

Table 1. Selected characteristics of wells sampled in March-May 2004, for water chemistry near the towns of Beverly Shores and Pines, northwestern Indiana

[--, no data or not measured]

Project site identifier	USGS Station identification number	Well Name	Latitude (degrees, minutes and seconds)	Longitude (degrees, minutes and seconds)	Depth	Date sampled (month/day/year)	Time sampled (hours and minutes)
<i>Surficial aquifer</i>							
1S	414029087003204	305B-7	41 40 28.11	87 00 31.53	6.95	3/15/2004	1600
2S	413957087002603	211-9	41 39 56.37	87 00 25.70	8.8	3/17/2004	1200
3S	414057087003003	212-24	41 40 53.02	87 00 31.34	23.05	3/17/2004	1600
4S	414036086590601	GM-24	41 40 35.85	86 59 06.09	6.91	3/17/2004	1730
<i>Basal sand aquifer</i>							
1B	414029087003201	305-156	41 40 28.68	87 00 31.58	153.5	3/15/2004	1510
2B	413957087002601	211-178	41 39 56.37	87 00 25.70	163.5	3/17/2004	1130
3B	414057087003000	212-212	41 40 53.02	87 00 31.34	211.5	3/17/2004	1520
5B	414111086594501	Lakeview Beach Deep (resample)	41 41 10.76	86 59 45.30	187	3/18/2004 4/5/2004	1000 1230
<i>Potential ash affected water quality</i>							
8A	414050086573001	Yard 520 MW-6	41 40 49.59	86 57 30.46	35	3/16/2004	945
9A	414045086573601	Yard 520 TW-12	41 40 45.12	86 57 35.63	32.65	3/16/2004	1050
10A	414237086572901	Yard 520 MW-3	41 40 36.89	86 57 29.46	17	3/16/2004	1150
11A	414046086572301	Yard 520 MW-8	41 40 45.52	86 57 23.43	18.12	3/16/2004	1310
<i>Potential wastewater-affected water quality</i>							
5W	414111086594502	Lakeview Beach Shallow (resample)	41 41 10.76	86 59 45.30		3/18/2004 4/5/2004	1230 1300
6W	414101086592001	--	41 41 01.30	86 59 20.30	--	4/19/2004	1600
7W	414108086591801	--	41 41 08.41	86 59 18.27	39	4/19/2004	1645
<i>Ground-water samples from unknown aquifer source</i>							
12U	413953086581801	--	41 39 53.11	86 58 17.62	>100	4/19/2004	1400
13U	414052086593201	--	41 40 52.29	86 59 32.06	65	4/19/2004	1445
14U	414048086594201	--	41 40 48.23	86 59 41.59	246	4/19/2004	1530
15U	414050086594001	--	41 40 49.76	86 59 40.40	--	4/19/2004	1730
16U	414143086574901	--	41 41 42.96	86 57 49.49	--	4/19/2004	1745
17U	414002086581301	--	41 40 02.01	086 58 12.53	--	11/17/2004	1145
18U	414106086594701	--	41 41 05.65	086 59 46.84	--	11/17/2004	1500
19U	414102086595001	--	41 41 01.55	086 59 49.98	--	11/17/2004	1630
20U	414103086594501	--	41 41 02.62	086 59 45.47	--	11/17/2004	1700

Table 2. Determinations of field parameters for water samples collected from wells near the towns of Beverly Shores and Pines, northwestern Indiana, March-May 2004 data--Preliminary data

[--, no data or not measured]

Project site identifier	USGS Station identification number	Well Name	Date sampled (month/day/year)	Time sampled (hours and minutes)	Barometric		pH (standard units)	Specific conductance (micro-siemens /centi-meter)	Turbidity (nephelometric turbidity units)
					Pressure on morning of sampling (millimeters of mercury)	Temperature (Celsius)			
<i>Surficial aquifer</i>									
1S	414029087003204	305B-7	3/15/2004	1600	755	6.96	6.9	718	1
2S	413957087002603	211-9	3/17/2004	1200	745	5.36	6.2	556	1
3S	414057087003003	212-24	3/17/2004	1600	745	9.34	7.4	449	2
4S	414036086590601	GM-24	3/17/2004	1730	745	4.63	6.84	417	1
<i>Basal sand aquifer</i>									
1B	414029087003201	305-156	3/15/2004	1510	755	11.53	7.82	1132	2
2B	413957087002601	211-178	3/17/2004	1130	745	12.21	7.43	892	31
3B	414057087003000	212-212	3/17/2004	1520	745	11.6	7.75	2050	2
5B	414111086594501	Lakeview Beach Deep	3/18/2004	1000	745	11.53	7.44	1980	3
5B		(resample)	4/5/2004	1230	735	13.22	7.47	1990	2
<i>Potential ash affected water quality</i>									
8A	414050086573001	Yard 520 MW-6	3/16/2004	945	747	10.96	6.86	1810	1
9A	414045086573601	Yard 520 TW-12	3/16/2004	1050	747	11.69	7.05	1570	4
10A	414237086572901	Yard 520 MW-3	3/16/2004	1150	747	7.18	6.95	2250	153
11A	414046086572301	Yard 520 MW-8	3/16/2004	1310	747	7.46	6.71	2010	124
<i>Potential wastewater-affected water quality</i>									
5W	414111086594502	Lakeview Beach Shallow	4/19/2004	1230	740	15.02	7.06	620	91
		(resample)	4/5/2004	1300	735	13.38	7.05	643	2
6W	414101086592001	--	4/19/2004	1600	740	12.63	6.62	300	11
7W	414108086591801	--	4/19/2004	1645	740	12.1	6.34	816	9
<i>Ground-water samples from unknown aquifer source</i>									
12U	413953086581801	--	4/19/2004	1400	740	12.4	7.42	704	2
13U	414052086593201	--	4/19/2004	1445	740	9.93	6.43	465	1
14U	414048086594201	--	4/19/2004	1530	740	10.18	7.72	780	6
15U	414050086594001	--	4/19/2004	1730	740	--	--	--	--
16U	414143086574901	--	4/19/2004	1745	740	10.65	6.18	166	1
17U	414002086581301	--	11/17/2004	1145	747	11.86	7.81	613	1
18U	414106086594701	--	11/17/2004	1500	747	12.15	6.76	2240	1
19U	414102086595001	--	11/17/2004	1630	747	15.38	6.35	390	0
20U	414103086594501	--	11/17/2004	1700	747	14.16	7.83	1244	2

Table 3. Water chemistry determinations for water samples collected from wells near the towns of Beverly Shores and Pines, northwestern Indiana, March-May 2004 (Preliminary results)

[mg/L, milligrams per liter; N, as nitrogen, pCi/L, picocuries per liter; --, no data or not measured; shaded cells, data pending analysis]

Project site identifier	USGS Station identification number	Well Name	USGS Lab Record Number	Date sampled (month/day/year)	Time sampled (hours and minutes)	Major ions and trace species							Isotopes				
						Chloride (mg/L)	Sulfate (mg/L)	Ammonia as N (mg/L as N)	Nitrate-nitrite as N (mg/L as N)	Boron (µg/L)-USGS-Menlo Park	Boron (µg/L)-USGS-NWQL	Strontium (µg/L)	δ ¹¹ B (per mil)	Strontium-87/86 ratio	Tritium (pCi/L)	Tritium, 2-sigma precision estimate (pCi/L)	Oxygen-18/Oxygen-16
<i>Surficial aquifer</i>																	
1S	414029087003204	305B-7	400065	3/15/2004	1600	51.70	7.21	<.05	0.66	686	--	306	25.97	0.70941	--	--	-8.39
2S	413957087002603	211-9		3/17/2004	1200	109.00	16.00	<.05	0.13	363	--	139	23.98	0.70968	22.4	2.6	-8.82
3S	414057087003003	212-24		3/17/2004	1600	2.10	14.30	0.05	<.03	46	--	59	12.86	0.70972	26.6	2.6	-8.6
4S	414036086590601	GM-24		3/17/2004	1730	53.80	27.90	0.20	<.03	68	--	164	21.73	0.70896	28.2	1.9	--
<i>Basal-sand aquifer</i>																	
1B	414029087003201	305-156		3/15/2004	1510	151.00	4.22	0.56	<.03	1,797	--	1,310	33.97	0.70897	--	--	-9.38
2B	413957087002601	211-178		3/17/2004	1130	10.30	4.34	0.57	<.03	689	--	1,547	23.60	0.70897	-0.6	1.9	-8.57
3B	414057087003000	212-212		3/17/2004	1520	697.00	4.21	0.64	<.03	1,576	--	2,409	30.09	0.70889	--	--	-10.13
5B	414111086594501	Lakeview Beach Deep		3/18/2004	1000	--	47.80	0.84	--	1,410	--	3,834	27.85	0.70871	2.2	1.9	-9.8
5B		(resample)		4/5/2004	1230	--	46.50	0.81	--	1,349	--	3,666	27.22	0.70875	--	--	-9.89
<i>Ash affected source</i>																	
8A	414050086573001	Yard 520 MW-6		3/16/2004	0945	25.40	531.00	1.85	--	18,149	--	1,993	0.62	0.71169	--	--	--
				duplicate sample		25.20	536.00	1.85	--	--	--	--	--	--	--	--	--
9A	414045086573601	Yard 520 TW-12		3/16/2004	1050	7.91	316.00	3.11	<.03	13,700	--	1,181	3.75	0.71104	--	--	--
10A	414237086572901	Yard 520 MW-3		3/16/2004	1150	14.40	1020.00	<.05	<.03	11,560	--	1,513	1.00	0.71091	--	--	--
11A	414046086572301	Yard 520 MW-8		3/16/2004	1310	72.00	465.00	3.56	<.03	20,305	--	2,069	6.62	0.71100	--	--	--
<i>Wastewater-affected source</i>																	
5W	414111086594502	Lakeview Beach Shallow		4/19/2004	1230	--	--	<.05	19.70	317	--	125	9.37	0.70957	33	2.6	-7.84
				4/5/2004	1300	--	--	--	--	318	--	113	12.61	0.70960	--	--	-7.84
6W	414101086592001	--		4/19/2004	1600	--	--	1.34	0.20	103	--	149	11.49	0.71095	24.3	1.9	--
7W	414108086591801	--		4/19/2004	1645	--	--	<.05	1.28	86	--	117	7.87	0.71056	26.6	1.9	--
<i>Unknown aquifer source</i>																	
12U	413953086581801	--		4/19/2004	1400	--	--	0.45	<.03	498	--	1,088	24.98	0.70895	1.0	1.9	--
13U	414052086593201	--		4/19/2004	1445	--	--	0.46	<.03	149	--	78	3.62	0.71019	24.6	1.9	--
14U	414048086594201	--		4/19/2004	1530	--	--	0.34	<.03	1,918	--	807	34.84	0.70913	1.0	1.9	--
15U	414050086594001	--		4/19/2004	1730	--	--	0.47	<.03	703	--	3,877	25.47	0.70880	1.0	1.9	--
16U	414143086574901	--		4/19/2004	1745	--	--	0.57	<.03	56	--	89	6.62	0.70990	26.9	1.9	--
16U				duplicate sample		--	--	0.70	<.03	--	--	--	--	--	--	--	--
17U	414002086581301	--		11/17/2004	1145	24.80	3.57	0.44	<.03	1,211	1,421	1,052	34.72	0.70893	0.0	0.6	--
18U	414106086594701	--		11/17/2004	1500	579.00	98.90	0.72	<.03	1,159	1,330	6,476	29.22	0.70872	-0.3	0.6	--
18U				duplicate sample		577.00	103.00	0.66	<.03	--	--	--	--	--	--	--	--
19U	414102086595001	--		11/17/2004	1630	46.10	32.70	<.05	7.14	126	141	355	12.15	0.70919	23.7	1.9	--
20U	414103086594501	--		11/17/2004	1700	246.00	5.51	0.46	<.03	1,339	1,490	3,056	28.64	0.70891	0.0	0.6	--
<i>Detergent proxy samples</i>																	
										603,418			2.25				
										28,077			-4.75				

Table 3. Water chemistry determinations for water samples collected from wells near the towns of Beverly Shores and Pines, northwestern Indiana, March-May 200 data--Preliminary results

[mg/L, milligrams per liter; N, as nitrogen, pCi/L, picocuries per liter; --, no data or not measured; shaded cells, data pending analysis]

Project site identifier	USGS Station identification number	Well Name	USGS Lab Record Number	Date sampled (month/day/year)	Time sampled (hours and minutes)	Major ions and trace species						
						Chloride (mg/L)	Sulfate (mg/L)	Ammonia as N (mg/L as N)	Nitrate-nitrite as N (mg/L as N)	Boron (µg/L)-USGS-Menlo Park	Boron (µg/L)-USGS-NWQL	Strontium (µg/L)
<i>Surficial aquifer</i>												
1S	414029087003204	305B-7	400065	3/15/2004	1600	51.70	7.21	<.05	0.66	686	--	306
2S	413957087002603	211-9		3/17/2004	1200	109.00	16.00	<.05	0.13	363	--	139
3S	414057087003003	212-24		3/17/2004	1600	2.10	14.30	0.05	<.03	46	--	59
4S	414036086590601	GM-24		3/17/2004	1730	53.80	27.90	0.20	<.03	68	--	164
<i>Basal-sand aquifer</i>												
1B	414029087003201	305-156		3/15/2004	1510	151.00	4.22	0.56	<.03	1,797	--	1,310
2B	413957087002601	211-178		3/17/2004	1130	10.30	4.34	0.57	<.03	689	--	1,547
3B	414057087003000	212-212		3/17/2004	1520	697.00	4.21	0.64	<0.03	1,576	--	2,409
5B	414111086594501	Lakeview Beach Deep		3/18/2004	1000	--	47.80	0.84	--	1,410	--	3,834
5B		(resample)		4/5/2004	1230	--	46.50	0.81	--	1,349	--	3,666
<i>Ash affected source</i>												
8A	414050086573001	Yard 520 MW-6		3/16/2004	0945	25.40	531.00	1.85	--	18,149	--	1,993
				duplicate sample		25.20	536.00	1.85	--	--	--	--
9A	414045086573601	Yard 520 TW-12		3/16/2004	1050	7.91	316.00	3.11	<.03	13,700	--	1,181
10A	414237086572901	Yard 520 MW-3		3/16/2004	1150	14.40	1020.00	<0.05	<.03	11,560	--	1,513
11A	414046086572301	Yard 520 MW-8		3/16/2004	1310	72.00	465.00	3.56	<.03	20,305	--	2,069
<i>Wastewater-affected source</i>												
5W	414111086594502	Lakeview Beach Shallow		4/19/2004	1230	--	--	<.05	19.70	317	--	125
				4/5/2004	1300	--	--	--	--	318	--	113
6W	414101086592001	--		4/19/2004	1600	--	--	1.34	0.20	103	--	149
7W	414108086591801	--		4/19/2004	1645	--	--	<.05	1.28	86	--	117

Table 3. Water chemistry determinations for water samples collected from wells near the towns of Beverly Shores and Pines, northwestern Indiana, March-May 200 data--Preliminary results

[mg/L, milligrams per liter; N, as nitrogen, pCi/L, picocuries per liter; --, no data or not measured; shaded cells, data pending analysis]

Project site identifier	USGS Station identification number	Well Name	USGS Lab Record Number	Date sampled (month/day/year)	Time sampled (hours and minutes)	Major ions and trace species						
						Chloride (mg/L)	Sulfate (mg/L)	Ammonia as N (mg/L as N)	Nitrate-nitrite as N (mg/L as N)	Boron (µg/L)-USGS-Menlo Park	Boron (µg/L)-USGS-NWQL	Strontium (µg/L)
<i>Unknown aquifer source</i>												
12U	413953086581801	--		4/19/2004	1400	--	--	0.45	<.03	498	--	1,088
13U	414052086593201	--		4/19/2004	1445	--	--	0.46	<.03	149	--	78
14U	414048086594201	--		4/19/2004	1530	--	--	0.34	<.03	1,918	--	807
15U	414050086594001	--		4/19/2004	1730	--	--	0.47	<.03	703	--	3,877
16U	414143086574901	--		4/19/2004	1745	--	--	0.57	<.03	56	--	89
16U				duplicate sample		--	--	0.70	<.03	--	--	--
17U	414002086581301	--		11/17/2004	1145	24.80	3.57	0.44	<.03	1,211	1,421	1,052
18U	414106086594701	--		11/17/2004	1500	579.00	98.90	0.72	<.03	1,159	1,330	6,476
18U				duplicate sample		577.00	103.00	0.66	<.03	--	--	--
19U	414102086595001	--		11/17/2004	1630	46.10	32.70	<0.05	7.14	126	141	355
20U	414103086594501	--		11/17/2004	1700	246.00	5.51	0.46	<.03	1,339	1,490	3,056
<i>Detergent proxy samples</i>												
Proprietary borax detergent additive, 0.1 gram in 20 milliliters deionized water										603,418		
Proprietary detergent with perborate bleach, 1 gram in 100 mL deionized water										28,077		

Table 3. Water chemistry determinations for water samples collected from wells near the town:
 data--Preliminary results
 [mg/L, milligrams per liter; N, as nitrogen, pCi/L, picocuries per liter; --, no data or not measured; shaded cells, dat

Project site identifier	USGS Station identification number	Well Name	USGS Lab Record Number	Date sampled (month/day/year)	Time sampled (hours and minutes)	Isotopes			
						$\delta^{11}\text{B}$ (per mil)	Strontium-87/strontium-86 ratio	Tritium (pCi/L)	Tritium, 2-sigma precision estimate (pCi/L)
<i>Surficial aquifer</i>									
1S	414029087003204	305B-7	400065	3/15/2004	1600	25.97	0.70941	--	--
2S	413957087002603	211-9		3/17/2004	1200	23.98	0.70968	22.4	2.6
3S	414057087003003	212-24		3/17/2004	1600	12.86	0.70972	26.6	2.6
4S	414036086590601	GM-24		3/17/2004	1730	21.73	0.70896	28.2	1.9
<i>Basal-sand aquifer</i>									
1B	414029087003201	305-156		3/15/2004	1510	33.97	0.70897	--	--
2B	413957087002601	211-178		3/17/2004	1130	23.60	0.70897	-0.6	1.9
3B	414057087003000	212-212		3/17/2004	1520	30.09	0.70889	--	--
5B	414111086594501	Lakeview Beach Deep		3/18/2004	1000	27.85	0.70871	2.2	1.9
5B		(resample)		4/5/2004	1230	27.22	0.70875	--	--
<i>Ash affected source</i>									
8A	414050086573001	Yard 520 MW-6		3/16/2004	0945	0.62	0.71169	--	--
				duplicate sample		--	--	--	--
9A	414045086573601	Yard 520 TW-12		3/16/2004	1050	3.75	0.71104	--	--
10A	414237086572901	Yard 520 MW-3		3/16/2004	1150	1.00	0.71091	--	--
11A	414046086572301	Yard 520 MW-8		3/16/2004	1310	6.62	0.71100	--	--
<i>Wastewater-affected source</i>									
5W	414111086594502	Lakeview Beach Shallow		4/19/2004	1230	9.37	0.70957	33	2.6
				4/5/2004	1300	12.61	0.70960	--	--
6W	414101086592001	--		4/19/2004	1600	11.49	0.71095	24.3	1.9
7W	414108086591801	--		4/19/2004	1645	7.87	0.71056	26.6	1.9

Table 3. Water chemistry determinations for water samples collected from wells near the town:
 data--Preliminary results
 [mg/L, milligrams per liter; N, as nitrogen, pCi/L, picocuries per liter; --, no data or not measured; shaded cells, dat

Project site identifier	USGS Station identification number	Well Name	USGS Lab Record Number	Date sampled (month/day/year)	Time sampled (hours and minutes)	Isotopes			
						$\delta^{11}\text{B}$ (per mil)	Strontium-87/strontium-86 ratio	Tritium (pCi/L)	Tritium, 2-sigma precision estimate (pCi/L)
<i>Unknown aquifer source</i>									
12U	413953086581801	--		4/19/2004	1400	24.98	0.70895	1.0	1.9
13U	414052086593201	--		4/19/2004	1445	3.62	0.71019	24.6	1.9
14U	414048086594201	--		4/19/2004	1530	34.84	0.70913	1.0	1.9
15U	414050086594001	--		4/19/2004	1730	25.47	0.70880	1.0	1.9
16U	414143086574901	--		4/19/2004	1745	6.62	0.70990	26.9	1.9
16U				duplicate sample		--	--	--	--
17U	414002086581301	--		11/17/2004	1145	34.72	0.70893	0.0	0.6
18U	414106086594701	--		11/17/2004	1500	29.22	0.70872	-0.3	0.6
18U				duplicate sample		--	--	--	--
19U	414102086595001	--		11/17/2004	1630	12.15	0.70919	23.7	1.9
20U	414103086594501	--		11/17/2004	1700	28.64	0.70891	0.0	0.6
<i>Detergent proxy samples</i>									
Proprietary borax detergent additive, 0.1 gram in 20 milliliters deionized water						2.25			
Proprietary detergent with perborate bleach, 1 gram in 100 mL deionized water						-4.75			