

Supplemental Material, Table 1. Three U.S. Environmental Protection Agency (U.S. EPA) Office of Water (OW) equations are used to calculate Health-Based Screening Levels (HBSLs) for unregulated contaminants as determined by the U.S. EPA cancer classification for each chemical. The relation between the U.S. EPA Weight-of-Evidence cancer classifications and the corresponding OW equations used to calculate HBSLs are shown in tables 1a and 1b (Toccalino 2007).

Table 1a. Relations between the alpha-numeric U.S. EPA Weight-of-Evidence cancer classifications (1986) and three equations used to calculate HBSLs.

1986 U.S. EPA Weight-of-Evidence Descriptors	OW equation used to calculate HBSL
A – Known human carcinogen	Cancer Risk Concentration (eq. 1)
B1, B2 – Probable human carcinogen	Cancer Risk Concentration (eq. 1)
C – Possible human carcinogen carcinogens (eq. 2)	Lifetime Health Advisory (Lifetime HA) for Group C
D – Unclassifiable	Lifetime HA (eq. 3)
E – Evidence of non-carcinogenicity for humans	Lifetime HA (eq. 3)
No Weight-of-Evidence descriptor, but reference dose is available	Lifetime HA (eq. 3)

[U.S. EPA, U.S. Environmental Protection Agency; HA, Health Advisory; HBSL, Health-Based Screening Level; OW, U.S. EPA Office of Water; eq., equation]

$$\text{HBSL } (\mu\text{g/L}) = \frac{(70 \text{ kg body wt}) \times (\text{risk level})}{(2 \text{ L water consumed/day}) \times (\text{SF} [\text{mg/kg/day}]^{-1}) \times (\text{mg}/1,000 \mu\text{g})} \quad (1)$$

Where  $\mu\text{g/L}$  = micrograms per liter; kg body wt = kilograms of body weight; risk level is  $10^{-6}$  to  $10^{-4}$  cancer risk range; SF = cancer slope factor;  $(\text{mg/kg/day})^{-1}$  = inverse of milligrams of chemical per kilogram of body weight per day; mg = milligrams; and  $\mu\text{g}$  = micrograms.

$$\text{HBSL } (\mu\text{g/L}) = \left[ \frac{(\text{RfD} [\text{mg/kg/day}]) \times (70 \text{ kg body wt}) \times (1,000 \mu\text{g/mg}) \times \text{RSC}}{(2 \text{ L water consumed/day})} \right] \div \text{RMF} \quad (2)$$

$$\text{HBSL } (\mu\text{g/L}) = \frac{(\text{RfD [mg/kg/day]}) \times (70 \text{ kg body wt}) \times (1,000 \mu\text{g/mg}) \times \text{RSC}}{(2\text{L water consumed/day})} \quad (3)$$

Where RfD = reference dose; mg/kg/day = milligrams of chemical per kilogram of body weight per day; RSC = Relative Source Contribution (defaults to 20 percent in the absence of other data); and RMF = Risk Management Factor (defaults to 10 in the absence of other data).

Table 1b. Relation between the descriptive 1996, 1999, and 2005 U.S. EPA Weight-of-Evidence cancer classifications and the three equations used to calculate HBSLs.

U.S. EPA Weight-of-Evidence Descriptors			OW equation used to calculate HBSL
1996 (U.S. EPA 1996)	1999 (U.S. EPA 1999)	2005 (U.S. EPA 2005)	
Known/likely	Carcinogenic to humans	Carcinogenic to humans	Cancer Risk Concentration (eq. 1)
--	Likely to be carcinogenic to humans	Likely to be carcinogenic to humans	Cancer Risk Concentration (eq. 1)
--	Suggestive evidence of carcinogenicity but not sufficient to assess human carcinogenic potential	Suggestive evidence of carcinogenic potential	Lifetime Health Advisory (Lifetime HA) for Group C carcinogens (eq. 2)
Cannot be determined	Data are inadequate for an assessment of human carcinogenic potential	Inadequate information to assess carcinogenic potential	Lifetime HA (eq. 3)
Not likely	Not likely to be carcinogenic to humans	Not likely to be carcinogenic to humans	Lifetime HA (eq. 3)
Multiple narrative descriptors such as: "Likely to be carcinogenic to humans under high-dose conditions but not likely to be carcinogenic to humans under low-dose"			Lifetime HA (eq. 3) <sup>1</sup>

conditions”

No Weight-of-Evidence descriptor, but reference dose is available

Lifetime HA (eq. 3)

[U.S. EPA, U.S. Environmental Protection Agency; HA, Health Advisory; HBSL, Health-Based Screening Level; OW, U.S. EPA Office of Water; --no cancer classification]]

<sup>1</sup>Equation 3 for Lifetime HA values is used with these types of multiple narrative Weight-of-Evidence descriptors because concentrations detected in the environment typically are low.

Supplemental Material, Table 2. Listing of the range of laboratory reporting levels for 55 volatile organic compounds (VOCs) analyzed in a subset (1,208 samples) of 2,401 domestic well samples. The low-level analytical method for the 1,208 domestic well samples was initiated in April 1996. For samples collected prior to April 1996, 54 VOCs were analyzed at a minimum reporting level (MRL) of 0.2 microgram per liter ( $\mu\text{g/L}$ ) with the exception of dibromochloropropane which had an MRL of 0.1  $\mu\text{g/L}$ .

Compound (abbreviation)	Range of laboratory reporting levels, in $\mu\text{g/L}$
Acrolein	1.43
Acrylonitrile	0.4 - 1.23
<i>tert</i> -Amyl methyl ether	0.04-0.11
Benzene	0.016 - 0.1
Bromodichloromethane	0.028 - 0.048
Bromoform	0.06 - 0.104
Bromomethane	0.148 - 0.4
Butylbenzene	0.12 - 0.19
Carbon tetrachloride	0.06 - 0.088
Chlorobenzene	0.02 - 0.028
Chloroethane	0.1 - 0.12
Chloroform	0.024 - 0.052
Chloromethane	0.1 - 0.5
Dibromochloromethane	0.1 - 0.182
Dibromochloropropane (DBCP)	0.21 - 0.51
1,2-Dichlorobenzene	0.04 - 0.048
1,3-Dichlorobenzene	0.03 - 0.054
1,4-Dichlorobenzene	0.034 - 0.05
Dichlorodifluoromethane	0.096 - 0.27
1,1-Dichloroethane (1,1-DCA)	0.035 - 0.066
1,2-Dichloroethane (1,2-DCA)	0.1 - 0.134
1,1-Dichloroethene (1,1-DCE)	0.02 - 0.044
<i>cis</i> -1,2-Dichloroethene	0.02 - 0.038
<i>trans</i> -1,2-Dichloroethene	0.018 - 0.032
1,2-Dichloropropane	0.02 - 0.068

<i>cis</i> -1,3-Dichloropropene	0.05 - 0.092
<i>trans</i> -1,3-Dichloropropene	0.09 - 0.134
Diisopropyl ether (DIPE)	0.06 - 0.1
Ethyl <i>tert</i> -butyl ether (ETBE)	0.03 - 0.054
Ethylbenzene	0.02 - 0.03
Ethylene dibromide (EDB)	0.036 - 0.04
Hexachlorobutadiene	0.1 - 0.142
Hexachloroethane	0.14 - 0.362
Isopropylbenzene	0.032 - 0.06
Methyl <i>tert</i> -butyl ether (MTBE)	0.1 - 0.17
Methylene chloride	0.04 - 0.382
Naphthalene	0.25 - 0.52
Perchloroethene (PCE)	0.027 - 0.1
<i>n</i> -Propylbenzene	0.04 - 0.042
Styrene	0.04 - 0.042
Toluene	0.018 - 0.05
1,2,3-Trichlorobenzene	0.12 - 0.27
1,2,4-Trichlorobenzene	0.07 - 0.19
1,1,1-Trichloroethane (1,1,1-TCA)	0.032 - 0.04
1,1,2-Trichloroethane (1,1,2-TCA)	0.04 - 0.064
Trichloroethene (TCE)	0.02 - 0.038
Trichlorofluoromethane	0.08 - 0.16
1,2,3-Trichloropropane	0.07 - 0.18
Trichlorotrifluoroethane	0.032 - 0.092
1,2,4-Trimethylbenzene (1,2,4-TMB)	0.04 - 0.056
Vinyl bromide	0.1 - 0.12
Vinyl chloride	0.06 - 0.112
<i>m</i> - and <i>p</i> -Xylene	0.06 - 0.08
<i>o</i> -Xylene	0.038 - 0.07

Supplemental Material, Table 3. Occurrence data for frequently detected volatile organic compounds (VOCs) alone and in mixtures in 1,208 domestic well samples. Samples were analyzed using the U.S. Geological Survey's low-level analytical method and results are reported with no censoring of data. Compounds are listed in order of decreasing number of detections for individual VOCs.

Compound (abbreviation)	number of detections		Concentration, in micrograms per liter					
			minimum		median		maximum	
	alone	mixture	alone	mixture	alone	mixture	alone	mixture
Chloroform	99	210	0.006	0.002	0.030	0.040	3.33	16.8
Toluene	74	141	.006	.004	.023	.025	4.40	1.05
1,2,4-Trimethylbenzene (1,2,4-TMB)	57	124	.006	.004	.025	.019	.330	.240
Chloromethane	34	83	.007	.009	.030	.030	.090	.080
Methylene chloride	19	55	.010	.009	.026	.028	1.20	2.20
Perchloroethene (PCE)	19	111	.007	.002	.021	.029	1.64	17.8
1,1,1-Trichloroethane (1,1,1-TCA)	12	91	.007	.002	.047	.017	.950	.883
Methyl <i>tert</i> -butyl ether (MTBE)	8	59	.035	.010	.127	.220	.985	30.2
Trichloroethene (TCE)	5	36	.010	.002	.020	.087	14.3	104
<i>m</i> - and <i>p</i> -Xylene	4	24	.009	.008	.011	.020	.014	.170

Supplemental Material, Table 4. Mixtures of volatile organic compounds (VOCs) most commonly occurring in 1,208 domestic well samples analyzed with the U.S. Geological Survey's low-level method and reported with no censoring of data<sup>a</sup>. VOC mixtures are listed in order of decreasing detection frequency.

Rank	Compound 1		Compound 2		Compound 3		Compound 4		No. of detections	Percent of samples with mixture
	VOC	use	VOC	use	VOC	use	VOC	use		
1	Chloroform	THM	1,1,1-TCA	solvent	NA	NA	NA	NA	64	5.3
2	Chloroform	THM	PCE	solvent	NA	NA	NA	NA	62	5.1
3	Chloroform	THM	Toluene	gas. hydro.	NA	NA	NA	NA	51	4.2
4	Chloroform	THM	MTBE	gas. oxy.	NA	NA	NA	NA	43	3.6
5	PCE	solvent	1,1,1-TCA	solvent	NA	NA	NA	NA	41	3.5
6	Toluene	gas. hydro.	1,2,4-TMB	gas. hydro.	NA	NA	NA	NA	36	3.0
7	Chloroform	THM	PCE	solvent	1,1,1-TCA	solvent	NA	NA	35	2.9
7	Toluene	gas. hydro.	PCE	solvent	NA	NA	NA	NA	35	2.9
9	Chloroform	THM	1,2,4-TMB	gas. hydro.	NA	NA	NA	NA	33	2.7
10	Chloroform	THM	Chloromethane	solvent	NA	NA	NA	NA	31	2.6
11	Chloromethane	solvent	1,2,4-TMB	gas. hydro.	NA	NA	NA	NA	30	2.5
12	Chloroform	THM	Methylene chloride	solvent	NA	NA	NA	NA	26	2.2
13	Chloroform	THM	TCE	solvent	NA	NA	NA	NA	24	2.0
13	PCE	solvent	TCE	solvent	NA	NA	NA	NA	24	2.0
15	1,1,1-TCA	solvent	MTBE	gas. oxy.	NA	NA	NA	NA	22	1.8
16	Chloroform	THM	1,1,1-TCA	solvent	MTBE	gas. oxy.	NA	NA	21	1.7
16	1,1,1-TCA	solvent	TCE	solvent	NA	NA	NA	NA	21	1.7
18	Chloroform	THM	PCE	solvent	TCE	solvent	NA	NA	20	1.7
18	PCE	solvent	MTBE	gas. oxy.	NA	NA	NA	NA	20	1.7
20	PCE	solvent	1,1-DCE	org. syn.	NA	NA	NA	NA	19	1.6
20	PCE	solvent	1,1,1-TCA	solvent	TCE	solvent	NA	NA	19	1.6
20	Toluene	gas. hydro.	1,1,1-TCA	solvent	NA	NA	NA	NA	19	1.6
23	Chloroform	THM	1,1-DCA	solvent	NA	NA	NA	NA	18	1.5
23	Chloroform	THM	1,1-DCE	org. syn.	NA	NA	NA	NA	18	1.5
23	Chloroform	THM	PCE	solvent	1,1-DCE	org. syn.	NA	NA	18	1.5
23	Chloroform	THM	PCE	solvent	MTBE	gas. oxy.	NA	NA	18	1.5
23	Chloroform	THM	PCE	solvent	1,1,1-TCA	solvent	TCE	solvent	18	1.5
23	Chloroform	THM	1,1,1-TCA	solvent	TCE	solvent	NA	NA	18	1.5

23	Toluene	gas. hydro.	Methylene chloride	solvent	NA	NA	NA	NA	18	1.5
30	1,1-DCE	org. syn.	1,1,1-TCA	solvent	NA	NA	NA	NA	17	1.4
30	PCE	solvent	1,1-DCA	solvent	NA	NA	NA	NA	17	1.4
30	PCE	solvent	1,1-DCE	org. syn.	1,1,1-TCA	solvent	NA	NA	17	1.4
33	Chloroform	THM	1,1-DCE	org. syn.	1,1,1-TCA	solvent	NA	NA	16	1.3
33	Chloroform	THM	PCE	solvent	1,1-DCE	org. syn.	1,1,1-TCA	solvent	16	1.3
33	1,1-DCA	solvent	1,1,1-TCA	solvent	NA	NA	NA	NA	16	1.3
36	Chloroform	THM	PCE	solvent	1,1-DCA	solvent	NA	NA	15	1.2
36	Chloromethane	solvent	Methylene chloride	solvent	NA	NA	NA	NA	15	1.2
36	Methylene chloride	solvent	1,2,4-TMB	gas. hydro.	NA	NA	NA	NA	15	1.2
36	Toluene	gas. hydro.	MTBE	gas. oxy.	NA	NA	NA	NA	15	1.2
36	Toluene	gas. hydro.	<i>m</i> - and <i>p</i> -Xylene	gas. hydro.	NA	NA	NA	NA	15	1.2
41	Benzene	gas. hydro.	1,2,4-TMB	gas. hydro.	NA	NA	NA	NA	14	1.2
41	Chloromethane	solvent	PCE	solvent	NA	NA	NA	NA	14	1.2
41	Chloroform	THM	1,1-DCA	solvent	1,1,1-TCA	solvent	NA	NA	14	1.2
41	Chloroform	THM	1,1-DCE	org. syn.	TCE	solvent	NA	NA	14	1.2
41	Chloroform	THM	PCE	solvent	1,1-DCE	org. syn.	TCE	solvent	14	1.2
41	1,1-DCE	org. syn.	TCE	solvent	NA	NA	NA	NA	14	1.2
41	PCE	solvent	1,1-DCA	solvent	1,1,1-TCA	solvent	NA	NA	14	1.2
41	PCE	solvent	1,1-DCE	org. syn.	TCE	solvent	NA	NA	14	1.2
41	1,1,1-TCA	solvent	1,2,4-TMB	gas. hydro.	NA	NA	NA	NA	14	1.2
50	1,1-DCE	org. syn.	1,1,1-TCA	solvent	TCE	solvent	NA	NA	13	1.1

[No., number; NA, not applicable; THM, trihalomethane; 1,1,1-TCA, 1,1,1-trichloroethane; PCE, perchloroethene; gas. hydro., gasoline hydrocarbon; MTBE, methyl *tert*-butyl ether; gas. oxy., gasoline oxygenate; 1,2,4-TMB, 1,2,4-trimethylbenzene; TCE, trichloroethene; 1,1-DCE, 1,1-dichloroethene; org. syn., organic synthesis compound; 1,1-DCA, 1,1-dichloroethane]

<sup>a</sup>The occurrence of mixtures, as reported in these results, is defined as two or more VOCs that are present in a domestic well sample.

<sup>b</sup>VOCs are listed in decreasing order of the concentration for each compound within the mixture.



Supplemental Material, Table 5. Alphabetical listing of volatile organic compounds (VOCs) in 2,401 domestic well samples with concentrations less than but within one order of magnitude of U.S. Environmental Protection Agency's Maximum Contaminant Levels (MCLs).

Compound (abbreviation)	VOC group	Number of samples with concentrations within one order of magnitude of the MCL		
		MCL, in micrograms per liter	Number of well samples	
Benzene	Gasoline hydrocarbon	5	2,401	2
Bromoform	THM	<sup>a</sup> 80	2,399	1
Carbon tetrachloride	Solvent	5	2,400	3
Chloroform	THM	<sup>a</sup> 80	2,400	4
Dibromochloromethane	THM	<sup>a</sup> 80	2,400	1
<sup>b</sup> Dibromochloropropane (DBCP)	Fumigant	0.2	1,962	1
1,2-Dichloroethane (1,2-DCA)	Solvent	5	2,383	3
<sup>b</sup> 1,1-Dichloroethene (1,1-DCE)	Organic synthesis compound	7	2,400	3
<sup>b</sup> 1,2-Dichloropropane	Fumigant	5	2,400	6
Methylene chloride	Solvent	6	2,398	9
<sup>b</sup> Perchloroethene (PCE)	Solvent	5	2,371	17
1,1,1-Trichloroethane (1,1,1-TCA)	Solvent	200	2,401	1
<sup>b</sup> Trichloroethene (TCE)	Solvent	5	2,400	9
Total trihalomethanes	THM	<sup>a</sup> 80	2,400	5
Vinyl chloride	Organic synthesis compound	2	2,401	2

[THM, trihalomethane]

<sup>a</sup>The MCL is for total trihalomethanes.

<sup>b</sup>Compound also had concentrations greater than MCL

Supplemental Material, Table 6. Summary of concentrations of volatile organic compounds (VOCs) in 2,401 domestic well samples by State in comparison to human-health benchmarks, including U.S. Environmental Protection Agency Maximum Contaminant Levels (MCLs) for regulated VOCs and to Health-Based Screening Levels (HBSLs) for unregulated VOCs<sup>a</sup>.

State	Total number of wells	VOCs in domestic well samples							
		<sup>b</sup> One or more VOC concentrations greater than MCL		<sup>b</sup> One or more VOC concentrations less than but within one order of magnitude of MCL		One or more VOCs detected, but concen- trations less than one order of magnitude of MCL or HBSL <sup>c</sup>		Contained no VOCs	
		number	percent	number	percent	number	percent	number	percent
Alaska	21	0	0.0	0	0.0	16	76.2	5	23.8
Alabama	21	0	0	0	0	11	52.4	10	47.6
Arkansas	12	0	0	1	8.3	3	25.0	8	66.7
Arizona	56	0	0	0	0	33	58.9	23	41.1
California	144	16	11.1	9	6.3	36	25.0	83	57.6
Colorado	60	2	3.3	3	5.0	27	45.0	28	46.7
Connecticut	13	0	0	0	0	5	38.5	8	61.5
Delaware	5	0	0	0	0	2	40.0	3	60.0
Georgia	23	0	0	1	4.4	3	13.0	19	82.6
Hawaii	1	0	0	0	0	0	0	1	100
Iowa	58	0	0	1	1.7	41	70.7	16	27.6
Idaho	366	2	.5	4	1.1	15	4.1	345	94.3
Illinois	61	0	0	4	6.5	40	65.6	17	27.9
Indiana	3	0	0	0	0	3	100	0	0
Kansas	46	0	0	0	0	29	63.0	17	37.0
Louisiana	51	0	0	0	0	32	62.7	19	37.3
Massachusetts	9	0	0	0	0	3	33.3	6	66.7
Maryland	9	0	0	0	0	2	22.2	7	77.8
Maine	36	0	0	0	0	20	55.6	16	44.4
Michigan	29	0	0	0	0	8	27.6	21	72.4
Minnesota	47	0	0	0	0	25	53.2	22	46.8
Missouri	30	0	0	1	3.3	6	20.0	23	76.7

Mississippi	9	0	0	0	0	5	55.6	4	44.4
Montana	31	0	0	0	0	9	29.0	22	71.0
North Carolina	18	0	0	0	0	13	72.2	5	27.8
Nebraska	9	0	0	0	0	5	55.6	4	44.4
New Hampshire	20	0	0	0	0	8	40.0	12	60.0
New Jersey	115	2	1.7	4	3.5	72	62.6	37	32.2
New Mexico	31	0	0	0	0	1	3.2	30	96.8
Nevada	79	1	1.3	2	2.5	4	5.1	72	91.1
New York	55	0	0	0	0	15	27.3	40	72.7
Ohio	32	0	0	0	0	22	68.8	10	31.2
Oklahoma	111	1	.9	0	0	16	14.4	94	84.7
Oregon	64	1	1.6	1	1.6	4	6.2	58	90.6
Pennsylvania	186	0	0	7	3.8	63	33.9	116	62.3
Rhode Island	3	0	0	0	0	2	66.7	1	33.3
South Carolina	49	0	0	0	0	17	34.7	32	65.3
Tennessee	44	1	2.3	0	0	28	63.6	15	34.1
Texas	166	0	0	1	.6	52	31.3	113	68.1
Utah	30	0	0	0	0	15	50.0	15	50.0
Virginia	26	0	0	0	0	9	34.6	17	65.4
Vermont	3	0	0	0	0	1	33.3	2	66.7
Washington	105	3	2.9	3	2.9	24	22.8	75	71.4
Wisconsin	48	0	0	0	0	29	60.4	19	39.6
West Virginia	30	0	0	0	0	18	60.0	12	40.0
Wyoming	36	0	0	0	0	9	25.0	27	75.0

<sup>a</sup> Sampling was not evenly distributed throughout the States. See Figure 3 for sampling locations within individual States.

<sup>b</sup> No VOC concentrations were greater than or within one order of magnitude of an HBSL.

<sup>c</sup> HBSLs were developed by the U.S. Geological Survey in collaboration with the U.S. EPA, New Jersey Department of Environmental Protection, and the Oregon Health & Science University.

Supplemental Material, Appendix 1. To determine associations between multiple explanatory variables and the probability of VOC occurrence in drinking water supplied by domestic wells, multivariate logistic regression analyses were used. The following discussion is based on the statistical approach described by Moran (2006) and Moran et al. (2006).

In logistic regression, the response or dependent variable is the occurrence (coded as 1), or non-occurrence (coded as 0), of one or more VOCs. The explanatory variables are then related to the probability of occurrence of the response variable in a manner similar to linear regression. The magnitude and sign of the estimated slope coefficients determine the strength and direction of the association of explanatory variables with the probability of detecting VOCs in water according to the following equation:

$$P = \frac{e^{(\beta_0 + \beta_1 X_1 + \dots + \beta_i X_i)}}{1 + e^{(\beta_0 + \beta_1 X_1 + \dots + \beta_i X_i)}}$$

where

$P$  = probability of detecting a VOC;

$\beta_0$  = the y-intercept;

$\beta_i$  = slope coefficient of  $X_i$ , explanatory variables; and

$X_i$  = 1 to  $i$  explanatory variables.

Uncorrected estimated slope coefficients do not give an accurate assessment of the strength of an association because the units of each variable, especially continuous variables, have large differences in magnitude and variance. Therefore, standardized coefficients were computed in order to compare the slope coefficients directly between one another. The standardized coefficients indicate how many standard deviations of change in the dependent variable are associated with one standard deviation of change in the explanatory variable, and were computed following Menard (2002).

Explanatory variables were entered into logistic regression manually in a step-wise manner, and the regression was analyzed for significance at each step. For the overall regression, if the likelihood ratio of the model produced a  $p$ -value of  $\leq 0.05$ , all explanatory variables were considered significantly associated with the probability of occurrence of a VOC. The significance of nested logistic regression models was tested using the partial likelihood ratio test. For cases where one additional coefficient was added, the Wald statistic of the coefficient was used to determine significance. If the Wald statistic  $p$ -value of the slope coefficient was  $< 0.05$ , and the upper and lower bound of the odds ratio did not include 1, the additional variable was considered significantly associated with the probability of occurrence of a VOC. The Hosmer-Lemeshow test was used to assess how well the observed binary responses were predicted by the model equation (Hosmer and Lemeshow, 1989). The null hypothesis for this test is that the predicted responses are identical to the observed responses. Therefore, a higher  $p$ -value for this test indicates a better correspondence between the observed and predicted responses.

A variety of explanatory data were used in the logistic regression analyses. These data represented 24 hydrogeologic factors and 24 anthropogenic factors that could control or influence the sources, transport, or fate of VOCs in ground water. A complete listing of these variables is available in Moran et al. (2006).

## Supplemental Material, List of References

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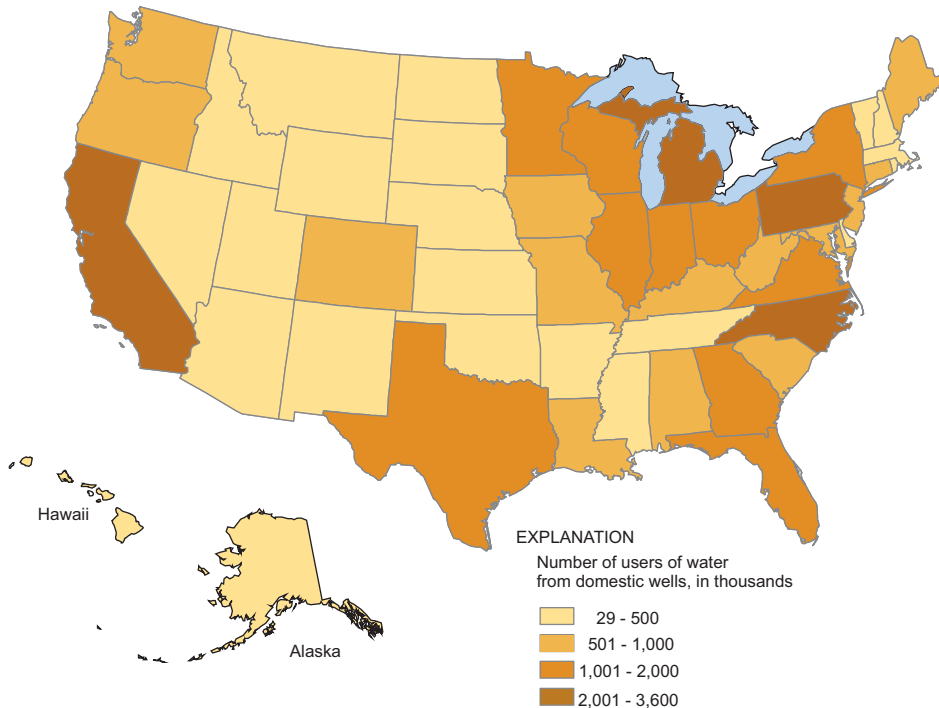
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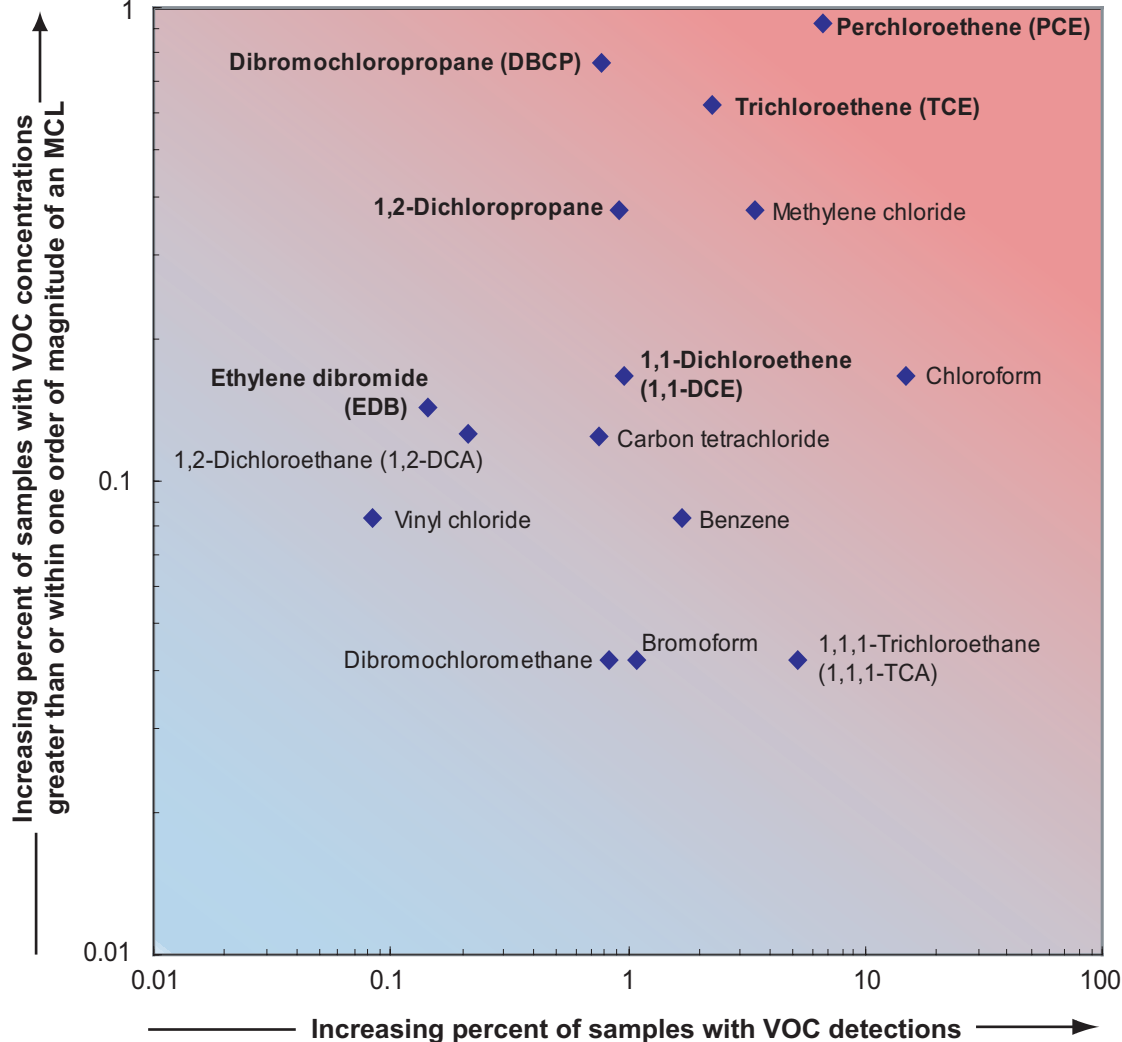
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Supplemental Material, Figure 1. Geographic distribution by State of the estimated number of people dependent on domestic wells for their drinking-water supply. The largest self-supplied populations and domestic well withdrawals were in California and Michigan. These two States represent 15 percent of the total domestic well users and 15 percent of the total domestic well withdrawals (Hutson et al. 2004). In addition, North Carolina and Pennsylvania each have more than 2 million people dependent on domestic wells for their drinking-water supply.





Supplemental Material, Figure 2. Occurrence patterns in domestic well samples for 15 volatile organic compounds (VOCs) with concentrations that are: (1) greater than U.S. EPA Maximum Contaminant Levels (MCLs) represented by bolded text; and (2) within one order of magnitude of MCLs. VOCs within the red portion of the graph may be of greater concern because these VOCs had the highest concentrations relative to MCLs and were more frequently detected than compounds within the blue portion of the graph. A complete listing of VOC concentrations compared to human-health benchmarks is included within the manuscript text (Table 3).