Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: AS02

File Data:

Collection Date: 20/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size: 30L
Comments:

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)	Calculated Flux Emission Rate (microg/min.m^2)
Vinyl Chloride	1.7	< 1.7	< 0.0
1,1-Dichloroethene	2.6	**64.0**	**1.2**
Methylene Chloride	4.5	**560.0**	**11**
trans-1,2-Dichloroethene	13.0	< 13.0	< 0.3
Chloroform	3.2	**19.0**	**0.4**
Carbon Tetrachloride	4.1	< 4.1	< 0.1
1,2-Dichloroethane	2.6	< 2.6	< 0.1
Trichloroethene	3.5	**34.0**	**0.7**
1,1,2-Trichloroethane	3.6	**3.6**	**0.1**
Tetrachloroethene	4.4	**720.0**	**14**
1,1,2,2-Tetrachloroethane	4.5	< 4.5	< 0.1
Hexachlorobutadiene	35.0	**500.0**	**9.7**
cis-1,2-Dichloroethene	2.6	< 2.6	< 0.1

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: PUFAS02
File Data:
File Data:
Collection Date: 22/01/2006
Sample Time (mins): 120
Sample Flow Rate (l/min): 0.017
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size 30L
Comments:

Results and Calculations:

Chemical	PQL (microg)	Mass Detected (microg)	Calculated Air Concentration (microg/m^3)	Calculated Flux Emission Rate (microg/min.m^2)
Semivolatile Chlorinated Hydrocarbons				
Hexachloroethane	1	**13**	**6.3**	**0.12**
Hexachloropropene	NA	NA	NA	NA
Hexachlorobutadiene	1	**95**	**46**	**0.89**
Pentachlorobenzene	1	< 1	< 0	< 0.01
Hexachlorobenzene	1	< 1	< 0	< 0.01

Chemical	PQL (ppmv)	Concentration Detected (ppmv)	Molecular Weight (g/mol)	Concentration Detected (microg/m^3)	Calculated Air Concentration (microg/m^3)	Calculated Flux Emission Rate (microg/min.m^2)
Total Petroleum Hydrocarbons (TPH)						
C2-C4 Fraction	0.020	< 0.020	-	-	< -	< -
C5 Fraction	0.020	< 0.020	78	70	< 34	< 0.7
C6 Fraction	0.020	**0.046**	**78**	**160**	**78**	**1.5**
C7 Fraction	0.020	< 0.020	78	70	< 34	< 0.7
C8 Fraction	0.020	< 0.020	92	82	< 40	< 0.8
C9 Fraction	0.020	**0.057**	**120**	**305**	**149**	**2.9**
C10 Fraction	0.020	< 0.020	120	107	< 52	< 1.0
C11 Fraction	0.020	< 0.020	140	125	< 61	< 1.2
C12+ Fraction	0.020	**0.038**	**140**	**238**	**116**	**2.2**

Notes:
< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
NA = Not analysed
g/mol data taken from **Table 7** (aromatic list) of Gustafson *et al* . 1997.
TPH mass based concentrations calculated assuming Standard Temperature & Pressure (273K and 1atm)

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: PUFAS02LR

File Data:

Collection Date: 22/01/2006
Sample Time (mins): 120
Sample Flow Rate (l/min): 0.017
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size 30L
Comments:

Results and Calculations:

Chemical	PQL (microg)	Mass Detected (microg)	Calculated Air Concentration (microg/m^3)	Calculated Flux Emission Rate (microg/min.m^2)
Semivolatile Chlorinated Hydrocarbons				
Hexachloroethane	1	**14**	**6.8**	**0.1**
Hexachloropropene	NA	NA	NA	NA
Hexachlorobutadiene	1	**93**	**45**	**0.9**
Pentachlorobenzene	1	< 1	< 0.5	< 0.0
Hexachlorobenzene	1	< 1	< 0.5	< 0.0

Chemical	PQL (ppmv)	Concentration Detected (ppmv)	Molecular Weight (g/mol)	Concentration Detected (microg/m^3)	Calculated Air Concentration (microg/m^3)	Calculated Flux Emission Rate (microg/min.m^2)
Total Petroleum Hydrocarbons (TPH)						
C2-C4 Fraction	0.020	< 0.020	-	< -	< -	< -
C5 Fraction	0.020	< 0.020	78	< 70	< 34	< 0.7
C6 Fraction	0.020	**0.038**	**78**	**132**	**64**	**1.2**
C7 Fraction	0.020	< 0.020	78	< 70	< 34	< 0.7
C8 Fraction	0.020	< 0.020	92	< 82	< 40	< 0.8
C9 Fraction	0.020	**0.048**	**120**	**257**	**125**	**2.4**
C10 Fraction	0.020	< 0.020	120	< 107	**52**	**1.0**
C11 Fraction	0.020	< 0.020	140	< 125	< 61	< 1.2
C12+ Fraction	0.020	**0.032**	**140**	**200**	**97**	**1.9**

Notes:
< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
NA = Not analysed
g/mol data taken from **Table 7** (aromatic list) of Gustafson *et al*. 1997.
TPH mass based concentrations calculated assuming Standard Temperature & Pressure (273K and 1atm)

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: AS05

File Data:

Collection Date: 18/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size: 30L
Comments:

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)		Calculated Flux Emission Rate (microg/min.m^2)	
Vinyl Chloride	1.5	<	1.5	<	0.0
1,1-Dichloroethene	2.3	<	2.3	<	0.0
Methylene Chloride	4.0		**7.5**		**0.1**
trans-1,2-Dichloroethene	11.0	<	11.0	<	0.2
Chloroform	2.8	<	2.8	<	0.1
Carbon Tetrachloride	3.6	<	3.6	<	0.1
1,2-Dichloroethane	2.3	<	2.3	<	0.0
Trichloroethene	3.1	<	3.1	<	0.1
1,1,2-Trichloroethane	3.1	<	3.1	<	0.1
Tetrachloroethene	3.9	<	3.9	<	0.1
1,1,2,2-Tetrachloroethane	3.9	<	3.9	<	0.1
Hexachlorobutadiene	31.0	<	31.0	<	0.6
cis-1,2-Dichloroethene	2.3	<	2.3	<	0.0

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: AS05LR

File Data:

Collection Date: 18/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size: 30L
Comments:

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)	Calculated Flux Emission Rate (microg/min.m^2)
Vinyl Chloride	1.5	< 1.5	< 0.0
1,1-Dichloroethene	2.3	< 2.3	< 0.0
Methylene Chloride	4.0	**8.8**	**0.2**
trans-1,2-Dichloroethene	11.0	< 11.0	< 0.2
Chloroform	2.8	< 2.8	< 0.1
Carbon Tetrachloride	3.6	< 3.6	< 0.1
1,2-Dichloroethane	2.3	< 2.3	< 0.0
Trichloroethene	3.1	< 3.1	< 0.1
1,1,2-Trichloroethane	3.1	< 3.1	< 0.1
Tetrachloroethene	3.9	< 3.9	< 0.1
1,1,2,2-Tetrachloroethane	3.9	< 3.9	< 0.1
Hexachlorobutadiene	31.0	< 31.0	< 0.6
cis-1,2-Dichloroethene	2.3	< 2.3	< 0.0

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: AS06

File Data:

Collection Date: 18/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.005
Fluxhood size: 30L
Comments:

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)	Calculated Flux Emission Rate (microg/min.m^2)
Vinyl Chloride	0.40	< 0.40	< 0.02
1,1-Dichloroethene	0.61	< 0.61	< 0.02
Methylene Chloride	1.10	< 1.10	< 0.04
trans-1,2-Dichloroethene	3.10	< 3.10	< 0.12
Chloroform	0.76	< 0.76	< 0.03
Carbon Tetrachloride	0.98	< 0.98	< 0.04
1,2-Dichloroethane	0.63	< 0.63	< 0.02
Trichloroethene	0.83	< 0.83	< 0.03
1,1,2-Trichloroethane	0.84	< 0.84	< 0.03
Tetrachloroethene	1.00	**4.00**	**0.15**
1,1,2,2-Tetrachloroethane	1.10	< 1.10	< 0.04
Hexachlorobutadiene	8.30	< 8.30	< 0.32
cis-1,2-Dichloroethene	0.61	< 0.61	< 0.02

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: AS08

File Data:

Collection Date: 19/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.005
Fluxhood size: 30L
Comments:

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)		Calculated Flux Emission Rate (microg/min.m^2)	
Vinyl Chloride	0.36	<	0.36	<	0.01
1,1-Dichloroethene	0.56	<	0.56	<	0.02
Methylene Chloride	0.98		**3.20**		**0.12**
trans-1,2-Dichloroethene	2.80	<	2.80	<	0.11
Chloroform	0.69	<	0.69	<	0.03
Carbon Tetrachloride	0.89	<	0.89	<	0.03
1,2-Dichloroethane	0.57	<	0.57	<	0.02
Trichloroethene	0.76	<	0.76	<	0.03
1,1,2-Trichloroethane	0.77	<	0.77	<	0.03
Tetrachloroethene	0.96	<	0.96	<	0.04
1,1,2,2-Tetrachloroethane	0.97	<	0.97	<	0.04
Hexachlorobutadiene	7.50	<	7.50	<	0.29
cis-1,2-Dichloroethene	0.56	<	0.56	<	0.02

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: AS09

File Data:

Collection Date: 19/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.005
Fluxhood size: 30L
Comments:

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)	Calculated Flux Emission Rate (microg/min.m^2)
Vinyl Chloride	0.37	< 0.37	< 0.01
1,1-Dichloroethene	0.57	< 0.57	< 0.02
Methylene Chloride	1.00	< 1.00	< 0.04
trans-1,2-Dichloroethene	2.80	< 2.80	< 0.11
Chloroform	0.70	< 0.70	< 0.03
Carbon Tetrachloride	0.91	< 0.91	< 0.04
1,2-Dichloroethane	0.58	< 0.58	< 0.02
Trichloroethene	0.77	< 0.77	< 0.03
1,1,2-Trichloroethane	0.78	< 0.78	< 0.03
Tetrachloroethene	0.98	< 0.98	< 0.04
1,1,2,2-Tetrachloroethane	0.99	< 0.99	< 0.04
Hexachlorobutadiene	7.70	< 7.70	< 0.30
cis-1,2-Dichloroethene	0.57	< 0.57	< 0.02

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: AS11

File Data:

Collection Date: 19/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size: 30L
Comments:

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)	Calculated Flux Emission Rate (microg/min.m^2)
Vinyl Chloride	0.47	< 0.47	< 0.01
1,1-Dichloroethene	0.72	< 0.72	< 0.01
Methylene Chloride	1.30	**7.60**	**0.15**
trans-1,2-Dichloroethene	3.60	< 3.60	< 0.07
Chloroform	0.89	< 0.89	< 0.02
Carbon Tetrachloride	1.20	< 1.20	< 0.02
1,2-Dichloroethane	0.74	< 0.74	< 0.01
Trichloroethene	0.98	< 0.98	< 0.02
1,1,2-Trichloroethane	1.00	< 1.00	< 0.02
Tetrachloroethene	1.20	< 1.20	< 0.02
1,1,2,2-Tetrachloroethane	1.20	< 1.20	< 0.02
Hexachlorobutadiene	9.80	< 9.80	< 0.19
cis-1,2-Dichloroethene	0.72	< 0.72	< 0.01

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: QC03

File Data:

Collection Date: 19/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size 30L
Comments: Duplicate of AS11

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)		Calculated Flux Emission Rate (microg/min.m^2)	
Vinyl Chloride	0.49	<	0.49	<	0.01
1,1-Dichloroethene	0.76	<	0.76	<	0.01
Methylene Chloride	1.3		**7.7**		**0.1**
trans-1,2-Dichloroethene	3.8	<	3.8	<	0.1
Chloroform	0.93		**1.20**		**0.02**
Carbon Tetrachloride	1.20	<	1.20	<	0.02
1,2-Dichloroethane	0.77	<	0.77	<	0.01
Trichloroethene	1.00	<	1.00	<	0.02
1,1,2-Trichloroethane	1.00	<	1.00	<	0.02
Tetrachloroethene	1.30	<	1.30	<	0.03
1,1,2,2-Tetrachloroethane	1.30	<	1.30	<	0.03
Hexachlorobutadiene	10.0	<	10.0	<	0.2
cis-1,2-Dichloroethene	0.76	<	0.76	<	0.01

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: AS12

File Data:

Collection Date: 17/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size: 30L
Comments:

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)		Calculated Flux Emission Rate (microg/min.m^2)	
Vinyl Chloride	0.51	<	0.51	<	0.01
1,1-Dichloroethene	0.80	<	0.80	<	0.02
Methylene Chloride	1.40		**7.20**		**0.14**
trans-1,2-Dichloroethene	4.00	<	4.00	<	0.08
Chloroform	0.98		**5.80**		**0.11**
Carbon Tetrachloride	1.30	<	1.30	<	0.03
1,2-Dichloroethane	0.81	<	0.81	<	0.02
Trichloroethene	1.10	<	1.10	<	0.02
1,1,2-Trichloroethane	1.10	<	1.10	<	0.02
Tetrachloroethene	1.40	<	1.40	<	0.03
1,1,2,2-Tetrachloroethane	1.40	<	1.40	<	0.03
Hexachlorobutadiene	11.00	<	11.00	<	0.21
cis-1,2-Dichloroethene	0.80	<	0.80	<	0.02

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: QC01

File Data:

Collection Date: 17/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size 30L
Comments: Duplicate of AS12

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)		Calculated Flux Emission Rate (microg/min.m^2)	
Vinyl Chloride	0.43	<	0.43	<	0.01
1,1-Dichloroethene	0.67	<	0.67	<	0.01
Methylene Chloride	1	<	1	<	0.02
trans-1,2-Dichloroethene	3.30	<	3.30	<	0.06
Chloroform	0.82	<	0.82	<	0.02
Carbon Tetrachloride	1.00	<	1.00	<	0.02
1,2-Dichloroethane	0.68	<	0.68	<	0.01
Trichloroethene	0.90		**2.00**		**0.04**
1,1,2-Trichloroethane	0.92	<	0.92	<	0.02
Tetrachloroethene	1.10	<	1.10	<	0.02
1,1,2,2-Tetrachloroethane	1.20	<	1.20	<	0.02
Hexachlorobutadiene	9	<	9	<	0.17
cis-1,2-Dichloroethene	0.67	<	0.67	<	0.01

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: AS13

File Data:

Collection Date: 18/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size: 30L
Comments:

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)	Calculated Flux Emission Rate (microg/min.m^2)
Vinyl Chloride	0.43	< 0.43	< 0.02
1,1-Dichloroethene	0.67	< 0.67	< 0.03
Methylene Chloride	1.20	< 1.20	< 0.05
trans-1,2-Dichloroethene	3.30	< 3.30	< 0.13
Chloroform	0.82	< 0.82	< 0.03
Carbon Tetrachloride	1.00	< 1.00	< 0.04
1,2-Dichloroethane	0.68	< 0.68	< 0.03
Trichloroethene	0.90	< 0.90	< 0.03
1,1,2-Trichloroethane	0.92	< 0.92	< 0.04
Tetrachloroethene	1.10	**2.10**	**0.08**
1,1,2,2-Tetrachloroethane	1.20	< 1.20	< 0.05
Hexachlorobutadiene	9.00	< 9.00	< 0.35
cis-1,2-Dichloroethene	0.67	< 0.67	< 0.03

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: AS14

File Data:

Collection Date: 18/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size 30L
Comments:

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)	Calculated Flux Emission Rate (microg/min.m^2)
Vinyl Chloride	0.36	< 0.36	< 0.01
1,1-Dichloroethene	0.56	< 0.56	< 0.02
Methylene Chloride	0.98	< 0.98	< 0.04
trans-1,2-Dichloroethene	2.80	< 2.80	< 0.11
Chloroform	0.69	< 0.69	< 0.03
Carbon Tetrachloride	0.89	< 0.89	< 0.03
1,2-Dichloroethane	0.57	< 0.57	< 0.02
Trichloroethene	0.76	**1.30**	**0.05**
1,1,2-Trichloroethane	0.77	< 0.77	< 0.03
Tetrachloroethene	0.96	**1.10**	**0.04**
1,1,2,2-Tetrachloroethane	0.97	< 0.97	< 0.04
Hexachlorobutadiene	7.50	< 7.50	< 0.29
cis-1,2-Dichloroethene	0.56	< 0.56	< 0.02

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: QC02

File Data:

Collection Date: 18/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size 30L
Comments: Duplicate of AS14

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)		Calculated Flux Emission Rate (microg/min.m^2)	
Vinyl Chloride	1.30	<	1.30	<	0.03
1,1-Dichloroethene	2.00	<	2.00	<	0.04
Methylene Chloride	3.5		**8.2**		**0.16**
trans-1,2-Dichloroethene	10.0	<	10.0	<	0.19
Chloroform	2.40	<	2.40	<	0.05
Carbon Tetrachloride	3.20	<	3.20	<	0.06
1,2-Dichloroethane	2.00	<	2.00	<	0.04
Trichloroethene	2.70	<	2.70	<	0.05
1,1,2-Trichloroethane	2.70	<	2.70	<	0.05
Tetrachloroethene	3.40	<	3.40	<	0.07
1,1,2,2-Tetrachloroethane	3.40	<	3.40	<	0.07
Hexachlorobutadiene	27.0	<	27.0	<	0.52
cis-1,2-Dichloroethene	2.00	<	2.00	<	0.04

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission r
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: AS15

File Data:

Collection Date: 18/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size 30L
Comments:

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)		Calculated Flux Emission Rate (microg/min.m^2)	
Vinyl Chloride	0.50	<	0.50	<	0.01
1,1-Dichloroethene	0.78	<	0.78	<	0.02
Methylene Chloride	1.40		**8.80**		**0.17**
trans-1,2-Dichloroethene	3.90	<	3.90	<	0.08
Chloroform	0.96	<	0.96	<	0.02
Carbon Tetrachloride	1.20	<	1.20	<	0.02
1,2-Dichloroethane	0.79	<	0.79	<	0.02
Trichloroethene	1.00	<	1.00	<	0.02
1,1,2-Trichloroethane	1.10	<	1.10	<	0.02
Tetrachloroethene	1.30		**1.90**		**0.04**
1,1,2,2-Tetrachloroethane	1.30	<	1.30	<	0.03
Hexachlorobutadiene	10.00	<	10.00	<	0.19
cis-1,2-Dichloroethene	0.78	<	0.78	<	0.02

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: AS15LR

File Data:

Collection Date: 18/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size 30L
Comments:

Results and Calculations:

Chemical	PQL (ng)	Calculated Air Concentration (microg/m^3)	Calculated Flux Emission Rate (microg/min.m^2)
Vinyl Chloride	0.50	< 0.50	< 0.01
1,1-Dichloroethene	0.78	< 0.78	< 0.02
Methylene Chloride	1.40	**10.00**	**0.19**
trans-1,2-Dichloroethene	3.90	< 3.90	< 0.08
Chloroform	0.96	< 0.96	< 0.02
Carbon Tetrachloride	1.20	< 1.20	< 0.02
1,2-Dichloroethane	0.79	< 0.79	< 0.02
Trichloroethene	1.00	< 1.00	< 0.02
1,1,2-Trichloroethane	1.10	< 1.10	< 0.02
Tetrachloroethene	1.30	**1.90**	**0.04**
1,1,2,2-Tetrachloroethane	1.30	< 1.30	< 0.03
Hexachlorobutadiene	10.00	< 10.00	< 0.19
cis-1,2-Dichloroethene	0.78	< 0.78	< 0.02

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: AS17

File Data:

Collection Date: 17/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size 30L
Comments:

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)		Calculated Flux Emission Rate (microg/min.m^2)	
Vinyl Chloride	0.48	<	0.48	<	0.02
1,1-Dichloroethene	0.74	<	0.74	<	0.03
Methylene Chloride	1.30		**12.00**		**0.46**
trans-1,2-Dichloroethene	3.70	<	3.70	<	0.14
Chloroform	0.91		**1.60**		**0.06**
Carbon Tetrachloride	1.20	<	1.20	<	0.05
1,2-Dichloroethane	0.76	<	0.76	<	0.03
Trichloroethene	1.00	<	1.00	<	0.04
1,1,2-Trichloroethane	1.00	<	1.00	<	0.04
Tetrachloroethene	1.30	<	1.30	<	0.05
1,1,2,2-Tetrachloroethane	1.30	<	1.30	<	0.05
Hexachlorobutadiene	10.00	<	10.00	<	0.39
cis-1,2-Dichloroethene	0.74	<	0.74	<	0.03

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: AS18

File Data:

Collection Date: 17/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size 30L
Comments:

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)		Calculated Flux Emission Rate (microg/min.m^2)	
Vinyl Chloride	1.40	<	1.40	<	0.03
1,1-Dichloroethene	2.10	<	2.10	<	0.04
Methylene Chloride	3.70		**9.60**		**0.19**
trans-1,2-Dichloroethene	11.00	<	11.00	<	0.21
Chloroform	2.60	<	2.60	<	0.05
Carbon Tetrachloride	3.40	<	3.40	<	0.07
1,2-Dichloroethane	2.20	<	2.20	<	0.04
Trichloroethene	2.90	<	2.90	<	0.06
1,1,2-Trichloroethane	2.90	<	2.90	<	0.06
Tetrachloroethene	3.60	<	3.60	<	0.07
1,1,2,2-Tetrachloroethane	3.70	<	3.70	<	0.07
Hexachlorobutadiene	28.00	<	28.00	<	0.54
cis-1,2-Dichloroethene	2.10	<	2.10	<	0.04

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: AS47

File Data:

Collection Date: 20/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size 30L
Comments:

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)		Calculated Flux Emission Rate (microg/min.m^2)	
Vinyl Chloride	5.10	<	5.10	<	0.10
1,1-Dichloroethene	8.00	<	8.00	<	0.15
Methylene Chloride	14		**1500**		**29**
trans-1,2-Dichloroethene	40.00	<	40.00	<	0.77
Chloroform	9.80	<	9.80	<	0.19
Carbon Tetrachloride	13.00	<	13.00	<	0.25
1,2-Dichloroethane	8.10	<	8.10	<	0.16
Trichloroethene	11.00	<	11.00	<	0.21
1,1,2-Trichloroethane	11.00	<	11.00	<	0.21
Tetrachloroethene	14.00	<	14.00	<	0.27
1,1,2,2-Tetrachloroethane	14.00	<	14.00	<	0.27
Hexachlorobutadiene	110		**230**		**4.4**
cis-1,2-Dichloroethene	8.00	<	8.00	<	0.15

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: QC04

File Data:

Collection Date: 20/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size 30L
Comments: Duplicate of AS47

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)	Calculated Flux Emission Rate (microg/min.m^2)
Vinyl Chloride	12	< 12	< 0.23
1,1-Dichloroethene	19	< 19	< 0.37
Methylene Chloride	34	**6800**	**131**
trans-1,2-Dichloroethene	97	< 97	< 1.9
Chloroform	24	< 24	< 0.46
Carbon Tetrachloride	31	< 31	< 0.60
1,2-Dichloroethane	20	< 20	< 0.39
Trichloroethene	26	< 26	< 0.50
1,1,2-Trichloroethane	27	< 27	< 0.52
Tetrachloroethene	33	< 33	< 0.64
1,1,2,2-Tetrachloroethane	34	< 34	< 0.66
Hexachlorobutadiene	260	< 260	< 5.0
cis-1,2-Dichloroethene	19	< 19	< 0.37

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: PUFAS47
File Data:
File Data:
Collection Date: 20/03/2008
Sample Time (mins): 120
Sample Flow Rate (l/min): 0.0171
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size 30L
Comments:

Results and Calculations:

Chemical	PQL (microg)	Mass Detected (microg)	Calculated Air Concentration (microg/m^3)	Calculated Flux Emission Rate (microg/min.m^2)
Semivolatile Chlorinated Hydrocarbons				
Hexachloroethane	1.00	< 1.00	< 0.5	< 0.01
Hexachloropropene	NA	NA	NA	NA
Hexachlorobutadiene	1.00	**43.00**	**21.0**	**0.40**
Pentachlorobenzene	1.00	< 1.00	< 0.5	< 0.01
Hexachlorobenzene	1.00	< 1.00	< 0.5	< 0.01

Chemical	PQL (ppmv)	Concentration Detected (ppmv)	Molecular Weight (g/mol)	Concentration Detected (microg/m^3)	Calculated Air Concentration (microg/m^3)	Calculated Flux Emission Rate (microg/min.m^2)
Total Petroleum Hydrocarbons (TPH)						
C2-C4 Fraction	0.020	< 0.020	-	< -	< -	< -
C5 Fraction	0.020	< 0.020	78	< 70	< 34	< 0.7
C6 Fraction	0.020	**0.083**	**78**	**289**	**141**	**2.7**
C7 Fraction	0.020	< 0.020	78	< 70	< 34	< 0.7
C8 Fraction	0.020	< 0.020	92	< 82	< 40	< 0.8
C9 Fraction	0.020	< 0.020	120	< 107	< 52	< 1.0
C10 Fraction	0.020	< 0.020	120	< 107	< 52	< 1.0
C11 Fraction	0.020	< 0.020	140	< 125	< 61	< 1.2
C12+ Fraction	0.020	< 0.020	140	< 125	< 61	< 1.2

Notes:
< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.
g/mol data taken from **Table 7** (aromatic list) of Gustafson *et al* . 1997.
TPH mass based concentrations calculated assuming Standard Temperature & Pressure (273K and 1atm)

Appendix F Emission Rate Calculations

Flux Emissions Sampling Results

Project: General Air Emissions
Sample ID: FIELD BLANK

File Data:

Collection Date: 14/03/2008
Flux Hood Area (m2): 0.129
Flowrate into Flux Hood (m3/min) 0.0025
Fluxhood size 30L
Comments: Field Blank taken on teflon at North Sydney Oval.

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)		Calculated Flux Emission Rate (microg/min.m^2)	
Vinyl Chloride	0.42	<	0.42	<	0.01
1,1-Dichloroethene	0.65	<	0.65	<	0.01
Methylene Chloride	1.10		**15.00**		**0.29**
trans-1,2-Dichloroethene	3.20	<	3.20	<	0.06
Chloroform	0.80	<	0.80	<	0.02
Carbon Tetrachloride	1.00	<	1.00	<	0.02
1,2-Dichloroethane	0.66	<	0.66	<	0.01
Trichloroethene	0.88	<	0.88	<	0.02
1,1,2-Trichloroethane	0.89	<	0.89	<	0.02
Tetrachloroethene	1.10	<	1.10	<	0.02
1,1,2,2-Tetrachloroethane	1.10	<	1.10	<	0.02
Hexachlorobutadiene	8.70	<	8.70	<	0.17
cis-1,2-Dichloroethene	0.65	<	0.65	<	0.01

Notes:

< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.

Appendix F Emission Rate Calculations

Soil Gas Sampling Results

Project: General Air Emissions
Sample ID: AS88
File Data:
Collection Date: 1/05/2008
Comments: Using 6L Summa canister over 2 hours

Results and Calculations:

Chemical	PQL (microg/m^3)	Calculated Air Concentration (microg/m^3)
Vinyl Chloride	1.0	< 1.0
1,1-Dichloroethene	1.6	< 1.6
Methylene Chloride	2.8	< 2.8
trans-1,2-Dichloroethene	8.0	< 8.0
Chloroform	2.0	**16**
Carbon Tetrachloride	2.5	**2.6**
1,2-Dichloroethane	1.6	< 1.6
Trichloroethene	2.2	**110**
1,1,2-Trichloroethane	2.2	< 2.2
Tetrachloroethene	2.7	**460**
1,1,2,2-Tetrachloroethane	2.8	< 2.8
Hexachlorobutadiene	21.0	< 21.0
cis-1,2-Dichloroethene	1.6	< 1.6

Notes:
< = Analyte was not measured at the level of detection; reported value is the PQL
PQL = Practical quantitation limit for the analytical method
Refer to report for details on the equations used to calculate air concentrations and flux emission rates
Bold values indicate analyte detected above reporting limit.