

Revision History

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List of Changes for Revision 2.0

On Cover:

Addition of “Version 2.0, February 2009” under report series and number.

On Title page:

Addition of “Version 2.0, February 2009” under report series and number.

On page 75, Table 22:

Errors in table 22 were corrected. Scientific notation was added to correct all dissolved-gas values where previously omitted. Dissolved nitrogen values had previously been labeled as “Xenon-129”, they are now correctly labeled “Nitrogen”. A column was added to the table to include “Xenon-129” values. Table 22 is shown on the next page of this document. All changes to the table are shown in red.

Table 22. Stable-isotope, dissolved-gas, and recharge-temperature data for ground water sampled in northern Utah Valley, Utah, 2003–05.

[Sample identifier: see [figure 35](#) for the location of sites sampled as part of this study. Contributing aquifer: B, bedrock; LB, Lake Bonneville; PLB, pre-Lake Bonneville; SP, shallow Pleistocene; DP, deep Pleistocene; QT, Quaternary/Tertiary; WU, Western unconsolidated. Dissolved-gas sample method: CT, copper tube; DS, diffusion sampler. Abbreviations: ccSTP/g, cubic centimeters at standard temperature and pressure per gram of water; °C, degrees Celsius; NC, not calculated; —, not analyzed]

Sample identifier	Contributing aquifer(s)	Sample date	Well depth (feet)	Delta deuterium (permil)	Delta oxygen-18 (permil)	Dissolved-gas sample method	Helium-4 (⁴ He) (ccSTP/g)	Neon-20 (²⁰ Ne) (ccSTP/g)	Argon-40 (⁴⁰ Ar) (ccSTP/g)	Krypton-84 (⁸⁴ Kr) (ccSTP/g)	Nitrogen (N ₂) (ccSTP/g)	Xenon-129 (¹²⁹ Xe) (ccSTP/g)
¹ 1	B	06-2003	980	-125	-16.42	CT	1.25E-06	1.59E-07	2.94E-04	7.87E-08	1.33E-02	—
2	WU	08-2004	253	-124	-15.90	—	—	—	—	—	—	—
		03-2005	—	—	—	CT	6.51E-08	1.58E-07	3.01E-04	4.34E-08	1.25E-02	—
¹ 3	WU	11-2003	110	-125	-16.36	CT	1.10E-05	1.41E-07	2.67E-04	3.68E-08	1.29E-02	—
4	B	05-2003	1,030	-127	-16.98	CT	2.34E-07	1.70E-07	3.10E-04	4.25E-08	1.30E-02	—
5	PLB	08-2003	601	-120	-16.34	DS	1.32E-07	4.81E-07	5.39E-04	5.94E-08	2.88E-02	—
6	PLB	07-2004	1,557	-126	-16.59	CT	6.46E-08	1.93E-07	3.35E-04	4.53E-08	1.50E-02	—
7	QT	09-2003	904	-127	-16.75	DS	8.12E-08	2.15E-07	3.62E-04	4.86E-08	1.52E-02	—
8	DP	09-2003	221	-120	-16.30	CT	6.26E-08	2.38E-07	4.01E-04	4.99E-08	2.09E-02	—
9	LB	09-2003	—	-119	-15.95	DS	4.53E-08	1.80E-07	3.69E-04	5.03E-08	1.42E-02	—
10	QT	09-2004	500	-124	-16.70	DS	6.89E-08	2.46E-07	4.24E-04	5.80E-08	1.83E-02	—
11	QT	09-2003	331	-122	-16.87	DS	7.39E-08	2.41E-07	4.00E-04	5.27E-08	1.77E-02	—
12	DP	09-2003	144	-122	-16.53	DS	8.05E-08	2.63E-07	4.31E-04	5.31E-08	1.91E-02	—
13	SP, DP, QT	08-2004	535	-124	-16.72	DS	2.40E-06	1.95E-07	3.65E-04	4.81E-08	1.56E-02	—
14	PLB	08-2003	655	-122	-16.56	DS	6.26E-08	2.26E-07	3.89E-04	5.16E-08	1.53E-02	—
15	PLB	09-2003	1,496	-122	-16.49	CT	7.46E-08	2.54E-07	4.04E-04	4.50E-08	1.42E-02	—
16	DP	07-2004	500	-121	-16.57	DS	8.45E-08	3.01E-07	4.51E-04	5.45E-08	1.98E-02	—
17	PLB	08-2004	500	-121	-16.21	CT	7.52E-08	1.87E-07	2.30E-04	2.63E-08	1.47E-02	—
¹ 18	QT	07-2004	910	-122	-16.59	CT	7.59E-08	2.64E-07	4.35E-04	4.94E-08	2.06E-02	—
19	DP	07-2004	182	-120	-16.46	—	—	—	—	—	—	—
		01-2005	—	—	—	DS	8.87E-08	3.18E-07	4.63E-04	5.34E-08	2.20E-02	—
20	SP	08-2004	—	-120	-15.86	—	—	—	—	—	—	—
		01-2005	—	—	—	DS	5.15E-08	1.98E-07	4.05E-04	4.96E-08	1.56E-02	—
21	SP, DP	08-2004	200	-122	-16.40	—	—	—	—	—	—	—
		01-2005	—	—	—	DS	6.38E-08	2.31E-07	3.92E-04	4.80E-08	1.88E-02	—
22	SP	08-2004	118	-122	-16.44	DS	5.75E-08	2.06E-07	3.83E-04	4.94E-08	1.86E-02	—
23	B	07-2004	580	-121	-16.44	DS	2.80E-07	5.82E-07	6.32E-04	6.38E-08	3.49E-02	—
24	PLB	07-2004	410	-118	-15.87	CT	5.88E-08	2.07E-07	3.71E-04	4.67E-08	1.57E-02	—
25	DP	07-2004	334	-125	-17.00	DS	6.86E-08	2.17E-07	3.91E-04	5.03E-08	1.68E-02	—
26	SP	07-2004	171	-120	-16.24	DS	7.08E-08	2.57E-07	4.00E-04	4.88E-08	1.85E-02	—
27	DP	08-2004	650	-123	-16.52	CT	2.71E-06	2.14E-07	3.59E-04	4.48E-08	1.50E-02	—
28	QT	04-2004	1,190	-125	-16.88	DS	2.41E-06	2.12E-07	3.48E-04	4.59E-08	1.55E-02	—
29	SP	04-2004	123	-121	-16.07	DS	1.14E-06	2.28E-07	3.90E-04	4.75E-08	1.69E-02	—
¹ 30	SP	08-2004	—	-122	-16.40	DS	1.54E-07	1.72E-07	4.69E-04	5.81E-08	1.65E-02	—
31	PLB	08-2004	469	-119	-16.05	DS	5.32E-08	1.82E-07	3.60E-04	4.85E-08	1.37E-02	—
² 32	SP	08-2004	248	-120	-15.98	CT	—	—	—	—	—	—
33	SP	09-2004	144	-125	-16.58	DS	3.07E-07	1.94E-07	3.96E-04	4.96E-08	1.56E-02	—
34	DP	09-2004	250	-125	-16.63	DS	4.28E-07	2.17E-07	3.84E-04	4.66E-08	1.69E-02	—
35	SP, DP, QT, B	07-2005	1,200	—	—	CT	7.96E-06	2.34E-07	3.38E-04	5.01E-08	1.61E-02	7.28E-09
36a	QT	08-2005	1,600	—	—	CT	7.54E-08	2.13E-07	3.59E-04	5.20E-08	1.57E-02	4.62E-09
³ 36b	QT	08-2005	1,600	—	—	CT	1.60E-07	2.27E-07	3.53E-04	4.69E-08	1.74E-02	4.18E-09
³ 36c	QT	08-2005	1,600	—	—	CT	1.85E-07	2.23E-07	3.47E-04	4.55E-08	1.63E-02	4.31E-09
^{2,3} 36d	QT	08-2005	1,600	—	—	CT	—	—	—	—	—	—
36e	QT	08-2005	1,600	—	—	CT	6.70E-07	2.04E-07	3.70E-04	4.88E-08	1.60E-02	4.53E-09