Table 17. Analysis of isotopes and radioactivity in ground-water samples collected in the Southern Sacramento Valley Ground-Water Ambient Monitoring and Assessment (GAMA) study unit, California, 2005.

[The five digit USGS parameter code is used in the USGS's computerized data system, the National Water Information System, to uniquely identify a specific constituent or property. An asterisk (*) in front of a number in the table indicates a concentration higher than the threshold. "DD" following a site area name in the first column indicates "depth dependent." "FP" following a site area name in the first column indicates "flowpath." E, estimated; GAMA, Ground-Water Ambient Monitoring and Assessment; MCL-CA, California Department of Health Services Maximum Contaminant Level; MCL-US, U.S. Environmental Protection Agency Maximum Contaminant Level; na, not available; NAM, North American; NL, notification level; ns, no sample; pCi/L, picocuries per liter; QPC, Uplands; SAM, South American; SOL, Solano; SSMDC, sample-specific minimum detectable concentration; SUI, Suisun–Fairfield; USGS, U.S. Geological Survey; YOL, Yolo; —, not detected; <, less than]

GAMA sample identification number	Tritium (pCi/L)	Deuterium/ Protium ratio (per mil)	Oxygen-18/ Oxygen-16 ratio (per mil)	Radon-222 (pCi/L)	Radium-226 (pCi/L)	Radium-228 (pCi/L)	Alpha radio-activity, 72-hour count (pCi/L)	Alpha radioac-tivity, 30-day count (pCi/L)	Beta radioac-tivity, 72-hour count (pCi/L)	Beta radioac-tivity, 30-day count (pCi/L)	Carbon-13/ carbon-12, ratio (per mil)	Carbon-14 (percent modern)
USGS parameter code	**07000**	**82082**	**82085**	**82303**	**09511**	**81366**	**62636**	**62639**	**62642**	**62645**	**82081**	**49933**
Reporting level	**1**	**na**	**na**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**na**	**na**
Threshold	**20,000**	**na**	**na**	**300/4,000**	**5**	**5**	**15**	**15**	**50**	**50**	**na**	**na**
Threshold type	**MCL-US**	**na**	**na**	**MCL-US**	**MCL-US**	**MCL-US**	**MCL-US**	**MCL-US**	**MCL-CA**	**MCL-CA**	**na**	**na**
Grid wells												
NAM-01	10.9	–67.9	–9.09	ns	ns	ns	ns	ns	ns	ns	ns	ns
NAM-02	5.1	–57.6	–7.82	ns	ns	ns	ns	ns	ns	ns	ns	ns
NAM-03	—	–53.0	–7.32	ns	ns	ns	ns	ns	ns	ns	ns	ns
NAM-04	—	–61.4	–8.64	ns	ns	ns	ns	ns	ns	ns	ns	ns
NAM-05	—	–50.3	–6.94	ns	ns	ns	ns	ns	ns	ns	ns	ns
NAM-06	—	–65.3	–8.92	*444	0.06	<0.42	<2.4	<0.9	E1.7	E2.0	–17.0	6.5
NAM–07	9.9	–55.9	–7.56	ns	ns	ns	ns	ns	ns	ns	ns	ns
NAM-08	14.1	–51.0	–6.74	ns	ns	ns	ns	ns	ns	ns	ns	ns
NAM-09	16.3	–50.3	–6.74	ns	ns	ns	ns	ns	ns	ns	ns	ns
NAM-10	4.5	–44.1	–5.44	ns	ns	ns	ns	ns	ns	ns	ns	ns
NAM-11	—	–51.5	–7.00	ns	ns	ns	ns	ns	ns	ns	ns	ns
QPC-01	14.1	–66.6	–9.33	ns	ns	ns	ns	ns	ns	ns	ns	ns
QPC-02	2.2	–56.7	–8.02	ns	ns	ns	ns	ns	ns	ns	ns	ns
QPC-03	2.2	–55.9	–7.65	ns	ns	ns	ns	ns	ns	ns	ns	ns
QPC-04	7.7	–54.8	–7.65	ns	ns	ns	ns	ns	ns	ns	ns	ns
QPC-05	17.0	–67.9	–9.49	ns	ns	ns	ns	ns	ns	ns	ns	ns
QPC-06	1.3	–50.5	–7.03	*483	0.07	<0.51	<1.8	E0.6	<2.3	E1.4	–12.9	93.7
QPC-07	1.3	–52.7	–7.40	194	0.05	<0.50	<1.8	<1.3	E1.7	E2.2	–17.0	76.5
QPC-08	1.3	–53.6	–7.40	ns	ns	ns	ns	ns	ns	ns	ns	ns

Table 17. Analysis of isotopes and radioactivity in ground-water samples collected in the Southern Sacramento Valley Ground-Water Ambient Monitoring and Assessment (GAMA) study unit, California, 2005—Continued.

[The five digit USGS parameter code is used in the USGS's computerized data system, the National Water Information System, to uniquely identify a specific constituent or property. An asterisk (*) in front of a number in the table indicates a concentration higher than the threshold. "DD" following a site area name in the first column indicates "depth dependent." "FP" following a site area name in the first column indicates "flowpath." E, estimated; GAMA, Ground-Water Ambient Monitoring and Assessment; MCL-CA, California Department of Health Services Maximum Contaminant Level; MCL-US, U.S. Environmental Protection Agency Maximum Contaminant Level; na, not available; NAM, North American; NL, notification level; ns, no sample; pCi/L, picocuries per liter; QPC, Uplands; SAM, South American; SOL, Solano; SSMDC, sample-specific minimum detectable concentration; SUI, Suisun–Fairfield; USGS, U.S. Geological Survey; YOL, Yolo; —, not detected; <, less than]

GAMA sample identification number	Tritium (pCi/L)	Deuterium/ Protium ratio (per mil)	Oxygen-18/ Oxygen-16 ratio (per mil)	Radon-222 (pCi/L)	Radium-226 (pCi/L)	Radium-228 (pCi/L)	Alpha radio-activity, 72-hour count (pCi/L)	Alpha radioac-tivity, 30-day count (pCi/L)	Beta radioac-tivity, 72-hour count (pCi/L)	Beta radioac-tivity, 30-day count (pCi/L)	Carbon-13/ carbon-12, ratio (per mil)	Carbon-14 (percent modern)
USGS parameter code	**07000**	**82082**	**82085**	**82303**	**09511**	**81366**	**62636**	**62639**	**62642**	**62645**	**82081**	**49933**
Reporting level	**1**	**na**	**na**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**na**	**na**
Threshold	**20,000**	**na**	**na**	**300/4,000**	**5**	**5**	**15**	**15**	**50**	**50**	**na**	**na**
Threshold type	**MCL-US**	**na**	**na**	**MCL-US**	**MCL-US**	**MCL-US**	**MCL-US**	**MCL-US**	**MCL-CA**	**MCL-CA**	**na**	**na**
QPC-09	1.9	–51.5	–7.18	ns	ns	ns	ns	ns	ns	ns	ns	ns
QPC-10	2.2	–51.5	–7.01	ns	ns	ns	ns	ns	ns	ns	ns	ns
QPC-11	12.2	–54.1	–7.20	ns	ns	ns	ns	ns	ns	ns	ns	ns
SAM-01	—	–51.0	–7.09	ns	ns	ns	ns	ns	ns	ns	ns	ns
SAM-02	—	–54.8	–7.63	ns	ns	ns	ns	ns	ns	ns	ns	ns
SAM-03	3.8	–78.0	–10.84	ns	ns	ns	ns	ns	ns	ns	ns	ns
SAM-04	9.0	–62.6	–8.65	ns	ns	ns	ns	ns	ns	ns	ns	ns
SAM-05	14.1	–59.9	–8.47	ns	ns	ns	ns	ns	ns	ns	ns	ns
SAM-06	—	–51.9	–7.22	ns	ns	ns	ns	ns	ns	ns	ns	ns
SAM-07	4.5	–54.3	–7.70	ns	ns	ns	ns	ns	ns	ns	ns	ns
SAM-08	—	–65.7	–9.22	ns	ns	ns	ns	ns	ns	ns	ns	ns
SAM-09	11.5	–63.3	–9.00	ns	ns	ns	ns	ns	ns	ns	ns	ns
SAM-10	—	–50.1	–6.94	ns	ns	ns	ns	ns	ns	ns	ns	ns
SAM-11	—	–50.1	–6.9	ns	ns	ns	ns	ns	ns	ns	ns	ns
SAM-12	2.9	–69.0	–9.85	ns	ns	ns	ns	ns	ns	ns	ns	ns
SOL-01	—	–55.0	–7.86	ns	ns	ns	ns	ns	ns	ns	ns	ns
SOL-02	9.3	–41.7	–5.74	ns	ns	ns	ns	ns	ns	ns	ns	ns
SOL-03	—	–48.0	–6.91	ns	ns	ns	ns	ns	ns	ns	ns	ns
SOL-04	—	–59.8	–8.42	ns	ns	ns	ns	ns	ns	ns	ns	ns
SOL-05	18.2	–76.3	–10.77	ns	ns	ns	ns	ns	ns	ns	ns	ns

Table 17. Analysis of isotopes and radioactivity in ground-water samples collected in the Southern Sacramento Valley Ground-Water Ambient Monitoring and Assessment (GAMA) study unit, California, 2005—Continued.

[The five digit USGS parameter code is used in the USGS's computerized data system, the National Water Information System, to uniquely identify a specific constituent or property. An asterisk (*) in front of a number in the table indicates a concentration higher than the threshold. "DD" following a site area name in the first column indicates "depth dependent." "FP" following a site area name in the first column indicates "flowpath." E, estimated; GAMA, Ground-Water Ambient Monitoring and Assessment; MCL-CA, California Department of Health Services Maximum Contaminant Level; MCL-US, U.S. Environmental Protection Agency Maximum Contaminant Level; na, not available; NAM, North American; NL, notification level; ns, no sample; pCi/L, picocuries per liter; QPC, Uplands; SAM, South American; SOL, Solano; SSMDC, sample-specific minimum detectable concentration; SUI, Suisun–Fairfield; USGS, U.S. Geological Survey; YOL, Yolo; —, not detected; <, less than]

GAMA sample identification number	Tritium (pCi/L)	Deuterium/ Protium ratio (per mil)	Oxygen-18/ Oxygen-16 ratio (per mil)	Radon-222 (pCi/L)	Radium-226 (pCi/L)	Radium-228 (pCi/L)	Alpha radio-activity, 72-hour count (pCi/L)	Alpha radioac-tivity, 30-day count (pCi/L)	Beta radioac-tivity, 72-hour count (pCi/L)	Beta radioac-tivity, 30-day count (pCi/L)	Carbon-13/ carbon-12, ratio (per mil)	Carbon-14 (percent modern)
USGS parameter code	**07000**	**82082**	**82085**	**82303**	**09511**	**81366**	**62636**	**62639**	**62642**	**62645**	**82081**	**49933**
Reporting level	**1**	**na**	**na**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**na**	**na**
Threshold	**20,000**	**na**	**na**	**300/4,000**	**5**	**5**	**15**	**15**	**50**	**50**	**na**	**na**
Threshold type	**MCL-US**	**na**	**na**	**MCL-US**	**MCL-US**	**MCL-US**	**MCL-US**	**MCL-US**	**MCL-CA**	**MCL-CA**	**na**	**na**
SOL-06	13.4	–67.3	–9.48	ns	ns	ns	ns	ns	ns	ns	ns	ns
SOL-07	9.9	–77.0	–10.65	ns	ns	ns	ns	ns	ns	ns	ns	ns
SOL-08	—	–48.4	–7.19	ns	ns	ns	ns	ns	ns	ns	ns	ns
SOL-09	9.6	–42.6	–6.22	ns	ns	ns	ns	ns	ns	ns	ns	ns
SOL-10	1.9	–43.6	–6.31	ns	ns	ns	ns	ns	ns	ns	ns	ns
SOL-11	4.8	–49.9	–7.12	ns	ns	ns	ns	ns	ns	ns	ns	ns
SOL-12	1.6	–47.3	–6.83	ns	ns	ns	ns	ns	ns	ns	ns	ns
SOL-13	1.9	–45.9	–7.02	ns	ns	ns	ns	ns	ns	ns	ns	ns
SUI-01	2.2	–43.1	–6.23	ns	ns	ns	ns	ns	ns	ns	ns	ns
SUI-02	—	–46.4	–6.6	ns	ns	ns	ns	ns	ns	ns	ns	ns
SUI-03	—	–45.2	–6.46	ns	ns	ns	ns	ns	ns	ns	ns	ns
SUI-04	1.0	–43.2	–6.57	ns	ns	ns	ns	ns	ns	ns	ns	ns
SUI-05	10.2	–47.7	–6.86	ns	ns	ns	ns	ns	ns	ns	ns	ns
YOL-01	7.7	–41.4	–5.29	ns	ns	ns	ns	ns	ns	ns	ns	ns
YOL-02	7.4	–46.6	–6.69	ns	ns	ns	ns	ns	ns	ns	ns	ns
YOL-03	—	–56.7	–8.15	267	E0.02	<0.44	E1.3	E1.1	E2.1	E2.5	–14.0	17.8
YOL–04	10.2	–49.1	-6.04	*595	E0.04	<0.50	E1.3	<1.4	E1.6	E1.9	–14.7	112.2
YOL-05	2.2	–52.1	–6.94	ns	ns	ns	ns	ns	ns	ns	ns	ns
YOL-06	1.3	–54.6	–7.33	ns	ns	ns	ns	ns	ns	ns	ns	ns
YOL-07	8.3	–46.9	–5.78	ns	ns	ns	ns	ns	ns	ns	ns	ns

Table 17. Analysis of isotopes and radioactivity in ground-water samples collected in the Southern Sacramento Valley Ground-Water Ambient Monitoring and Assessment (GAMA) study unit, California, 2005—Continued.

[The five digit USGS parameter code is used in the USGS's computerized data system, the National Water Information System, to uniquely identify a specific constituent or property. An asterisk (*) in front of a number in the table indicates a concentration higher than the threshold. "DD" following a site area name in the first column indicates "depth dependent." "FP" following a site area name in the first column indicates "flowpath." E, estimated; GAMA, Ground-Water Ambient Monitoring and Assessment; MCL-CA, California Department of Health Services Maximum Contaminant Level; MCL-US, U.S. Environmental Protection Agency Maximum Contaminant Level; na, not available; NAM, North American; NL, notification level; ns, no sample; pCi/L, picocuries per liter; QPC, Uplands; SAM, South American; SOL, Solano; SSMDC, sample-specific minimum detectable concentration; SUI, Suisun–Fairfield; USGS, U.S. Geological Survey; YOL, Yolo; —, not detected; <, less than]

GAMA sample identification number	Tritium (pCi/L)	Deuterium/ Protium ratio (per mil)	Oxygen-18/ Oxygen-16 ratio (per mil)	Radon-222 (pCi/L)	Radium-226 (pCi/L)	Radium-228 (pCi/L)	Alpha radio-activity, 72-hour count (pCi/L)	Alpha radioac-tivity, 30-day count (pCi/L)	Beta radioac-tivity, 72-hour count (pCi/L)	Beta radioac-tivity, 30-day count (pCi/L)	Carbon-13/ carbon-12, ratio (per mil)	Carbon-14 (percent modern)
USGS parameter code	**07000**	**82082**	**82085**	**82303**	**09511**	**81366**	**62636**	**62639**	**62642**	**62645**	**82081**	**49933**
Reporting level	**1**	**na**	**na**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**na**	**na**
Threshold	**20,000**	**na**	**na**	**300/4,000**	**5**	**5**	**15**	**15**	**50**	**50**	**na**	**na**
Threshold type	**MCL-US**	**na**	**na**	**MCL-US**	**MCL-US**	**MCL-US**	**MCL-US**	**MCL-US**	**MCL-CA**	**MCL-CA**	**na**	**na**
YOL-08	—	–65.9	–9.34	266	0.06	<0.48	<2.0	<1.9	E2.0	E3.8	–15.1	1.8
YOL-09	9.0	–73.5	–10.81	ns	ns	ns	ns	ns	ns	ns	ns	ns
YOL-10	11.2	–38.1	–4.33	ns	ns	ns	ns	ns	ns	ns	ns	ns
YOL-11	8.0	–43.9	–5.69	ns	ns	ns	ns	ns	ns	ns	ns	ns
YOL-12	2.6	–47.8	–6.35	ns	ns	ns	ns	ns	ns	ns	ns	ns
YOL-13	11.2	–42.7	–5.32	ns	ns	ns	ns	ns	ns	ns	ns	ns
YOL-14	—	–66.4	–9.08	*487	0.20	0.60	<3.4	<2.8	12.2	11.4	–2.13	7.4
YOL-15	2.6	–47.6	–6.52	ns	ns	ns	ns	ns	ns	ns	ns	ns
Nongrid wells												
QPCFP-01	—	–54.9	–7.69	78	0.05	<0.44	<2.2	<0.9	E2.8	2.6	–16.6	76.3
QPCFP-02	1.3	–52.0	–7.50	*340	0.04	<0.51	<1.7	<0.6	<2.2	E0.9	–17.5	73.0
QPCFP-03	1.0	–54.7	–7.70	ns	ns	ns	ns	ns	ns	ns	ns	ns
QPCFP-04	1.0	–52.7	–7.52	ns	ns	ns	ns	ns	ns	ns	ns	ns
NAMFP-05	—	–67.3	–9.27	*326	0.12	<0.44	E3.3	<2.6	E2.2	4.0	2.5	0.8
NAMFP-06	—	–66.0	–9.14	*433	0.05	<0.50	<1.7	<1.7	E1.3	E1.4	–14.3	0.5
NAMFP-07	—	–69.6	–9.61	229	0.06	<0.54	<2.7	<2.6	E1.5	E2.6	–15.7	0.8
NAMFP-08	—	–67.2	–9.20	*415	0.06	<0.61	<2.5	<3.3	E3.0	E2.9	–17.8	43.0
NAMFP-09	1.3	–68.8	–9.30	*329	0.05	0.43	E2.1	<1.1	E2.7	2.9	–2.4	4.8
NAMFP-10	—	–59.2	–8.31	*746	0.07	<0.46	<2.1	<1.0	E1.2	E0.9	–19.4	11.3
NAMFP-11	20.2	–62.6	–8.68	ns	ns	ns	ns	ns	ns	ns	ns	ns

Table 17. Analysis of isotopes and radioactivity in ground-water samples collected in the Southern Sacramento Valley Ground-Water Ambient Monitoring and Assessment (GAMA) study unit, California, 2005—Continued.

[The five digit USGS parameter code is used in the USGS's computerized data system, the National Water Information System, to uniquely identify a specific constituent or property. An asterisk (*) in front of a number in the table indicates a concentration higher than the threshold. "DD" following a site area name in the first column indicates "depth dependent." "FP" following a site area name in the first column indicates "flowpath." E, estimated; GAMA, Ground-Water Ambient Monitoring and Assessment; MCL-CA, California Department of Health Services Maximum Contaminant Level; MCL-US, U.S. Environmental Protection Agency Maximum Contaminant Level; na, not available; NAM, North American; NL, notification level; ns, no sample; pCi/L, picocuries per liter; QPC, Uplands; SAM, South American; SOL, Solano; SSMDC, sample-specific minimum detectable concentration; SUI, Suisun–Fairfield; USGS, U.S. Geological Survey; YOL, Yolo; —, not detected; <, less than]

GAMA sample identification number	Tritium (pCi/L)	Deuterium/ Protium ratio (per mil)	Oxygen-18/ Oxygen-16 ratio (per mil)	Radon-222 (pCi/L)	Radium-226 (pCi/L)	Radium-228 (pCi/L)	Alpha radio-activity, 72-hour count (pCi/L)	Alpha radioac-tivity, 30-day count (pCi/L)	Beta radioac-tivity, 72-hour count (pCi/L)	Beta radioac-tivity, 30-day count (pCi/L)	Carbon-13/ carbon-12, ratio (per mil)	Carbon-14 (percent modern)
USGS parameter code	**07000**	**82082**	**82085**	**82303**	**09511**	**81366**	**62636**	**62639**	**62642**	**62645**	**82081**	**49933**
Reporting level	**1**	**na**	**na**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**SSMDC**	**na**	**na**
Threshold	**20,000**	**na**	**na**	**300/4,000**	**5**	**5**	**15**	**15**	**50**	**50**	**na**	**na**
Threshold type	**MCL-US**	**na**	**na**	**MCL-US**	**MCL-US**	**MCL-US**	**MCL-US**	**MCL-US**	**MCL-CA**	**MCL-CA**	**na**	**na**
YOLFP-12	—	–55.5	–7.87	222	E0.05	<0.41	E2.3	E1.4	E2.5	2.9	–13.6	20.8
YOLFP-13	—	–46.3	–6.36	268	0.07	<0.45	E2.7	E2.2	E1.4	E1.7	–14.7	90.5
YOLFP-14	9.6	–46.1	–6.5	*604	E0.04	<0.49	E1.2	E1.1	<3.6	E1.9	–16.0	98.8
YOLFP-15	9.6	–50.7	–7.43	*728	0.07	<0.44	E0.5	<0.9	<2.4	E1.6	–14.7	73.9
NAMFP–16	2.2	–51.0	–7.24	*669	E0.05	<0.47	<1.3	<0.8	E2.6	2.0	–17.1	55.6
Depth-dependent samples												
NAMDD-01	ns	–50.9	–7.31	ns	ns	ns	ns	ns	ns	ns	ns	ns
NAMDD-02	ns	–50.9	–7.23	ns	ns	ns	ns	ns	ns	ns	ns	ns
NAMDD-03	ns	–50.4	–7.28	ns	ns	ns	ns	ns	ns	ns	ns	ns
NAMDD-04	ns	–49.6	–7.31	ns	ns	ns	ns	ns	ns	ns	ns	ns