

**Appendix 5.** Detection frequency of at least one volatile organic compound (VOC) by principal or other aquifer and by aquifer study at two assessment levels (in order of overall decreasing detection frequency).

[µg/L, micrograms per liter; --, not applicable; US&G, unconsolidated sand and gravel; S Sand, sand and (or) semiconsolidated sand; Carb, carbonate rocks; B&V, basaltic and (or) volcanic rocks; SS, sandstone; Cryst, crystalline rocks; SS&Carb, sandstone and carbonate rocks; ND, no detections]

Principal or other aquifer	Predominant lithology	Map number <sup>1</sup>	Aquifer study in principal or other aquifer <sup>2</sup>	Assessment level of 0.2 µg/L <sup>3</sup>			Assessment level of 0.02 µg/L <sup>4</sup>		
				Number of wells sampled	Number of detections	Percent of samples with a detection of at least one VOC	Number of wells sampled	Number of detections	Percent of samples with a detection of at least one VOC
Central Valley aquifer system	US&G	--	All samples	200	101	50.5	30	9	30.0
		1	sacr04	142	89	62.7	--	--	--
		2	sacrsus1	30	3	10.0	30	9	30.0
		3	sanjsus1	28	9	32.1	--	--	--
Northern Atlantic Coastal Plain aquifer system	S Sand	--	All samples	220	106	48.2	30	23	76.7
		4	delmarva	34	8	23.5	--	--	--
		5	linj01	130	78	60.0	--	--	--
		6	albesus1	11	1	9.1	--	--	--
		7	albesus2	15	2	13.3	--	--	--
		8	linjsus2	30	17	56.7	30	23	76.7
Biscayne aquifer	Carb	9	soflsus1	29	12	41.4	29	20	69.0
California Coastal Basin aquifers	US&G	--	All samples	69	26	37.7	69	48	69.6
		10	sanasus1	27	12	44.4	27	22	81.5
		11	sanasus2	20	6	30.0	20	13	65.0
		12	sanasus3	22	8	36.4	22	13	59.1
Hawaiian volcanic-rock aquifers - locally overlain by sedimentary deposits	B&V	--	All samples	43	16	37.2	28	16	57.1
		13	oahu02	15	3	20.0	--	--	--
		14	oahusus1	28	13	46.4	28	16	57.1
New York and New England crystalline-rock aquifers <sup>5</sup>	Cryst	--	All samples	118	43	36.4	88	50	56.8
		15	connsus1	30	11	36.7	--	--	--
		16	linjsus1	30	19	63.3	30	23	76.7
		17	necbsus1	28	8	28.6	28	15	53.6
		18	necbsus2	30	5	16.7	30	12	40.0
Early Mesozoic basin aquifer	SS	--	All samples	50	18	36.0	50	36	72.0
		19	delrsus1	30	11	36.7	30	22	73.3
		20	linjsus3	20	7	35.0	20	14	70.0
Silurian–Devonian aquifers	Carb	--	All samples	49	15	30.6	33	29	87.9
		21	eiwa03	16	7	43.8	--	--	--
		22	eiwasus1	33	8	24.2	33	29	87.9
Rocky Mountain Front Range crystalline-rock aquifers <sup>5</sup>	Cryst	23	spltsus1	26	7	26.9	--	--	--
Surficial aquifer system	US&G	24	gaflsus1	36	9	25.0	--	--	--

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Principal or other aquifer	Predominant lithology	Map number <sup>1</sup>	Aquifer study in principal or other aquifer <sup>2</sup>	Assessment level of 0.2 µg/L <sup>3</sup>			Assessment level of 0.02 µg/L <sup>4</sup>		
				Number of wells sampled	Number of detections	Percent of samples with a detection of at least one VOC	Number of wells sampled	Number of detections	Percent of samples with a detection of at least one VOC
Ozark Plateaus aquifer system	Carb	--	All samples	49	12	24.5	--	--	--
		25	ozrksus2a	33	8	24.2	--	--	--
		26	ozrksus3a	16	4	25.0	--	--	--
Mississippian aquifers	SS&Carb	27	ltensus1 <sup>6</sup>	32	6	18.8	32	23	71.9
Coastal Lowlands aquifer system	S Sand	--	All samples	81	15	18.5	57	29	50.9
		28	acadsus1	29	3	10.3	29	10	34.5
		29	acadsus2	28	10	35.7	28	19	67.9
		30	trinsus3	24	2	8.3	--	--	--
Unconsolidated deposit aquifers (Alaska) (Cook Inlet)	US&G	31	cooksus1a	28	5	17.9	28	20	71.4
Other sand and gravel aquifers <sup>5</sup>	US&G	--	All samples	142	25	17.6	53	28	52.8
		32	mise07	30	2	6.7	--	--	--
		33	sofl03	13	10	76.9	--	--	--
		34	yell01	19	2	10.5	--	--	--
		35	cnbrsus2	27	2	7.4	--	--	--
		36	ucolsus1	29	2	6.9	29	11	37.9
		37	yellsus1	24	7	29.2	24	17	70.8
Puget Sound aquifer system	US&G	38	pugtsus1	30	5	16.7	30	23	76.7
Edwards–Trinity aquifer system	SS&Carb	--	All samples	164	27	16.5	88	33	37.5
		39	sctx01	52	18	34.6	--	--	--
		40	sctxsus1	28	3	10.7	28	17	60.7
		41	sctxsus2	31	1	3.2	31	5	16.1
		42	sctxsus3	29	4	13.8	29	11	37.9
		43	trinsus1	24	1	4.2	--	--	--
Glacial deposit aquifers <sup>7</sup>	US&G	--	All samples	367	56	15.3	253	146	57.7
		44	nneb05	69	15	21.7	--	--	--
		45	almnsus2	30	3	10.0	30	12	40.0
		46	delrsus3	16	2	12.5	16	6	37.5
		47	eiwasus2	32	1	3.1	32	16	50.0
		48	hdsnsus1	35	2	5.7	--	--	--
		48	lerisus1	28	2	7.1	28	3	10.7
		50	lirbsus1	30	ND	ND	30	16	53.3
		51	lirbsus2	30	8	26.7	30	26	86.7

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Principal or other aquifer	Predominant lithology	Map number <sup>1</sup>	Aquifer study in principal or other aquifer <sup>2</sup>	Assessment level of 0.2 µg/L <sup>3</sup>			Assessment level of 0.02 µg/L <sup>4</sup>		
				Number of wells sampled	Number of detections	Percent of samples with a detection of at least one VOC	Number of wells sampled	Number of detections	Percent of samples with a detection of at least one VOC
Glacial deposit aquifers <sup>7</sup> — Continued		52	miamsus1	30	6	20.0	30	19	63.3
		53	necbsus3	30	13	43.3	30	28	93.3
		54	rednsus2	10	4	40.0	--	--	--
		55	uirbsus1	27	ND	ND	27	20	74.1
Basin and Range basin-fill aquifers	US&G	--	All samples	328	46	14.0	127	50	39.4
		56	carson	148	18	12.2	--	--	--
		57	cazbsus1a	30	2	6.7	30	13	43.3
		58	cazbsus2	27	5	18.5	27	7	25.9
		59	cazbsus3	18	ND	ND	18	13	72.2
		60	grslsus1	52	5	9.6	52	17	32.7
		61	nvbrsus1	21	11	52.4	--	--	--
		62	nvbrsus2	16	5	31.2	--	--	--
Pennsylvanian aquifers	SS	--	All samples	60	8	13.3	60	32	53.3
		64	almnsus1	30	4	13.3	30	22	73.3
		65	kanasus1	30	4	13.3	30	10	33.3
Mississippi River Valley alluvial aquifer	US&G	--	All samples	54	7	13.0	54	28	51.9
		66	misesus1	29	7	24.1	29	17	58.6
		67	misesus3	25	ND	ND	25	11	44.0
Ordovician aquifers	Carb	68	ltensus2	31	4	12.9	31	15	48.4
Columbia Plateau basaltic-rock aquifers	B&V	69	ccptsus1	32	4	12.5	--	--	--
Northern Rocky Mountains Intermontane Basins aquifer system	US&G	--	All samples	61	7	11.5	61	13	21.3
		70	nroksus1	31	4	12.9	31	7	22.6
		71	nroksus2	30	3	10.0	30	6	20.0
Valley and Ridge aquifers	SS&Carb	--	All samples	101	11	10.9	60	28	46.7
		72	uten02	12	3	25.0	--	--	--
		73	delrsus2	30	5	16.7	30	11	36.7
		74	lsussus1	29	ND	ND	--	--	--
		75	utensus1	30	3	10.0	30	17	56.7
Willamette Lowland basin-fill aquifers	US&G	--	All samples	65	7	10.8	--	--	--
		76	willusag1	15	1	6.7	--	--	--
		77	willusag2	25	2	8.0	--	--	--
		78	willsus1	25	4	16.0	--	--	--

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				Number of wells sampled	Number of detections	Percent of samples with a detection of at least one VOC	Number of wells sampled	Number of detections	Percent of samples with a detection of at least one VOC
Floridan aquifer system	Carb	--	All samples	56	6	10.7	30	4	13.3
		79	acfbus1	26	4	15.4	--	--	--
		80	santsus2	30	2	6.7	30	4	13.3
Central Oklahoma aquifer	SS	81	oklahoma	120	10	8.3	--	--	--
Cambrian–Ordovician aquifer system	SS	--	All samples	76	6	7.9	50	28	56.0
		82	umissus3	25	3	12.0	25	18	72.0
		83	umissus4	25	1	4.0	25	10	40.0
		84	wmicsus1	26	2	7.7	--	--	--
Mississippi Embayment–Texas Coastal Uplands aquifer system	S Sand	--	All samples	52	4	7.7	30	14	46.7
		85	misesus2	30	3	10.0	30	14	46.7
		86	trinsus2	22	1	4.5	--	--	--
Piedmont and Blue Ridge crystalline-rock aquifers	Cryst	--	All samples	70	5	7.1	60	23	38.3
		87	kanasus2	30	3	10.0	30	12	40.0
		88	lsussus2	10	1	10.0	--	--	--
		89	santsus3	30	1	3.3	30	11	36.7
Snake River Plain basin-fill aquifers	US&G	--	All samples	405	17	4.2	--	--	--
		90	id01	385	16	4.2	--	--	--
		91	usnksus3	20	1	5.0	--	--	--
Lower Tertiary aquifers	SS	92	yellsus2	28	1	3.6	28	20	71.4
Southeastern Coastal Plain aquifer system	S Sand	--	All samples	57	2	3.5	57	24	42.1
		93	moblsus1	30	ND	ND	30	7	23.3
		94	santsus1	27	2	7.4	27	17	63.0
High Plains aquifer	US&G	--	All samples	141	4	2.8	141	55	39.0
		95	hpgwsus1a	74	1	1.4	74	39	52.7
		96	hpgwsus1b	47	2	4.3	47	9	19.1
		97	hpgwsus2	20	1	5.0	20	7	35.0
Rio Grande aquifer system	US&G	98	riogsus1	28	ND	ND	--	--	--

<sup>1</sup>The map number refers to a corresponding map on the Circular’s Web site.

<sup>2</sup>The name of each aquifer study is unique and can be used to find more detailed information about the aquifer study on the Circular’s Web site.

<sup>3</sup>Detection frequencies are for all samples included in this assessment, regardless of the analytical method.

<sup>4</sup>Detection frequencies are for the subset of samples that were analyzed with the U.S. Geological Survey’s low-level method 0–4127–96. At this assessment level, detection frequencies are estimates.<sup>(19)</sup>

<sup>5</sup>Other aquifer.

<sup>6</sup>Regolith overlying bedrock.

<sup>7</sup>Sand and gravel aquifers north of the limit of Quaternary continental glaciation and east of the Rocky Mountains.