0.02	U	H J	0.02	B		<0.02	U	H J	<0.02	U	H J	<0.02	U	H J	0.08	B	
Nitrite as N, dissolved	mg/l	<0.01	U	H J	<0.01	U		<0.01	U	H J	<0.01	U	H J	<0.01	U	H J	<0.01	U	
Nitrate/Nitrite as N, dissolved	mg/l	<0.02	U	H J	0.02	B		<0.02	U	H J	<0.02	U	H J	<0.02	U	H J	0.08	B	
Nitrogen, ammonia	mg/l	1.26			1.26			1.24			1.19			1.28			1.32		
<b>Metals</b>																			
Aluminum, dissolved	mg/l	<0.2	U		<0.2	U		<0.2	U		<0.2	U		<0.2	U		<0.2	U	
Antimony, dissolved	mg/l	<0.002	U		<0.002	U		<0.002	U		<0.002	U		<0.002	U		<0.002	U	
Arsenic, dissolved	mg/l	<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U	
Barium, dissolved	mg/l	0.04	B		0.02	B		0.03	B		<0.02	U		0.02	B		0.03	B	
Beryllium, dissolved	mg/l	<0.0003	U		<0.0003	U		<0.0003	U		<0.0003	U		<0.0003	U		<0.0003	U	
Cadmium, dissolved	mg/l	<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U	
Chromium, dissolved	mg/l	<0.003	U		<0.003	U		<0.003	U		<0.003	U		<0.003	U		<0.003	U	
Copper, dissolved	mg/l	<0.05	U		<0.05	U		<0.05	U		<0.05	U		<0.05	U		<0.05	U	
Iron, dissolved	mg/l	<0.1	U		0.2	B		0.4			0.4			0.4			0.4		
Lead, dissolved	mg/l	<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U	
Manganese, dissolved	mg/l	0.04	B		<0.03	U		0.05	B		0.03	B		0.03	B		0.05	B	
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U	
Molybdenum, dissolved	mg/l	<0.1	U		<0.1	U		<0.1	U		<0.1	U		<0.1	U		<0.1	U	
Nickel, dissolved	mg/l	<0.04	U		<0.04	U		<0.04	U		<0.04	U		<0.04	U		<0.04	U	
Selenium, dissolved	mg/l	<0.001	U		<0.001	U		0.0007	B		0.0013			0.0008	B	J	<0.003	U	
Silver, dissolved	mg/l	<0.0003	U		<0.0003	U		<0.0003	U		<0.0003	U		<0.0003	U		<0.001	U	
Strontium, dissolved	mg/l	<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U	
Thallium, dissolved	mg/l	<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U	
Uranium, total	mg/l	0.0147			0.015			0.0128			0.0115			0.0062			0.0058		
Vanadium, dissolved	mg/l	<0.03	U		<0.03	U		<0.03	U		<0.03	U		<0.03	U		<0.03	U	
Zinc, dissolved	mg/l	<0.05	U		<0.05	U		<0.05	U		<0.05	U		<0.05	U		<0.05	U	
<b>Radiological</b>																			
Gross Alpha, total	pCi/l	19±37			18±25			-5.8±15			-2.1±16			-6.2±21			12±24		
Gross Beta, total	pCi/l	11±30			18±32			20±30			15±25			24±34			13±35		
Radium 226, total	pCi/l																		
Radium 228, total	pCi/l																		
Thorium 230, total	pCi/l																		
Thorium 232, total	pCi/l																		
<b>QC</b>																			
Sum of Anions	meq/l	104			104			100			97			98.0			104		
Sum of Cations	meq/l	92			95			96			97			93			101		
Cation-Anion Balance	%	-6.1			-4.5			-2.0			0.0			-2.6			-1.5		

Groundwater Monitoring Results - 94MW6 Cumulative Water Quality

Station Name	Units	94MW6	94MW6	94MW6	94MW6	94MW6	94MW6
Field Sample ID		94MW6-16-1	94MW6-16-2	94MW6-16-3	94MW6-16-4	94MW6-17-1	94MW6-17-2
Lab Sample ID		L29147-01	L30614-01	L32467-03	L34234-02	L35912-03	L37992-03
Sample Date		2/24/2016	5/19/2016	8/17/2016	11/16/2016	3/7/2017	6/21/2017
TDS (calculated)	mg/l	6,480	6,550	6,420	6,290	6,230	6,690
TDS (ratio - measured/calculated)	Unitless	0.98	0.9	0.99	1.04	1.04	0.92
<b>Field Parameters</b>							
Temperature, Field	deg C	8.4	13.5	9.3	8.1	11.0	9.2
pH, Field	s.u.	7.04	6.83	6.88	6.88	6.94	6.87
E.C., Field 25C	µS/cm	8,610	8,160	8,260	8,150	6,750	8,840
Depth to Water	ft	67.18	68.43	68.92	67.97	67.15	66.53
Water Elevation	ft	6,220.32	6,219.07	6,218.58	6,219.53	6,220.35	6,220.97

Groundwater Monitoring Results - 95R1 Cumulative Water Quality

Station Name	Units	95R1	
Field Sample ID		95R1-01-01	
Lab Sample ID			
Sample Date		5/13/1995	
		Result	FC VC
<b>Major Ions + Indicator Parameters</b>			
Alkalinity (as CaCO <sub>3</sub> )	mg/l	364	
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	298	
Carbonate (as CaCO <sub>3</sub> )	mg/l	<1.7	U
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2.9	U
Hardness (as CaCO <sub>3</sub> )	mg/l	884	
Calcium, dissolved	mg/l	199	
Magnesium, dissolved	mg/l	68	
Potassium, dissolved	mg/l	11.3	
Sodium, dissolved	mg/l	56.6	
Chloride	mg/l	19.8	
Fluoride	mg/l	0.38	
Silica	mg/l	9.3	
Sulfate	mg/l	593	
Total Dissolved Solids	mg/l	1,180	
Total Suspended Solids	mg/l	<5	U
pH, Lab	s.u.	7.55	
E.C., Lab	µS/cm	1,558	
<b>Nutrients</b>			
Nitrate as N, dissolved	mg/l	0.032	
Nitrite as N, dissolved	mg/l	<0.005	U
Nitrate/Nitrite as N, dissolved	mg/l	0.032	
Nitrogen, ammonia	mg/l	<0.4	U
<b>Metals</b>			
Aluminum, dissolved	mg/l	<0.01	U
Antimony, dissolved	mg/l	<0.003	U
Arsenic, dissolved	mg/l	<0.04	U
Barium, dissolved	mg/l	0.011	
Beryllium, dissolved	mg/l	<0.002	U
Cadmium, dissolved	mg/l	<0.001	U
Chromium, dissolved	mg/l	<0.01	U
Copper, dissolved	mg/l	<0.01	U
Iron, dissolved	mg/l	0.882	
Lead, dissolved	mg/l	<0.005	U
Manganese, dissolved	mg/l	0.225	
Mercury, dissolved	mg/l	<0.0002	U
Molybdenum, dissolved	mg/l	0.107	
Nickel, dissolved	mg/l	<0.01	U
Selenium, dissolved	mg/l	<0.002	U
Silver, dissolved	mg/l	<0.01	U
Thallium, dissolved	mg/l	<0.001	U
Vanadium, dissolved	mg/l	<0.04	U
Zinc, dissolved	mg/l	0.164	
<b>Radiological</b>			
Gross Alpha, total	pCi/l	21	
Gross Beta, total	pCi/l	24.5	
<b>QC</b>			
Sum of Anions	meq/l	20.17	
Sum of Cations	meq/l	18.28	
Cation-Anion Balance	%	9.85	

Groundwater Monitoring Results - 98R3 Cumulative Water Quality

Station Name	Units	98R3	
Field Sample ID		98R3-98-01	
Lab Sample ID		98-U003048	
Sample Date		4/17/1998	
		Result	FC VC
<b>Major Ions + Indicator Parameters</b>			
Alkalinity (as CaCO <sub>3</sub> )	mg/l	1,690	
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	1,697.7	
Carbonate (as CaCO <sub>3</sub> )	mg/l	<5	U
Calcium, dissolved	mg/l	319	
Magnesium, dissolved	mg/l	98.3	
Potassium, dissolved	mg/l	5.17	
Sodium, dissolved	mg/l	57.7	
Chloride	mg/l	26.8	
Fluoride	mg/l	0.72	
Sulfate	mg/l	1,290	
Total Dissolved Solids	mg/l	2,040	
Total Suspended Solids	mg/l	1,800	
pH, Lab	s.u.	7.1	
E.C., Lab	µS/cm	2,017	
<b>Metals</b>			
Antimony, dissolved	mg/l	0.008	
Arsenic, dissolved	mg/l	<0.005	U
Barium, dissolved	mg/l	0.029	
Beryllium, dissolved	mg/l	<0.001	U
Cadmium, dissolved	mg/l	<0.001	U
Chromium, dissolved	mg/l	<0.005	U
Copper, dissolved	mg/l	<0.01	U
Iron, dissolved	mg/l	0.031	
Lead, dissolved	mg/l	<0.005	U
Manganese, dissolved	mg/l	0.23	
Mercury, dissolved	mg/l	0.0004	
Molybdenum, dissolved	mg/l	0.109	
Nickel, dissolved	mg/l	<0.01	U
Selenium, dissolved	mg/l	0.017	
Silver, dissolved	mg/l	<0.0005	U
Uranium, total	mg/l	0.126957	
Zinc, dissolved	mg/l	<0.01	U
<b>Field Parameters</b>			
Temperature, Field	deg C	2,510	
pH, Field	s.u.	52.5	
E.C., Field 25C	µS/cm	7.52	
Depth to Water	ft	57.63	
Water Elevation	ft	6,299.67	

Groundwater Monitoring Results - 98R4 Cumulative Water Quality

Station Name	Units	98R4			98R4			98R4			98R4			98R4			98R4			98R4			98R4			98R4					
Field Sample ID		98R4-98-01			98R4-141106			98R4-15-1			98R4-15-2			98R4-15-3			98R4-15-4			98R4-16-1			98R4-16-2			98R4-16-3			98R4-		
Lab Sample ID		98-U003047			L21465-04			L23300-01			L24349-01			L26182-01			L27662-01			L29132-03			L30578-01			L32431-03			L3419		
Sample Date		4/17/1998			11/6/2014			3/13/2015			5/13/2015			8/18/2015			11/4/2015			2/23/2016			5/18/2016			8/17/2016			11/15/		
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result		
<b>Major Ions + Indicator Parameters</b>																															
Alkalinity (as CaCO <sub>3</sub> )	mg/l	423			166			338			317			305						375			353			326			334		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	422.4			166			338			308			299						345			342			318			321		
Carbonate (as CaCO <sub>3</sub> )	mg/l	<1.7	U		<2	U		<2	U		8.3	B		6.1	B					30.1			10.9	B		8.1	B		13.2		
Hydroxide (as CaCO <sub>3</sub> )	mg/l				<2	U		<2	U		<2	U		<2	U					<2	U		<2	U		<2	U		<2		
Hardness (as CaCO <sub>3</sub> )	mg/l				227			173			139			141						99		R	112			127			162		
Calcium, dissolved	mg/l	436			64.3			42.9			33.7			35.1						23.6		R	27.9			32.7			41.8		
Magnesium, dissolved	mg/l	289			16.2			16.1			13.4			13						9.8		R	10.3			11.1			14.0		
Potassium, dissolved	mg/l	16.8			1.8			7.5			7.3			6.7						7.9		R	7.1			6.4			6.0		
Sodium, dissolved	mg/l	479			15.5			211			201			199						255		R	222			201			172		
Chloride	mg/l	107			11.3			16.5			15.1			14.7			14.8			14.7		R	14.8			14.5			13.6		
Fluoride	mg/l	0.4			0.11	B		0.64			0.74			0.66			<1	U		0.67		R	0.86			0.67			0.57		
Silica	mg/l				9.7			14.7			22.4			9.9						9		R	9.2			9			10.8		
Sulfate	mg/l	2,980			90			320			300			273			382			279		J	300			266			227		
Total Dissolved Solids	mg/l	5,570			308	H	J	796		J	688			756						848		R	738			788			1,020		
Total Suspended Solids	mg/l	181			27			2,340		J	3,840			2,710						920		R	468			696			1,550		
pH, Lab	s.u.	6.6			8.1	H	J	8.3	H	J	8.4	H	J	8.3	H	J	8.5	H	J	8.6	H	J	8.4	H	J	8.4	H	J	8.4		
E.C., Lab	µS/cm	4,110			506			1,270			1,170			1,070			1,280			1,360		R	1,190			1,090			1,100		
<b>Nutrients</b>																															
Phosphorus, total as P	mg/l				0.04	B		1.18			1.95			0.43			2.09			0.2		R	0.11			0.59			0.21		
Nitrate as N, dissolved	mg/l				0.38	H	J	0.03	B		0.09	B	H	J	0.09	B	H	J	0.05	B	H	J	0.09	B	H	J	0.16			0.22	
Nitrite as N, dissolved	mg/l				<0.01	U	H	J	0.08		<0.01	U	H	J	<0.01	U	H	J	<0.01	U	H	J	<0.01	U	H	J	<0.01	U	<0.01		
Nitrate/Nitrite as N, dissolved	mg/l				0.38	H		0.11			0.09	B	H	J	0.09	B	H	J	0.05	B	H	J	0.09	B	H	J	0.16			0.22	
Nitrogen, ammonia	mg/l				<0.05	U		0.47			0.45			0.22			0.47			0.25		R	0.26			0.28			0.19		
<b>Metals</b>																															
Aluminum, dissolved	mg/l				<0.03	U		0.94			2.03			0.04	B					<0.03	U		0.05	B		<0.03	U		0.12		
Antimony, dissolved	mg/l	0.003			0.0019	B		0.0007	B		0.0007	B		0.0008	B					<0.0004	U		0.0008	B		0.0011	B		0.0012		
Arsenic, dissolved	mg/l	0.007			0.0002	B		0.0011			0.0005	B		0.0004	B					0.0003	B		0.0004	B		0.0003	B		0.0003		
Barium, dissolved	mg/l	0.033			0.041			0.034			0.025			0.018	B					0.017	B		0.017	B		0.022			0.025		
Beryllium, dissolved	mg/l	<0.001	U		<0.00005	U		0.00059			0.00018	B		0.00005	B					<0.00005	U		<0.00005	U		<0.00005	U		<0.00005		
Cadmium, dissolved	mg/l	<0.001	U		0.0005			0.0002	B	J	<0.0001	U		0.0001	B					<0.0001	U		<0.0001	U		0.0001	B		0.0002		
Chromium, dissolved	mg/l	<0.005	U		<0.0005	U		0.0027			0.0009	B		<0.0005	U					<0.0005	U		<0.0005	U		<0.0005	U		<0.0005		
Copper, dissolved	mg/l	0.073			0.01	B		<0.01	U		<0.01	U		<0.01	U					<0.01	U		<0.01	U		<0.01	U		<0.01		
Iron, dissolved	mg/l	0.094			<0.02	U		1.21			0.83			<0.02	U					<0.02	U		<0.02	U		<0.02	U		0.03		
Lead, dissolved	mg/l	0.023			<0.0001	U		0.0059	J		0.0014			0.0002	B					<0.0001	U		<0.0001	U		<0.0001	U		<0.0001		
Manganese, dissolved	mg/l	0.27			<0.005	U		0.048			0.036			0.02	B					0.008	B		0.019	B		0.018	B		0.020		
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U					<0.0002	U		<0.0002	U		<0.0002	U		<0.0002		
Molybdenum, dissolved	mg/l	<0.01	U		<0.02	U		<0.02	U		<0.02	U		<0.02	U					0.04	B		<0.02	U		<0.02	U		<0.02		
Nickel, dissolved	mg/l	0.018			0.047			0.015	B		0.009	B		<0.008	U					<0.008	U		<0.008	U		<0.008	U		0.016		
Selenium, dissolved	mg/l	<0.002	U		0.0014	B		<0.001	U		<0.001	U		0.001	B					<0.001	U		<0.001	U		0.0002	B		0.0003		
Silver, dissolved	mg/l	<0.0005	U		<0.001	U		0.00009	B		<0.00005	U		<0.00005	U					<0.00005	U		<0.00005	U		<0.00005	U		<0.00005		
Thallium, dissolved	mg/l				<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U					<0.0001	U		<0.0001	U		<0.0001	U		<0.0001		
Uranium, total	mg/l	0.117681			0.0023			0.0177			0.031			0.0159			0.0535			0.0168		R	0.0116			0.0096			0.0138		
Vanadium, dissolved	mg/l				<0.005	U		<0.005	U		<0.005	U		<0.005	U					<0.005	U		0.005	B		<0.005	U		<0.005		
Zinc, dissolved	mg/l	0.018			0.08			0.01	B		<0.01	U		<0.01	U					0.02	B		0.01	B		0.01	B		0.01		
<b>Radiological</b>																															
Gross Alpha, total	pCi/l				3.7±2.9			82±27			67±19			29±11			350±84			140±33			71±20			110±26			42±11		
Gross Beta, total	pCi/l				6.8±4			120±25			72±17			49±10			250±47			100±18			58±14			100±18			39±7.7		
<b>QC</b>																															
Sum of Anions	meq/l				5.6			14			13			12						14			14			13			12		
Sum of Cations	meq/l				5.3			13			12			12						13			12			12			11.0		
Cation-Anion Balance	%				-2.8			-3.7			-4			0						-3.7			-7.7			-4.0			-4.3		
TDS (calculated)	mg/l				315			843			796			741						831			811			744			694		
TDS (ratio - measured/calculated)	Unitless				0.98			0.94			0.86			1.02						1.02			0.91			1.06			1.47		
<b>Field Parameters</b>																															
Temperature, Field	deg C	11.2			15.9			6						18.3						5.7			13.4			13.5			12.9		



## Groundwater Monitoring Results - 98R4 Cumulative Water Quality

Station Name	Units	98R4	98R4	98R4	98R4	98R4	98R4	98R4	98R4	98R4	98R4	98R4
Field Sample ID		98R4-98-01	98R4-141106	98R4-15-1	98R4-15-2	98R4-15-3	98R4-15-4	98R4-16-1	98R4-16-2	98R4-16-3	98R4-16-3	98R4-16-3
Lab Sample ID		98-U003047	L21465-04	L23300-01	L24349-01	L26182-01	L27662-01	L29132-03	L30578-01	L32431-03	L32431-03	L3419
Sample Date		4/17/1998	11/6/2014	3/13/2015	5/13/2015	8/18/2015	11/4/2015	2/23/2016	5/18/2016	8/17/2016	8/17/2016	11/15/
pH, Field	s.u.	6	7.34	7.44	7.77	7.74		6.96	7.55	7.67	7.67	7.49
E.C., Field 25C	µS/cm	1,380	497	1,322	1,177	1,171		1,276	925	1,139	1,139	1,023
Depth to Water	ft	80.92	173.65	169.64	168.36	166.04	162.29	158.94	157.55	156.35	156.35	155.40
Water Elevation	ft	6,276.98	6,184.25	6,188.26	6,189.54	6,191.86	6,195.61	6,198.96	6,200.35	6,201.55	6,201.55	6,202.50

Groundwater Monitoring Results - 98R4 Cumulative Water Quality

Station Name	Units	k4	98R4			98R4			
Field Sample ID		16-4	98R4-17-1			98R4-17-2			
Lab Sample ID		4-01	L35912-02			L37993-03			
Sample Date		2016	3/7/2017			6/20/2017			
		FC	VC	Result	FC	VC	Result	FC	VC
<b>Major Ions + Indicator Parameters</b>									
Alkalinity (as CaCO <sub>3</sub> )	mg/l			346			329		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l			324			318		
Carbonate (as CaCO <sub>3</sub> )	mg/l	B		22.3			11.2	B	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	U		<2	U		<2	U	
Hardness (as CaCO <sub>3</sub> )	mg/l			127			116		
Calcium, dissolved	mg/l			32.4			29.2		
Magnesium, dissolved	mg/l			11.1			10.5		
Potassium, dissolved	mg/l			6.5			7.0		
Sodium, dissolved	mg/l			203			234		
Chloride	mg/l			14.1			13.8		
Fluoride	mg/l			0.70			0.76		
Silica	mg/l			9.4			9.4		
Sulfate	mg/l			245			256		J
Total Dissolved Solids	mg/l			860			746		
Total Suspended Solids	mg/l			1,310			540		
pH, Lab	s.u.	H	J	8.5	H	J	8.4	H	J
E.C., Lab	µS/cm			1,130			1,060		
<b>Nutrients</b>									
Phosphorus, total as P	mg/l		J	0.43			0.17		
Nitrate as N, dissolved	mg/l	H	J	0.16	H	J	0.07	B	H
Nitrite as N, dissolved	mg/l	U	H	<0.01	U	H	0.01	B	H
Nitrate/Nitrite as N, dissolved	mg/l	H	J	0.16	H	J	0.08	B	H
Nitrogen, ammonia	mg/l	B		0.30			0.24		
<b>Metals</b>									
Aluminum, dissolved	mg/l	B	J	0.10	B		0.08	B	
Antimony, dissolved	mg/l	B		0.0007	B		0.0007	B	
Arsenic, dissolved	mg/l	B		0.0005	B		0.0002	B	
Barium, dissolved	mg/l			0.023			0.023		
Beryllium, dissolved	mg/l	U		<0.00005	U		<0.00005	U	
Cadmium, dissolved	mg/l	B		<0.0001	U		<0.0001	U	
Chromium, dissolved	mg/l	U		<0.0005	U		<0.0005	U	
Copper, dissolved	mg/l	U		<0.01	U		<0.01	U	
Iron, dissolved	mg/l	B		0.07			0.03	B	
Lead, dissolved	mg/l	U		0.0003	B		<0.0001	U	
Manganese, dissolved	mg/l	B		0.019	B		0.024	B	
Mercury, dissolved	mg/l	U		<0.0002	U		<0.0002	U	
Molybdenum, dissolved	mg/l	U		<0.02	U		<0.02	U	
Nickel, dissolved	mg/l	B		0.013	B		<0.008	U	
Selenium, dissolved	mg/l			0.0001	B	J	<0.001	U	
Silver, dissolved	mg/l	U		<0.00005	U		<0.001	U	
Thallium, dissolved	mg/l	U		<0.0001	U		<0.0001	U	
Uranium, total	mg/l			0.0088			0.007		
Vanadium, dissolved	mg/l	U		<0.005	U		<0.005	U	
Zinc, dissolved	mg/l	B		0.01	B		0.01	B	
<b>Radiological</b>									
Gross Alpha, total	pCi/l			20±6.7			31±9.8		
Gross Beta, total	pCi/l			33±7			48±9.9		
<b>QC</b>									
Sum of Anions	meq/l			13			12		
Sum of Cations	meq/l			12			13		
Cation-Anion Balance	%			-4.0			4.0		
TDS (calculated)	mg/l			737			765		
TDS (ratio - measured/calculated)	Unitless			1.17			0.98		
<b>Field Parameters</b>									
Temperature, Field	deg C			10.7			25.0		

### Groundwater Monitoring Results - 98R4 Cumulative Water Quality

Station Name	Units	98R4	98R4	98R4
Field Sample ID		16-4	98R4-17-1	98R4-17-2
Lab Sample ID		4-01	L35912-02	L37993-03
Sample Date		2016	3/7/2017	6/20/2017
pH, Field	s.u.		8.03	8.02
E.C., Field 25C	μS/cm		970	1,181
Depth to Water	ft		154.99	155.95
Water Elevation	ft		6,202.91	6,201.95

Groundwater Monitoring Results - 98R7 Cumulative Water Quality

Station Name	Units	98R7			98R7			98R7			98R7			98R7			98R7			98R7			98R7								
Field Sample ID		98R7-98-01			98R7-141104			98R7-15-1			98R7-15-2			98R7-15-3			98R7-15-4			98R7-16-1			98R7-16-2			98R7-16-3			98R7-		
Lab Sample ID		98-U003044			L21421-02			L23300-02			L24315-01			L26230-02			L27676-02			L29133-02			L30614-02			L32467-02			L3419		
Sample Date		4/15/1998			11/4/2014			3/12/2015			5/12/2015			8/19/2015			11/6/2015			2/24/2016			5/20/2016			8/17/2016			11/15/		
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result		
<b>Major Ions + Indicator Parameters</b>																															
Alkalinity (as CaCO <sub>3</sub> )	mg/l	195			263			264			279			259			264			264			288			246			269		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	192.7			263			264			261			249			256			250			280			236			260		
Carbonate (as CaCO <sub>3</sub> )	mg/l	<3.3	U		<2	U		<2	U		18	B		10.5	B		8	B		14.6	B		8.3	B		9.9	B		8.9		
Hydroxide (as CaCO <sub>3</sub> )	mg/l				<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2		
Hardness (as CaCO <sub>3</sub> )	mg/l				125			127			121			122			144			116			112			116			120		
Calcium, dissolved	mg/l	21.1			32.2			32.2			31.2			31.4			39.1			29.8			28.8			30			31		
Magnesium, dissolved	mg/l	7.66			10.8			11.3			10.4			10.7			11.3			10			9.7			10			10.4		
Potassium, dissolved	mg/l	3.65			3.4			3.6			3.6			3.5			3.9			3.5			3.4			3.3			3.5		
Sodium, dissolved	mg/l	116			135			141			139			142			141			137			140			141			146		
Chloride	mg/l	7.6			6.6			6.5			6.6			6.8			6.5			7			7			6.6			6.3		
Fluoride	mg/l	1.26			0.89			0.89			1.13			0.91			0.85			0.87			0.88			0.86			0.86		
Silica	mg/l				8.3			9.1			8.7			8.6			17.3			7.7			8.4			8			8.1		
Sulfate	mg/l	189			200			180			190			173			171	J		183			170			188			172		
Total Dissolved Solids	mg/l	848			542			552			636			556			584			552			590			670			560		
Total Suspended Solids	mg/l	194			444			982	J		2,660			954			2,090	J		894			1,040			1,330			568		
pH, Lab	s.u.	7.8			8.3	H	J	8.3	H	J	8.6	H	J	8.4	H	J	8.4	H	J	8.5	H	J	8.4	H	J	8.4	H	J	8.4		
E.C., Lab	µS/cm	699.3			857			866			850			788			845			861			850			796			794		
<b>Nutrients</b>																															
Phosphorus, total as P	mg/l				0.41			0.96			1.78			0.48			1.11			0.53			0.69			1.29			0.47		
Nitrate as N, dissolved	mg/l				<0.02	U	H	J	<0.02	U	<0.02	U	H	J	<0.02	U	H	J	<0.02	U	J	<0.02	U	J	0.02	B	<0.02	U	H	J	<0.02
Nitrite as N, dissolved	mg/l				<0.01	U	H	J	<0.01	U	<0.01	U	H	J	<0.01	U	H	J	0.01	B	<0.01	U	<0.01	U	<0.01	U	<0.01	U	H	J	<0.01
Nitrate/Nitrite as N, dissolved	mg/l				<0.02	U	H	J	<0.02	U	<0.02	U	H	J	<0.02	U	H	J	<0.02	U		<0.02	U	0.02	B	<0.02	U	H	J	<0.02	
Nitrogen, ammonia	mg/l				0.99			0.98			1.05			0.9			0.97			0.97			0.94			0.98			0.91		
<b>Metals</b>																															
Aluminum, dissolved	mg/l				0.04	B		0.09	B		0.09	B		0.05	B		2.15			<0.03	U		0.19	B		0.04	B		<0.03		
Antimony, dissolved	mg/l	<0.002	U		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U	<0.0004	U		<0.0004	U	<0.0004	
Arsenic, dissolved	mg/l	<0.005	U		0.004			0.0038			0.0039			0.0035			0.0041			0.0023			0.0033			0.0037			0.0032		
Barium, dissolved	mg/l	0.017			0.019	B		0.017	B		0.022			0.016	B		0.039			0.022			0.021			0.020			0.020		
Beryllium, dissolved	mg/l	<0.001	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U		0.0001	B	<0.00005	U		<0.00005	U	<0.00005	U	<0.00005	U		<0.00005		
Cadmium, dissolved	mg/l	<0.001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U	<0.0001	U		<0.0001	U	<0.0001	
Chromium, dissolved	mg/l	<0.005	U		<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U		0.001	B	<0.0005	U		<0.0005	U	<0.0005	U	<0.0005	U		<0.0005		
Copper, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U	<0.01	U		<0.01	U	<0.01	
Iron, dissolved	mg/l	0.115			0.12			0.13			0.15			0.14			1.57			<0.02	U		0.15			0.15			0.02		
Lead, dissolved	mg/l	<0.005	U		0.0001	B		0.0002	B	J	0.0002	B		0.0002	B		0.0027			<0.0001	U		0.0001	B	0.0002	B		0.0002	B	<0.0001	
Manganese, dissolved	mg/l	<0.01	U		0.012	B		0.007	B		0.013	B		0.009	B		0.042			0.009	B		0.009	B	0.009	B	0.011	B		0.010	
Mercury, dissolved	mg/l	0.0003			<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U	<0.0002	U		<0.0002	U	<0.0002	
Molybdenum, dissolved	mg/l	0.072			0.04	B		0.04	B		0.04	B		0.03	B		0.03	B		0.05	B		0.02	B	0.03	B	0.03	B		0.03	
Nickel, dissolved	mg/l	<0.01	U		<0.008	U		<0.008	U		<0.008	U		<0.008	U		<0.008	U		<0.008	U		<0.008	U	<0.008	U		<0.008	U	<0.008	
Selenium, dissolved	mg/l	0.003			<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U	<0.001	U		<0.001	U	<0.001	
Silver, dissolved	mg/l	<0.0005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U		<0.0001	U		<0.00005	U		<0.00005	U	<0.00005	U		<0.00005	U	<0.00005	
Thallium, dissolved	mg/l				<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U		<0.0002	U		<0.0001	U		<0.0001	U	<0.0001	U		<0.0001	U	<0.0001	
Uranium, total	mg/l	0.891304			0.0217			0.0226			0.0358			0.0221			0.031			0.0193			0.0182			0.0232			0.0153		
Vanadium, dissolved	mg/l				<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U	<0.005	U		<0.005	U	<0.005	
Zinc, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		0.01	B		<0.01	U	<0.01	U		<0.01	U	<0.01	
<b>Radiological</b>																															
Gross Alpha, total	pCi/l				27±8.4			57±17			120±37			36±12			89±26			52±14			50±13			41±13			18±5.5		
Gross Beta, total	pCi/l				80±9.7			66±15			180±37			46±11			120±20			58±9.7			65±11			63±11			21±4.5		
<b>QC</b>																															
Sum of Anions	meq/l				9.7			9.3			9.8			9.1			9.1			9.4			9.6			9.1			9.2		
Sum of Cations	meq/l				8.6			8.9			8.7			8.9			9.6			8.5			8.6			8.7			9		
Cation-Anion Balance	%				-6			-2.2			-5.9			-1.1			2.7			-5			-5.5			-2.2			-1.1		
TDS (calculated)	mg/l				561			549			564			539			561			543			548								

Groundwater Monitoring Results - 98R7 Cumulative Water Quality

Station Name	Units	98R7	98R7	98R7	98R7	98R7	98R7	98R7	98R7	98R7	98R7
Field Sample ID		98R7-98-01	98R7-141104	98R7-15-1	98R7-15-2	98R7-15-3	98R7-15-4	98R7-16-1	98R7-16-2	98R7-16-3	98R7-
Lab Sample ID		98-U003044	L21421-02	L23300-02	L24315-01	L26230-02	L27676-02	L29133-02	L30614-02	L32467-02	L3419
Sample Date		4/15/1998	11/4/2014	3/12/2015	5/12/2015	8/19/2015	11/6/2015	2/24/2016	5/20/2016	8/17/2016	11/15/
pH, Field	s.u.	46.1	6.63	7.79	7.98	7.85	8.26	8.03	7.99	7.97	7.84
E.C., Field 25C	µS/cm	8.51	842	887	890	895	994	929	707	863	878
Depth to Water	ft	69.33	58.82	58.64	58.21	57.87	57.89	57.4	57.08	57.30	56.83
Water Elevation	ft	6,295.87	6,306.38	6,306.56	6,306.99	6,307.33	6,307.31	6,307.8	6,308.12	6,307.90	6,308.37

Groundwater Monitoring Results - 98R7 Cumulative Water Quality

Station Name	Units	7	98R7	98R7	
Field Sample ID		16-4	98R7-17-1	98R7-17-2	
Lab Sample ID		3-03	L35911-02	L37992-02	
Sample Date		2016	3/8/2017	6/21/2017	
		FC VC	Result FC VC	Result FC VC	
<b>Major Ions + Indicator Parameters</b>					
Alkalinity (as CaCO <sub>3</sub> )	mg/l		255	262	
Bicarbonate (as CaCO <sub>3</sub> )	mg/l		238	252	
Carbonate (as CaCO <sub>3</sub> )	mg/l	B	16.8	10.1	B
Hydroxide (as CaCO <sub>3</sub> )	mg/l	U	<2	<2	U
Hardness (as CaCO <sub>3</sub> )	mg/l		114	117	
Calcium, dissolved	mg/l		28.9	29.8	
Magnesium, dissolved	mg/l		10.1	10.3	
Potassium, dissolved	mg/l		3.3	3.3	
Sodium, dissolved	mg/l		138	146	
Chloride	mg/l		6.7	6.7	
Fluoride	mg/l		0.85	0.88	
Silica	mg/l		8.1	9.1	
Sulfate	mg/l		166	260	H J
Total Dissolved Solids	mg/l		594	574	J
Total Suspended Solids	mg/l		230	326	
pH, Lab	s.u.	H J	8.5	8.4	H J
E.C., Lab	µS/cm		807	822	
<b>Nutrients</b>					
Phosphorus, total as P	mg/l		0.15	0.72	
Nitrate as N, dissolved	mg/l	U H J	<0.02	<0.02	U
Nitrite as N, dissolved	mg/l	U H J	<0.01	<0.01	U
Nitrate/Nitrite as N, dissolved	mg/l	U H J	<0.02	<0.02	U
Nitrogen, ammonia	mg/l		0.93	0.98	
<b>Metals</b>					
Aluminum, dissolved	mg/l	U	<0.03	0.28	
Antimony, dissolved	mg/l	U	<0.0004	<0.0004	U
Arsenic, dissolved	mg/l		0.0035	0.0029	
Barium, dissolved	mg/l		0.013	0.022	
Beryllium, dissolved	mg/l	U	<0.00005	<0.00005	U
Cadmium, dissolved	mg/l	U	<0.0001	<0.0001	U
Chromium, dissolved	mg/l	U	<0.0005	<0.0005	U
Copper, dissolved	mg/l	U	<0.01	<0.01	U
Iron, dissolved	mg/l	B	0.12	0.21	
Lead, dissolved	mg/l	U	0.0001	0.0003	B J
Manganese, dissolved	mg/l	B	0.006	0.012	B
Mercury, dissolved	mg/l	U	<0.0002	<0.0002	U
Molybdenum, dissolved	mg/l	B	0.03	0.04	B
Nickel, dissolved	mg/l	U	<0.008	<0.008	U
Selenium, dissolved	mg/l	U	<0.0001	<0.003	U
Silver, dissolved	mg/l	U	<0.00005	<0.001	U
Thallium, dissolved	mg/l	U	<0.0001	<0.0001	U
Uranium, total	mg/l		0.0149	0.0196	
Vanadium, dissolved	mg/l	U	<0.005	<0.005	U
Zinc, dissolved	mg/l	U	<0.01	<0.01	U
<b>Radiological</b>					
Gross Alpha, total	pCi/l		20±5.7	45±13	
Gross Beta, total	pCi/l		22±5.1	68±13	
<b>QC</b>					
Sum of Anions	meq/l		8.8	11	
Sum of Cations	meq/l		8.5	9	
Cation-Anion Balance	%		-1.7	-10.0	
TDS (calculated)	mg/l		520	630	
TDS (ratio - measured/calculated)	Unitless		1.14	0.91	
<b>Field Parameters</b>					
Temperature, Field	deg C		11.6	10.2	

## Groundwater Monitoring Results - 98R7 Cumulative Water Quality

Station Name	Units	R7	98R7	98R7
Field Sample ID		16-4	98R7-17-1	98R7-17-2
Lab Sample ID		3-03	L35911-02	L37992-02
Sample Date		2016	3/8/2017	6/21/2017
pH, Field	s.u.		7.92	8.40
E.C., Field 25C	μS/cm		699	903
Depth to Water	ft		56.61	56.95
Water Elevation	ft		6,308.59	6,308.25

Groundwater Monitoring Results - 98R8 Cumulative Water Quality

Station Name	Units	98R8			98R8		
		Result	FC	VC	Result	FC	VC
Field Sample ID		98R8-141104			98R8-15-1		
Lab Sample ID		L21421-01			L23300-03		
Sample Date		11/4/2014			3/13/2015		
<b>Major Ions + Indicator Parameters</b>							
Alkalinity (as CaCO <sub>3</sub> )	mg/l	233			226		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	233			226		
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U	
Hardness (as CaCO <sub>3</sub> )	mg/l	797			782		
Calcium, dissolved	mg/l	223			214		
Magnesium, dissolved	mg/l	58.3			60.1		
Potassium, dissolved	mg/l	6.8			6.7		
Sodium, dissolved	mg/l	33.1			33		
Chloride	mg/l	17.5			17.3		
Fluoride	mg/l	0.41			0.37		
Silica	mg/l	9.1			7.8		
Sulfate	mg/l	630			600		
Total Dissolved Solids	mg/l	1,150	H	J	990		J
Total Suspended Solids	mg/l	97			37		J
pH, Lab	s.u.	7.9	H	J	7.7	H	J
E.C., Lab	µS/cm	1,470			1,450		
<b>Nutrients</b>							
Phosphorus, total as P	mg/l	0.63			0.07		
Nitrate as N, dissolved	mg/l	<0.02	U	H	0.08		B
Nitrite as N, dissolved	mg/l	<0.01	U	H	0.02		B
Nitrate/Nitrite as N, dissolved	mg/l	<0.02	U	H	0.1		
Nitrogen, ammonia	mg/l	0.54			0.39		
<b>Metals</b>							
Aluminum, dissolved	mg/l	<0.03	U		<0.03	U	
Antimony, dissolved	mg/l	<0.0004	U		0.0013		B
Arsenic, dissolved	mg/l	0.0101			0.0006		B
Barium, dissolved	mg/l	0.01		B	0.008		B
Beryllium, dissolved	mg/l	<0.00005	U		<0.00005	U	
Cadmium, dissolved	mg/l	<0.0001	U		0.0001		B
Chromium, dissolved	mg/l	<0.0005	U		<0.0005	U	
Copper, dissolved	mg/l	<0.01	U		<0.01	U	
Iron, dissolved	mg/l	4.39			3.95		
Lead, dissolved	mg/l	<0.0001	U		<0.0001	U	
Manganese, dissolved	mg/l	0.257			0.328		
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U	
Molybdenum, dissolved	mg/l	0.56			0.45		
Nickel, dissolved	mg/l	<0.008	U		<0.008	U	
Selenium, dissolved	mg/l	<0.001	U		<0.001	U	
Silver, dissolved	mg/l	<0.00005	U		<0.00005	U	
Thallium, dissolved	mg/l	<0.0001	U		<0.0001	U	
Uranium, total	mg/l	0.1754			0.1231		
Vanadium, dissolved	mg/l	<0.005	U		<0.005	U	
Zinc, dissolved	mg/l	0.24			0.41		
<b>Radiological</b>							
Gross Alpha, total	pCi/l	130±17			64±12		
Gross Beta, total	pCi/l	100±11			57±8.5		
<b>QC</b>							
Sum of Anions	meq/l	18			18		
Sum of Cations	meq/l	18			18		
Cation-Anion Balance	%	0			0		
TDS (calculated)	mg/l	1,130			1,080		
TDS (ratio - measured/calculated)	Unitless	1.02			0.92		
<b>Field Parameters</b>							
Temperature, Field	deg C	9.4			8.9		



## Groundwater Monitoring Results - 98R8 Cumulative Water Quality

Station Name	Units	98R8	98R8
Field Sample ID		98R8-141104	98R8-15-1
Lab Sample ID		L21421-01	L23300-03
Sample Date		11/4/2014	3/13/2015
pH, Field	s.u.	7.14	6.94
E.C., Field 25C	μS/cm	1,713	1,477
Depth to Water	ft	186.03	159.35
Water Elevation	ft	6,167.47	6,194.15



Groundwater Monitoring Results - MW-2A Cumulative Water Quality

Station Name	Units	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A
Field Sample ID		MW2A-01-01	MW2A-01-02	MW2A-01-03	MW2A-01-04	MW2A-01-05	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A
Lab Sample ID											
Sample Date		10/1/1994	3/1/1995	5/1/1995	8/1/1995	11/1/1995	4/2/1996	6/1/1996	9/1/1996	12/1/1996	3/17/1997
Sum of Anions	meq/l										
Sum of Cations	meq/l										
Cation-Anion Balance	%										
TDS (calculated)	mg/l										
TDS (ratio - measured/calculated)	Unitless										
<b>Field Parameters</b>											
Temperature, Field	deg C	15.1	14	14.1	19.4	12.3	12.3	14.8	13.2	12	11
pH, Field	s.u.	6.92		7.31	7.71	7.42	6.21	6.76	6.71	6.96	6.57
E.C., Field 25C	µS/cm	2,800	2,590	2,850	2,090	2,380	1,940	2,130	2,030	1,910	1,990
Depth to Water	ft	267.7	266.3	267.38	288.06	285.36	280.74	278.9	278.94	279.08	279.64
Water Elevation	ft	6,186.79	6,188.19	6,187.11	6,164.74	6,167.44	6,172.06	6,173.9	6,173.86	6,173.72	6,173.16

**Groundwater Monitoring Results - MW-2A Cumulative Water Quality**

Station Name	Units	MW-2A			MW-2A			MW-2A			MW-2A			MW-2A			MW-2A			MW-2A			MW-2A								
		MW-2A			MW-2A			MW-2A			MW-2A			MW-2A			MW-2A			MW-2A			MW-2A								
		Field Sample ID	Lab Sample ID	Sample Date	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC			
<b>Major Ions + Indicator Parameters</b>																															
Alkalinity (as CaCO <sub>3</sub> )	mg/l	763			582			569			1,040			736			574			565			538			554			527		
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l																					521.6			536.4			529.8			
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	762.8			582.3			568.4			1,041.6			459.3			573.3			565.1			538			554.4			526.5		
Carbonate (as CaCO <sub>3</sub> )	mg/l	<3.3	U		<1.7	U		<3.3	U		<1.7	U		3.3			<3.3	U		<1.7	U		<1.7	U		<1.7	U		<3.3	U	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<5.9	U		<2.9	U		<5.9	U		<2.9	U		5.9			<5.9	U		<2.9	U		<2.9	U		<2.9	U		<5.9	U	
Hardness (as CaCO <sub>3</sub> )	mg/l	1,700			1,670			1,620			1,660			1,480			1,440			1,580			1,440			1,490			1,440		
Calcium, dissolved	mg/l	365			414			392			407			394			385			420			380			400			380		
Magnesium, dissolved	mg/l	119			130			118			127			120			117			128			120			120			120		
Potassium, dissolved	mg/l	14.7			17.1			15			14.7			14.6			13.2	J		14.7			15			15			14		
Sodium, dissolved	mg/l	69.1			75.9			73.8			77.8			72.5			66.9			74.8			74			73			76		
Chloride	mg/l	6			14			13			16.1			16			16			15			16			14			15		
Fluoride	mg/l	0.2			0.2			0.2			0.28			0.4			0.3			0.3			0.4			0.27			0.31871		
Silica	mg/l	9.8			<10.9	U		10.7			10.8			6.8			9			8.6			8.3			8.6			8.8		
Sulfate	mg/l	1,210			1,200			1,160			1,030			1,210			1,030			1,100			1,170			1,090			1,080		
Sodium Absorption Ratio (SAR)	%																														
Total Dissolved Solids	mg/l	2,330			2,410			2,400			2,340			2,640			2,430			2,310	J		2,320			2,320			2,190		
Total Suspended Solids	mg/l	1,780			72			146			731			2,440			760			200	J		398			516	J		202	J	
pH, Lab	s.u.	6.4		J	6.8			6.5		J	6.7			6.7		J	7			6.8		J	6.7			6.8		J	6.77	J	
E.C., Lab	µS/cm	2,752			2,734			2,730			2,700			2,643			2,660			2,620			2,400			2,440			2,440		
<b>Nutrients</b>																															
Nitrate as N, dissolved	mg/l	0.1			<0.13	U		<0.09	U		<0.08	U		<0.4	U		<0.2	U	J		0.1			<0.1	U		0.1	FB	0.4		
Nitrite as N, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U	J	<0.005	U		<0.014	U		<0.013	U	J		<0.005	U	J	0.006		<0.013	J	0.008	J	<0.005	U
Nitrate/Nitrite as N, dissolved	mg/l	0.1			<0.13	U		<0.09	U		<0.08	U		<0.4	U		<0.2	U	J		0.1			<0.1	U		0.1		0.4		
Nitrogen, ammonia	mg/l	0.3			0.3			<0.5	U		<0.29	U		<0.4	U		<0.2	U		<0.2	U		0.2		J	<0.2	U	J	<0.2	U	
<b>Metals</b>																															
Aluminum, dissolved	mg/l	<0.03	U		<0.03	U		<0.03	U		<0.03	U		<0.18	U		0.1			0.16			0.15			0.15		J	0.13		
Antimony, dissolved	mg/l	0.014			<0.002	U		<0.011	U		<0.002	U		0.002			<0.002	U	J	<0.002	U		0.005		J	0.004	FB	0.0029	FB		
Arsenic, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		<0.005	U		0.005			<0.005	U		0.007			<0.005	U		<0.005	U	0.0005			
Barium, dissolved	mg/l	0.01			0.013			0.015			0.016			0.013			0.012			0.014			0.013			0.24		J	0.17	FB	
Beryllium, dissolved	mg/l	<0.001	U		<0.001	U		<0.001	U		<0.001	U		0.001			<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U	
Cadmium, dissolved	mg/l	<0.001	U		<0.0005	U		<0.001	U		<0.001	U		0.001			<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.0005	U	
Chromium, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U		<0.005	U	
Copper, dissolved	mg/l	0.21			0.16			0.17			0.138			0.2	J		0.22			0.24			0.21			0.2	J		0.17		
Iron, dissolved	mg/l	0.35			<0.41	U		<0.2	U		0.224			0.11			0.04			0.07			0.13			0.31			0.14		
Lead, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		<0.005	U		0.005			<0.005	U	J	0.011			<0.005	U		<0.005	U		<0.0005	U	
Manganese, dissolved	mg/l	1.32			1.24			1.68			1.45			<1.37	U		1.38			1.4			1.2			1.2			1.1		
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		0.0002			<0.0004	U		<0.0002	U		0.0003	B	FB	<0.0002	U	J	<0.0002	U	
Molybdenum, dissolved	mg/l	<0.02	U		<0.02	U		<0.02	U		<0.02	U		0.01			<0.01	U	J	<0.01	U		<0.01	U		<0.01	U		<0.01	U	
Nickel, dissolved	mg/l	0.01			0.01			0.01			0.016			0.03			<0.01	U		<0.01	U		0.01	B		0.01			0.01		
Selenium, dissolved	mg/l	<0.003	U		<0.002	U		<0.004	U		<0.002	U		0.002			0.01			0.004			<0.002	U		<0.002	U		0.0011		
Silver, dissolved	mg/l	<0.001	U		<0.2	U		<0.5	U		<0.5	U		0.0005			<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U		<0.0005	U	
Strontium, dissolved	mg/l																														
Thallium, dissolved	mg/l	0.001			<0.001	U		<0.001	U		0.005			<0.002	U		<0.001	U	J	<0.001	U		<0.001	U		0.004		J	<0.0005	U	
Uranium, total	mg/l	0.456			0.228			0.229731			0.336			0.378			0.4087			0.3275	J		0.318841			0.304348			0.297101		
Vanadium, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U	
Zinc, dissolved	mg/l	0.22			1.21			0.87			0.687			<0.37	U	J	0.36			0.35			0.15			0.29	J		0.29		
<b>Radilogical</b>																															
Gross Alpha, total	pCi/l	855±80.6			519±28.5		J	220±18.1		J	282±33.7			320±19.7			187±14.3			0.4±14.4	J		250±18.8			260±39			347±88.3		
Gross Beta, total	pCi/l	408±29.7			174±9.2		J	131±9.1			74.6±13.9			97±8.2			153±9.7			143±8.7	J		184±10.3			78±20			205±14.4		
Radium 226, total	pCi/l	5.1±0.5			1.5±0.2			1.7±0.2			4.3±0.4		J	2.2±0.3			1.6±0.3			1.2±0.3			1.6±0.2			4.4±0.8			1.7±0.2		
Radium 228, total	pCi/l	1.7±0.3			2.3±0.5						0.8±0.3			1.2±0.4			0.9±0.4			4±1.3			1.9±0.7			1.3±1.1					
Thorium 228, total	pCi/l																														
Thorium 230, total	pCi/l	1.4±0.5			2±1			2.4±0.8			0.5±0.6			1.9±1.2			1.6±0.8			2.6±1			1.9±0.5	J		3.3±1.2			3.9±1.3	FB	
Thorium 232, total	pCi/l	1.2±0.3			0.8±0.5			0.4±0.3			0.5±0.3		J	1.5																	

Groundwater Monitoring Results - MW-2A Cumulative Water Quality

Station Name	Units	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A
Field Sample ID		MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A
Lab Sample ID		97-U005533		97-U013503	98-U000994	98-U003957	98-U007048				
Sample Date		5/20/1997	8/27/1997	12/2/1997	2/9/1998	5/20/1998	8/21/1998	11/21/1998			
Sum of Anions	meq/l								35.26	33.82	33.52
Sum of Cations	meq/l								32.46	33.43	32.52
Cation-Anion Balance	%								4.12	0.59	1.51
TDS (calculated)	mg/l										
TDS (ratio - measured/calculated)	Unitless										
<b>Field Parameters</b>											
Temperature, Field	deg C	14.4	14.2	11.8	12.3	13.4	14.4	12.3	21.1	13.7	14
pH, Field	s.u.	6.63	7.28	7.11	6.71	6.79	7.21	6.97	6.93	6.88	7
E.C., Field 25C	µS/cm	2,040	2,450	2,510	3,320	2,350	2,560	2,640	2,340	2,540	2,610
Depth to Water	ft	279.7	274.2	274.01	272.81	272.56	272.43	270.5	268.17	266.93	266.04
Water Elevation	ft	6,173.1	6,178.6	6,178.79	6,179.99	6,180.24	6,180.37	6,182.3	6,184.63	6,185.87	6,186.76

### Groundwater Monitoring Results - MW-2A Cumulative Water Quality

Station Name	Units	MW-2A			MW-2A			MW-2A			MW-2A			MW-2A			MW-2A						
Field Sample ID		MW2A			MW2A			MW2A-01-02			MW-2A			MW-2A			MW2A-04-1						
Lab Sample ID								L34902-03			L38903-07			L43331-06			L48197-02						
Sample Date		11/1/2000			5/1/2001			11/15/2001			10/8/2002			10/7/2003			10/5/2004						
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC				
<b>Major Ions + Indicator Parameters</b>																							
Alkalinity (as CaCO <sub>3</sub> )	mg/l							466						542				539			551		
Alkalinity, dissolved (as CaCO <sub>3</sub> )	mg/l																						
Bicarbonate (as CaCO <sub>3</sub> )	mg/l							466						542				539			551		
Carbonate (as CaCO <sub>3</sub> )	mg/l							<2	U					<2	U			<2	U		<2	U H	
Hydroxide (as CaCO <sub>3</sub> )	mg/l							<2	U					<2	U			<2	U		<2	U H	
Hardness (as CaCO <sub>3</sub> )	mg/l							1,530						1,300				1,610			1,580		
Calcium, dissolved	mg/l							405						352				435			423		
Magnesium, dissolved	mg/l							127						103				127			126		
Potassium, dissolved	mg/l							14.6						12.3				16.3			14.9		
Sodium, dissolved	mg/l							72.4						57.4				67.5			72.1		
Chloride	mg/l							14						18				15			15		
Fluoride	mg/l							0.2	B	FB				0.4	B			0.3	B		0.3	B	
Silica	mg/l							9.6						7.6				8.8			9.2		
Sulfate	mg/l							1,230						1,180				1,230			1,240		
Sodium Absorption Ratio (SAR)	%							0.81						0.7									
Total Dissolved Solids	mg/l							2,280		J				2,300				2,330			2,320	H	
Total Suspended Solids	mg/l							1,390						122				80			52	H	
pH, Lab	s.u.							7.2						6.9	H			7.8			7.4		
E.C., Lab	µS/cm							2,540						2,650				2,440			2,390		
<b>Nutrients</b>																							
Nitrate as N, dissolved	mg/l							0.05	B	FB	J			<0.02	U			<0.02	U		<0.02	U	
Nitrite as N, dissolved	mg/l							<0.01	U					<0.01	U H			<0.01	U H		<0.01	U H	
Nitrate/Nitrite as N, dissolved	mg/l							0.05	B	FB	J			<0.02	U H			<0.02	U H		<0.02	U H	
Nitrogen, ammonia	mg/l							0.17	B					0.17	B			0.17	B		0.19	B	
<b>Metals</b>																							
Aluminum, dissolved	mg/l							<0.06	U					<0.06	U			<0.06	U		<0.06	U	
Antimony, dissolved	mg/l							0.002	B					<0.002	U			<0.0004	U		<0.0004	U	
Arsenic, dissolved	mg/l							<0.001	U					<0.001	U			0.0004	B		<0.001	U	
Barium, dissolved	mg/l							0.014	B	FB				0.008	B			0.011	B	FB	0.01	B	
Beryllium, dissolved	mg/l							<0.0002	U					<0.0005	U			<0.0002	U		<0.0002	U	
Cadmium, dissolved	mg/l							0.0003	B					<0.0005	U			0.0002	B		<0.0002	U	
Chromium, dissolved	mg/l							0.0006	B	FB				<0.0005	U			<0.0002	U		0.0007	B	FB
Copper, dissolved	mg/l							0.13						0.25				0.17			0.21		
Iron, dissolved	mg/l							0.02	B					0.43				0.41			0.51		
Lead, dissolved	mg/l							<0.001	U					<0.001	U			<0.0002	U		0.0003	B	
Manganese, dissolved	mg/l							1.3						0.9				1			1.03		
Mercury, dissolved	mg/l							<0.0002	U					<0.0002	U			<0.0002	U		<0.0002	U	
Molybdenum, dissolved	mg/l							<0.02	U					<0.02	U			<0.02	U		<0.02	U	
Nickel, dissolved	mg/l							<0.02	U					0.09	B			0.02	B		<0.02	U	
Selenium, dissolved	mg/l							<0.001	U					<0.001	U			<0.001	U		<0.001	U	
Silver, dissolved	mg/l							<0.0001	U					<0.0003	U			<0.0001	U		<0.0001	U	
Strontium, dissolved	mg/l																				7.22		
Thallium, dissolved	mg/l							<0.0001	U					<0.0003	U			0.0002	B		0.0004	B	
Uranium, total	mg/l							0.335						0.391				0.387			0.383		
Vanadium, dissolved	mg/l							<0.01	U					<0.01	U			<0.01	U		<0.01	U	
Zinc, dissolved	mg/l							0.22						0.05	B			0.08	B	FB	0.04	B	
<b>Radiological</b>																							
Gross Alpha, total	pCi/l							170±26						327±42				191±28			280±39		
Gross Beta, total	pCi/l							156±19						146±16				83.8±16			126±15		
Radium 226, total	pCi/l							4.71±0.9						2.15±0.4				1.55±0.3			1.55±0.3		
Radium 228, total	pCi/l							5.09±1.4						0.57±1.2				0.54±0.7		FB	0.98±0.8	FB	
Thorium 228, total	pCi/l							1.77±0.38						0.4±0.45				0.03±0.2			-0.14±0.17		
Thorium 230, total	pCi/l							0.87±0.53						-0.57±0.53				-0.02±0.38			0.87±0.5	FB J	
Thorium 232, total	pCi/l							0.58±0.45						0.35±0.61				-0.08±0.33			0.11±0.36		
<b>QC</b>																							

Groundwater Monitoring Results - MW-2A Cumulative Water Quality

Station Name	Units	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A
Field Sample ID		MW2A	MW2A	MW2A-01-02	MW-2A	MW-2A	MW2A-04-1
Lab Sample ID				L34902-03	L38903-07	L43331-06	L48197-02
Sample Date		11/1/2000	5/1/2001	11/15/2001	10/8/2002	10/7/2003	10/5/2004
Sum of Anions	meq/l			35.6	36.1	37	37.5
Sum of Cations	meq/l			34.3	29	35.7	35.3
Cation-Anion Balance	%			1.9	0	1.8	3
TDS (calculated)	mg/l			2,150	2,060	2,230	2,240
TDS (ratio - measured/calculated)	Unitless			1.06	1.12	1.04	1.04
<b>Field Parameters</b>							
Temperature, Field	deg C	11	14.7	11.4	14.5	14.6	13.4
pH, Field	s.u.	6.88	6.84	7.05	6.86	6.8	6.67
E.C., Field 25C	µS/cm	2,590	2,580	3,150	2,770	2,750	2,620
Depth to Water	ft	264.19	264.26	263.8	263.48	262.98	262.58
Water Elevation	ft	6,188.61	6,188.54	6,189	6,189.32	6,189.82	6,190.22

Groundwater Monitoring Results - KEYSTONE PIT Cumulative Water Quality

Station Name	Units	KEYSTONE PIT	
Field Sample ID		KEYSTONE PIT-131205	
Lab Sample ID		L15893-08	
Sample Date		12/5/2013	
		Result	FC VC
<b>Major Ions + Indicator Parameters</b>			
Alkalinity (as CaCO <sub>3</sub> )	mg/l	172	
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	172	
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U
Hardness (as CaCO <sub>3</sub> )	mg/l	753	
Calcium, dissolved	mg/l	199	
Magnesium, dissolved	mg/l	62.2	
Potassium, dissolved	mg/l	20.7	
Sodium, dissolved	mg/l	138	
Chloride	mg/l	16	
Fluoride	mg/l	0.5	
Silica	mg/l	5.9	
Sulfate	mg/l	610	
Total Dissolved Solids	mg/l	1,560	
Total Suspended Solids	mg/l	20	
pH, Lab	s.u.	8.2	H
E.C., Lab	µS/cm	2,130	
<b>Nutrients</b>			
Phosphorus, total as P	mg/l	0.02	B FB
Nitrate as N, dissolved	mg/l	92	
Nitrite as N, dissolved	mg/l	6	
Nitrate/Nitrite as N, dissolved	mg/l	98	
Nitrogen, ammonia	mg/l	17.2	
<b>Metals</b>			
Aluminum, dissolved	mg/l	<0.03	U
Antimony, dissolved	mg/l	<0.0004	U
Arsenic, dissolved	mg/l	0.0011	
Barium, dissolved	mg/l	0.026	
Beryllium, dissolved	mg/l	<0.00005	U
Cadmium, dissolved	mg/l	0.0001	B
Chromium, dissolved	mg/l	<0.0005	U
Copper, dissolved	mg/l	0.13	
Iron, dissolved	mg/l	<0.02	U
Lead, dissolved	mg/l	<0.0001	U
Manganese, dissolved	mg/l	0.057	
Mercury, dissolved	mg/l	<0.0002	U
Molybdenum, dissolved	mg/l	0.04	B
Nickel, dissolved	mg/l	<0.01	U
Selenium, dissolved	mg/l	0.0156	
Silver, dissolved	mg/l	<0.00005	U
Thallium, dissolved	mg/l	<0.0001	U
Uranium, total	mg/l	0.1057	
Vanadium, dissolved	mg/l	<0.005	U
Zinc, dissolved	mg/l	<0.01	U
<b>Radiological</b>			
Gross Alpha, total	pCi/l	71±15	
Gross Beta, total	pCi/l	53±9.7	
<b>QC</b>			
Sum of Anions	meq/l	24	
Sum of Cations	meq/l	23	
Cation-Anion Balance	%	-2.1	
TDS (calculated)	mg/l	1,610	
TDS (ratio - measured/calculated)	Unitless	0.97	



Groundwater Monitoring Results 2017 Q2 - PENNY PIT Cumulative Water Quality

Station Name	Units	PENNY PIT			PENNY PIT			PENNY PIT		
Field Sample ID		PENNYPIT-110825			PENNY PIT-120221			PENNY PIT-12-2		
Lab Sample ID		L90128-01			L93313-09			L94460-01		
Sample Date		8/25/2011			2/21/2012			5/9/2012		
		Result	FC	VC	Result	FC	VC	Result	FC	VC
<b>Major Ions + Indicator Parameters</b>										
Alkalinity (as CaCO <sub>3</sub> )	mg/l	210			77			196		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	210			77			196		
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U	
Hardness (as CaCO <sub>3</sub> )	mg/l	3,040			1,210			3,170		
Calcium, dissolved	mg/l	591			270			614		
Magnesium, dissolved	mg/l	380			131			398		
Potassium, dissolved	mg/l	78			32.1			57		
Sodium, dissolved	mg/l	206			77.6			172		
Chloride	mg/l	104			39			69		
Fluoride	mg/l	1			0.7			0.8		
Silica	mg/l	12			3.5			9	B	
Sulfate	mg/l	2,800			1,220			3,200		
Total Dissolved Solids	mg/l	4,880			1,950			4,940		
Total Suspended Solids	mg/l	6	B		6	B		<5	U	
pH, Lab	s.u.	8.2	H		8.1	H		8.2	H	
E.C., Lab	µS/cm	4,800			2,220			4,590		
<b>Nutrients</b>										
Phosphorus, total as P	mg/l							0.01	B	H
Nitrate as N, dissolved	mg/l	22.1	H		24.9	H		21		
Nitrite as N, dissolved	mg/l	2.5	H		0.31	H		4.8		
Nitrate/Nitrite as N, dissolved	mg/l	24.6	H		25.2	H		25.8		
Nitrogen, ammonia	mg/l	3.69			1.39			1.88		
<b>Metals</b>										
Aluminum, dissolved	mg/l	<0.2	U		<0.03	U		<0.2	U	
Antimony, dissolved	mg/l	<0.002	U		<0.0004	U		<0.002	U	
Arsenic, dissolved	mg/l	<0.003	U		<0.0005	U		<0.003	U	
Barium, dissolved	mg/l	0.03	B		0.009	B		<0.02	U	
Beryllium, dissolved	mg/l	<0.0005	U		<0.0001	U		<0.0005	U	
Cadmium, dissolved	mg/l	0.0009	B		0.0017			<0.0005	U	
Chromium, dissolved	mg/l	<0.005	U		<0.0005	U		<0.003	U	
Copper, dissolved	mg/l	0.11	B		0.06			0.11	B	
Iron, dissolved	mg/l	<0.1	U		<0.02	U		<0.1	U	
Lead, dissolved	mg/l	<0.0005	U		<0.0001	U		0.002	B	
Manganese, dissolved	mg/l	0.35			0.147			0.26		
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		<0.0002	U	
Molybdenum, dissolved	mg/l	0.13	B		0.05			0.11	B	
Nickel, dissolved	mg/l	<0.05	U		<0.01	U		<0.05	U	
Selenium, dissolved	mg/l	0.011			0.0047	B		0.0056		
Silver, dissolved	mg/l	<0.0003	U		<0.00005	U		<0.0003	U	
Thallium, dissolved	mg/l	<0.0005	U		0.0001	B		<0.0005	U	
Uranium, total	mg/l	0.8585			0.3002			0.968		
Vanadium, dissolved	mg/l	<0.03	U		<0.005	U		<0.03	U	
Zinc, dissolved	mg/l	<0.05	U		0.01	B		0.06	B	
<b>Radiological</b>										
Gross Alpha, total	pCi/l	610±71			190±23			590±68		
Gross Beta, total	pCi/l	160±28			93±10			250±30		
<b>QC</b>										
Sum of Anions	meq/l	67.7			30.1			74.9		
Sum of Cations	meq/l	72.1			28.6			72.5		
Cation-Anion Balance	%	3.1			-2.6			-1.6		
TDS (calculated)	mg/l	4,410			1,930			4,750		
TDS (ratio - measured/calculated)	Unitless	1.11			1.01			1.04		
<b>Field Parameters</b>										
Temperature, Field	deg C	26.2			5.3			18.9		

Groundwater Monitoring Results 2017 Q2 - PENNY PIT Cumulative Water Quality

Station Name	Units	PENNY PIT	PENNY PIT	PENNY PIT
Field Sample ID		PENNYPIT-110825	PENNY PIT-120221	PENNY PIT-12-2
Lab Sample ID		L90128-01	L93313-09	L94460-01
Sample Date		8/25/2011	2/21/2012	5/9/2012
pH, Field	s.u.	7.36	8.2	7.99
E.C., Field 25C	μS/cm	426	2.68	5.02

Groundwater Monitoring Results 2017 Q2 - SLV1A Cumulative Water Quality

Station Name	Units	SLV1A			SLV1A			SLV1A			SLV1A			SLV1A			SLV1A			SLV1A											
Field Sample ID		SLV1A-01-02			SLV1A-01-03			SLV1A-01-04			SLV1A-01-05			SLV1A			SLV1A			SLV1A											
Lab Sample ID		3/1/1995			5/1/1995			8/1/1995			11/1/1995			4/2/1996			6/1/1996			9/1/1996			12/1/1996			3/17/1997			97-U005539 5/20/1997		
Sample Date		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC			
<b>Major Ions + Indicator Parameters</b>																															
Alkalinity (as CaCO <sub>3</sub> )	mg/l	462		J	543			510			497			512			486			503			529			510			506		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	462.6			542.9			510.1			476.5			511.8			485.5			503.6			529			509.3			506		
Carbonate (as CaCO <sub>3</sub> )	mg/l	<1.7		U	<1.7		U							<1.7		U				<8.3		U	<3.3		U	<3.3		U			
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2.9		U	<2.9		U							<2.9		U				<14.7		U	<5.9		U	<5.9		U			
Hardness (as CaCO <sub>3</sub> )	mg/l	1,970		J	2,220			2,200			2,200			2,120			2,100			2,200			2,250			2,220			2,260		
Calcium, dissolved	mg/l	362			457			503			455			491			439			524			460			488			439		
Magnesium, dissolved	mg/l	203			206			238			208			214			200			246			215			221			191		
Potassium, dissolved	mg/l	20.9			20.1			21.5			19.2			21.3			19.8			17.6			19			21			18.6		
Sodium, dissolved	mg/l	156			150			172			149			170			137			140			147			162			140		
Chloride	mg/l	109			117			100			110			104			108			107			113			113			112		
Fluoride	mg/l	0.64			0.55			0.6			0.6			0.6			0.5			0.7			0.5			0.5			0.4		
Silica	mg/l	20			10.8			11.6			10.7			11.6			9.2			12.8			9.8			10.9			10.1		
Sulfate	mg/l	1,430		J	1,960			1,920			1,950			1,770			1,760			1,770			1,500			1,840			1,670		
Sodium Absorption Ratio (SAR)	%																														
Total Dissolved Solids	mg/l	3,286			3,400		J	3,490			3,450		J	3,320			3,280			3,530			3,440		J	3,510			3,340		
Total Suspended Solids	mg/l	6,920			3,100		J	923			846		J	2,250			1,260			686			2,210			1,320			1,490		
pH, Lab	s.u.	7.71		J	7.61		J	6.95		J	7.07		J	6.5		J	6.8		J	6.7		J	6.5		J	6.5		J	6.5		
E.C., Lab	µS/cm	3,420			3,610			3,680			3,670			3,680			3,640			3,860			3,620			3,630			3,676		
<b>Nutrients</b>																															
Nitrate as N, dissolved	mg/l	0.047		J	<0.02		U	J	<0.4		U	J	<0.02		U	J	<0.02		U	J	1.61			<0.8		U	<0.64		U	0.39	
Nitrite as N, dissolved	mg/l	0.02		J	0.0087		J	0.006			0.008		J	<0.005		U	J	0.008		J	0.008			<0.005		U	<0.005		U	<0.005	
Nitrate/Nitrite as N, dissolved	mg/l	0.067			<0.02		U	<0.4		U	<0.02		U	<0.02		U	J	1.62			1.62			<0.8		U	<0.64		U	0.39	
Nitrogen, ammonia	mg/l	<0.8		U	<0		U	<0.8		U	<0.8		U	<0.7		U	0.6			<0		U	0.6			0.4			0.5		
<b>Metals</b>																															
Aluminum, dissolved	mg/l	<0.05		U	<0.01		U	0.22			<0.2		U	<0.03		U	0.03			<0.01		U	<0.05		U	<0.03		U	<0.03	U	
Antimony, dissolved	mg/l	<0.005		U	<0.003		U	0.003			<0.003		U	<0.003		U	<0.003		U	<0.003		U	<0.003		U	0.005		J	0.009		
Arsenic, dissolved	mg/l	<0.01		U	<0.04		U	<0.005		U	<0.2		U	<0.005		U	<0.005		U	0.006			<0.005		U	<0.005		U	0.009		
Barium, dissolved	mg/l	0.11			0.013		J	<0.01		U	<0.2		U	<0.01		U	0.006			0.008			<0.01		U	<0.01		U	<0.01	U	
Beryllium, dissolved	mg/l	<0.004		U	<0.01		U	<0.001		U	<0.01		U	<0.001		U	<0.002		U	<0.0002		U	<0.001		U	<0.001		U	<0.001	U	
Cadmium, dissolved	mg/l	0.029			0.021			0.014			0.009			0.007			0.005			0.008			0.007			0.006			0.003		
Chromium, dissolved	mg/l	<0.01		U	<0.01		U	0.006			<0.05		U	0.011			<0.001		U	0.007			0.011			0.008			0.007		
Copper, dissolved	mg/l	<0.01		U	<0.01		U	<0.01		U	<0.1		U	<0.01		U	0.006			<0.002		U	<0.01		U	<0.01		U	<0.01	U	
Iron, dissolved	mg/l	0.033			0.015			1.13			<0.4		U	0.69			0.743			0.714			0.5			0.71			1.76		
Lead, dissolved	mg/l	0.0046			<0.005		U	<0.005		U	0.011			0.011			<0.02		U	<0.025		U	<0.005		U	<0.005		U	<0.005	U	
Manganese, dissolved	mg/l	1.49			1.71			1.89			2			2.04			1.61			1.69			1.75			2.06			1.71		
Mercury, dissolved	mg/l	<0.0002		U	<0.0002		U	0.0002			<0.0002		U	<0.0002		U	0.0006			<0.0002		U	<0.0002		U	<0.0002		U	<0.0002	U	
Molybdenum, dissolved	mg/l	<0.01		U	<0.04		U	<0.04		U	<0.1		U	<0.02		U	<0.005		U	<0.025		U	<0.02		U	<0.02		U	<0.02	U	
Nickel, dissolved	mg/l	0.027			0.046			0.04			<0.1		U	0.04			0.017			0.029			0.04			0.04			0.04		
Selenium, dissolved	mg/l	<0.005		U	0.002			0.015			0.018			<0.008		U	0.025			0.025			0.02			<0.002		U	0.011		
Silver, dissolved	mg/l	<0.01		U	<0.01		U	<0.002		U	<0.05		U	<0.005		U	0.012			<0.01		U	<0.005		U	<0.001		U	<0.001	U	
Strontium, dissolved	mg/l																														
Thallium, dissolved	mg/l	<0.002		U	<0.005		U	<0.001		U				<0.001		U	<0.001		U	<0.001		U	0.012			0.008			<0.001	U	
Uranium, total	mg/l																					0.023			0.019			0.022			
Vanadium, dissolved	mg/l	<0.01		U	<0.04		U	<0.04		U	<0.1		U	<0.01		U	<0.02		U	<0.002		U	<0.01		U	<0.01		U	<0.01	U	
Zinc, dissolved	mg/l	0.538			5.17			0.52			1.4			0.73			0.616			0.68			1.02			0.75			4.01		
<b>Radiological</b>																															
Gross Alpha, total	pCi/l	159±54.4			283±77.1			25±12			33±18			89±36			77±29			151±29			164±28.6			418±62.1			327±44.8		
Gross Beta, total	pCi/l	337±50.8			279±49.1			47±24			55±23			183±48			130±47			104±10			176±15.2			361±27.8			295±26.3		
Radium 226, total	pCi/l	0																		4.2±0.6			5.1±0.6			4.8±0.5			4.6±0.4		
Radium 228, total	pCi/l																			3±0.5			2±0.6			3±0.6			2.7±0.4		
Thorium 228, total	pCi/l																														
Thorium 230, total	pCi/l																			1.3±0.7			2±0.8			1.3±0.7			0.5±0.3		
Thorium 232, total	pCi/l																			0.2±0.2			0.6±0.3			0.6±0.4			0.4±0.2		
<b>QC</b>																															
Sum of Anions	meq/l																														

Groundwater Monitoring Results 2017 Q2 - SLV1A Cumulative Water Quality

Station Name	Units	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A
Field Sample ID		SLV1A-01-02	SLV1A-01-03	SLV1A-01-04	SLV1A-01-05	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A
Lab Sample ID											97-U005539
Sample Date		3/1/1995	5/1/1995	8/1/1995	11/1/1995	4/2/1996	6/1/1996	9/1/1996	12/1/1996	3/17/1997	5/20/1997
Sum of Cations	meq/l										
Cation-Anion Balance	%										
TDS (calculated)	mg/l										
TDS (ratio - measured/calculated)	Unitless										
<b>Field Parameters</b>											
Temperature, Field	deg C	19	13.1	19.5	12.9	13.2	15.4	13.6	11	13	14.2
pH, Field	s.u.		6.49	7.4	7.48	7.59	6.52	6.53	6.71	7.35	6.41
E.C., Field 25C	µS/cm	3,730		2,760	3,230	2,650	3,010	2,800	2,580	2,680	2,780
Depth to Water	ft	293.42	297.26	297.3	298.78	299.66	301.34	301.67	301.86	302.42	302.23
Water Elevation	ft	6,190.08	6,186.24	6,186.2	6,184.72	6,183.84	6,182.16	6,181.83	6,181.64	6,181.08	6,181.27

Groundwater Monitoring Results 2017 Q2 - SLV1A Cumulative Water Quality

Station Name	Units	SLV1A SLV1A			SLV1A SLV1A			SLV1A SLV1A			SLV1A SLV1A			SLV1A SLV1A			SLV1A SLV1A			SLV1A SLV1A								
Field Sample ID		97-U013509			98-U000996			98-U003962			98-U007039			99-U004717			99-U011091			00-U004035			L29875-02					
Lab Sample ID		12/2/1997			2/9/1998			5/19/1998			8/20/1998			5/18/1999			11/9/1999			5/6/2000			11/15/2000					
Sample Date		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC			
<b>Major Ions + Indicator Parameters</b>																												
Alkalinity (as CaCO <sub>3</sub> )	mg/l	529			519			488			478			494			499			496			478			476		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	529			518.3			488			379.7			493.7			498.7			496.2			477.3			390.4		
Carbonate (as CaCO <sub>3</sub> )	mg/l	<5	U		<3.3	U		<1.7	U		3.3			<3.3	U		<1.7	U		<1.7	U		<3.3	U		<2	U	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<8.8	U		<5.9	U		<2.9	U		5.9			<5.9	U		<2.9	U		<2.9	U		<5.9	U		<2	U	
Hardness (as CaCO <sub>3</sub> )	mg/l	2,250			2,170			2,120			1,920			2,130			2,510			2,050			2,030			2,110		
Calcium, dissolved	mg/l	489			438			456			449			477			560			460			450			481		
Magnesium, dissolved	mg/l	222			194			206			195			227			269			220			220			220		
Potassium, dissolved	mg/l	21.4			19.9			20.3			19.6			20.3			22.1			21			19			18.8		
Sodium, dissolved	mg/l	155			143			163			149			142			155			140			140			159		
Chloride	mg/l	113			109			117			109			113			118			114			114			107		
Fluoride	mg/l	0.4			0.4			0.42			0.6			0.5			0.6			0.6			0.55			0.6	FB	
Silica	mg/l	<11.8	U		11.3			13.5			7.9			10.7			8.8			7.9			9.4			14.9		
Sulfate	mg/l	1,840			1,780			1,940			1,910			1,970			2,030			1,920			1,890			2,030		
Sodium Absorption Ratio (SAR)	%																											
Total Dissolved Solids	mg/l	3,490			3,450			3,460			3,470			3,760		J	3,480			3,450			3,500			3,360		
Total Suspended Solids	mg/l	1,330			1,650			2,000			1,370			980		J	834		J	1,320		J	1,630		J	1,520		
pH, Lab	s.u.	6.7		J	5.8		J	6.6		J	6.7		J	6.8		J	6.6		J	6.61		J	6.68		J	6.9	J	
E.C., Lab	µS/cm	3,627			3,710			3,719			3,702			3,810			3,720			3,470			3,460			3,520		
<b>Nutrients</b>																												
Nitrate as N, dissolved	mg/l	<0.2	U		<0.2	U		<0.08	U		<0.4	U		<0.1	U	J	0.1			0.1	FB		<0.1	U	J	0.32	FB	
Nitrite as N, dissolved	mg/l	<0.005	U		0.009		J	<0.005	U		<0.007	U		0.027		J	<0.005	U	J	<0.005	U	FB	<0.005	U	J	<0.01	U	J
Nitrate/Nitrite as N, dissolved	mg/l	<0.2	U		<0.2	U		<0.08	U		<0.4	U		<0.1	U	J	0.1			0.1	FB		<0.1	U	J	0.32	FB	
Nitrogen, ammonia	mg/l	0.4			0.4			0.42			<0.6	U		0.5			0.4			0.4	J		0.4	J		0.5		
<b>Metals</b>																												
Aluminum, dissolved	mg/l	<0.03	U		<0.03	U		<0.03	U		0.28			0.2			0.27			0.22			0.22			0.97		
Antimony, dissolved	mg/l	<0.002	U		<0.012	U		<0.002	U		<0.01	U	J	<0.002	U	J	<0.002	U		0.005	J		0.0034	FB		0.002	B	FB
Arsenic, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		0.005			<0.005	U		0.008			0.006			<0.0005	U		0.003	B	
Barium, dissolved	mg/l	0.007			0.01			0.015			0.016			0.017			0.006			0.007			0.28	J		0.14		
Beryllium, dissolved	mg/l	<0.001	U		<0.001	U		<0.001	U		0.001			<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.0005	U	
Cadmium, dissolved	mg/l	0.007			0.01			0.0013			0.003			0.01			0.009			0.01			0.009			0.0145		
Chromium, dissolved	mg/l	0.007			0.008			0.007			0.005			<0.005	U		<0.005	U		<0.005	U		<0.005	U		0.0115	B	
Copper, dissolved	mg/l	<0.01	U		<0.01	U		0.018			0.01			<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.02	U	
Iron, dissolved	mg/l	<1.07	U		0.11			0.071			0.08			0.54			1.16			0.99			0.03			1.36		
Lead, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U		0.005			<0.005	U	J	0.014			<0.005	U		<0.005	U		0.002	B	
Manganese, dissolved	mg/l	1.95			2.16			2.55			2.47			1.9			2.15			1.8			1.7			1.53		
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		<0.0002	U		0.0002			<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U	J	<0.0002	U	
Molybdenum, dissolved	mg/l	<0.02	U		<0.02	U		<0.02	U		0.01			<0.03	U	J	<0.01	U		<0.01	U		<0.01	U		<0.02	U	
Nickel, dissolved	mg/l	0.04			0.03			0.03			0.01			<0.02	U		0.04			0.03	B		0.03			0.03	B	
Selenium, dissolved	mg/l	<0.002	U		<0.004	U		<0.002	U		0.002			0.009			0.004			<0.002	U		<0.002	U		<0.001	U	
Silver, dissolved	mg/l	<0.2	U		<0.5	U		<0.5	U		0.0005			<0.0005	U		0.0008			<0.0005	U		<0.0005	U		<0.0003	U	
Strontium, dissolved	mg/l																											
Thallium, dissolved	mg/l	<0.001	U		<0.001	U		0.003			<0.002	U		0.001	J		<0.001	U		<0.001	U		0.002	J		<0.0003	U	
Uranium, total	mg/l	0.0079			0.0107622			0.025			0.0197			0.0225		J	0.0206		J	0.0217391			0.0246377			0.0264		
Vanadium, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		0.01			<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U	
Zinc, dissolved	mg/l	1.74			0.38			0.314			<0.26	U	J	0.35			0.27			0.2			0.38	J		1.47		
<b>Radiological</b>																												
Gross Alpha, total	pCi/l	125±24.3	J		28.8±12	J		24.5±22.2			36±11.5			36±11.3			0.3±10.3	J		58.3±14.4			98±43			180±84.5	72±41	J
Gross Beta, total	pCi/l	144±14.6	J		14±8.4			3.3±15.8			46±9			35±9.4			22±11.9	J		101±11.4			140±32			118±16.7	120±27	J
Radium 226, total	pCi/l	3.9±0.3			3.2±0.3			6.6±0.5	J		4.2±0.4			4±0.4			6±0.6			3.9±0.4			11±1.2			5±0.4	6.2±0.7	J
Radium 228, total	pCi/l	4.6±0.6			2±0.5			3.3±0.5			1.5±0.4			4±0.6			6±1.4			4.5±0.8			5.9±1.4			5.5±0.7	12±1.3	
Thorium 228, total	pCi/l																											
Thorium 230, total	pCi/l	2.7±1			4.5±1.3						0.2±0.7			2.4±1			2.4±0.8			3±0.6	J		3.1±1.2			16.8±7.4	1±0.4	J
Thorium 232, total	pCi/l	0.6±0.3			0.6±0.5			0.2±0.2	J		0.3±0.3			0.6±0.3			0.3±0.2			0.3±0.2			1.1±0.86			3.9±3.4	0.21±0.3	J
<b>QC</b>																												
Sum of Anions	meq/l																47.86			52.1			52.24					

Groundwater Monitoring Results 2017 Q2 - SLV1A Cumulative Water Quality

Station Name	Units	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A
Field Sample ID		SLV1A	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A-99-01	SLV1A-99-02	SLV1A-00-01	SLV1A-00-02
Lab Sample ID			97-U013509	98-U000996	98-U003962	98-U007039		99-U004717	99-U011091	00-U004035	L29875-02
Sample Date		8/27/1997	12/2/1997	2/9/1998	5/19/1998	8/20/1998	11/21/1998	5/18/1999	11/9/1999	5/6/2000	11/15/2000
Sum of Cations	meq/l							47.76	47.16	48.21	
Cation-Anion Balance	%							0.1	4.98	4.01	
TDS (calculated)	mg/l										
TDS (ratio - measured/calculated)	Unitless										
<b>Field Parameters</b>											
Temperature, Field	deg C	14.9	11.8	12.5	14.2	14.7	11.4	15.1	13.1	14.1	12.5
pH, Field	s.u.	6.78	6.58	6.62	6.65	6.54	6.69	6.83	6.96	7.01	6.81
E.C., Field 25C	µS/cm	3,350	3,410	4,460	3,250	3,440	3,780	3,490	3,650	3,800	3,640
Depth to Water	ft	300.02	299.78	298.63	298.06	298.02	296.72	294.22	293.05	292.54	291.29
Water Elevation	ft	6,183.48	6,183.72	6,184.87	6,185.44	6,185.48	6,186.78	6,189.28	6,190.45	6,190.96	6,192.21

Groundwater Monitoring Results 2017 Q2 - SLV1A Cumulative Water Quality

Station Name	Units	SLV1A			SLV1A			SLV1A			SLV1A			SLV1A			SLV1A			SLV1A								
Field Sample ID		SLV1A-01-01			SLV1A-01-02			SLV1A-02-1			SLV1A-03-1			SLV1A-04-1			SLV1A-05-1			SLV1A-06-1			SLV1A-06-2			SLV1A-06-3		
Lab Sample ID		L31974-08			L34902-11			L38903-10			L43331-10			L48197-13			L53966-01			L55728-01			L56714-01			L58732-01		
Sample Date		5/10/2001			11/13/2001			10/7/2002			10/8/2003			10/5/2004			10/25/2005			3/16/2006			5/19/2006			9/5/2006		
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC
<b>Major Ions + Indicator Parameters</b>																												
Alkalinity (as CaCO <sub>3</sub> )	mg/l	497			420			479			461			455			502			495			499			485		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	374.8			420			479			461			455			502			495			499			485		
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U		<2	U	
Hardness (as CaCO <sub>3</sub> )	mg/l	2,230			2,140			1,710			2,090			1,990			1,980			2,130			2,160			1,970		
Calcium, dissolved	mg/l	505			489			397			489			460			461			486			489			461		
Magnesium, dissolved	mg/l	235			223			174			212			205			201			222			229			200		
Potassium, dissolved	mg/l	21			20.1			16.5			20.4			19.6			20			20.6			21.9			20.3		
Sodium, dissolved	mg/l	151		FB	150			115			137			141			148			150			161			163		
Chloride	mg/l	118			109			117			98			108			83			111			107			95		
Fluoride	mg/l	0.7			0.5			0.5	B		0.6			0.5			0.5	B		0.5			0.4	B		0.5		
Silica	mg/l	10		FB	10.7			8.2			10.3			10.1			10.3			10.5			10.9			9.8		
Sulfate	mg/l	2,030			2,030			2,000			1,830			1,830			1,650			1,790			1,770			1,620		
Sodium Absorption Ratio (SAR)	%				1.43			1.23																				
Total Dissolved Solids	mg/l	3,450			3,430		J	3,290			3,300			3,300	H		2,990			3,200			3,300			3,070		
Total Suspended Solids	mg/l	880			1,250			258		J	388		J	336	H		320		J	758		J	1,250		J	358		J
pH, Lab		7.1		J	7.1			7	H		7.8			7.1			7.7	H		7.6	H		7.6	H		7.6	H	
E.C., Lab	µS/cm	3,580			3,590			3,690			3,150			3,630			3,240			3,430			3,410			3,220		
<b>Nutrients</b>																												
Nitrate as N, dissolved	mg/l	<0.2	U	J	0.02	B	FB J	<0.02	U		0.4			0.04	B		<0.02	U	FB	0.02	B	FB	0.04	B	FB	0.09	B	FB J
Nitrite as N, dissolved	mg/l	<0.1	U	J	<0.01	U	J	<0.01	U H		<0.01	U H		<0.01	U H		<0.01	U H		0.01	B H		0.02	B H	FB	<0.01	U H	
Nitrate/Nitrite as N, dissolved	mg/l	<0.2	U		0.02	B	FB J	<0.02	U H		0.4	H		0.04	B H		<0.02	U H	FB	0.03	B H	FB	0.06	B H	FB	0.09	B H	FB J
Nitrogen, ammonia	mg/l	0.48			0.38			0.31			0.37			0.31	B		0.26	B		0.44	B		0.53			0.43	B	
<b>Metals</b>																												
Aluminum, dissolved	mg/l	<0.06	U		<0.06	U		<0.06	U		<0.06	U		<0.06	U		<0.06	U		<0.06	U		0.07	B	FB J	<0.06	U	
Antimony, dissolved	mg/l	<0.002	U		0.003	B		<0.002	U		0.002	B		0.0006	B		<0.0008	U		<0.0008	U		<0.0008	U		<0.0008	U	
Arsenic, dissolved	mg/l	<0.001	U		<0.001	U		0.001	B		0.0011	B		<0.001	U		<0.001	U		0.001	B		0.001	B		0.001	B	
Barium, dissolved	mg/l	0.257		FB	0.315			0.01	B	FB	0.009	B		0.011	B	FB	0.007	B	FB	0.009	B	FB	0.009	B	FB	<0.006	U	
Beryllium, dissolved	mg/l	<0.0002	U		<0.0005	U		<0.0005	U		<0.0005	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U	
Cadmium, dissolved	mg/l	0.0113			0.0146			0.0157			0.0136			0.0153			0.0377	J		0.0183			0.0063			0.012		
Chromium, dissolved	mg/l	0.0004	B	FB	0.0014	B		<0.0005	U		<0.0005	U		0.0008	B	FB	0.0025	J		0.0004	FB		0.0003	B	FB	<0.0002	U	
Copper, dissolved	mg/l	<0.02	U		<0.02	U		<0.02	U		<0.02	U		<0.02	U		0.03	B	J	<0.02	U		<0.02	U		<0.02	U	
Iron, dissolved	mg/l	0.28			0.9			0.64			0.68			0.98			0.13	J		1.27			0.88		FB J	0.83		
Lead, dissolved	mg/l	<0.001	U		<0.001	U		<0.001	U		<0.0005	U		0.0003	B		0.0009	B	J	0.0004	B		0.0004	B	FB	<0.0002	U	
Manganese, dissolved	mg/l	1.8			1.56			1.33			1.58			1.61			1.49			1.76			1.79		J	1.48		
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U		0.0005	B	FB	<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U	
Molybdenum, dissolved	mg/l	<0.02	U		<0.02	U		<0.02	U		<0.02	U		<0.02	U		<0.02	U		<0.02	U		<0.02	U		<0.02	U	
Nickel, dissolved	mg/l	0.03	B	FB	0.04	B		0.05	B		0.04	B		0.03	B		0.03	B		0.04	B		0.02	B		0.02	B	
Selenium, dissolved	mg/l	<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U		<0.001	U	
Silver, dissolved	mg/l	<0.0001	U		<0.0003	U		<0.0003	U		<0.0003	U		<0.0001	U		<0.0001	U		<0.0001	U		0.0002	B	FB	<0.0001	U	
Strontium, dissolved	mg/l										18.4																	
Thallium, dissolved	mg/l	<0.0001	U		<0.0003	U		<0.0003	U		0.0004	B		0.0003	B		<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U	
Uranium, total	mg/l	0.0214			0.0206			0.0226			0.0276			0.02			0.02			0.0368			0.0256			0.0159		
Vanadium, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U		<0.01	U	
Zinc, dissolved	mg/l	0.37		FB	0.61			0.39			0.55			0.4			0.22			0.22			2.87			0.9		
<b>Radiological</b>																												
Gross Alpha, total	pCi/l	17±16			87.5±23			50.3±23			25.3±15			111±32			140±33			110±32			150±42			74±23		
Gross Beta, total	pCi/l	50±16			132±22			86.1±21			24.8±15			54.7±18			130±17		J	120±21			170±30			110±20		
Radium 226, total	pCi/l	7.4±0.9		J	0.26±0.2			6.65±0.6			9.25±0.7			9.2±0.7			6.9±0.6			11±0.68								
Radium 228, total	pCi/l	6.2±0.7		J	8.77±0.8			2.56±1.2			7.78±1		FB	7.56±1.1			5.3±0.8		FB J	7.4±0.86								
Thorium 228, total	pCi/l				2.11±0.44			0.66±0.73			2.65±0.5			0.43±0.26			2.2±0.43			5.7±0.59								
Thorium 230, total	pCi/l	0.6±0.85			0.54±0.42			-2.61±1.4			0.27±0.35			0.16±0.38			0.24±0.42			0.27±0.5								
Thorium 232, total	pCi/l	0.16±0.7			0.24±0.34			0.66±1.8			0.22±0.31			0.05±0.33			0.13±0.36			0.26±0.45								
<b>QC</b>																												
Sum of Anions	meq/l				54.1			54.9			50.5			50.6			47			50.6			50.2			46.4		

Groundwater Monitoring Results 2017 Q2 - SLV1A Cumulative Water Quality

Station Name	Units	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A	SLV1A
Field Sample ID		SLV1A-01-01	SLV1A-01-02	SLV1A-02-1	SLV1A	SLV1A-04-1	SLV1A	SLV1A-06-1	SLV1A-06-2	SLV1A-06-3
Lab Sample ID		L31974-08	L34902-11	L38903-10	L43331-10	L48197-13	L53966-01	L55728-01	L56714-01	L58732-01
Sample Date		5/10/2001	11/13/2001	10/7/2002	10/8/2003	10/5/2004	10/25/2005	3/16/2006	5/19/2006	9/5/2006
Sum of Cations	meq/l		50.1	39.8	48.6	47.2	46.7	49.9	51.2	47.4
Cation-Anion Balance	%		3.8	0	1.9	3.5	0.3	0.7	1	1.1
TDS (calculated)	mg/l		3,290	3,120	3,080	3,070	2,880	3,090	3,100	2,860
TDS (ratio - measured/calculated)	Unitless		1.04	1.05	1.07	1.07	1.04	1.04	1.06	1.07
<b>Field Parameters</b>										
Temperature, Field	deg C	14.1	12.7	14.4	13.6	12.6	15.1	10.9	18.4	16.2
pH, Field	s.u.	6.77	6.75	6.73	6.74	6.62	6.71	6.94	6.82	6.74
E.C., Field 25C	µS/cm	3,660	3,950	3,590	3,590	3,590	3,590	3,390	2,150	3,850
Depth to Water	ft	290.58	290.61	290.5	290.4	290.03	299.5	300.65	301.33	299.9
Water Elevation	ft	6,192.92	6,192.89	6,193	6,193.1	6,193.47	6,184	6,182.85	6,182.17	6,183.6



Groundwater Monitoring Results 2017 Q2 - SLV1A Cumulative Water Quality

Station Name	Units	SLV1A			SLV1A			SLV1A			SLV1A		
Field Sample ID		SLV1A			SLV1A-07-1			SLV1A-07-2			SLV1A-07-3		
Lab Sample ID		L59815-01			L61422-01			L62366-02			L64222-01		
Sample Date		11/2/2006			3/7/2007			5/1/2007			7/31/2007		
		Result	FC	VC	Result	FC	VC	Result	FC	VC	Result	FC	VC
<b>Major Ions + Indicator Parameters</b>													
Alkalinity (as CaCO <sub>3</sub> )	mg/l	454			479	H		481			476		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	454			479	H		481			476		
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U H		<2	U		<2	U	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U H		<2	U		<2	U	
Hardness (as CaCO <sub>3</sub> )	mg/l	1,940			2,070			1,910			1,870		
Calcium, dissolved	mg/l	454			477			439			430		
Magnesium, dissolved	mg/l	196			213			197			193		
Potassium, dissolved	mg/l	20			22.4			19.8			20.2		
Sodium, dissolved	mg/l	159			180			162			166		
Chloride	mg/l	86			86			84			83		
Fluoride	mg/l	0.5	B		0.4	B		0.4	B		0.4	B	
Silica	mg/l	0.7	B		11.1			10.7			10.2		
Sulfate	mg/l	1,610			1,630			1,630			1,550		
Sodium Absorption Ratio (SAR)	%												
Total Dissolved Solids	mg/l	3,040			2,990			2,980			3,090		
Total Suspended Solids	mg/l	390		J	30			266			370	H	
pH, Lab	s.u.	7.4	H		7.7	H		7.7	H		7.6	H	
E.C., Lab	µS/cm	2,570			3,470			3,400			3,280		
<b>Nutrients</b>													
Nitrate as N, dissolved	mg/l	0.04	B		0.1			<0.02	U		<0.02	U	
Nitrite as N, dissolved	mg/l	<0.01	U H		0.02	B H		<0.01	U H J		0.02	B H	
Nitrate/Nitrite as N, dissolved	mg/l	0.04	B H		0.12	H		<0.02	U H J		<0.02	U H	
Nitrogen, ammonia	mg/l	0.58			0.48	B		0.44	B		<0.05	U FB	
<b>Metals</b>													
Aluminum, dissolved	mg/l	<0.06	U		<0.06	U		<0.06	U		<0.06	U	
Antimony, dissolved	mg/l	<0.0004	U		<0.0004	U		<0.0004	U		<0.0004	U	
Arsenic, dissolved	mg/l	0.0012	B		0.0011			0.0012			0.0019		
Barium, dissolved	mg/l	0.008	B FB		<0.006	U		0.01	B FB		0.009	B	
Beryllium, dissolved	mg/l	<0.0001	U		<0.0001	U		<0.0001	U		<0.0001	U	
Cadmium, dissolved	mg/l	0.0101			0.008			0.0064			0.0063		
Chromium, dissolved	mg/l	0.0022	FB		<0.0001	U		0.0009			<0.0005	U	
Copper, dissolved	mg/l	<0.02	U		<0.02	U		<0.02	U		<0.02	U	
Iron, dissolved	mg/l	1.1			0.95			1.05			1		
Lead, dissolved	mg/l	0.0002	B FB		<0.0001	U		0.0004	B FB		0.0001	B	
Manganese, dissolved	mg/l	1.49			1.53			1.44			1.35		
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		<0.0002	U		<0.0002	U	
Molybdenum, dissolved	mg/l	<0.02	U		<0.02	U		<0.02	U		<0.02	U	
Nickel, dissolved	mg/l	0.02	B		<0.02	U		<0.02	U		<0.02	U	
Selenium, dissolved	mg/l	<0.001	U		<0.001	U		<0.001	U		<0.001	U	
Silver, dissolved	mg/l	<0.00005	U		<0.00005	U		<0.00005	U		<0.00005	U	
Strontium, dissolved	mg/l												
Thallium, dissolved	mg/l	0.0001	B FB		<0.0001	U		<0.0001	U		<0.0001	U	
Uranium, total	mg/l	0.0173			0.0155			0.0207			0.0172		
Vanadium, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U		<0.01	U	
Zinc, dissolved	mg/l	2.49			1.19			1.23			1.19		
<b>Radiological</b>													
Gross Alpha, total	pCi/l	38±26			61±28			43±22			33±15		
Gross Beta, total	pCi/l	46±19			46±20			56±17			57±15		
Radium 226, total	pCi/l												
Radium 228, total	pCi/l												
Thorium 228, total	pCi/l												
Thorium 230, total	pCi/l												
Thorium 232, total	pCi/l												
<b>QC</b>													
Sum of Anions	meq/l	45.3			46.2			46.2			44.4		

Groundwater Monitoring Results 2017 Q2 - SLV1A Cumulative Water Quality

Station Name	Units	SLV1A	SLV1A	SLV1A	SLV1A
Field Sample ID		SLV1A	SLV1A-07-1	SLV1A-07-2	SLV1A-07-3
Lab Sample ID		L59815-01	L61422-01	L62366-02	L64222-01
Sample Date		11/2/2006	3/7/2007	5/1/2007	7/31/2007
Sum of Cations	meq/l	46.6	50.1	46	45.3
Cation-Anion Balance	%	1.4	4	-0.2	1
TDS (calculated)	mg/l	2,800	2,910	2,840	2,740
TDS (ratio - measured/calculated)	Unitless	1.09	1.03	1.05	1.13
<b>Field Parameters</b>					
Temperature, Field	deg C	14.1	13.3	14.9	19.2
pH, Field	s.u.	6.6	7.5	6.75	6.59
E.C., Field 25C	µS/cm	3,760	4,100	3,670	3,480
Depth to Water	ft	302.46	303.52	304.02	304.83
Water Elevation	ft	6,181.04	6,179.98	6,179.48	6,178.67

Groundwater Monitoring Results 2017 Q2 - WILCOX-A79835 Cumulative Water Quality

Station Name	Units	WILCOX-A79835			WILCOX-A79835			WILCOX-A79835		
Field Sample ID		WILCOX-A79835-16-4			WILCOX-A79835-17-1			WILCOX-A79835-17-2		
Lab Sample ID		L34234-03			L35912-01			L37993-01		
Sample Date		11/16/2016			3/7/2017			6/20/2017		
		Result	FC	VC	Result	FC	VC	Result	FC	VC
<b>Major Ions + Indicator Parameters</b>										
Alkalinity (as CaCO <sub>3</sub> )	mg/l	446			482			443	H	J
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	446			482			443	H	J
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U	H J
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U	H J
Hardness (as CaCO <sub>3</sub> )	mg/l	1,330			1,620			1,220		
Calcium, dissolved	mg/l	212			266			217		
Magnesium, dissolved	mg/l	195			233			165		
Potassium, dissolved	mg/l	23.9			26.7			21.2		
Sodium, dissolved	mg/l	286			325			253		
Chloride	mg/l	18.3			21.2			18.7		
Fluoride	mg/l	0.54			0.49			0.55		
Silica	mg/l	9			9.0			8.2		
Sulfate	mg/l	1,440			1,860			1,310		J
Total Dissolved Solids	mg/l	2,690			3,190			2,490		
Total Suspended Solids	mg/l	<5	U		5.0	B		<5	U	
pH, Lab	s.u.	8.0	H	J	8.1	H	J	7.9	H	J
E.C., Lab	µS/cm	2,670			3,220			2,640		
<b>Nutrients</b>										
Phosphorus, total as P	mg/l	<0.02	U		<0.02	U		<0.02	U	
Nitrate as N, dissolved	mg/l	<0.02	U	H J	0.05	B	H J	<0.02	U	H J
Nitrite as N, dissolved	mg/l	<0.01	U	H J	<0.01	U	H J	<0.01	U	H J
Nitrate/Nitrite as N, dissolved	mg/l	<0.02	U	H J	0.05	B	H J	<0.02	U	H J
Nitrogen, ammonia	mg/l	0.32			0.26			0.37		
<b>Metals</b>										
Aluminum, dissolved	mg/l	<0.06	U		0.07	B		<0.06	U	
Antimony, dissolved	mg/l	<0.0004	U		<0.0008	U		<0.0008	U	
Arsenic, dissolved	mg/l	<0.0002	U		<0.0004	U		<0.0004	U	
Barium, dissolved	mg/l	0.007	B		0.012	B		0.013	B	
Beryllium, dissolved	mg/l	<0.00005	U		<0.0001	U		<0.0001	U	
Cadmium, dissolved	mg/l	<0.0001	U		<0.0002	U		<0.0002	U	
Chromium, dissolved	mg/l	<0.0005	U		<0.001	U		<0.001	U	
Copper, dissolved	mg/l	<0.02	U		<0.02	U		<0.02	U	
Iron, dissolved	mg/l	<0.04	U		0.04	B		0.37		
Lead, dissolved	mg/l	<0.0001	U		<0.0002	U		<0.0002	U	
Manganese, dissolved	mg/l	0.10			0.10			0.10		
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		<0.0002	U	
Molybdenum, dissolved	mg/l	<0.04	U		<0.04	U		<0.04	U	
Nickel, dissolved	mg/l	<0.02	U		<0.02	U		<0.02	U	
Selenium, dissolved	mg/l	<0.0001	U		<0.0002	U		<0.001	U	
Silver, dissolved	mg/l	<0.0001	U		<0.0001	U		<0.001	U	
Strontium, dissolved	mg/l									
Thallium, dissolved	mg/l	0.0002	B		0.0003	B		<0.0002	U	
Uranium, total	mg/l	0.0045			0.0063			0.0038		
Vanadium, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U	
Zinc, dissolved	mg/l	<0.02	U		<0.02	U		<0.02	U	
<b>Radiological</b>										
Gross Alpha, total	pCi/l	11±10			11±12			9.8±9.1		
Gross Beta, total	pCi/l	28±11			46±16			32±12		
Radium 226, total	pCi/l									
Radium 228, total	pCi/l									
Thorium 230, total	pCi/l									
Thorium 232, total	pCi/l									
<b>QC</b>										
Sum of Anions	meq/l	40			49			37		
Sum of Cations	meq/l	40			47			36		
Cation-Anion Balance	%	0.0			-2.1			-1.4		

Groundwater Monitoring Results 2017 Q2 - WILCOX-A79835 Cumulative Water Quality

Station Name	Units	WILCOX-A79835	WILCOX-A79835	WILCOX-A79835
Field Sample ID		WILCOX-A79835-16-4	WILCOX-A79835-17-1	WILCOX-A79835-17-2
Lab Sample ID		L34234-03	L35912-01	L37993-01
Sample Date		11/16/2016	3/7/2017	6/20/2017
TDS (calculated)	mg/l	2,460	3,040	2,270
TDS (ratio - measured/calculated)	Unitless	1.09	1.05	1.10
<b>Field Parameters</b>				
Temperature, Field	deg C	6.5	13.4	18.7
pH, Field	s.u.	6.79	7.12	6.68
E.C., Field 25C	µS/cm	3,290	3,370	2,880
Depth to Water	ft			
Water Elevation	ft			

Groundwater Monitoring Results 2017 Q2 - WOODWELL Cumulative Water Quality

Station Name	Units	WOODWELL			WOODWELL			WOODWELL		
Field Sample ID		WOODMINE.08072012			WOODSWELL-121113			WOODWELL 160623		
Lab Sample ID					L97887-04			L31273-01		
Sample Date		8/7/2012			11/13/2012			6/23/2016		
		Result	FC	VC	Result	FC	VC	Result	FC	VC
<b>Major Ions + Indicator Parameters</b>										
Alkalinity (as CaCO <sub>3</sub> )	mg/l	183			176			247		
Bicarbonate (as CaCO <sub>3</sub> )	mg/l	183			168			236		
Carbonate (as CaCO <sub>3</sub> )	mg/l	<2	U		8	B		10.7	B	
Hydroxide (as CaCO <sub>3</sub> )	mg/l	<2	U		<2	U		<2	U	
Hardness (as CaCO <sub>3</sub> )	mg/l	227			47			48		
Calcium, dissolved	mg/l	57.9			11.4			11.4		
Magnesium, dissolved	mg/l	19.9			4.6			4.8		
Potassium, dissolved	mg/l	1.6	B		6.4			8.2		
Sodium, dissolved	mg/l	11.2			71.2			127		
Chloride	mg/l	26			12			12.1		
Fluoride	mg/l	0.1	B		0.2	B		0.42		
Silica	mg/l	14.7			10.1			5.8		
Sulfate	mg/l	30	B		20	B		88.7		
Total Dissolved Solids	mg/l	260			240			402		
Total Suspended Solids	mg/l	369			5	B		<5	U	
pH, Lab	s.u.	8.2	H		8.5	H		8.5	H	J
E.C., Lab	µS/cm	450			406			682		
<b>Nutrients</b>										
Phosphorus, total as P	mg/l	0.26			0.01	B		<0.02	U	
Nitrate as N, dissolved	mg/l	0.81	H		0.19	H		0.02	B	J
Nitrite as N, dissolved	mg/l	<0.01	U	H	<0.01	U	H	<0.01	U	J
Nitrate/Nitrite as N, dissolved	mg/l	0.81	H		0.19	H		0.02	B	J
Nitrogen, ammonia	mg/l	<0.05	U		0.08	B		<0.05	U	
<b>Metals</b>										
Aluminum, dissolved	mg/l	0.12	B		<0.03	U		0.04	B	
Antimony, dissolved	mg/l	<0.0004	U		<0.0004	U		<0.0004	U	
Arsenic, dissolved	mg/l	<0.0002	U		0.0033			0.0069		
Barium, dissolved	mg/l	0.283			0.053			0.064		
Beryllium, dissolved	mg/l	<0.0001	U		<0.00005	U		<0.00005	U	
Cadmium, dissolved	mg/l	<0.0001	U		<0.0001	U		<0.0001	U	
Chromium, dissolved	mg/l	<0.0005	U		<0.0005	U		<0.0005	U	
Copper, dissolved	mg/l	<0.01	U		<0.01	U		<0.01	U	
Iron, dissolved	mg/l	<0.02	U		<0.02	U		<0.02	U	
Lead, dissolved	mg/l	0.0001	B		<0.0001	U		<0.0001	U	
Manganese, dissolved	mg/l	0.005	B		0.022	B		0.016	B	
Mercury, dissolved	mg/l	<0.0002	U		<0.0002	U		<0.0002	U	
Molybdenum, dissolved	mg/l	<0.01	U		0.29			0.62		
Nickel, dissolved	mg/l	<0.01	U		<0.01	U		<0.008	U	
Selenium, dissolved	mg/l	<0.001	U		<0.001	U		0.0005		
Silver, dissolved	mg/l	<0.00005	U		<0.00005	U		<0.00005	U	
Thallium, dissolved	mg/l	<0.0001	U		0.0001	B		0.0004	B	
Uranium, total	mg/l	0.0018			0.147			1.54		
Vanadium, dissolved	mg/l	<0.005	U		<0.005	U		<0.005	U	
Zinc, dissolved	mg/l	0.13			0.04	B		0.01	B	
<b>Radiological</b>										
Gross Alpha, total	pCi/l	30±8.5			140±12			1400±42		
Gross Beta, total	pCi/l	47±7			79±5.9			610±16		
Radium 226 + Alpha Emitting Radium Isotopes, total	pCi/l	1.6±0.6								
Radium 228, total	pCi/l	0.76±0.53								
<b>QC</b>										
Sum of Anions	meq/l	5.1			4.3			7.2		
Sum of Cations	meq/l	5.1			4.3			6.8		
Cation-Anion Balance	%	0			0			-2.9		
TDS (calculated)	mg/l	275			242			411		
TDS (ratio - measured/calculated)	Unitless	0.95			0.99			0.98		

Groundwater Monitoring Results 2017 Q2 - WOODWELL Cumulative Water Quality

Station Name	Units	WOODWELL	WOODWELL	WOODWELL
Field Sample ID		WOODMINE.08072012	WOODSWELL-121113	WOODWELL 160623
Lab Sample ID			L97887-04	L31273-01
Sample Date		8/7/2012	11/13/2012	6/23/2016
<b>Field Parameters</b>				
Temperature, Field	deg C		16.9	
pH, Field	s.u.		8.23	
E.C., Field 25C	µS/cm		374	
Depth to Water	ft		770.65	
Water Elevation	ft		5,878.85	

Stations Provided	Stations Not Included (Exception Sampling)
SLV2	Big Indian Pond #2
SLV3	Big Indian Pond #8
PW-3	Haul Road Retention Pond
94MW4	Horse Range Spring
94MW2	HS-S1
PW-6	Lisbon Spring
PW-12	Pit Runoff - Sentinel
MW96-7A	PW-7-Morrison
MW96-7B	SAND-DI
MW97-9	Sentinel Drill Hole NW
MW97-11	Sentinel Drill Hole SE
MW97-13	Sentinel West Stormwater Retention Pond
MW06-15	SOP Spring
94MW6	SW-14-S1
95R1	SW-15-S1
98R3	
98R4	
98R7	
98R8	
MW-2A	
MW97-12	
PW-1	
PW-2	
PW-4	
PW-5	
PW-7	
PW-8	
PW-9	
PW-11	
KEYSTONE PIT	
PENNY PIT	
SLV1A	
WILCOX-A79835	
WOODWELL	