Table 2-1
Lehigh Valley Railroad Derailment Site
Field GC Calibration Data

September 7, 1993

Parameter	Parameter Data	µl of Working Calibration Standard to 20 mL of Water			
		100µl	250µl	50µl	1,00µl
t-1,2-DCE	Retention Time (sec.)	43.9	43.6	44.6	44.5
	µg Injected	0.0104	0.026	0.052	0.104
	Peak Area (mV-S)	1,400	3,100	5,700	8,100
	Response Factor	134,615	119,231	109,615	77,885
				Mean RF	110,337
				%RSD	21.7%
c-1,2-DCE	Retention Time (sec.)	55.3	55.6	56.4	56
	µg Injected	0.0111	0.02775	0.0555	0.111
	Peak Area (mV-S)	224	708	1,400	2,500
	Response Factor	20,180	25,514	25,225	22,523
				Mean RF	23,360
				%RSD	10.8%
TCE	Retention Time (sec.)	111.3	112.5	114.1	113.3
	µg Injected	0.012	0.03	0.06	0.12
	Peak Area (mV-S)	736.4	1,600	3,000	5,100
	Response Factor	61,367	53,333	50,000	42,500
				Mean RF	51,800
				%RSD	15.1%

Response Factor (RF) = Analyte Peak Area (mV-S)/Mass Injected (µg)
Percent Relative Standard Deviation (% RSD) = (Standard Deviation of RF/Mean RF) x 100
% RSD QC Limits = 30%

Table 2-2
Lehigh Valley Railroad Derailment Site
Field GC Calibration Data

September 28, 1993

Parameter	Parameter Data	μl of Working Calibration Standard to 20 mL of Water					
		10μl	20μl	50μl	1,00μl	2,00μl	4,00μl
t-1,2-DCE	Retention Time (sec.)	49.7	49.5	49.9	49.5	48.7	48.8
	μg Injected	0.0061	0.0122	0.0305	0.061	0.122	0.244
	Peak Area (mV-S)	619.9	979.1	2,200	3,900	7,100	11,000
	Response Factor	101,623	80,254	72,131	63,934	58,197	45,082
						Mean RF	70,204
						%RSD	27.8%
c-1,2-DCE	Retention Time (sec.)	64.9	64.7	64.7	64.1	63.3	62.2
	μg Injected	0.0096	0.0192	0.048	0.096	0.192	0.384
	Peak Area (mV-S)	142.4	288	820.6	1,500	2,800	5,400
	Response Factor	14,833	15,000	17,096	15,625	14,583	14,063
						Mean RF	15,200
						%RSD	7.0%
TCE	Retention Time (sec.)	136.1	134.9	134	132.8	131.3	130.1
	μg Injected	0.0104	0.0208	0.052	0.104	0.208	0.416
	Peak Area (mV-S)	332.6	609.2	1,400	2,600	4,900	7,400
	Response Factor	31,981	29,288	26,923	25,000	23,558	17,788
						Mean RF	25,756
						%RSD	19.1%

Response Factor (RF) = Analyte Peak Area (mV-S)/Mass Injected (μg)
Percent Relative Standard Deviation (% RSD) = (Standard Deviation of RF/Mean RF) x 100
% RSD QC Limits = 30%

Table 2-3
Lehigh Valley Railroad Derailment Site
Field Screening Results -Test Borings

Test Boring: DC-1 (MW-1D) **Elevation 761.9** Water table during drilling at approximately 59' below ground.

Depth:	Soil, 0-1.3'	0-80'	0-80' **	80-100'	100-120'	120-140'	140-160'
Compound			*Unpurged*				
trans-1,2-DCE	< 5	< 20	< 5	< 500	< 5	< 5	< 5
cis-1,2-DCE	< 5	< 20	22	< 500	< 5	< 5	< 5
TCE	110	4300	25000	7600	14 E	1200	77
NAPL	ND	ND	ND	ND	ND	ND	ND

Test Boring: DC-1(R) (MW-1C) **Elevation 760.6** Water table during drilling at approximately 60' below ground.

Depth:	0-80'	0-80'	80-90' *	90-100' *	100-110' *	110-120'
Compound	*unpurged*	*purged*				
trans-1,2-DCE	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,2-DCE	160 E	21 E	13 E	9 E	9 E	5 E
TCE	390000	32000	9300	11000	5700	5300
NAPL	ND	ND	ND	ND	ND	ND

Test Boring: DC-2 (MW-2D) **Elevation 760.7** Water table during drilling at approximately 17' below ground.

Depth:	0-40'	40-60'	60-80'	80-100'	100-120'	120-140'	140-150'
Compound	*Perched zone*	*dry*					
trans-1,2-DCE	< 5		< 5	< 5	< 5	< 5	< 5
cis-1,2-DCE	360		190	20 E	< 5	< 5	< 5
TCE	1600		860	67	6 E	5 E	7 E
NAPL	ND		ND	ND	ND	ND	ND

Test Boring: DC-3 (MW-3D) **Elevation 738.8** Water table during drilling at approximately 67' below ground.

Depth:	0-85'	85-105'	105-125'	125-145'	145-155'
Compound					
trans-1,2-DCE	< 5	< 5	< 5	< 5	< 5
cis-1,2-DCE	< 5	< 5	< 5	< 5	< 5
TCE	440	27	< 5	< 5	< 5
NAPL	ND	ND	ND	ND	ND

Test Boring: DC-4 (MW-4D) **Elevation 767.7** Water table during drilling at approximately 55.5' below ground.

Depth:	0-49'	57-70'	70-89'	89-109'	109-129'	148'	174'
Compound	*Perched zone*						
trans-1,2-DCE	< 5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,2-DCE	< 5	< 5	< 5	< 5	< 5	< 5	< 5
TCE	< 5	< 5	< 5	< 5	< 5	< 5	< 5
NAPL	NA	NA	NA	NA	NA	NA	NA

Test Boring: DC-5 (MW-5D) **Elevation 763.1** Water table during drilling at approximately 68' below ground.

Depth:	0-88'	88-110'	110-130'	Discharge	130-150'	130-150'	150-170'	Discharge
Compound				110-130'	*pump*	*bailer*		150-170'
trans-1,2-DCE	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,2-DCE	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
TCE	900	12 E	6 E	< 5	16 E	27 E	8 E	< 5
NAPL	ND	ND	ND	ND	ND	ND	ND	ND

Test Boring: DC-6 (MW-6D) **Elevation 73.6** Water table during drilling at approximately 42' below ground.

Depth:	0-65'	65-85'	85-105'	105-125'	125-140'
Compound					
trans-1,2-DCE	< 5	< 5	< 5	< 5	< 5
cis-1,2-DCE	12 E	< 5	< 5	< 5	< 5
TCE	910	8 E	7 E	11 E	< 5
NAPL	ND	ND	ND	ND	ND

Table 2-3
Lehigh Valley Railroad Derailment Site
Field Screening Results -Test Borings

Test Boring: DC-7 (MW-7) **Elevation 741.9** *(in depression)* Water table during drilling at approximately 63' below ground.

Depth:	0-70'	70-90'	90-110'	110-130'	130-150'	150-170'	170-190'
Compound							
trans-1,2-DCE	< 5	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,2-DCE	< 5	< 5	< 5	< 5	< 5	< 5	< 5
TCE	< 5	< 5	< 5	< 5	< 5	< 5	< 5
NAPL	NA	NA	NA	NA	NA	NA	NA

Test Boring: DC-7(R) (MW-7D) **Elevation 766.0** Water table during drilling at approximately 100' below ground.

Depth:	0-120'	0-120'	120-140'	140-160'	160-185'	188-208'
Compound	*pump*	*bailer*				*not sampled*
trans-1,2-DCE	< 5	< 5	< 5	< 5	< 5	
cis-1,2-DCE	< 5	< 5	< 5	< 5	< 5	
TCE	680	640	520	11 E	6 E	
NAPL	ND	ND	ND	ND	ND	

Test Boring: DC-8 (MW-8D) **Elevation 745.3** Water table during drilling at approximately 74' below ground.

Depth:	0-76'	76-96'	96-116'	116-136'	136-156'
Compound					
trans-1,2-DCE	< 5	< 5	< 5	< 5	< 5
cis-1,2-DCE	< 5	< 5	< 5	< 5	< 5
TCE	< 5	< 5	< 5	< 5	< 5
NAPL	NA	ND	ND	ND	NA

Test Boring: DC-9 (MW-9C) **Elevation 747.2** Water table during drilling at approximately 83' below ground.

Depth:	0-97'	97-117'	117-137'	137-160'	160-180'
Compound					
trans-1,2-DCE	< 5	< 5	< 5	< 5	< 5
cis-1,2-DCE	< 5	< 5	< 5	< 5	< 5
TCE	< 5	< 5	< 5	< 5	110
NAPL	NA	NA	NA	NA	NA

Test Boring: DC-10 (MW-10D) **Elevation 737.6** Water table during drilling at approximately 70' below ground.

Depth:	0-90'	90-110'	110-130'
Compound			
trans-1,2-DCE	< 5	< 5	< 5
cis-1,2-DCE	< 5	< 5	< 5
TCE	28	16 E	< 5
NAPL	ND	ND	ND

Test Boring: DC-11 (MW-11B) **Elevation 751.5** Water table during drilling at approximately 78' below ground.

Depth:	0-99.4'	99.4-119.4'	119.4-139.4'	139-159'
Compound				
trans-1,2-DCE	< 5	< 5	< 5	< 5
cis-1,2-DCE	< 5	< 5	< 5	< 5
TCE	< 5	< 5	< 5	< 5
NAPL	NA	NA	NA	NA

Test Boring: DC-12 (MW-12D) **Elevation 724.9** Water table during drilling at approximately 43' below ground.

Depth:	0-60'	60-80'	80-100'	100-120'	120-140'	140-160'
Compound						
trans-1,2-DCE	< 5	< 5	< 5	< 5	< 5	< 5
cis-1,2-DCE	< 5	< 5	< 5	< 5	< 5	< 5
TCE	< 5	< 5	20 E	25 E	15 E	< 5
NAPL	ND	ND	ND	ND	ND	NA

Table 2-3
Lehigh Valley Railroad Derailment Site
Field Screening Results -Test Borings

Test Boring: DC-13 (MW-13B) Elevation 650.1 Water table during drilling at approximately 11' below ground.

Depth:	0-20'	20-40'	40-60'
Compound			
trans-1,2-DCE	< 5	< 5	< 5
cis-1,2-DCE	< 5	< 5	< 5
TCE	23 E	14 E	12 E
NAPL	ND	ND	ND

Test Boring: DC-14 (MW-14B) Elevation 664.2 Water table during drilling at approximately 21.5' below ground.

Depth:	0-41'	41-61'
Compound		
trans-1,2-DCE	< 5	< 5
cis-1,2-DCE	< 5	< 5
TCE	6 E	6 E
NAPL	ND	ND

Test Boring: DC-15 (MW-15B) Elevation 760.1 Water table during drilling at approximately 58.5' below ground.

Depth:	0-80'	0-80'	80-100'	100-120'	120-140'	140-160'	160-170'	170'
Compound	*purged*	*unpurged*						*bailer* **
trans-1,2-DCE	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 1000
cis-1,2-DCE	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 1000
TCE	440	5800	290	130	420	89	290	5100
NAPL	ND	ND	ND	ND	ND	ND	ND	ND

Test Boring: DC-16 (MW-16) Elevation 762.1 Water table during drilling at approximately 60' below ground.

Depth:	0-80'	80-100'	100-120'	120-140'	140-160'	160-168'	approx. 60'
Compound						*collapsed*	*bailer* **
trans-1,2-DCE	< 5	< 5	< 5	< 5	< 5		< 20
cis-1,2-DCE	< 5	< 5	< 5	< 5	< 5		< 20
TCE	110	130	51	68	52		120
NAPL	ND	ND	ND	ND	ND		ND

Test Boring: DC-17 (MW-17B) Elevation 738.3 Water table during drilling at approximately 57' below ground.

Depth:	0-60'	approx.55'	57-77'	77-97'	97-117'	117-142'	142'	145-165'
Compound		*bailer* **				*not sampled*	*bailer* **	*not sampled*
trans-1,2-DCE	< 5	< 200	< 5	< 5	< 10		< 5	
cis-1,2-DCE	10 E	< 200	12 E	11 E	< 10		13 E	
TCE	1900	1100	2000	1900	230		1400	
NAPL	ND	ND	ND	ND	ND		ND	

Results are reported in μg/l (ppb).
Results less than 10 are reported to one significant figure. Results greater than 10 are reported to two significant figures.
Results are for aqueous samples unless otherwise noted.
Initial interval is considered to be from the ground surface (i.e., 0') to the total depth sampled for that interval; subsequent intervals represent discrete zones isolated by borehole packers.
NA - indicates not analyzed.
ND - indicates not detected.
E - indicates that the value reported is estimated.
* - indicates that the interval was purged to dryness prior to sampling.
** - indicates that the sample was obtained without purging.
Reporting limits are from the lowest dilution analyzed for compounds that were not detected.
Duplicate analyses were generally performed for QC purposes; the higher result is reported.
All ground water samples were collected using a pump unless otherwise noted. Please note that the initial interval for both DC-4 and DC-11 were sampled using a stainless steel bailer.

Table 2-4A
Lehigh Valley Railroad Derailment Site
Well Construction Details

Open Hole Wells

Well ID	Boring Depth (ft)	Open Hole Interval (ft)	Elevation Interval (ft AMSL)	Casing Depth (ft)	Bentonite Seal (ft)
DC - 1A	60.0	10.0 - 60.0	700.5 - 750.5	10.0	8.0 - 10.0
DC - 2A	41.5	10.0 - 41.5	719.4 - 750.9	10.0	7.8 - 10.0
DC - 3A	43.0	7.0 - 43.0	694.6 - 730.6	7.0	5.0 - 7.0
DC - 4A	46.0	30.7 - 46.0	722.4 - 737.7	30.7	28.0 - 30.7
DC - 5A	60.5	10.0 - 60.5	702.7 - 753.2	10.0	8.0 - 10.0
DC - 6A	30.0	10.0 - 30.0	707.0 - 727.0	10.0	8.0 - 10.0
DC - 7	170.8	13.8 - 85.0	656.9 - 728.1	13.8	12 - 13.8
DC - 7RA	95.1	10.0 - 95.1	670.5 - 755.6	10.0	8.0 - 10.0
DC - 8A	35.5	15.0 - 35.5	709.7 - 730.2	15.0	14.0 - 15.0
DC - 10A	60.0	5.0 - 60.0	678.2 - 733.2	5.0	3.0 - 5.0
DC - 12A	65.0	13.0 - 65.0	660.3 - 712.3	13.0	11.0 - 13.0
DC - 15A	65.0	10.0 - 65.0	694.6 - 749.6	10.0	8.0 - 10.0
DC - 16	169.8	5.0 - 64.8	697.3 - 757.1	5.0	3.0 - 5.0
DC - 17A	65.0	10.0 - 63.8	674.3 - 728.1	10.0	8.0 - 10.0

Table 2-4B
Lehigh Valley Railroad Derailment Site
Well Construction Details

PVC & Stainless Steel Screened Wells

Well ID	Boring Depth (ft)	Screen Setting (ft)	Elevation Interval (ft AMSL)	Sand Pack (ft)	Bentonite Seal (ft)
DC - 1B	80.0	60.0 - 80.0	680.7 - 700.7	58.4 - 80.0	8.0 - 58.4
DC - 1C	120.0	100.0 - 120.0	640.6 - 660.6	97.5 - 120.0	6.0 - 97.5
DC - 1D	160.0	135.0 - 155.0	606.9 - 626.9	132.5 - 160.0	8.0 - 132.5
DC - 2B	73.2	49.8 - 69.8	691.2 - 711.2	46.5 - 71.0	8.0 - 46.5
DC - 2C	106.5	85.4 - 105.4	655.7 - 675.7	82.5 - 106.5	8.0 - 82.5
DC - 2D	150.9	130.5 - 150.5	610.2 - 630.2	127.5 - 150.9	10.0 - 127.5
DC - 3B	68.0	48.0 - 68.0	669.9 - 689.9	45.0 - 68.0	8.0 - 45.0
DC - 3C	100.0	80.0 - 100.0	638.3 - 658.3	77.0 - 100.0	8.0 - 77.0
DC - 3D	156.0	125.0 - 145.0	593.8 - 613.8	121.8 - 146.2	7.0 - 121.8
DC - 4B	70.8	50.0 - 70.0	698.3 - 718.3	47.0 - 70.8	22.0 - 47.0
DC - 4C	132.6	110.3 - 130.3	638.0 - 658.0	107.5 - 132.6	24.0 - 107.5
DC - 5B	80.5	60.0 - 80.0	683.2 - 703.2	57.5 - 80.5	8.0 - 57.5
DC - 5C	132.0	110.5 - 130.5	632.7 - 652.7	107.0 - 132.0	10.0 - 107.0
DC - 5D	167.0	144.5 - 164.5	598.6 - 618.6	141.5 - 167.0	8.0 - 141.5
DC - 6B	55.0	34.8 - 54.8	682.3 - 702.3	31.6 - 55.0	10.0 - 31.6
DC - 6C	92.1	69.8 - 89.8	647.5 - 667.5	67.5 - 92.1	9.5 - 67.5
DC - 6D	138.0	111.8 - 131.8	605.8 - 625.8	109.5 - 133.2	10.0 - 109.5
DC - 7RB	125.0	103.0 - 123.0	642.7 - 662.7	100.5 - 125.0	7.0 - 100.5
DC - 7RC	161.2	140.0 - 160.0	605.3 - 625.3	136.5 - 161.2	10.0 - 136.5
DC - 7RD	208.5	187.9 - 201.9	564.1 - 578.1	185.5 - 202.2	10.0 - 185.5
DC - 8B	58.5	38.4 - 58.4	686.6 - 706.6	35.7 - 58.5	10.0 - 35.7
DC - 8C	87.3	66.8 - 86.8	658.4 - 678.4	66.3 - 87.3	10.5 - 66.3
DC - 8D	155.7	110.3 -130.3	615.0 - 635.0	108.0 - 130.4	11.0 - 108.0
DC - 9A	91.0	70.0 - 90.0	656.7 - 676.7	67.5 - 91.0	10.0 - 67.5
DC - 9B	152.0	130.0 - 150.0	597.0 - 617.0	127.0 - 152.0	10.0 - 127.0
DC - 9C	179.0	159.0 - 179.0	568.2 - 588.2	156.5 - 179.0	10.0 - 156.5
DC - 10B	85.0	64.8 - 84.8	652.8 - 672.8	62.5 - 85.0	7.0 - 62.5
DC - 10C	110.0	88.0 - 108.0	629.6 - 649.6	85.0 - 110.0	7.5 - 85.0
DC - 10D	130.2	109.7 - 129.7	607.8 - 627.8	107.0 - 130.2	7.0 - 107.0
DC - 11A	93.2	72.4 - 92.4	659.3 - 679.3	69.5 - 93.2	24.0 - 69.5
DC - 11B	160.5	139.9 - 159.9	591.6 - 611.6	136.9 - 160.5	28.0 - 136.9
DC - 12B	106.0	85.0 - 105.0	620.1 - 640.1	82.2 - 106.0	8.0 - 82.2
DC - 12C	136.0	115.0 - 135.0	590.1 - 610.1	112.2 - 136.0	8.0 - 112.2
DC - 12D	160.0	138.8 - 158.8	566.1 - 586.1	135.5 - 160.0	9.0 - 135.5
DC - 13A	25.0	10.0 - 25.0	624.7 - 639.7	8.0 - 25.0	6.0 - 8.0
DC - 13B	60.0	40.0 - 60.0	590.1 - 610.1	37.2 - 60.0	6.0 - 37.2
DC - 14A	25.0	4.8 - 24.8	639.3 - 659.3	3.0 - 25.0	2.0 - 3.0
DC - 14B	61.2	40.0 - 60.0	604.2 - 624.2	37.5 - 61.2	5.0 - 37.5
DC - 15B	185.0	160.0 - 180.0	580.1 - 600.1	157.9 - 185.0	8.0 - 157.9
DC - 17B	165.0	144.6 - 164.6	573.7 - 593.7	142.8 - 165.0	8.0 - 142.8

Table 2-5
Lehigh Valley Railroad Derailment Site
Hydraulic Conductivity Test Results

Well I.D.	Hvorslev Method (cm/sec)	Bouwer & Rice Method (cm/sec)	Tested Interval
DC-1A (OH)	8.18e-04	5.39E-04	Lower Clarence-Upper Falkirk
DC-1B	1.50E-03	1.23E-03	Falkirk
DC-1C	1.10E-02	9.39E-03	Upper-Mid Camillus
DC-1D	4.98E-03	4.03E-03	Lower Camillus
DC-2A (OH)	2.43E-03	1.67E-03	Mid to Lower Clarence
DC-2B	5.09E-04	3.94E-04	Basal Edgecliff-Mid Falkirk
DC-2C	3.88E-04	3.04E-04	Basal Falkirk-Upper Camillus
DC-2D	1.46E-03	1.23E-03	Lower Camillus
DC-3A (OH)	5.78E-04	4.76E-04	Upper Clarence-Mid Edgecliff
DC-3B	1.57E-04	1.08E-04	Falkirk
DC-3C	1.49E-04	1.11E-04	Upper Camillus
DC-3D	1.58E-02	1.44E-02	Lower Camillus
DC-4A (OH)	1.56E-06	1.02E-06	Lower Clarence-Mid Edgecliff
DC-4B	9.95E-04	6.95E-04	Basal Edgecliff-Mid Falkirk
DC-4C	3.17E-03	2.33E-03	Mid Camillus
DC-4D	9.54E-03	8.16E-03	Basal Camillus-Upper Syracuse
DC-5A (OH)	1.14E-05	7.08E-06	Mid Clarence-Mid Edgecliff
DC-5B	6.73E-04	4.84E-04	Mid Edgecliff-Mid Falkirk
DC-5C	2.12E-03	1.68E-03	Upper-Mid Camillus
DC-5D	6.50E-03	5.50E-03	Lower Camillus
DC-6A (OH)	1.11E-03	7.35E-04	Lower Clarence-Lower Edgecliff
DC-6B	1.98E-03	1.37E-03	Bois Blanc-Mid Falkirk
DC-6C	3.67E-03	3.03E-03	Upper Camillus
DC-6D	1.81E-02	1.51E-02	Lower Camillus
DC-7 (OH)	1.72E-05	1.23E-05	Basal Clarence-Mid Falkirk
DC-7RA (OH)	6.53E-06	3.85E-06	Basal Clarence-Upper Falkirk
DC-7RB	2.35E-02	2.24E-02	Falkirk
DC-7RC	8.05E-03	7.14E-03	Mid Camillus
DC-7RD	2.34E-02	2.18E-02	Basal Camillus-Upper Syracuse
DC-8A (OH)	7.28E-04	4.91E-04	Basal Edgecliff-Upper Scajaquada
DC-8B	9.65E-04	8.69E-04	Lower Scajaquada-Mid Falkirk
DC-8C	1.22E-03	1.04E-03	Basal Falkirk-Upper Camillus
DC-8D	1.38E-02	1.12E-02	Lower Camillus
DC-9A	3.96E-04	3.38E-04	Lower Falkirk-Upper Camillus
DC-9B	9.07E-03	9.01E-03	Lower Camillus-Upper Syracuse
DC-9C	1.67E-03	1.47E-03	Syracuse
DC-10A (OH)	2.62E-05	1.82E-05	Lower Clarence-Mid Scajaquada
DC-10B	5.34E-03	4.17E-03	Falkirk
DC-10C	1.85E-03	1.54E-03	Basal Falkirk-Upper Camillus
DC-10D	8.76E-03	6.82E-03	Mid Camillus

Table 2-5
Lehigh Valley Railroad Derailment Site
Hydraulic Conductivity Test Results

Well I.D.	Hvorslev Method (cm/sec)	Bouwer & Rice Method (cm/sec)	Tested Interval
DC-11A	1.69E-03	1.22E-03	Lower Clarence-Mid Scajaquada
DC-11B	8.12E-03	7.24E-03	Upper-Mid Camillus
DC-12A (OH)	1.81E-03	1.28E-03	Upper Clarence-Bois Blanc
DC-12B	5.76E-03	6.32E-03	Mid Scajaquada-Mid Falkirk
DC-12C	2.36E-02	1.91E-02	Basal Falkirk-Upper Camillus
DC-12D	1.66E-03	1.36E-03	Mid Camillus
DC-13A	6.31E-04	3.83E-04	Mid Camillus
DC-13B	4.80E-02	3.92E-02	Lower Camillus-Upper Syracuse
DC-14A	1.74E-02	1.50E-02	Falkirk
DC-14B	2.26E-02	1.77E-02	Upper Camillus
DC-15A (OH)	2.59E-03	1.71E-03	Lower Clarence-Upper Falkirk
DC-15B	2.25E-02	1.91E-02	Syracuse
DC-16 (OH)	7.86E-05	5.25E-05	Lower Clarence-Upper Falkirk
DC-17A (OH)	8.48E-05	3.56E-05	Basal Edgecliff-Lower Falkirk
DC-17B	2.81E-03	2.47E-03	Syracuse

Notes: DC-4D, DC-6D, DC-7RB, DC-7RD, DC-8D, DC-11A, DC-11B, DC-12C, DC-13B, DC-14B, DC-15B and DC-17B responded erratically during the test.

OH = Open Hole

Table 4-1
Lehigh Valley Railroad Derailment Site
Geologic Column for Study Area

Age	Formation	Member	Significant Features
DEVONIAN	Onondaga	Seneca	**Tioga Bentonite**
		Moorehouse Nedrow Clarence Edgecliff	
	Bois Blanc	NA	**Unconformity**
SILURIAN	Akron	NA	**Unconformity**
	Bertie	Williamsville Scajaquada Falkirk	
	Camillus	NA	Gypsiferous/Rubbleized at Base
	Syracuse	NA	

NA = Member Designation Not Applicable

Table 5-1
Lehigh Valley Railroad Derailment Site
Maximum Measured Water Level Range Per Cluster
at the Most Reactive Well(s) in each Well Cluster

Well Cluster	Maximum Water Level Range	Most Reactive Wells	Geologic Unit(s) Monitored
[1]DC - 1	31 feet	1C, 1D	Upper/Mid Camillus, Lower Camillus
[1]DC - 2	33 feet	2C, 2D	Basal Falkirk/Upper Camillus, Lower Camillus
[4]DC - 3	47 feet	3B, 3C	Falkirk, Upper Camillus
[1]DC - 4	33 feet	4D	Basal Camillus/Upper Syracuse
[1]DC - 5	34 feet	5C, 5D	Upper/Mid Camillus, Lower Camillus
[1]DC - 6	34 feet	6B	Bois Blanc/Mid Falkirk
[4]DC - 7	52 feet	7	Basal Nedrow/Mid Falkirk
[2,4]DC - 7R	58 feet	7RB, 7RC	Falkirk, Mid Camillus
[4]DC - 8	44 feet	8B, 8C, 8D	Lower Scajaquada/Mid Falkirk, Basal Falkirk/Upper Camillus, Lower Camillus
[4]DC - 9	47 feet	9A	Lower Falkirk/Upper Camillus
[4]DC - 10	46 feet	10B, 10C, 10D	Falkirk, Basal Falkirk/Upper Camillus, Mid Camillus
[4]DC - 11	46 feet	11A, 11B	Lower Clarence/Mid Scajaquada, Upper/Mid Camillus
[4]DC - 12	48 feet	12A	Lower Nedrow/Bois Blanc
DC - 13	10 feet	13A	Mid Camillus
[3]DC - 14	6 feet	14A	Falkirk
[1]DC - 15	32 feet	15B	Syracuse
[1]DC - 16	25 feet	16	Lower Nedrow/Upper Falkirk
[4]DC - 17	40 feet	17B	Syracuse

[1] Well cluster located west of Mud Creek
[2] This cluster showed maximum range of water levels in Study Area
[3] This cluster showed minimum range of water levels in Study Area
[4] Range > 40 feet

Table 5-2
Lehigh Valley Railroad Derailment Site
Geologic Unit(s) Monitored in Each Well

Well ID	Geologic Unit(s) Monitored
DC - 1A	Basal Nedrow/Upper Falkirk
DC - 1B	Falkirk
DC - 1C	Upper/Mid Camillus
DC - 1D	Lower Camillus
DC - 2A	Clarence
DC - 2B	Basal Edgecliff/Mid Falkirk
DC - 2C	Basal Falkirk/Upper Camillus
DC - 2D	Lower Camillus
DC - 3A	Upper Clarence/ Upper Bois Blanc
DC - 3B	Falkirk
DC - 3C	Upper Camillus
DC - 3D	Lower Camillus
DC - 4A	Lower Clarence/MidEdgecliff
DC - 4B	Basal Edgecliff/Mid Falkirk
DC - 4C	Mid Camillus
DC - 4D	Basal Camillus/Upper Syracuse
DC - 5A	Lower Nedrow/Mid Edgecliff
DC - 5B	Mid Edgecliff/Mid Falkirk
DC - 5C	Upper/Mid Camillus
DC - 5D	Lower Camillus
DC - 6A	Mid Clarence/Lower Edgecliff
DC - 6B	Bois Blanc/Mid Falkirk
DC - 6C	Upper Camillus
DC - 6D	Lower Camillus
DC - 7	Basal Nedrow/Mid Falkirk
DC - 7RA	Upper Nedrow/Upper Falkirk
DC - 7RB	Falkirk
DC - 7RC	Mid Camillus
DC - 7RD	Basal Camillus/Upper Syracuse
DC - 8A	Lower Clarence/Upper Scajaquada
DC - 8B	Lower Scajaquada/Mid Falkirk
DC - 8C	Basal Falkirk/Upper Camillus
DC - 8D	Lower Camillus
DC - 9A	Lower Falkirk/Upper Camillus
DC - 9B	Lower Camillus/Upper Syracuse
DC - 9C	Syracuse
DC - 10A	Basal Nedrow/Mid Scajaquada
DC - 10B	Falkirk
DC - 10C	Basal Falkirk/Upper Camillus
DC - 10D	Mid Camillus
DC - 11A	Lower Clarence/Mid Scajaquada
DC - 11B	Upper/Mid Camillus
DC - 12A	Lower Nedrow/Bois Blanc
DC - 12B	Mid Scajaquada/Mid Falkirk
DC - 12C	Basal Falkirk/Upper Camillus
DC - 12D	Mid Camillus
DC - 13A	Mid Camillus
DC - 13B	Lower Camillus/Upper Syracuse
DC - 14A	Falkirk
DC - 14B	Upper Camillus
DC - 15A	Basal Nedrow/Upper Falkirk
DC - 15B	Syracuse
DC - 16	Lower Nedrow/Upper Falkirk
DC - 17A	Lower Clarence/Lower Falkirk
DC - 17B	Syracuse

Table 5-3
Lehigh Valley Railroad Derailment Site
Groundwater Level Responses to Precipitation Events
Rainfall of 0.6" between 1200 hrs on 5/7/94 and 1200 hrs on 5/8/94

	Onset of Response			End of Response			Magnitude of Response	
Well ID	Date	Time	W L.	Date	Time	W.L.	Duration	W.L. Variation
DC - 1A	NA	NA	<724.89	5/9/94	1941	729.49	NA	>4.60 ft
DC - 1B	5/8/94	0256	724.17	5/9/94	1726	727.96	38.5hrs.	3.79 ft
DC - 1C	5/8/94	0956	725.82	5/9/94	2141	728.00	35.8hrs	2.18 ft
DC - 1D	5/8/94	1011	726.26	5/9/94	2126	728.33	35.3hrs	2.07 ft
DC - 3A	5/8/94	0045	709.18	NA	NA	>716.89	NA	>7.71 ft
DC - 3B	5/8/94	0730	702.49	5/9/94	1830	706.85	35.0hrs	4.36 ft
DC - 5A	5/8/94	1030	726.59	5/9/94	1915	731.05	32.8hrs	4.46 ft
*DC - 5B	5/8/94	0545	726.26	5/9/94	1745	729.82	36.0hrs	3.56 ft
DC - 6A	5/8/94	0330	716.89	5/9/94	1600	726.34	36.5hrs	9.45 ft
DC - 6B	5/8/94	0330	713.24	NA	NA	>722.04	NA	>8.80 ft
DC - 7RA	5/8/94	1645	695.39	5/11/94	0415	698.48	59.5hrs	3.09 ft
*DC - 7RB	5/8/94	1425	695.81	5/11/94	0430	699.03	62.0hrs	3.22 ft
DC - 15A	5/8/94	0726	726.8	5/9/94	1811	731.04	34.8hrs	4.22 ft
DC - 15B	5/8/94	1011	725.38	5/9/94	2011	727.58	34.0hrs	2.2 ft
DC - 16	5/8/94	0526	725.2	5/9/94	1811	730.40	36.8hrs	5.2 ft
DC - 17A	5/8/94	0545	714.13	5/10/94	0430	718.35	46.8hrs	4.22 ft
DC - 17B	5/8/94	1325	711.76	5/11/94	1015	714.53	69.0hrs	2.77 ft

Rainfall of 1.35" between 1400 hrs on 4/12/94 and 1800 hrs on 4/13/94

	Onset of Response			End of Response			Magnitude of Response	
Well ID	Date	Time	W. L.	Date	Time	W.L.	Duration	W.L. Variation
DC - 7RA	4/13/94	0545	717.91	4/14/94	2345	728.75	42.0hrs	10.84 ft
*DC - 7RB	4/13/94	0400	718.13	NA	NA	>730.11	NA	>11.98 ft

* = "B" well response prior to "A" well response.

NA = Information not available.

Table 5-4
Lehigh Valley Railroad Derailment Site
Order of Groundwater Level Response to a Precipitation Event
May 8, 1994

Response Group	Geologic Unit(s) Monitored	Well ID	Onset Time	Elapsed Time Hrs./Mins.
1	Upper Clarence/Upper Bois Blanc	DC - 3A	0045	0:00
2	Falkirk	DC - 1B	0256	2:11
2	Mid Clarence/Lower Edgecliff	DC - 6A	0330	2:45
2	Bois Blanc/Mid Falkirk	DC - 6B	0330	2:45
3	Lower Nedrow/Upper Falkirk	DC - 16	0526	4:41
3	Mid Edgecliff/Mid Falkirk	*DC - 5B	0545	5:00
3	Lower Clarence/Lower Falkirk	DC - 17A	0545	5:00
4	Basal Nedrow/Upper Falkirk	DC-15A	0726	6:41
4	Falkirk	DC - 3B	0730	6:45
5	Upper/Mid Camillus	DC - 1C	0956	9:11
5	Lower Camillus	DC - 1D	1011	9:26
5	Syracuse	DC - 15B	1011	9:26
5	Lower Nedrow/Mid Edgecliff	DC - 5A	1030	9:45
6	Syracuse	DC - 17B	1325	12:40
7	Falkirk	*DC - 7RB	1425	13:40
8	Upper Nedrow/Upper Falkirk	DC - 7RA	1645	16:00

* = "B" well response prior to "A" well response at cluster.

Table 5-5
Lehigh Valley Railroad Derailment Site
Hydraulic Conductivity Test Results

Well I.D.	Hvorslev Method (cm/sec)	Bouwer & Rice Method (cm/sec)	Tested Interval
DC-1A (OH)	8.18E-04	5.39E-04	Lower Clarence -Upper Falkirk
DC-1B	1.50E-03	1.23E-03	Falkirk
DC-1C	1.10E-02	9.39E-03	Upper-Mid Camillus
DC-1D	4.98E-03	4.03E-03	Lower Camillus
DC-2A (OH)	2.43E-03	1.67E-03	Mid to Lower Clarence
DC-2B	5.09E-04	3.94E-04	Basal Edgecliff-Mid Falkirk
DC-2C	3.88E-04	3.04E-04	Basal Falkirk-Upper Camillus
DC-2D	1.46E-03	1.23E-03	Lower Camillus
DC-3A (OH)	5.78E-04	4.76E-04	Upper Clarence-Mid Edgecliff
DC-3B	1.57E-04	1.08E-04	Falkirk
DC-3C	1.49E-04	1.11E-04	Upper Camillus
DC-3D	1.58E-02	1.44E-02	Lower Camillus
DC-4A (OH)	1.56E-06	1.02E-06	Lower Clarence-Mid Edgecliff
DC-4B	9.95E-04	6.95E-04	Basal Edgecliff-Mid Falkirk
DC-4C	3.17E-03	2.33E-03	Mid Camillus
DC-4D	9.54E-03	8.16E-03	Basal Camillus-Upper Syracuse
DC-5A (OH)	1.14E-05	7.08E-06	Mid Clarence-Mid Edgecliff
DC-5B	6.73E-04	4.84E-04	Mid Edgecliff-Mid Falkirk
DC-5C	2.12E-03	1.68E-03	Upper-Mid Camillus
DC-5D	6.50E-03	5.50E-03	Lower Camillus
DC-6A (OH)	1.11E-03	7.35E-04	Lower Clarence-Lower Edgecliff
DC-6B	1.98E-03	1.37E-03	Bois Blanc-Mid Falkirk
DC-6C	3.67E-03	3.03E-03	Upper Camillus
DC-6D	1.81E-02	1.51E-02	Lower Camillus
DC-7 (OH)	1.72E-05	1.23E-05	Basal Clarence-Mid Falkirk
DC-7RA (OH)	6.53E-06	3.85E-06	Basal Clarence-Upper Falkirk
DC-7RB	2.35E-02	2.24E-02	Falkirk
DC-7RC	8.05E-03	7.14E-03	Mid Camillus
DC-7RD	2.34E-02	2.18E-02	Basal Camillus-Upper Syracuse
DC-8A (OH)	7.28E-04	4.91E-04	Basal Edgecliff-Upper Scajaquada
DC-8B	9.65E-04	8.69E-04	Lower Scajaquada-Mid Falkirk
DC-8C	1.22E-03	1.04E-03	Basal Falkirk-Upper Camillus
DC-8D	1.38E-02	1.12E-02	Lower Camillus
DC-9A	3.96E-04	3.38E-04	Lower Falkirk-Upper Camillus
DC-9B	9.07E-03	9.01E-03	Lower Camillus-Upper Syracuse
DC-9C	1.67E-03	1.47E-03	Syracuse
DC-10A (OH)	2.62E-05	1.82E-05	Lower Clarence-Mid Scajaquada
DC-10B	5.34E-03	4.17E-03	Falkirk
DC-10C	1.85E-03	1.54E-03	Basal Falkirk-Upper Camillus
DC-10D	8.76E-03	6.82E-03	Mid Camillus

Table 5-5
Lehigh Valley Railroad Derailment Site
Hydraulic Conductivity Test Results

Well I.D.	Hvorslev Method (cm/sec)	Bouwer & Rice Method (cm/sec)	Tested Interval
DC-11A	1.69E-03	1.22E-03	Lower Clarence-Mid Scajaquada
DC-11B	8.12E-03	7.24E-03	Upper-Mid Camillus
DC-12A (OH)	1.81E-03	1.28E-03	Upper Clarence-Bois Blanc
DC-12B	5.76E-03	6.32E-03	Mid Scajaquada-Mid Falkirk
DC-12C	2.36E-02	1.91E-02	Basal Falkirk-Upper Camillus
DC-12D	1.66E-03	1.36E-03	Mid Camillus
DC-13A	6.31E-04	3.83E-04	Mid Camillus
DC-13B	4.80E-02	3.92E-02	Lower Camillus-Upper Syracuse
DC-14A	1.74E-02	1.50E-02	Falkirk
DC-14B	2.26E-02	1.77E-02	Upper Camillus
DC-15A (OH)	2.59E-03	1.71E-03	Lower Clarence-Upper Falkirk
DC-15B	2.25E-02	1.91E-02	Syracuse
DC-16 (OH)	7.86E-05	5.25E-05	Lower Clarence-Upper Falkirk
DC-17A (OH)	8.48E-05	3.56E-05	Basal Edgecliff-Lower Falkirk
DC-17B	2.81E-03	2.47E-03	Syracuse

Note: DC-4D, DC-6D, DC-7RB, DC-7RD, DC-8D, DC-11A, DC-11B, DC-12C, DC-13B, DC-14B, DC-15B and DC-17B responded erratically during the test.

OH = Open Hole

Table 5-6
Lehigh Valley Railroad Derailment Site
Hydraulic Conductivity Results By Well Group
December 1993

Well ID	Hvorslev Method (cm/sec)	Bouwer & Rice Method (cm/sec)	Tested Interval
DC-1A (OH)	8.18E-04	5.39E-04	Lower Clarence - Upper Falkirk
DC-2A (OH)	2.43E-03	1.67E-03	Mid to Lower Clarence
DC-3A (OH)	5.78E-04	4.76E-04	Upper Clarence - Upper Bois Blanc
DC-4A (OH)	1.56E-06	1.02E-06	Lower Clarence - Mid Edgecliff
DC-5A (OH)	1.14E-05	7.08E-06	Mid Clarence - Mid Edgecliff
DC-6A (OH)	1.10E-03	7.35E-04	Lower Clarence - Lower Edgecliff
DC-7 (OH)	1.72E-05	1.23E-05	Basal Clarence - Mid Falkirk
DC-7RA (OH)	6.53E-06	3.85E-06	Basal Clarence - Upper Falkirk
DC-8A (OH)	7.28E-04	4.91E-04	Basal Edgecliff - Upper Scajaquada
DC-10A (OH)	2.62E-05	1.82E-05	Lower Clarence - Mid Scajaquada
DC-11A	1.69E-03	1.22E-03	Lower Clarence - Mid Scajaquada
DC-12A (OH)	1.81E-03	1.28E-03	Upper Clarence - Bois Blanc
DC-15A (OH)	2.59E-03	1.71E-03	Lower Clarence - Upper Falkirk
DC-16 (OH)	7.86E-05	5.25E-05	Lower Clarence - Upper Falkirk
DC-17A (OH)	8.48E-05	3.56E-05	Basal Edgecliff - Lower Falkirk
GeoMean	**1.69E-04**	**1.11E-04**	**GROUP 1 Open Hole**
DC-1B	1.50E-03	1.23E-03	Falkirk
DC-2B	5.09E-04	3.94E-04	Basal Edgecliff - Mid Falkirk
DC-3B	1.57E-04	1.08E-04	Falkirk
DC-4B	9.95E-04	6.95E-04	Basal Edgecliff - Mid Falkirk
DC-5B	6.73E-04	4.84E-04	Mid Edgecliff - Mid Falkirk
DC-6B	1.98E-03	1.37E-03	Bois Blanc - Mid Falkirk
DC-7RB	2.35E-02	2.24E-02	Falkirk
DC-8B	9.65E-04	8.69E-04	Lower Scajaquada - Mid Falkirk
DC-9A	3.96E-04	3.38E-04	Lower Falkirk - Upper Camillus
DC-10B	5.34E-03	4.17E-03	Falkirk
DC-12B	5.76E-03	6.32E-03	Mid Scajaquada - Mid Falkirk
DC-14A	1.74E-02	1.50E-02	Falkirk
GeoMean	**1.74E-03**	**1.41E-03**	**GROUP 2 Falkirk**
DC-1C	1.10E-02	9.39E-03	Upper - Mid Camillus
DC-2C	3.88E-04	3.04E-04	Basal Falkirk - Upper Camillus
DC-3C	1.49E-04	1.11E-04	Upper Camillus
DC-5B	2.12E-03	1.68E-03	Upper - Mid Camillus
DC-6C	3.67E-03	3.03E-03	Upper Camillus
DC-8C	1.22E-03	1.04 E-03	Basal Falkirk - Upper Camillus
DC-10C	1.85E-03	1.54E-03	Basal Falkirk - Upper Camillus
DC-11B	8.12E-03	7.24E-03	Upper - Mid Camillus
DC-12C	2.36E-02	1.91E-02	Basal Falkirk - Upper Camillus
DC-14B	2.26E-02	1.77E-02	Upper Camillus
GeoMean	**2.94E-03**	**2.40E-03**	**GROUP 3 Upper Camillus**

Table 5-6
Lehigh Valley Railroad Derailment Site
Hydraulic Conductivity Results By Well Group
December 1993

Well ID	Hvorslev Method (cm/sec)	Bouwer & Rice Method (cm/sec)	Tested Interval
DC-4C	3.17E-03	2.33E-03	Mid Camillus
DC-7RC	8.05E-03	7.14E-03	Mid Camillus
DC-10D	8.76E-03	6.28E-03	Mid Camillus
DC-12D	1.66E-03	1.36E-03	Mid Camillus
DC-13A	6.31E-04	3.83E-04	Mid Camillus
GeoMean	**2.98E-03**	**2.22E-03**	**GROUP 4 Mid Camillus**
DC-1D	4.98E-03	4.03E-03	Lower Camillus
DC-2D	1.46E-03	1.23E-03	Lower Camillus
DC-3D	1.58E-02	1.44E-02	Lower Camillus
DC-5D	6.50E-03	5.50E-03	Lower Camillus
DC-6D	1.81E-02	1.51E-02	Lower Camillus
DC-8D	1.38E-02	1.12E-02	Lower Camillus
DC-9B	9.07E-03	9.01E-03	Lower Camillus - Upper Syracuse
GeoMean	**7.76E-03**	**6.69E-03**	**GROUP 5 Lower Camillus**
DC-4D	9.54E-03	8.16E-03	Basal Camillus - Uper Syracuse
DC-7RD	2.34E-02	2.18E-02	Syracuse
DC-9C	1.67E-03	1.47E-03	Syracuse
DC-13B	4.80E-02	3.92E-02	Lower Camillus - Upper Syracuse
DC-15B	2.25E-02	1.91E-02	Syracusse
DC-17B	2.81E-03	2.47E-03	Syracuse
GeoMean	**1.02E-02**	**8.86E-03**	**GROUP 6 Syracuse**

Responded erratically during the test = DC-4D, DC-6D, DC-7RB, DC-7RD, DC-8D, DC-11A, DC-11B, DC-12C, DC-13B, DC-14B, DC-15B, and DC-17B

Table 5-7

Lehigh Valley Railroad Derailment Site
Water Level Elevations and Vertical Hydraulic Gradients
During Seasonal Low and High Water Level Conditions

Well ID	Geologic Unit(s) Monitored	Low Water Date	W. L. Elevation	High Water Date	W. L. Elevation
DC - 1A	Basal Nedrow/Upper Falkirk	8/15/94	706.93	3/24/94	736.19
DC - 1B	Falkirk	8/15/94	706.49	3/24/94	733.53
DC - 1C	Upper/Mid Camillus	8/15/94	705.04	3/24/94	735.18
DC - 1D	Lower Camillus	8/15/94	705.40	3/24/94	735.40
DC - 2A	Clarence	8/15/94	743.24	3/24/94	745.27
DC - 2B	Basal Edgecliff/Mid Falkirk	8/15/94	705.37	3/24/94	721.40
DC - 2C	Basal Falkirk/Upper Camillus	8/15/94	705.33	3/24/94	734.57
DC - 2D	Lower Camillus	8/15/94	705.45	3/24/94	735.42
DC - 3A	Upper Clarence/ Upper Bois Blanc	8/15/94	707.44	3/24/94	736.99
DC - 3B	Falkirk	8/15/94	687.90	3/24/94	732.13
DC - 3C	Upper Camillus	8/15/94	686.52	3/24/94	731.56
DC - 3D	Lower Camillus	8/15/94	692.17	3/24/94	730.21
DC - 4A	Lower Clarence/MidEdgecliff	8/15/94	727.45	3/24/94	729.84
DC - 4B	Basal Edgecliff/Mid Falkirk	8/15/94	705.98	3/24/94	720.15
DC - 4C	Mid Camillus	8/15/94	707.72	3/24/94	737.64
DC - 4D	Basal Camillus/Upper Syracuse	8/15/94	709.01	3/24/94	738.81
DC - 5A	Lower Nedrow/Mid Edgecliff	8/15/94	710.45	3/24/94	736.57
DC - 5B	Mid Edgecliff/Mid Falkirk	8/15/94	706.75	3/24/94	736.10
DC - 5C	Upper/Mid Camillus	8/15/94	703.98	3/24/94	735.07
DC - 5D	Lower Camillus	8/15/94	703.95	3/24/94	735.06
DC - 6A	Mid Clarence/Lower Edgecliff	8/15/94	710.81	3/24/94	733.16
DC - 6B	Bois Blanc/Mid Falkirk	8/15/94	699.43	3/24/94	730.68
DC - 6C	Upper Camillus	8/15/94	700.58	3/24/94	732.35
DC - 6D	Lower Camillus	8/15/94	702.24	3/24/94	733.00
DC - 7	Basal Nedrow/Mid Falkirk	8/15/94	676.72	3/24/94	731.85
DC - 7RA	Upper Nedrow/Upper Falkirk	8/15/94	< 670.50	3/24/94	726.76
DC - 7RB	Falkirk	8/15/94	672.57	3/24/94	727.46
DC - 7RC	Mid Camillus	8/15/94	673.18	3/24/94	727.93
DC - 7RD	Basal Camillus/Upper Syracuse	8/15/94	673.54	3/24/94	727.53
DC - 8A	Lower Clarence/Upper Scajaquada	8/15/94	722.36		
DC - 8B	Lower Scajaquada/Mid Falkirk	8/15/94	< 686.60		
DC - 8C	Basal Falkirk/Upper Camillus	8/15/94	671.71		
DC - 8D	Lower Camillus	8/15/94	671.51		
DC - 9A	Lower Falkirk/Upper Camillus	8/15/94	666.81	Measurements	
DC - 9B	Lower Camillus/Upper Syracuse	8/15/94	666.84	Not	
DC - 9C	Syracuse	8/15/94	666.93	Taken	
DC - 10A	Basal Nedrow/Mid Scajaquada	8/15/94	< 678.20	(MNT)	
DC - 10B	Falkirk	8/15/94	670.50		
DC - 10C	Basal Falkirk/Upper Camillus	8/15/94	670.59		
DC - 10D	Mid Camillus	8/15/94	669.75		
DC - 11A	Lower Clarence/Mid Scajaquada	8/15/94	671.32		
DC - 11B	Upper/Mid Camillus	8/15/94	671.31		
DC - 12A	Lower Nedrow/Bois Blanc	8/15/94	668.46	3/24/94	715.08
DC - 12B	Mid Scajaquada/Mid Falkirk	8/15/94	664.19	3/24/94	703.86
DC - 12C	Basal Falkirk/Upper Camillus	8/15/94	664.17	3/24/94	703.64
DC - 12D	Mid Camillus	8/15/94	661.21	3/24/94	695.07
DC - 13A	Mid Camillus	8/17/94	637.52		
DC - 13B	Lower Camillus/Upper Syracuse	8/17/94	636.81	MNT	
DC - 14A	Falkirk	8/15/94	646.99		
DC - 14B	Upper Camillus	8/15/94	646.81		
DC - 15A	Basal Nedrow/Upper Falkirk	8/15/94	706.84	3/24/94	736.21
DC - 15B	Syracuse	8/15/94	704.68	3/24/94	735.02
DC - 16	Lower Nedrow/Upper Falkirk	8/15/94	706.59	3/24/94	735.58
DC - 17A	Lower Clarence/Lower Falkirk	8/15/94	694.34	3/24/94	725.25
DC - 17B	Syracuse	8/15/94	690.70	3/24/94	727.94

Table 6-1A
Lehigh Valley Railroad Derailment Site
Spring / Surface Water Analytical Data - Volatile Organics
December 1992

Compound	SPR-3	SPR-4	DUP 1 SPR	SPR-5	SPR-7	SPR-9	SPR-10	SPR-11	SPR-12	SPR-13	SW-2	SW-14
Chloromethane												
Bromomethane												
Vinyl Chloride												
Chloroethane												
Methylene Chloride	+27 U	+10 U	+10 U	+10 U	+10 U	+31 U		+10 U	+10 U		+10 U	
Acetone	+20 U			8 J								
Carbon Disulfide												
1,1-Dichloroethene												
1,1-Dichloroethane												
1,2-Dichloroethene (Total)	2 J											+10 U
Chloroform												
1,2-Dichloroethane												
2-Butanone												
1,1,1-Trichloroethane												
Carbon Tetrachloride												
Bromodichloromethane												
1,2-Dichloropropane												
Cis-1,3-Dichloropropane												
Trichloroethene	190	62	65		130				63			2 J
Dibromochloromethane												
1,1,2-Trichloroethane												
Benzene												
Trans-1,2-Dichloropropene												
Bromoform												
4-Methyl 2-Pentatone												
Tetrachloroethene												
Toluene												
Chlorobenzene												
Ethylbenzene												
Styrene												
Xylene (Total)												
TICs Found	0	0	0	0	0	0	0	0	0	0	0	0

Analysis by NYSDEC ASP 91-1 GC/MS.
All results expressed in μg/l (ppb).
J indicates the concentration listed is estimated since the result is below the laboratory quantitation limit.

+ indicates Not Detected by Data Validation due to blank contamination.
DUP 1 SPR indicates Blind Field Duplicate of Sample SPR-4.
Blank indicates Not Detected at the laboratory reporting limit.

Table 6-1B
Lehigh Valley Railroad Derailment Site
Sediment Analytical Data - Volatile Organics
December 1992

Compound	SED-1	SED-2	SED-6	SED DUP 2	SED-8	SED-14
Chloromethane						
Bromomethane						
Vinyl Chloride						
Chloroethane						
Methylene Chloride	+15 U	+16 U	+11 U	+11 U	+12 UV	28 VS
Acetone	210 B	200 B	110 B	110 B	100 B	+22 UV
Carbon Disulfide						
1,1-Dichloroethene						
1,1-Dichloroethane						
1,2-Dichloroethene (Total)		10 JV	7 J	3 J		
Chloroform						
1,2-Dichloroethane						
2-Butanone						
1,1,1-Trichloroethane						
Carbon Tetrachloride						
Bromodichloromethane						
1,2-Dichloropropane						
Cis-1,3-Dichloropropane						
Trichloroethene	8 JV	71 V	12	9 J		170 V
Dibromochloromethane						
1,1,2-Trichloroethane						
Benzene						
Trans-1,2-Dichloropropene						
Bromoform						
4-Methyl 2-Pentatone						
Tetrachloroethene	+15 U	+16 U	+11 U	+12 U	+11 U	
Toluene						
Chlorobenzene						
Ethylbenzene						
Styrene						
Xylene (Total)						
TICs Found	1	1	1	1	1	0

Analysis by NYSDEC ASP 91-1 GC/MS.
Results expressed in μg/kg (ppb).
B indicates the analyte was found in the blanks as well as the sample.
J indicates the concentration listed is estimated since the result was below the laboratory quantitation limit.
S indicates a suspected laboratory contaminant.
V indicates reported value is estimated due to variance from quality control limits.
+ indicates Not Detected by Data Validation due to blank contamination.
SED DUP 2 indicates Blind Field Duplicate of Sample SED-6.
Blank indicates Not Detected at the laboratory reporting limit.

Table 6-2
Lehigh Valley Railroad Derailment Site
All Media Analytical Data - Cyanide
December 1992

Spring/Surface Water Sample ID	Cyanide (μg/l = ppb)	Sediment Sample ID	Cyanide (mg/kg = ppm)	Groundwater Sample ID	Cyanide (μg/l = ppb)
SPR-3	10.2	SED-1	ND	DW-1	ND
SPR-4	ND	SED-2	ND	DW-2	ND
DUP-1 SPR [1]	ND	SED-6	ND	DW-3	ND
SPR-5	ND	DUP-2, SED [2]	ND	DW-4	ND
SPR-7	ND	SED-8	ND	DW-5	ND
SPR-9	ND	SED-14	ND	SW-6 [3]	ND
SPR-10	ND			DW-7 [4]	79.0
SPR-11	ND			DW-7 INT [4]	64.6
SPR-12	ND			GW-1 (TP-4) [5]	NA
SPR-13	ND				
SW-2	ND				
SW-14	ND				

ND = Not Detected at the contract required detection limit
NA = Not Analyzed
[1] = DUP-1 SPR at SPR-4
[2] = DUP-2 SED at SED-6
[3] = SW-6 = "DW-6"
[4] = DW-7 and DW-7 INT = "Deep" and "Intermediate" sample from abandoned well
[5] = GW-1 (TP-4) = Groundwater from Test Pit No. 4

Table 6-3
Lehigh Valley Railroad Derailment Site
Domestic Well Sampling Locations
December 1992

DUNN Sample No.	DOH Well Number	Location	Reported Well Depth
DW-1	NA	8319 East Main Road LeRoy	175 feet
DW-2	NA	8303 East Main Road LeRoy	NA
DW-3	G-29	8361 East Main Road LeRoy	175 feet
DW-4	NA	8392 East Main Road LeRoy	169 feet
DW-5	G-17	8383 East Main Road LeRoy	NA
SW-6 (DW-6)	NA	8334 East Main Road LeRoy	175 feet
DW-7	NA	"Deep" zone of abandoned well 8389 Gulf Road LeRoy	38.7 feet (measured)
DW-7 INT.	NA	"Intermediate" zone 8389 Gulf Road LeRoy	NA

NA indicates Not Applicable

Table 6-4
Lehigh Valley Railroad Derailment Site
Domestic Well Analytical Data - Volatile Organics
December 1992

Compound	DW-1	DW-2	DW-3	DW-4	DW-5	SW-6[1]	DW-7[2]	DW-7 INT	GW-1 (TP4)[3]
Chloromethane						3 J			
Bromomethane									
Vinyl Chloride									
Chloroethane									
Methylene Chloride	+10 U	+10 U	+10 U		+10 U		+10 U	+10 U	
Acetone									
Carbon Disulfide									
1,1-Dichloroethene									
1,1-Dichloroethane									
1,2-Dichloroethene (Total)						+10 U	65	78	5 J
Chloroform									
1,2-Dichloroethane									
2-Butanone									
1,1,1-Trichloroethane									
Carbon Tetrachloride									
Bromodichloromethane									
1,2-Dichloropropane									
Cis-1,3-Dichloropropane									
Trichloroethene							1600D	1700D	32
Dibromochloromethane									
1,1,2-Trichloroethane									
Benzene									
Trans-1,2-Dichloropropene									
Bromoform									
4-Methyl 2-Pentatone									
Tetrachloroethene									
Toluene									
Chlorobenzene									
Ethylbenzene									
Styrene									
Xylene (Total)									
TICs Found	0	0	0	0	0	0	0	0	0

Analysis by NYSDEC ASP 91-1 GC/MS.
Results expressed in μg/l (ppb).
DW, GW indicates Domestic Well, or Groundwater Sample.
D indicates the reported result taken from diluted sample analysis.
J indicates the concentration listed is an estimate.
+ indicates Not Detected by Data Validation due to blank contamination.
[1] SW-6 actually "DW-6"
[2] DW-7 and DW-7 INT indicate "Deep" and "Intermediate" samples from abandoned well.
[3] GW-1 (TP-4) indicates "Groundwater" from Test Pit No. 4.

Table 6-5
Lehigh Valley Railroad Derailment Site
Environmental Analytical Data - Volatile Organics
Round 1-July 1993

Sample ID: / Date Collected:	SPR-4 7/28/93	SPR-11 7/28/93	(1) SPR-11A 7/28/93	SPR-12 7/27/93	SPR-19 7/28/93	(2) SPR-5 7/27/93	SWFH-1 7/27/93	SW-2 7/27/93	SW-14 7/29/93	SW-15 7/29/93	NYSDEC SURFACE WATER STANDARD	SED-15 7/29/93	(3) NYSDEC SEDIMENT CRITERIA
COMPOUND													
Dichlorodifluoromethane	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U		2.6V	
Chloromethane	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U		1.3U	
Bromomethane	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U		1.3U	
Vinyl Chloride	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	0.3GV H(WS)	1.3U	0.7 HHB
Chloroethane	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U		1.3U	
Trichlorofluoromethane	1.0U	1.0U	1.0U	0.6JV	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	5GV H(WS)	1.3U	
Methylene Chloride	1.0U*	1.0U*	1.0U*	80.0U	1.0U*	830.0U*	4.0U*	8.0U*	1.0U*	1.0U*	5GV H(WS)	2.1U*	
1,1-Dichlorethene	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	0.07 H(WS)	1.3U	0.2 HHB
1,1-Dichlorethane	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	5 H(WS)	1.3U	
cis-1,2-Dichloroethene	1.0JV	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	5 H(WS) *	1.3U	
trans-1,2-Dichloroethene	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	5 H(WS) *	1.3U	
Chloroform	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	7 H(WS)	1.3U	
1,2-Dichlorethane	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	0.8 H(WS)	1.3U	7 HHB
1,1,1-Trichloroethane	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	5GV H(WS)	1.3U	
Carbon Tetrachloride	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	0.4 H(WS)	1.3U	6 HHB
Bromodichloromethane	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	50GV H(WS)	1.3U	
1,2-Dichloropropane	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	0.5 H(WS)	1.3U	
cis-1,3-Dichloropropene	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	5 H(WS)	1.3U	
Trichloroethene	50.0 DV	1.0U	0.5JV	83.3V	1.0U	560.0 DV	3.0V	1.0U	2.0V	1.0V	3GV H(WS)	1.3U	20 HHB
Dibromochloromethane	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	50GV H(WS)	1.3U	
2-Chloroethylvinylether	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U		1.3U	
1,1,2-Trichloroethane	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	0.6 H(WS)	1.3U	6 HHB
trans-1,3-Dichloropropene	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	5 H(WS)	1.3U	
Bromoform	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	50GV H(WS)	1.3U	
Tetrachloroethene	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	0.7GV H(WS)	1.3U	8 HHB
1,1,1,2-Tetrachloroethane	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U		1.3U	
1,1,2,2-Tetrachloroethane	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	0.2GV H(WS)	1.3U	3 HHB
Chlorobenzene	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	5 (AN)	1.3U	35 BAT
1,3-Dichlorobenzene	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	5 (ANT) *	0.9JV	120 BAT
1,4-Dichlorobenzene	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	5 (ANT) *	1.3U	120 BAT
1,2-Dichlorobenzene	1.0U	1.0U	1.0U	5.0U	1.0U	50.0U	1.0U	1.0U	1.0U	1.0U	5 (ANT) *	1.3U	120 BAT

NOTES:

1. SPR-11A of Round 1 became SPR-18 in subsequent rounds.
2. SPR-5 of Round 1 is not the same as SPR-5 of the December 1992 sampling. "New" SPR-5 became SPR-20 in subsequent rounds.
3. NYSDEC Sediment Criteria calculated based on 1% organic carbon content.

Analysis by USEPA SW-846, Method 8010.

All results expressed in ug/L (ppb), except SED-I5 which is expressed in ug/kg (ppb).

V indicates that the reported concentration is estimated due to variance from quality control limits.

J indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.

U indicates not detected at the listed quantitation limit.

D indicates that the reported result is from the analysis of a diluted sample.

GV indicates a Guidance Value rather than a standard.

Blank indicates no standard or criteria.

H(WS) indicates a Health (water source) Based Standard.

AN indicates a standard based on propagation of aquatic life.

ANT indicates a standard based on propagation of aquatic life from chemical correlation data.

HHB Indicates human health bioaccumulation based standard.

BAT Indicates benthic aquatic life chronic toxicity based standard.

Table 6-6
Lehigh Valley Railroad Derailment Site
Environmental Samples Analytical Data Summary - Cyanide

Environmental Sample ID	December 1992	Round 1 July 1993	Round 2 Nov. 1993	Round 3 Jan. 1994	Round 4 April 1994	Round 5 July 1994
SPR-3	10.2				10 U	
SPR-4	10 U	10 U	10 U	10 U	10 U	
DUP-1 SPR	10 U					
SPR-5	10 U	10 U*				
SPR-7	10 U				10 U	
SPR-9	10 U					
SPR-10	10 U					
SPR-11	10 U					
SPR-12	10 U					
SPR-13	10 U					
SPR-20			10 U	10 U	10 U	
X-6 (SPR-20)					10 U	
SPR-20A					10 U	
SW-2	10 U	10 U	10 U		10 U	
SW-16					10 U	
SW-17					10 U	
SED-2	4.3 U					6.5 V
SED-3						2.9 UV
SED-6A						7.8 UV
SED-6B						11.8 UV
SED-6C						15.0 UV

All results expressed in μg/L (ppb), except for the SED results, expressed in mg/Kg (ppm).
U indicates not detected at the listed reporting limit.
Blank indicates that cyanide analysis was not performed.
Sample DUP-1 SPR is a blind field duplicate of sample SPR-4 for the 12/92 sampling event
X-6 is a blind field duplicate of sample SPR-20 for the 4/94 sampling event.
* The reported result for SPR- 5 during Round 1 should be for SPR-20.
The NYSDEC surface water standard is 100 μg/L.
V indicates that the reported concentration is estimated due to variance from quality control limits.

Table 6-7
Lehigh Valley Railroad Derailment Site
Spring / Surface Water Analytical Data - Volatile Organics
Round 2 - November 1993

Sample ID:	SPR3	SPR4	SPR12	X01	SPR19	SPRL23S	SWFH1	SW2	NYSDEC Surface Water Standard/GV
Date Collected:	11/9/93	11/9/93	11/9/93	11/9/93	11/9/93	11/8/93	11/9/93	11/8/93	
COMPOUND									
Dichlorodifluoromethane	1.0UV	5.0UV	5.0UV	1.0U	1.0UV	1.0UV	1.0UV	1.0UV	---
Chloromethane	1.0UV	5.0UV	5.0UV	1.0U	1.0U	1.0U	1.0U	1.0U	---
Bromomethane	1.0UV	5.0UV	5.0UV	1.0U	1.0U	1.0U	1.0U	1.0U	---
Vinyl Chloride	1.0UV	5.0UV	5.0UV	1.0U	1.0UV	1.0U	1.0UV	1.0U	0.3GV H(WS)
Chloroethane	1.0UV	5.0UV	5.0UV	1.0U	1.0U	1.0U	1.0U	1.0U	---
Trichlorofluoromethane	1.0UV	4.0DJV	5.0UV	1.0U	1.0U	1.0U	1.0U	1.0U	5GV H(WS)
Methylene Chloride	2.3UV	21UV	22UV	1.0U	1.0UV	1.0UV	1.0UV	1.0UV	5GV H(WS)
1,1-Dichloroethene	1.0UV	5.0UV	5.0UV	1.0U	1.0U	1.0U	0.9J	1.0U	0.07 H(WS)
1,1-Dichloroethane	1.0UV	5.0UV	5.0UV	1.0U	1.0U	1.0U	1.0U	1.0U	5 H(WS)
cis-1,2-Dichloroethene	1.0UV	5.0UV	5.0UV	1.0U	1.0U	1.0U	1.0U	1.0U	5 H(WS) *
trans-1,2-Dichloroethene	1.0U	5.0U	5.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5 H(WS) *
Chloroform	1.0UV	5.0UV	5.0UV	1.0U	1.0U	1.0U	1.0U	1.0U	7 H(WS)
1,2-Dichloroethane	1.0U	5.0U	5.0U	1.0U	1.0U	1.0U	1.0U	1.0U	0.8 H(WS)
1,1,1-Trichloroethane	1.0U	6.0U	5.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5GV H(WS)
Carbon Tetrachloride	1.0U	3.0DJ	5.0U	1.0U	1.0U	1.0U	1.0U	1.0U	0.4 H(WS)
Bromodichloromethane	1.0U	5.0U	5.0U	1.0U	1.0U	1.0U	1.0U	1.0U	50GV H(WS)
1,2-Dichloropropane	1.0U	5.0U	5.0U	1.0U	1.0U	1.0U	1.0U	1.0U	0.5 H(WS)
cis-1,3-Dichloropropene	1.0U	5.0U	5.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5 H(WS)
Trichloroethene	1.0U	98D	99D	86D	1.0U	3.3	1.3U	1.0U	3GV H(WS)
Dibromochlormethane	1.0U	5.0U	5.0U	1.0U	1.0U	1.0U	1.0U	1.0U	50GV H(WS)
2-Chloroethylvinylether	1.0U	5.0U	5.0U	1.0U	1.0UV	1.0U	1.0UV	1.0U	---
1,1,2-Trichloroethane	1.0UV	5.0UV	5.0UV	1.0U	1.0U	1.0UV	1.0U	1.0UV	0.6 H(WS)
trans-1,3-Dichloropropene	1.0UV	5.0UV	5.0UV	1.0U	1.0U	1.0U	1.0U	1.0U	5 H(WS)
Bromoform	1.0U	5.0U	5.0U	1.0U	1.0U	1.0UV	1.0U	1.0UV	50GV H(WS)
Tetrachloroethene	1.0UV	5.0UV	5.0UV	1.0U	1.0U	1.0U	2.6	1.0U	0.7GV H(WS)
1,1,1,2-Tetrachloroethane	1.0UV	5.0UV	5.0UV	1.0U	1.0U	1.0U	1.0U	1.0U	---
1,1,2,2-Tetrachloroethane	1.0UV	5.0UV	5.0UV	1.0U	1.0U	1.0U	1.0U	1.0U	0.2GV H(WS)
Chlorobenzene	1.0U	5.0U	5.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5 (AN)
1,3-Dichlorobenzene	1.0UV	5.0UV	5.0UV	1.0U	1.0U	1.0U	1.0U	1.0U	5 (ANT) *
1,4-Dichlorobenzene	1.0U	5.0U	5.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5 (ANT) *
1,2-Dichlorobenzene	1.0U	5.0U	5.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5 (ANT) *

Analysis by USEPA SW-846, Method 8010.
All results expressed in ug/L (ppb).
V indicates that the reported concentration is estimated due to variance from quality control limits.
J indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.
U indicates not detected at the listed quantitation limit.
D indicates that the reported result is from the analysis of a diluted sample.
B indicates that the compound was also detected in the associated method blank.
GV indicates a Guidance Value rather than a standard.
"---" indicates that there isn't a NYSDEC surface water standard or documented guidance value.
"*" indicates that the concentration listed applies to the sum of the isomers reported.
H(WS) indicates a Health (water source) Based Standard.
AN indicates a standard based on propagation of aquatic life.
ANT indicates a standard based on propagation of aquatic life from chemical correlation data.
Sample X01 is a blind field duplicate of sample SPR12.

Table 6-7
Lehigh Valley Railroad Derailment Site
Surface Water Analytical Data - Volatile Organics
Round 2 - November 1993

Sample ID:	SPR20	NYSDEC
Date Collected:	11/9/93	Surface Water
COMPOUND		Standard/GV
Chloromethane	33U	---
Bromomethane	33U	---
Vinyl Chloride	33U	0.3GV H(WS)
Chloroethane	33U	---
Methylene Chloride	33U	5GV H(WS)
Acetone	36U	50GV
Carbon Disulfide	33U	---
1,1-Dichloroethene	33U	0.07 H(WS)
1,1-Dichloroethane	33U	5 H(WS)
1,2-Dichloroethene (Total)	6DJ	5 H(WS)
Chloroform	33U	7 H(WS)
1,2-Dichloroethane	33U	0.8 H(WS)
2-Butanone	33U	50GV
1,1,1-Trichloroethane	33U	5GV H(WS)
Carbon Tetrachloride	33U	0.4 H(WS)
Bromodichloromethane	33U	50GV H(WS)
1,2-Dichloropropane	33U	0.5 H(WS)
cis-1,2-Dichloropropene	33U	5 H(WS)
Trichloroethene	400D	3GV H(WS)
Dibromochlormethane	33U	50GV H(WS)
1,1,2-Trichloroethane	33U	0.6 H(WS)
Benzene	33U	0.7 H(WS)
trans-1,3-Dichloropropene	33U	5 H(WS)
Bromoform	33U	50GV H(WS)
4-methyl-2-Pentanone	33U	---
2-Hexanone	33U	50GV H(WS)
Tetrachloroethene	33U	0.7GV H(WS)
1,1,2,2-Tetrachloroethane	33U	0.2GV H(WS)
Toluene	33U	5GV H(WS)
Chlorobenzene	33U	5 (AN)
Ethylbenzene	33U	5GV H(WS)
Styrene	33U	50 H(WS)
Xylene (total)	33U	5GV H(WS)

Analysis by NYSDEC ASP 91-1 (GC/MS).
All results expressed in ug/L (ppb).
V indicates that the reported concentration is estimated due to variance from quality control limits.
GV indicates a Guidance Value rather than a standard.
D indicates that the reported result is from the analysis of a diluted sample.
J indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.
"---" indicates that there isn't a NYSDEC surface water standard or documented guidance value.
"*" indicates that the concentration listed applies to the sum of the isomers reported.
U indicates not detected at the listed quantitation limit.
H(WS) indicates a Health (water source) Based Standard.
AN indicates a standard based on propagation of aquatic life.
ANT indicates a standard based on propagation of aquatic life from chemical correlation data.

Table 6-8
Lehigh Valley Railroad Derailment Site
Spring Analytical Data - Volatile Organics
Round 3 - January 1994

Sample ID:	SPR4	SPR11	SPR12	SPR18	SPR20	SPRL23S	NYSDEC Surface Water Standard/GV
Date Collected:	1/18/94	1/18/94	1/18/94	1/18/94	1/18/94	1/18/94	
COMPOUND							
Dichlorodifluoromethane	5U	1.2UV	10UV	1U	50U	1U	---
Chloromethane	5UV	1UV	10UV	1UV	50UV	1UV	---
Bromomethane	5UV	1UV	10UV	1UV	50UV	1UV	---
Vinyl Chloride	5U	1UV	10UV	1U	50U	1U	0.3GV H(WS)
Chloroethane	5U	1U	10U	1UV	50UV	1UV	---
Trichlorofluoromethane	5U	1U	10U	1.7U	50U	1U	5GV H(WS)
Methylene Chloride	5UV	3.5UV	46UV	2.2UV	130UV	2.2UV	5GV H(WS)
1,1-Dichloroethene	5U	1U	10U	1U	50U	1U	0.07 H(WS)
1,1-Dichloroethane	5U	1U	10U	1U	50U	1U	5 H(WS)
cis-1,2-Dichloroethene	5U	1U	10U	1U	50U	1U	5 H(WS) *
trans-1,2-Dichloroethene	5U	1U	10U	1U	50U	1U	5 H(WS) *
Chloroform	5U	1U	10U	1U	50U	1U	7 H(WS)
1,2-Dichloroethane	5U	1U	10U	1U	50U	1U	0.8 H(WS)
1,1,1-Trichloroethane	5UV	1.2U	13U	1U	50U	1U	5GV H(WS)
Carbon Tetrachloride	5U	1U	10U	1U	50U	1U	0.4 H(WS)
Bromodichloromethane	5U	1U	10U	1U	50U	1U	50GV H(WS)
1,2-Dichloropropane	5U	1U	10U	1U	50U	1U	0.5 H(WS)
cis-1,3-Dichloropropene	5U	1U	10U	1U	50U	1U	5 H(WS)
Trichloroethene	66	1U	100	1U	630	4	3GV H(WS)
Dibromochlormethane	5U	1U	10U	1U	50U	1U	50GV H(WS)
2-Chloroethylvinylether	5U	1U	10U	1U	50U	1U	---
1,1,2-Trichloroethane	5U	1U	10U	1U	50U	1U	0.6 H(WS)
trans-1,3-Dichloropropene	5U	1U	10U	1U	50U	1U	5 H(WS)
Bromoform	5U	1U	10U	1U	50U	1U	50GV H(WS)
Tetrachloroethene	5U	1U	10U	1U	50U	1U	0.7GV H(WS)
1,1,1,2-Tetrachloroethane	5U	1U	10U	1U	50U	1U	---
1,1,2,2-Tetrachloroethane	5U	1U	10U	1U	50U	1U	0.2GV H(WS)
Chlorobenzene	5U	1U	10U	1U	50U	1U	5 (AN)
1,3-Dichlorobenzene	5U	1U	10U	1U	50U	1U	5 (ANT) *
1,4-Dichlorobenzene	5U	1U	10U	1U	50U	1U	5 (ANT) *
1,2-Dichlorobenzene	5U	1U	10U	1U	50U	1U	5 (ANT) *

Analysis by USEPA SW-846, Method 8010.
All results expressed in ug/L (ppb).
V indicates that the reported concentration is estimated due to variance from quality control limits.
J indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.
U indicates not detected at the listed quantitation limit.
S indicates that the reported concentration is suspected to be laboratory derived.
D indicates that the reported result is from the analysis of a diluted sample.
B indicates that the compound was also detected in the associated method blank.
GV indicates a Guidance Value rather than a standard.
"---" indicates that there isn't a NYSDEC surface water standard or documented guidance value.
"*" indicates that the concentration listed applies to the sum of the isomers reported.
H(WS) indicates a Health (water source) Based Standard.
AN indicates a standard based on propagation of aquatic life.
ANT indicates a standard based on propagation of aquatic life from chemical correlation data.

Table 6-9
Lehigh Valley Railroad Derailment Site
Spring /Surface Water Analytical Data - Volatile Organics
Round 4 - April 1994

Sample ID:	SPR3	SPR4	SPR7	SPR11	SPR12	SPR18	SPR19	SPR20	X-6	SPR20A	NYSDEC Surface Water
Date Collected:	04/12/94	04/12/94	04/12/94	04/11/94	04/11/94	04/11/94	04/11/94	04/12/94	04/12/94	04/12/94	Standard/GV
COMPOUND											
Dichlorodifluoromethane	25UV	2UV	2UV	1UV	5UV	1UV	1UV	10UV	17UV	5UV	---
Chloromethane	25UV	R	R	1UV	5UV	1UV	1UV	R	R	R	---
Bromomethane	25UV	2UV	2UV	1UV	5UV	1UV	1UV	10UV	17UV	5UV	---
Vinyl Chloride	25UV	2UV	2UV	1U	5U	1U	1UV	10UV	17UV	5UV	0.3GV H(WS)
Chloroethane	25UV	2UV	2UV	1UV	5UV	1UV	1UV	10UV	17UV	5UV	---
Trichlorofluoromethane	25UV	2UV	2UV	1UV	5UV	1UV	1UV	10UV	17UV	5UV	5GV H(WS)
Methylene Chloride	25UV	2UV	4.1UV	1UV	5UV	1UV	1UV	25UV	33UV	9.1UV	5GV H(WS)
1,1-Dichloroethene	25U	2UV	2UV	1UV	5UV	1UV	1U	10UV	17UV	5UV	0.07 H(WS)
1,1-Dichloroethane	25U	2U	2U	1U	5U	1U	1U	10U	17U	5U	5 H(WS)
cis-1,2-Dichloroethene	25U	2U	2U	1U	5U	1U	1U	10U	17U	5U	5 H(WS) *
trans-1,2-Dichloroethene	25U	2UV	2UV	1U	5U	1U	1U	10UV	17UV	5UV	5 H(WS) *
Chloroform	25U	2U	2U	1U	5U	1U	1U	10U	17U	5U	7 H(WS)
1,2-Dichloroethane	25U	2U	2U	1U	5U	1U	1U	10U	17U	5U	0.8 H(WS)
1,1,1-Trichloroethane	13JDS	2UV	2UV	1UV	5UV	1UV	1UV	10UV	17UV	5UV	5GV H(WS)
Carbon Tetrachloride	25U	2U	2U	1U	5U	1U	1U	10U	17U	5.9D	0.4 H(WS)
Bromodichloromethane	25U	2U	2U	1U	5U	1U	1U	10U	17U	5U	50GV H(WS)
1,2-Dichloropropane	25U	2U	2U	1U	5U	1U	1UV	10U	17U	5U	0.5 H(WS)
cis-1,3-Dichloropropene	25U	2U	2U	1U	5U	1U	1U	10U	17U	5U	5 H(WS)
Trichloroethene	270D	40DV	39DV	1UV	64DV	1UV	1UV	150DV	180DV	95DV	3GV H(WS)
Dibromochloromethane	25U	2U	2U	1U	5U	1U	1U	10U	17U	5U	50GV H(WS)
2-Chloroethylvinylether	25U	2U	2U	1U	5U	1U	1U	10U	17U	5U	---
1,1,2-Trichloroethane	25U	2U	2U	1U	5U	1U	1U	10U	17U	5U	0.6 H(WS)
trans-1,3-Dichloropropene	25U	2U	2U	1U	5U	1U	1U	10U	17U	5U	5 H(WS)
Bromoform	25UV	2UV	2UV	1UV	5UV	1UV	1UV	10UV	17UV	5UV	50GV H(WS)
Tetrachloroethene	25U	2UV	2UV	1UV	5UV	1UV	1UV	10UV	17UV	5UV	0.7GV H(WS)
1,1,1,2-Tetrachloroethane	25U	2UV	2UV	1U	5U	1U	1U	10UV	17UV	5UV	---
1,1,2,2-Tetrachloroethane	25U	2UV	2UV	1U	5UV	1U	1UV	10UV	17UV	5UV	0.2GV H(WS)
Chlorobenzene	28DV	2UV	2UV	1UV	5UV	1UV	1UV	10UV	17UV	5.9V	5 (AN)
1,3-Dichlorobenzene	25U	2U	2U	1U	5U	1U	1U	10U	17U	5U	5 (ANT) *
1,4-Dichlorobenzene	25U	2U	2U	1UV	5U	1UV	1U	10U	17U	5U	5 (ANT) *
1,2-Dichlorobenzene	25U	2U	2U	1U	5U	1U	1U	10U	17U	5U	5 (ANT) *

Analysis by USEPA SW-846, Method 8010.
All results expressed in ug/L (ppb).
J indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.
R indicates that the result has been rejected and is unusable due to variance from quality control limits.
S indicates that the reported concentration is suspected to be laboratory derived.
D indicates that the reported result is from the analysis of a diluted sample.
B indicates that the compound was also detected in the associated method blank.

GV indicates a Guidance Value rather than a standard.
"---" indicates that there isn't a NYSDEC surface water standard or documented guidance value.
"*" indicates that the concentration listed applies to the sum of the isomers reported.
H(WS) indicates a Health (water source) Based Standard.
AN indicates a standard based on propagation of aquatic life.
ANT indicates a standard based on propagation of aquatic life from chemical correlation data.
Sample X-6 is a blind field duplicate of sample SPR20.
U indicates not detected at the listed quantitation limit.
V indicates that the reported concentration is estimated due to variance from quality control limits

Table 6-9
Lehigh Valley Railroad Derailment Site
Spring /Surface Water Analytical Data - Volatile Organics
Round 4 - April 1994

Sample ID:	SPR21	SPR22	SPRL23S	SPR24	SPR25	SPR26	SW2	SW16	SW17	SW23	NYSDEC Surface Water Standard/GV
Date Collected:	04/18/94	04/11/94	04/11/94	04/12/94	04/11/94	04/18/94	04/11/94	04/12/94	04/13/94	04/14/94	
COMPOUND											
Dichlorodifluoromethane	100UV	1UV	1UV	1UV	1UV	1UV	1UV	1UV	10UV	1UV	---
Chloromethane	100UV	1UV	1UV	1UV	1UV	1UV	1UV	1UV	10UV	R	---
Bromomethane	100UV	1UV	1UV	1UV	1UV	1UV	1UV	1UV	10UV	1UV	---
Vinyl Chloride	100UV	1U	1U	1UV	1UV	1UV	1UV	1UV	10UV	1U	0.3GV H(WS)
Chloroethane	100UV	1UV	1UV	1UV	1UV	1UV	1UV	1UV	10UV	1UV	---
Trichlorofluoromethane	100UV	0.7JV	1UV	1UV	1UV	1UV	1UV	1UV	10UV	1UV	5GV H(WS)
Methylene Chloride	100UV	0.8JSV	1UV	1UV	7.3UV	1UV	1UV	3.9UV	10UV	2.2UV	5GV H(WS)
1,1-Dichloroethene	100U	1UV	1UV	1U	1U	1U	1U	1U	10U	1U	0.07 H(WS)
1,1-Dichloroethane	100U	1U	1U	1U	1U	1U	1U	1U	10U	1U	5 H(WS)
cis-1,2-Dichloroethene	100U	1U	1U	1U	1UV	1U	1U	1U	10U	1U	5 H(WS) *
trans-1,2-Dichloroethene	100U	1U	1U	1U	1UV	1U	1U	1U	10U	1U	5 H(WS) *
Chloroform	100U	1U	1U	1U	1UV	1U	1U	1U	10U	1U	7 H(WS)
1,2-Dichloroethane	100U	1U	1U	1U	1U	1U	1U	1U	10U	1U	0.8 H(WS)
1,1,1-Trichloroethane	100UV	1UV	1UV	1U	1U	1UV	1UV	1U	10UV	1UV	5GV H(WS)
Carbon Tetrachloride	100U	1U	1U	1U	1U	1U	1U	1U	10UV	1U	0.4 H(WS)
Bromodichloromethane	100U	1U	1U	1U	1U	1U	1U	1U	10U	1U	50GV H(WS)
1,2-Dichloropropane	100U	1U	1U	1U	1U	1U	1UV	1U	10U	1U	0.5 H(WS)
cis-1,3-Dichloropropene	100U	1U	1U	1U	1U	1U	1U	1U	10U	1U	5 H(WS)
Trichloroethene	1900DV	1UV	4.9V	1.7	1U	1UV	3.7V	1U	80DV	1UV	3GV H(WS)
Dibromochloromethane	100U	1U	1U	1U	1U	1U	1U	1U	10U	1U	50GV H(WS)
2-Chloroethylvinylether	100U	1U	1U	1U	1UV	1U	1U	1U	10U	1U	---
1,1,2-Trichloroethane	100UV	1U	1U	1U	1U	1U	1U	1U	10U	1U	0.6 H(WS)
trans-1,3-Dichloropropene	100U	1U	1U	1U	1U	1U	1U	1U	10U	1U	5 H(WS)
Bromoform	100UV	1UV	1UV	1UV	1UV	1UV	1UV	1UV	10UV	1UV	50GV H(WS)
Tetrachloroethene	100UV	1UV	1UV	1U	1U	1UV	1UV	1U	10UV	1UV	0.7GV H(WS)
1,1,1,2-Tetrachloroethane	100UV	1U	1U	1U	1U	1UV	1U	1U	10UV	1U	---
1,1,2,2-Tetrachloroethane	100UV	1UV	1U	1U	1U	1UV	1UV	1U	10UV	1UV	0.2GV H(WS)
Chlorobenzene	100UV	1UV	1UV	1UV	1UV	1UV	1UV	1UV	10UV	1UV	5 (AN)
1,3-Dichlorobenzene	100U	1U	1U	1U	1U	1U	1U	1U	10U	1U	5 (ANT) *
1,4-Dichlorobenzene	100UV	1U	1UV	1U	1U	1U	1U	1U	10UV	1U	5 (ANT) *
1,2-Dichlorobenzene	100U	1U	1U	1U	1U	1U	1U	1U	10U	1U	5 (ANT) *

Analysis by USEPA SW-846, Method 8010.
All results expressed in ug/L (ppb).
J indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.
R indicates that the result has been rejected and is unusable due to variance from quality control limits.
S indicates that the reported concentration is suspected to be laboratory derived.
D indicates that the reported result is from the analysis of a diluted sample.
B indicates that the compound was also detected in the associated method blank.
GV indicates a Guidance Value rather than a standard.
"---" indicates that there isn't a NYSDEC surface water standard or documented guidance value.
"*" indicates that the concentration listed applies to the sum of the isomers reported.
H(WS) indicates a Health (water source) Based Standard.
AN indicates a standard based on propagation of aquatic life.
ANT indicates a standard based on propagation of aquatic life from chemical correlation data.
Sample X-6 is a blind field duplicate of sample SPR20.
U indicates not detected at the listed quantitation limit.
V indicates that the reported concentration is estimated due to variance from quality control limits

Note: The SPR-22 and SPR-25 sampling locations are actually surface water (SW) samples but were labeled in the field as spring (SPR) samples and were identified as such on the chain-of-custody and laboratory reporting forms. Therefore, the SPR designation has been retained.

Table 6-10
Lehigh Valley Railroad Derailment Site
Spring / Surface Water Analytical Data - Volatile Organics
Round 5 - July 1994

Sample ID:	SPR11	SPR12	SPR18	SPR19A	SPRL23S	NYSDEC Surface Water
Date Collected:	7/12/94	7/12/94	7/12/94	7/12/94	7/12/94	
COMPOUND						Standard/GV
Dichlorodifluoromethane	R	R	R	R	R	---
Chloromethane	1.0UV	5.0UV	1.0UV	1.0UV	1.0UV	---
Bromomethane	1.0U	5.0U	1.0U	1.0U	1.0U	---
Vinyl Chloride	1.0UV	5.0UV	1.0UV	1.0UV	1.0UV	0.3GV H(WS)
Chloroethane	1.0UV	5.0UV	1.0UV	1.0UV	1.0UV	---
Trichlorofluoromethane	1.0UV	5.0UV	1.0UV	1.0UV	1.0UV	5GV H(WS)
Methylene Chloride	7.8UV	12UV	1.0UV	1.8UV	1.2UV	5GV H(WS)
1,1-Dichloroethene	1.0UV	5.0UV	1.0UV	1.0UV	1.0UV	0.07 H(WS)
1,1-Dichloroethane	1.0UV	5.0UV	1.0UV	1.0U	1.0UV	5 H(WS)
cis-1,2-Dichloroethene	1.0UV	5.0UV	1.0UV	1.0U	1.0UV	5 H(WS) *
trans-1,2-Dichloroethene	1.0UV	5.0UV	1.0UV	1.0U	1.0UV	5 H(WS) *
Chloroform	1.0UV	5.0UV	1.0UV	1.0U	1.0UV	7 H(WS)
1,2-Dichloroethane	1.0UV	5.0UV	1.0UV	1.0UV	1.0UV	0.8 H(WS)
1,1,1-Trichloroethane	1.0U	5.0U	1.0U	1.0U	1.0U	5GV H(WS)
Carbon Tetrachloride	1.0UV	5.0UV	1.0UV	1.0UV	1.0UV	0.4 H(WS)
Bromodichloromethane	1.0UV	5.0UV	1.0UV	1.0U	1.0UV	50GV H(WS)
1,2-Dichloropropane	1.0UV	5.0UV	1.0UV	1.0U	1.0UV	0.5 H(WS)
cis-1,3-Dichloropropene	1.0UV	5.0UV	1.0UV	1.0U	1.0UV	5 H(WS)
Trichloroethene	1.0UV	46V	0.6JV	0.6J	3.0V	3GV H(WS)
Dibromochlormethane	1.0UV	5.0UV	1.0UV	1.0U	1.0UV	50GV H(WS)
2-Chloroethylvinylether	1.0UV	5.0UV	1.0UV	1.0U	1.0UV	---
1,1,2-Trichloroethane	1.0U	5.0U	1.0U	1.0U	1.0U	0.6 H(WS)
trans-1,3-Dichloropropene	1.0UV	5.0UV	1.0UV	1.0U	1.0UV	5 H(WS)
Bromoform	1.0UV	5.0UV	1.0UV	1.0U	1.0UV	50GV H(WS)
Tetrachloroethene	1.0UV	5.0UV	1.0UV	1.0U	1.0UV	0.7GV H(WS)
1,1,1,2-Tetrachloroethane	1.0UV	5.0UV	1.0UV	1.0U	1.0UV	---
1,1,2,2-Tetrachloroethane	1.0UV	5.0UV	1.0UV	1.0U	1.0UV	0.2GV H(WS)
Chlorobenzene	1.0UV	5.0UV	1.0UV	1.0UV	1.0UV	5 (AN)
1,3-Dichlorobenzene	1.0UV	5.0UV	1.0UV	1.0U	1.0UV	5 (ANT) *
1,4-Dichlorobenzene	1.0U	5.0U	1.0U	1.0U	1.0U	5 (ANT) *
1,2-Dichlorobenzene	1.0UV	5.0UV	1.0UV	1.0U	1.0UV	5 (ANT) *

Analysis by USEPA SW-846, Method 8010.
All results expressed in ug/L (ppb).
R indicates that the reported value is unusable and rejected due to variance from quality control limits.
V indicates that the reported concentration is estimated due to variance from quality control limits.
J indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.
U indicates not detected at the listed quantitation limit.
S indicates that the reported concentration is suspected to be laboratory derived.
D indicates that the reported result is from the analysis of a diluted sample.
B indicates that the compound was also detected in the associated method blank.
GV indicates a Guidance Value rather than a standard.
"---" indicates that there isn't a NYSDEC surface water standard or documented guidance value.
"*" indicates that the concentration listed applies to the sum of the isomers reported.
H(WS) indicates a Health (water source) Based Standard.
AN indicates a standard based on propagation of aquatic life.
ANT indicates a standard based on propagation of aquatic life from chemical correlation data.

Table 6-10
Lehigh Valley Railroad Derailment Site
Spring / Surface Water Analytical Data - Volatile Organics
Round 5 - July 1994

Sample ID:	SPR4	SPR20A	SW6B	SW6C	SW17	NYSDEC Surface Water
Date Collected:	7/19/94	7/19/94	7/19/94	7/19/94	7/19/94	Standard/GV
COMPOUND						
Chloromethane	10U	10U	10U	10U	10U	---
Bromomethane	10U	10U	10U	10U	10U	---
Vinyl Chloride	10U	10U	10U	10U	10U	0.3GV H(WS)
Chloroethane	10U	10U	10U	10U	10U	---
Methylene Chloride	10U	10U	10U	10U	10U	5GV H(WS)
Acetone	10U	10U	10U	10U	10U	50GV H(WS)
Carbon Disulfide	10U	10U	10U	10U	10U	---
1,1-Dichloroethene	10U	10U	10U	10U	10U	0.07 H(WS)
1,1-Dichloroethane	10U	10U	10U	10U	10U	5 H(WS)
1,2-Dichloroethene (Total)	10U	6J	10U	10U	10U	5 H(WS)
Chloroform	10U	10U	10U	10U	10U	7 H(WS)
1,2-Dichloroethane	10U	10U	10U	10U	10U	0.8 H(WS)
2-Butanone	10U	10U	10U	12	10U	---
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	5GV H(WS)
Carbon Tetrachloride	10U	10U	10U	10U	10U	0.4 H(WS)
Bromodichloromethane	10U	10U	10U	10U	10U	50GV H(WS)
1,2-Dichloropropane	10U	10U	10U	10U	10U	0.5 H(WS)
cis-1,2-Dichloropropene	10U	10U	10U	10U	10U	5 H(WS)
Trichloroethene	53V	530DV	29	6J	29	3GV H(WS)
Dibromochloromethane	10U	10U	10U	10U	10U	50GV H(WS)
1,1,2-Trichloroethane	10U	10U	10U	10U	10U	0.6 H(WS)
Benzene	10U	10U	10U	10U	10U	0.7 H(WS)
trans-1,3-Dichloropropene	10U	10U	10U	10U	10U	5 H(WS)
Bromoform	10U	10U	10U	10U	10U	50GV H(WS)
4-Methyl-2-Pentanone	10U	10U	10U	10U	10U	---
2-Hexanone	10U	10U	10U	10U	10U	50GV H(WS)
Tetrachloroethene	10U	10U	10U	10U	10U	0.7GV H(WS)
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	0.2GV H(WS)
Toluene	10U	10U	10U	10U	10U	5GV H(WS)
Chlorobenzene	10U	10U	10U	10U	10U	20 H(WS)
Ethylbenzene	10U	10U	10U	10U	10U	5GV H(WS)
Styrene	10U	10U	10U	10U	10U	50 H(WS)
Xylene (total)	10U	10U	10U	10U	10U	5GV H(WS)
Tentatively Identified Compounds	0	0	0	0	0	NA

Analysis by NYSDEC ASP 91-1 (GC/MS).
All results expressed in ug/L (ppb).
R indicates that the reported value is unusable and rejected due to variance from quality control limits.
V indicates that the reported concentration is estimated due to variance from quality control limits.
J indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.
U indicates not detected at the listed quantitation limit.
S indicates that the reported concentration is suspected to be laboratory derived.
D indicates that the reported result is from the analysis of a diluted sample.
B indicates that the compound was also detected in the associated method blank.
GV indicates a Guidance Value rather than a standard.
"---" indicates that there isn't a NYSDEC surface water standard or documented guidance value.
"*" indicates that the concentration listed applies to the sum of the isomers reported.
H(WS) indicates a Health (water source) Based Standard.
AN indicates a standard based on propagation of aquatic life.
ANT indicates a standard based on propagation of aquatic life from chemical correlation data.
NA indicates Not Applicable

Table 6-11
Lehigh Valley Railroad Derailment Site
Sediment Analytical Data - Volatile Organics
Round 2 - November 1993

Sample ID:	SED14A	SED14B	SED14C	SED14D	NYSDEC Sediment
Date Collected:	11/9/93	11/9/93	11/9/93	11/9/93	Criteria *
COMPOUND					
Chloromethane	43UV	13U	42UV	12U	
Bromomethane	43UV	13U	42UV	12U	
Vinyl Chloride	43UV	13U	42UV	12U	3.48 HH(B)
Chloroethane	43UV	13U	42UV	12U	
Methylene Chloride	44VS	13U	42UV	12U	
Acetone	59VS	15S	42UV	12U	
Carbon Disulfide	43UV	13U	42UV	12U	
1,1-Dichloroethene	43UV	13U	42UV	12U	0.995 HH(B)
1,1-Dichloroethane	43UV	13U	42UV	12U	
1,2-Dichloroethene (Total)	43UV	13U	42UV	12U	
Chloroform	43UV	13U	42UV	12U	
1,2-Dichloroethane	43UV	13U	42UV	12U	34.8 HH(B)
2-Butanone	43UV	13U	42UV	12U	
1,1,1-Trichloroethane	43UV	13U	42UV	12U	
Carbon Tetrachloride	43UV	13U	42UV	12U	29.85 HH(B)
Bromodichloromethane	43UV	13U	42UV	12U	
1,2-Dichloropropane	43UV	13U	42UV	12U	
cis-1,2-Dichloropropene	43UV	13U	42UV	12U	
Trichloroethene	43UV	13U	42UV	12U	99.5 HH(B)
Dibromochlormethane	43UV	13U	42UV	12U	
1,1,2-Trichloroethane	43UV	13U	42UV	12U	29.85 HH(B)
Benzene	43UV	13U	42UV	12U	29.85 HH(B)
trans-1,3-Dichloropropene	43UV	13U	42UV	12U	
Bromoform	43UV	13U	42UV	12U	
4-methyl-2-Pentanone	43UV	13U	42UV	12U	
2-Hexanone	43UV	13U	42UV	12U	
Tetrachloroethene	43UV	13U	42UV	12U	39.8 HH(B)
1,1,2,2-Tetrachloroethane	43UV	13U	42UV	12U	14.93 HH(B)
Toluene	43UV	13U	42UV	12U	
Chlorobenzene	43UV	13U	42UV	12U	174 BAT
Ethylbenzene	43UV	13U	42UV	12U	
Styrene	43UV	13U	42UV	12U	
Xylene (total)	43UV	13U	42UV	12U	
Total Organic Carbon (TOC)	53,000	23,000	100,000	23,000	

Analysis by NYSDEC CLP/ASP, December 1991.
All results expressed in ug/kg (ppb),except TOC which is in mg/kg (ppm).
V indicates that the reported concentration is estimated due to variance from quality control limits.
S indicates that he reported concentration is suspected to be laboratory derived.
U indicates not detected at the listed quantitation limit.
* Calculated based on the average of the total organic carbon results.
HH(B) indicates a human health (bioaccumulation) based standard.
BAT indicates a benthic aquatic life chronic toxicity based standard.

Table 6-12
Lehigh Valley Railroad Derailment Site
Sediment Analytical Data - Volatile Organics
Round 5 - July 1994

Sample ID:	SED2	SED3	SED6A	SED6B	SED6C
Date Collected:	7/18/94	7/19/94	7/19/94	7/19/94	7/19/94
COMPOUND					
Chloromethane	23UV	11U	38UV	50UV	53UV
Bromomethane	23UV	11U	38UV	50UV	53UV
Vinyl Chloride	23UV	11U	38UV	50UV	53UV
Chloroethane	23UV	11U	38UV	50UV	53UV
Methylene Chloride	160UV	42U	96UV	50UV	67UV
Acetone	33UV	11U	66UV	94UV	53UV
Carbon Disulfide	23UV	11U	38UV	50UV	53UV
1,1-Dichloroethene	23UV	11U	38UV	50UV	53UV
1,1-Dichloroethane	23UV	11U	38UV	50UV	53UV
1,2-Dichloroethene (Total)	4JV	11U	58V	90V	19JV
Chloroform	23UV	11U	38UV	50UV	53UV
1,2-Dichloroethane	23UV	11U	38UV	50UV	53UV
2-Butanone	23UV	11U	38UV	36JV	53UV
1,1,1-Trichloroethane	23UV	11U	38UV	50UV	53UV
Carbon Tetrachloride	23UV	11U	38UV	50UV	53UV
Bromodichloromethane	23UV	11U	38UV	50UV	53UV
1,2-Dichloropropane	23UV	11U	38UV	50UV	53UV
cis-1,2-Dichloropropene	23UV	11U	38UV	50UV	53UV
Trichloroethene	5JV	4J	38UV	50UV	53UV
Dibromochloromethane	23UV	11U	38UV	50UV	53UV
1,1,2-Trichloroethane	23UV	11U	38UV	50UV	53UV
Benzene	23UV	11U	38UV	50UV	53UV
trans-1,3-Dichloropropene	23UV	11U	38UV	50UV	53UV
Bromoform	23UV	11U	38UV	50UV	53UV
4-Methyl-2-Pentanone	23UV	11U	38UV	50UV	53UV
2-Hexanone	23UV	11U	38UV	50UV	53UV
Tetrachloroethene	23UV	11U	38UV	50UV	53UV
1,1,2,2-Tetrachloroethane	23UV	11U	38UV	50UV	53UV
Toluene	23UV	11U	38UV	6JV	53UV
Chlorobenzene	23UV	11U	38UV	50UV	53UV
Ethylbenzene	23UV	11U	38UV	50UV	53UV
Styrene	23UV	11U	38UV	50UV	53UV
Xylene (total)	23UV	11U	38UV	50UV	53UV
Tentatively Identified Compounds	1	0	3	0	0

Analysis by NYSDEC ASP 91-1 (GC/MS).
All results expressed in ug/kg (ppb).
J indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.
U indicates not detected at the listed quantitation limit.
D indicates that the reported result is from the analysis of a diluted sample.

Table 6-13G
Lehigh Valley Railroad Derailment Site
Domestic Well (Drinking Water) Analytical Data - Volatile Organics
Round 2 - November 1993
Genesee County

Sample ID: / Date Collected: / COMPOUND	DWG1 11/8/93	FD 11/8/93	DWG2 11/9/93	DWG5S 11/8/93	DWG5D 11/8/93	DWG8 11/8/93	DWG9 11/9/93	DWG10 11/8/93	DWG11 11/8/93	NYSDOH Drinking Water Standard
Dichlorodifluoromethane	100UV	250UV	1.0UV	100UV	50UV	1.0UV	100U	1.0UV	1.0UV	5
Chloromethane	100U	250U	1.0UV	100U	50U	1.0U	100U	1.0U	1.0U	5
Bromomethane	100U	250U	1.0U	100U	50U	1.0UV	100U	1.0UV	1.0UV	5
Vinyl Chloride	100U	250U	1.0UV	100U	50U	1.0U	100U	1.0U	1.0U	2
Chloroethane	100U	250U	1.0U	100U	50U	1.0U	100U	1.0U	1.0U	5
Trichlorofluoromethane	100U	250U	1.0U	100U	50U	1.0U	100U	1.0U	1.0U	5
Methylene Chloride	100UV	760UV	1.0UV	230UV	140UV	1.0UV	100U	1.0UV	1.0UV	5
1,1-Dichloroethene	100U	250U	1.0U	100U	50U	1.0U	100U	1.0U	1.0U	5
1,1-Dichloroethane	100U	250U	1.0U	100U	50U	1.0U	100U	1.0U	1.0U	5
cis-1,2-Dichloroethene	100U	250U	1.0UV	100U	50U	1.0U	100U	1.0U	1.0U	5
trans-1,2-Dichloroethene	100U	250U	1.0U	100U	50U	1.0U	100U	1.0U	1.0U	5
Chloroform	100U	250U	1.0U	100U	50U	1.0UV	100U	1.0UV	1.0UV	5
1,2-Dichloroethane	100U	250U	1.0U	100U	50U	1.0U	100U	1.0U	1.0U	5
1,1,1-Trichloroethane	100U	250U	0.5J	100U	50U	0.6JV	100U	0.5JV	1.1V	5
Carbon Tetrachloride	100U	250U	1.0U	100U	50U	1.0U	100U	1.0U	1.0U	5
Bromodichloromethane	100U	250U	1.0U	100U	50U	1.0U	100U	1.0U	1.0U	100
1,2-Dichloropropane	100U	250U	1.0U	100U	50U	1.0U	100U	1.0U	1.0U	5
cis-1,3-Dichloropropene	100U	250U	1.0U	100U	50U	1.0U	100U	1.0U	1.0U	5
Trichloroethene	2000D	3000D	1.0U	890D	480D	1.0U	1100D	0.9J	7.3	5
Dibromochloromethane	100U	250U	1.0UV	100U	50U	1.0U	100U	1.0U	1.0U	100
2-Chloroethylvinylether	100U	250U	1.0UV	100U	50U	1.0U	100U	1.0U	1.0U	5
1,1,2-Trichloroethane	100UV	250UV	1.0U	100UV	50UV	1.0U	100U	1.0U	1.0U	5
trans-1,3-Dichloropropene	100U	250U	1.0U	100U	50U	1.0U	100U	1.0U	1.0U	5
Bromoform	100UV	250UV	1.0U	100UV	50UV	1.0U	100U	1.0U	1.0U	5
Tetrachloroethene	100U	250U	1.0U	100U	50U	1.0U	100U	1.0U	1.0U	5
1,1,1,2-Tetrachloroethane	100U	250U	1.0U	100U	50U	1.0U	100U	1.0U	1.0U	5
1,1,2,2-Tetrachloroethane	100U	250U	1.0U	100U	50U	1.0UV	100U	1.0UV	1.0UV	5
Chlorobenzene	100U	250U	1.0U	100U	50U	1.0U	100U	1.0U	1.0U	5
1,3-Dichlorobenzene	100U	250U	1.0U	100U	50U	1.0U	100U	1.0U	1.0U	5
1,4-Dichlorobenzene	100U	250U	1.0U	100U	50U	1.0U	100U	1.0U	1.0U	5
1,2-Dichlorobenzene	100U	250U	1.0U	100U	50U	1.0U	100U	1.0U	1.0U	5

Analysis by USEPA SW-846, Method 8010.
All results expressed in ug/L (ppb).
V indicates that the reported concentration is estimated due to variance from quality control limits.
J indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.
U indicates not detected at the listed quantitation limit.
S indicates that the reported concentration is suspected to be laboratory derived.
D indicates that the reported result is from the analysis of a diluted sample.
FD indicates blind field duplicate of sample DWGI.

Table 6-13L
Lehigh Valley Railroad Derailment Site
Domestic Well (Drinking Water) Analytical Data - Volatile Organics
Round 2 - November 1993
Livingston County

Sample ID:	DWL1	DWL2	DWL4	DWL15	DWL23	DWL31	NYSDOH Drinking Water Standard
Date Collected:	11/9/93	11/8/93	11/8/93	11/8/93	11/9/93	11/9/93	
COMPOUND							
Dichlorodifluoromethane	10.0UV	1.0UV	1.0UV	1.0UV	1.0UV	1.0UV	5
Chloromethane	10.0UV	1.0U	1.0U	1.0U	1.0U	1.0U	5
Bromomethane	10.0U	1.0U	1.0U	1.0UV	1.0U	1.0U	5
Vinyl Chloride	10.0UV	1.0U	1.0U	1.0U	1.0UV	1.0UV	2
Chloroethane	10.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5
Trichlorofluoromethane	10.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5
Methylene Chloride	10.0UV	1.0UV	1.0UV	1.0UV	1.0UV	1.0UV	5
1,1-Dichloroethene	10.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5
1,1-Dichloroethane	10.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5
cis-1,2-Dichloroethene	10.0UV	1.0U	1.0U	1.0U	1.0U	1.0U	5
trans-1,2-Dichloroethene	10.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5
Chloroform	10.0U	1.0U	1.0U	1.0UV	1.0U	1.0U	5
1,2-Dichloroethane	10.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5
1,1,1-Trichloroethane	7.7DJ	1.0U	1.0U	1.0UV	0.7J	0.9J	5
Carbon Tetrachloride	10.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5
Bromodichloromethane	10.0U	1.0U	1.0U	1.0U	1.0U	1.0U	100
1,2-Dichloropropane	10.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5
cis-1,3-Dichloropropene	10.0U	1.0U	1.0U	1.0U	1.0UV	1.0UV	5
Trichloroethene	100D	12	1.0U	0.5J	4.4	4.8	5
Dibromochloromethane	10.0UV	1.0U	1.0U	1.0U	1.0U	1.0U	100
2-Chloroethylvinylether	10.0UV	1.0U	1.0U	1.0U	10.0UV	10.0UV	5
1,1,2-Trichloroethane	10.0U	1.0UV	1.0UV	1.0U	1.0U	1.0U	5
trans-1,3-Dichloropropene	10.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5
Bromoform	10.0U	1.0UV	1.0UV	1.0U	1.0U	1.0U	5
Tetrachloroethene	10.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5
1,1,1,2-Tetrachloroethane	10.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5
1,1,2,2-Tetrachloroethane	10.0U	1.0U	1.0U	1.0UV	1.0UV	1.0UV	5
Chlorobenzene	10.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5
1,3-Dichlorobenzene	10.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5
1,4-Dichlorobenzene	10.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5
1,2-Dichlorobenzene	10.0U	1.0U	1.0U	1.0U	1.0U	1.0U	5

Analysis by USEPA SW-846, Method 8010.
All results expressed in ug/L (ppb).
V indicates that the reported concentration is estimated due to variance from quality control limits.
U indicates not detected at the listed quantitation limit.
D indicates that the reported result is from the analysis of a diluted sample.
J indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.

Table 6-13M
Lehigh Valley Railroad Derailment Site
Domestic Well (Drinking Water) Analytical Data - Volatile Organics
Round 2 - November 1993
Monroe County

Sample ID:	DWM1	DWM2	DWM3	DWM13	DWM14	DWM26	DWM27	DWM35	NYSDOH Drinking Water Standard
Date Collected:	11/8/93	11/9/93	11/10/93	11/9/93	11/11/93	11/9/93	11/9/93	11/9/93	
COMPOUND									
Dichlorodifluoromethane	1.0UV	1.0UV	1.0UV	1.0UV	2.0 UV	1.0UV	1.0UV	1.0UV	5
Chloromethane	1.0U	1.0U	1.0UV	1.0U	2.0 UV	1.0U	1.0UV	1.0U	5
Bromomethane	1.0UV	1.0U	1.0U	1.0U	2.0 UV	1.0U	1.0U	1.0U	5
Vinyl Chloride	1.0U	1.0UV	1.0U	1.0UV	2.0 U	1.0UV	1.0UV	1.0UV	2
Chloroethane	1.0U	1.0U	1.0U	1.0U	2.0UV	1.0U	1.0U	1.0U	5
Trichlorofluoromethane	1.0U	0.6J	1.0U	1.0U	2.0 U	0.8J	1.0U	1.1	5
Methylene Chloride	1.0UV	0.8JVS	1.0UV	0.9JVS	2.0 UV	0.7JVS	1.0UV	1.0UV	5
1,1-Dichloroethene	1.0U	1.0U	1.0U	1.0U	2.0 U	1.0U	1.0U	1.0U	5
1,1-Dichloroethane	1.0U	1.0U	1.0U	1.0U	2.0U	1.0U	1.0U	1.0U	5
cis-1,2-Dichloroethene	1.0U	1.0U	1.0U	1.0U	2.0 U	1.0U	1.0UV	1.0U	5
trans-1,2-Dichloroethene	1.0U	1.0U	1.0U	1.0U	2.0 U	1.0U	1.0U	1.0U	5
Chloroform	1.0UV	1.0U	1.0U	1.0U	2.0 UV	1.0U	1.0U	1.0U	5
1,2-Dichloroethane	1.0U	1.0U	1.0U	1.0U	2.0 U	1.0U	1.0U	1.0U	5
1,1,1-Trichloroethane	1.0UV	0.6J	1.0U	1.0U	2.0 U	1.0U	1.0U	1.0U	5
Carbon Tetrachloride	1.0U	1.4	1.0U	1.0U	2.0 U	1.0U	1.0U	1.0U	5
Bromodichloromethane	1.0U	1.0U	1.0U	1.0U	2.0 U	1.0U	1.0U	0.6J	100
1,2-Dichloropropane	1.0U	1.0U	1.0U	1.0U	2.0 U	1.0U	1.0U	1.0U	5
cis-1,3-Dichloropropene	1.0U	1.0UV	1.0U	1.0UV	2.0 U	1.0UV	1.0U	1.0UV	5
Trichloroethene	1.0U	5.3	5.8	6.4	23D	36D	1.0U	20	5
Dibromochloromethane	1.0U	1.0U	1.0U	1.0U	2.0 U	1.0U	1.0UV	1.0U	100
2-Chloroethylvinylether	1.0U	10.0UV	1.0UV	10.0UV	2.0 U	10.0UV	10.0UV	10.0UV	5
1,1,2-Trichloroethane	1.0U	1.0U	1.0U	1.0U	2.0 U	1.0U	1.0U	1.0U	5
trans-1,3-Dichloropropene	1.0U	1.0U	1.0U	1.0U	2.0 U	1.0U	1.0U	1.0U	5
Bromoform	1.0U	1.0U	1.0UV	1.0U	2.0 UV	1.0U	1.0U	1.0U	5
Tetrachloroethene	1.0U	1.0U	1.0U	0.8J	2.0 U	1.0U	1.0U	1.0U	5
1,1,1,2-Tetrachloroethane	1.0U	1.0U	1.0U	1.0U	2.0 U	1.0U	1.0U	1.0U	5
1,1,2,2-Tetrachloroethane	1.0UV	1.0UV	1.0U	1.0UV	2.0 U	1.0UV	1.0U	1.0UV	5
Chlorobenzene	1.0U	1.7	1.0UV	1.0U	2.0 U	1.0U	0.5J	1.0U	5
1,3-Dichlorobenzene	1.0U	1.0U	1.0U	1.0U	2.0 U	1.0U	1.0U	1.0U	5
1,4-Dichlorobenzene	1.0U	1.0U	1.0U	1.0U	2.0 U	1.0U	1.0U	1.0U	5
1,2-Dichlorobenzene	1.0U	1.0U	1.0U	1.0U	2.0 U	1.0U	1.0U	1.0U	5

Analysis by USEPA SW-846, Method 8010.
All results expressed in ug/L (ppb).
V indicates that the reported concentration is estimated due to variance from quality control limits.
U indicates not detected at the listed quantitation limit.
S indicates that the reported concentration is suspected to be laboratory derived.
D indicates that the reported result is from the analysis of a diluted sample.

Table 6-14
Lehigh Valley Railroad Derailment Site
Groundwater Analytical Data Summary - Cyanide

Monitoring Well ID*	Round 2 November 1993	Round 3 January 1994	Round 4 April 1994	Round 5 July 1994
MW1-A	530	10 U	143	15.8
X-1 (Round 3 - MW1-A)		10 U		
MW1-B	10 U	10 U	10 U	
MW1-C	10 U			
X-1 (Round 2 - MW1-C)	10 U			
MW1-D	10 U			
MW2-A	10 U	10 U	10 U	
MW2-B	10 U	10 U		
MW2-C	10 U			
MW2-D	10 U			
MW3-A	10 U			
MW3-B	10 U			
MW3-C	10 U			
MW3-D	10 U			
MW4-A	10 U			10 U
MW4-B	10 U			
MW4-C	10 U			
MW4-D	10 U			
MW5-A	111	10 U	10 U	[29.4]
X-5 (MW5-A)			12.2	
MW5-B	29.6	10 U	10 U	[25.8]
MW5-C	10 U	10 U		
MW5-D	10 U	10 U		
MW6-A		10 U	10 U	
MW6-B	10 U	10 U	10 U	
MW6-C	10 U			
MW6-D	10 U			
MW15-A	192	10 U	82.4	[10 U]
MW15-B	10 U			
MW16-A	10 U		29.8	10 U
MW17-A	10 U			
MW17-B	10 U			
Domestic Well ID**				
G1	11.2	10 U		16.5
FD (G1)	10 U			
G2	10 U	10 U	19.1	13.7
G5S	10 U	10 U	10 U	
G5D	10 U	10 U	10 U	

All results expressed in μg/l (ppb).
U indicates not detected at the listed reporting limit.
Blank indicates that cyanide analysis was not performed.
*The monitoring wells had not been installed at the time of Round 1 sampling (July, 1993).
**No domestic wells were sampled during Round 1.
Samples X-1 and X-5 are blind field duplicates of the samples indicated.
Sample FD is a blind field duplicate of the sample indicated.
The NYSDEC groundwater standard is 100 μg/l; the NYSDOH drinking water standard is 200 μg/l.
[ ] indicates that the result is from resampling in August 1994.

Table 6-15G
Lehigh Valley Railroad Derailment Site
Domestic Well (Drinking Water) Analytical Data - Volatile Organics
Round 3 - January 1994
Genesee County

Sample ID:	DWG1	DWG2	DWG5S	DWG5D	DWG9	DWG10	NYSDOH Drinking Water Standard
Date Collected:	1/17/94	1/17/94	1/17/94	1/24/94	1/17/94	1/17/94	
COMPOUND							
Dichlorodifluoromethane	250UV	33UV	100U	100UV	100UV	20UV	5
Chloromethane	250UV	33UV	100UV	100UV	100UV	20UV	5
Bromomethane	250UV	33U	100U	100UV	100UV	20UV	5
Vinyl Chloride	250UV	33UV	100UV	100U	100UV	20UV	2
Chloroethane	250UV	33U	100U	100U	100UV	20UV	5
Trichlorofluoromethane	250U	33U	130U	100U	100U	20U	5
Methylene Chloride	470UV	91UV	230UV	1600BSDV	210UV	23UV	5
1,1-Dichloroethene	250U	33U	100U	100U	100U	20U	5
1,1-Dichloroethane	250U	33U	100U	100U	100U	20U	5
cis-1,2-Dichloroethene	250U	33U	100U	100U	100U	20U	5
trans-1,2-Dichloroethene	250U	33U	100U	100U	100U	20U	5
Chloroform	250U	33U	100UV	100U	100U	20U	5
1,2-Dichloroethane	250U	33U	100U	100U	100U	20U	5
1,1,1-Trichloroethane	250U	28JDS	110U	100UV	51JDS	20U	5
Carbon Tetrachloride	250U	33U	100U	100U	160DS	20U	5
Bromodichloromethane	250U	33U	100U	100U	100U	20U	100
1,2-Dichloropropane	250U	33U	100U	100U	100U	20U	5
cis-1,3-Dichloropropene	250U	33U	100U	100U	100U	20U	5
Trichloroethene	3100D	540D	1500DV	1300D	1200D	270D	5
Dibromochloromethane	250U	33U	100U	100U	100U	20U	100
2-Chloroethylvinylether	250U	33U	100U	100U	100U	20U	5
1,1,2-Trichloroethane	250U	33U	100U	100U	100U	20U	5
trans-1,3-Dichloropropene	250U	33U	100U	100U	100U	20U	5
Bromoform	250U	33U	100U	100U	100U	20U	5
Tetrachloroethene	250U	34D	100U	100U	100U	20U	5
1,1,1,2-Tetrachloroethane	250U	33U	100U	100U	100U	20U	5
1,1,2,2-Tetrachloroethane	250U	33U	100U	100U	100U	20U	5
Chlorobenzene	250U	33U	100U	190D	140D	20U	5
1,3-Dichlorobenzene	250U	33U	100U	100U	100U	20U	5
1,4-Dichlorobenzene	250U	33U	100U	100U	100U	20U	5
1,2-Dichlorobenzene	250U	33U	100U	100U	100U	20U	5

Analysis by USEPA SW-846, Method 8010.
All results expressed in ug/L (ppb).
V indicates that the reported concentration is estimated due to variance from quality control limits.
J indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.
U indicates not detected at the listed quantitation limit.
S indicates that the reported concentration is suspected to be laboratory derived.
D indicates that the reported result is from the analysis of a diluted sample.
B indicates that the compound was also detected in the associated method blank.

Table 6-15L
Lehigh Valley Railroad Derailment Site
Domestic Well (Drinking Water) Analytical Data - Volitale Organics
Round 3 - January 1994
Livingston County

Sample ID:	DWL1	DWL2	DWL6	DWL10	DWL31	NYSDOH Drinking Water Standard
Date Collected:	1/18/94	1/17/94	1/17/94	1/17/94	1/18/94	
COMPOUND						
Dichlorodifluoromethane	10UV	1U	2.5UV	5	0.8JV	5
Chloromethane	10UV	1UV	2.5UV	1UV	1UV	5
Bromomethane	10U	1U	2.5UV	1U	1UV	5
Vinyl Chloride	10UV	1UV	2.5UV	1UV	1UV	2
Chloroethane	10U	1U	2.5UV	1U	1U	5
Trichlorofluoromethane	10U	1U	2.5U	1U	1UV	5
Methylene Chloride	13UV	1UV	7.6UV	1.5UV	2.7UV	5
1,1-Dichloroethene	10U	1U	2.5U	1U	1U	5
1,1-Dichloroethane	10U	1U	2.5U	1U	1U	5
cis-1,2-Dichloroethene	10U	1U	2.5U	1U	1U	5
trans-1,2-Dichloroethene	10U	1U	2.5U	1U	1U	5
Chloroform	10U	1UV	2.5U	1UV	1U	5
1,2-Dichloroethane	10U	1U	2.5U	1U	1U	5
1,1,1-Trichloroethane	10U	1U	2.5U	1.2U	1U	5
Carbon Tetrachloride	10U	1.5U	2.5U	1U	1U	5
Bromodichloromethane	10U	1U	2.5U	1U	1U	100
1,2-Dichloropropane	10U	0.6J	2.5U	1U	1U	5
cis-1,3-Dichloropropene	10U	1U	2.5U	1U	1U	5
Trichloroethene	100D	18V	29D	7.5V	7	5
Dibromochloromethane	10U	1U	2.5U	1U	1U	100
2-Chloroethylvinylether	10U	1U	2.5U	1U	1U	5
1,1,2-Trichloroethane	10U	1U	2.5U	1U	1U	5
trans-1,3-Dichloropropene	10U	1U	2.5U	1U	1U	5
Bromoform	10U	1U	2.5U	1U	1U	5
Tetrachloroethene	10U	1U	2.5U	1U	1U	5
1,1,1,2-Tetrachloroethane	10U	1U	2.5U	1U	1U	5
1,1,2,2-Tetrachloroethane	10U	1U	2.5U	1U	1U	5
Chlorobenzene	10U	1.7	2.5U	1U	1U	5
1,3-Dichlorobenzene	10U	1U	2.5U	1U	1U	5
1,4-Dichlorobenzene	10U	1U	2.5U	1U	1U	5
1,2-Dichlorobenzene	10U	1U	2.5U	1U	1U	5

Analysis by USEPA SW-846, Method 8010.
All results expressed in ug/L (ppb).
V indicates that the reported concentration is estimated due to variance from quality control limits.
U indicates not detected at the listed quantitation limit.
S indicates that the reported concentration is suspected to be laboratory derived.
D indicates that the reported result is from the analysis of a diluted sample.
J indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.

Table 6-15M
Lehigh Valley Railroad Derailment Site
Domestic Well (Drinking Water) Analytical Data - Volatile Organics
Round 3 - January 1994
Monroe County

Sample ID: / Date Collected: / COMPOUND	DWM1 1/18/94	DWM2 1/18/94	DWM13 1/17/94	DWM26 1/17/94	DWM35 1/17/94	NYSDOH Drinking Water Standard
Dichlorodifluoromethane	1UV	1UV	1UV	5UV	1UV	5
Chloromethane	1UV	1UV	1UV	5UV	1UV	5
Bromomethane	1UV	1UV	1UV	5UV	1UV	5
Vinyl Chloride	1UV	1UV	1UV	5UV	1UV	2
Chloroethane	1U	1U	1UV	5UV	1UV	5
Trichlorofluoromethane	1UV	1UV	1U	5U	1U	5
Methylene Chloride	2.1UV	1.7UV	1.1UV	8.9UV	1UV	5
1,1-Dichloroethene	1U	1U	1U	5U	1U	5
1,1-Dichloroethane	1U	1U	1U	5U	1U	5
cis-1,2-Dichloroethene	1U	1U	1U	5U	1U	5
trans-1,2-Dichloroethene	1U	1U	1U	5U	1U	5
Chloroform	1U	1U	1U	5U	1U	5
1,2-Dichloroethane	1U	1U	1U	5U	1U	5
1,1,1-Trichloroethane	3.5S	1U	1U	5U	1U	5
Carbon Tetrachloride	1U	1U	1U	5U	1U	5
Bromodichloromethane	1U	1U	1U	5U	1U	100
1,2-Dichloropropane	1U	1U	1U	5U	1U	5
cis-1,3-Dichloropropene	1U	1U	1U	5U	1U	5
Trichloroethene	1U	8	6.1	43D	14	5
Dibromochloromethane	1U	1U	1U	5U	1U	100
2-Chloroethylvinylether	1U	1U	1U	5U	1U	5
1,1,2-Trichloroethane	1U	1U	1U	5U	1U	5
trans-1,3-Dichloropropene	1U	1U	1U	5U	1U	5
Bromoform	1U	1U	1U	5U	1U	5
Tetrachloroethene	1U	1U	1U	5U	1U	5
1,1,1,2-Tetrachloroethane	1U	1U	1U	5U	1U	5
1,1,2,2-Tetrachloroethane	1U	1U	1U	5U	1U	5
Chlorobenzene	1U	1U	1U	5U	1U	5
1,3-Dichlorobenzene	1U	1U	1U	5U	1U	5
1,4-Dichlorobenzene	1U	1U	1U	5U	1U	5
1,2-Dichlorobenzene	1U	1U	1U	5U	1U	5

Analysis by USEPA SW-846, Method 8010.
All results expressed in ug/L (ppb).
V indicates that the reported concentration is estimated due to variance from quality control limits.
U indicates not detected at the listed quantitation limit.
S indicates that the reported concentration is suspected to be laboratory derived.
D indicates that the reported result is from the analysis of a diluted sample.

Table 6-16G
Lehigh Valley Railroad Derailment Site
Domestic Well (Drinking Water) Analytical Data - Volatile Organics
Round 4 - April 1994
Genesee County

Sample ID:	DWG2	DWG5S	DWG5D	DWG9	NYSDOH Drinking Water Standard
Date Collected:	4/11/94	4/12/94	4/12/94	4/12/94	
COMPOUND					
Dichlorodifluoromethane	500UV	1UV	2.5UV	40UV	5
Chloromethane	500UV	1UV	2.5UV	40UV	5
Bromomethane	500UV	1UV	2.5UV	40UV	5
Vinyl Chloride	500U	1UV	2.5U	40U	2
Chloroethane	500UV	1UV	2.5UV	40UV	5
Trichlorofluoromethane	500UV	1UV	2.5UV	40UV	5
Methylene Chloride	500UV	1UV	2.5UV	40UV	5
1,1-Dichloroethene	500UV	1U	2.5UV	40UV	5
1,1-Dichloroethane	500U	1U	2.5U	40U	5
cis-1,2-Dichloroethene	500U	1U	2.5U	40U	5
trans-1,2-Dichloroethene	500U	1U	2.5U	40U	5
Chloroform	500U	1U	2.5U	40U	5
1,2-Dichloroethane	500U	1U	2.5U	40U	5
1,1,1-Trichloroethane	500UV	1UV	2.5UV	40UV	5
Carbon Tetrachloride	560D	1U	2.5U	40U	5
Bromodichloromethane	500U	1U	2.5U	40U	100
1,2-Dichloropropane	500U	1UV	2.5U	40U	5
cis-1,3-Dichloropropene	500U	1U	2.5U	40U	5
Trichloroethene	7200DV	16V	45DV	670DV	5
Dibromochloromethane	500U	1U	2.5U	40U	100
2-Chloroethylvinylether	500U	1U	2.5U	40U	5
1,1,2-Trichloroethane	500U	1U	2.5U	40U	5
trans-1,3-Dichloropropene	500U	1U	2.5U	40U	5
Bromoform	500UV	1UV	2.5UV	40UV	5
Tetrachloroethene	500UV	1UV	2.5UV	40UV	5
1,1,1,2-Tetrachloroethane	500U	1U	2.5U	40U	5
1,1,2,2-Tetrachloroethane	500U	1UV	2.5UV	40UV	5
Chlorobenzene	670DV	1UV	2.5UV	40UV	5
1,3-Dichlorobenzene	500U	1U	2.5U	40U	5
1,4-Dichlorobenzene	500UV	1U	2.5U	40U	5
1,2-Dichlorobenzene	500U	1U	2.5U	40U	5

Analysis by USEPA SW-846, Method 8010.
All results expressed in μg/L (ppb).
V indicates that the reported concentration is estimated due to variance from quality control limits.
U indicates not detected at the listed quantitation limit.
D indicates that the reported result is from the analysis of a diluted sample.

Table 6-16L
Lehigh Valley Railroad Derailment Site
Domestic Well (Drinking Water) Analytical Data - Volatile Organics
Round 4 - April 1994
Livingston County

Sample ID:	DWL1	DWL6	DWL23	DWL27	NYSDOH Drinking Water Standard
Date Collected:	4/11/94	4/11/94	4/11/94	4/22/94	
COMPOUND					
Dichlorodifluoromethane	5UV	1UV	1UV	R	5
Chloromethane	5UV	1UV	1UV	2UV	5
Bromomethane	5UV	1UV	1UV	2UV	5
Vinyl Chloride	5U	1U	1UV	2UV	5
Chloroethane	5UV	1UV	1UV	2UV	5
Trichlorofluoromethane	5UV	0.5JSV	1UV	R	5
Methylene Chloride	5UV	1UV	1UV	26UV	5
1,1-Dichloroethene	5UV	1UV	1UV	2UV	5
1,1-Dichloroethane	5U	1U	1U	2U	5
cis-1,2-Dichloroethene	5U	1U	1U	2U	5
trans-1,2-Dichloroethene	5U	1U	1U	2UV	5
Chloroform	5U	1U	1U	2U	5
1,2-Dichloroethane	5U	1U	1U	2U	5
1,1,1-Trichloroethane	5UV	1UV	1UV	2UV	5
Carbon Tetrachloride	5U	1U	1U	2U	5
Bromodichloromethane	5U	1U	1U	2U	100
1,2-Dichloropropane	5U	1U	1U	2U	5
cis-1,3-Dichloropropene	5U	1U	1U	2U	5
Trichloroethene	98DV	15V	7.8V	37DV	5
Dibromochloromethane	5U	1U	1U	2U	100
2-Chloroethylvinylether	5U	1U	1U	2U	5
1,1,2-Trichloroethane	5U	1U	1U	2U	5
trans-1,3-Dichloropropene	5U	1U	1U	2U	5
Bromoform	5UV	1UV	1UV	2UV	5
Tetrachloroethene	5UV	1UV	1UV	2UV	5
1,1,1,2-Tetrachloroethane	5U	1U	1U	2UV	5
1,1,2,2-Tetrachloroethane	5UV	1UV	1U	2UV	5
Chlorobenzene	5UV	1UV	1UV	2UV	5
1,3-Dichlorobenzene	5U	1U	1U	2U	5
1,4-Dichlorobenzene	5U	1U	1U	2U	5
1,2-Dichlorobenzene	5U	1U	1U	2U	5

Analysis by USEPA SW-846, Method 8010.
All results expressed in μg/l (ppb).
V indicates that the reported concentration is estimated due to variance from quality control limits.
U indicates not detected at the listed quantitation limit.
D indicates that the reported result is from the analysis of a diluted sample.
J indicates that the reported concentration is below the laboratory quantitation limit and is estimated.
S indicates that the reported concentration is suspected to be laboratory derived.
R indicates that the result has been rejected and is unusable due to variance from quality control limits.

Table 6-16M
Lehigh Valley Railroad Derailment Site
Domestic Well (Drinking Water) Analytical Data - Volatile Organics
Round 4 - April 1994
Monroe County

Sample ID:	DWM2	DWM13	DWM14	DWM35	NYSDOH Drinking Water Standard
Date Collected:	4/11/94	4/12/94	4/12/94	4/12/94	
COMPOUND					
Dichlorodifluorometh	5UV	5UV	3.3UV	1UV	5
Chloromethane	5UV	5UV	3.3UV	1UV	5
Bromomethane	5UV	5UV	3.3UV	1UV	5
Vinyl Chloride	5U	5UV	3.3UV	1UV	2
Chloroethane	5UV	5UV	3.3UV	1UV	5
Trichlorofluorometha	5UV	5UV	3.3UV	1UV	5
Methylene Chloride	5UV	5UV	13UV	1UV	5
1,1-Dichloroethene	5UV	5U	3.3U	1UV	5
1,1-Dichloroethane	5U	5U	3.3U	1U	5
cis-1,2-Dichloroethen	5U	5U	3.3UV	1U	5
trans-1,2-Dichloroeth	5U	5U	3.3UV	1U	5
Chloroform	5U	5U	3.3UV	1U	5
1,2-Dichloroethane	5U	5U	3.3U	1U	5
1,1,1-Trichloroethane	5.5UV	5UV	3.3U	1UV	5
Carbon Tetrachloride	5U	5U	3.3U	1U	5
Bromodichlorometha	5U	5U	3.3U	1U	100
1,2-Dichloropropane	5U	5UV	3.3U	1U	5
cis-1,3-Dichloroprope	5U	5U	3.3U	1U	5
Trichloroethene	67DV	91DV	49D	16V	5
Dibromochlorometha	5U	5U	3.3U	1U	100
2-Chloroethylvinyleth	5U	5U	3.3UV	1U	5
1,1,2-Trichloroethane	5U	5U	3.3U	1U	5
trans-1,3-Dichloropro	5U	5U	3.3U	1U	5
Bromoform	5UV	5UV	3.3UV	1UV	5
Tetrachloroethene	5UV	5UV	3.3U	1UV	5
1,1,1,2-Tetrachloroet	5U	5U	3.3U	1U	5
1,1,2,2-Tetrachloroet	5U	5UV	3.3U	1U	5
Chlorobenzene	5UV	5UV	3.3UV	1UV	5
1,3-Dichlorobenzene	5U	5U	3.3U	1U	5
1,4-Dichlorobenzene	5UV	5U	3.3U	1U	5
1,2-Dichlorobenzene	5U	5U	3.3U	1U	5

Analysis by USEPA SW-846, Method 8010.
All results expressed in μg/l (ppb).
V indicates that the reported concentration is estimated due to variance from quality control limits.
J indicates that the reported concentration is below the laboratory quantitation limit and is estimated.
U indicates not detected at the listed quantitation limit.
D indicates that the reported result is from the analysis of a diluted sample.

Table 6-17G
Lehigh Valley Railroad Derailment Site
Domestic Well (Drinking Water) Analytical Data - Volatile Organics
Round 5 - July 1994
Genesee County

Sample ID:	DWG1A794*	DWG2A794*	DWG5SA*	DWG5DA*	DWG9*	NYSDOH Drinking Water Standard
Date Collected:	7/14/94	7/14/94	7/11/94	7/11/94	8/17/1994**	
COMPOUND						
Dichlorodifluoromethane	R	R	R	R	R	5
Chloromethane	100UV	50UV	25UV	25UV	50UV	5
Bromomethane	100U	50U	25UV	25UV	50UV	5
Vinyl Chloride	100UV	50UV	25UV	25UV	50UV	2
Chloroethane	100UV	50UV	25UV	25UV	50UV	5
Trichlorofluoromethane	100UV	50UV	27DV	25UV	50UV	5
Methylene Chloride	100UV	50UV	830UV	690UV	72UV	5
1,1-Dichloroethene	100UV	50UV	25UV	25UV	50UV	5
1,1-Dichloroethane	100UV	50UV	25U	25U	50UV	5
cis-1,2-Dichloroethene	100UV	50UV	25U	25U	50UV	5
trans-1,2-Dichloroethene	100UV	50UV	25U	25U	50UV	5
Chloroform	100U	50U	25U	25U	50U	5
1,2-Dichloroethane	100UV	50UV	25U	25U	50U	5
1,1,1-Trichloroethane	100UV	50UV	25U	25U	50UV	5
Carbon Tetrachloride	100UV	50UV	25U	25U	50UV	5
Bromodichloromethane	100UV	50UV	25U	25U	50U	100
1,2-Dichloropropane	100UV	50UV	25U	25U	50U	5
cis-1,3-Dichloropropene	100UV	50UV	25U	25U	50UV	5
Trichloroethene	2000DV	220DV	780D	440D	810D	5
Dibromochloromethane	100UV	50UV	25U	25U	50U	100
2-Chloroethylvinylether	100UV	50UV	25UV	25UV	50UV	5
1,1,2-Trichloroethane	100UV	50UV	25U	25U	50U	5
trans-1,3-Dichloropropene	100UV	50UV	25U	25U	50UV	5
Bromoform	100UV	50UV	25U	25U	50U	5
Tetrachloroethene	100UV	50UV	25U	25U	50U	5
1,1,1,2-Tetrachloroethane	100UV	50UV	25U	25U	50U	5
1,1,2,2-Tetrachloroethane	100UV	50UV	25U	25U	50U	5
Chlorobenzene	100UV	50UV	25UV	25UV	50U	5
1,3-Dichlorobenzene	100UV	50UV	25U	25U	50UV	5
1,4-Dichlorobenzene	100UV	50UV	25U	25U	50UV	5
1,2-Dichlorobenzene	100UV	50UV	25U	25U	50U	5

Analysis by USEPA SW-846, Method 8010.
All results expressed in ug/L (ppb).
R indicates that the reported value is unusable and rejected due to variance from quality control limits.
V indicates that the reported concentration is estimated due to variance from quality control limits.
J indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.
U indicates not detected at the listed quantitation limit.
S indicates that the reported concentration is suspected to be laboratory derived.
D indicates that the reported result is from the analysis of a diluted sample.
B indicates that the compound was also detected in the associated method blank.
* The "A" designation on these wells is relevant to the LVRR O & M project only. These wells are the same as domestic wells DWG1, DWG2, DWG5S, DWG5D and DWG9 of the previous analytical tables.
** This well had to be resampled due to a laboratory error in July 1994.

Table 6-17L
Lehigh Valley Railroad Derailment Site
Domestic Well (Drinking Water) Analytical Data - Volatile Organics
Round 5 - July 1994
Livingston County

Sample ID:	DWL1A*	DWL4A*	DWL14A*	DWL15A*	NYSDOH Drinking Water Standard
Date Collected:	7/11/94	7/11/94	7/11/94	7/11/94	
COMPOUND					
Dichlorodifluoromethane	R	R	R	R	5
Chloromethane	10UV	1.0UV	10UV	1.0UV	5
Bromomethane	10UV	1.0UV	10UV	1.0U	5
Vinyl Chloride	10UV	1.0UV	10UV	1.0UV	2
Chloroethane	10UV	1.0UV	10UV	1.0UV	5
Trichlorofluoromethane	10UV	1.0UV	9.8JDV	1.0UV	5
Methylene Chloride	270UV	17UV	290UV	4.8UV	5
1,1-Dichloroethene	10UV	1.0UV	10UV	1.0UV	5
1,1-Dichloroethane	10U	1.0U	10U	1.0U	5
cis-1,2-Dichloroethene	10U	1.0U	10U	1.0U	5
trans-1,2-Dichloroethene	10U	1.0U	10U	1.0U	5
Chloroform	10U	1.0U	10U	1.0U	5
1,2-Dichloroethane	10U	1.0U	10U	1.0U	5
1,1,1-Trichloroethane	10U	1.0U	10U	1.0U	5
Carbon Tetrachloride	9.0JD	1.0U	10U	1.0U	5
Bromodichloromethane	10U	1.0U	10U	1.0U	100
1,2-Dichloropropane	10U	1.0U	10U	1.0U	5
cis-1,3-Dichloropropene	10U	1.0U	10U	1.0U	5
Trichloroethene	150D	1.0U	140D	1.0U	5
Dibromochloromethane	10U	1.0U	10U	1.0U	100
2-Chloroethylvinylether	10UV	1.0UV	10UV	1.0U	5
1,1,2-Trichloroethane	10U	1.0U	10U	1.0U	5
trans-1,3-Dichloropropene	10U	1.0U	10U	1.0U	5
Bromoform	10U	1.0U	10U	1.0U	5
Tetrachloroethene	10U	1.0U	10U	1.0U	5
1,1,1,2-Tetrachloroethane	10U	1.0U	10U	1.0U	5
1,1,2,2-Tetrachloroethane	10U	1.0U	10U	1.0U	5
Chlorobenzene	10UV	1.0UV	10UV	1.0U	5
1,3-Dichlorobenzene	10U	1.0U	10U	1.0U	5
1,4-Dichlorobenzene	10U	1.0U	10U	1.0U	5
1,2-Dichlorobenzene	10U	1.0U	10U	1.0U	5

Analysis by USEPA SW-846, Method 8010.

All results expressed in ug/L (ppb).

R indicates that the reported value is unusable and rejected due to variance from quality control limits.

V indicates that the reported concentration is estimated due to variance from quality control limits.

U indicates not detected at the listed quantitation limit.

S indicates that the reported concentration is suspected to be laboratory derived.

D indicates that the reported result is from the analysis of a diluted sample.

J indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.

* The "A" designation on these wells is relevant to the LVRR O & M project only. These wells are the same as domestic wells DWL1, DWL4, DML14 and DWL15 of the previous analytical tables.

Table 6-17M
Lehigh Valley Railroad Derailment Site
Domestic Well (Drinking Water) Analytical Data - Volatile Organics
Round 5 - July 1994
Monroe County

	Sample ID:	DWM1A*	DWM4A*	DWM12A*	NYSDOH Drinking Water Standard
COMPOUND	Date Collected:	7/11/94	7/14/94	7/11/94	
Dichlorodifluoromethane		R	R	R	5
Chloromethane		1.0UV	1.0UV	1.0UV	5
Bromomethane		1.0U	1.0U	1.0U	5
Vinyl Chloride		1.0UV	1.0UV	1.0UV	2
Chloroethane		1.0UV	1.0UV	1.0UV	5
Trichlorofluoromethane		1.0UV	1.0UV	1.0UV	5
Methylene Chloride		16UV	4.5UV	4.8UV	5
1,1-Dichloroethene		1.0UV	1.0UV	1.0UV	5
1,1-Dichloroethane		1.0U	1.0UV	1.0U	5
cis-1,2-Dichloroethene		1.0U	1.0UV	1.0U	5
trans-1,2-Dichloroethene		1.0U	1.0UV	1.0U	5
Chloroform		1.0U	1.0UV	1.0U	5
1,2-Dichloroethane		1.0U	1.0UV	1.0U	5
1,1,1-Trichloroethane		1.0U	1.0UV	1.0U	5
Carbon Tetrachloride		1.0U	1.0UV	1.0U	5
Bromodichloromethane		1.0U	1.0UV	1.0U	100
1,2-Dichloropropane		1.0U	1.0UV	1.0U	5
cis-1,3-Dichloropropene		1.0U	1.0UV	1.0U	5
Trichloroethene		1.0U	15V	1.0U	5
Dibromochloromethane		1.0U	1.0UV	1.0U	100
2-Chloroethylvinylether		1.0U	1.0UV	1.0U	5
1,1,2-Trichloroethane		1.0U	1.0UV	1.0U	5
trans-1,3-Dichloropropene		1.0U	1.0UV	1.0U	5
Bromoform		1.0U	1.0UV	1.0U	5
Tetrachloroethene		1.0U	1.0UV	1.0U	5
1,1,1,2-Tetrachloroethane		1.0U	1.0UV	1.0U	5
1,1,2,2-Tetrachloroethane		1.0U	1.0UV	1.0U	5
Chlorobenzene		1.0U	1.0UV	1.0U	5
1,3-Dichlorobenzene		1.0U	1.0UV	1.0U	5
1,4-Dichlorobenzene		1.0U	1.0UV	1.0U	5
1,2-Dichlorobenzene		1.0U	1.0UV	1.0U	5

Analysis by USEPA SW-846, Method 8010.
All results expressed in ug/L (ppb).
R indicates that the reported value is unusable and rejected due to variance from quality control limits.
V indicates that the reported concentration is estimated due to variance from quality control limits.
U indicates not detected at the listed quantitation limit.
S indicates that the reported concentration is suspected to be laboratory derived.
D indicates that the reported result is from the analysis of a diluted sample.
* The "A" designation on these wells is relevant to the LVRR O & M project only. These wells are the same as domestic wells DWM1, DWM4 and DWM12 of the previous analytical Tables.

Table 6-18
Lehigh Valley Railroad Derailment Site
Monitoring Well (Groundwater) Analytical Data Summary
TCE and Related Compounds

Monitoring Well (DC-)	Compound	Round 2 11/93	Round 3 1/94	Round 4 4/94	Round 5 7/94	NYSDEC Groundwater Standard/GV
1A (open hole) Basal Nedrow/ Upper Falkirk	Trichloroethene	16,000 D	1,100 D	58,000 DV	2,000	5
	Cis-1,2-Dichloroethene	NA	100 U	5,000 UV	100 U	5
	Trans-1,2-Dichloroethene	NA	100 U	5,000 UV	100 U	5
	Dichloroethene (Total)	2,000 U	NA	NA	NA	5
	Vinyl Chloride	2,000 U	100 UV	R	100 UV	2
1B Falkirk	Trichloroethene	380 D	370 D	76 D	280V (20V)	5
	Cis-1,2-Dichloroethene	20 U	33 U	10 UV	30 (14)	5
	Trans-1,2-Dichloroethene	20 U	33 U	10 UV	25 U (1U)	5
	Dichloroethene (Total)	NA	NA	NA	NA	5
	Vinyl Chloride	20 U	33U	100 UV	25UV (1UV)	2
1C Upper/Mid Camillus	Trichloroethene	38,000D(43,000D)	520 D	95 DV	88	5
	Cis-1,2-Dichloroethene	NA	33 UV	10 U	10 U	5
	Trans-1,2-Dichloroethene	NA	33 UV	10 UV	10 U	5
	Dichloroethene (Total)	2,000U(5,000U)	NA	NA	NA	5
	Vinyl Chloride	2,000U(5,000U)	33 U	10 U	10 UV	2
1D Lower Camillus	Trichloroethene	9,400 D	1,300 D	780 DV(660 DV)	560	5
	Cis-1,2-Dichloroethene	NA	200 DV	50 U(40U)	50 U	5
	Trans-1,2-Dichloroethene	NA	100 U	50 UV(40UV)	50 U	5
	Dichloroethene (Total)	1,000 U	NA	NA	NA	5
	Vinyl Chloride	1,000 U	100 U	50 U(40U)	50 UV	2
2A (open hole) Clarence	Trichloroethene	800 D	380 BD	550 DV(360DV)	2,500 EV	5
	Cis-1,2-Dichloroethene	140 V	120 D	100 U(59D)	100 U	5
	Trans-1,2-Dichloroethene	10 U	50 U	100 U(20U)	100 U	5
	Dichloroethene (Total)	NA	NA	NA	NA	5
	Vinyl Chloride	10 UV	50 UV	100 U(20U)	100 UV	2
2B Basal Edgecliff/ Mid Falkirk	Trichloroethene	120 D (12)	210 BD	3,100 DV	890	5
	Cis-1,2-Dichloroethene	0.5 JV (1U)	25 U	500 U	50 U	5
	Trans-1,2-Dichloroethene	1 U (1U)	25 U	500 U	50 U	5
	Dichloroethene (Total)	NA	NA	NA	NA	5
	Vinyl Chloride	1 U (1U)	25 UV	500 U	50 UV	2
2C Basal Edgecliff/ Upper Camillus	Trichloroethene	22	9.8 (9.8)	190 DV	1 U	5
	Cis-1,2-Dichloroethene	2.9	1.5 (1.5)	10 U	1 U	5
	Trans-1,2-Dichloroethene	1 U	1 U (1U)	10 U	1 U	5
	Dichloroethene (Total)	NA	NA	NA	NA	5
	Vinyl Chloride	1 U	1UV (1UV)	10 U	1 UV	2
2D Lower Camillus	Trichloroethene	590 D	140 BD	1,800 DV	940 BV (19)	5
	Cis-1,2-Dichloroethene	NA	14	330 D	120 V (3)	5
	Trans-1,2-Dichloroethene	NA	1 J	100 U	50 UV (1U)	5
	Dichloroethene (Total)	42 DJ	NA	NA	NA	5
	Vinyl Chloride	50 U	1 UV	100 U	50 UV (1UV)	2

See Footnotes at the end of the Table for an explanation of symbols used.

Table 6-18
Lehigh Valley Railroad Derailment Site
Monitoring Well (Groundwater) Analytical Data Summary
TCE and Related Compounds

Monitoring Well (DC-)	Compound	Round 2 11/93	Round 3 1/94	Round 4 4/94	Round 5 7/94	NYSDEC Groundwater Standard/GV
3A (open hole) Upper Clarence/ Upper Bois Blanc	Trichloroethene	6.6	2.4	1.8 V	8,600 V	5
	Cis-1,2-Dichloroethene	1 U	1 U	1 U	1,000 UV	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 UV	1,000 UV	5
	Dichloroethene (Total)	NA	NA	NA	NA	5
	Vinyl Chloride	1 U	1 UV	1 U	1,000 UV	2
3B Falkirk	Trichloroethene	990 D(1,000 D)	720 D	490 DV(430DV)	700 V	5
	Cis-1,2-Dichloroethene	50 U (50 U)	50 U	40 U(50U)	50 UV	5
	Trans-1,2-Dichloroethene	50 U (50 U)	50 U	40 UV (50U)	50 UV	5
	Dichloroethene (Total)	NA	NA	NA	NA	5
	Vinyl Chloride	50 U (50 U)	50 UV	R(50UV)	50 UV	2
3C Upper Camillus	Trichloroethene	2.1	40 D	120 DV	8.8 V	5
	Cis-1,2-Dichloroethene	1 U	2 U	10 U	2 UV	5
	Trans-1,2-Dichloroethene	1 U	2 U	10 UV	2 UV	5
	Dichloroethene (Total)	NA	NA	NA	NA	5
	Vinyl Chloride	1 U	1 UV	R	2 UV	2
3D Lower Camillus	Trichloroethene	13	2.9	1 UV	1.1 V	5
	Cis-1,2-Dichloroethene	1 U	1 U	1 U	1 UV	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 UV	1 UV	5
	Dichloroethene (Total)	NA	NA	NA	NA	5
	Vinyl Chloride	1 U	1 UV	R	1 UV	2
4A (open hole) Lower Clarence/ Mid Edgecliff	Trichloroethene	1 U	1 U	1 UV	[1 U]	5
	Cis-1,2-Dichloroethene	1 U	1 U	1 U	[1 U]	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 UV	[1 UV]	5
	Dichloroethene (Total)	NA	NA	NA	[NA]	5
	Vinyl Chloride	1 UV	1 UV	R	[1 UV]	2
4B Basal Edgecliff/ Mid Falkirk	Trichloroethene	1 U	1 U	1 UV	[1 U]	5
	Cis-1,2-Dichloroethene	1 U	1 U	1 U	[1 U]	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 UV	[1 UV]	5
	Dichloroethene (Total)	NA	NA	NA	[NA]	5
	Vinyl Chloride	1 UV	1 UV	R	[1 UV]	2
4C Mid Camillus	Trichloroethene	17	6.7	1 UV	[1 U]	5
	Cis-1,2-Dichloroethene	1 U	1 U	1 U	[1 U]	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 U	[1 UV]	5
	Dichloroethene (Total)	NA	NA	NA	[NA]	5
	Vinyl Chloride	1 UV	1 UV	1 UV	[1 UV]	2
4D Basal Camillus/ Upper Syracuse	Trichloroethene	18 D	1.3	1 UV	[1 U]	5
	Cis-1,2-Dichloroethene	2 U	1 U	1 U	[1 U]	5
	Trans-1,2-Dichloroethene	2 U	1 U	1 UV	[1 UV]	5
	Dichloroethene (Total)	NA	NA	NA	[NA]	5
	Vinyl Chloride	2 UV	1 UV	R	[1 UV]	2

See Footnotes at the end of the Table for an explanation of symbols used.

Table 6-18
Lehigh Valley Railroad Derailment Site
Monitoring Well (Groundwater) Analytical Data Summary
TCE and Related Compounds

Monitoring Well (DC-)	Compound	Round 2 11/93	Round 3 1/94	Round 4 4/94	Round 5 7/94	NYSDEC Groundwater Standard/GV
5A (open hole) Lower Nedrow/ Mid Edgecliff	Trichloroethene	7,300 D	1,600 D	20,000DV(32,000DV)	1,300 EV	5
	Cis-1,2-Dichloroethene	NA	1,000 U	1,000U(2,500U)	NA	5
	Trans-1,2-Dichloroethene	NA	1,000 U	1,000UV(2,500UV)	NA	5
	Dichloroethene (Total)	1,000 U	NA	NA	21 V	5
	Vinyl Chloride	1,000 U	1,000 UV	1,000 UV(R)	10 UV	2
5B Mid Edgecliff/ Mid Falkirk	Trichloroethene	770 D	360 D	120 D	270 EV	5
	Cis-1,2-Dichloroethene	NA	16 JD	10 U	NA	5
	Trans-1,2-Dichloroethene	NA	25 U	10 UV	NA	5
	Dichloroethene (Total)	200 U	NA	NA	2 JV	5
	Vinyl Chloride	200 U	25 U	10 UV	10 UV	2
5C Upper/Mid Camillus	Trichloroethene	470 D	350 D	20	[9.5]	5
	Cis-1,2-Dichloroethene	40 U	25 U	1 U	[3.9]	5
	Trans-1,2-Dichloroethene	40 U	25 U	1 UV	[2.5 UV]	5
	Dichloroethene (Total)	NA	NA	NA	[NA]	5
	Vinyl Chloride	40 UV	25 U	1 UV	[2.5 UV]	2
5D Lower Camillus	Trichloroethene	580 D	81	18	[25 U]	5
	Cis-1,2-Dichloroethene	40 U	NA	1 U	[350 V]	5
	Trans-1,2-Dichloroethene	40 U	NA	1 UV	[25 UV]	5
	Dichloroethene (Total)	NA	2 J	NA	[NA]	5
	Vinyl Chloride	40 UV	10 U	1 UV	[25 UV]	2
6A (open hole) Mid Clarence/ Lower Edgecliff	Trichloroethene	DRY	240 DV	980 DV	510 BV	5
	Cis-1,2-Dichloroethene	DRY	20 UV	50 U	200 UV	5
	Trans-1,2-Dichloroethene	DRY	20 U	50 UV	200 U	5
	Dichloroethene (Total)	DRY	NA	NA	NA	5
	Vinyl Chloride	DRY	20 UV	R	200 UV	2
6B Bois Blanc/ Mid Falkirk	Trichloroethene	1,100 D	2,100 D	480 DV	1,600 BV	5
	Cis-1,2-Dichloroethene	NA	200 U	50 U	100 UV	5
	Trans-1,2-Dichloroethene	NA	200 U	50 U	100 U	5
	Dichloroethene (Total)	200 U	NA	NA	NA	5
	Vinyl Chloride	200 U	200 U	50 U	200 UV	2
6C Upper Camillus	Trichloroethene	1 U	3.6	320 DV	22 BV	5
	Cis-1,2-Dichloroethene	1 U	1 U	2 U	2 UV	5
	Trans-1,2-Dichloroethene	1 U	1 U	2 U	2 U	5
	Dichloroethene (Total)	NA	NA	NA	NA	5
	Vinyl Chloride	1 UV	1 U	2 UV	2 UV	2
6D Lower Camillus	Trichloroethene	26 D	1 UV(4.6V)	4.3 V	1 UV	5
	Cis-1,2-Dichloroethene	6.6 D	1 UV(3.1V)	1 U	0.9 JV	5
	Trans-1,2-Dichloroethene	1 U	1 U(1U)	1 U	1 UV	5
	Dichloroethene (Total)	NA	NA	NA	NA	5
	Vinyl Chloride	5 UV	1 UV(1U)	1 U	1 UV	2

Table 6-18
Lehigh Valley Railroad Derailment Site
Monitoring Well (Groundwater) Analytical Data Summary
TCE and Related Compounds

Monitoring Well (DC-)	Compound	Round 2 11/93	Round 3 1/94	Round 4 4/94	Round 5 7/94	NYSDEC Groundwater Standard/GV
7 (open hole) Basal Nedrow/ Mid Falkirk	Trichloroethene	1 U	NS	1 UV	10 U	5
	Cis-1,2-Dichloroethene	1 U	NS	1 U	10 U	5
	Trans-1,2-Dichloroethene	1 U	NS	1 UV	10 U	5
	Dichloroethene (Total)	NA	NS	NA	NA	5
	Vinyl Chloride	1 U	NS	R	10 U	2
7RA (open hole) Upper Nedrow/ Upper Falkirk	Trichloroethene	DRY	140 BD	8.1 V	130 BV	5
	Cis-1,2-Dichloroethene	DRY	10 U	1 U	10 UV	5
	Trans-1,2-Dichloroethene	DRY	10 U	1 UV	10 UV	5
	Dichloroethene (Total)	DRY	NA	NA	NA	5
	Vinyl Chloride	DRY	10 UV	R	10 UV	2
7RB Falkirk	Trichloroethene	440 D	350 BD	360 DV	490 BEV	5
	Cis-1,2-Dichloroethene	NA	50 U	25 U	20 U	5
	Trans-1,2-Dichloroethene	NA	50 U	25 U	20 UV	5
	Dichloroethene (Total)	33 U	NA	NA	NA	5
	Vinyl Chloride	33 U	50 UV	25 UV	20 UV	2
7RC Mid Camillus	Trichloroethene	130	33 BD	130 DV	27 B	5
	Cis-1,2-Dichloroethene	0.6 JV	2 U	10 U	5 U	5
	Trans-1,2-Dichloroethene	1U	2 U	10 U	5 UV	5
	Dichloroethene (Total)	NA	NA	NA	NA	5
	Vinyl Chloride	1 UV	2 UV	10 UV	5 UV	2
7RD Basal Camillus/ Upper Syracuse	Trichloroethene	1 U	1 U	1 UV	10 U	5
	Cis-1,2-Dichloroethene	1 UV	1 U	1 U	10 U	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 U	10 UV	5
	Dichloroethene (Total)	NA	NA	NA	NA	5
	Vinyl Chloride	1 UV	1 UV	1 UV	10 UV	2
8A (open hole) Lower Clarence/ Upper Scajaquada	Trichloroethene	1 U	1 U	1.8	1 U	5
	Cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 U	1 UV	5
	Dichloroethene (Total)	NA	NA	NA	NA	5
	Vinyl Chloride	1 U	1 U	1 UV	1 UV	2
8B Lower Scajaquada/ Mid Falkirk	Trichloroethene	DRY	DRY	88 DV	DRY	5
	Cis-1,2-Dichloroethene	DRY	DRY	5 U	DRY	5
	Trans-1,2-Dichloroethene	DRY	DRY	5 U	DRY	5
	Dichloroethene (Total)	DRY	DRY	NA	DRY	5
	Vinyl Chloride	DRY	DRY	5 U	DRY	2
8C Basal Falkirk/ Upper Camillus	Trichloroethene	5.2	13 (12)	58 DV	33 BEV	5
	Cis-1,2-Dichloroethene	1 U	1 U (1U)	5 U	1 U	5
	Trans-1,2-Dichloroethene	1 U	1 U(1U)	5 U	1 UV	5
	Dichloroethene (Total)	NA	NA	NA	NA	5
	Vinyl Chloride	1 U	1 U(1U)	5 U	1 UV	2

Table 6-18
Lehigh Valley Railroad Derailment Site
Monitoring Well (Groundwater) Analytical Data Summary
TCE and Related Compounds

Monitoring Well (DC-)	Compound	Round 2 11/93	Round 3 1/94	Round 4 4/94	Round 5 7/94	NYSDEC Groundwater Standard/GV
8D Lower Camillus	Trichloroethene	1 U	1 U	1 U	1 U	5
	Cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 U	1 UV	5
	Dichloroethene (Total)	NA	NA	NA	NA	5
	Vinyl Chloride	1 U	1 U	1 U	1 UV	2
9A Lower Falkirk/ Upper Camillus	Trichloroethene	1.1	16	20 V	[16]	5
	Cis-1,2-Dichloroethene	1 U	1 U	1 U	[1 U]	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 U	[1 UV]	5
	Dichloroethene (Total)	NA	NA	NA	[NA]	5
	Vinyl Chloride	1 U	1 U	1 U	[1 UV]	2
9B Lower Camillus/ Upper Syracuse	Trichloroethene	1 U	8.1	1.9 V	[1 U]	5
	Cis-1,2-Dichloroethene	1 U	1 U	1 U	[1 U]	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 U	[1 UV]	5
	Dichloroethene (Total)	NA	NA	NA	[NA]	5
	Vinyl Chloride	1 U	1 U	1 U	[1 UV]	2
9C Syracuse	Trichloroethene	2.2	2.1	5.9 V	[1 U]	5
	Cis-1,2-Dichloroethene	1 U	1 U	1 U	[1 U]	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 U	[1 UV]	5
	Dichloroethene (Total)	NA	NA	NA	[NA]	5
	Vinyl Chloride	1 U	1 U	1 U	[1 UV]	2
10A (open Hole) Basal Nedrow/ Mid Scajaquada	Trichloroethene	DRY	0.5 J	3.4 V	DRY	5
	Cis-1,2-Dichloroethene	DRY	1 U	1 U	DRY	5
	Trans-1,2-Dichloroethene	DRY	1 U	1 UV	DRY	5
	Dichloroethene (Total)	DRY	NA	NA	DRY	5
	Vinyl Chloride	DRY	1 UV	1 UV	DRY	2
10B Falkirk	Trichloroethene	43 D	38	51 D	[39]	5
	Cis-1,2-Dichloroethene	5 UV	2.5 U	5 U	[2 U]	5
	Trans-1,2-Dichloroethene	5 U	2.5 U	5 UV	[2 UV]	5
	Dichloroethene (Total)	NA	NA	NA	[NA]	5
	Vinyl Chloride	5 U	2.5 UV	5 UV	[2 UV]	2
10C Basal Falkirk/ Upper Camillus	Trichloroethene	20	3.9	2.2 V	6 J	5
	Cis-1,2-Dichloroethene	1 U	1 U	1 U	NA	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 UV	NA	5
	Dichloroethene (Total)	NA	NA	NA	10 U	5
	Vinyl Chloride	1 U	1 UV	R	10 U	2
10D Mid Camillus	Trichloroethene	3.2	0.7 J	1 U	10 U	5
	Cis-1,2-Dichloroethene	1 U	1 U	1 U	NA	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 UV	NA	5
	Dichloroethene (Total)	NA	NA	NA	10 U	5
	Vinyl Chloride	1 U	1 UV	1 UV	10 U	2

See Footnotes at the end of the Table for an explanation of symbols used.

Table 6-18
Lehigh Valley Railroad Derailment Site
Monitoring Well (Groundwater) Analytical Data Summary
TCE and Related Compounds

Monitoring Well (DC-)	Compound	Round 2 11/93	Round 3 1/94	Round 4 4/94	Round 5 7/94	NYSDEC Groundwater Standard/GV
11A Lower Clarence/ Mid Scajaquada	Trichloroethene	1 U	1 U	1 UV	10 U	5
	Cis-1,2-Dichloroethene	1 U	1 U	1 U	NA	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 UV	NA	5
	Dichloroethene (Total)	NA	NA	NA	10 U	5
	Vinyl Chloride	1 U	1 U	1 UV	10 U	2
11B Upper/ Mid Camillus	Trichloroethene	16	1.9	1.1 V	10 U	5
	Cis-1,2-Dichloroethene	1 UV	1 U	1 U	NA	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 UV	NA	5
	Dichloroethene (Total)	NA	NA	NA	10 U	5
	Vinyl Chloride	1 U	1 U	1 UV	10 U	2
12A (open hole) Lower Nedrow/ Bois Blanc	Trichloroethene	1	1	1.9 V	10 U	5
	Cis-1,2-Dichloroethene	1 U	1 U	1 U	NA	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 UV	NA	5
	Dichloroethene (Total)	NA	NA	NA	10 U	5
	Vinyl Chloride	1 U	1 U	1 UV	10 U	2
12B Mid Scajaquada/ Mid Falkirk	Trichloroethene	27 D	37 V(18V)	51 D	46	5
	Cis-1,2-Dichloroethene	5 U	2 U(1U)	5 U	NA	5
	Trans-1,2-Dichloroethene	5 U	2 U(1U)	5 UV	NA	5
	Dichloroethene (Total)	NA	NA	NA	10 U	5
	Vinyl Chloride	5 U	2 U(1U)	5 UV	10 U	2
12C Basal Falkirk/ Upper Camillus	Trichloroethene	80 D	20	19 V	[19]	5
	Cis-1,2-Dichloroethene	5 U	1 U	1 U	[1 U]	5
	Trans-1,2-Dichloroethene	5 U	1 U	1 UV	[1 UV]	5
	Dichloroethene (Total)	NA	NA	NA	[NA]	5
	Vinyl Chloride	5 U	1 U	1 UV	[1 UV]	2
12D Mid Camillus	Trichloroethene	4.4	2.8	2.1 V	1.2	5
	Cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 UV	1 UV	5
	Dichloroethene (Total)	NA	NA	NA	NA	5
	Vinyl Chloride	1 U	1 U	1 UV	1 UV	2
13A Mid Camillus	Trichloroethene	18	26	12 V	19	5
	Cis-1,2-Dichloroethene	1 U	NA	1 U	NA	5
	Trans-1,2-Dichloroethene	1 U	NA	1 U	NA	5
	Dichloroethene (Total)	NA	10 U	NA	10 U	5
	Vinyl Chloride	1 U	10 U	1 U	10 U	2
13B Lower Camillus/ Upper Syracuse	Trichloroethene	23 D	10J	15 V	22	5
	Cis-1,2-Dichloroethene	2 U	NA	1 U	NA	5
	Trans-1,2-Dichloroethene	2 U	NA	1 UV	NA	5
	Dichloroethene (Total)	NA	10 U	NA	10 U	5
	Vinyl Chloride	2 U	10 U	1 U	10 U	2

See Footnotes at the end of the Table for an explanation of symbols used.

Table 6-18
Lehigh Valley Railroad Derailment Site
Monitoring Well (Groundwater) Analytical Data Summary
TCE and Related Compounds

Monitoring Well (DC-)	Compound	Round 2 11/93	Round 3 1/94	Round 4 4/94	Round 5 7/94	NYSDEC Groundwater Standard/GV
14A Falkirk	Trichloroethene	6.4	8.6	8.1	14	5
	Cis-1,2-Dichloroethene	1 U	1 U	1 U	NA	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 U	NA	5
	Dichloroethene (Total)	NA	NA	NA	10 U	5
	Vinyl Chloride	1 U	1 U	1 U	10 U	2
14B Upper Camillus	Trichloroethene	13	8.9	10	[9.6]	5
	Cis-1,2-Dichloroethene	1 U	1 U	1 U	[1 U]	5
	Trans-1,2-Dichloroethene	1 U	1 U	1 U	[1 UV]	5
	Dichloroethene (Total)	NA	NA	NA	[NA]	5
	Vinyl Chloride	1 U	1 U	1 UV	[1 UV]	2
15A (open hole) Basal Nedrow/ Upper Falkirk	Trichloroethene	13,000 D	8,900 D	41,000 DV	6,700 (6,900)	5
	Cis-1,2-Dichloroethene	35 D	500 U	2,500 U	NA	5
	Trans-1,2-Dichloroethene	2 U	500 U	2,500 UV	NA	5
	Dichloroethene (Total)	NA	NA	NA	500 U(1,000U)	5
	Vinyl Chloride	2 U	500 U	2,500 UV	500 U(1,000U)	2
15B Syracuse	Trichloroethene	140 D	93 D	47 DV	[13]	5
	Cis-1,2-Dichloroethene	20 U	35 DV	5 U	[1 U]	5
	Trans-1,2-Dichloroethene	20 U	10 U	5 UV	[1 UV]	5
	Dichloroethene (Total)	NA	NA	NA	[NA]	5
	Vinyl Chloride	20 UV	10 UV	R	[1 UV]	2
16 (open hole) Lower Nedrow/ Upper Falkirk	Trichloroethene	6,800 D	1,200 D	8,500 D	410	5
	Cis-1,2-Dichloroethene	500 U	NA	500 UV	NA	5
	Trans-1,2-Dichloroethene	500 U	NA	500 UV	NA	5
	Dichloroethene (Total)	NA	21 JD	ND	50 U	5
	Vinyl Chloride	500 U	67 U	500 U	50 U	2
17A (open hole) Lower Clarence/ Lower Falkirk	Trichloroethene	1,400 D	1,600 D	620 D	1,200BV(1,300BEV)	5
	Cis-1,2-Dichloroethene	100 U	200 U	50 U	100 V(50UV)	5
	Trans-1,2-Dichloroethene	100 U	200 U	50 U	100 V(50UV)	5
	Dichloroethene (Total)	NA	NA	NA	NA	5
	Vinyl Chloride	100 U	200 U	50 U	100 V(50V)	2
17B Syracuse	Trichloroethene	370 D	110 D	1 UV	480 BV	5
	Cis-1,2-Dichloroethene	20 U	10 U	1 U	25 UV	5
	Trans-1,2-Dichloroethene	20 U	10 U	1 U	25 U	5
	Dichloroethene (Total)	NA	NA	NA	NA	5
	Vinyl Chloride	20 U	10 U	1 U	25 UV	2

All results expressed in μg/l (ppb).

B found in associated blank as well as sample.
D indicates that the reported result is from a diluted sample.
E indicates that the value reported is estimated.
J indicates that reported concentration is below the laboratory quantitation limit.
NA indicates not applicable.
NS indicates no sample taken.
R indicates that the result has been rejected and is unusable due to variance from quality control criteria.
U indicates not detected at the noted detection limit.
V indicates reported concentration is estimated due to variance from quality control limits.
( ) indicates blind duplicate sample.
[ ] indicates that the result is from a resample in August 1994.

Table 6-19
Lehigh Valley Railroad Derailment Site
Spring / Surface Water Analytical Data - TCE
Mud Creek Area

Spring/Surface Water Sampling Point	Initial Dec. 1992	Round 1 July 1993	Round 2 Nov. 1993	Round 3 Jan. 1994	Round 4 April 1994	Round 5 July 1994
SPR-3	190	Dry	1 U	NS	270 D	Dry
SPR-4	62 (65)	50 VD	98 D	66	40 DV	53 V
SPR-7	130	NS	NS	NS	39 DV	NS
SPR-20	NS	560 VD	400 D	630	150 DV (180 DV)	Dry
SPR-20A	NS	NS	NS	NS	95 DV	530 DV
SW-2	NS	1 U	1 U	NS	3.7 V	NS
SW-6B	NS	NS	NS	NS	NS	29
SW-6C	NS	NS	NS	NS	NS	6 J
SW-16	NS	NS	NS	NS	1 U	1 U
SW-17	NS	NS	NS	NS	80 DV	29

All results in μg/l (ppb).
( ) indicates blind field duplicate result.
D indicates the result is from a diluted sample.
J indicates that the reported concentration is below the laboratory quantitation limit and is estimated.
U indicates not detected at the reported concentration.
V indicates that the reported concentration is estimated due to variance from quality control limits.
NS indicates not sampled during this round.

Table 6-20
Lehigh Valley Railroad Derailment Site
Spring / Surface Water Analytical Data - TCE
Spring Creek Area

Spring/Surface Water Sampling Point	Initial Dec. 1992	Round 1 July 1993	Round 2 Nov. 1993	Round 3 Jan. 1994	Round 4 April 1994	Round 5 July 1994
SPR-11	10 U	1 U	NS	1 U	1 UV	1 UV
SPR-12	63	83.3 V	99 D	100	64 DV	46 V
SPR-11A/18	NS	0.5 JV	NS	1 U	1 UV	0.6 JV
SPR-19/19A	NS	1 U	1 U	NS	1 UV	0.6 J
SPR-21	NS	NS	NS	NS	1,900	Dry
SPR-L23S	NS	NS	3.3	4	4.9 V	3.0 V
SPR-26	NS	NS	NA	NS	1 U	Dry
SWFH-1	NS	3 V	1.3 U	NS	NS	NS
SW-14	NS	2 V	NS	NS	NS	NS
SW-15	NS	1 V	NS	NS	NS	NS

All results in μg/l (ppb).
( ) indicates blind field duplicate result.
D indicates the result is from a diluted sample.
J indicates that the reported concentration is below the laboratory quantitation limit and is estimated.
U indicates not detected at the reported concentration.
V indicates that the reported concentration is estimated due to variance from quality control limits.
NS indicates not sampled during this round.

Table 7-1
Lehigh Valley Railroad Derailment Site
Water Level Elevations and TCE Results

Well ID	Geologic Unit(s) Monitored	Round 2 W.L. Elevations	(11/93) TCE Result	Round 3 W.L. Elevations	(1/94) TCE Result	Round 4 W.L. Elevations	(4/94) TCE Result	Round 5 W.L. Elevations	(7/94) TCE Result
DC-1A	Basal Nedrow/Upper Falkirk	716.19	16000D	711.98	1100D	734.19	58000D	717.18	2000
DC-1B	Falkirk	705.42	380D	711.38	370D	732.36	76D	716.24	280(20)
DC-1C	Upper/Mid Camillus	703.99	38000D	711.18	520D	734.25	95DV	715.71	88
DC-1D	Lower Camillus	704.26	9400D	711.55	1300D	734.54	780 DV	716.15	560
DC-2A*	Clarence	744.08	800D	743.58	380BD	746.77	550DV	743.45	2500E
DC-2B	Basal Edgecliff/Mid Falkirk	704.15	120 D (12)	708.89	210BD	722.41	3100DV	711.41	890
DC-2C	Basal Falkirk/Upper Camillus	704.29	22	712.16	9.8(9.8)	736.45	190DV	715.73	ND
DC-2D	Lower Camillus	704.36	590D	712.55	140BD	737.22	1800DV	715.95	940 B (19)
DC-3A	Upper Clarence/Upper Bois Blanc	702.08	6.6	704.52	2.4	731.33	1.8V	708.21	8600
DC-3B	Falkirk	686.27	990D(1000D)	690.43	720D	722.92	490 DV	692.68	700
DC-3C	Upper Camillus	686.04	2.1	692.69	40D	723.16	120 DV	693.55	8.8
DC-3D	Lower Camillus	690.82	13	699.62	2.9	726.59	IUV	701.82	1.1
DC-4A*	Lower Clarence/Mid Edgecliff	725.66	IU	727.80	IU	728.15	IUV	727.63	[IU]
DC-4B	Basal Edgecliff/Mid Falkirk	704.86	IU	709.76	IU	722.50	IUV	712.43	[IU]
DC-4C	Mid Camillus	707.18	17	716.02	6.7	735.12	IUV	716.36	[IU]
DC-4D	Basal Camillus/Upper Syracuse	707.68	18 D	716.69	1.3	738.73	IUV	719.79	[IU]
DC-5A	Lower Nedrow/Mid Edgecliff	721.62	7300D	716.70	1600D	733.61	20000DV	721.55	1300E
DC-5B	Mid Edgecliff/Mid Falkirk	705.67	770D	713.75	360D	734.37	120D	717.01	270E
DC-5C	Upper/Mid Camillus	703.20	470D	711.54	350D	734.62	20	714.36	[9.5]
DC-5D	Lower Camillus	703.21	580D	711.53	81	734.59	18	714.32	[25 U]
DC-6A	Mid Clarence/Lower Edgecliff	DRY	NS	711.75	240DV	727.75	980DV	713.78	510B
DC-6B	Bois Blanc/Mid Falkirk	697.03	1100D	699.51	2100D	725.75	480DV	705.22	1600B
DC-6C	Upper Camillus	701.62	IU	707.98	3.6	730.50	32 DV	709.39	22B
DC-6D	Lower Camillus	701.77	26 D	708.95	IUV(4.6V)	731.72	4.3 V	711.80	IUV
DC-7	Basal Clarence/Mid Falkirk	679.54	ND	NM	NS	725.54	IUV	682.37	10 U
DC-7RA	Upper Nedrow/Upper Falkirk	671.70	DRY	680.10	140BD	718.02	8.1	681.56	130B
DC-7RB	Falkirk	669.67	440D	678.90	350BD	718.49	360DV	681.08	490BE
DC-7RC	Mid Camillus	670.26	130D	679.50	33BD	718.86	130DV	682.70	27B
DC-7RD	Basal Camillus/Upper Syracuse	670.93	IU	679.87	IU	718.80	IUV	682.08	5.2BJ
DC-8A*	Lower Clarence/Upper Scajaquada	724.24	IU	722.32	IU	728.60	1.8	722.53	IU
DC-8B	Lower Scajaquada/Mid Falkirk	DRY	NS	DRY	NS	717.31	88 DV	DRY	NS
DC-8C	Basal Falkirk/Upper Camillus	669.41	5.2	678.17	13(12)	717.26	58 DV	678.96	33BE
DC-8D	Lower Camillus	669.29	IU	677.65	IU	717.32	IUV	678.79	IU

Table 7-1
Lehigh Valley Railroad Derailment Site
Water Level Elevations and TCE Results

Well ID	Geologic Unit(s) Monitored	Round 2 W.L. Elevation	(11/93) TCE Result	Round 3 W.L. Elevation	(1/94) TCE Result	Round 4 W.L. Elevation	(4/94) TCE Result	Round 5 W.L. Elevation	(7/94) TCE Result
DC-9A	Lower Falkirk/Upper Camillus	657.97	1.1	670.52	16	709.27	20 V	672.28	[16]
DC-9B	Lower Camillus/ Upper Syracuse	663.09	IU	670.63	8.1	707.30	1.9 V	672.41	[IU]
DC-9C	Syracuse	663.19	2.2	670.69	2.1	705.94	5.9 V	672.50	[IU]
DC-10A	Basal Nedrow/Mid Scajaquada	DRY	NS	678.89	0.5J	714.83	3.40 V	678.74(7/12)	DRY(7/19)
DC-10B	Falkirk	668.25	43 D	677.11	38	714.71	51.0 D	676.45	[39]
DC-10C	Basal Falkirk/Upper Camillus	668.30	20	677.13	3.9	714.74	2.2 V	676.56	[6J]
DC-10D	Mid Camillus	668.50	3.2	677.41	0.7J	715.00	IU	676.78	[IOU]
DC-11A	Lower Clarence/Mid Scajaquada	669.23	IU	677.77	IU	715.79	IUV	677.46	IOU
DC-11B	Upper/Mid Camillus	668.98	16	677.78	1.9	715.46	1.1	677.45	IOU
DC-12A	Upper Nedrow/Bois Blanc	666.60	1	674.03	1	711.73	1.9 V	673.87	IOU
DC-12B	Mid Scajaquada/Mid Falkirk	662.09	27 D	669.19	37V(18V)	701.03	51 D	669.14	46
DC-12C	Basal Falkirk/Upper Camillus	662.04	80 D	669.10	20	700.85	19 V	669.05	[19]
DC-12D	Mid Camillus	658.09	4.4	665.36	2.8	695.04	2.1 V	665.45	[1.2]
DC-13A	Mid Camillus	636.15	18	638.56	26	644.88	12 V	639.07	19
DC-13B	Lower Camillus/Upper Syracuse	635.46	23 D	636.63	10J	641.32	15 V	636.54	22
DC-14A	Falkirk	646.53	6.4	647.53	8.6	652.62	8.1	647.61	14
DC-14B	Upper Camillus	646.39	13	647.40	8.9	649.37	10	647.50	[9.6]
DC-15A	Basal Nedrow/Upper Falkirk	711.70	13000D	712.71	8900D	734.77	41000DV	715.99	[13]
DC-15B	Syracuse	703.69	140D	711.04	93D	734.20	47DV	713.28	14
DC-16	Lower Nedrow/Upper Falkirk	711.06	6800D	714.25	1200D	733.78	8500D	715.27	410
DC-17A	Lower Clarence/Lower Falkirk	694.54	1400D	695.53	1600D	721.44	620 D	703.15	1200BV(1300BEV)
DC-17B	Syracuse	689.78	370D	697.05	110D	724.74	IUV	699.97	480B

All results expressed in ug/l (ppb).
"NA" indicates analysis not performed.
"ND" indicates not detected.
"NS" indicates not sampled.
"B" indicates that compound was detected in the method blank.
"D" indicates that the result is from a diluted sample.
"J" indicates estimated value, below quantitation limit.
"V" indicates that the reported concentration is estimated, due to variance from quality control limits.
* indicates perched water table.
( ) indicates field duplicate result.
[ ] indicates Round 5 Resample (8/94).

Table 9-1
Lehigh Valley Railroad Derailment Site
Dominant Vegetation Present in Natural Areas
Within One-Half Mile of the Spill Site

Area	Dominant Vegetation
#1 TN2D: Deciduous Forest	Red Oak (Quercus rubra), Shagbark Hickory (Carya ovata), Honeysuckle species (Lonicela species)
#2 TN2D: Deciduous Forest	Sugar Maple (Acer saccharum), Red Oak, White Oak (Quercus alba)
#3 TN1: Successional Shrub Field	Honeysuckle species, Wild Carrot (Daous carota), Grass species, Goldenrod species (Solidago species), Red Oak, White Oak saplings in hedgerows
#4 TC7: Old Quarry	Common Cottonwood (Populus deltoides), Honeysuckle species, Willow species (Salix species), Andropogon species.
#5 TN2D: Deciduous Forest	Red Oak, Sugar Maple, Hop Hornbeam (Carya ostrya)
#6 TN1: Successional Old Field/ Successional Shrub Field	Grass species, Goldenrod species, Andropogen species, Honeysuckle species, Gray-stemmed Dogwood (Cornus foemia)
#7 TN2D/TN1: Deciduous Forest/Successional Shrub Field	White Oak, Red Oak, Sugar Maple, Honeysuckle species, Hawthorn species (Crataegus species)
#8 TN1: Successional Shrub Field	Honeysuckle species, Gray-stemmed Dogwood, Goldenrod species, Red Oak, Sugar Maple
#9 TN2D/TN1: Deciduous Forest/Successional Shrub Field	Quaking Aspen (Populus tremuloides), Common Cottonwood, Honeysuckle species, Gray-stemmed Dogwood

Table 9-2
Lehigh Valley Railroad Derailment Site
Dominant Vegetation Present in Natural Areas
in the Vicinity of Spring Creek

Area	Dominant Vegetation
#1 P2: Coniferous Forested Wetland	Northern White Cedar (Thuga occidentalis), Red Maple (Acer rubrum), Cattail species (Typha species)
#2 P2/P1: Deciduous Forested Wetland/Emergent Wetland	Cattail species, Silky Dogwood (Cornus ammomum), Common Spice Bush, Green Ash (Fraxinus pennsylvanica)
#3 P2 Deciduous Forested Wetland	Common Cottonwood (Populus deltoides), American Elm (Ulmus americana), Common Spice Bush (Lindero benzoin)
#4 P2: Deciduous Forested Wetland	White Oak (Quercus alba), Swamp White Oak (Quercus biedor), Red Maple, Green Ash, American Elm, Common Spice Bush

Table 9-3
Lehigh Valley Railroad Derailment Site
Fish Species That Could Potentially Utilize Habitats Within One-Half Mile of the Site or Habitats Associated with Spring Creek

COMMON NAME	GENUS AND SPECIES
Rock Bass	Ambloplites rupestris
Largemouth Bass	Micropterus salmoides
Smallmouth Bass	Micropterus dolomieui
Bluegill	Lepomis macrochirus
Brown Bullhead	Ictalurus nebulosus
Creek Chub	Semotilus astromaculatus
Pearl Dace	Semotilus margarita
Blacknose Dace	Rhinichthys atratulus
Longnose Dace	Rhinichtys cataractae
Fantail Darter	Etheostoma flabellare
Greenside Darter	Etheostoma blennioides
Nothern Hogsucker	Hypentelium nigricans
Banded Killfish	Fundulus diaphanus
Bluntnose Minnow	Pimephales notatus
Fathead Minnow	Pimephales promelas
Yellow Perch	Perca flavescens
Chain Pickerel	Esox niger
Pumpkinseed	Lepomis gibbosus
Blacknose Shiner	Notropis heterolepis
Golden Shiner	Notemigonus crysoleucas
Spottail Shiner	Notropis hudsonius
Common Shiner	Notropis cornutus
Brook Stickleback	Culaea inconstans
White Sucker	Catostomus commersoni
Brook Trout	Salvelinus fontinalis
Brown Trout	Salmo trutta
Rainbow Trout	Salmo gairdnieri

Table 9-4
Lehigh Valley Railroad Derailment Site
Mammal/Amphibian/Reptile Species That Could Potentially Utilize Habitats Within One-Half Mile of the Site or Habitats Associated with Spring Creek

COMMON NAME	GENUS AND SPECIES
Mammals	
Big Brown Bat	Eptesicus fuscus
Beaver	Custor canadensis
Bobcat	Lynx rufus
Eastern Cottontail	Sylvilagus floridanus
White-tailed Deer	Odocoileus virginiana
Ermine	Mustella erminea
Red Fox	Vulpes vulpes
Mink	Mustella vison
Hairy-tailed Mole	Parascalops brewri
Star-nosed Mole	Condylura cristata
Deer Mouse	Peromyscus maniculatus
House Mouse	Mus musculus
Meadow Jumping Mouse	Zapus hudsonius
Woodland Jumping Mouse	Napaeozapus insignis
Muskrat	Ondatra zibethica
Keen's Myotis	Myotis keenii
Little Brown Myotis	Myotis lucifugus
Virginia Opossum	Didelphis virginiana
Raccoon	Procyon lotor
Norway Rat	Rattus norvegicus
Northern Short-tailed Shrew	Blarina brevicauda
Striped Skunk	Mephitis mephitis
Gray Squirrel	Sciurus carolinensis
Meadow Vole	Microtus pennsylvanicus
Southern Red-backed Vole	Clethrionomys gapperi
Woodland Vole	Microtus pinetroum
Long-tailed Weasel	Mustella frenata
Woodchuck	Marmota monax

Table 9-4
Lehigh Valley Railroad Derailment Site
Mammal/Amphibian/Reptile Species That Could Potentially Utilize Habitats Within One-Half Mile of the Site or Habitats Associated with Spring Creek

COMMON NAME	GENUS AND SPECIES
Amphibians/Reptiles	
Bull Frog	Rana catesbeiana
Green Frog	Rana clamitans
Pickerel Frog	Rana palustris
Wood Frog	Rana sylvatica
Eastern Newt	Notophthalmus viridescens
Spring Peeper	Hyla crucifer
Four-Toed Salamander	Ambystoma mulculatum
Brown Snake	Storeria dekayi
Eastern Ribbon Snake	Thammophis sauritus
Northern Water Snake	Nerodia sipedon
Redbelly Snake	Storeria occipitmaculata
Bog Turtle	Clemmys muhlenbergi
Painted Turtle	Chrysemys picta
Snapping Turtle	Chetydra serapentina
Spotted Turtle	Clemmys guttata

Table 9-5
Lehigh Valley Railroad Derailment Site
Bird Species That Could Potentially Utilize Habitats Within One-Half Mile of the Site or Habitats Associated with Spring Creek

COMMON NAME	GENUS AND SPECIES
Red-winged Blackbird	Agelaius phoneniceus
Northern Cardinal	Cardinalis cardinalis
Black-capped Chickadee	Parus atricapillus
Brown-headed Cowbird	Molothrus ater
American Crow	Corvus brachyrhynchos
Mourning Dove	Zenaida macroura
Rock Dove	Columba livia
American Black Duck	Anas rubripes
American Goldfinch	Carduelis trustis
Canada Goose	Branta canadensis
Common Grackle	Quiscalus guiscula
Ruffed Grouse	Bonasa umbellus
Red-tailed Hawk	Buteo jamaicensis
Copper's Hawk	Accipiter cooperii
Ruby-throated Hummingbird	Archilochus colubris
Blue Jay	Cyanocitta cristata
American Kestrel	Falco sparverius
Killdeer	Charadrius vociferus
Mallard	Anas platyrhynchos
Common Nighthawk	Chordeiles minor
White-breasted Nuthatch	Sitta carolinensis
Screech Owl	Otus asio
Common Barn Owl	Tyto alba
Great-horned Owl	Dubo virginianus
Eastern Phoebe	Sayonis phoebe
American Robin	Turdus migratorius
Spotted Sandpiper	Actitis macularia
Song Sparrow	Melospiza melodia
House Sparrow	Passer domesticus
European Starling	Stumus vulgaris
Barn Swallow	Hirudo rustica
Rough-winged Swallow	Stelgidoptery ruficollis
Chimney Swift	Chaetura pelagica
Blue-winged Teal	Anas discors
Wild Turkey	Meleagris gallopavo
Yellow Warbler	Dendroica petechia
Cedar Waxwing	Bronbycila cedrorum
Downy Woodpecker	Picoides pubescens
House Wren	Troglodytes aedon
Common Yellowthroat	Geothypis trichas

Table 9-6
Lehigh Valley Railroad Derailment Site
Summary of Trichloroethene & 1,2-dichloroethene Aquatic Toxicity and Calculated Guidance Values

SPECIES	Trichloroethene LC50/EC50 (μg/l)	Calculated Guidance Value Using NYSDEC Specified 0.03 Application Factor (μg/l)
Fathead Minnow (Pimephules promelus)	40,700	1,200
Fathead Minnow	66,800	2,004
Fathead Minnow	21,900	657
Fathead Minnow	18,000	540
Fathead Minnow	45,000	1,350
Rainbow Trout	42,000	1,260
Mexican Salamander (Ambystoma mexicanum)	48,000	1,440
Clawed Toad (Xenopus laevis)	45,000	1,350
Mayfly (Cloeon dipterum)	42,000	1,260
Stonefly (Nemoura cinerea)	70,000	2,100
Aquatic Sowbug (Asellus aquaticus)	30,000	900
Waterflea (Daphnia magna)	18,000	540
Scud (Gammarus pulex)	24,000	720
Flatworm (Dugesia lugubris)	42,000	1,260
Great Pond Snail (Lymnae stagnulis)	56,000	1,680
	Average	**≅ 1,217 μg/l**

SPECIES	Cis-1,2-dichloroethene LC50 μg/l	Calculated Guidance Value using NYSDEC Specified 0.03 Application Factor
Bluegill Sunfish (Lepomis macrochirus)	135,000	4,050 μg/l

Table 9-7
Lehigh Valley Railroad Derailment Site
Mud Creek Drainageway Spring/Surface Water Analytical Data

SAMPLE	DATE	TCE	Cis-1,2-DCE	Vinyl Chloride	Cyanide
SPR 3	12/92	190	< 10	< 10	10.2
SPR 3	11/93	< 1	< 1V	< 1V	NA
SPR 3	4/94	270	< 25 V	< 25 V	< 10
SPR 4	12/92	62	< 10	< 10	< 10
SPR 4	7/93	50 DV	1.0 JV	< 1	< 10
SPR 4	11/93	98 D	< 5 V	< 5V	< 10
SPR 4	1/94	66	< 5	< 5	< 10
SPR 4	4/94	40 DV	< 2	< 2	< 10
SPR 4	7/94	53	< 10	< 10	< 10
SPR 7	12/92	130	< 10	< 10	< 10
SPR 7	4/94	39 DV	< 2	< 2 V	< 10
SPR 20	7/93	560 DV	< 50	< 50	< 10
SPR 20	11/93	400 D	6 DJ	< 33	< 10
SPR 20	1/94	630	< 50	< 50	< 10
SPR 20	4/94	150 DV	< 10	< 10V	< 10
SPR 20A	4/94	95 DV	< 5	< 5 V	< 10
SPR 20A	7/94	530 D	6 J	< 10	NA
SW-2	12/92	< 10	< 10	< 10	< 10
SW-2	7/93	< 1	< 1	< 1	< 10
SW-2	11/93	< 1	< 1	< 1	< 10
SW-2	4/94	3.7 V	< 1	< 1	< 10
SW-6B	7/94	29	< 10	< 10	NA
SW-6C	7/94	6 J	< 10	< 10	NA
NYSDEC Surface Water Standard		11 H(B), GV	5 H(WS), GV	03 H(WS), GV	5.2 (A)
NYSDEC Calculated Guidance Value Per 702.10 (d) (2)		1217	4,050	NC	NC

All values expressed in µg/l.

A = Aquatic Based Standard
D = Result from a Diluted Sample
GV = Guidance Value
H(B) = Human Health Bioaccumulation Based Standard
H(WS) = Human Health Water Based Standard
J = Indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.
NA = Not Analyzed
NC = No Criteria
V = Indicates that the reported concentration is estimated due to variance from quality control limits.

Table 9-8
Lehigh Valley Railroad Derailment Site
Mud Creek Drainageway Sediment Analytical Data

SAMPLE	DATE	TCE	Cis-1,2-DCE	Vinyl	Cyanide	TOC %
SED 1	12/92	8 JV	< 15	< 15	< 3,400	NA
SED 2	12/92	71 V	10 JV	< 16	< 4,300	NA
SED 6	12/92	12	7 J	< 11	< 2,500	NA
SED 8	12/92	< 12	< 12	< 12	< 2,500	NA
SED 6A	7/94	< 38	58	< 38	< 7,800	16
SED 6B	7/94	< 50	90	< 50	< 11,800	15
SED 6C	7/94	< 53	19 J	< 53	< 15,000	15
SED 2	7/94	5 J	4 J	< 23	6,500	24
SED 3	7/94	4 J	< 11	< 11	< 2,900	4.9
Derived Sediment Criteria, Human Health Bioaccumulation Based		46	-	-	-	-
Derived Sediment Criteria, Fish Propagation & Survival Based		5458	6,707	-	-	-

All results expressed in μg/kg (ppb), except TOC which is expressed in percent

J = indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.

NA = indicates not analyzed.

V = indicates that the reported concentration is estimated due to variance from quality control limits.

- = not applicable

Table 9-9
Lehigh Valley Railroad Derailment Site
Spring Creek Drainageway
Spring/Surface Water Analytical Data

SAMPLE	DATE	TCE	Cis-1,2-DCE	Vinyl Chloride	Cyanide
SPR-11	12/92	< 10	< 10	< 10	< 10
SPR-11	7/93	< 1	< 1	< 1	NA
SPR-11	1/94	< 1	< 1	< 1	NA
SPR-11	4/94	< 1V	< 1	< 1	NA
SPR-11	7/94	< 1	< 1	< 1	NA
SPR 12	7/93	83.3	< 5	< 5	NA
SPR 12	11/93	99 D	< 5 V	< 5 V	NA
SPR 12	12/92	63	< 10	< 10	< 10
SPR 12	1/94	100	< 10	< 10 V	NA
SPR 12	4/94	64 DV	< 5	< 5	NA
SPR 12	7/94	46	< 5	< 5	NA
SPR 18	1/94	< 1	< 1	< 1	NA
SPR 18	4/94	< 1 V	< 1	< 1	NA
SPR 18	7/94	0.6 J	< 1	< 1	NA
SPR 21	4/94	1,900 DV	< 100	< 10 V	NA
SPR L-23S	1/94	4	< 1	< 1	NA
SPR L-23S	4/94	4.9 V	< 1	< 1	NA
SPR L-23S	7/94	3.0	< 1	< 1	NA
SPR L-23S	11/93	3.3	< 1	< 1	NA
SPR 26	4/94	< 1 V	< 1	< 1 V	NA
SW FH1	7/93	3 V	< 1	< 1	NA
SW FH1	11/93	< 1.3	< 1	< 1 V	NA
SW-14	7/93	2.0	< 1	< 1	NA
SW-14	12/92	2 J	< 10	< 10	< 10
SW-15	7/93	1.0 V	< 1	< 1	NA
NYSDEC Calculated Guidance Value per 702.10 (d) (2)		1217	4,050	NC	NC
NYSDEC Surface Water Standard		11 H(B), GV	5 H(WS), GV	0.3 H(WS), GV	5.2 (A)

All values expressed in µg/l.

A = Aquatic Based Standard
D = Result from a Diluted Sample
GV = Guidance Value
H(B) = Human Health Bioaccumulation Based Standard
H(WS) = Human Health Water Based Standard
J = Indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.
NA = Not Analyzed
NC = No Criteria
V = Indicates that the reported concentration is estimated due to variance from quality control limits.

Table 9-10
Lehigh Valley Railroad Derailment Site
Spring Creek Drainageway
Sediment Analytical Data

SAMPLE	DATE	TCE	Cis-1,2-DCE	Vinyl Chloride	Cyanide	TOC %
SED 14	12/92	170 V	< 16 V	< 16 V	< 8 V	NA
SED 15	7/93	< 1.3	< 1.3	< 1.3	NA	NA
SED 14A (0"-6")	11/93	< 43 V	< 43 V	< 43 V	NA	5.3
SED 14B (12"-18")	11/93	< 13	< 13	< 13	NA	2.3
SED 14C (0"-6")	11/93	< 42 V	< 42 V	< 42 V	NA	10
SED 14D (12"-18")	11/93	< 12	< 12	< 12	NA	2.3
Derived Sediment Criteria, Human Health Bioaccumulation Based		46	-	-	-	-
Derived Sediment Criteria, Fish Propagation & Survival Based		5458	6,707	-	-	-

All results expressed in μg/kg (ppb), except TOC which is expressed in percent

J = indicates that the reported concentration is below the laboratory quantitation limit and is, therefore, estimated.

NA = indicates not analyzed.

V = indicates that the reported concentration is estimated due to variance from quality control limits.

- = not applicable.

Table 10-1
Lehigh Valley Railroad Derailment Site
Location-Specific SCGs

State Requirement	Synopsis	Consideration
Floodplain Management Regulations (6 NYCRR Part 500)	These regulations protect areas of special flood hazard, related erosion hazard, or special mud slide hazard.	Not Applicable
Use and Protection ot Waters (6 NYCRR Part 608; ECL 15-0501 and 15-0505)	Under this regulation, a permit is required to change, modify, or disturb any protected stream, its bed or banks, sand, gravel, or any other material; or to excavate or place fill in any of the navigable waters or in any marsh, estuary or wetland, contiguous to any of the navigable waters of the State. Before granting a permit, NYSDEC shall ascertain the probable effect on the use of such waters for navigation; the health, safety and welfare of the people of the State; and the effect on the natural resources including soil, forests, water, fish and aquatic resources therein.	No permit from the NYSDEC is required, but the substantive requirements of a permit must be satisfied.
New York State Ambient Water Quality Standards (6 NYCRR Parts 700, 701,702,705)	Defines surface water classifica- tion (A-special International Boundary Waters) and aquifer classification (GA and GSA) and lists specific chemical standards.	Classifications and standards can be used to help establish remedial cleanup standards.
Endangered and Threatened Species of Wildlife (6 NYCRR Part 182)	Site activities must minimize impact on identified endangered or threatened species of fish or wildlife.	No endangered species have been identified at the Site.
Freshwater Wetlands Maps and Classifications Regulations (6 NYCRR Part 664)	Identifies and defines wetlands.	There are no classified State wetlands at the Site.
New York State Coastal Management Program (CMP) (15 CFR Part 930)	Consistency of proposed activity with the State's CMP is required by U.S. Department of Commerce regulations.	Not Applicable
RCRA Location Standards (40 CFR 264.18)	This regulation outlines the requirements for constructing a RCRA facility on a 100-year floodplain. A facility located on a 100-year floodplain must be designed, constructed, operated and maintained to prevent wash- out of any hazardous waste by a 100-year flood, unless no adverse effects on human health and the environment would result.	Not Applicable

Table 10-1
Lehigh Valley Railroad Derailment Site
Location-Specific SCGs

State Requirement	Synopsis	Consideration
Floodplains Executive Order (EO 11998)	Federal Agencies are required to reduce the risk of flood loss, to minimize the impact of floods, and to restore and preserve the natural and beneficial value of floodplains.	Not Applicable
U.S. Army Corps of Engineers Nationwide Permit Program (33 CFR 330)	Activities involving the construc- tion or alteration of bulkheads, dikes, or navigable waters including wetlands are regulated by the Corps of Engineers.	Not Applicable
Fish and Wildlife Coordination Act (16 USC 662)	Any action that proposes to modify a body of water or wet-land requires consultation with the U.S. Fish and Wildlife Service.	Not Applicable
Endangered Species Act (50 CFR 200, 402)	Site activities must minimize impacts on identified endangered plant and animal species.	No endangered plant or animal species have been identified at the Site.
Clean Water Act, Section 404(b)(1), Executive Order (EO 11990)	Requires the impacts of chemical residuals and potential remedial action be addressed in the form of a wetland assessment.	Substantive requirements of a wetland assessment will need to be satisfied.

Table 10-2
Lehigh Valley Railroad Derailment Site
Chemical-Specific SCGs

State Requirement	Synopsis	Consideration
NYSDEC Quality Standards for Groundwater (6 NYCRR PART 703.5)	Establishes standards for Class GA, GSA and GSB groundwater.	These standards apply to groundwater in the overburden/bedrock deposits as appropriate.
NYSDOH Sources of Water Supply (10 NYCRR PART 170)	Establishes standards for raw drinking water quality.	These standards apply to sources of drinking water.
NYS Surface Water Quality Standards (6NYCRR Parts 701, 702, and 704)	Establishes standards for surface water quality.	These standards apply to waters of New York.
NYSDOH Public Water Supplies (10 NYCRR 5)	Establishes standards for public drinking water (i.e., finished water).	These standards apply to finished drinking water delivered to consumers.
NYS Drinking Water Act MCLs (10 NYCRR Part 5)	Establishes maximum contaminant levels for drinking water.	These standards apply to potential drinking waters.
NYS RCRA Groundwater Protection Standards (6 NYCRR Parts 256 and 257)	Establishes groundwater production standards.	These standards apply to groundwaters impacted by RCRA corrective actions.
NYS Ambient Air Quality Standards (6 NYCRR Parts 256 and 257)	Establishes ambient air quality standards.	These standards apply to concentrations in the air resulting in emissions.
RCRA Groundwater Concentration Limits (40 CFR 264, Subpart F)	Establishes groundwater protection standards for RCRA facilities.	This would apply to any treatment, storage, or disposal facility to be constructed.
Safe Drinking Water Act Maximum Contaminant Levels (MCLs) (40 CFR 141.11-.16)	Enforceable standards for public drinking water systems.	These requirements apply to finished drinking water delivered to the consumer.
Effluent Limitations (40 CFR Part 301 and 302)	Enforceable standards for effluent discharges.	These requirements will apply to liquid discharges from the Site.
National Ambient Air Quality Standards (40 CFR 50)	Enforceable standards for air quality.	These requirements will apply to air emissions at the Site.
RCRA Regulation for Identifying Hazardous Waste (40 CFR 261)	Enforceable standards for determining the hazardous waste status.	These requirements will determine the nature of wastes generated at the Site.