February 7, 2011

Ms. Sharon R. Fisher
Harley-Davidson Motor Company Operations, Inc.
1425 Eden Road
York, PA 17402

Re: 2010 Summary of Operation for
North Building 4 Soil Vapor Extraction System
Harley-Davidson Motor Company Operations, Inc.
SAIC Project 4501020172 / 5000 / 100

Dear Sharon:

Science Applications International Corporation (SAIC) is providing this letter to summarize operation of the North Building 4 (NB4) soil vapor extraction (SVE) system during 2010. The NB4 SVE system is located at the York, Pennsylvania, facility of Harley-Davidson Motor Company Operations, Inc. (Harley-Davidson). Through calendar year 2010, the system has been in operation for approximately 15 years (start-up occurred in May 1994).

The purpose of the SVE system is to extract soil vapor containing volatile organic compounds (VOCs) from six vapor extraction wells (VEWs) located beneath the floor at the north end of Building 4. Each of the VEWs is connected via schedule 40 polyvinyl chloride (PVC) piping to a blower unit housed in a wooden shed located on the west side of Building 4 (refer to Figure 1). The blower unit applies a vacuum to the VEWs and transmits the extracted soil vapor via a 6-inch-diameter schedule 80 PVC underground pipe to Building 41 for treatment. The soil vapor is passed granular-activated carbon (GAC) unit for destruction/absorption of the VOCs.

During 2009, the SVE system only operated for approximately 9 days. The SVE system was shutdown to upgrade the Lower Flammability Level (LFL) meter associated with the thermal fume oxidizer (TFO). The SVE system was restarted on January 13, 2010. During 2010, the SVE system operated approximately 75 percent of the time. The main period of SVE system downtime occurred during the end of September and into October (34 days). The downtime occurred during the demolition of the TFO. The panel that operates the TFO and SVE was locked out for the demolition of the TFO. The SVE system was also shutdown in June to complete the packing material change-out in the air stripping tower (8 days). The SVE system was also shut down on December 10 due to a wiring short.

During 2010, SAIC performed monthly monitoring of the SVE system that included recording air flow data (refer to Table 1) and photoionization detector (PID) readings at up to seven vapor sampling points (refer to Figure 2). The seven locations that are sampled include EW-1 gravel, EW-1D, EW-2D, EW-3S, EW-4D, the gravel pit, and the total system influent (combined, prior to the blower). Additional vapor extraction points were shut off in early 2000 due to their very low VOC recoveries and to enhance VOC recovery at the remaining locations. Data for four locations (EW-1D, EW-1 gravel, EW-2D, and the gravel pit) showed minimal VOC recovery in 2010.

SAIC typically collects soil vapor samples from active vacuum extraction wells (and the combined influent) on a quarterly basis. Six sampling events (January (two events), February, April, July, and November) were performed in 2010. SAIC collected samples on January 13, 2010, the day the system was restarted, January 27, 2010, two weeks after restarting the system, and February 26, 2010, approximately one and a half months after restarting the system. The air samples were analyzed by VaporTech Services, Inc. of Valencia, Pennsylvania, for five VOCs: 1,1,1-trichloroethane (TCA), trichloroethene (TCE), tetrachloroethene (PCE), cis-1,2-dichloroethene (cis-1,2-DCE), and Vinyl chloride.

Table 2 summarizes the laboratory analytical results, while Figures 3 through 6 graphically display the historical VOC data by sampling location. The average total influent VOC concentration measured during 2010 (0.997 parts per million [ppm]) is less than the average influent VOC concentration measured in 2008 (1.5 ppm). The historical range in VOC abundance (in the vapor influent), followed by the 2010 percent by volume in the influent, is summarized for each parameter below:

- TCA: historically ranged from 42 to 76 percent; averaging 53 percent in 2010.
- TCE: ranged from 17 to 33.5 percent; averaging 27 percent in 2010.
- PCE: ranged from 5 to 21 percent; averaging 16.6 percent in 2010.
- cis-1,2-DCE: ranged from 0.1 to 5 percent; averaging 3.1 percent in 2010.
- Vinyl chloride: added to the analytical suite in 2003 due to its occurrence in groundwater at collection well CW-15A (close to the NB4 SVE system). Vinyl chloride has not been detected in air samples since 2003.

Through December 31, 2010, a cumulative VOC recovery of approximately 35,259 pounds has been recorded since system start-up (refer to Figure 7 and Table 1).

The SVE system was decommissioned in early 2011. A Termination Notice Letter, dated January 12, 2011, was provided to the Pennsylvania Department of Environmental Protection and United States Environmental Protection Agency. Building 4 will be demolished during early 2011. Additional investigative and remedial measures are planned for the north end of Building 4 after the demolition is complete.

If you have questions, please contact the undersigned.

Very truly yours,

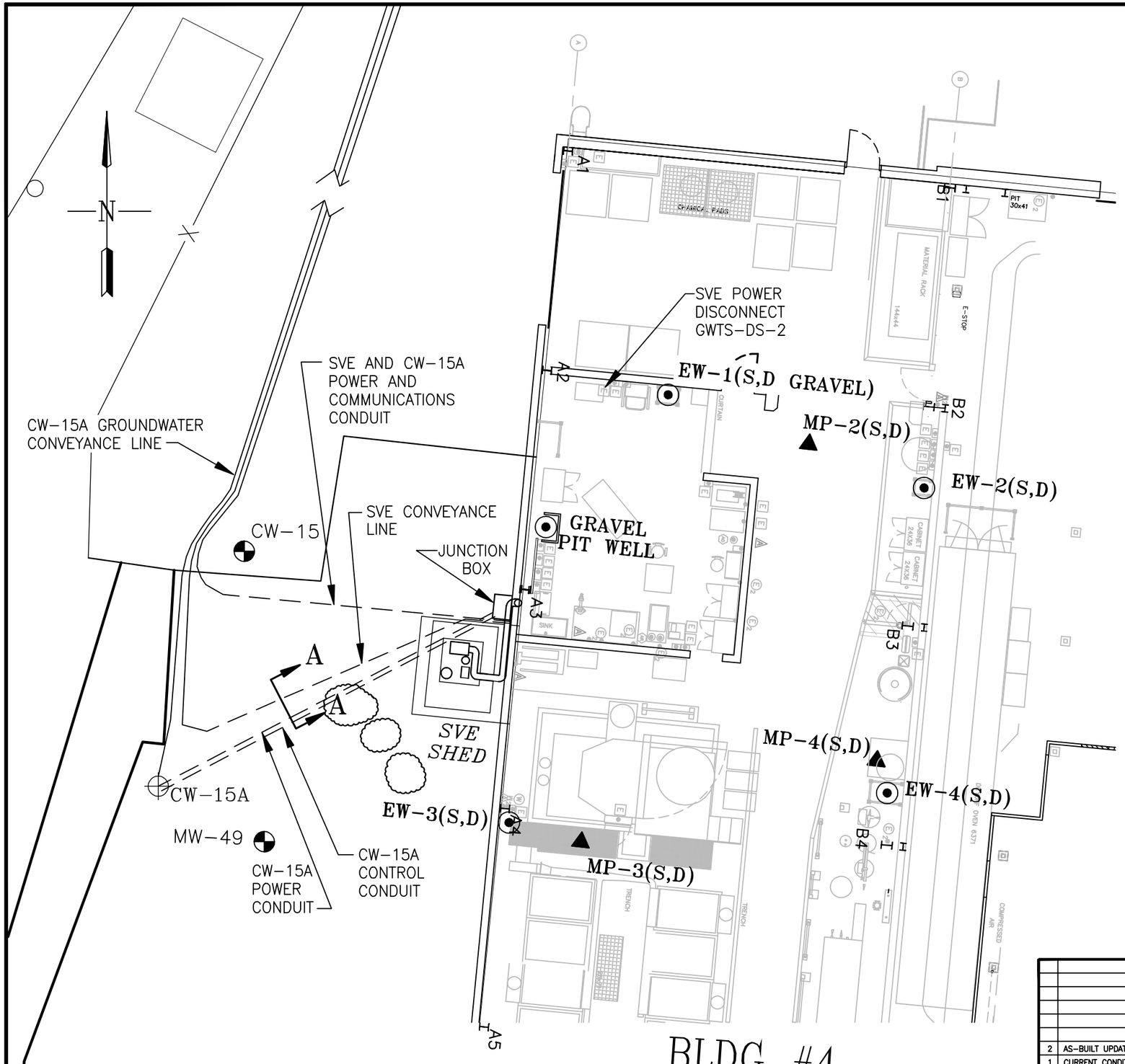
SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

Emily Wade
Staff Environmental Scientist

Rodney Myers
Project Manager

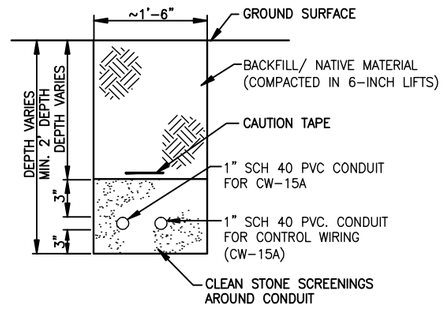
EMW:sas
Attachment
cc: Ralph T. Golia – AMO Environmental Decisions
Nicki Fatherly – USACE, Baltimore District
Griff Miller – EPA Region III
Pam Trowbridge – Pennsylvania Department of Environmental Protection

FIGURES



LEGEND

EW-2(S,D)	SOIL VAPOR EXTRACTION WELL LOCATION AND DESIGNATION
MP-2(S,D)	SOIL VAPOR EXTRACTION MONITORING POINT LOCATION AND DESIGNATION
CW-15	GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
CW-15A	GROUNDWATER COLLECTION WELL LOCATION AND DESIGNATION



TRENCH SECTION A-A

10' 0 10'
SCALE IN FEET

no.	description	date	by	approved
2	AS-BUILT UPDATES	12/07/07	RAM	SLM
1	CURRENT CONDITIONS	4/17/06	RAM	SLM

revisions

HARLEY-DAVIDSON MOTOR COMPANY OPERATIONS, INC.
YORK VEHICLE OPERATIONS
1425 EDEN ROAD, YORK, PA 17402

SOIL GAS EXTRACTION SYSTEM NORTH BUILDING 4 AREA

drawn RAM	checked SLM	approved SLM	figure no. 1
date 12/07/07	date 03/11/08	date 03/11/08	
job no. 01-1633-00-8632-100		file no. OM2007-013.dwg	

SAIC. From Science to Solutions

FIGURE 2
2010 North Building 4 SVE PID Measurements

Harley-Davidson Motor Company Operations, Inc.
York Vehicle Operations
1425 Eden Road, York PA 17402

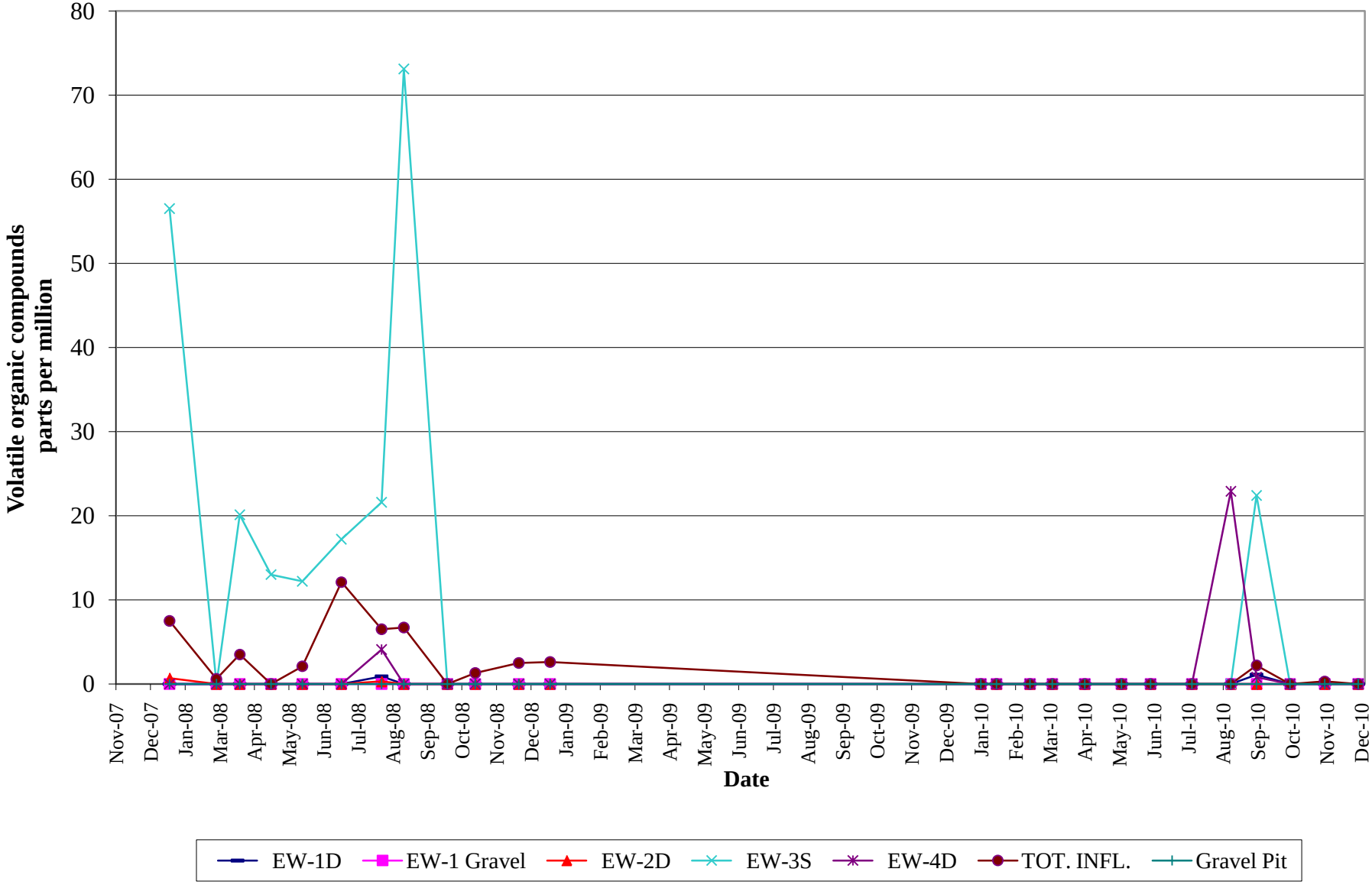


FIGURE 3
Historical 1,1,1-Trichloroethane (TCA) Concentrations

Harley-Davidson Motor Company Operations, Inc.
York Vehicle Operations
1425 Eden Road, York PA 17402

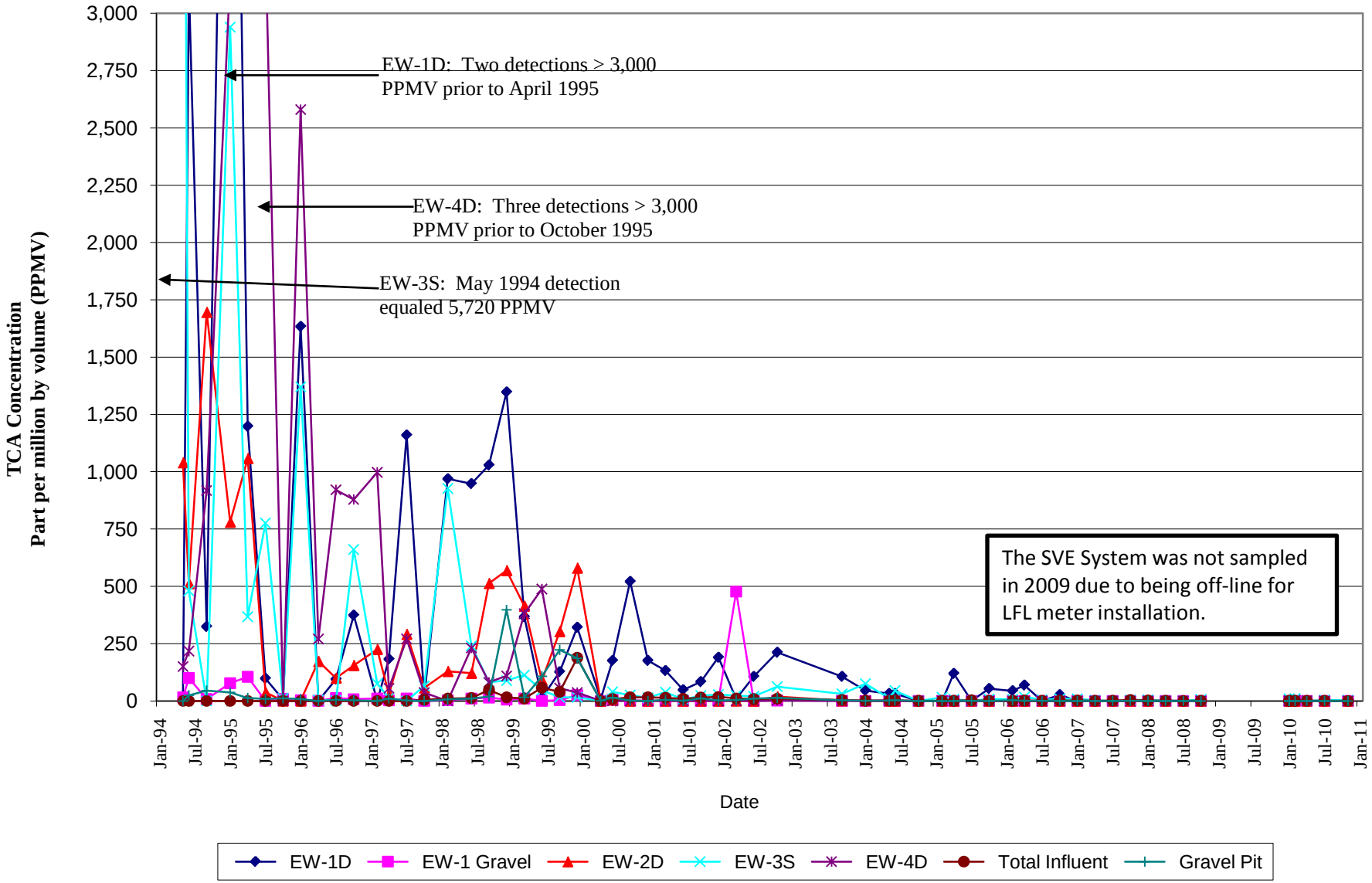


FIGURE 4
Historical Trichloroethylene (TCE) Concentrations

Harley-Davidson Motor Company Operations, Inc.
York Vehicle Operations
1425 Eden Road, York PA 17402

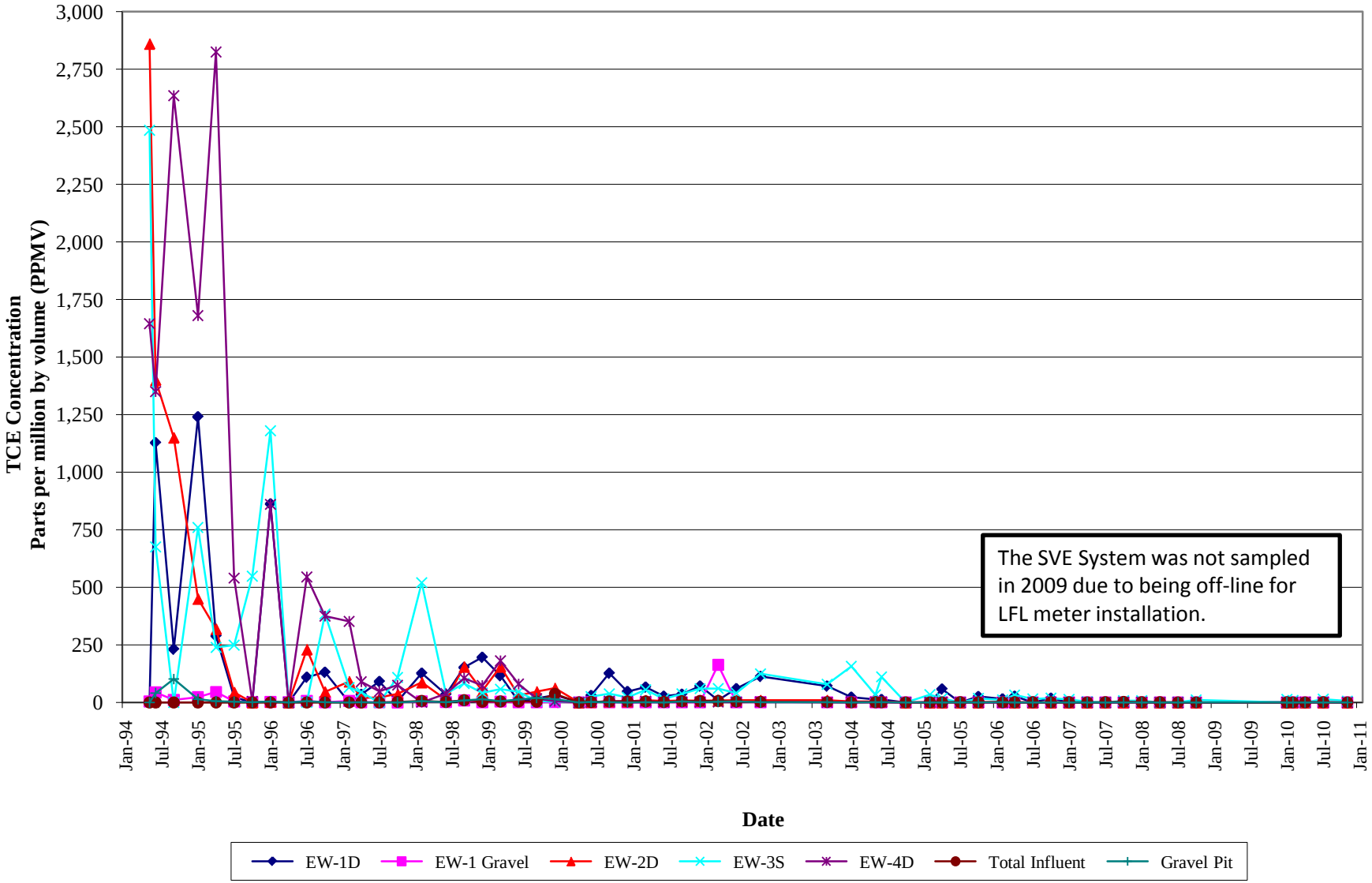


FIGURE 5
Historical Tetrachloroethylene (PCE) Concentrations

Harley-Davidson Motor Company Operations, Inc.
York Vehicle Operations
1425 Eden Road, York PA 17402

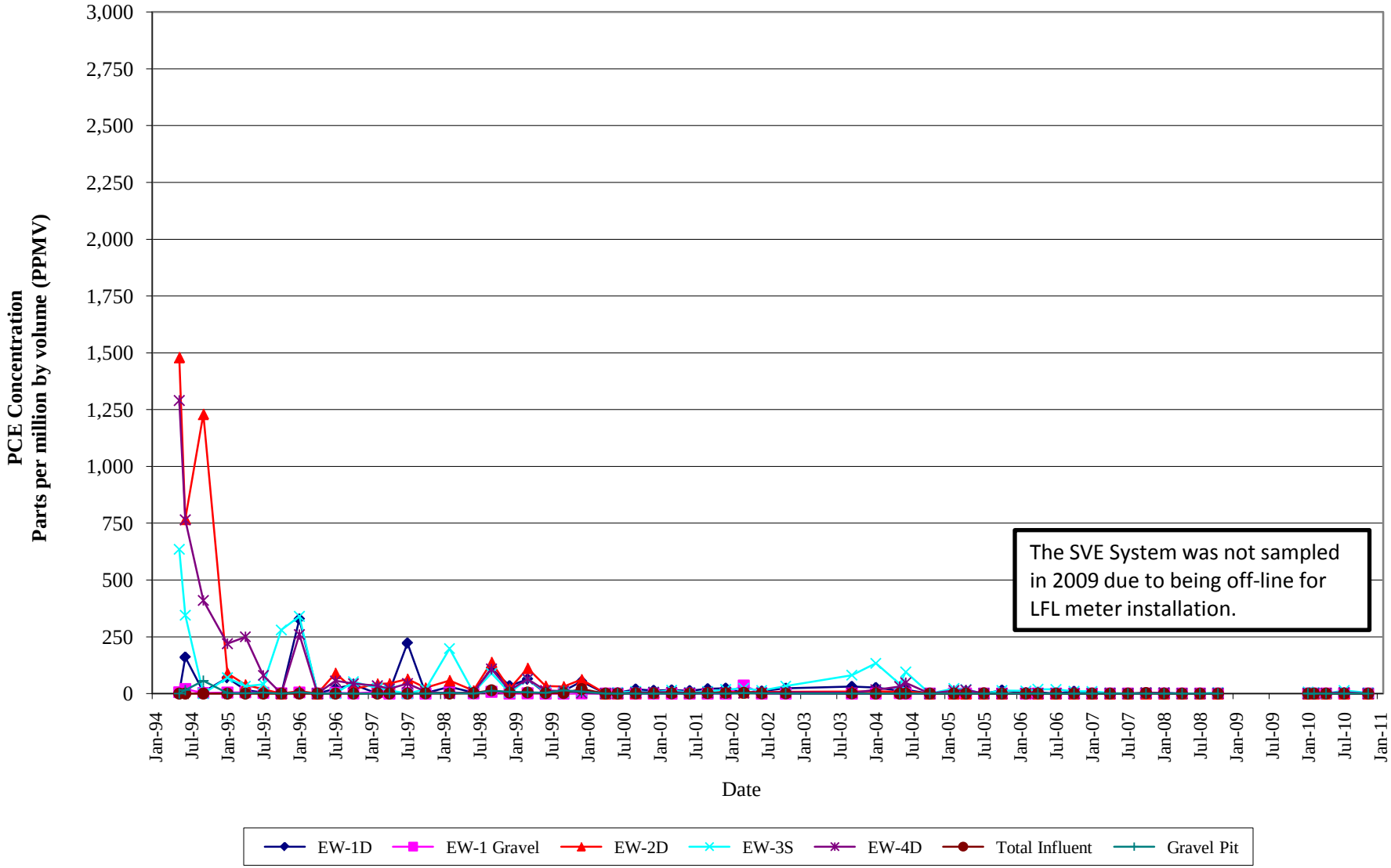


FIGURE 6
Historical cis-1,2-Dichloroethylene (DCE) Concentrations

Harley-Davidson Motor Company Operations, Inc.
York Vehicle Operations
1425 Eden Road, York PA 17402

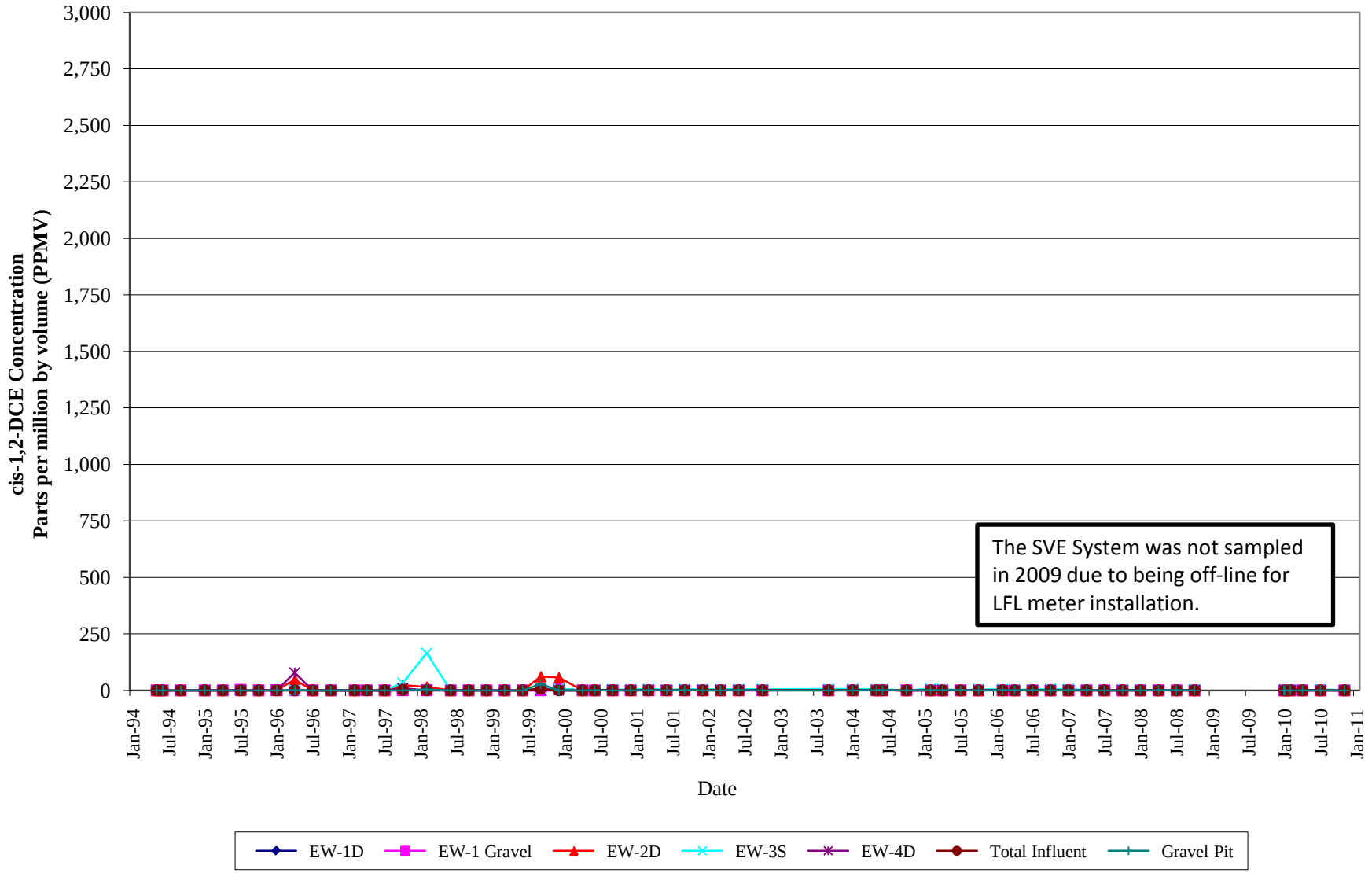
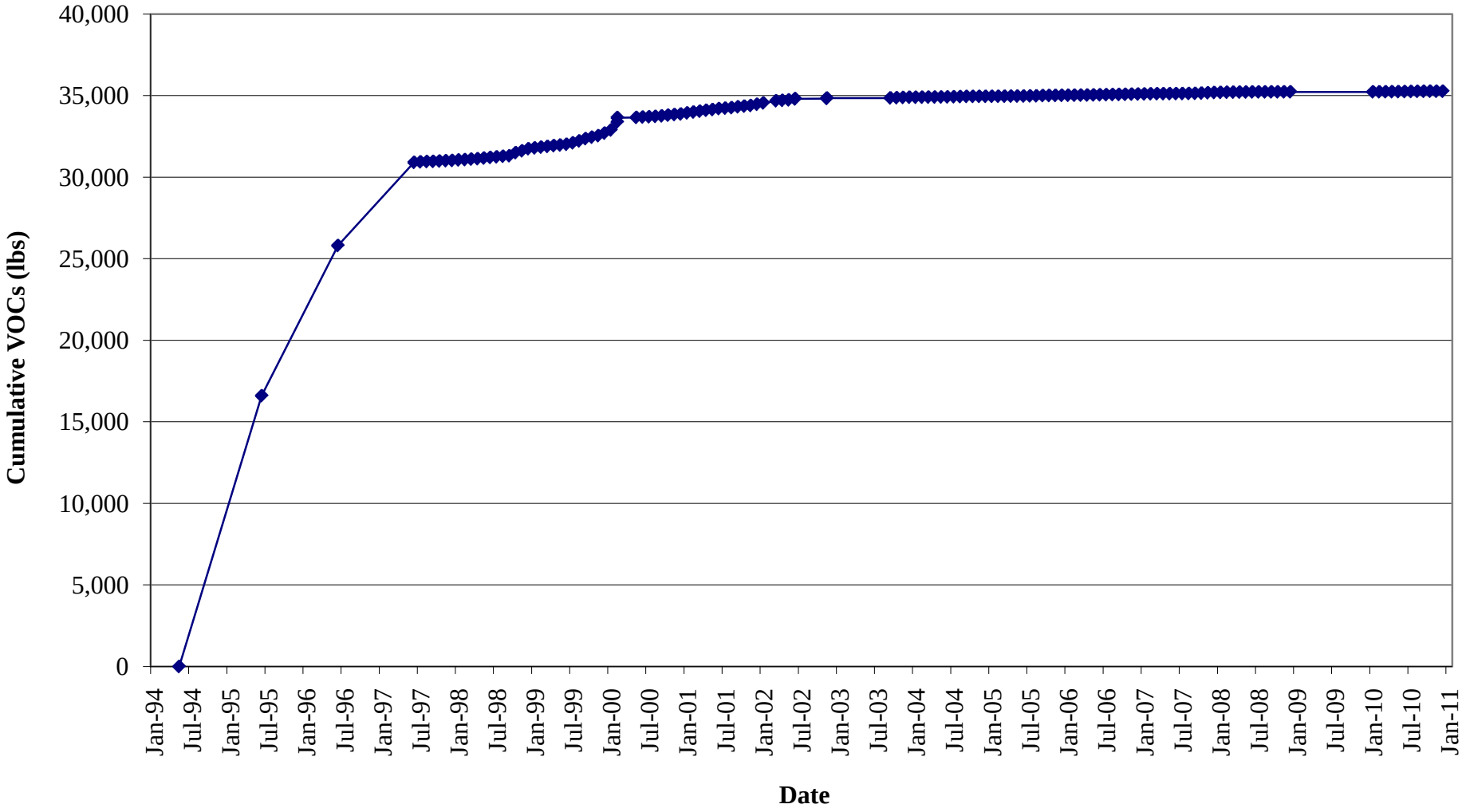


FIGURE 7
North Building 4 SVE Cumulative VOC Recovery

Harley-Davidson Motor Company Operations, Inc.
York Vehicle Operations
1425 Eden Road, York PA 17402



Note: Monthly VOC recovery data was not recorded from start-up through June 1997.

TABLES

TABLE 1
NORTH BUILDING 4 SVE SYSTEM AIRFLOW RATES AND VOC RECOVERY

Harley-Davidson Motor Company Operations, Inc.

York Vehicle Operations

1425 Eden Road, York PA 17402

	TOTAL SYSTEM INFLUENT				
MEASUREMENT DATE	FLOW RATE (SCFM)	BLOWER VAC (IWC)	VOC RECOV (LBS)	CUMUL RECOV (LBS)	RATE (LBS/DAY)
Jun-95	NA	NA	16,596	16,596	NA
Jun-96	NA	NA	9,205	25,801	NA
6/5/1997	126	44	5,099	30,900	NA
7/24/1997	129	42	31.5	30,931.5	0.64
8/21/1997	129	42	18.4	30,949.9	0.66
9/4/1997	126	44	9.2	30,959.1	0.66
10/9/1997	133	40	22.5	30,981.5	0.64
11/6/1997	122	46	19.0	31,000.5	0.68
12/4/1997	124	45	17.4	31,017.9	0.62
1/21/1998	133	40	30.3	31,048.2	0.63
2/18/1998	133	40	19.0	31,067.2	0.68
3/17/1998	135	38	31.8	31,099.0	1.18
4/7/1998	158	23	25.1	31,124.0	1.19
5/5/1998	156	24	39.1	31,163.2	1.40
6/2/1998	133	40	38.6	31,201.8	1.38
7/3/1998	133	40	35.0	31,236.8	1.13
8/4/1998	129	42	36.1	31,273.0	1.13
9/1/1998	133	40	30.7	31,303.6	1.10
10/9/1998	120	48	190.1	31,493.7	5.00
11/3/1998	122	46	112.8	31,606.5	4.51
12/1/1998	126	44	128.5	31,735.0	4.59
1/5/1999	133	40	50.9	31,785.9	1.45
2/5/1999	150	30	47.6	31,833.5	1.53
3/2/1999	133	40	43.3	31,876.8	1.73
4/6/1999	127	43	48.3	31,925.1	1.38
5/4/1999	129	42	36.9	31,962.0	1.32
6/8/1999	99	58	46.9	32,008.9	1.34
7/6/1999	133	40	87.7	32,096.5	3.13
8/3/1999	126	44	117.8	32,214.3	4.21
9/7/1999	133	40	139.5	32,353.8	3.99
10/4/1999	122	46	91.2	32,445.0	3.38
11/2/1999	124	45	89.9	32,534.9	3.10
12/22/1999	127	43	157.5	32,692.5	3.15
1/3/2000	124	45	189.5	32,881.9	15.79
2/4/2000	104	56	493.3	33,375.2	15.42
2/25/2000	system shut down		271.5	33,646.8	12.93
4/20/2000	106	79	--	33,646.8	--
5/3/2000	106	79	7.0	33,653.8	0.54
6/15/2000	149	62	23.3	33,677.1	0.54
7/7/2000	167	54	16.8	33,693.9	0.76
8/4/2000	167	54	23.9	33,717.8	0.85
9/8/2000	167	54	29.9	33,747.7	0.85
10/5/2000	120	73	46.2	33,793.9	1.71
11/3/2000	119	74	35.6	33,829.5	1.23
12/1/2000	166	55	34.1	33,863.7	1.22
1/5/2001	166	55	66.3	33,930.0	1.90
2/2/2001	167	54	53.1	33,983.1	1.90
3/2/2001	167	54	53.4	34,036.5	1.91
4/6/2001	167	54	55.8	34,092.3	1.60
5/3/2001	174	52	43.1	34,135.4	1.60
6/8/2001	164	56	59.8	34,195.2	1.66
7/5/2001	167	54	28.2	34,223.4	1.04
8/3/2001	167	54	30.8	34,254.2	1.06
9/20/2001	166	55	51.0	34,305.2	1.06
10/12/2001	164	56	40.5	34,345.7	1.84
11/2/2001	166	55	38.2	34,383.9	1.82
12/14/2001	167	54	77.4	34,461.3	1.84
1/18/2002	164	56	80.1	34,541.3	2.29
3/20/2002	161	58	132.6	34,673.9	2.25
4/5/2002	167	54	26.5	34,700.4	1.65
5/3/2002	164	56	27.5	34,727.8	1.72
6/7/2002	164	56	59.0	34,786.8	1.68
6/23/2002	system shut down		16.2	34,803.0	1.01
10/25/2002	174	52	--	34,803.0	--
11/1/2002	167	54	15.9	34,818.8	1.13
11/23/2002	system shut down		22.9	34,841.7	1.09

TABLE 1
NORTH BUILDING 4 SVE SYSTEM AIRFLOW RATES AND VOC RECOVERY

Harley-Davidson Motor Company Operations, Inc.

York Vehicle Operations

1425 Eden Road, York PA 17402

	TOTAL SYSTEM INFLUENT				
MEASUREMENT DATE	FLOW RATE (SCFM)	BLOWER VAC (IWC)	VOC RECOV (LBS)	CUMUL RECOV (LBS)	RATE (LBS/DAY)
8/16/2003	171	53	--	34,841.7	--
9/5/2003	164	56	9.6	34,851.3	0.48
10/3/2003	171	53	11.3	34,862.6	0.46
11/10/2003	178	50	16.1	34,878.8	0.48
12/10/2003	system shut down		13.3	34,892.0	0.50
1/9/2004	171	53	--	34,892.0	--
2/6/2004	167	54	3.6	34,895.6	0.13
3/6/2004	180	49	3.7	34,899.3	0.13
4/15/2004	174	52	3.7	34,903.0	0.14
5/6/2004	171	53	3.1	34,906.1	0.18
6/3/2004	167	54	4.9	34,911.0	0.38
7/9/2004	176	51	8.9	34,919.9	0.37
8/5/2004	174	52	10.6	34,930.5	0.39
9/10/2004	174	52	12.0	34,942.5	0.39
10/7/2004	171	53	1.3	34,943.8	0.05
11/18/2004	164	56	2.1	34,945.9	0.05
12/17/2004	193	43	0.9	34,946.8	0.05
1/7/2005	176	48	1.2	34,948.0	0.06
2/3/2005	176	48	1.9	34,949.9	0.11
3/17/2005	176	54	4.1	34,954.0	0.11
4/21/2005	176	46	4.1	34,958.1	0.12
5/20/2005	176	48	3.2	34,961.3	0.12
6/13/2005	80	50	2.7	34,964.0	0.12
7/25/2005	80	48	8.4	34,972.5	0.22
8/18/2005	176	53	4.6	34,977.1	0.22
9/22/2005	176	48	16.6	34,993.7	0.47
10/27/2005	176	48	5.2	34,998.8	0.17
11/21/2005	184	48	3.7	35,002.5	0.17
12/22/2005	184	48	5.6	35,008.1	0.18
1/19/2006	184	48	5.0	35,013.1	0.18
2/16/2006	184	48	3.1	35,016.2	0.11
3/20/2006	112	48	3.5	35,019.7	0.11
4/20/2006	184	46	5.7	35,025.4	0.18
5/18/2006	184	48	8.5	35,033.9	0.30
6/15/2006	184	48	8.1	35,042.0	0.30
7/20/2006	274	48	6.1	35,048.2	0.18
8/21/2006	184	48	8.0	35,056.1	0.26
9/22/2006	184	48	5.4	35,061.6	0.18
10/18/2006	210	48	8.0	35,069.6	0.31
11/20/2006	136	46	11.3	35,080.9	0.35
12/18/2006	194	48	5.5	35,086.4	0.23
1/18/2007	194	42	6.8	35,093.2	0.24
2/23/2007	184	48	8.5	35,101.7	0.24
3/15/2007	159	48	4.3	35,106.1	0.23
4/20/2007	159	48	2.3	35,108.4	0.07
5/17/2007	172	48	1.5	35,110.0	0.07
6/27/2007	172	48	2.8	35,112.7	0.07
7/20/2007	172	48	3.9	35,116.6	0.20
8/16/2007	159	42	5.4	35,122.0	0.20
9/24/2007	159	48	6.8	35,128.8	0.19
10/18/2007	159	48	15.9	35,144.7	0.72
11/15/2007	125	48	19.5	35,164.2	0.72
12/17/2007	159	48	17.6	35,181.8	0.56
1/17/2008	159	48	6.2	35,187.9	0.23
2/28/2008	159	48	9.7	35,197.6	0.23
3/20/2008	159	48	4.3	35,201.9	0.23
4/17/2008	159	48	3.9	35,205.8	0.15
5/15/2008	159	48	4.1	35,209.9	0.15
6/19/2008	159	48	5.0	35,214.9	0.15
7/25/2008	159	48	1.5	35,216.4	0.05
8/14/2008	136	48	0.9	35,217.3	0.05
9/22/2008	159	48	1.5	35,218.9	0.04
10/17/2008	159	48	1.0	35,219.8	0.05
11/25/2008	148	48	1.0	35,220.8	0.05
12/23/2008	148	48	1.3	35,222.1	0.05

TABLE 1
NORTH BUILDING 4 SVE SYSTEM AIRFLOW RATES AND VOC RECOVERY

Harley-Davidson Motor Company Operations, Inc.

York Vehicle Operations

1425 Eden Road, York PA 17402

	TOTAL SYSTEM INFLUENT				
MEASUREMENT DATE	FLOW RATE (SCFM)	BLOWER VAC (IWC)	VOC RECOV (LBS)	CUMUL RECOV (LBS)	RATE (LBS/DAY)
1/5/2009 to 1/13/2010 SVE System Off-line					
1/18/2010	159	44	--	35,222.1	--
2/26/2010	158	38	3.1	35,225.2	0.2
3/18/2010	158	38	1.6	35,226.7	1.3
4/16/2010	158	38	3.5	35,230.3	0.3
5/19/2010	193	38	4.0	35,234.3	0.3
6/14/2010	193	38	3.9	35,238.2	0.5
7/21/2010	193	38	7.2	35,245.4	0.4
8/25/2010	193	38	6.8	35,252.2	0.4
9/17/2010	176	38	4.4	35,256.6	1.1
10/17/2010	system shut down		5.3	35,261.9	0.5
11/17/2010	158	38	--	35,257.7	--
12/17/2010	system shut down		0.8	35,258.5	0.1

Notes: -- Indicates a startup date, no VOC recovery is calculated until the next monitoring date
NA - Not available; Monthly VOC recovery data not recorded from start-up through June 1997.
Beginning in January 2005, flow rate determined from in-line pitot tube (previously from blower curve)
SCFM - standard cubic feet per minute
IWC - Inches water column
LBS/DAY - Pounds per day

TABLE 2
NORTH BUILDING 4 SOIL VAPOR MONITORING POINT VOC CONCENTRATIONS

Harley-Davidson Motor CompanyOperations, Inc.
York Vehicle Operations
1425 Eden Road, York PA 17402

SAMPLE LOCATIONS	1/13/2010	1/27/2010	2/26/2010	4/16/2010	7/21/2010	11/17/2010
1,1,1- TCA						
EW-1D	0.817	ND	ND	ND	ND	ND
EW-1S	NS	NS	NS	NS	NS	NS
EW-1 Gravel	ND	ND	ND	ND	ND	ND
EW-2D	ND	ND	ND	ND	ND	ND
EW-2S	NS	NS	NS	NS	NS	NS
EW-3D	NS	NS	NS	NS	NS	NS
EW-3S	0.03	8.97	10.25	ND	4.09	2.91
EW-4D	ND	ND	3.296	0.587	0.064	ND
EW-4S	NS	NS	NS	NS	NS	NS
Gravel Pit	ND	ND	ND	ND	ND	ND
Total Influent	0.623	0.023	0.616	0.834	0.94	0.146
TCE						
EW-1D	0.609	0.017	ND	ND	ND	0.006
EW-1S	NS	NS	NS	NS	NS	NS
EW-1 Gravel	0.023	0.021	0.005	0.005	0.005	0.005
EW-2D	0.012	0.018	ND	ND	0.007	ND
EW-2S	NS	NS	NS	NS	NS	NS
EW-3D	NS	NS	NS	NS	NS	NS
EW-3S	0.069	12.738	8.21	ND	13.63	5.76
EW-4D	0.011	0.018	0.825	0.469	0.515	ND
EW-4S	NS	NS	NS	NS	NS	NS
Gravel Pit	0.026	0.017	0.016	ND	ND	0.007
Total Influent	0.225	0.031	0.276	0.439	0.543	0.104
PCE						
EW-1D	0.009	0.014	0.005	ND	0.006	0.005
EW-1S	NS	NS	NS	NS	NS	NS
EW-1 Gravel	0.014	0.017	0.007	ND	0.007	ND
EW-2D	0.009	0.016	0.006	ND	0.005	ND
EW-2S	NS	NS	NS	NS	NS	NS
EW-3D	NS	NS	NS	NS	NS	NS
EW-3S	0.016	6.403	5.00	ND	13.293	3.71
EW-4D	0.009	0.015	0.961	1.850	5.182	0.005
EW-4S	NS	NS	NS	NS	NS	NS
Gravel Pit	0.013	0.014	0.011	ND	0.006	ND
Total Influent	0.136	0.017	0.092	0.239	0.438	0.081
c-1,2- DCE						
EW-1D	0.09	ND	ND	ND	ND	ND
EW-1S	NS	NS	NS	NS	NS	NS
EW-1 Gravel	0.02	ND	ND	ND	ND	ND
EW-2D	ND	ND	ND	ND	ND	ND
EW-2S	NS	NS	NS	NS	NS	NS
EW-3D	NS	NS	NS	NS	NS	NS
EW-3S	0.02	2.60	1.53	ND	3.59	1.74
EW-4D	ND	ND	0.02	ND	0.06	ND
EW-4S	NS	NS	NS	NS	NS	NS
Gravel Pit	0.02	ND	ND	ND	ND	ND
Total Influent	0.1	ND	ND	0.03	0.03	ND
Vinyl-chloride						
EW-1D	ND	ND	ND	ND	ND	ND
EW-1S	NS	NS	NS	NS	NS	NS
EW-1 Gravel	ND	ND	ND	ND	ND	ND
EW-2D	ND	ND	ND	ND	ND	ND
EW-2S	NS	NS	NS	NS	NS	NS
EW-3D	NS	NS	NS	NS	NS	NS
EW-3S	ND	ND	ND	ND	ND	ND
EW-4D	ND	ND	ND	ND	ND	ND
EW-4S	NS	NS	NS	NS	NS	NS
Gravel Pit	ND	ND	ND	ND	ND	ND
Total Influent	ND	ND	ND	ND	ND	ND

NS - not sampled