Appendix 2: Tables

Table 1
Soil Analytical Results
Near-Surface (0-4') Samples
Excelsior City Park - Former Dump
Excelsior, Minnesota
(concentrations in mg/kg, unless noted otherwise)

Location Date Dup	MPCA Recreational SRV 12/10/2008	MPCA Tier I SLV	Q1-HA-comp 6/24/2008	Q2-HA-comp 6/24/2008	Q3-HA-comp 6/24/2008	Q3-HA-comp 6/24/2008 DUP	Q4-HA-comp 6/23/2008
Exceedance Key	**Bold**						
Metals							
Antimony	16	2.7	<0.56	<0.56	<0.54	<0.54	**20**
Arsenic	11	15.1	4.5	6.6	5.9	4.2	**15**
Beryllium	75	1.4	<0.28	<0.28	<0.27	<0.27	<0.27
Cadmium	35	4.4	<0.28	<0.28	<0.27	<0.27	8.5
Chromium	120 CR	18	14	12	12	16	36
Copper	100	400	13	11	15 *	34 *	**500**
Lead	300	525	11	14	74 *	49 *	**780**
Mercury	1.2 MC	1.6	<0.11	<0.11	<0.11	<0.11	0.21
Nickel	800	88	13	13	11	13	30
Selenium	200	1.5	<1.1	<1.1	<1.1	<1.1	<1.1
Silver	200	3.9	<0.28	<0.28	<0.27	<0.27	1.9
Thallium	3		<2.2	<2.2	<2.2	<2.2	<2.1
Zinc	12000	1500	39	32	56	64	3300
SVOCs/PAHs							
2-Methylnaphthalene	120		<0.37	<0.37	<0.36	<0.36	<0.35
Acenaphthene	1860	50	0.39	<0.37	<0.36	<0.36	<0.35
Acenaphthylene	--		0.53	<0.37	<0.36	<0.36	<0.35
Anthracene	10000	942	1.5	<0.37	<0.36	<0.36	<0.35
Benzo(g,h,i)perylene	--		1.0	<0.37	0.45	<0.36	<0.35
Carbazole	720		<0.37	<0.37	<0.36	<0.36	<0.35
Dibenzofuran	130		0.50	<0.37	<0.36	<0.36	<0.35
Fluoranthene	1290	295	4.4	0.50	1.2	0.94	1.1
Fluorene	1200	47	0.86	<0.37	<0.36	<0.36	<0.35
Naphthalene	24	7.5	<0.37	<0.37	<0.36	<0.36	<0.35
Nitrobenzene	--		<0.37	<0.37	<0.36	<0.36	<0.35
o-Cresol	95		<0.75	<0.75	<0.73	<0.73	<0.71
p-Cresol	11		<0.75	<0.75	<0.73	<0.73	<0.71
Pentachlorophenol	80		<0.75	<0.75	<0.73	<0.73	<0.71
Phenanthrene	--		4.3	<0.37	0.47	<0.36	0.48
Phenol	1500		<0.75	<0.75	<0.73	<0.73	<0.71
Pyrene	1060	272	4.2	0.47	1.0	0.78	1.0
Benzo(a)anthracene	T		2.3	<0.37	0.55	0.46	0.50
Benzo(b)fluoranthene	T		2.3	<0.37	0.83	0.70	0.74
Benzo(k)fluoranthene	T		0.98	<0.37	<0.36	<0.36	<0.35
Benzo(a)pyrene	T		1.9	<0.37	0.62	0.52	0.58
Chrysene	T		2.2	<0.37	0.64	0.52	0.55
Dibenz(a,h)anthracene	T		<0.37	<0.37	<0.36	<0.36	<0.35
Indeno(1,2,3-cd)pyrene	T		1.1	<0.37	0.45	<0.36	<0.35
BaP equivalent, non-detects at half of the detection limit.[1]	2 T	10.2	**2.7**	0.36	0.93	0.78	0.84
Dioxins/Furans, ng/kg							
2,3,7,8-TCDD	25 DI		0.142 EMPC	0.125 EMPC	0.676 EMPC	0.626 j	0.350 EMPC
1,2,3,7,8-Dioxin penta	--		0.279 EMPC	0.229 j	1.97 j	2.19 j	0.558 j
1,2,3,4,7,8-Dioxin, hexa	--		0.163 j	0.104 EMPC	0.814 j	0.948 j	0.335 j
1,2,3,6,7,8-Dioxin, hexa	--		0.745 j	0.921 j	60.1	44.3	1.70 j
1,2,3,7,8,9-Dioxin, hexa	--		1.26 j	0.965 j	13.2	9.52	1.24 EMPC
1,2,3,4,6,7,8-Dioxin, hepta	--		13.2	20.0	666 e	483 e	30.0
Dioxin octa	--		102	176	1620 e*	849 *	245
2,3,7,8-TCDF	--		<0.285	0.373 j	0.936 j	1.33	1.32 EMPC
1,2,3,7,8-Dibenzofuran, penta	--		0.117 j	0.224 j	1.63 j	1.25 j	0.875 j
2,3,4,7,8-Dibenzofuran, penta	--		0.121 EMPC	0.314 j	1.98 j	1.79 j	1.73 j
1,2,3,4,7,8-Dibenzofuran, hexa	--		0.259 EMPC	0.566 j	11.1	9.85	3.41
1,2,3,6,7,8-Dibenzofuran, hexa	--		0.203 j	0.258 j	6.41	5.70	1.46 j
1,2,3,7,8,9-Dibenzofuran, hexa	--		<0.0196	<0.0429	0.670 j	<0.718	0.0667 EMPC

Table 1
Soil Analytical Results
Near-Surface (0-4') Samples
Excelsior City Park - Former Dump
Excelsior, Minnesota
(concentrations in mg/kg, unless noted otherwise)

Location Date Dup	MPCA Recreational SRV 12/10/2008	MPCA Tier I SLV	Q1-HA-comp 6/24/2008	Q2-HA-comp 6/24/2008	Q3-HA-comp 6/24/2008	Q3-HA-comp 6/24/2008 DUP	Q4-HA-comp 6/23/2008
Exceedance Key	**Bold**						
2,3,4,6,7,8-Dibenzofuran, hexa	--		0.301 j	0.422 j	14.1	11.9	1.65 j
1,2,3,4,6,7,8-Dibenzofuran, hepta	--		2.65 j	4.98	647 e	571 e	8.52
1,2,3,4,7,8,9-Dibenzofuran, hepta	--		0.187 j	0.332 j	15.1	13.8	0.786 j
Dibenzofuran octa	--		7.34	19.1	707	684	16.7
TEQ_{DF} WHO05[2], non-detects at half of the detection limit	25	0.001	0.721 a	1.06 a	**27.7 a**	22.9 a	2.74 a
Dioxin penta, Total	--		11.8	8.41	25.3	22.4	24.0
Dioxin tetra, Total	--		7.20	2.79	9.92	10.5	15.5
Dioxin, hepta, Total	--		26.4	45.6	1460	910	63.1
Dioxin, hexa, Total	--		14.7	13.8	394	235	27.4
Dibenzofuran penta, Total	--		2.62 j	5.23	56.0	53.3	33.4
Dibenzofuran tetra, Total	--		1.32	10.8	28.3	28.3	43.5
Dibenzofuran, hepta, Total	--		8.27	18.3	2200	1870	23.3
Dibenzofuran, hexa, Total	--		4.77	7.99	822	645	29.0

Notes:

DUP	Duplicate sample.
--	No criteria/not analyzed.
*	Estimated value, QA/QC criteria not met.
ND	Not detected.
CR	Value represents the criterion for Chromium, hexavalent.
DI	Value represents a criterion for 2,3,7,8-TCDD or 2,3,7,8-TCDD equivalents.
EMPC	Estimated Maximum Possible Concentration.
MC	Mercury as Mercuric Chloride.
a	Estimated value, calculated using some or all values that are estimates.
e	Estimated value, exceeded the instrument calibration stage.
j	Reported value is less than the stated laboratory quantitation limit and is considered an estimated value.
T	Value represents criteria for the total carcinogenic PAHs as BaP. Total carcinogenic PAHs are: Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenz(a,h)anthracene, Chrysene and Indeno(1,2,3-cd)pyrene.

Table 2
Soil Analytical Results
Garden Soil Area
Excelsior City Park Dump
Excelsior, Minnesota
(concentrations in mg/kg, unless noted otherwise)

Location Date Dup	MPCA Recreational SRV 12/10/2008	Q1-G-NE-Comp 12/8/2008	Q1-G-NE-Comp 12/8/2008 DUP	Q1-G-NW-Comp 12/8/2008	Q1-G-SE-Comp 12/8/2008	Q1-G-SW-Comp 12/8/2008
Exceedance Key	**Bold**					
Metals						
Arsenic	11	4.9	5.1	4.6	5.1	4.9
Barium	1100	110	120	100	160	100
Cadmium	35	<0.30	<0.29	<0.29	0.62	<0.28
Chromium	120 CR	14	14	15	16	14
Lead	300	14	15	13	18	15
Mercury	1.2 MC	<0.12	<0.12	<0.12	<0.12	<0.11
Selenium	200	<1.2	<1.2	<1.2	<1.2	<1.1
Silver	200	<0.30	<0.29	<0.29	<0.29	<0.28
SVOCs/PAHs						
2-Methylnaphthalene	120	<0.39	<0.39	<0.38	<0.39	<0.38
Acenaphthene	1860	<0.39	<0.39	<0.38	<0.39	<0.38
Acenaphthylene	--	<0.39	<0.39	<0.38	<0.39	<0.38
Anthracene	10000	<0.39	<0.39	<0.38	1.5	<0.38
Benzo(g,h,i)perylene	--	0.43	0.39	0.79	0.7	<0.38
Carbazole	720	<0.39	<0.39	<0.38	<0.39	<0.38
Dibenzofuran	130	<0.39	<0.39	<0.38	<0.39	<0.38
Fluoranthene	1290	1.5	1	1.9	4.3	0.42
Fluorene	1200	<0.39	<0.39	<0.38	0.64	<0.38
Naphthalene	24	<0.39	<0.39	<0.38	<0.39	<0.38
Nitrobenzene	--	<0.39	<0.39	<0.38	<0.39	<0.38
o-Cresol	95	<0.80	<0.79	<0.78	<0.79	<0.76
p-Cresol	11	<0.80	<0.79	<0.78	<0.79	<0.76
Pentachlorophenol	80	<0.80	<0.79	<0.78	<0.79	<0.76
Phenanthrene	--	0.8	0.57	0.93	5.2	<0.38
Phenol	1500	<0.80	<0.79	<0.78	<0.79	<0.76
Pyrene	1060	1.5	1.1	1.8	4.1	0.42
Benzo(a)anthracene	T	0.8	0.57	1	2.1	<0.38
Benzo(b)fluoranthene	T	0.97	0.75	1.5	1.7	<0.38
Benzo(k)fluoranthene	T	<0.39	<0.39	0.56	0.77	<0.38
Benzo(a)pyrene	T	0.77	0.6	1.2	1.5	<0.38
Chrysene	T	0.83	0.62	1	2	<0.38
Dibenz(a,h)anthracene	T	<0.39	>0.39	<0.38	<0.39	<0.38
Indeno(1,2,3-cd)pyrene	T	0.48	0.4	0.82	0.81	<0.38
BaP equivalent, non-detects at half of the detection limit.[1]	2 T	1.1	0.91	1.7	**2.2**	0.37
Dioxins/Furans, ng/kg						
2,3,7,8-TCDD	25 DI	0.0881 EMPC	0.103 EMPC	0.135 j EMPC	0.155 j EMPC	<0.0212
1,2,3,7,8-Dioxin penta	--	0.240 j	0.329 j	0.245 j	0.371 j EMPC	0.331 j
1,2,3,4,7,8-Dioxin, hexa	--	0.258 j EMPC	0.304 j	0.195 j	0.264 j EMPC	0.231 j EMPC
1,2,3,6,7,8-Dioxin, hexa	--	0.985 j	1.28 j	1.0 j	1.05 j	1.62 j
1,2,3,7,8,9-Dioxin, hexa	--	1.03 j	2.02 j	1.33 j	1.61 j	2.14 j
1,2,3,4,6,7,8-Dioxin, hepta	--	21.7	33.1	25	24.9	43.8
Dioxin octa	--	208	275	214	222	437
2,3,7,8-TCDF	--	<0.585	<0.384	<0.618	<0.371	<0.386
1,2,3,7,8-Dibenzofuran, penta	--	0.124 j	<0.0350	<0.0559	0.134 j	0.115 j EMPC
2,3,4,7,8-Dibenzofuran, penta	--	0.172 j	0.150 j	<0.0559	0.172 j	0.161 j EMPC
1,2,3,4,7,8-Dibenzofuran, hexa	--	0.328 j	0.496 j	0.375 j	0.380 j	0.504 j EMPC
1,2,3,6,7,8-Dibenzofuran, hexa	--	0.228 j	0.337 j	0.216 j	0.164 j EMPC	0.304 j EMPC
1,2,3,7,8,9-Dibenzofuran, hexa	--	<0.108	<0.355	<0.12	<0.104	<0.0976
2,3,4,6,7,8-Dibenzofuran, hexa	--	0.228 j	0.435 j EMPC	0.368 j	0.364 j	0.508 j
1,2,3,4,6,7,8-Dibenzofuran, hepta	--	3.1	4.55	4.45 j EMPC	3.59	6.69
1,2,3,4,7,8,9-Dibenzofuran, hepta	--	0.254 j	0.339 j EMPC	<0.176	0.313 j EMPC	<0.205

Table 2
Soil Analytical Results
Garden Soil Area
Excelsior City Park Dump
Excelsior, Minnesota
(concentrations in mg/kg, unless noted otherwise)

Location Date Dup	MPCA Recreational SRV 12/10/2008	Q1-G-NE-Comp 12/8/2008	Q1-G-NE-Comp 12/8/2008 DUP	Q1-G-NW-Comp 12/8/2008	Q1-G-SE-Comp 12/8/2008	Q1-G-SW-Comp 12/8/2008
Exceedance Key	**Bold**					
Dibenzofuran octa	--	8.33	12.4	9.28	10.4	21.2
TEQ_{DF} WHO05[2], non-detects at half of the detection limit	25	0.982 a	1.39 a	1.05 a	1.06 a	1.51 a
Dioxin penta, Total	--	6.53	23.4	8.92	6.38	8.51
Dioxin tetra, Total	--	3.51	12.7	2.4	2.32	3.73
Dioxin, hepta, Total	--	43.2	69.7	53.8	50.9	95.4
Dioxin, hexa, Total	--	12.3	27.4	14.5	14.5	19.9
Dibenzofuran penta, Total	--	6.46	5.59	2.66 j	4.51	4.68
Dibenzofuran tetra, Total	--	2.04	3.38	1.72	2.99	1.6
Dibenzofuran, hepta, Total	--	9.53	14.5	8.67	11.3	24.2
Dibenzofuran, hexa, Total	--	3.56	4.65	6.95	3.84	9.08

Notes:

DUP	Duplicate sample.
--	No criteria/not analyzed.
*	Estimated value, QA/QC criteria not met.
ND	Not detected.
CR	Value represents the criterion for Chromium, hexavalent.
DI	Value represents a criterion for 2,3,7,8-TCDD or 2,3,7,8-TCDD equivalents.
EMPC	Estimated Maximum Possible Concentration.
MC	Mercury as Mercuric Chloride.
a	Estimated value, calculated using some or all values that are estimates.
e	Estimated value, exceeded the instrument calibration stage.
j	Reported value is less than the stated laboratory quantitation limit and is considered an estimated value.
T	Value represents a criterion for the total carcinogenic PAHs as BaP. Total carcinogenic PAHs are: Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenz(a,h)anthracene, Chrysene and Indeno(1,2,3-cd)pyrene.

Table 3a
Soil Results - Quadrant 1
Excelsior City Park
(concentrations in mg/kg)

Sample Location & Date	MPCA Recreational SRV	Q1 0-1 Comp 4/30/2009	Q1 1-2 Comp 4/30/2009	Q1 1-2 Comp 4/30/2009	Q1 2-3 Comp 4/30/2009
				DUP	
Exceedance Key	**Bold**				
SVOCs					
2-Methylnaphthalene	120	<0.13	<0.13	<0.13	<0.12
Acenaphthene	1860	<0.13	<0.13	<0.13	<0.12
Acenaphthylene	--	0.45	0.14	0.20	0.19
Anthracene	10000	0.42	<0.13	0.23	0.21
Benzo(e)pyrene	--	0.80	0.31	0.63	0.56
Benzo(g,h,i)perylene	--	0.73	0.35 *	0.64 *	0.57
Carbazole	720	<0.13	<0.13	<0.13	<0.12
Fluoranthene	1290	2.2	0.66 *	1.7 *	1.2
Fluorene	1200	<0.13	<0.13	<0.13	<0.12
Naphthalene	24	<0.13	<0.13	<0.13	<0.12
Perylene	--	0.32	0.13	0.25	0.21
Phenanthrene	--	1.0	0.23	0.82	0.51
Pyrene	1060	2.2	0.69 *	1.5 *	1.2
Benzo(a)anthracene	T	1.3	0.37	0.84	0.69
Benzo(b&j)fluoranthene	T	1.5	0.55	1.1	0.97
Benzo(k)fluoranthene	T	0.63	0.21	0.47	0.39
Benzo(a)pyrene	T	1.2	0.44 *	0.92 *	0.80
Chrysene	T	1.3	0.40 *	0.91 *	0.77
Dibenz(a,j)acridine	T	<0.13	<0.13	<0.13	<0.12
Dibenz(a,h)acridine	T	<0.13	<0.13	<0.13	<0.12
Dibenz(a,h)anthracene	T	0.20	<0.13	0.15	0.13
7h-Dibenzo(c,g)carbazole	T	<0.063	<0.064	<0.063	<0.062
Dibenzo(a,e)pyrene	T	<0.13	<0.13	<0.13	<0.12
Dibenzo(a,h)pyrene	T	0.18	<0.13	0.17	0.12
Dibenzo(a,i)pyrene	T	<0.13	<0.13	<0.13	<0.12
Dibenzo(a,l)pyrene	T	0.36	0.16	0.33	0.27
7,12-Dimethylbenz(a)anthracene	T	<0.13	<0.13	<0.13	<0.12
1,6-Dinitropyrene	T	<0.63	<0.64	<0.63	<0.62
1,8-Dinitropyrene	T	<0.32	<0.33	<0.32	<0.32
Indeno(1,2,3-cd)pyrene	T	0.76	0.34 *	0.65 *	0.56
3-Methylcholanthrene	T	<0.14	<0.14	<0.14	<0.14
5-Methylchrysene	T	0.18	<0.13	0.14	0.13
5-Nitroacenapthene	T	<0.13	<0.13	<0.13	<0.12
1-Nitropyrene	T	<0.13	<0.13	<0.13	<0.12
6-Nitrochrysene	T	<0.25	<0.26	<0.25	<0.25
2-Nitrofluorene	T	<0.13	<0.13	<0.13	<0.12
BaP equivalent, non-detects at half of the detection limit.1	2 T	**15**	**11 a**	**14 a**	**13**

Table 3a
Soil Results - Quadrant 1
Excelsior City Park
(concentrations in mg/kg)

DUP Duplicate sample.

* Estimated value, QA/QC criteria not met.

a Estimated value, calculated using some or all values that are estimates.

T Value represents a criterion for the total carcinogenic PAHs as BaP.

1 Total BaP equivalence (2002) calculated using half of the detection limit on the non detected compounds.

Table 3b
Soil Analytical Results
Quadrant 3
Excelsior City Park Dump
(concentrations in ng/kg)

Location Date	MPCA Recreational SRV 12/10/2008	Q3 0-1 Comp 4/30/2009	Q3 1-2 Comp 4/30/2009	Q3 2-3 Comp 4/30/2009
Exceedance Key	**Bold**			
Dioxins/Furans, ng/kg				
2,3,7,8-TCDD	25 DI	<0.0321	0.259 j EMPC	3.04
1,2,3,7,8-Dioxin penta	--	0.432 j	1.18 j	8.756
1,2,3,4,7,8-Dioxin, hexa	--	0.496 j	0.866 j	5.31
1,2,3,6,7,8-Dioxin, hexa	--	1.85 j	3.69	18
1,2,3,7,8,9-Dioxin, hexa	--	2.11 j	3.89	27.1
1,2,3,4,6,7,8-Dioxin, hepta	--	44.2	68.2	254
Dioxin octa	--	288	547	1060
2,3,7,8-TCDF	--	<0.167	0.592 j EMPC	8.41
1,2,3,7,8-Dibenzofuran, penta	--	<0.112	0.672 j EMPC	6.51
2,3,4,7,8-Dibenzofuran, penta	--	<0.107	1.40 j	11.5
1,2,3,4,7,8-Dibenzofuran, hexa	--	0.812 j	3.49	27.3
1,2,3,6,7,8-Dibenzofuran, hexa	--	0.447 j EMPC	1.73 h	12.4
1,2,3,7,8,9-Dibenzofuran, hexa	--	<0.154	<0.175	<0.199
2,3,4,6,7,8-Dibenzofuran, hexa	--	0.590 j	2.71 j	14.8
1,2,3,4,6,7,8-Dibenzofuran, hepta	--	9.44	18	57.8
1,2,3,4,7,8,9-Dibenzofuran, hepta	--	0.602 j EMPC	1.33 j	3.47
Dibenzofuran octa	--	17.9	38.9	47
TEQ_{DF} WHO05[2], non-detects at half of the detection limit	25	1.7 a	4.5 a	**30**
Dioxin penta, Total	--	16.1	38.6	187
Dioxin tetra, Total	--	1.68	8.99	191
Dioxin, hepta, Total	--	26.8	52.5	101
Dioxin, hexa, Total	--	15.4	34.5	115
Dibenzofuran penta, Total	--	3.57	23.7	134
Dibenzofuran tetra, Total	--	0.238 j	6.48	69.5
Dibenzofuran, hepta, Total	--	79.5	133	453
Dibenzofuran, hexa, Total	--	14.3	35.3	199

Notes:

--	No criteria.
DI	Value represents a criterion for 2,3,7,8-TCDD or 2,3,7,8-TCDD equivalents.
EMPC	Estimated Maximum Possible Concentration.
a	Estimated value, calculated using some or all values that are estimates.
j	Reported value is less than the stated laboratory quantitation limit and is considered an estimated value.

Table 3c
Soil Analytical Results (0-1 Feet) - Quadrant 4
Excelsior City Park Dump
(mg/kg)

Location Date	MPCA Recreational SRV 12/10/2008	Q4 0-1 Grab1 4/30/2009	Q4 0-1 Grab2 4/30/2009	Q4 0-1 Grab3 4/30/2009	Q4 0-1 Grab4 4/30/2009	Q4 0-1 Grab5 4/30/2009	Q4 0-1 Grab6 4/30/2009	Q4 0-1 Grab7 4/30/2009	Q4 0-1 Grab8 4/30/2009
Exceedance Key	**Bold**								
Metals									
Antimony	16	<0.57	<0.57	<0.57	0.62	<0.57	<0.57	<0.56	<0.55
Arsenic	11	5.5	5	3.9	4.2	5.4	4.5	4.1	4.8
Beryllium	75	<0.29	<0.28	<0.28	<0.29	<0.29	<0.29	<0.28	<0.27
Cadmium	35	<0.29	<0.28	<0.28	0.38	0.52	<0.29	<0.28	<0.27
Chromium	120 CR	13	14	14	13	11	13	12	16
Copper	100	12	12	12	16	11	11	14	16
Lead	300	12	22	8.4	36	25	23	65	35
Mercury	1.2 MC	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	0.12
Nickel	800	16	15	16	13	12	16	11	8.8
Selenium	200	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Silver	200	<0.29	<0.28	<0.28	<0.29	<0.29	<0.29	<0.28	<0.27
Thallium	3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.3	<2.2	<2.2
Zinc	12000	41	44	40	57	110	41	45	28

Notes:

CR Value represents the criteria for Chromium, hexavalent.

MC Mercury as Mercuric Chloride.

Table 3d
Soil Analytical Results (1-2 Feet) - Quadrant 4
Excelsior City Park Dump
(mg/kg)

Location Date	MPCA Recreational SRV 12/10/2008	Q4 1-2 Grab1 4/30/2009	Q4 1-2 Grab2 4/30/2009	Q4 1-2 Grab3 4/30/2009	Q4 1-2 Grab4 4/30/2009	Q4 1-2 Grab5 4/30/2009	Q4 1-2 Grab6 4/30/2009	Q4 1-2 Grab7 4/30/2009	Q4 1-2 Grab8 4/30/2009
Exceedance Key	**Bold**								
Metals									
Antimony	16	<0.58	1.3	3.6	4.1	**20**	<0.60	1	<0.57
Arsenic	11	4.7	6.6	8.7	6.5	9.8	4	4.4	4.9
Beryllium	75	<0.29	<0.38	0.86	<0.30	<0.30	<0.30	<0.27	<0.28
Cadmium	35	<0.29	1.5	2.4	1.4	4.6	<0.30	0.78	<0.28
Chromium	120 CR	13	15	19	19	28	15	18	12
Copper	100	10	47	99	36	**220**	13	30	11
Lead	300	6.4	**7300**	**340**	**300**	**380**	7.6	68	21
Mercury	1.2 MC	<0.12	<0.15	0.16	<0.12	<0.12	<0.12	<0.11	<0.11
Nickel	800	17	17	19	16	19	16	13	13
Selenium	200	<1.2	<1.5	<1.5	<1.2	<1.2	<1.2	<1.1	<1.1
Silver	200	<0.29	1.4	1.5	<0.30	1.8	<0.30	1.2	<0.28
Thallium	3	<2.3	<3.0	<3.0	<2.4	<2.4	<2.4	<2.2	<2.3
Zinc	12000	35	270	510	250	1000	39	140	33

Notes:

CR Value represents the criteria for Chromium, hexavalent.

MC Mercury as Mercuric Chloride.

Table 3e
Soil Analytical Results (1-2 Feet) - Quadrant 4
Excelsior City Park Dump
(mg/kg)

Location Date Dup	MPCA Recreational SRV 12/10/2008	Q41-2-Grb1&4 4/30/2009	Q41-2-Grb1&4 4/30/2009 DUP	Q41-2-Grb2&5 4/30/2009	Q41-2-Grb3&6 4/30/2009	Q41-2-Grb7&8 4/30/2009
SVOCs/PAHs						
2-Methylnaphthalene	120	<0.13	<0.13	<0.16	<0.14	<0.12
Acenaphthene	1860	<0.13	<0.13	<0.16	<0.14	<0.12
Acenaphthylene	--	<0.13	<0.13	<0.16	<0.14	0.30
Anthracene	10000	<0.13	<0.13	<0.16	0.16	0.39 *
Benzo(e)pyrene	--	<0.13	<0.13	0.23	0.35	1.2
Benzo(g,h,i)perylene	--	<0.13	<0.13	0.2	0.29	1.0 *
Carbazole	720	<0.13	<0.13	<0.16	<0.14	<0.12
Fluoranthene	1290	0.2	<0.13	0.66	0.63	3.2 *
Fluorene	1200	<0.13	<0.13	<0.16	<0.14	<0.12
Naphthalene	24	<0.13	<0.13	<0.16	<0.14	<0.12
Perylene	--	<0.13	<0.13	<0.16	0.16	0.49
Phenanthrene	--	0.18	<0.13	0.69	0.52	0.95
Pyrene	1060	0.29	0.13	0.67	0.68	3.1 *
Benzo(a)anthracene	T	0.13	<0.13	0.27	0.34	1.4
Benzo(b&j)fluoranthene	T	<0.26	<0.26	0.38	0.54	2.2
Benzo(k)fluoranthene	T	<0.13	<0.13	0.16	0.20	0.82
Benzo(a)pyrene	T	0.14	<0.13	0.27	0.39	1.5 *
Chrysene	T	0.13	<0.13	0.34	0.44	1.6
Dibenz(a,j)acridine	T	<0.13	<0.13	<0.16	<0.14	<0.12
Dibenz(a,h)acridine	T	<0.13	<0.13	<0.16	<0.14	<0.12
Dibenz(a,h)anthracene	T	<0.13	<0.13	<0.16	<0.14	0.23
7h-Dibenzo(c,g)carbazole	T	<0.065	<0.065	<0.08	<0.068	<0.061
Dibenzo(a,e)pyrene	T	<0.13	<0.13	<0.16	<0.14	<0.12
Dibenzo(a,h)pyrene	T	<0.13	<0.13	<0.16	<0.14	0.17
Dibenzo(a,i)pyrene	T	<0.13	<0.13	**<0.16**	<0.14	<0.12
Dibenzo(a,l)pyrene	T	<0.13	<0.13	<0.16	<0.14	0.38
7,12-Dimethylbenz(a)anthracene	T	<0.13	<0.13	<0.16	<0.14	<0.12
1,6-Dinitropyrene	T	<0.65	<0.65	<0.8	<0.68	<0.61
1,8-Dinitropyrene	T	<0.33	<0.33	<0.41	<0.35	<0.31
Indeno(1,2,3-cd)pyrene	T	<0.13	<0.13	0.19	0.28	1.0 *
3-Methylcholanthrene	T	<0.14	<0.14	<0.18	<0.15	<0.13
5-Methylchrysene	T	<0.13	<0.13	<0.16	<0.14	0.20
5-Nitroacenapthene	T	<0.13	<0.13	<0.16	<0.14	<0.12
1-Nitropyrene	T	<0.13	<0.13	<0.16	<0.14	<0.12
6-Nitrochrysene	T	<0.26	<0.26	<0.32	<0.27	<0.24
2-Nitrofluorene	T	<0.13	<0.13	<0.16	<0.14	<0.12
BaP equivalent, non-detects at half of the detection limit.[2]	2 T	**9.5**	**9.4**	**12**	**10**	**15 a**

Location Date Dup	MPCA Recreational SRV 12/10/2008	Q41-2-Grb1&4 4/30/2009	Q41-2-Grb1&4 4/30/2009 DUP	Q41-2-Grb2&5 4/30/2009	Q41-2-Grb3&6 4/30/2009	Q41-2-Grb7&8 4/30/2009
Dioxins/Furans, ng/kg						
2,3,7,8-TCDD	25 DI	0.326 j EMPC	0.512 j	<0.06	0.190 j EMPC	0.132 j EMPC
1,2,3,7,8-Dioxin penta	--	0.971 j EMPC	1.79 j	0.380 j	0.768 j	0.329 j
1,2,3,4,7,8-Dioxin, hexa	--	0.651 j	1.41 j	0.326 j EMPC	0.592 j	0.175 j
1,2,3,6,7,8-Dioxin, hexa	--	2.22 j	5.63	1.17 j	2.23 j	0.715 j
1,2,3,7,8,9-Dioxin, hexa	--	3.39	5.74	1.51 j	2.75 j	1.46 j
1,2,3,4,6,7,8-Dioxin, hepta	--	62.8	232	23.9 *	49.4 *	12.2
Dioxin octa	--	363	1620	182 *	387 *	91.4
2,3,7,8-TCDF	--	2.57	3.42	0.781 j	0.869 j EMPC	0.456 j EMPC
1,2,3,7,8-Dibenzofuran, penta	--	2.13 j	2.2 j	0.450 j	0.567 j EMPC	0.321 j
2,3,4,7,8-Dibenzofuran, penta	--	5.32	3.9 j	0.791 j	1.06 j	0.617 j
1,2,3,4,7,8-Dibenzofuran, hexa	--	11.7	10.1	1.73 j	2.78 j	1.33 j
1,2,3,6,7,8-Dibenzofuran, hexa	--	4.67	4.01	0.696 j	1.25 j	0.522 j
1,2,3,7,8,9-Dibenzofuran, hexa	--	0.0854 j EMPC	<0.158	<0.187	<0.165	<0.0655
2,3,4,6,7,8-Dibenzofuran, hexa	--	6.54	5.83	0.945 j	1.37 j	0.682 j EMPC
1,2,3,4,6,7,8-Dibenzofuran, hepta	--	13.5	24.4	3.79*	8.20 *	3.77
1,2,3,4,7,8,9-Dibenzofuran, hepta	--	0.922 j	1.69 j	0.293 j	0.450 j EMPC	0.267 j EMPC
Dibenzofuran octa	--	6.07	39.6	5.09 j*	11.4 *	5.99
TEQ_{DF} WHO05[2], non-detects at half of the detection limit	25	6.4 a	10.2 a	1.7 a	3.0 a	1.3 a
Dioxin penta, Total	--	69.2	74.5	12.3	17.6	12.1
Dioxin tetra, Total	--	77.9	83	14.2	22.1	6.73
Dioxin, hepta, Total	--	22.7	61.8	8.71	18.3	9.01
Dioxin, hexa, Total	--	42.2	56.3	8.63	16.6	8.94
Dibenzofuran penta, Total	--	42.1	44.3	8.23	17.7	15.3
Dibenzofuran tetra, Total	--	16.5	14.6	3.05	5.74	8.89
Dibenzofuran, hepta, Total	--	118	457	48.9	101	27.0
Dibenzofuran, hexa, Total	--	50.7	82.4	16	33.8	16.4

Notes:

DUP	Duplicate sample.
--	No criteria/not analyzed.
*	Estimated value, QA/QC criteria not met.
ND	Not detected.
DI	Value represents a criterion for 2,3,7,8-TCDD or 2,3,7,8-TCDD equivalents.
EMPC	Estimated Maximum Possible Concentration.
a	Estimated value, calculated using some or all values that are estimates.
e	Estimated value, exceeded the instrument calibration stage.
j	Reported value is less than the stated laboratory quantitation limit and is considered an estimated value.
T	Value represents a criterion for the total carcinogenic PAHs as BaP. Total carcinogenic PAHs are: Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenz(a,h)anthracene, Chrysene and Indeno(1,2,3-cd)pyrene.

Table 4
Monitoring Well Groundwater Analytical Results
Excelsior City Park Dump
(concentrations in ug/L, unless noted otherwise)

Location Dup	MN Health Risk Limits	EPA Maximum Contaminant Levels	MN Health Based Values	MW-101 3/12/2009	MW-101 3/12/2009 DUP	MW-201 3/12/2009	MW-102 3/12/2009	MW-103 3/12/2009
Exceedance Key	**Bold**	Underline	Box					
Metals								
Antimony	6	6	--	<1.1	<1.1	<1.1	<1.1	<1.1
Arsenic	--	10	--	9.1 j	9.9 j	7.9 j	4.3 j	6.6 j
Beryllium	0.08	4	--	<0.21	<0.21	<0.21	<0.21	<0.21
Cadmium	4	5	--	<0.099	<0.099	<0.099	<0.099	<0.099
Chromium	100	100	--	0.55 jb	0.52 jb	3.1 jb	0.86 jb	0.68 jb
Copper	--	1300 TT (7)	--	<1.4	<1.4	<1.4	<1.4	<1.4
Lead	--	15 TT (7)	--	<0.68	<0.68	<0.68	1.3 j	<0.68
Mercury	--	2	--	0.060 j	0.040 j	<0.031	0.050 j	0.060 j
Nickel	100	--	--	0.31 j	0.42 j	2.7 j	1.9 j	2.3 j
Selenium	30	50	--	<2.2	<2.2	9.0 jb	<2.2	<2.2
Silver	30	--	--	0.49 j	0.24 j	1.7 j	0.24 j	0.20 j
Thallium	0.6	2	--	<2.6	<2.6	<2.6	<2.6	<2.6
Zinc	2000	--	--	<4.4	<4.4	6.1 j	8.0 j	<4.4
SVOCs								
2-Methylnaphthalene	--	--	--	<0.30	<0.30	<0.30	1.1 j	<0.30
Acenaphthene	400	--	--	1.2 j	1.1 j	2.7 j	<0.14	<0.14
Acenaphthylene	--	--	--	<0.16	<0.16	<0.16	<0.16	<0.16
Anthracene	2000	--	--	1.6 j	1.0 j	0.56 j	<0.17	<0.17
Benzo(g,h,i)perylene	--	--	--	1.1 j	<0.22	<0.22	<0.23	<0.22
Benzoic Acid	30000	--	--	5.8 j	5.4 j	3.6 j	<0.71	8.6 j
Carbazole	--	--	20	1.4 j	1.1 j	5.1 j	<0.23	<0.22
Dibenzofuran	--	--	20	<0.25	<0.25	2.3 j	<0.25	<0.25
Fluoranthene	300	--	--	5.9 j	3.6 j	<0.21	<0.22	<0.21
Fluorene	300	--	--	1.6 j	<0.15	3.6 j	<0.15	<0.15
Phenanthrene	--	--	--	6.2 j	4.5 j	5.7 j	<0.12	<0.12
Pyrene	200	--	200	4.8 j	3.1 j	<0.22	<0.23	<0.22
Benzo(a)anthracene	--	--	T	1.7 j	1.1 j	<0.17	<0.17	<0.17
Benzo(b)fluoranthene	--	--	T	2.2 j	<0.17	<0.17	<0.17	<0.17
Benzo(k)fluoranthene	--	--	T	0.81 j	<0.20	<0.19	<0.20	<0.19
Benzo(a)pyrene	--	0.2	T	**1.4 j**	<0.21	<0.20	<0.21	<0.20
Chrysene	--	--	T	2.3 j	1.5 j	<0.14	<0.14	<0.14
Dibenz(a,h)anthracene	--	--	T	<0.23	<0.23	<0.23	<0.24	<0.23
Indeno(1,2,3-cd)pyrene	--	--	T	1.1 j	<0.18	<0.18	<0.18	<0.18
BaP equivalent, non-detects at half of the detection limit.[3]	--	--	0.05	2.1	0.32	0.20	0.21	0.20
VOCs								
1,2,4-Trimethylbenzene	--	--	100	0.53 j	0.54 j	<0.040	9.4	22
1,3,5-Trimethylbenzene	--	--	100	0.23 j	0.19 j	<0.051	1.5	3.8
Benzene	2	5	--	<0.10	0.57 j	<0.10	1.5	0.58 j
Butyl benzene	--	--	--	<0.057	<0.057	<0.057	0.69 j	0.53 j
Butylbenzene sec	--	--	--	<0.045	<0.045	<0.045	0.63 j	1.4
Butylbenzene tert-	--	--	--	<0.028	<0.028	<0.028	0.23 j	<0.028
Cumene (isopropyl benzene)	300	--	--	<0.064	0.14 j	<0.064	0.72 j	0.67 j
Cymene p- (Toluene isopropyl p-)	--	--	--	0.57 j	0.53 j	<0.040	1.9 j	2.1 j
Ethyl benzene		700	50	0.36 j	0.31 j	<0.064	1.8	1.8
Naphthalene	300	--	--	1.5 j	1.5 j	2.6 j	1.7 j	1.1 j
Propylbenzene	--	--	--	<0.044	<0.044	<0.044	0.61 j	1.1
Toluene		1000	200	<0.062	0.29 j	<0.062	0.78 j	0.63 j
Xylene m & p	10000	--	--	0.68 j	0.62 j	<0.16	1.8 j	4.1
Xylene o-	10000	--	--	0.56 j	0.46 j	<0.078	0.86 j	2.2
Xylenes total	10000	--	--	1.24 a	1.08 a	ND	2.66 a	6.3

Table 4
Monitoring Well Groundwater Analytical Results
Excelsior City Park Dump
(concentrations in ug/L, unless noted otherwise)

Location Dup	MN Health Risk Limits	EPA Maximum Contaminant Levels	MN Health Based Values	MW-101 3/12/2009	MW-101 3/12/2009 DUP	MW-201 3/12/2009	MW-102 3/12/2009	MW-103 3/12/2009
Exceedance Key	**Bold**	Underline	Box					
Dioxins/Furans, pg/L								
2,3,7,8-TCDD	--	--	--	1.78 j EMPC	2.21 j EMPC	<0.418	1.08 j EMPC	1.20 j EMPC
1,2,3,7,8-Dioxin penta	--	--	--	0.537 j EMPC	0.827 j EMPC	<0.336	6.76 j	2.13 j EMPC
1,2,3,4,7,8-Dioxin, hexa	--	--	--	0.619 j EMPC	0.803 j EMPC	<0.378	7.21 j	1.96 j
1,2,3,6,7,8-Dioxin, hexa	--	--	--	2.32 j EMPC	3.92 j	<0.309	27.5	9.73 j
1,2,3,7,8,9-Dioxin, hexa	--	--	--	1.96 j EMPC	3.50 j	<0.338	24.7 j	10.6 j
1,2,3,4,6,7,8-Dioxin, hepta	--	--	--	41.6	57.9	0.930	450	312
Dioxin octa	--	--	--	354	517	6.71	3690	5350
2,3,7,8-TCDF	--	--	--	<0.396	<0.509	<0.435	6.65 j	1.69 j EMPC
1,2,3,7,8-Dibenzofuran, penta	--	--	--	<0.232	<0.268	<0.200	3.99 j EMPC	1.75 j
2,3,4,7,8-Dibenzofuran, penta	--	--	--	0.551 j	0.704 j	<0.196	7.68 j	3.05 j
1,2,3,4,7,8-Dibenzofuran, hexa	--	--	--	1.46 j EMPC	2.05 j	<0.158	27.4	8.43 j
1,2,3,6,7,8-Dibenzofuran, hexa	--	--	--	0.837 j	0.892 j	<0.148	9.11 j	2.78 j
1,2,3,7,8,9-Dibenzofuran, hexa	--	--	--	<0.176	<0.322	<0.182	<1.85	<0.249
2,3,4,6,7,8-Dibenzofuran, hexa	--	--	--	0.867 j	1.09 j	<0.167	11.7 j	4.12 j
1,2,3,4,6,7,8-Dibenzofuran, hepta	--	--	--	14.4 j	16.7 j	<0.232	64.0	24.3 j
1,2,3,4,7,8,9-Dibenzofuran, hepta	--	--	--	1.23 j	<0.500	<0.306	5.13 j	1.47 j EMPC
Dibenzofuran octa	--	--	--	252	40.2 j	1.50	121	110
TEQ DF WHO05[4], non-detects at half of the detection limit	--	30	--	2.6 a	3.9 a	0.53	28 a	11 a
Dioxin penta, Total	--	--	--	17.7 j	21.8 j	<0.336	128	25.3
Dioxin tetra, Total	--	--	--	11.6	16.1	<0.418	43.8	7.72 j
Dioxin, hepta, Total	--	--	--	81.1	116	0.930 j	852	660
Dioxin, hexa, Total	--	--	--	27.4	42.2	<0.309	349	116
Dibenzofuran penta, Total	--	--	--	14.3 j	20.4 j	<0.196	115	40.5
Dibenzofuran tetra, Total	--	--	--	1.12 j	6.02 j	<0.435	98.9	36.9
Dibenzofuran, hepta, Total	--	--	--	40.7	48.7	<0.232	198	83.5
Dibenzofuran, hexa, Total	--	--	--	18.8 j	25.7	<0.148	103	43.8

DUP	Duplicate sample.
--	No criteria.
ND	Not detected.
EMPC	Estimated Possible Maximum Concentration.
TT	Treatment technique.
a	Estimated value, calculated using some or all values that are estimates.
b	Potential false positive due to blank data validation procedure.
j	EPA recommended sample preservation, extraction or analysis holding time was exceeded.
(1)	Lowest HBV value for toxicological endpoint of cancer is displayed. Higher HBV values exist for other toxicological endpoints. See documentation for other HBVs for this compound.
(2)	1998 Final Rule for Disinfectants and Disinfection By-products: The total for trihalomethanes is 0.08 mg/L.
(7)	Copper action level at 1.3 mg/L, Lead action level at 0.015 mg/L
T	Value represents a criterion for the total carcinogenic PAHs as BaP. Total carcinogenic PAHs are: Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenz(a,h)anthracene, Chrysene and Indeno(1,2,3-cd)pyrene.
3	Total BaP equivalence (2002) calculated using half of the detection limit on the non detected compounds.

Table 5

Soil Vapor Methane (%) and Selected VOC Analytical Results (ug/m^3)

Soil Vapor Probes, Excelsior City Park Dump

Soil Vapor Location	Methane (% by vol.)(1)	VOC→	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Benzene	1,3-Butadiene	Ethyl Benzene	Napthalene	Toluene	PCE(3)	Vinyl Chloride	Xylenes
		ISV(2)→	2,000	2000	1300	100	300,000	3,000	1,000,000	6,000	300	30,000
SV-1	28.5		200	73	66	18	49	730	82	<11	<11	196
SV-2	2.6		71	24	45	19	22	**3500**	32	<6.4	<6.4	77
SV-3	21.6											
SV-4	0.3											
SV-5	0.4											
SV-6	42.9		200	82	110	<27	27	57	27	<27	150	1193
SV-7	20.1		180	98	74	<13	160	20	140	45	250	610
SV-8	0.5											
SV-9	6.3											
SV-10	22											
SV-11	0.1											
SV-12	46.9		100	32	39	<11	38	890	41	<11	<11	79
SV-13	0											
SV-14	0											
SV-15	0											
SV-16	0											
SV-17	0											
SV-18	15.5		18	<6.9	13	9	13	24	18	<6.9	<6.9	28
SV-19	1.3											
SV-20	58.4		120	<63	<63	<63	<63	<63	<63	<63	<63	<130
SV-21	18.4											
SV-22	3.2											
SV-23	14.3		18	8.3	5.4	<2.1	25	250	20	<2.1	<2.1	34
SV-24	2.8											
SV-25	0											

Table 5

Soil Vapor Methane (%) and Selected VOC Analytical Results (ug/m^3)

Soil Vapor Probes, Excelsior City Park Dump

Soil Vapor Location	Methane (% by vol.)(1)	VOC→	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Benzene	1,3-Butadiene	Ethyl Benzene	Napthalene	Toluene	PCE(3)	Vinyl Chloride	Xylenes
		ISV(2)→	2,000	2000	1300	100	300,000	3,000	1,000,000	6,000	300	30,000
SV-26	0											
SV-27	0											
SV-28	0											
SV-29	0											
SV-30	0											
SV-31	0											
SV-32	0											
SV-33	0											
SV-34	0		18	6.1	43	<6	14	<6	19	<6	<6	40
SV-35	0											
SV-36	0.1		6	1.5	1.3	2.3	3.1	3.7	7.9	<0.6	<0.6	11
SV-37	0											
SV-38	0											
SV-39	0											
SV-40	0											
SV-41	0											
SV-42	0											
SV-43	0											
SV-44	0											
SV-45	0											
SV-46	0.3											
SV-47	0											
SV-48	18.2		12	3.5	26	6.4	5.1	0.66	13	2.8	0.8	23
SV-49	23.9											
SV-50	0.1											

Table 5

Soil Vapor Methane (%) and Selected VOC Analytical Results (ug/m^3)

Soil Vapor Probes, Excelsior City Park Dump

Soil Vapor Location	Methane (% by vol.)(1)	VOC→	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Benzene	1,3-Butadiene	Ethyl Benzene	Napthalene	Toluene	PCE(3)	Vinyl Chloride	Xylenes
		ISV(2)→	2,000	2000	1300	100	300,000	3,000	1,000,000	6,000	300	30,000
SV-51	0.1											
SV-52	0											
SV-53	1.9		20	14	6.6	4.6	5.7	1.9	11	3.8	<0.6	34
SV-54	14.1											
SV-55	9											
SV-56	70.1		<38	<38	<38	<38	<38	<38	<38	<38	<38	<76
SV-57	61.8											
SV-58	23.7											
SV-59	1.8											
SV-60	0.1											
SV-61	4		8.3	1.9	0.73	<0.6	2.5	2.6	4.9	<0.6	<0.6	13
SV-62	33.7											
SV-63	0.1											
SV-64	0											
SV-65	0											
SV-66	0											
SV-67	0											
SV-68	4											
SV-69	14.2		5	1.2	2.6	1.3	1.9	2	4.1	<0.6	<0.6	10
SV-70	0											
SV-71	14.9											
SV-72	0.3											
SV-73	0.3											

(1) Note the lower explosive limit (LEL) of methane is 5% by volume and the upper explosive limit (UEL) is 15% by volume.

(2) ISV represents 100x the MPCA Industrial ISV

(3) Tetrachloroethene

Table 6

Soil Vapor Methane (%) and Selected VOC Analytical Results (ug/m^3)

Permanent Vapor Monitoring Points, Excelsior City Park Dump

Location/ Date	Methane (% by vol.)(1)	VOC→	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Benzene	1,3-Butadiene	Ethyl Benzene	Napthalene	Toluene	PCE(3)	Vinyl Chloride	Xylenes
		ISV(2)→	2,000	2000	1300	100	300,000	3,000	1,000,000	6,000	300	30,000
VM-1												
8/5/2009	0.4		30	24	3.2	<0.66	4.3	4.4	6.9	2	<0.66	52
8/12/2009	6.8		8.1	10	0.97	<0.63	1.4	2.1	3.1	2.8	<0.63	10.6
8/20/2009	18.9		3.1	2.1	1.7	<0.61	1.1	<0.61	2.2	2.3	<0.61	5.2
9/2/2009	0.1		3.7	1	0.63	<0.6	0.82	1.7	2.6	2.4	<0.6	4.6
10/20/2009	0		1.1	<0.59	<0.59	<0.59	<0.59	<0.59	1.1	0.98	<0.59	<1.2
12/23/2009	x		<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	0.77	<0.63	<0.63	>1/3
VM-2												
8/5/2009	0.3		29	8.6	9.8	1.4	11	19	24	16	<0.65	46
8/12/2009	0.3		6.9	2.3	1.6	<0.63	2	6	6.7	7.1	<0.63	9.4
8/20/2009	0		2.6	0.63	<0.62	<0.62	<0.62	1.8	2.1	5.6	<0.62	3.3
9/2/2009	0.3		2.8	0.7	<0.61	<0.61	<0.61	0.75	1.5	3.5	<0.61	3
10/20/2009	0		1.1	<0.6	<0.6	<0.6	<0.6	<0.6	1.1	2	<0.60	<1.2
12/23/2009	x		2.6	0.77	3.3	<0.63	2.8	<0.63	52	1.8	<0.63	11.3
VM-3												
8/5/2009	25.2		44	15	<6.7	<6.7	11	220	18	60	<6.7	80
8/12/2009	0.2		3.7	1.1	<0.62	<0.62	1.5	4.5	3	110	<0.62	7.2
8/20/2009	0.1		2.6	<0.63	<0.63	<0.63	<0.63	2.5	1.7	120	<0.63	3
9/2/2009	0.1		2.5	<0.61	<0.61	<0.61	<0.61	2.2	1.8	120	<0.61	3.2
10/20/2009	0.2		<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	0.82	48	<0.61	<1.2
12/23/2009	x		1.7	<0.68	1.3	<0.68	1.5	<0.68	27	27	<0.68	6.5
VM-4												
8/5/2009	0.6		18	5.1	13	1.1	9.1	13	27	99	<0.65	29.6
8/12/2009	0.2		2.9	0.75	0.8	<0.6	1	1.4	3.6	52	<0.60	11.8
8/20/2009	0		2.1	<0.62	<0.62	<0.62	<0.62	1.4	1.8	100	<0.62	2.6
9/2/2009	0.3		1.6	<0.61	<0.61	<0.61	<0.61	0.92	0.81	98	<0.61	<1.2
10/20/2009	0		0.75	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	45	<0.59	<1.2
12/23/2009	x		<0.57	<0.57	<0.57	<0.57	<0.57	<0.57	<0.57	19	<0.57	<1.1
VM-5												
8/5/2009	0.4		43	21	21	<0.67	21	200	51	3.3	<0.67	107

Table 6

Soil Vapor Methane (%) and Selected VOC Analytical Results (ug/m^3)

Permanent Vapor Monitoring Points, Excelsior City Park Dump

Location/ Date	Methane (% by vol.)(1)	VOC→	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Benzene	1,3-Butadiene	Ethyl Benzene	Napthalene	Toluene	PCE(3)	Vinyl Chloride	Xylenes
		ISV(2)→	2,000	2000	1300	100	300,000	3,000	1,000,000	6,000	300	30,000
8/12/2009	0.5		18	7.2	2.5	<0.61	2.3	58	9	1.8	<0.61	29
8/20/2009	0		10	2.5	1.7	<0.6	1.2	20	4.9	1.9	<0.60	14.2
9/2/2009	0.2		6.9	1.7	1.4	<0.61	0.88	14	3.2	1.7	<0.61	9.2
10/20/2009	0		1.4	<0.6	<0.6	<0.6	<0.6	5.6	0.9	0.92	<0.60	<1.2
12/23/2009	x		<0.68	<0.68	<0.68	<0.68	<0.68	<0.68	0.9	<0.68	<0.68	<1.4
VM-6												
8/5/2009	0.4		13	3.6	4.4	<0.65	6.1	11	17	13	<0.65	22.4
8/12/2009	0.2		3	0.71	<0.61	<0.61	0.7	3.5	3.2	6.3	<0.61	3.8
8/20/2009	0		2.8	0.62	<0.6	<0.6	1.6	2	43	2.7	<0.60	7.3
9/2/2009	0.3		2.2	<0.61	<0.61	<0.61	<0.61	1.8	0.93	3.7	<0.61	2.2
10/20/2009	0		<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<1.2
12/23/2009	x		0.95	<0.69	<0.69	<0.69	<0.69	<0.69	3.5	0.73	<0.69	<1.4
VM-7												
8/5/2009	33.2		12	<6.4	<6.4	<6.4	<6.4	8	14	<6.4	<6.4	<6.4
8/12/2009	36.2		<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
8/20/2009	39.2		<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1
9/2/2009	42.2		<6.3	<6.3	<6.3	<6.3	<6.3	<6.3	<6.3	<6.3	<6.3	<6.3
10/20/2009	51.3		<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
12/23/2009	4.4		<0.64	<0.64	0.65	<0.64	<0.64	<0.64	1.7	<0.64	<0.64	<0.64

(1) Note the lower explosive limit (LEL) of methane is 5% by volume and the upper explosive limit (UEL) is 15% by volume.

(2) ISV represents 100x the MPCA Industrial ISV

(3) Tetrachloroethene x = instrument malfunction, no reading

Table 1
Soil Analytical Results
Near-Surface Samples
Excelsior City Park - Former Dump
Excelsior, Minnesota
Footnotes

DUP	Duplicate sample.
--	No criteria/not analyzed.
*	Estimated value, QA/QC criteria not met.
ND	Not detected.
CR	Value represents the criteria for Chromium, hexavalent.
DI	Value represents a criteria for 2,3,7,8-TCDD or 2,3,7,8-TCDD equivalents.
EMPC	Estimated Maximum Possible Concentration.
M	Value represents the criteria for mixed Xylenes.
MC	Mercury as Mercuric Chloride.
a	Estimated value, calculated using some or all values that are estimates.
e	Estimated value, exceeded the instrument calibration stage.
j	Reported value is less than the stated laboratory quantitation limit and is considered an estimated value.
T	Value represents a criteria for the total carcinogenic PAHs as BaP. Total carcinogenic PAHs are: Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenz(a,h)anthracene, Chrysene and Indeno(1,2,3-cd)pyrene.

1 Total BaP equivalence (2002) calculated using half of the detection limit on the non detected compounds.

	CAS No.	Site Conc. (mg/kg) dry weight	Relative Potency Factor	BaP Equivalent (mg/kg)
Benzo(a)anthracene	56553	0.000	0.1	0.000
Benzo(b)fluoranthene	205992	0.000	0.1	0.000
Benzo(k)fluoranthene	207089	0.000	0.1	0.000
Benzo(a)pyrene	50328	0.000	1	0.000
Chrysene	218019	0.000	0.01	0.000
Dibenz(a,h)anthracene	53703	0.000	0.56	0.000
Indeno(1,2,3-cd)pyrene	193395	0.000	0.1	0.000
		Total BaP equivalence = compare this value to the BaP criteria		0.000

2 Total TEQ_{DF} equivalents calculated using half of the detection limit on the non detected compounds.

	Site Conc.	Toxicity Equivalency Factor (WHO05)[q]	TEQ_{DF}
2,3,7,8-TCDD	0.000	1	0.000
1,2,3,7,8-Dioxin penta	0.000	1	0.000
1,2,3,4,7,8-Dioxin, hexa	0.000	0.1	0.000
1,2,3,6,7,8-Dioxin, hexa	0.000	0.1	0.000
1,2,3,7,8,9-Dioxin, hexa	0.000	0.1	0.000
1,2,3,4,6,7,8-Dioxin, hepta	0.000	0.01	0.000
Dioxin octa	0.000	0.0003	0.000
2,3,7,8-TCDF	0.000	0.1	0.000
1,2,3,7,8-Dibenzofuran, penta	0.000	0.03	0.000
2,3,4,7,8-Dibenzofuran, penta	0.000	0.3	0.000
1,2,3,4,7,8-Dibenzofuran, hexa	0.000	0.1	0.000
1,2,3,6,7,8-Dibenzofuran, hexa	0.000	0.1	0.000
2,3,4,6,7,8-Dibenzofuran, hexa	0.000	0.1	0.000
1,2,3,7,8,9-Dibenzofuran, hexa	0.000	0.1	0.000
1,2,3,4,6,7,8-Dibenzofuran, hepta	0.000	0.01	0.000
1,2,3,4,7,8,9-Dibenzofuran, hepta	0.000	0.01	0.000
Dibenzofuran octa	0.000	0.0003	0.000
	Total TEQ_{DF} =		0.000

q Van den Berg, et al., The 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds. ToxSci Advance Access published July 7, 2006.