TABLE 5
Soil Analytical Results - PCBs, Dioxins, and Furans
Proposed Strecker Forest Development
Wildwood, Missouri
MUNDELL Project No. 08044

Sample Location		2005 World Health Organization TEF	Table B-11 MRBCA Tier 1 Soil Concentrations Protective of Domestic Use of Groundwater Pathway	Table B-4 MRBCA Tier 1 Risk-Based Target Levels Residential Land Use Surface Soil (Ingestion, Inhalation (Vapor Emissions and Particulates) and Dermal Contact)	Table B-4 MRBCA Tier 1 Risk-Based Target Levels Residential Land Use Subsurface Soil Indoor Inhalation of Vapor Emissions	US EPA 2004 Region 9 Preliminary Remediation Goals (PRG) (Residential Soil)	B-01	B-02	B-03	B-04	B-05	B-06	DUP-2 B-06	B-07	B-08	B-09	B-10	B-11
(Depth)							(0.5-2.0')	(2.0-3.0')	(1.0-2.0')	(0.0-1.0')	(0.5-2.5')	(0.0-2.0')	(0.0-2.0')	(0.0-1.0')	(0.0-1.0')	(0.5-2.0')	(0.5-2.0')	(10.0-14.0')
Sample Collection Date							10/28/2009	11/4/2009	11/4/2009	11/4/2009	11/4/2009	11/4/2009	11/4/2009	11/4/2009	11/3/2009	11/5/2009	11/5/2009	11/4/2009
Chemical Constituent	**Units**																	
Arochlor-1016	mg/kg		**5.27**	**3.89**	**7,390**	**3.9**	< 0.042	< 0.042	< 0.042	< 0.041	< 0.042	< 0.042	< 0.042	< 0.044	< 0.044	< 0.041	< 0.041	< 0.038
Arochlor-1221[1]	mg/kg		**0.0977**	**1.02**	**3.96**	**0.22**	< 0.042	< 0.042	< 0.042	< 0.041	< 0.042	< 0.042	< 0.042	< 0.044	< 0.044	< 0.041	< 0.041	< 0.038
Arochlor-1232[1]	mg/kg		**---**			**0.22**	< 0.042	< 0.042	< 0.042	< 0.041	< 0.042	< 0.042	< 0.042	< 0.044	< 0.044	< 0.041	< 0.041 I U	< 0.038
Arochlor-1242[1]	mg/kg		**0.0558**	**1.05**	**43.8**	**0.22**	< 0.042	< 0.042	< 0.042	< 0.041	< 0.042	< 0.042	< 0.042	< 0.044	< 0.044	< 0.041	< 0.041	< 0.038
Arochlor-1248[1]	mg/kg		**1.44**	**1.1**	**429**	**0.22**	< 0.042	< 0.042	< 0.042	< 0.041	< 0.042	< 0.042	< 0.042	< 0.044	< 0.044	< 0.041	< 0.041	< 0.038
Arochlor-1254	mg/kg		**2.42**	**1.11**	**1,130**	**0.22**	< 0.042	< 0.042	< 0.042	< 0.041	< 0.042	< 0.042	< 0.042	< 0.044	< 0.044	< 0.041	< 0.041	< 0.038
Arochlor-1260[1]	mg/kg		**33.4**	**1.12**	**8,530**	**0.22**	< 0.042	< 0.042	< 0.042	< 0.041	< 0.042	< 0.042	< 0.042	< 0.044	< 0.044	< 0.041	0.033 J	< 0.038
1,2,3,4,6,7,8-HpCDD (heptadioxin)	pg/g	0.01	-	-	-	-	32	120	52	85	55	11	78	6.2	50	2.6 J	66	17
1,2,3,4,6,7,8-HpCDF (heptafuran)	pg/g	0.01	-	-	-	-	0.099 J	<5	<5	2.1 J	<5	<5	2.5 J	<5	5.3	<5	10 B	<5
1,2,3,4,7,8,9-HpCDF (heptafuran)	pg/g	0.01	-	-	-	-	<5	<5	<5	<5	<5	<5	< 5	<5	<5	<5	0.48 Q J	<5
1,2,3,4,7,8-HxCDD	pg/g	0.1	-	-	-	-	0.17 J	0.83 Q J	0.45 J	0.81 J	0.56 J	<5	0.94 J	<5	0.46 Q J	<5	0.31 J	<5
1,2,3,4,7,8-HxCDF	pg/g	0.1	-	-	-	-	<5	<5	<5	0.19 J	<5	<5	0.17 Q J	<5	0.48 C J	<5	0.77 Q J	<5
1,2,3,6,7,8-HxCDD (hexadioxin)	pg/g	0.1	-	-	-	-	0.19 Q J	0.86 J	0.64 J	1.4 J	0.73 J	<5	1.5 J	<5	1 Q J	<5	3.8 J	<5
1,2,3,6,7,8-HxCDF (hexafuran)	pg/g	0.1	-	-	-	-	<5	<5	<5	0.35 J	<5	<5	0.39 J	<5	0.51 Q J	<5	1.2 Q J	<5
1,2,3,7,8,9-HxCDD (hexadioxin)	pg/g	0.1	-	-	-	-	0.35 J	1.4 Q J	0.74 Q J	1.7 J	1 J	<5	2 J	<5	1.1 Q J	<5	1.1 J	0.46 J
1,2,3,7,8,9-HxCDF	pg/g	0.1	-	-	-	-	<5	<5	<5	<5	<5	<5	< 5	<5	<5	<5	<5	<5
1,2,3,7,8-PeCDD (pentadioxin)	pg/g	1	-	-	-	-	<5	<5	<5	<5	0.22 Q J	<5	0.46 Q J	<5	0.26 Q J	<5	0.24 Q J	<5
1,2,3,7,8-PeCDF (pentafuran)	pg/g	0.03	-	-	-	-	<5	<5	<5	<5	<5	<5	< 5	<5	<5	<5	<5	<5
2,3,4,6,7,8-HxCDF (hexafuran)	pg/g	0.1	-	-	-	-	<5	<5	<5	0.2 J	<5	<5	0.12 J	<5	0.23 Q J	<5	0.25 Q J	<5
2,3,4,7,8-PeCDF (pentafuran)	pg/g	0.3	-	-	-	-	<5	<5	<5	<5	<5	<5	< 5	<5	<5	<5	0.2 J	<5
Dioxin)	pg/g	1	-	-	-	**3.9**	<1	<1	<1	1.6	<1	<1	3.5	<1	3.7	<1	**150**	<1
2,3,7,8-TCDF (Tetrachlorodibenzofuran)	pg/g	0.1	-	-	-	-	<1	<1	<1	<1	<1	<1	< 1	<1	0.18 Q J	<1	1 Q	<1
1,2,3,4,6,7,8,9-OCDD (Octadioxin)	pg/g	0.0003	-	-	-	-	4000 B	14000 B E	3900 B	6500 B E	4300 B E	540 B	4,600 B E	320 B	2000 B	110 B	1600 B	840 B
1,2,3,4,6,7,8,9-OCDF (octafuran)	pg/g	0.0003	-	-	-	-	0.21 J	<10	<10	2.3 B J	<10	3.1 Q B J	1.5 B J	0.23 Q B J	9.3 J	<10	16	0.22 B J
Total HpCDD	pg/g		-	-	-	-	52	200	84	190	110	21	170	14	100	3.5 J	100	33
Total HpCDF	pg/g		-	-	-	-	0.099 J	<5	<5	3.5 Q J	<5	0.13 J	5 J	<5	12	<5	30 B Q	<5
Total HxCDD	pg/g		-	-	-	-	1.9 J Q	7.8 J Q	4.7 J Q	16 Q	8.1 J Q	1.5 J Q	16 Q	0.47 Q J	13 J Q	0.52 Q J	20 Q	1.9 J
Total HxCDF	pg/g		-	-	-	-	<5	<5	0.11 Q J	5.3 Q J	<5	0.073 Q J	5.7 J Q	<5	8.9 J Q	<5	24 Q	<5
Total PeCDD	pg/g		-	-	-	-	<5	<5	<5	0.96 Q J	0.22 Q J	<5	1.9 J Q	<5	0.6 Q J	<5	1 J Q	<5
Total PeCDF	pg/g		-	-	-	-	<5	<5	<5	2.1 Q J	<5	<5	2.1 J Q	<5	2.5 Q J	<5	7.9 J Q	<5
Total TCDD	pg/g		-	-	-	**3.9**	<1	<1	<1	2 Q	<1	<1	4.1 Q	<1	4 Q	<1	**160**	<1
Total TCDF	pg/g		-	-	-	-	<1	<1	<1	1.8	0.38 J	<1	1.9 J Q	<1	2.2 Q	<1	20 Q	<1
Calculated TEQ (dioxins and furans)	**pg/g**		**-**	**-**	**-**	**3.9**	1.59	**5.71**	1.87	**4.89**	2.29	0.27	**6.66**	0.16	**5.51**	0.06	**152.39**	0.47

NOTES:
1) All PCB results obtained using U.S. EPA SW-846 Method 8082A.
2) All Dioxins and Furans results obtained using U.S. EPA SW-846 Method 1613B.
3) 1 = Utilized US EPA PRG for Arochlor 1254 (otherwise not specifically defined).
4) All PCB concentrations reported in mg/kg (parts per million).
5) All Dioxin/Furan concentrations reported in og/g (parts per trillion)
6) < = sample not detected at concentration above method detection limit (MDL).
7) J = Estimated result. Result is less that the reporting limit (RL).
8) B = The associated method blank contains analyte at a level above the MDL.
9) E = Estimated result. Result concentration exceeds the calibration range.
10) D = Result was obtained from the analysis of a dilution.
11) TEQ = Toxic Equivalence
12) TEF = Toxic Equivalent Factor
13) S= Ion Supression.
14) Q = Estimated maximum possible concentration.
15) C = Co-eluting isomer.
16) I = Matrix Interference.
17) G = Elevated reporting limit. The reporting limit is elevated due to matrix interference
18) ND= Not detected.
19) Concentrations in **black bold** font represent an exceedance of MRBCA Table B-11 Tier 1 Soil Concentrations Protective of Domestic Use of Groundwater Pathway.

TABLE 5
Soil Analytical Results - PCBs, Dioxins, and Furans
Proposed Strecker Forest Development
Wildwood, Missouri
MUNDELL Project No. 08044

Sample Location		2005 World Health Organization TEF	Table B-11 MRBCA Tier 1 Soil Concentrations Protective of Domestic Use of Groundwater Pathway	Table B-4 MRBCA Tier 1 Risk-Based Target Levels Residential Land Use Surface Soil (Ingestion, Inhalation (Vapor Emissions and Particulates) and Dermal Contact)	Table B-4 MRBCA Tier 1 Risk-Based Target Levels Residential Land Use Subsurface Soil Indoor Inhalation of Vapor Emissions	US EPA 2004 Region 9 Preliminary Remediation Goals (PRG) (Residential Soil)	DUP-1 B-11	B-12	B-13	B-14	B-15	B-16	B-17	B-18	B-19	B-20	B-21
(Depth)							(10.0-14.0')	(3.0-5.0')	(13.0-15.0')	(6.0-9.0')	(13.0-17.0')	(8.0-10.0')	(4.0-5.0')	(7.5-9.5')	(1.0-2.0')	(6.0-7.0')	(0.0-1.0')
Sample Collection Date							11/4/2009	11/4/2009	11/4/2009	11/4/2009	11/4/2009	11/5/2009	10/16/2009	11/5/2009	10/16/2009	10/16/2009	10/16/2009
Chemical Constituent	**Units**																
Arochlor-1016	mg/kg		**5.27**	**3.89**	**7,390**	**3.9**	< 0.04	< 0.037	< 0.047	< 0.037	< 0.037	< 0.041	< 0.038	< 0.041	< 0.039	< 0.037	< 0.038
Arochlor-1221[1]	mg/kg		**0.0977**	**1.02**	**3.96**	**0.22**	< 0.04	< 0.037	< 0.047	< 0.037	< 0.037	< 0.041	< 0.038	< 0.041	< 0.039	< 0.037	< 0.038
Arochlor-1232[1]	mg/kg		**---**			**0.22**	< 0.04	< 0.037	< 0.047	< 0.037	< 0.037	< 0.041	< 0.038	< 0.041	< 0.039	< 0.037	< 0.038
Arochlor-1242[1]	mg/kg		**0.0558**	**1.05**	**43.8**	**0.22**	< 0.04	< 0.037	< 0.047	< 0.037	< 0.037	< 0.041	< 0.038	< 0.041	< 0.039	< 0.037	< 0.038
Arochlor-1248[1]	mg/kg		**1.44**	**1.1**	**429**	**0.22**	< 0.04	< 0.037	< 0.047	< 0.037	< 0.037	< 0.041	< 0.038	< 0.041	< 0.039	< 0.037	< 0.038
Arochlor-1254	mg/kg		**2.42**	**1.11**	**1,130**	**0.22**	< 0.04	< 0.037	< 0.047	< 0.037	< 0.037	< 0.041	< 0.038	< 0.041	< 0.039	< 0.037	< 0.038
Arochlor-1260[1]	mg/kg		**33.4**	**1.12**	**8,530**	**0.22**	< 0.04	< 0.037	< 0.047	< 0.037	< 0.037	< 0.041	< 0.038	< 0.041	< 0.039	< 0.037	< 0.038
1,2,3,4,6,7,8-HpCDD (heptadioxin)	pg/g	0.01	-	-	-	-	74	120	4 J	120	11	26	23	110	160 Q	4.1 J	32
1,2,3,4,6,7,8-HpCDF (heptafuran)	pg/g	0.01	-	-	-	-	< 5	<5	<5	<5	<5	0.43 Q B J	0.31 J	<5	<5	<5	0.91 J
1,2,3,4,7,8,9-HpCDF (heptafuran)	pg/g	0.01	-	-	-	-	< 5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,3,4,7,8-HxCDD	pg/g	0.1	-	-	-	-	0.65 Q J	0.42 J	<5	0.61 J	<5	0.3 J	<5	12 Q J	0.26 J	<5	0.21 Q J
1,2,3,4,7,8-HxCDF	pg/g	0.1	-	-	-	-	< 5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,3,6,7,8-HxCDD (hexadioxin)	pg/g	0.1	-	-	-	-	0.92 J	0.6 J	<5	0.6 Q J	0.18 J	0.39 Q J	<5	0.88 J	0.33 Q J	<5	0.3 J
1,2,3,6,7,8-HxCDF (hexafuran)	pg/g	0.1	-	-	-	-	< 5	0.14 J	<5	<5	<5	<5	<5	<5	<5	<5	0.083 Q J
1,2,3,7,8,9-HxCDD (hexadioxin)	pg/g	0.1	-	-	-	-	1.4 Q J	0.36 Q J	2.4 J	1.3 J	<5	0.52 Q J	0.2 Q J	1.5 J	0.59 Q J	0.21 Q J	0.65 J
1,2,3,7,8,9-HxCDF	pg/g	0.1	-	-	-	-	< 5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,3,7,8-PeCDD (pentadioxin)	pg/g	1	-	-	-	-	< 5	<5	<5	0.14 Q J	<5	<5	<5	0.34 J	<5	<5	<5
1,2,3,7,8-PeCDF (pentafuran)	pg/g	0.03	-	-	-	-	< 5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2,3,4,6,7,8-HxCDF (hexafuran)	pg/g	0.1	-	-	-	-	< 5	<5	<5	<5	<5	0.2 Q J	<5	<5	<5	<5	<5
2,3,4,7,8-PeCDF (pentafuran)	pg/g	0.3	-	-	-	-	< 5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dioxin)	pg/g	1	-	-	-	**3.9**	< 1	<1	<1	<1	0.35 Q J	<1	<1	<1	<1	<1	<1
2,3,7,8-TCDF (Tetrachlorodibenzofuran)	pg/g	0.1	-	-	-	-	< 1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3,4,6,7,8,9-OCDD (Octadioxin)	pg/g	0.0003	-	-	-	-	3,800 B	25000 B E	660 B	16000 B E	760 B	2100 B	1200 B	5200 B E	72000 S B E	450 B	3100 B
1,2,3,4,6,7,8,9-OCDF (octafuran)	pg/g	0.0003	-	-	-	-	0.18 Q B J	0.76 Q B J	0.15 B J	0.19 B J	0.23 Q B J	0.3 J	0.38 Q J	<10	0.63 J	<10	1.8 J
Total HpCDD	pg/g		-	-	-	-	130	270	8.1 J	260	21	46	39	130	580 Q	10	69
Total HpCDF	pg/g		-	-	-	-	< 5	<5	<5	<5	<5	0.78 Q J B	0.8 J	<5	<5	<5	1.1 Q J
Total HxCDD	pg/g		-	-	-	-	8 J Q	13 Q	2.6 Q J	8.2 J Q	0.6 Q J	3.1 Q J	1.4 J Q	9 J Q	6.4 J Q	1.5 J Q	2.9 Q J
Total HxCDF	pg/g		-	-	-	-	< 5	0.33 J	<5	<5	<5	0.69 Q J	<5	<5	<5	<5	0.31 Q J
Total PeCDD	pg/g		-	-	-	-	< 5	2.4 J	<5	1 J Q	<5	<5	<5	0.59 J	0.61 J	0.43 Q J	<5
Total PeCDF	pg/g		-	-	-	-	< 5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total TCDD	pg/g		-	-	-	**3.9**	< 1	<1	<1	<1	0.35 Q J	<1	<1	<1	<1	<1	<1
Total TCDF	pg/g		-	-	-	-	0.2 J	<1	<1	<1	<1	0.15 Q J	<1	<1	<1	0.15 Q J	<1
Calculated TEQ (dioxins and furans)	**pg/g**		**-**	**-**	**-**	**3.9**	2.18	**8.85**	0.48	**6.39**	0.71	1.04	0.61	**4.44**	**23.32**	0.20	1.38

NOTES:
1) All PCB results obtained using U.S. EPA SW-846 Method 8082A.
2) All Dioxins and Furans results obtained using U.S. EPA SW-846 Method 1613B.
3) 1 = Utilized US EPA PRG for Arochlor 1254 (otherwise not specifically defined).
4) All PCB concentrations reported in mg/kg (parts per million).
5) All Dioxin/Furan concentrations reported in og/g (parts per trillion)
6) < = sample not detected at concentration above method detection limit (MDL).
7) J = Estimated result. Result is less that the reporting limit (RL).
8) B = The associated method blank contains analyte at a level above the MDL.
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10) D = Result was obtained from the analysis of a dilution.
11) TEQ = Toxic Equivalence
12) TEF = Toxic Equivalent Factor
13) S= Ion Supression.
14) Q = Estimated maximum possible concentration.
15) C = Co-eluting isomer.
16) I = Matrix Interference.
17) G = Elevated reporting limit. The reporting limit is elevated due to matrix interference
18) ND= Not detected.
19) Concentrations in **black bold** font represent an exceedance of MRBCA Table B-11 Tier 1 Soil Concentrations Protective of Domestic Use of Groundwater Pathway.

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(Depth)							(5.0-7.0')	(0.0-1.0')	(1.0-2.0')	(0.5-1.5')	(8.0-10.0')	(0.5-2.5')	(0.5-1.5')	(0.5-2.0')	(0.0-1.0')	(0.5-2.5')	(11.0-14.0')	(4.0-8.0')	(4.0-8.0')
Sample Collection Date							11/13/2009	10/16/2009	10/15/2009	10/15/2009	11/5/2009	11/5/2009	10/16/2009	10/16/2009	10/16/2009	11/13/2009	11/5/2009	11/13/2009	11/13/2009
Chemical Constituent	**Units**																		
Arochlor-1016	mg/kg		**5.27**	**3.89**	**7,390**	**3.9**	< 0.037	< 0.036	< 0.041	< 0.042	< 0.038	< 0.039	< 0.041	< 0.041	< 0.042	< 0.039	< 0.038	< 0.045	< 0.04
Arochlor-1221[1]	mg/kg		**0.0977**	**1.02**	**3.96**	**0.22**	< 0.037	< 0.036	< 0.041	< 0.042	< 0.038	< 0.039	< 0.041	< 0.041	< 0.042	< 0.039	< 0.038	< 0.045	< 0.04
Arochlor-1232[1]	mg/kg		**---**			**0.22**	< 0.037	< 0.036	< 0.041	< 0.042	< 0.038	< 0.039	< 0.041	< 0.041	< 0.042	< 0.039	< 0.038	< 0.045	< 0.04
Arochlor-1242[1]	mg/kg		**0.0558**	**1.05**	**43.8**	**0.22**	< 0.037	< 0.036	< 0.041	< 0.042	< 0.038	< 0.039	< 0.041	< 0.041	< 0.042	< 0.039	< 0.038	< 0.045	< 0.04
Arochlor-1248[1]	mg/kg		**1.44**	**1.1**	**429**	**0.22**	< 0.037	< 0.036	< 0.041	< 0.042	< 0.038	< 0.039	< 0.041	< 0.041	< 0.042	< 0.039	< 0.038	< 0.045	< 0.04
Arochlor-1254	mg/kg		**2.42**	**1.11**	**1,130**	**0.22**	< 0.037	< 0.036	< 0.041	< 0.042	< 0.038	< 0.039	< 0.041	< 0.041	< 0.042	< 0.039	< 0.038	< 0.045	< 0.04
Arochlor-1260[1]	mg/kg		**33.4**	**1.12**	**8,530**	**0.22**	< 0.037	< 0.036	< 0.041	< 0.042	< 0.038	< 0.039	< 0.041	< 0.041	< 0.042	< 0.039	< 0.038	< 0.045	< 0.04
1,2,3,4,6,7,8-HpCDD (heptadioxin)	pg/g	0.01	-	-	-	-	9.9	110	140	38	67	65	96	4.8 J	97	29	42	14	9.8
1,2,3,4,6,7,8-HpCDF (heptafuran)	pg/g	0.01	-	-	-	-	<5	0.2 J	<5	0.56 J	<5	2.3 B J	0.19 Q J	0.1 Q J	0.49 J	0.14 J	12 B	0.19 Q J	1.1 J
1,2,3,4,7,8,9-HpCDF (heptafuran)	pg/g	0.01	-	-	-	-	<5	<5	<5	<5	<5	0.18 Q J	<5	<5	<5	<5	0.55 J	<5	< 5
1,2,3,4,7,8-HxCDD	pg/g	0.1	-	-	-	-	<5	0.95 J	0.27 J	0.51 J	0.43 Q J	0.58 J	1.1 J	<5	0.65 J	0.19 Q J	0.36 Q J	<5	< 5
1,2,3,4,7,8-HxCDF	pg/g	0.1	-	-	-	-	<5	<5	<5	0.12 J	<5	0.42 C J	<5	<5	<5	<5	0.64 Q J	<5	0.18 Q J
1,2,3,6,7,8-HxCDD (hexadioxin)	pg/g	0.1	-	-	-	-	<5	1.3 J	0.32 Q J	1.1 J	0.63 J	1.2 J	1.4 J	<5	0.85 J	0.17 Q J	1.7 J	<5	< 5
1,2,3,6,7,8-HxCDF (hexafuran)	pg/g	0.1	-	-	-	-	<5	<5	<5	0.65 Q J	<5	0.35 Q J	<5	<5	<5	<5	0.19 Q J	<5	< 5
1,2,3,7,8,9-HxCDD (hexadioxin)	pg/g	0.1	-	-	-	-	0.37 J	2 J	1 J	1.3 J	0.95 Q J	1.9 J	1.9 J	0.16 Q J	1.3 J	0.3 Q J	0.73 J	0.26 J	< 5
1,2,3,7,8,9-HxCDF	pg/g	0.1	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	< 5
1,2,3,7,8-PeCDD (pentadioxin)	pg/g	1	-	-	-	-	<5	0.3 Q J	<5	0.37 Q J	0.14 J	0.35 Q J	0.3 Q J	<5	<5	<5	<5	0.17 Q J	< 5
1,2,3,7,8-PeCDF (pentafuran)	pg/g	0.03	-	-	-	-	<5	<5	<5	<5	<5	0.18 Q J	<5	<5	<5	<5	<5	<5	< 5
2,3,4,6,7,8-HxCDF (hexafuran)	pg/g	0.1	-	-	-	-	<5	<5	<5	0.13 J	<5	0.22 Q J	<5	<5	<5	<5	<5	<5	< 5
2,3,4,7,8-PeCDF (pentafuran)	pg/g	0.3	-	-	-	-	<5	<5	<5	<5	<5	0.18 J	<5	<5	<5	<5	<5	<5	< 5
Dioxin)	pg/g	1	-	-	-	**3.9**	<1	<1	<1	<1	<1	0.65 J	<1	<1	<1	<1	0.85 J	<1	0.43 Q J
2,3,7,8-TCDF (Tetrachlorodibenzofuran)	pg/g	0.1	-	-	-	-	<1	<1	<1	<1	<1	0.48 Q J	<1	<1	<1	<1	<1	<1	0.11 Q J
1,2,3,4,6,7,8,9-OCDD (Octadioxin)	pg/g	0.0003	-	-	-	-	820 B	11000 B E	29000 B E	2000 B	9000 B E	6100 B E	7600 B E	210 S B	19000 B S E	7100 B E	960 B	2700 B	470 B
1,2,3,4,6,7,8,9-OCDF (octafuran)	pg/g	0.0003	-	-	-	-	<10	0.36 Q J	0.47 Q J	2.5 J	1.7 J	3.1 J	0.26 Q J	<10	1 J	0.4 J	19	0.22 Q J	1.7 Q J
Total HpCDD	pg/g		-	-	-	-	25	260	290	82	140	150	230	12	240	66	71	28	19
Total HpCDF	pg/g		-	-	-	-	<5	0.2 J	<5	1.4 J	<5	4.3 J B Q	0.19 Q J	0.1 Q J	0.69 Q J	0.14 J	31 Q B	0.19 Q J	2.9 J
Total HxCDD	pg/g		-	-	-	-	5.9	14 J Q	5.7 J Q	10 J Q	5.5 J Q	15 Q	17	0.98 J Q	10 J	6.2 J Q	7.9 J Q	4.6 J Q	6.4 J Q
Total HxCDF	pg/g		-	-	-	-	<5	<5	<5	18 Q	<5	4.5 J Q	<5	0.078 Q J	0.48 Q J	<5	12 J Q	0.14 Q J	0.69 J Q
Total PeCDD	pg/g		-	-	-	-	<5	0.57 Q J	0.36 J	0.37 Q J	0.14 J	1.9 Q J	1.3 Q J	<5	1 Q J	0.83 J	0.31 Q J	1.5 Q J	2.6 J
Total PeCDF	pg/g		-	-	-	-	<5	<5	<5	28 Q	<5	4.1 J Q	<5	<5	<5	<5	3.4 J Q	0.26 J	< 5
Total TCDD	pg/g		-	-	-	**3.9**	<1	<1	<1	<1	<1	1.1 J	<1	<1	<1	<1	0.85 J	<1	0.43 Q J
Total TCDF	pg/g		-	-	-	-	<1	<1	<1	17 Q	<1	4.7 Q	0.28 J	<1	0.44 Q J	<1	2.9 Q	0.24 J	0.42 J Q
Calculated TEQ (dioxins and furans)	**pg/g**		**-**	**-**	**-**	**3.9**	0.38	**5.13**	**10.26**	1.74	3.71	**4.08**	**3.98**	0.13	**6.96**	2.49	2.05	1.15	0.71

NOTES:
1) All PCB results obtained using U.S. EPA SW-846 Method 8082A.
2) All Dioxins and Furans results obtained using U.S. EPA SW-846 Method 1613B.
3) 1 = Utilized US EPA PRG for Arochlor 1254 (otherwise not specifically defined).
4) All PCB concentrations reported in mg/kg (parts per million).
5) All Dioxin/Furan concentrations reported in og/g (parts per trillion)
6) < = sample not detected at concentration above method detection limit (MDL).
7) J = Estimated result. Result is less that the reporting limit (RL).
8) B = The associated method blank contains analyte at a level above the MDL.
9) E = Estimated result. Result concentration exceeds the calibration range.
10) D = Result was obtained from the analysis of a dilution.
11) TEQ = Toxic Equivalence
12) TEF = Toxic Equivalent Factor
13) S= Ion Supression.
14) Q = Estimated maximum possible concentration.
15) C = Co-eluting isomer.
16) I = Matrix Interference.
17) G = Elevated reporting limit. The reporting limit is elevated due to matrix interference
18) ND= Not detected.
19) Concentrations in **black bold** font represent an exceedance of MRBCA Table B-11 Tier 1 Soil Concentrations Protective of Domestic Use of Groundwater Pathway.

TABLE 5

Soil Analytical Results - PCBs, Dioxins, and Furans

Proposed Strecker Forest Development

Wildwood, Missouri

MUNDELL Project No. 08044

Sample Location		2005 World Health Organization TEF	Table B-11 MRBCA Tier 1 Soil Concentrations Protective of Domestic Use of Groundwater Pathway	Table B-4 MRBCA Tier 1 Risk-Based Target Levels Residential Land Use Surface Soil (Ingestion, Inhalation (Vapor Emissions and Particulates) and Dermal Contact)	Table B-4 MRBCA Tier 1 Risk-Based Target Levels Residential Land Use Subsurface Soil Indoor Inhalation of Vapor Emissions	US EPA 2004 Region 9 Preliminary Remediation Goals (PRG) (Residential Soil)	B-34	B-35	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	DUP-4 MW-06	MW-07
(Depth)							(2.0-4.2')	(1.0-5.0')	(1.0-2.0')	(1.0-2.0')	(4.0-5.0')	(21.0-25.0')	(12.0-14.0')	(7.0-10.0')	(7.0-10.0')	(2.0-3.0')
Sample Collection Date							11/13/2009	11/13/2009	10/15/2009	10/15/2009	11/3/2009	10/19/2009	11/5/2009	11/13/2009	11/13/2009	11/3/2009
Chemical Constituent	**Units**															
Arochlor-1016	mg/kg		**5.27**	**3.89**	**7,390**	**3.9**	< 0.038	< 0.041	< 0.041	< 0.042	< 0.036	< 0.039	< 0.053	< 0.07 G	< 0.064 G	< 0.04
Arochlor-1221[1]	mg/kg		**0.0977**	**1.02**	**3.96**	**0.22**	< 0.038	< 0.041	< 0.041	< 0.042	< 0.036	< 0.039	< 0.053	< 0.053 I	< 0.039 I	< 0.04
Arochlor-1232[1]	mg/kg		**---**			**0.22**	< 0.038	< 0.041	< 0.041	< 0.042	< 0.036	< 0.039	< 0.053	< 0.2 G	< 0.18 G	< 0.04
Arochlor-1242[1]	mg/kg		**0.0558**	**1.05**	**43.8**	**0.22**	< 0.038	< 0.041	< 0.041	< 0.042	< 0.036	< 0.039	< 0.053	< 0.12 G (<0.0078 G)	< 0.11 G	< 0.04
Arochlor-1248[1]	mg/kg		**1.44**	**1.1**	**429**	**0.22**	< 0.038	< 0.041	< 0.041	< 0.042	< 0.036	< 0.039	< 0.053	**0.24**	0.21	< 0.04
Arochlor-1254	mg/kg		**2.42**	**1.11**	**1,130**	**0.22**	< 0.038	< 0.041	< 0.041	< 0.042	< 0.036	< 0.039	< 0.053	0.13	0.12	< 0.04
Arochlor-1260[1]	mg/kg		**33.4**	**1.12**	**8,530**	**0.22**	< 0.038	< 0.041	< 0.041	< 0.042	< 0.036	< 0.039	< 0.053	0.14	0.12	< 0.04
1,2,3,4,6,7,8-HpCDD (heptadioxin)	pg/g	0.01	-	-	-	-	19	15	12	110	56	13	3.4 J	700	720	2.6 J
1,2,3,4,6,7,8-HpCDF (heptafuran)	pg/g	0.01	-	-	-	-	<5	0.84 J	<5	<5	0.3 J	0.23 J	0.52 Q B J	120	78	<5
1,2,3,4,7,8,9-HpCDF (heptafuran)	pg/g	0.01	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	10	5.9 J	<5
1,2,3,4,7,8-HxCDD	pg/g	0.1	-	-	-	-	0.13 Q J	<5	<5	0.25 Q J	0.25 J	<5	<5	3.8 J	1.3 Q J	<5
1,2,3,4,7,8-HxCDF	pg/g	0.1	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	20 Q	12 C J	<5
1,2,3,6,7,8-HxCDD (hexadioxin)	pg/g	0.1	-	-	-	-	<5	0.29 Q J	<5	0.34 J	0.39 Q J	<5	<5	32	23 J	<5
1,2,3,6,7,8-HxCDF (hexafuran)	pg/g	0.1	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	4.7 J	6.4 Q J	<5
1,2,3,7,8,9-HxCDD (hexadioxin)	pg/g	0.1	-	-	-	-	0.54 Q J	0.53 J	<5	0.52 Q J	0.58 J	0.21 Q J	<5	8.3	7.5 J	<5
1,2,3,7,8,9-HxCDF	pg/g	0.1	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	<5	0.24 Q J	<5
1,2,3,7,8-PeCDD (pentadioxin)	pg/g	1	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	1.9 J	1.1 Q J	<5
1,2,3,7,8-PeCDF (pentafuran)	pg/g	0.03	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	1.4 J	0.73 Q J	<5
2,3,4,6,7,8-HxCDF (hexafuran)	pg/g	0.1	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	3.8 J	1.9 Q J	<5
2,3,4,7,8-PeCDF (pentafuran)	pg/g	0.3	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	5.1	2.4 J	<5
Dioxin)	pg/g	1	-	-	-	**3.9**	<1	0.25 Q J	<1	<1	<1	<1	<1	**9,100 E; 6,500 D**	**2,000**	<1
2,3,7,8-TCDF (Tetrachlorodibenzofuran)	pg/g	0.1	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	48	11	<1
1,2,3,4,6,7,8,9-OCDD (Octadioxin)	pg/g	0.0003	-	-	-	-	3400 B	1800 S B	3400 B	24000 B E	18000 B E	1700 B	690 B	11,000 B E	9,800 S B	1100 B
1,2,3,4,6,7,8,9-OCDF (octafuran)	pg/g	0.0003	-	-	-	-	0.23 Q J	1.4 Q J	0.65 J	0.33 Q J	1.6 J	0.6 Q J	3 J	220	110	<10
Total HpCDD	pg/g		-	-	-	-	43	30	28	240	130	28	8 J	1200	1200	6.2 J
Total HpCDF	pg/g		-	-	-	-	<5	2 J	<5	<5	0.53 Q J	0.46 J	2 Q J B	380 Q	250 Q	<5
Total HxCDD	pg/g		-	-	-	-	2.2 Q J	9 Q	<5	4.7 J Q	6.1 J Q	1.3 J Q	0.53 Q J	200 Q	140 Q	0.75 J
Total HxCDF	pg/g		-	-	-	-	<5	0.59 Q J	<5	<5	0.13 Q J	<5	1.2 Q J	240 Q	150 Q	<5
Total PeCDD	pg/g		-	-	-	-	<5	2.5 J Q	<5	0.62 J	0.69 Q J	<5	0.78 J	17 Q J	7.2 Q J	<5
Total PeCDF	pg/g		-	-	-	-	<5	<5	<5	<5	<5	<5	<5	200 Q	60 J Q	<5
Total TCDD	pg/g		-	-	-	**3.9**	<1	0.25 Q J	<1	<1	<1	<1	<1	**9,200 Q E**	**2,000 Q**	<1
Total TCDF	pg/g		-	-	-	-	<1	0.29 Q J	<1	<1	<1	<1	<1	1100 E Q	270 Q	<1
Calculated TEQ (dioxins and furans)	**pg/g**		**-**	**-**	**-**	**3.9**	1.28	1.03	1.14	**8.41**	**6.09**	0.66	0.25	**6,527.20**	**2,019.19**	0.36

NOTES:

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17) G = Elevated reporting limit. The reporting limit is elevated due to matrix interference
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19) Concentrations in **black bold** font represent an exceedance of MRBCA Table B-11 Tier 1 Soil Concentrations Protective of Domestic Use of Groundwater Pathway.