

Table 1
1995 Soil Investigation Data
(in mg/kg)

Sample Location	Depth	BTEX ¹		Pentachlorophenol (PCP)			PAHs		
		IA ²	Lab ³	IA	Lab	Lab Eq. ⁴	IA	Lab	Lab Eq.
TT 101	6	65		89		31	>500		>68
TT 102	1	<0.5		38		13	55		11
TT 102	1	120		500		170	>500		>68
TT 103	3	1.2		47		16	80		16
TT 103	1.5	140		1250		430	1000		140
TT 105	3.5	64		60		21	840		110
TT 106	3	1.7		5.6		<1.5	930		130
TT 108	4.5	25		690		240	220		30
TT 109	3	<1.0		19		3.1	61		12
TT 110	7	0.7		0.65		<1.5	4.1		0.82
TT 112	4	0.6		<0.15		<1.5	1.5		0.3
TT 113	2.5	91		>510		>180	810		110
TT 113	2.5	180		>1300		>450	440		60
TT 114	4.5	97	0.4	600	130	210	370	0.41	51
SB 101	34	<0.5		<0.05		<1.5	0.56		<0.3
SB 102	40	<0.5		<0.05		<1.5	4.4		0.88
SB 104	14	4.4	<0.05	22	8.4	7.6	75	<0.29	<15
SB 104	76	14	<0.05	11	1.8	1.8	15	3.2	3
SB 104	81	3		15		2.5	2		0.4
SB 105	8	1.3		1.5		<1.5	2		0.4
SB 105	14	0.7		3.6		<1.5	1.2		<0.3
SB 105	36	100	<0.05	250	170	86	630	81	86
SB 107	6	12		45		16	64		13
SB 107	10	<0.5		0.13		<1.5	<1		<0.3
SB 107	16	<0.5/0.5		0.13/0.58		<1.5	0.7/1.2		0.14
SB 109	40	0.5		<0.05		<1.5	0.86		0.17
SB 110	36	<0.5		25		4.1	10		2
SB 112	4	89		930		150	750		102
SB 113	34	27	<0.05	46	16	16	334	<3.2	<46
SB 114	38	<0.5	0.06	0.18	<1.7	<1.5	2.3	<0.33	<0.46
SB 115	44	<0.5		0.23		<1.5	2		0.4
SB 116	19	<0.5		<0.05		<1.5	0.13		<0.3
SB 116	28	<0.5		0.18		<1.5	1.7		0.34
SB 116	36	<0.5		<0.05		<1.5	0.5		<0.3
SB 116	42	160		2.4		<1.5	620		85
MPCA SRV (comm./industrial)		10 ⁵			120			3	

Bold exceeds current MPCA industrial Soil Reference Value (SRV, 9/05)

¹ sum of benzene, toluene, ethylbenzene, xylenes

² Immunoassay result

³ Fixed laboratory result

⁴ Estimated laboratory equivalent value

⁵ SRV for benzene

Source: Barr 1996

Table 2a
1997 Dioxin/Furan Soil Data

Dioxin/Furan	1998 WHO TEF	SS-1 (ug/kg)	TCDD-TEQ (ug/kg)	SS-2 (ug/kg)	TCDD-TEQ (ug/kg)	SB-1-6 (ug/kg)	TCDD-TEQ (ug/kg)	SB-5-C (ug/kg)	TCDD-TEQ (ug/kg)
2,3,7,8-TCDD	1	0.007*	0.007	0.0072	0.0072	0.0011*	0.0011	0.0041*	0.0041
1,2,3,7,8-PeCDD	1	0.18	0.18	0.69	0.69	0.0038	0.0038	0.041	0.041
1,2,3,4,7,8-HxCDD	0.1	1.8	0.18	0.24	0.024	0.028	0.0028	0.23	0.023
1,2,3,6,7,8-HxCDD	0.1	18	1.8	1.2	0.12	2.1	0.21	8.9	0.89
1,2,3,7,8,9-HxCDD	0.1	2.1	0.21	0.37	0.037	0.095	0.0095	0.64	0.064
1,2,3,4,6,7,8-HpCDD	0.01	430	4.3	31	0.31	61	0.61	210	2.1
OCDD	0.0001	4600	0.46	340	0.034	710	0.071	1900	0.19
2,3,7,8-TCDF	0.1	0.81	0.081	0.0099	0.00099	0.064	0.0064	0.33	0.033
1,2,3,7,8-PeCDF	0.05	4.5	0.225	0.063	0.00315	0.31	0.0155	1.6	0.08
2,3,4,7,8-PeCDF	0.5	9.6	4.8	0.19	0.095	0.56	0.28	3.7	1.85
1,2,3,4,7,8-HxCDF	0.1	28	2.8	0.8	0.08	1.8	0.18	9.2	0.92
1,2,3,6,7,8-HxCDF	0.1	4.9	0.49	0.25	0.025	0.45	0.045	2.2	0.22
2,3,4,6,7,8-HxCDF	0.1	2.6	0.26	0.36	0.036	0.62	0.062	3	0.3
1,2,3,7,8,9-HxCDF	0.1	11	1.1	0.27	0.027	0.8	0.08	4.5	0.45
1,2,3,4,6,7,8-HpCDF	0.01	120	1.2	7.6	0.076	16	0.16	65	0.65
1,2,3,4,7,8,9-HpCDF	0.01	15	0.15	0.67	0.0067	1.6	0.016	5.7	0.057
OCDF	0.0001	420	0.042	38	0.0038	56	0.0056	410	0.041

Total TCDD-TEQs	18.29	1.58	1.76	7.91
MPCA - Residential SRV	0.02			
MPCA - Industrial SRV	0.035			
ATSDR Screening Level	0.05			
EPA Action Level	1.0			

*Non-Detect, reported as 1/2 of Detection Limit

Source: Barr 1997

Table 2b
2005 Dioxin/Furan Soil Data

Dioxin/Furan	1998 WHO TEF	SB05-37		SB05-37		SB05-37		SB05-46		SB05-50		SB05-50 DUP		SB05-52	
		0-2' (ug/kg)	TCDD-TEQ (ug/kg)	8-10' (ug/kg)	TCDD-TEQ (ug/kg)	12-14' (ug/kg)	TCDD-TEQ (ug/kg)	0-2' (ug/kg)	TCDD-TEQ (ug/kg)	0-2' (ug/kg)	TCDD-TEQ (ug/kg)	0-2' (ug/kg)	TCDD-TEQ (ug/kg)	10-12' (ug/kg)	TCDD-TEQ (ug/kg)
2,3,7,8-TCDD	1	0.0245*	0.0245	0.001	0.001	0.0002*	0.0002	0.00051	0.00051	0.0185*	0.0185	0.009*	0.009	0.00021*	0.00021
1,2,3,7,8-PeCDD	1	0.125*	0.125	0.017	0.017	0.0005*	0.0005	0.0063	0.0063	0.09*	0.09	0.045*	0.045	0.0038	0.0038
1,2,3,4,7,8-HxCDD	0.1	0.81	0.081	0.18	0.018	0.0005*	0.00005	0.023	0.0023	0.63	0.063	0.66	0.066	0.19	0.019
1,2,3,6,7,8-HxCDD	0.1	9.9	0.99	1.7	0.17	0.0086	0.00086	0.14	0.014	5.7	0.57	6.2	0.62	1.2	0.12
1,2,3,7,8,9-HxCDD	0.1	2.2	0.22	0.26	0.026	0.0015	0.00015	0.04	0.004	0.44	0.044	0.47	0.047	0.096	0.0096
1,2,3,4,6,7,8-HpCDD	0.01	250	2.5	63	0.63	0.21	0.0021	3.3	0.033	150	1.5	150	1.5	48	0.48
OCDD	0.0001	2300	0.23	760	0.076	2.9	0.00029	38	0.0038	1600	0.16	1500	0.15	650	0.065
2,3,7,8-TCDF	0.1	0.079	0.0079	0.0035	0.00035	0.00017*	0.000017	0.00066	0.000066	0.57	0.057	0.63	0.063	0.039	0.0039
1,2,3,7,8-PeCDF	0.05	0.48	0.024	ND	ND	0.0005*	0.000025	0.0034	0.00017	3.2	0.16	3.1	0.155	0.24	0.012
2,3,4,7,8-PeCDF	0.5	3.1	1.55	0.19	0.095	0.0014	0.0007	0.012	0.006	6.6	3.3	7.2	3.6	0.45	0.225
1,2,3,4,7,8-HxCDF	0.1	15	1.5	1.4	0.14	0.008	0.0008	0.045	0.0045	13	1.3	16	1.6	1.8	0.18
1,2,3,6,7,8-HxCDF	0.1	2.1	0.21	0.23	0.023	0.0019	0.00019	0.018	0.0018	3.4	0.34	3.7	0.37	0.34	0.034
2,3,4,6,7,8-HxCDF	0.1	2.9	0.29	0.49	0.049	0.0085	0.00085	0.025	0.0025	4.2	0.42	4.3	0.43	0.46	0.046
1,2,3,7,8,9-HxCDF	0.1	2.7	0.27	0.55	0.055	0.0033	0.00033	0.0093	0.00093	6.3	0.63	7.2	0.72	0.67	0.067
1,2,3,4,6,7,8-HpCDF	0.01	88	0.88	19	0.19	0.078	0.00078	1.5	0.015	54	0.54	54	0.54	15	0.15
1,2,3,4,7,8,9-HpCDF	0.01	13	0.13	2.5	0.025	0.011	0.00011	0.01	0.0001	6	0.06	5.6	0.056	1.8	0.018
OCDF	0.0001	210	0.021	81	0.0081	0.28	0.000028	5.2	0.00052	89	0.0089	83	0.0083	62	0.0062
Total TCDD-TEQs			9.05		1.52		0.01		0.10		9.26		9.98		1.44
MPCA - Residential SRV			0.02												
MPCA - Industrial SRV			0.035												
ATSDR Screening Level			0.05												
EPA Action Level			1.0												

*Non-Detect, reported as 1/2 of Reporting Limit

Source: Golder Associates 2006c

Table 3
1997 Dioxin/Furan Groundwater Sample Data

Dioxin/Furan	1998 WHO TEF	MW-126* (pg/L)	TCDD-TEQ (pg/L)
2,3,7,8-TCDD	1	ND	
1,2,3,7,8-PeCDD	1	ND	
1,2,3,4,7,8-HxCDD	0.1	2.4	0.24
1,2,3,6,7,8-HxCDD	0.1	7.6	0.76
1,2,3,7,8,9-HxCDD	0.1	3.3	0.33
1,2,3,4,6,7,8-HpCDD	0.01	210	2.1
OCDD	0.0001	2200	0.22
2,3,7,8-TCDF	0.1	ND	
1,2,3,7,8-PeCDF	0.05	2.2	0.11
2,3,4,7,8-PeCDF	0.5	2.1	1.05
1,2,3,4,7,8-HxCDF	0.1	7.1	0.71
1,2,3,6,7,8-HxCDF	0.1	2.8	0.28
2,3,4,6,7,8-HxCDF	0.1	3	0.3
1,2,3,7,8,9-HxCDF	0.1	ND	
1,2,3,4,6,7,8-HpCDF	0.01	65	0.65
1,2,3,4,7,8,9-HpCDF	0.01	5.5	0.055
OCDF	0.0001	200	0.02
Pentachlorophenol		3,900	

* Sample Date 7/16/1997

Total TCDD-TEQs (pg/L)	6.83
EPA Maximum Contaminant Level (MCL)	30
EPA Drinking Water Exposure Limit (DWEL)	40
EPA Cancer Risk Health Advisory Value	2

Table 4
November 2005 Groundwater Data
(detections only, in ug/L)

Compound	MDH HRL	MW02-82-MS 11/14/2005	MW03-54-OPD 11/11/2005	MW03-59-I 11/14/2005	MW03-59-MS 11/14/2005	MW03-59-OPD 11/14/2005	MW03-63-OPD 11/3/2005	MW03-64-OPD 11/11/2005	MW04-38-MS 11/4/2005
Pentachlorophenol (PCP)	3	930	26	5	11,000	1,100	6	74	1
2,3,4,5-tetrachlorophenol		58	2	18	590	100		5	
2,3,4,6-tetrachlorophenol				4		12			
2,3,5-trichlorophenol									
2,3,6-trichlorophenol									
2,4,5-trichlorophenol									
2,4,6-trichlorophenol	30								
2,4-dichlorophenol	20								
3,4-dichlorophenol									
3,5-dichlorophenol									
3-chlorophenol									

Compound	MDH HRL	MW04-38-OPD 11/14/2005	MW04-39-MS 11/14/2005	MW04-40-MS 11/11/2005	MW04-41-MS 11/4/2005	MW04-41-OPD 11/7/2005	MW04-42-MS 11/11/2005	MW04-79-MS 11/10/2005
Pentachlorophenol (PCP)	3			3,800	1,000	3	1,700	7,100
2,3,4,5-tetrachlorophenol				320			84	490
2,3,4,6-tetrachlorophenol		4		14	68		46	
2,3,5-trichlorophenol				6				
2,3,6-trichlorophenol								
2,4,5-trichlorophenol							4	
2,4,6-trichlorophenol	30							
2,4-dichlorophenol	20		5					
3,4-dichlorophenol								
3,5-dichlorophenol								
3-chlorophenol								

Compound	MDH HRL	MW04-79-OPD 11/10/2005	MW04-151-MS 10/31/2005	MW04-153-MS 11/2/2005	MW-101 11/8/2005	MW-108 11/8/2005	MW-5 11/8/2005	MW-121 11/8/2005	MW-126 11/9/2005
Pentachlorophenol (PCP)	3	9			1,200	6	5	19,000	20,000
2,3,4,5-tetrachlorophenol					410			1,800	1,000
2,3,4,6-tetrachlorophenol					1,800			1,500	180
2,3,5-trichlorophenol					290			360	74
2,3,6-trichlorophenol					130				
2,4,5-trichlorophenol									
2,4,6-trichlorophenol	30								
2,4-dichlorophenol	20		96	4					
3,4-dichlorophenol									
3,5-dichlorophenol					57			42	26
3-chlorophenol									

Compound	MDH HRL	MW-128 11/10/2005	MW99-129 11/11/2005	MW99-133 11/11/2005	MW99-139 11/11/2005	MW99-146 11/9/2005	MW99-149 11/11/2005	MW99-541 11/11/2005
Pentachlorophenol (PCP)	3	520	5,600	9	5,100	6	2,300	360
2,3,4,5-tetrachlorophenol		100	230		220		140	26
2,3,4,6-tetrachlorophenol		13						
2,3,5-trichlorophenol			10	1				
2,3,6-trichlorophenol								
2,4,5-trichlorophenol								
2,4,6-trichlorophenol	30	3						
2,4-dichlorophenol	20							
3,4-dichlorophenol								
3,5-dichlorophenol								
3-chlorophenol								

MDH HRL = MDH Health Risk Limit

Source: Golder Associates 2006

Note: The following wells were sampled, but no PCP or daughter products were detected above the lab reporting limit:

Well Number	Date	Well Number	Date
MW01-01-BR	11/14/2005	MW04-152-OPD	11/2/2005
MW02-82-T	11/7/2005	MW04-152-T	11/2/2005
MW03-53-OPD	11/1/2005	MW04-153-OPD	11/2/2005
MW03-59-T	11/7/2005	MW04-34-MS	11/1/2005
MW03-88-OPD	11/3/2005	MW04-42-OPD	11/11/2005
MW04-151-MS	10/31/2005	MW-106	11/8/2005
MW04-151-OPD	11/1/2005	MW-136	11/14/2005
MW04-152-MS	11/2/2005	MW99-521	11/11/2005

Table 5

Off-site Wells Pentachlorophenol Data, in ug/L

	CP Rail- Jax Café	Jax Café- Jax Café	MDA-Jax Café	CP Rail- Hard Chrome	MDA-Hard Chrome	Gluek Park	Universal Plating	Sander & Co. (Gen. Mills)	Marshall Concrete	NSP	Sharon Ellis Res.
Unique No.	200256			Not available		439817	175857	200264	200252	200258	255292
Address	1928 University Ave NE			2631 2nd St NE		2104 Marshall St NE	1900 Monroe St NE	1620 Central Ave NE	2610 Marshall St NE	31st Ave NE & river	1813 2nd Ave NE
Date Sampled											
5/13/1998			53			ND					
5/26/1998			56								
5/26/1998	40		53.4								
6/5/1998				25							
6/29/1998			32.6								
8/27/1998					29.3						
10/9/1998	49										
7/2/1999			12.2		17.7	<0.2	203	<0.2	<0.2	<0.2	
3/30/2000		44									
6/6/2000											Suspect
9/18/2002		<1.2									
12/30/2002					114						
4/9/2003			161								
5/20/2003			195		102		293	3.92			
8/7/2003			110								
4/23/2004			152		98.7	<0.5	422				
9/28/2004			141		68.3		278				
4/13/2005			193		99.8		260				
9/15/2005			158		126		349				

ND = not detected above reporting limit
 Analysis by MDA lab unless noted otherwise
 Source: MDA

MDH HRL = 3 ug/L

Table 6
Jax Café Analytical Data
 All results in ug/l

Sample Date: Sample Point: Compound	4/9/2003		5/20/2003			8/7/2003			4/23/2004			9/28/2004			4/13/2005			9/15/2005			MDH HRL
	A	B	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
Pentachlorophenol (PCP)	161	141	195	161	88.3	110	75.5	76.5	152	118	89.8	141	154	55.8	193	144	82.2	158	118	37.7	3
2,3,4,5-Tetrachlorophenol	6.30	5.80	2.55	2.19	1.65	2.07	1.93	1.08	5.60	4.80	1.27	2.66	2.16	<1.5	1.90	1.64	1.36	2.5	2.54	1.04	--
2,3,4,6-Tetrachlorophenol	26.2	23.1	17.9	14.4	9.33	9.07	8.10	6.17	26.4	22.0	6.83	10.5	8.69	4.54	13.4	11.8	9.18	7.19	8.4	3.52	--
2,3,5-Trichlorophenol	0.54	<0.50	PP	PP	PP	PP	PP	PP	PP	PP	PP	<1.5	<1.5	<1.5	PP	0.70	0.54	PP	PP	PP	--
2,3,6-Trichlorophenol	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	<1.5	<1.5	<1.5	PP	PP	PP	PP	PP	PP	--
2,4-Dichlorophenol	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<1.5	<1.5	<1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	20
2,4,5-Trichlorophenol	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	PP	<1.5	<1.5	<1.5	0.51	PP	PP	PP	PP	PP	--
2,4,6-Trichlorophenol	PP	<0.50	PP	<0.50	<0.50	PP	PP	PP	PP	PP	PP	<1.5	<1.5	<1.5	PP	PP	PP	PP	PP	PP	30
3-Chlorophenol	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<1.5	<1.5	<1.5	<0.5	<0.5	<0.5	PP	<0.5	<0.5	--
3,4-Dichlorophenol	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<1.5	<1.5	<1.5	<0.5	<0.5	<0.5	PP	<0.5	<0.5	--
3,5-Dichlorophenol	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<1.5	<1.5	<1.5	<0.5	<0.5	<0.5	PP	<0.5	<0.5	--

Key: **A** = Well **B** = Pond below waterfall at start of stream **C** = End of stream by water wheel

Bold indicates exceedance of MDH - Health Risk Limit (-- indicates no HRL available)

Source: MDA

PP = compound detected in sample at concentration below its lab reporting limit

All samples collected and analyzed by MN Dept of Agriculture