

Solid Waste Perfluorochemicals (PFCs) Evaluation
Landfill Gas Results, 2007
Veolia and Pine Bend Landfill

	PFC-LIN-292SA-D,,				102,,SPM	103,,SPM	104,,SPM	BLK
	Opening		Closing		Flat filter	1/2 Puff	20g XAD	101
	%Rec	%Rec	%Rec	%Rec	%Rec	%Rec	%Rec	ng
PFBA	108.3	93.2	100.0	110.5	105.9	113.0	96.6	ND 0.5
PFPeA	93.9	104.9	107.2	95.3	104.5	102.0	93.6	ND 0.5
PFHxA	87.7	100.5	95.6	93.0	111.5	93.0	88.5	ND 0.5
PFHpA	98.7	94.1	103.6	95.6	114.8	71.6	81.8	ND 0.5
PFOA	82.1	83.1	91.6	92.5	90.5	85.2	70.2	ND 0.5
PFNA	96.3	96.7	101.5	91.0	81.4	91.0	71.3	ND 0.5
PFDA	91.7	92.0	90.4	100.1	89.8	93.4	83.1	ND 0.5
PFUnA	98.5	89.0	94.5	109.5	97.7	85.7	70.3	ND 0.5
PFDoA	90.0	101.5	98.3	96.2	109.9	108.8	88.2	ND 0.5
PFBS(80)	72.1	96.6	91.3	84.8	129.6	116.9	348.6	ND 1.000
PFHxS(80)	68.7	84.9	96.1	96.0	141.0	118.3	189.1	ND 1.000
PFOS(80)	75.1	95.0	97.9	93.2	106.0	107.2	110.0	ND 1.000
PFOSA	70.9	88.7	105.4	90.0	114.2	106.1	127.0	ND 0.5

NOTES:

1. Original lab data reported in nanograms was converted to picograms per meter cubed by multiplying each value by 1000 and dividing by the sample volume in meters cubed.
2. Sample Volumes:
Pine Bend 1: 206.049 m3
Pine Bend 2: 196.85 m3
Veolia 1: 206.435 m3
Veolia 2: 167.446 m3
3. Detection limits modified to 0.0 where ND so that calculations could be made for "Total" on the pg/m3 sheet.
4. Due to apparent breakthrough of contaminant in samples "Total" results must be interpreted as "greater than" the "Total" value.
5. To get a total concentration of any one parameter you must add the value of the Filter, PUF Front, XAD, and PUF Back.
6. When comparing results of PUF Front to PUF Back, when values are equivalent to each other this suggests a significant amount of the contaminant may have broken through. When PUF Back is significantly less than PUF Front, as in PFOA result for Veolia 1, than this suggests that the contaminant may not have broken through and was captured by the sampling device. In looking at all the results, the PUF Back values for most of the results suggest a good deal of break through may have occurred.
7. Because of Note # 2 above, all results should be interpreted as >value.

Solid Waste Perfluorochemicals (PFCs) Evaluation
Landfill Gas Results, 2007
Veolia and Pine Bend Landfill

Veolia 2				
Filter	PUF Front	XAD	PUF Back	Total
L10366-4,,	L10366-15,,	L10366-26,,	L10366-16,,	
pg/m3	pg/m3	pg/m3	pg/m3	pg/m3
0.0	25.9	1281.0	11.8	1318.7
4.3	13.0	598.9	9.0	621.0
35.6	23.2	833.4	12.0	868.6
31.3	9.8	507.6	3.0	520.4
316.4	52.6	2103.6	20.4	2176.6
90.2	0.0	141.9	3.1	145.0
212.0	0.0	233.4	0.0	233.4
13.6	0.0	57.1	0.0	57.1
23.3	0.0	114.2	0.0	114.2
0.0	0.0	0.0	0.0	0.0
20.4	0.0	0.0	0.0	0.0
111.6	0.0	133.1	0.0	133.1
29.3	3049.3	315.1	0.0	3364.4

FLD BLK	FLD BLK
Filter	XAD/PUF (F+B)
L10366-2,,	L10366-22,,
ng	ng
ND 0.5	ND 0.5
ND 0.5	ND 0.5
ND 0.5	ND 0.5
ND 0.5	ND 1.467
ND 0.5	ND 1.181
ND 0.5	ND 0.5
ND 0.5	ND 0.5
ND 0.5	ND 0.5
ND 1.000	ND 1.000
ND 1.000	ND 1.000
ND 1.000	ND 1.000
ND 0.5	ND 0.5

FLD BLK	FLD BLK
Filter	XAD/PUF (F+B)
L10366-1,,	L10366-21,,
ng	ng
ND 0.502	1.03
ND 0.5	ND 0.5
ND 0.5	ND 0.5
ND 0.5	ND 0.5
ND 0.5	ND 1.425
ND 0.5	ND 0.5
ND 0.5	ND 0.5
ND 0.5	ND 0.5
ND 0.5	ND 0.5
ND 1.000	ND 1.147
ND 1.000	ND 1.000
ND 1.000	ND 1.000
ND 0.5	ND 0.5

NOTES:

1. Original lab data reported in nanograms was converted to picograms per meter cubed by multiplying each value by 1000 and dividing by the sample volume in meters cubed.
2. Sample Volumes:
Pine Bend 1: 206.049 m3
Pine Bend 2: 196.85 m3
Veolia 1: 206.435 m3
Veolia 2: 167.446 m3
3. Detection limits modified to 0.0 where ND so that calculations could be made for "Total" on the pg/m3
4. Due to apparent breakthrough of contaminant in samples "Total" results must be interpreted as "greater than" the "Total" value.
5. To get a total concentration of any one parameter you must add the value of the Filter, PUF Front, XAD, and PUF Back.
6. When comparing results of PUF Front to PUF Back, when values are equivalent to each other this suggests a significant amount of the contaminant may have broken through. When PUF Back is significantly less than PUF Front, as in PFOA result for Veolia 1, than this suggests that the contaminant may not have broken through and was captured by the sampling device. In looking at all the results, the PUF Back values for most of the results suggest a good deal of break through may have occurred.
7. Because of Note # 2 above, all results should be interpreted as >value.

Solid Waste Perfluorochemicals (PFCs) Evaluation
Landfill Gas Results, 2007
Veolia and Pine Bend Landfill

OLR

Veolia 1						Pine Bend 2				
	Filter	PUF Front	XAD	PUF Back	Total	Filter	PUF Front	XAD	PUF Back	Total
	L10366-3,,	L10366-13,,	L10366-25,,	L10366-14,,		L10366-6,,	L10366-19,,	L10366-28,,	L10366-20,,	
	pg/m3	pg/m3	pg/m3	pg/m3	pg/m3	pg/m3	pg/m3	pg/m3	pg/m3	pg/m3
PFBA	0.0	0.0	307.6	6.2	313.7	25.4	88.8	3683.9	40.1	3838.1
PFPeA	0.0	6.4	135.7	2.5	144.7	38.5	38.3	2214.2	39.0	2330.0
PFHxA	2.8	30.6	286.0	4.3	323.7	315.5	68.4	2478.1	55.2	2917.2
PFHpA	3.7	17.4	155.4	0.0	176.5	46.5	27.0	1361.0	25.2	1459.8
PFOA	48.3	91.6	641.1	11.5	792.6	469.4	151.3	4842.9	165.6	5629.3
PFNA	37.1	9.9	52.3	0.0	99.3	23.5	8.5	458.6	6.3	496.9
PFDA	115.1	3.6	154.9	0.0	273.6	82.1	8.8	532.0	3.1	626.0
PFUnA	7.7	0.0	28.9	0.0	36.6	7.0	0.0	148.8	0.0	155.9
PFDoA	15.3	0.0	69.7	0.0	85.0	8.9	2.9	366.6	0.0	378.3
PFBS(80)	0.0	0.0	0.0	0.0	0.0	14.6	0.0	0.0	0.0	14.6
PFHxS(80)	17.4	13.6	0.0	0.0	31.0	7.9	0.0	0.0	0.0	7.9
PFOS(80)	69.6	0.0	69.5	0.0	139.2	0.0	0.0	44.8	0.0	44.8
PFOSA	0.0	1234.5	381.4	31.4	1647.2	15.3	324.4	35.6	0.0	375.3

NOTES:

1. Original lab data reported in nanograms was converted to picograms per meter cubed by multiplying each value by 1000 and dividing by the sample volume in meters cubed.
2. Sample Volumes:
Pine Bend 1: 206.049 m3
Pine Bend 2: 196.85 m3
Veolia 1: 206.435 m3
Veolia 2: 167.446 m3
3. Detection limits modified to 0.0 where ND so that calculations could be made for "Total" on the pg/m3 sheet.
4. Due to apparent breakthrough of contaminant in samples "Total" results must be interpreted as "greater than" the "Total" value.
5. To get a total concentration of any one parameter you must add the value of the Filter, PUF Front, XAD, and PUF Back.
6. When comparing results of PUF Front to PUF Back, when values are equivalent to each other this suggests a significant amount of the contaminant may have broken through. When PUF Back is significantly less than PUF Front, as in PFOA result for Veolia 1, than this suggests that the contaminant may not have broken through and was captured by the sampling device. In looking at all the results, the PUF Back values for most of the results suggest a good deal of break through may have occurred.
7. Because of Note # 2 above, all results should be interpreted as >value.

Solid Waste Perfluorochemicals (PFCs) Evaluation
Landfill Gas Results, 2007
Veolia and Pine Bend Landfill

	Pine Bend 1				OLR
	Filter	PUF Front	XAD	PUF Back	Total
	L10366-5,,	L10366-17,,	L10366-27,,	L10366-18,,	
	pg/m3	pg/m3	pg/m3	pg/m3	pg/m3
PFBA	26.1	133.5	3642.0	59.7	3861.3
PFPeA	35.0	63.9	2298.1	72.8	2469.7
PFHxA	265.9	104.6	2419.2	72.1	2861.8
PFHpA	41.4	45.2	1463.0	40.5	1590.1
PFOA	388.8	208.6	4977.4	200.3	5775.1
PFNA	19.7	12.1	477.4	8.9	518.1
PFDA	58.0	21.4	627.0	6.1	712.4
PFUnA	5.7	3.9	144.4	0.0	153.9
PFDoA	5.6	13.3	358.2	4.6	381.7
PFBS(80)	10.6	0.0	0.0	0.0	10.6
PFHxS(80)	0.0	0.0	0.0	0.0	0.0
PFOS(80)	0.0	0.0	33.0	0.0	33.0
PFOSA	16.7	209.4	63.7	0.0	289.9

NOTES:

1. Original lab data reported in nanograms was converted to picograms per meter cubed by multiplying each value by 1000 and dividing by the sample volume in meters cubed.
2. Sample Volumes:
Pine Bend 1: 206.049 m3
Pine Bend 2: 196.85 m3
Veolia 1: 206.435 m3
Veolia 2: 167.446 m3
3. Detection limits modified to 0.0 where ND so that calculations could be made for "Total" on the pg/m3 sheet.
4. Due to apparent breakthrough of contaminant in samples "Total" results must be interpreted as "greater than" the "Total" value.
5. To get a total concentration of any one parameter you must add the value of the Filter, PUF Front, XAD, and PUF Back.
6. When comparing results of PUF Front to PUF Back, when values are equivalent to each other this suggests a significant amount of the contaminant may have broken through. When PUF Back is significantly less than PUF Front, as in PFOA result for Veolia 1, than this suggests that the contaminant may not have broken through and was captured by the sampling device. In looking at all the results, the PUF Back values for most of the results suggest a good deal of break through may have occurred.
7. Because of Note # 2 above, all results should be interpreted as >value.