

**Solid Waste Perflourochemicals (PFCs) Evaluation**  
**Leachate/Gas Condensate: Shipped to Waste Water Treatment Plants for Disposal**  
**2006 and 2008 Sampling Events**

<b>CLIENT ID</b>	<b>Burnsville MSW - Leachate</b>	<b>Burnsville - Condensate</b>	<b>Burnsville - Condensate Dup</b>	<b>Burnsville WM MSW- Leachate</b>
<b>Date</b>	2006	2006	2006	2008
<b>AXYS ID</b>	L8782-11	L8782-9	L8782-10	L11532-16
<b>Workgroup</b>	WG18790	WG18812	WG18812	WG26121
<b>Sample Size</b>	0.207 L	0.502 L	0.501 L	0.0265 L
<b>Units</b>	ng/L	ng/L	ng/L	ng/L
<b>PFBA</b>	27.7	11.3	5.14	1300
<b>PFPeA</b>	67	7.62	7.84	489
<b>PFHxA</b>	781	30.6	40.7	2040
<b>PFHpA</b>	588	17.5	21.7	801
<b>PFOA</b>	1920	80.1	75.1	1100
<b>PFNA</b>	57.7	6.83	7.33	< 47.2
<b>PFDA</b>	18.7	28.4	29	< 47.2
<b>PFUnA</b>	< 6.89	3.23	5.05	< 47.2
<b>PFDoA</b>	< 8.22	4.93	4.99	< 47.2
<b>PFBS</b>	192	< 7.20	< 2.41	R 110
<b>PFHxS</b>	1440	< 8.02	< 7.82	318
<b>PFOS</b>	641	41.3	39.9	< 94.4
<b>PFOSA</b>	13.4	67.8	113	< 47.2

**NOTE:**

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- 3.NQ\*: not quantifiable due to matrix interference

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**2006 and 2008 Sampling Events**

<b>CLIENT ID</b>	<b>Burnsville WM Demo Leachate</b>	<b>Burnsville WM-MSW- Leachate Dup</b>	<b>City of Red Wing - Leachate</b>	<b>City of Red Wing Leachate</b>
<b>Date</b>	2008	2008	2006	2008
<b>AXYS ID</b>	L11532-17	L11532-18	L8782-16	L11647-27
<b>Workgroup</b>	WG26121	WG26121	WG18812	WG26442
<b>Sample Size</b>	0.0174 L	0.0273 L	0.499 L	0.498 L
<b>Units</b>	ng/L	ng/L	ng/L	ng/L
<b>PFBA</b>	1030	1410	37.3	173
<b>PFPeA</b>	626	522	110	182
<b>PFHxA</b>	1940	1940	169	320
<b>PFHpA</b>	1020	837	23.1	52.4
<b>PFOA</b>	1310	1370	22.7	157
<b>PFNA</b>	< 81.0	< 45.9	< 1.36	< 2.51
<b>PFDA</b>	< 71.8	< 45.9	< 1.08	< 2.51
<b>PFUnA</b>	< 71.8	< 45.9	< 0.955	< 2.51
<b>PFDoA</b>	< 71.8	< 45.9	< 1.14	< 2.51
<b>PFBS</b>	< 144	R 108	99.2	312
<b>PFHxS</b>	206	248	12	8.82
<b>PFOS</b>	< 144	< 91.7	6.19	< 5.02
<b>PFOSA</b>	< 71.8	< 45.9	< 0.923	< 2.51

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**2006 and 2008 Sampling Events**

<b>CLIENT ID</b>	<b>Clay Co SLF - Tank 2</b>	<b>Clay Co SLF - Tank 2 Dup</b>	<b>Clay Co Leachate Tank 2</b>	<b>Clay Co Leachate Tank 2 (Duplicate)</b>
<b>Date</b>	2006	2006	2008	2008
<b>AXYS ID</b>	L8782-20	L8782-21	L11603-10 (A)	WG26452-103 (DUP L11603-10)
<b>Workgroup</b>	WG18790	WG18790	WG26452	WG26452
<b>Sample Size</b>	0.260 L	0.265 L	0.100 L	0.105 L
<b>Units</b>	ng/L	ng/L	ng/L	ng/L
<b>PFBA</b>	6.36	12	261	211
<b>PFPeA</b>	42.9	41.6	327	328
<b>PFHxA</b>	449	517	593	546
<b>PFHpA</b>	268	289	303	280
<b>PFOA</b>	555	615	264	261
<b>PFNA</b>	14.3	12.9	13.2	13.4
<b>PFDA</b>	4.1	4.29	< 12.5	< 11.9
<b>PFUnA</b>	< 1.83	< 1.80	< 12.5	< 11.9
<b>PFDoA</b>	< 2.18	< 2.15	< 12.5	< 11.9
<b>PFBS</b>	111	99.7	115	121
<b>PFHxS</b>	851	849	52.4	57.9
<b>PFOS</b>	165	143	< 24.9	< 23.7
<b>PFOSA</b>	6.55	6.44	< 12.5	< 11.9

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**Leachate/Gas Condensate: Shipped to Waste Water Treatment Plants for Disposal**  
**2006 and 2008 Sampling Events**

<b>CLIENT ID</b>	<b>Clay Co SLF - Tank 1</b>	<b>Clay Co Leachate Tank 1</b>	<b>Elk River SLF - Leachate</b>	<b>Elk River Leachate</b>
<b>Date</b>	2006	2008	2006	2008
<b>AXYS ID</b>	L8782-22	L11603-9	L8782-23	L11532-11
<b>Workgroup</b>	WG18790	WG26452	WG18790	WG26121
<b>Sample Size</b>	0.213 L	0.101 L	0.203 L	0.0196 L
<b>Units</b>	ng/L	ng/L	ng/L	ng/L
<b>PFBA</b>	9.54	243	28.6	2980
<b>PFPeA</b>	21.8	226	51.4	987
<b>PFHxA</b>	106	379	1000	3300
<b>PFHpA</b>	64	446	758	1440
<b>PFOA</b>	66.6	299	1270	2080
<b>PFNA</b>	3.71	< 12.4	66	< 63.7
<b>PFDA</b>	< 2.52	< 12.4	12.7	< 63.7
<b>PFUnA</b>	< 2.24	< 12.4	< 7.02	< 63.7
<b>PFDoA</b>	< 2.67	< 12.4	< 8.38	< 63.7
<b>PFBS</b>	27.5	106	384	423
<b>PFHxS</b>	46.9	203	1700	221
<b>PFOS</b>	4.99	< 24.8	322	< 127
<b>PFOSA</b>	< 2.16	< 12.4	16.8	< 63.7

**NOTE:**

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**Solid Waste Perflourochemicals (PFCs) Evaluation**  
**Leachate/Gas Condensate: Shipped to Waste Water Treatment Plants for Disposal**  
**2006 and 2008 Sampling Events**

CLIENT ID	Elk River - Gas Condensate	Elk River - Gas Condensate	Pine Bend 219 Lined	Pine Bend 15 Unlined
Date	2006	2006	2005	2005
AXYS ID	L8782-24	L8782-24	L7789-6R	L7789-4R
Workgroup	WG18812	WG18812	WG15749	WG15749
Sample Size	0.500 L	0.500 L	4.86 mL	4.43 mL
Units	ng/L	ng/L	ng/l	ng/l
PFBA	5.26	5.26	1600	1400
PFPeA	14	14	2710	9230
PFHxA	104	104	13100	16900
PFHpA	290	290	3990	4270
PFOA	1290	1290	14200	29800
PFNA	97.4	97.4	243	235
PFDA	335	335	<42.0	70
PFUnA	159	159	<43.3	<47.5
PFDoA	153	153	<41.1	278
PFBS	< 13.3	< 13.3	1820	1890
PFHxS	< 24.7	< 24.7	4390	2180
PFOS	306	306	3140	4040
PFOSA	475	475	NQ	NQ

**NOTE:**

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**Solid Waste Perflourochemicals (PFCs) Evaluation**  
**Leachate/Gas Condensate: Shipped to Waste Water Treatment Plants for Disposal**  
**2006 and 2008 Sampling Events**

CLIENT ID	Pind Bend Gas Cond	Pind Bend Gas Cond (DUPLICATE)	Pine Bend East Tank	Pine Bend SLF East Tank
Date	2005	2005	2005	2008
AXYS ID	L7789-5R	WG15749-103	L7789-7R	L11742-5
Workgroup	WG15749	WG15749	WG15749	WG26599
Sample Size	5.06 mL	4.91 mL	4.40 mL	0.102 L
Units	ng/l	ng/l	ng/l	ng/L
PFBA	4280	4570	2200	1220
PFPeA	4510	5480	5020	422
PFHxA	35900	37900	28900	442
PFHpA	17500	15100	14700	260
PFOA	75300	83800	81800	2370
PFNA	785	788	884	129
PFDA	170	214	335	38
PFUnA	44	56	53	< 12.3
PFDoA	92	125	<45.5	< 12.3
PFBS	5890	6300	4780	141
PFHxS	12100	9480	7440	205
PFOS	26400	29900	31400	244
PFOSA	NA	NA	NA	42.2

**NOTE:**

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- 3.NQ\*: not quantifiable due to matrix interference

**Solid Waste Perflourochemicals (PFCs) Evaluation**  
**Leachate/Gas Condensate: Shipped to Waste Water Treatment Plants for Disposal**  
**2006 and 2008 Sampling Events**

<b>CLIENT ID</b>	<b>Pine Bend West Tank</b>	<b>Pine Bend SLF West Tank</b>	<b>Pine Bend SLF West Tank (Duplicate)</b>	<b>SKB Rich Valley - Leachate</b>
<b>Date</b>	2005	2008	2008	2006
<b>AXYS ID</b>	L7789-3R	L11742-6 (A)	WG26599-104 (DUP L11742-6)	L8782-15
<b>Workgroup</b>	WG15749	WG26599	WG26599	WG18790
<b>Sample Size</b>	4.36 mL	0.00839 L	0.00864 L	0.500 L
<b>Units</b>	ng/l	ng/L	ng/L	ng/L
<b>PFBA</b>	1620	23900	23000	36.6
<b>PFPeA</b>	7710	2930	3160	88.6
<b>PFHxA</b>	21600	2450	2400	320
<b>PFHpA</b>	7500	633	690	160
<b>PFOA</b>	41500	1440	1450	829
<b>PFNA</b>	381	< 149	< 145	12.4
<b>PFDA</b>	109	< 149	< 145	3.99
<b>PFUnA</b>	<48.3	< 149	< 145	< 3.13
<b>PFDoA</b>	<45.9	< 149	< 145	< 3.41
<b>PFBS</b>	2570	< 298	294	80.7
<b>PFHxS</b>	4280	< 298	< 289	566
<b>PFOS</b>	8180	< 298	< 289	318
<b>PFOSA</b>	NA	< 149	< 145	3.05

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**2006 and 2008 Sampling Events**

<b>CLIENT ID</b>	<b>SKB Rich Valley Leachate</b>	<b>SKB Rosemount Cell 4B - Leachate</b>	<b>SKB Rosemount Cell 4B - Leachate Dup</b>	<b>SKB Rosemount Cell 2C - Leachate</b>
<b>Date</b>	2008	2006	2006	2006
<b>AXYS ID</b>	L11561-16	L8782-13	L8782-14	L7995-3R
<b>Workgroup</b>	WG26307	WG18790	WG18790	WG16412/16480
<b>Sample Size</b>	0.103 L	0.500 L	0.500 L	0.00102 L
<b>Units</b>	ng/L	ng/L	ng/L	ng/L
<b>PFBA</b>	1270	23.8	20.1	23500
<b>PFPeA</b>	< 19.9	48.5	39.5	9150
<b>PFHxA</b>	277	65.8	65.6	9050
<b>PFHpA</b>	148	37.2	33.2	2370
<b>PFOA</b>	603	40.5	37.6	9640
<b>PFNA</b>	< 12.1	< 1.36	< 1.36	<263
<b>PFDA</b>	< 12.1	< 1.07	< 1.07	<254
<b>PFUnA</b>	< 12.1	< 0.952	< 0.951	<251
<b>PFDoA</b>	< 12.1	< 1.14	< 1.14	<250
<b>PFBS</b>	199	628	615	3450
<b>PFHxS</b>	592	24.1	21	1360
<b>PFOS</b>	< 24.2	9.25	10	4780
<b>PFOSA</b>	< 12.1	1.14	1.06	<245

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**2006 and 2008 Sampling Events**

CLIENT ID	SKB Rosemount Cell 2C - Leachate (DUPLICATE)	SKB Rosemount Leachate	SKB Rosemount Leachate (Duplicate)	Spruce Ridge Leachate
Date	2006	2008	2008	2008
AXYS ID	WG16480-103	L11561-13 (A)	WG26175-105 (DUP L11561-13)	L11701-14
Workgroup	WG16412/16480	WG26175	WG26175	WG26521
Sample Size	0.00102 L	0.0216 L	0.0234 L	0.0883 L
Units	ng/L	ng/L	ng/L	ng/L
PFBA	24600	15800	15500	1120
PFPeA	8760	3820	3660	66
PFHxA	9370	6650	6580	1560
PFHpA	2600	1840	1860	739
PFOA	8060	17600	16900	763
PFNA	<262	< 58.0	< 53.4	< 15.5
PFDA	<253	< 58.0	< 53.4	< 14.2
PFUnA	<250	< 58.0	< 53.4	< 14.2
PFDoA	<249	< 58.0	< 53.4	< 14.2
PFBS	3410	2640	2600	1090
PFHxS	1110	170	148	205
PFOS	2720	< 116	< 107	< 28.3
PFOSA	<244	< 58.0	< 53.4	< 14.2

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**Solid Waste Perflourochemicals (PFCs) Evaluation**  
**Leachate/Gas Condensate: Shipped to Waste Water Treatment Plants for Disposal**  
**2006 and 2008 Sampling Events**

<b>CLIENT ID</b>	<b>Spruce Ridge Phase IV - Leachate</b>	<b>Spruce Ridge - Mixed Leachate</b>	<b>Spruce Ridge - Gas Condensate</b>	<b>Spruce Ridge - Demo Leachate</b>
<b>Date</b>	2006	2006	2006	2006
<b>AXYS ID</b>	L8782-25	L8782-26	L8782-27	L8782-28
<b>Workgroup</b>	WG18790	WG18790	WG19073	WG18790
<b>Sample Size</b>	0.201 L	0.261 L	0.250 L	0.501 L
<b>Units</b>	ng/L	ng/L	ng/L	ng/L
<b>PFBA</b>	39.8	21.1	12.6	39.4
<b>PFPeA</b>	92.6	34.2	25.9	532
<b>PFHxA</b>	1300	754	42.2	2350
<b>PFHpA</b>	876	435	19.1	587
<b>PFOA</b>	1280	2400	84.9	1060
<b>PFNA</b>	38.6	98.5	4.09	50.8
<b>PFDA</b>	< 7.99	33.9	13.5	4.5
<b>PFUnA</b>	< 7.10	< 5.46	2.27	< 2.85
<b>PFDoA</b>	< 8.47	< 6.52	2.99	< 3.40
<b>PFBS</b>	343	448	< 4.82	230
<b>PFHxS</b>	1880	1940	< 6.15	826
<b>PFOS</b>	280	732	27.9	613
<b>PFOSA</b>	< 6.86	30.3	288	4.59

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**2006 and 2008 Sampling Events**

CLIENT ID	Steele Co SLF - Phase III	Steele Co SLF - Phase IV	Steele Co SLF - Phase I,II	Steele Co SLF - Phase I,II (Duplicate)
Date	2006	2006	2006	2006
AXYS ID	L8782-18	L8782-19	L8782-17 (A)	WG18790-104 (DUP L8782-17)
Workgroup	WG18790	WG18790	WG18790	WG18790
Sample Size	0.499 L	0.508 L	0.501 L	0.251 L
Units	ng/L	ng/L	ng/L	ng/L
PFBA	14.6	14.8	3.8	4.18
PFPeA	31.6	24	14.1	15.2
PFHxA	364	327	47.5	50.6
PFHpA	197	189	33.9	33.8
PFOA	659	512	96.3	99.2
PFNA	13.5	51	2.27	< 2.71
PFDA	3.74	12.3	1.25	< 2.14
PFUnA	< 2.86	< 2.81	< 0.954	< 1.90
PFDoA	< 3.41	< 3.70	< 1.13	< 2.26
PFBS	83	45.4	15.8	14.1
PFHxS	854	687	26.6	22
PFOS	176	208	54.2	55.4
PFOSA	4.4	8.82	3.5	5.67

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**2006 and 2008 Sampling Events**

<b>CLIENT ID</b>	<b>Steele Co SLF Phase 3-West Leachate Tank</b>	<b>Steele Co SLF MH-1A Phase 1 Leachate</b>	<b>Steele Co SLF Phase 4 Leachate</b>	<b>Steele Co SLF Phase 4 Leachate Dup</b>
<b>Date</b>	2008	2008	2008	2008
<b>AXYS ID</b>	L11647-12	L11647-11	L11647-13	L11647-14
<b>Workgroup</b>	WG27030	WG26796	WG26796	WG26796
<b>Sample Size</b>	0.0981 L	0.215 L	0.0463 L	0.0721 L
<b>Units</b>	ng/L	ng/L	ng/L	ng/L
<b>PFBA</b>	401	111	433	348
<b>PFPeA</b>	127	32.7	270	240
<b>PFHxA</b>	449	65.2	877	846
<b>PFHpA</b>	170	59.9	676	660
<b>PFOA</b>	501	125	556	511
<b>PFNA</b>	< 18.9	< 5.80	< 31.2	18.9
<b>PFDA</b>	13.4	< 5.80	< 27.0	< 17.3
<b>PFUnA</b>	< 12.7	< 5.80	< 27.0	< 17.3
<b>PFDoA</b>	< 12.7	< 5.80	< 27.0	< 17.3
<b>PFBS</b>	167	69.8	345	321
<b>PFHxS</b>	375	31.3	198	163
<b>PFOS</b>	< 25.5	< 11.6	< 54.0	< 34.7
<b>PFOSA</b>	< 12.7	< 5.80	< 27.0	< 17.3

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**2006 and 2008 Sampling Events**

<b>CLIENT ID</b>	<b>Veolia Rolling Hills Leachate</b>	<b>Veolia Rolling Hills Leachate (Duplicate)</b>	<b>Voyageurs Landfill - Leachate</b>	<b>Voyageurs Industrial Leachate</b>
<b>Date</b>	2008	2008	2006	2008
<b>AXYS ID</b>	L11647-23 (A)	WG26442-103 (DUP L11647-23)	L8792-4	L11561-25
<b>Workgroup</b>	WG26442	WG26442	WG18790	WG26307
<b>Sample Size</b>	0.0435 L	0.0469 L	0.516 L	0.0947 L
<b>Units</b>	ng/L	ng/L	ng/L	ng/L
<b>PFBA</b>	4210	4010	23	NQ*
<b>PFPeA</b>	392	328	61.1	74.7
<b>PFHxA</b>	1110	1100	577	566
<b>PFHpA</b>	571	547	243	408
<b>PFOA</b>	1150	1210	623	376
<b>PFNA</b>	< 28.7	< 26.6	62.3	37.6
<b>PFDA</b>	< 28.7	< 26.6	< 6.23	< 13.2
<b>PFUnA</b>	< 28.7	< 26.6	< 5.53	< 13.2
<b>PFDoA</b>	< 28.7	< 26.6	< 6.60	< 13.2
<b>PFBS</b>	15100	14400	64.6	317
<b>PFHxS</b>	248	231	118	58.2
<b>PFOS</b>	< 57.5	< 53.3	45.8	< 26.4
<b>PFOSA</b>	< 28.7	< 26.6	< 5.35	< 13.2

**NOTE:**

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- 2.ng/l: Nanograms per liter (part per trillion)
- 3.NQ\*: not quantifiable due to matrix interference