APPENDIX F

Dilution Factor Modeling Results

Dilution Factor Model Results: DNAPL Sites

Source size (acres)	0.5	10	30	100	600
Source length (m)	45	201	349	636	1,559
Aquifer thickness (m)			9.1		

		Infiltration by Hyd. Region		Average GW Velocity (m/yr)		Mixing zone depth (Site size (acres))					Dilution factor (Site size (acres))				
Site Name	**State**	**Region**	**(m/yr)**	**Seepage**	**Darcy**	**0.5**	**10**	**30**	**100**	**600**	**0.5**	**10**	**30**	**100**	**600**
Army Creek Landfill	DE	10	0.24	5,563	1,947	5	21	37	67	165	861	370	214	118	49
Atlantic Wood Ind.	VA	10	0.24	1,261	442	5	21	37	68	166	197	85	49	27	12
AtlasTack Corp.	MA	9	0.22	3	1	10	30	46	76	174	2	1	1	1	1
Auburn Rd. Landfill	NH	9	0.22	61	21	5	23	40	72	173	12	5	4	2	2
Baird & McGuire	MA	9	0.22	61	21	5	23	40	72	173	12	5	4	2	2
Bally Groundwater	PA	6	0.15	3,204	1,121	5	21	37	67	165	793	341	197	108	45
Beacon Hts. Landfill	CT	9	0.22	15	5	6	27	44	76	174	4	2	2	1	1
Berks Sand Pit	PA	6	0.15	10	4	6	27	44	76	174	4	2	2	1	1
Brodhead Creek	PA	7	0.20	11,246	3,936	5	21	37	67	165	2,085	895	517	284	116
Brunswick Naval Air Sta.	ME	9	0.22	230	81	5	22	38	69	168	41	18	11	6	3
Cannon Eng.- Bridgewater	MA	9	0.22	3	1	11	30	46	76	174	2	1	1	1	1
Central Landfill	RI	9	0.22	223	78	5	22	38	69	168	39	17	10	6	3
Centre County Kepone	PA	6	0.15	61,189	21,416	5	21	37	67	165	15,112	6,489	3,747	2,053	839
Chas.-Geo. Reclam. Trust	MA	9	0.22	34	12	6	24	42	74	174	8	3	2	2	1
Coakley Landfill	NH	9	0.22	113	40	5	22	39	70	171	21	9	6	4	2
Craig Farm Drum	PA	6	0.15	451	158	5	21	37	68	166	113	49	29	16	7
Davis Liquid Waste	RI	9	0.22	189	66	5	22	38	69	169	34	15	9	5	3
Delaware City PVC	DE	10	0.24	223	78	5	22	38	69	169	36	16	10	6	3
Dorney Road Landfill	PA	6	0.15	1,913	670	5	21	37	67	165	474	204	118	65	27
Dover Mun. Landfill	NH	9	0.22	289	101	5	22	38	69	168	51	22	13	8	4
DuPont-Newport	DE	10	0.24	33	12	6	25	42	74	174	7	3	2	2	1
Dublin TCE Site	PA	6	0.15	32	11	5	24	41	73	173	10	4	3	2	1
Durham Meadows	CT	9	0.22	612	214	5	21	37	68	166	105	45	27	15	7
East Mt. Zion	PA	6	0.15	1,218	426	5	21	37	68	165	303	130	76	42	18
Elizabethtown Landfill	PA	6	0.15	56	20	5	23	39	71	172	16	7	4	3	2
Gallup's Quarry	CT	9	0.22	67	23	5	23	40	72	172	13	6	4	3	2
Greenwood Chemical	VA	8	0.15	3	1	10	30	46	76	174	2	1	1	1	1
Groveland Wells	MA	9	0.22	612	214	5	21	37	68	166	105	45	27	15	7
Halby Chemical Co.	DE	10	0.24	5	2	9	30	46	76	174	2	1	1	1	1
Harvey & Knott Drum	DE	10	0.24	434	152	5	22	37	68	167	69	30	18	10	5
Havertown PCP	PA	8	0.15	24	9	6	24	41	74	174	8	4	2	2	1
Heleva Landfill	PA	6	0.15	28	10	5	24	41	73	173	9	4	3	2	1
Henderson Road	PA	6	0.15	834	292	5	21	37	68	166	208	89	52	29	12
Hocomonco Pond	MA	9	0.22	1,986	695	5	21	37	68	165	336	145	84	46	20
Holton Circle	NH	9	0.22	2,809	983	5	21	37	67	165	475	204	118	65	27
Hunterstown Road	PA	6	0.15	562	197	5	21	37	68	166	141	61	35	20	9
Industri-plex	MA	9	0.22	289	101	5	22	38	69	168	51	22	13	8	4
Kane and Lombard Street	MD	8	0.15	681	238	5	21	37	68	166	170	73	43	24	10
Kearsarge Metallurgical Corp.	NH	9	0.22	7	2	8	29	46	76	174	3	2	1	1	1
Keefe Environmental Services	NH	9	0.22	12	4	7	28	45	76	174	4	2	2	1	1
Kellogg-Deering Well Field	CT	9	0.22	946	331	5	21	37	68	166	161	69	40	23	10
Kimberton Site	PA	8	0.15	308	108	5	22	37	68	167	78	34	20	11	5
Landfill & Resource Recovery	RI	9	0.22	244	86	5	22	38	69	168	43	19	11	7	3
Lindane Dump	PA	6	0.15	82	29	5	22	39	70	170	22	10	6	4	2

Dilution Factor Model Results: DNAPL Sites

Source size (acres)	0.5	10	30	100	600
Source length (m)	45	201	349	636	1,559
Aquifer thickness (m)			9.1		

		Infiltration by Hyd. Region		Average GW Velocity (m/yr)		Mixing zone depth — Site size (acres)					Dilution factor — Site size (acres)				
Site Name	**State**	**Region**	**(m/yr)**	**Seepage**	**Darcy**	**0.5**	**10**	**30**	**100**	**600**	**0.5**	**10**	**30**	**100**	**600**
Linemaster Switch Corp.	CT	9	0.22	1,113	389	5	21	37	68	166	189	81	47	26	11
Maryland Sand, Gravel & Stone	MD	8	0.15	2	1	10	30	46	76	174	2	1	1	1	1
McKin Co.	ME	9	0.22	890	312	5	21	37	68	166	152	65	38	21	9
Metal Banks	PA	6	0.15	5	2	8	29	46	76	174	3	1	1	1	1
Mottolo Pig Famm	NH	9	0.22	131	46	5	22	38	70	170	24	10	6	4	2
MW Manufacturing	PA	7	0.20	21,027	7,359	5	21	37	67	165	3,896	1,673	966	530	217
NCR Corp. Millsboro	DE	10	0.24	223	78	5	22	38	69	169	36	16	10	6	3
Norwood PCBS	MA	9	0.22	389	136	5	22	37	68	167	68	29	17	10	5
Nyanza Chemicals	MA	9	0.22	39	14	5	24	41	74	174	9	4	3	2	1
O'Conner Company	ME	9	0.22	214	75	5	22	38	69	169	38	16	10	6	3
Old City of York Landfill	PA	8	0.15	779	273	5	21	37	68	166	194	84	49	27	12
Old Southington Landfill	CT	7	0.20	134	47	5	22	38	70	170	27	12	7	4	2
Old Springfield Landfill	VT	9	0.22	30	11	6	25	42	74	174	7	3	2	2	1
Osborne Landfill	PA	7	0.20	1,113	389	5	21	37	68	166	208	89	52	29	12
Otis Air Natl. Guard	MA	9	0.22	312	109	5	22	38	69	168	54	24	14	8	4
Ottati & Goss/Kingston Drums	NH	9	0.22	46	16	5	24	41	73	173	10	4	3	2	1
Pease Air Force Base	NH	9	0.22	11	4	7	28	45	76	174	4	2	1	1	1
Peterson/Puritan, Inc.	RI	9	0.22	56	19	5	23	40	72	173	11	5	3	2	2
Picillo Farm	RI	9	0.22	534	187	5	22	37	68	167	92	40	23	13	6
Pinette's SalvageYard	ME	9	0.22	333	117	5	22	38	68	167	58	25	15	9	4
PSC Resources	MA	9	0.22	45	16	5	24	41	73	173	9	4	3	2	1
Re-Solve, Inc.	MA	9	0.22	834	292	5	21	37	68	166	142	61	36	20	9
Recticon/Allied Steel	PA	6	0.15	73	26	5	22	39	70	171	20	9	5	3	2
Rhinehart Tire Fire	VA	6	0.15	1,346	471	5	21	37	68	165	334	144	83	46	19
Saco Tannery Waste Pits	ME	9	0.22	56	19	5	23	40	72	173	11	5	3	2	2
Saunders Supply Co.	VA	10	0.24	28	10	6	25	42	75	174	6	3	2	2	1
Savage Mun. Water Supply	NH	9	0.22	235	82	5	22	38	69	168	42	18	11	6	3
Silresim Chemical Corp.	MA	9	0.22	26	9	6	25	42	75	174	6	3	2	2	1
Somersworth San. Landfill	NH	9	0.22	139	49	5	22	38	70	170	25	11	7	4	2
South Municipal Water Supply	NH	9	0.22	90	32	5	23	39	71	171	17	8	5	3	2
Southern MD Wood Treating	MD	10	0.24	2	1	12	30	46	76	174	2	1	1	1	1
Stamina Mills, Inc.	RI	9	0.22	2,809	983	5	21	37	67	165	475	204	118	65	27
Std. Chlorine/Tybout's Corner LF	DE	10	0.24	39	14	6	24	41	74	174	8	4	2	2	1
Strasburg Landfill	PA	8	0.15	2,160	756	5	21	37	67	165	535	230	133	73	31
Sullivan's Ledge	MA	9	0.22	112	39	5	22	39	70	171	21	9	6	4	2
Sussex County Landfill #5	DE	10	0.24	198	69	5	22	38	69	169	33	14	9	5	3
Sylvester's	NH	9	0.22	490	171	5	22	37	68	167	84	36	21	12	6
Tansitor Electronics	VT	9	0.22	103	36	5	22	39	70	171	19	8	5	3	2
Tibbets Road	NH	9	0.22	28	10	6	25	42	75	174	7	3	2	2	1
US Defense General Supply	VA	8	0.15	37	13	5	23	40	72	173	11	5	3	2	2
US Dover AFB	DE	10	0.24	4	1	10	30	46	76	174	2	1	1	1	1
US Naval Air Development	PA	6	0.15	56	19	5	23	39	71	172	16	7	4	3	2
US Newport Nav. Educ.&Tm. Ctr.	RI	9	0.22	3	1	11	30	46	76	174	2	1	1	1	1
W.R.Grace & Co./Acton	MA	9	0.22	445	156	5	22	37	68	167	77	33	20	11	5

Dilution Factor Model Results: DNAPL Sites

Source size (acres)	0.5	10	30	100	600
Source length (m)	45	201	349	636	1,559
Aquifer thickness (m)			9.1		

		Infiltration by Hyd. Region		Average GW Velocity (m/yr)		Mixing zone depth Site size (acres)					Dilution factor Site size (acres)				
Site Name	**State**	**Region**	**(m/yr)**	**Seepage**	**Darcy**	**0.5**	**10**	**30**	**100**	**600**	**0.5**	**10**	**30**	**100**	**600**
Western Sand & Gravel	RI	9	0.22	48	17	5	24	40	73	173	10	4	3	2	1
Westinghouse Elevator	PA	6	0.15	562	197	5	21	37	68	166	141	61	35	20	9
Winthrop Landfill	ME	9	0.22	16	6	6	27	44	76	174	5	2	2	1	1
Woodlawn County Landfill	MD	8	0.15	557	195	5	21	37	68	166	140	60	35	20	9

Dilution Factors (DFs) for 208 Sites in the Hydrogeologic Database (HGDB) - National Average

	Source Area (acres)				
	0.5	10	30	100	600
Source Length (m)	45	201	349	636	1,559

Hydrogeologic Setting	Infiltration (m/y)	Average K (m/y)	Hyd. Grad. (m/m)	Darcy v (m/y)	Aq. Thick. (m)	Calculated Mixing Zone Depth (d) Source Area (acres)					Dilution Factor (DF) Source Area (acres)				
						0.5	10	30	100	600	0.5	10	30	100	600
1.11	0.30	63	3.00E-02	2	30	11	41	62	96	195	3	2	2	1	1
1.11	0.30	946	1.00E-02	9	305	6	28	48	87	211	5	5	5	5	5
1.3	0.03	63	8.00E-02	5	23	5	22	39	70	172	23	23	14	8	4
1.6	0.08	946	9.30E-02	88	15	5	21	37	68	166	124	89	51	29	12
1.6	0.08	5,676	2.00E-03	11	21	5	23	39	71	173	18	17	10	6	3
1.7	0.14	157,680	1.00E-04	16	3	5	23	39	70	168	9	3	2	2	1
1.7	0.14	192,370	1.00E-02	1,924	6	5	21	37	67	165	1,459	419	242	133	55
1.8	0.03	63,072	5.00E-03	315	2	5	21	37	67	165	421	95	55	31	13
1.9	0.08	125,829	1.00E-03	126	5	5	21	37	68	166	169	39	23	13	6
1.9	0.08	2,759,400	3.00E-02	82,782	23	5	21	37	67	165	114,973	114,973	71,160	39,049	15,931
2.12	0.03	126	2.00E-03	0.3	5	8	26	42	72	170	2	1	1	1	1
2.12	0.03	946	2.00E-03	2	3	5	23	39	70	168	6	2	2	1	1
2.12	0.03	1,388	3.00E-03	4	91	5	22	39	71	174	19	19	19	19	11
2.12	0.03	1,577	1.00E-03	2	914	5	25	43	77	190	9	9	9	9	9
2.12	0.03	1,577	5.00E-03	8	24	5	22	38	69	170	35	35	23	13	6
2.12	0.03	23,652	3.00E-03	71	6	5	21	37	68	166	298	86	50	28	12
2.12	0.03	31,536	1.00E-03	32	24	5	21	37	68	166	133	133	88	49	20
2.13	0.03	95	3.00E-04	0.03	9	14	30	46	76	174	1	1	1	1	1
2.13	0.03	158	1.00E-03	0.2	130	12	50	83	138	276	3	3	2	2	2
2.13	0.03	2,838	2.00E-03	6	30	5	22	38	70	171	26	26	21	12	5
2.3	0.22	315	5.70E-03	2	46	10	40	64	104	210	3	3	2	2	1
2.3	0.22	5,992	1.00E-03	6	183	6	28	49	89	213	5	5	5	5	4
2.4	0.22	315	1.00E-03	0.3	15	18	37	52	83	180	1	1	1	1	1
2.4	0.22	315	2.00E-03	1	3	8	24	40	70	168	1	1	1	1	1
2.4	0.22	631	1.00E-02	6	9	6	26	44	76	174	5	2	2	1	1
2.4	0.22	1,892	1.00E-03	2	37	10	38	61	99	201	3	3	2	2	1
2.4	0.22	4,100	1.00E-03	4	3	6	24	40	70	168	2	1	1	1	1
2.4	0.22	11,038	2.00E-03	22	13	5	23	40	72	174	13	8	5	3	2
2.4	0.22	16,714	4.00E-03	67	6	5	22	38	69	168	35	11	7	4	2
2.4	0.22	107,222	5.00E-03	536	7	5	21	37	68	166	265	91	53	30	13

Dilution Factors (DFs) for 208 Sites in the Hydrogeologic Database (HGDB) - National Average

	Source Area (acres)				
	0.5	10	30	100	600
Source Length (m)	45	201	349	636	1,559

Hydrogeologic Setting	Infiltration (m/y)	Average K (m/y)	Hyd. Grad. (m/m)	Darcy v (m/y)	Aq. Thick. (m)	Calculated Mixing Zone Depth (d) Source Area (acres)					Dilution Factor (DF) Source Area (acres)				
						0.5	10	30	100	600	0.5	10	30	100	600
2.4	0.22	190,793	1.00E-03	191	8	5	21	37	68	167	96	35	20	12	5
2.4	0.22	3,311,280	5.00E-03	16,556	18	5	21	37	67	165	8,118	6,978	4,019	2,206	901
2.5	0.30	946	2.00E-03	2	8	10	29	45	76	173	2	1	1	1	1
2.5	0.30	1,261	3.00E-03	4	305	8	37	64	114	268	3	3	3	3	3
2.5	0.30	4,415	7.00E-04	3	38	9	37	60	98	202	3	3	2	2	1
2.5	0.30	6,938	3.00E-03	21	23	5	24	42	75	179	9	9	5	3	2
2.5	0.30	23,337	4.00E-03	93	37	5	22	38	69	170	34	34	33	19	8
2.5	0.30	56,134	2.00E-03	112	10	5	22	38	69	168	41	19	12	7	3
2.6	0.30	1,577	1.00E-03	2	12	11	33	49	79	177	2	1	1	1	1
2.6	0.30	13,876	2.80E-02	389	34	5	21	37	68	166	137	137	123	68	28
2.6	0.30	50,773	5.00E-03	254	9	5	22	37	68	167	90	39	23	13	6
2.9	0.03	126	2.00E-03	0.3	11	8	31	47	78	176	3	2	1	1	1
2.9	0.03	1,261	1.00E-04	0.1	18	12	38	55	86	183	2	1	1	1	1
2.9	0.03	3,469	2.00E-02	69	15	5	21	37	68	166	291	208	120	66	28
2.9	0.03	22,075	1.00E-03	22	91	5	22	37	68	167	94	94	94	94	52
2.9	0.03	220,752	1.00E-03	221	15	5	21	37	67	165	922	660	381	209	86
3.7	0.14	220,752	2.00E-03	442	9	5	21	37	68	165	336	145	84	46	20
3.7	0.14	296,438	2.00E-04	59	9	5	22	38	69	168	47	20	12	7	3
4.1	0.03	32	1.00E-01	3	21	5	23	40	72	174	15	14	9	5	3
4.2	0.03	22	2.80E-02	1	11	6	27	45	77	176	4	2	2	1	1
4.2	0.03	284	3.20E-03	1	3	6	24	40	70	168	3	2	1	1	1
4.4	0.14	946	8.00E-03	8	3	5	23	40	70	168	5	2	1	1	1
4.4	0.14	9,776	1.30E-02	127	3	5	21	37	68	166	63	15	9	5	3
5.2	0.03	242,827	2.00E-03	486	17	5	21	37	67	165	2,025	1,596	919	505	207
5.3	0.03	2,317,896	2.00E-03	4,636	12	5	21	37	67	165	19,317	11,072	6,377	3,500	1,428
5.8	0.03	631	3.00E-03	2	24	5	24	41	75	179	10	10	6	4	2
5.8	0.03	33,113	2.00E-06	0.07	34	18	51	70	101	199	2	1	1	1	1
6.11	0.22	1,577	1.00E-02	16	24	5	24	41	75	179	10	10	6	4	2
6.11	0.22	4,415	5.00E-03	22	15	5	23	40	72	175	13	9	5	3	2
6.11	0.22	4,415	1.00E-02	44	21	5	22	39	70	171	24	23	14	8	4

Dilution Factors (DFs) for 208 Sites in the Hydrogeologic Database (HGDB) - National Average

	Source Area (acres)				
	0.5	10	30	100	600
Source Length (m)	45	201	349	636	1,559

Hydrogeologic Setting	Infiltration (m/y)	Average K (m/y)	Hyd. Grad. (m/m)	Darcy v (m/y)	Aq. Thick. (m)	Calculated Mixing Zone Depth (d) Source Area (acres)					Dilution Factor (DF) Source Area (acres)				
						0.5	10	30	100	600	0.5	10	30	100	600
6.11	0.22	81,994	3.00E-03	246	9	5	21	37	68	166	123	49	29	16	7
6.12	0.03	946	8.00E-03	8	6	5	22	38	69	169	34	10	6	4	2
6.12	0.03	3,154	6.00E-03	19	3	5	22	37	68	167	51	12	8	5	2
6.12	0.03	315	1.70E-02	5	9	5	22	38	70	170	24	11	7	4	2
6.14	0.22	1,577	4.00E-02	63	8	5	22	38	69	169	33	12	7	5	2
6.14	0.22	1,892	2.00E-03	4	6	7	26	43	73	171	3	2	1	1	1
6.14	0.22	5,676	1.00E-03	6	6	6	26	42	73	171	5	2	1	1	1
6.14	0.22	14,191	7.00E-04	10	18	6	25	43	77	180	7	5	3	2	2
6.14	0.22	33,113	1.00E-02	331	23	5	21	37	68	166	164	164	101	56	23
6.2	0.14	126	4.00E-03	1	8	11	29	45	75	173	2	1	1	1	1
6.2	0.14	3	1.00E-02	0.03	5	9	26	42	72	170	1	1	1	1	1
6.2	0.14	1,325	5.00E-03	7	21	6	25	43	77	182	7	6	4	3	2
6.2	0.14	2,208	3.30E-02	73	30	5	22	38	69	168	57	57	47	26	11
6.3	0.03	1,892	4.30E-02	81	6	5	21	37	68	165	341	98	57	32	14
6.3	0.03	31,536	1.40E-01	4,415	3	5	21	37	67	165	11,774	2,637	1,519	834	341
6.4	0.08	9,776	1.20E-02	117	30	5	21	37	68	166	165	165	135	75	31
6.5	0.14	63	4.00E-02	3	20	7	30	49	84	185	4	3	2	2	1
6.5	0.14	189	2.30E-02	4	61	6	27	47	85	199	5	5	5	4	2
6.5	0.14	315	5.00E-03	2	21	8	33	53	87	186	3	2	2	1	1
6.5	0.14	315	2.50E-02	8	19	6	25	42	76	180	8	6	4	3	2
6.5	0.14	31,536	5.00E-02	1,577	6	5	21	37	67	165	1,197	343	198	109	45
6.5	0.14	34,690	8.00E-03	278	5	5	21	37	68	166	203	46	27	15	7
6.8	0.14	2,208	2.50E-02	55	2	5	22	38	68	166	14	4	3	2	1
7.11	0.22	95	6.00E-03	0.6	4	9	25	41	71	169	1	1	1	1	1
7.11	0.22	2,523	2.00E-02	50	3	5	22	38	69	168	17	5	3	2	1
7.12	0.22	4,100	3.00E-03	12	32	6	25	43	77	183	8	8	6	4	2
7.12	0.22	12,614	4.90E-02	618	6	5	21	37	68	166	305	92	54	30	13
7.12	0.22	116,052	4.00E-03	464	76	5	21	37	68	166	230	230	230	230	106
7.13	0.14	3,154	1.30E-02	41	17	5	22	38	69	170	33	25	15	9	4
7.13	0.14	5,519	1.00E-02	55	`5	5	22	38	69	168	44	12	7	4	2

Dilution Factors (DFs) for 208 Sites in the Hydrogeologic Database (HGDB) - National Average

	Source Area (acres)				
	0.5	10	30	100	600
Source Length (m)	45	201	349	636	1,559

Hydrogeologic Setting	Infiltration (m/y)	Average K (m/y)	Hyd. Grad. (m/m)	Darcy v (m/y)	Aq. Thick. (m)	Calculated Mixing Zone Depth (d) Source Area (acres)					Dilution Factor (DF) Source Area (acres)				
						0.5	10	30	100	600	0.5	10	30	100	600
7.13	0.14	15,453	6.00E-03	93	8	5	22	37	68	167	72	27	16	9	4
7.14	0.30	6,307	4.90E-02	309	5	5	21	37	68	166	109	27	16	9	4
7.14	0.30	6,938	4.00E-03	28	8	5	23	40	72	172	12	5	3	2	1
7.14	0.30	11,038	2.50E-01	2,759	5	5	21	37	67	165	921	207	120	66	28
7.14	0.30	14,507	1.20E-02	174	18	5	22	38	68	168	62	53	31	17	8
7.14	0.30	17,660	2.00E-03	35	43	5	23	40	72	177	14	14	14	9	4
7.14	0.30	23,652	3.30E-02	781	18	5	21	37	68	166	273	234	135	75	31
7.15	0.30	7,253	6.00E-04	4	37	8	33	55	93	200	3	3	2	2	1
7.15	0.30	24,314	6.80E-03	165	11	5	22	38	68	168	59	30	18	10	5
7.16	0.14	221	4.00E-03	1	8	9	29	45	75	173	2	1	1	1	1
7.16	0.14	3,154	3.00E-03	9	9	5	24	41	73	173	9	4	3	2	1
7.17	0.14	19	8.00E-03	0.2	5	10	27	42	73	170	1	1	1	1	1
7.17	0.14	32	9.00E-03	0.3	3	8	24	40	70	168	1	1	1	1	1
7.17	0.14	32	3.00E-02	1	11	10	31	48	78	176	2	1	1	1	1
7.17	0.14	63	2.20E-02	1	3	7	24	40	70	168	2	1	1	1	1
7.17	0.14	126	1.50E-01	19	30	5	23	39	72	175	16	16	13	7	4
7.17	0.14	315	1.00E-03	0.3	12	15	33	49	79	177	2	1	1	1	1
7.17	0.14	315	7.00E-03	2	23	7	31	51	86	188	4	3	2	2	1
7.17	0.14	946	5.00E-02	47	14	5	22	38	69	169	38	24	14	8	4
7.17	0.14	3,154	1.00E-02	32	5	5	22	38	69	169	24	6	4	3	2
7.17	0.14	3,469	1.70E-02	59	55	5	22	38	69	169	47	47	47	37	16
7.17	0.14	21,760	4.00E-03	87	15	5	22	37	68	167	68	48	28	16	7
7.18	0.14	1,892	5.00E-03	9	1	5	22	38	68	166	2	1	1	1	1
7.3	0.14	946	5.00E-03	5	5	6	25	41	72	170	5	2	2	1	1
7.3	0.14	25,544	9.00E-04	23	4	5	22	39	70	168	14	4	3	2	1
7.4	0.22	189	1.20E-02	2	61	9	38	63	106	221	3	3	3	2	1
7.4	0.22	2,681	9.00E-03	24	2	5	23	39	70	167	7	2	2	1	1
7.4	0.22	3,784	4.00E-02	151	2	5	22	37	68	166	25	6	4	3	2
7.5	0.30	63	7.00E-03	0.4	518	35	143	230	363	618	2	2	2	2	1
7.5	0.30	11,038	5.00E-04	6	23	7	30	50	85	187	4	3	2	2	1

Dilution Factors (DFs) for 208 Sites in the Hydrogeologic Database (HGDB) - National Average

	Source Area (acres)				
	0.5	10	30	100	600
Source Length (m)	45	201	349	636	1,559

Hydrogeologic Setting	Infiltration (m/y)	Average K (m/y)	Hyd. Grad. (m/m)	Darcy v (m/y)	Aq. Thick. (m)	Calculated Mixing Zone Depth (d) Source Area (acres)					Dilution Factor (DF) Source Area (acres)				
						0.5	10	30	100	600	0.5	10	30	100	600
7.6	0.14	63	7.00E-03	0.4	4	9	25	41	71	169	1	1	1	1	1
7.6	0.14	126	1.00E-02	1	15	9	33	51	82	180	3	2	1	1	1
7.6	0.14	6,623	2.00E-02	132	21	5	21	37	68	167	102	102	59	33	14
7.7	0.14	158	3.00E-03	0.5	5	9	26	42	72	170	1	1	1	1	1
7.7	0.14	8,830	5.00E-04	4	46	6	27	47	84	195	5	5	5	3	2
7.8	0.14	631	5.00E-03	3	8	7	27	44	75	173	4	2	1	1	1
7.9	0.22	1,892	3.00E-02	57	32	5	22	38	70	170	30	30	25	14	6
7.9	0.22	2,208	9.00E-04	2	23	9	35	55	89	188	3	2	2	1	1
7.9	0.22	3,879	4.00E-03	16	8	5	24	41	73	172	10	4	3	2	1
7.9	0.22	5,676	1.00E-03	6	6	6	26	42	73	171	5	2	1	1	1
7.9	0.22	6,307	1.00E-03	6	61	6	28	48	86	201	5	5	5	4	2
7.9	0.22	7,253	6.00E-04	4	40	7	30	51	89	199	4	4	3	2	2
7.9	0.22	7,884	3.00E-02	237	3	5	21	37	68	166	75	18	11	6	3
7.9	0.22	9,776	7.00E-04	7	15	6	26	45	78	180	5	3	2	2	1
7.9	0.22	13,245	6.00E-03	79	12	5	22	38	69	169	41	23	14	8	4
7.9	0.22	13,876	2.00E-03	28	122	5	23	40	72	177	16	16	16	16	11
7.9	0.22	14,822	1.00E-03	15	61	5	24	42	76	184	9	9	9	8	4
7.9	0.22	15,768	1.00E-03	16	24	5	24	41	75	179	10	10	6	4	2
7.9	0.22	18,922	5.00E-03	95	8	5	22	38	69	168	48	18	11	6	3
7.9	0.22	23,967	2.00E-03	48	23	5	22	38	70	171	25	25	16	9	4
7.9	0.22	29,959	4.00E-03	120	19	5	22	38	68	168	61	53	31	17	8
7.9	0.22	34,374	6.00E-03	206	26	5	21	37	68	167	103	103	73	40	17
7.9	0.22	37,843	3.00E-03	114	9	5	22	38	68	168	58	25	15	9	4
7.9	0.22	44,150	2.00E-03	88	19	5	22	38	69	168	45	39	23	13	6
7.9	0.22	99,654	7.00E-04	70	7	5	22	38	69	168	36	12	7	5	2
7.9	0.22	110,376	4.00E-03	442	21	5	21	37	68	166	218	218	126	70	29
7.9	0.22	662,256	3.00E-03	1,987	6	5	21	37	67	165	976	280	162	89	37
7.9	0.22	6,018,080	9.00E-04	57,616	76	5	21	37	67	165	28,244	28,244	28,244	28,244	13,045
8.6	0.22	2,523	1.10E-02	28	6	5	23	39	71	170	16	5	3	2	2
9.12	0.22	22	4.00E-03	0.09	14	18	35	51	81	179	1	1	1	1	1

Dilution Factors (DFs) for 208 Sites in the Hydrogeologic Database (HGDB) - National Average

	Source Area (acres)				
	0.5	10	30	100	600
Source Length (m)	45	201	349	636	1,559

Hydrogeologic Setting	Infiltration (m/y)	Average K (m/y)	Hyd. Grad. (m/m)	Darcy v (m/y)	Aq. Thick. (m)	Calculated Mixing Zone Depth (d) Source Area (acres)					Dilution Factor (DF) Source Area (acres)				
						0.5	10	30	100	600	0.5	10	30	100	600
9.12	0.22	158	1.20E-02	2	3	7	24	40	70	168	2	1	1	1	1
9.13	0.30	315	6.00E-03	2	5	8	26	42	72	170	2	1	1	1	1
9.14	0.22	126	5.00E-02	6	5	6	25	41	72	170	4	2	1	1	1
9.14	0.22	126	2.00E-02	3	8	8	28	44	75	173	3	1	1	1	1
9.14	0.22	631	1.50E-01	95	2	5	22	38	68	167	22	6	4	2	2
9.14	0.22	4,100	1.00E-02	41	6	5	22	39	70	169	22	7	4	3	2
9.15	0.30	631	1.00E-02	6	11	7	28	45	77	176	4	2	2	1	1
9.15	0.30	2,208	2.00E-02	44	4	5	22	39	70	168	13	4	3	2	1
9.15	0.30	5,046	3.00E-03	15	12	6	25	42	75	176	7	4	3	2	1
9.15	0.30	11,038	7.50E-02	828	3	5	21	37	68	166	185	42	25	14	6
9.15	0.30	19,237	8.00E-03	154	12	5	22	38	69	168	55	32	19	11	5
9.15	0.30	19,237	1.30E-02	250	11	5	22	37	68	167	89	45	26	15	7
9.15	0.30	27,752	2.00E-03	56	24	5	22	39	71	172	21	21	14	8	4
9.15	0.30	27,752	2.00E-03	56	24	5	22	39	71	172	21	21	14	8	4
9.15	0.30	33,113	4.00E-04	13	30	6	26	44	79	186	7	7	5	3	2
9.15	0.30	60,864	3.00E-03	183	30	5	22	38	68	167	65	65	53	30	13
9.7	0.08	126	3.00E-02	4	107	6	25	44	79	192	7	7	7	7	4
9.9	0.22	284	1.00E-02	3	9	8	29	46	76	174	3	2	1	1	1
9.9	0.22	315	5.10E-01	161	6	5	22	37	68	167	81	24	14	8	4
9.9	0.22	8,830	4.00E-03	35	18	5	22	39	71	172	19	16	10	6	3
10.2	0.30	25	9.50E-03	0.2	5	9	26	42	72	170	1	1	1	1	1
10.2	0.30	32	1.70E-02	0.5	7	11	28	44	74	172	1	1	1	1	1
10.2	0.30	126	3.00E-03	0.4	4	9	25	41	71	169	1	1	1	1	1
10.2	0.30	126	2.50E-02	3	12	8	31	48	79	177	3	2	1	1	1
10.2	0.30	158	6.00E-04	0.1	3	8	24	40	70	168	1	1	1	1	1
10.2	0.30	284	1.00E-02	3	8	8	28	44	75	173	3	1	1	1	1
10.2	0.30	315	4.00E-03	1	6	10	27	43	73	171	2	1	1	1	1
10.2	0.30	315	1.00E-02	3	11	8	30	47	78	176	3	2	1	1	1
10.2	0.30	631	5.00E-03	3	1	6	22	38	68	166	1	1	1	1	1
10.2	0.30	2,208	1.00E-05	0.02	8	12	29	45	75	173	1	1	1	1 -	1

Dilution Factors (DFs) for 208 Sites in the Hydrogeologic Database (HGDB) - National Average

	Source Area (acres)				
	0.5	10	30	100	600
Source Length (m)	45	201	349	636	1,559

						Calculated Mixing Zone Depth (d)					Dilution Factor (DF)				
Hydrogeologic	**Infiltration**	**Average K**	**Hyd. Grad.**	**Darcy v**	**Aq. Thick.**	Source Area (acres)					Source Area (acres)				
Setting	(m/y)	(m/y)	(m/m)	(m/y)	(m)	0.5	10	30	100	600	0.5	10	30	100	600
10.2	0.30	2,208	1.00E-02	22	8	5	24	41	73	172	10	4	3	2	1
10.2	0.30	3,469	2.00E-03	7	3	6	24	40	70	168	3	1	1	1	1
10.2	0.30	4,415	5.00E-03	22	55	5	24	42	75	183	10	10	10	7	4
10.2	0.30	4,415	1.40E-02	62	9	5	22	39	70	170	23	10	6	4	2
10.2	0.30	19,552	3.00E-04	6	21	7	30	49	84	186	4	3	2	2	1
10.2	0.30	607,068	2.00E-03	1,214	15	5	21	37	67	165	424	303	175	96	40
10.5	0.30	315	2.00E-03	0.6	3	8	24	40	70	168	1	1	1	1	1
10.5	0.30	631	1.00E-03	0.6	0	5	22	37	68	165	1	1	1	1	1
10.5	0.30	4,415	2.00E-03	9	20	6	27	46	81	183	5	4	3	2	1
11.3	0.30	631	1.00E-02	6	6	7	26	43	73	171	4	2	1	1	1
11.3	0.30	7,569	6.00E-03	45	46	5	23	39	71	174	18	18	18	12	5
11.3	0.30	12,614	5.00E-03	63	5	5	22	38	70	169	22	6	4	2	2
11.4	0.30	32	5.00E-03	0.2	15	20	37	52	83	180	1	1	1	1	1
11.4	0.30	284	3.00E-03	0.9	30	17	49	67	98	195	2	1	1	1	1
11.4	0.30	315	5.00E-02	16	2	5	23	38	69	167	3	1	1	1	1
11.4	0.30	315	1.00E-03	0.3	24	25	46	61	92	189	2	1	1	1	1
11.4	0.30	946	2.00E-04	0.2	2	6	23	39	69	167	1	1	1	1	1
11.4	0.30	1,261	2.00E-03	3	11	9	31	47	78	176	3	1	1	1	1
11.4	0.30	1,261	1.70E-02	21	3	5	23	39	70	168	6	2	2	1	1
11.4	0.30	1,577	2.30E-02	36	5	5	23	39	70	169	13	4	3	2	1
11.4	0.30	2,523	2.00E-03	5	2	6	23	39	69	167	2	1	1	1	1
11.4	0.30	3,154	1.50E-01	473	6	5	21	37	68	166	166	48	28	16	7
11.4	0.30	8,168	3.30E-03	27	6	5	23	40	72	171	11	4	3	2	1
11.4	0.30	13,876	2.00E-03	28	61	5	23	41	74	180	12	12	12	10	5
11.4	0.30	176,602	1.90E-02	3,355	4	5	21	37	67	165	1,045	235	136	75	31
12.4	0.30	309,053	5.00E-04	155	43	5	22	38	69	168	56	56	56	35	15
13.4	0.08	5,361	1.00E-03	5	6	5	24	40	72	171	9	3	2	2	1
13.4	0.08	7,884	2.00E-02	158	3	5	21	37	68	166	141	32	19	11	5

Hydrogeologic Settings for HGDB Sites

Region	Setting	Reference Number
Western Mountain Ranges		
	Mountain Slopes Facing East	1.1
	Mountain Flanks Facing East	1.3
	Mountain Flanks Facing West	1.4
	Wide Alluvial Valleys Facing East	1.6
	Wide Alluvial Valleys Facing West	1.7
	Alluvial Mountain Valleys Facing West	1.8
	Alluvial Mountain Valleys Facing East	1.9
	Coastal Beaches	1.11
Alluvial Basins		
	Mountain Slopes	2.1
	Alternating Sedimentary Rocks	2.3
	River Alluvium With Overbank Deposits	2.4
	River Alluvium Without Overbank Deposits	2.5
	Coastal Lowlands	2.6
	Alluvial Fans	2.9
	Alluvial Basins with Internal Drainage	2.13
	Playa Lakes	2.11
	Continental Deposits	2.12
Columbia Lava Plateau		
	Lava Flows: Hydraulically Connected	3.3
	Alluvial Fans	3.5
	River Alluvium	3.7
Colorado Plateau and Wyoming Basin		
	Resistant Ridges	4.1
	Consolidated Sedimentary Rocks	4.2
	Alluvium and Dune Sand	4.3
	River Alluvium	4.4
High Plains		
	River Alluvium with Overbank Deposits	5.2
	River Alluvium without Overbank Deposits	5.3
	Playa Lakes	5.7
	Ogalalla	5.8
Non-Glaciated Central Region		
	Triassic Basins	6.2
	Mountain Slopes	6.3
	Mountain Flanks	6.4

Hydrogeologic Settings for HGDB Sites

Region	Setting	Reference Number
Non-Glaciated Central Region (cont.)		
	Alternating Beds of Sandstone, Limestone, or Shale Under Thin Soil	6.5
	Alternating Beds of Sandstone, Limestone, or Shale Under Deep Regolith	6.6
	Alluvial Mountain Valleys	6.8
	Braided River Deposits	6.9
	River Alluvium with Overbank Deposits	6.14
	River Alluvium without Overbank Deposits	6.11
	Unconsolidated and Semi-Consolidated Aquifers	6.12
	Solution Limestone	6.13
Glaciated Central Region		
	Till Over Solution Limestone	7.1
	Outwash Over Solution Limestone	7.2
	Till Over Bedded Sedimentary Rock	7.3
	Thin Till Over Bedded Sedimentary Rock	7.4
	Outwash Over Bedded Sedimentary Rock	7.5
	Till Over Sandstone	7.6
	Till Over Shale	7.7
	Glaciated Lake Deposits	7.8
	Outwash	7 9
	Till Over Outwash	7.18
	Moraine	7.11
	Buried Valley	7.12
	River Alluvium with Overbank Deposits	7.13
	River Alluvium without Overbank Deposits	7.14
	Beaches, Beach Ridges, and Sand Dunes	7.15
	Swamp/Marsh	7.16
	Till	7.17
Piedmont Blue Ridge Region		
	Thick Regolith	8.1
	River Alluvium	8.6
Northeast and Superior Uplands		
	Glacial Till Over Crystalline Bedrock	9.1
	Glacial Lakes/Glacial Marine Deposits	9.2
	Bedrock Uplands	9.4
	Swamp/Marsh	9.5
	Mountain Flanks	9.7
	Glacial Till Over Outwash	9.9
	Outwash	9.15
	Alluvial Mountain Valleys	9.11

Hydrogeologic Settings for HGDB Sites

Region	Setting	Reference Number
Northeast and Superior Uplands (cont.)		
	River Alluvium with Overbank Deposits	9.12
	River Alluvium without Overbank Deposits	9.13
	Till	9.14
Atlantic and Gulf Coast		
	Confined Regional Aquifers	10.1
	Unconsolidated and Semi-Consolidated Shallow Surfacial Aquifers	10.2
	River Alluvium with Overbank Deposits	10.3
	River Alluvium without Overbank Deposits	10.4
	Swamp	10.5
Southeast Coastal Plain		
	Solution Limestone and Shallow Surfacial Aquifers	1.11
	Swamp	11.2
	Beaches and Bars	11.3
	Coastal Deposits	11.4
Hawaii		
	Volcanic Uplands	12.1
	Coastal Beaches	12.4
Alaska		
	Coastal Lowland Deposits	13.2
	Glacial and Glacio-lacustrine Deposits of the Interior Uplands	13.4