

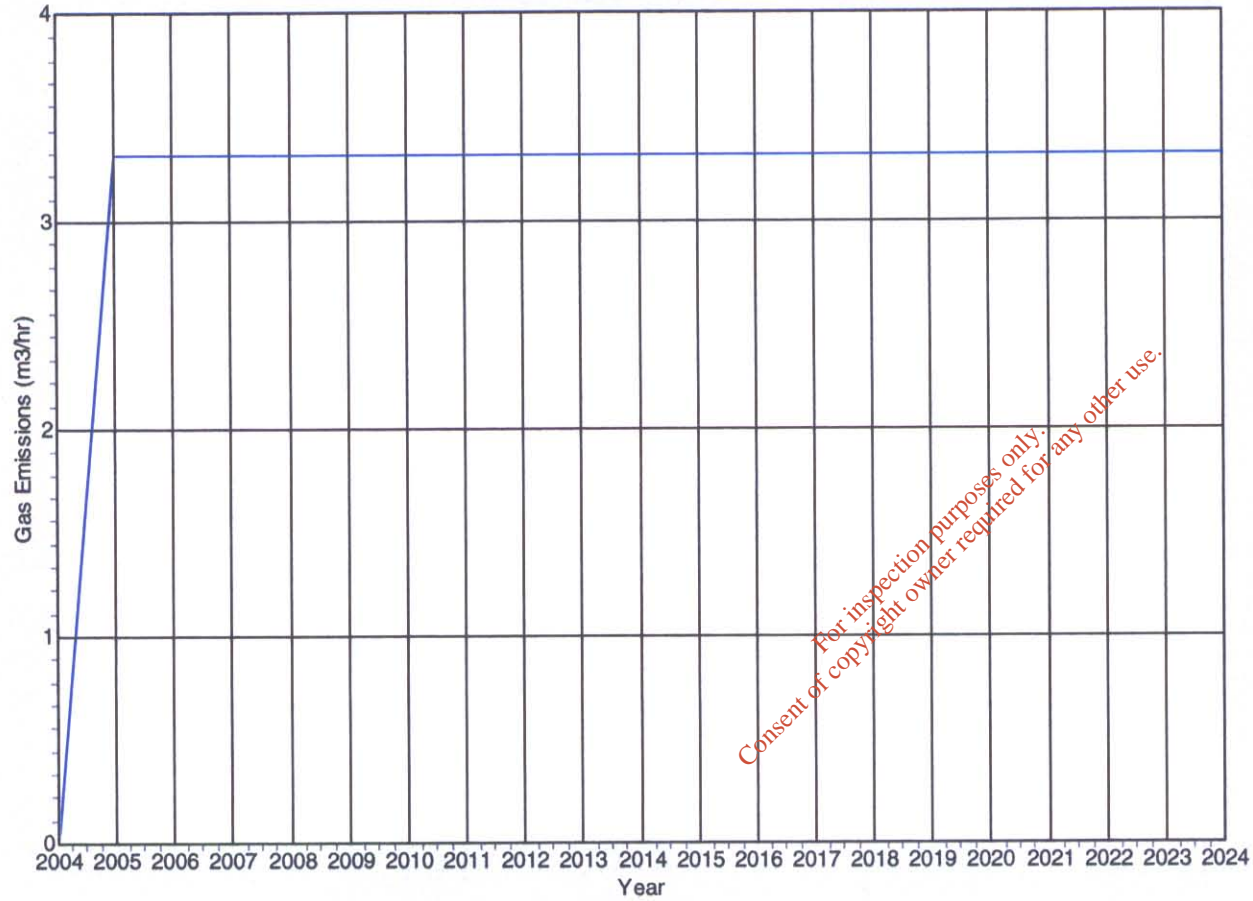
Appendix E

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CO2 - Engine Output

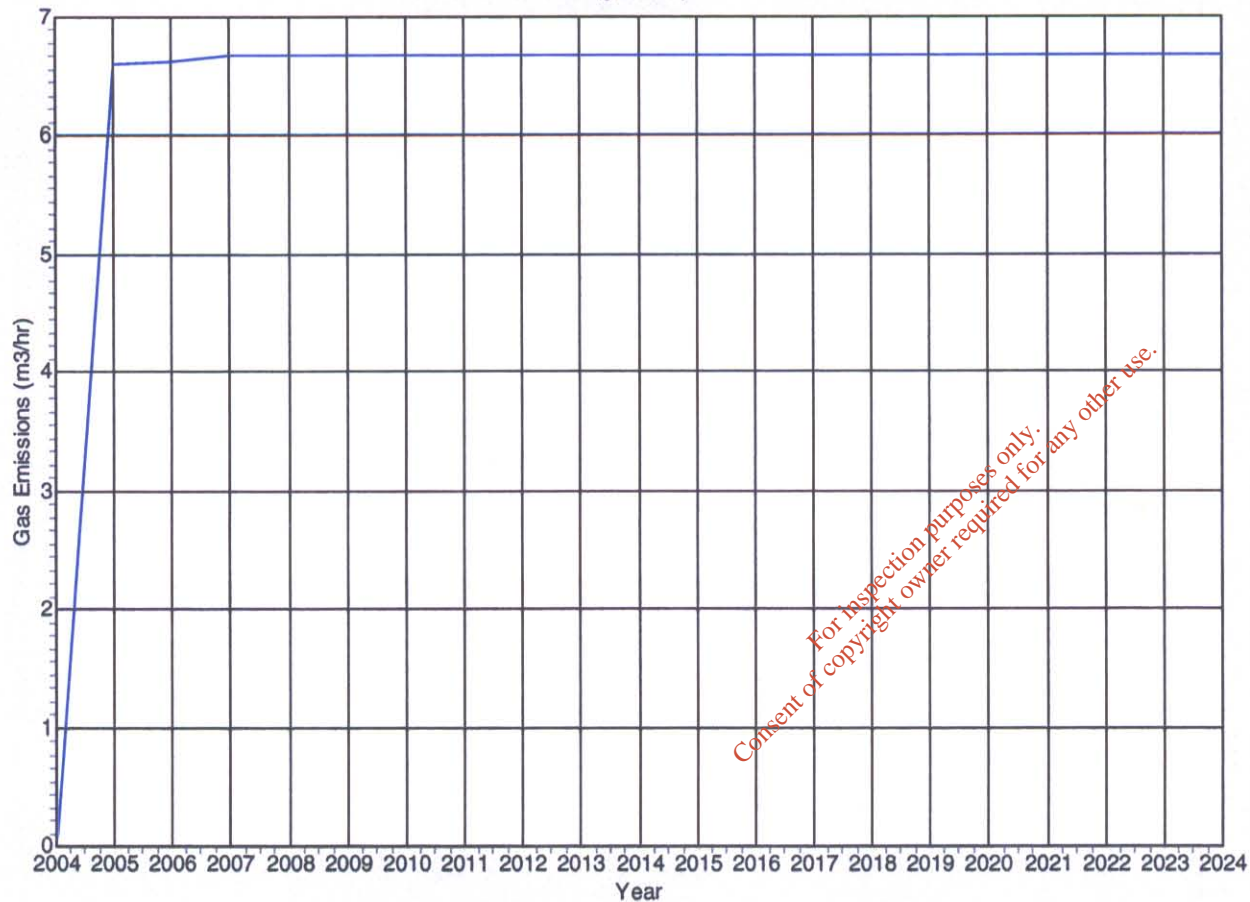
4000043 CRH Blessington

CO2 Output at Single Vent



— 5% Less Than — 10% Less Than — 25% Less Than — 50% Less Than — 75% Less Than
— 90% Less Than — 95% Less Than

CH4 - Engine Output



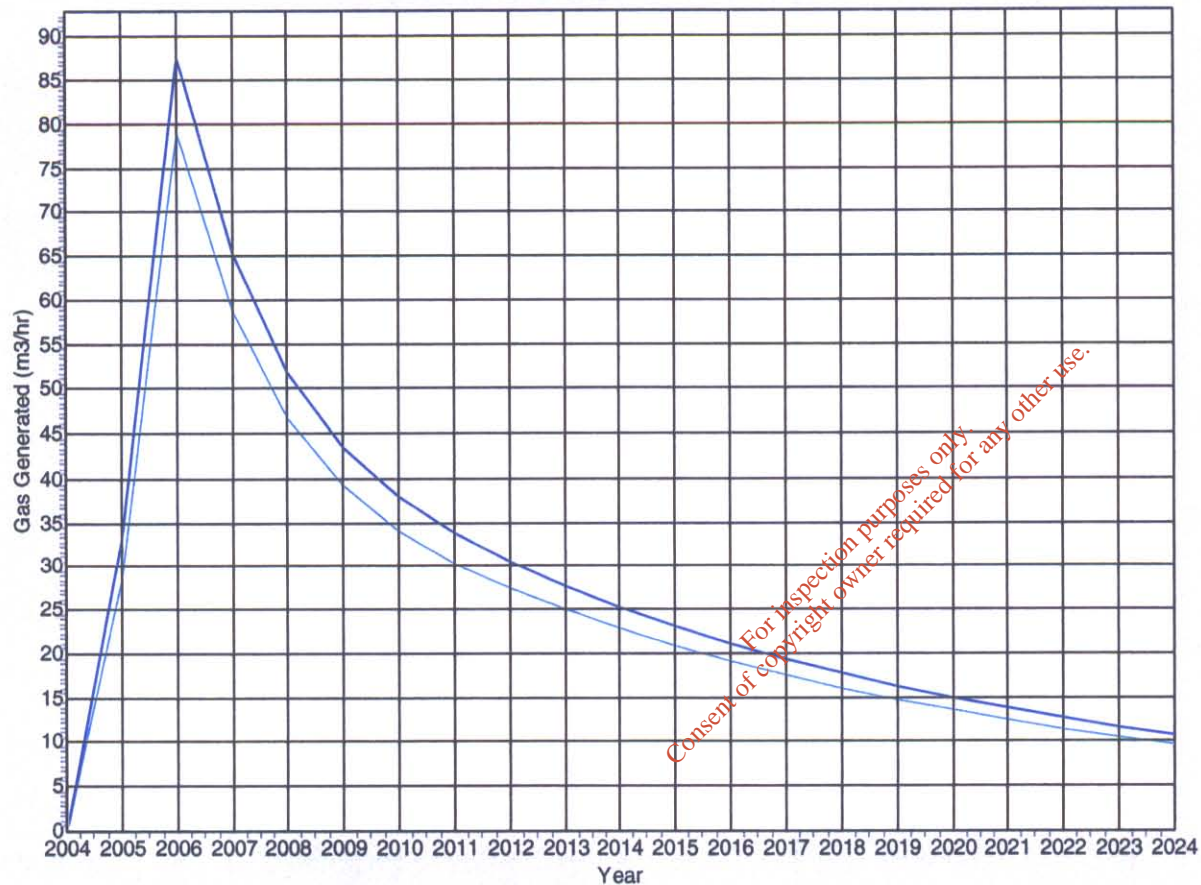
4000043 CRH Blessington

CH4 Output at Single Vent

— 5% Less Than — 10% Less Than — 25% Less Than — 50% Less Than — 75% Less Than
— 90% Less Than — 95% Less Than

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Methane



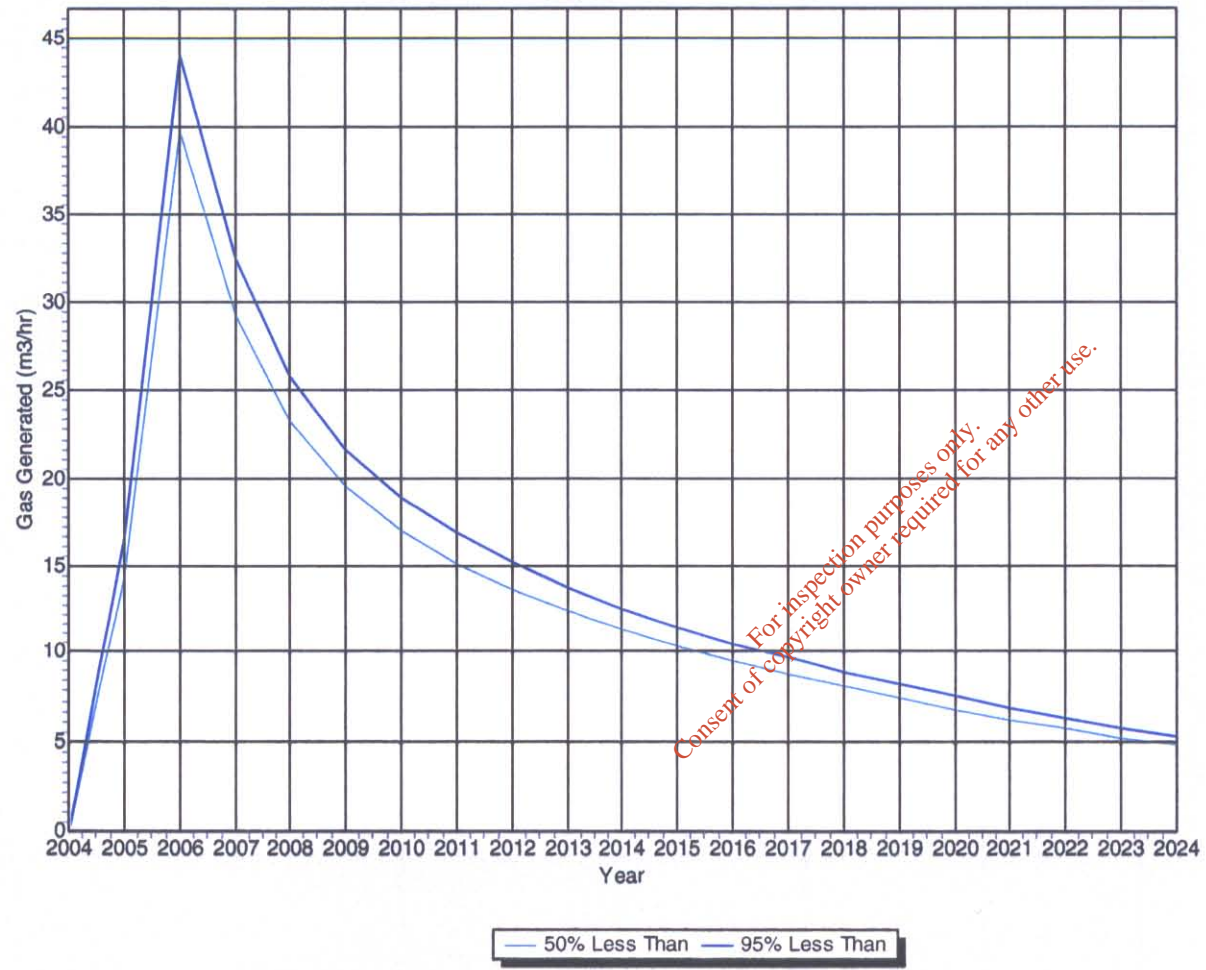
— 50% Less Than — 95% Less Than

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Generated CH4 at Landfill

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Carbon Dioxide



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Generated CO2 at Landfill

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Appendix F

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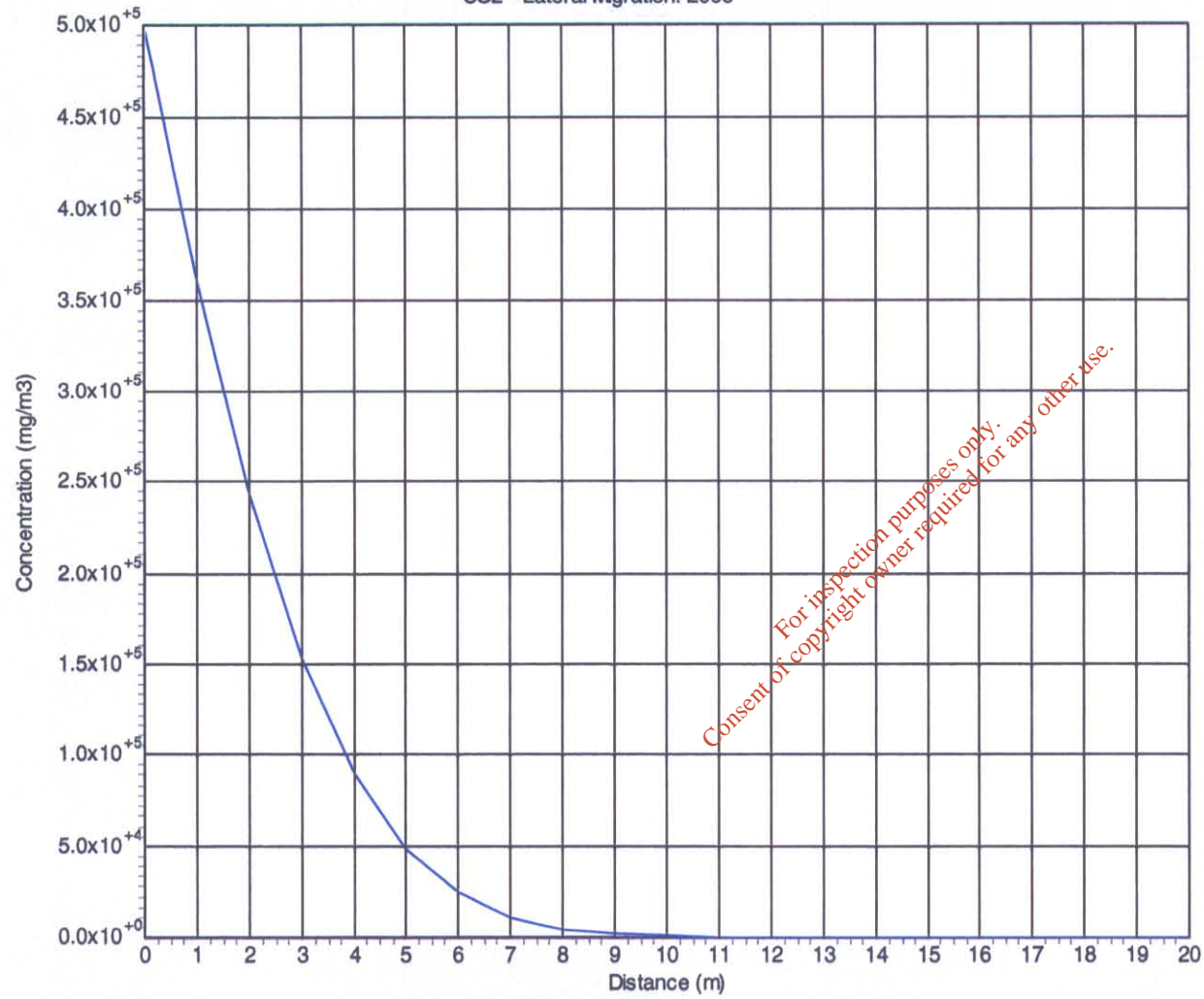
Appendix F		GasSim Trace Gas Default Inputs for Odorous Components of LFG (mg/m ³)			
Species	Distribution	Mean or MostLikely	Min	Max	No. ofSamples
Carbon disulphide	Log triangular	1	1.0 ⁻²	48	31
Diethyl disulphide	Log triangular	1	5.0 ⁻²	1	30
Dimethyl disulphide	Log Triangular	6.03	2.0 ⁻²	40	29
Dimethyl sulphide	Log triangular	24	5.0 ⁻³	135	55
Ethanethiol (ethyl mercaptan)	Log triangular	1	2.5 ⁻¹	120	35
Hydrogen sulphide	Log triangular	1.3	2.9 ⁻³	97152	99
Limonene	Log triangular	85.11	2.0 ⁻¹	640	65
Methanethiol (methyl mercaptan)	Log triangular	1.0 ⁻¹	5.0 ⁻³	430	46
Propanethiol	Log triangular	1	5.0 ⁻²	29.8	39
Sulphide, total simulations with H2S	Log triangular	3.8	2.9 ⁻³	97152.4	113
Sulphide, total simulations without H2S	Log triangular	30.9	1.0 ⁻²	682.8	64
Toluene	Log triangular	195	2.2 ⁻³	1700	121
Xylene (all isomers)	Log triangular	128.8	4.0 ⁻⁴	1100	147
Odour Units (Predicted) (Ou/m ³)	Triangular	50,000	125,000	250,000	Estimated

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Appendix G

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CO2 - Lateral Migration: 2006



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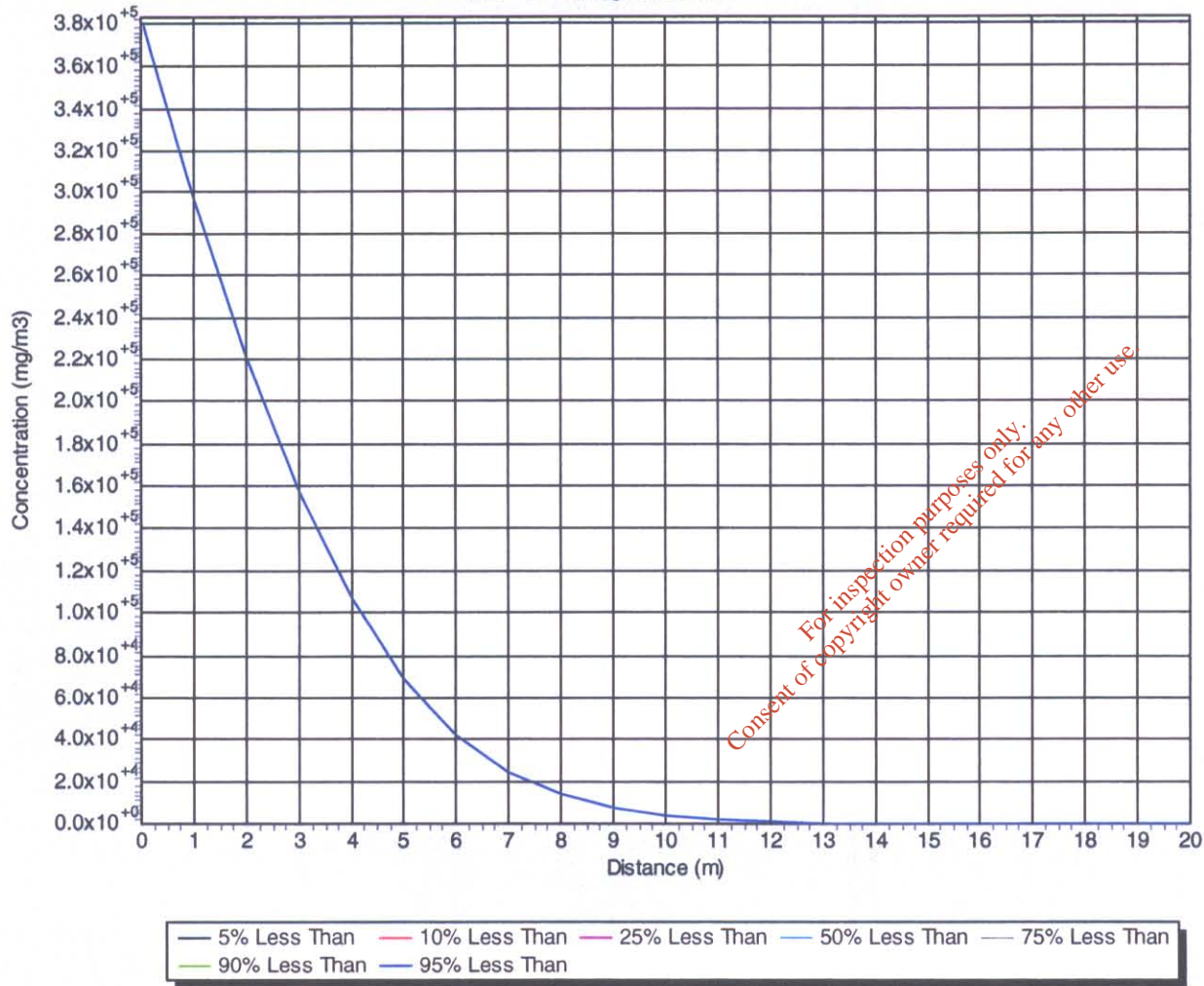
Lateral Migration of CO2

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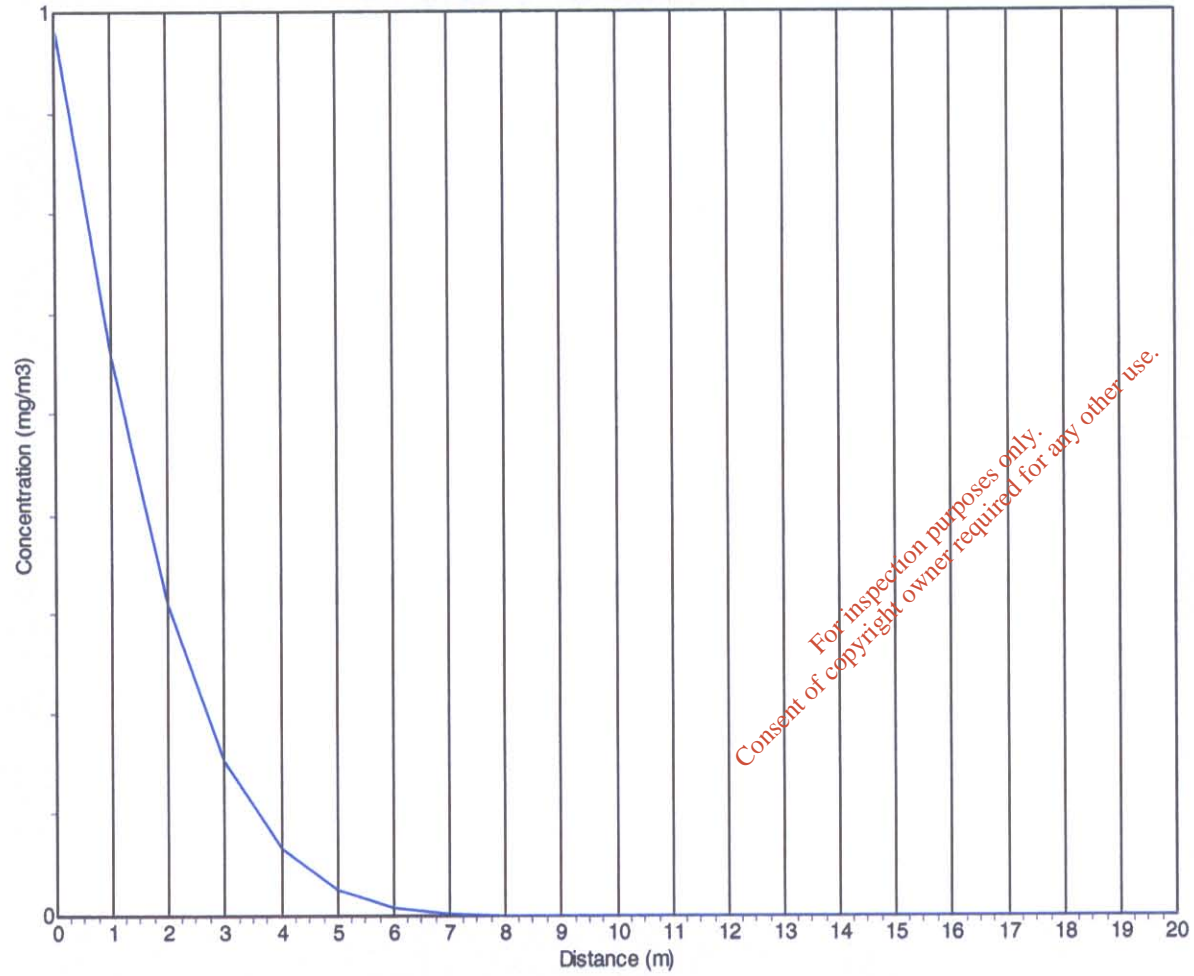
CH4 - Lateral Migration: 2006

4000043 CRH Blessington

Lateral Migration of CH4



Carbon disulphide - Lateral Migration: 2006

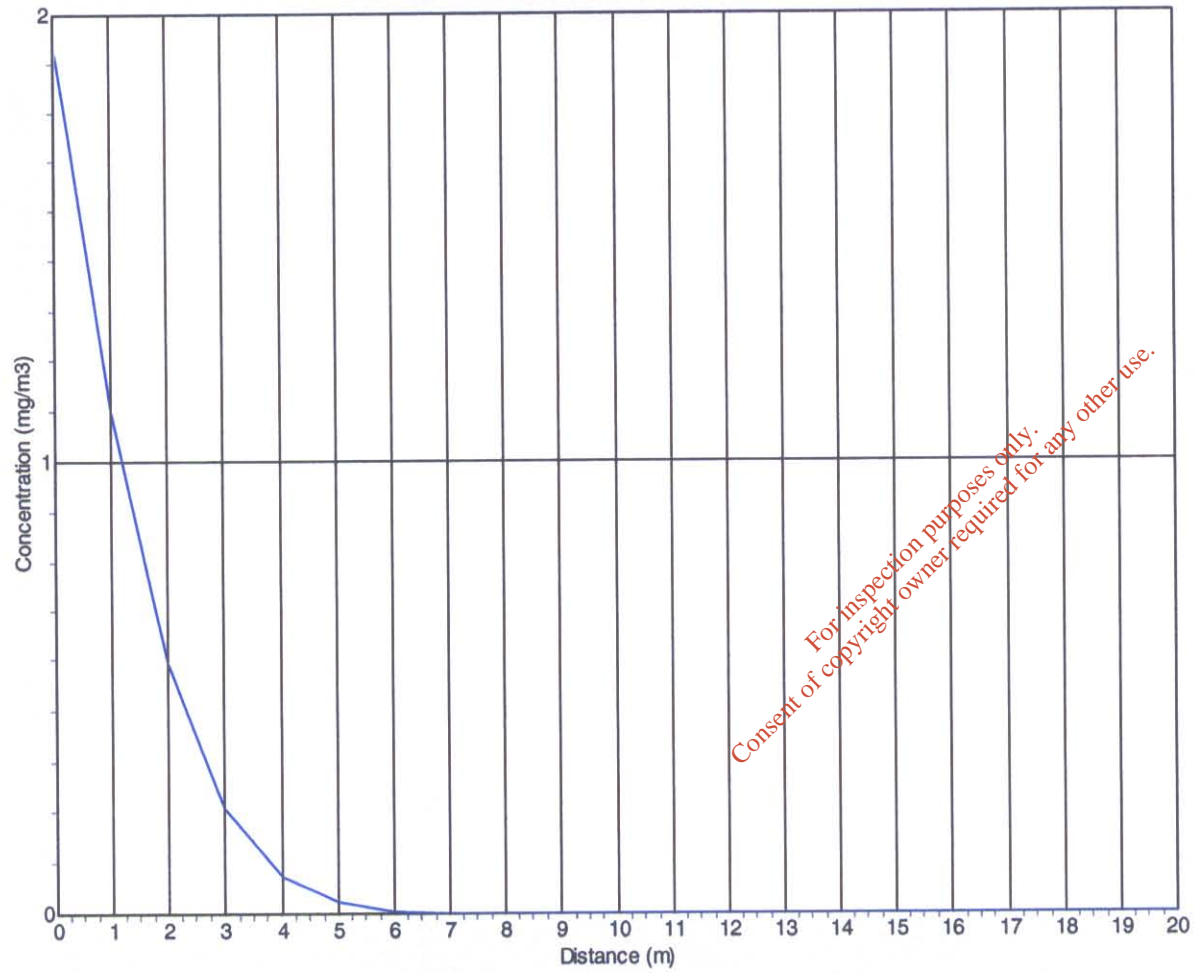


4000043 CRH Blessington

Lateral Migration of Carbon Disulphide

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Dimethyl disulphide - Lateral Migration: 2006

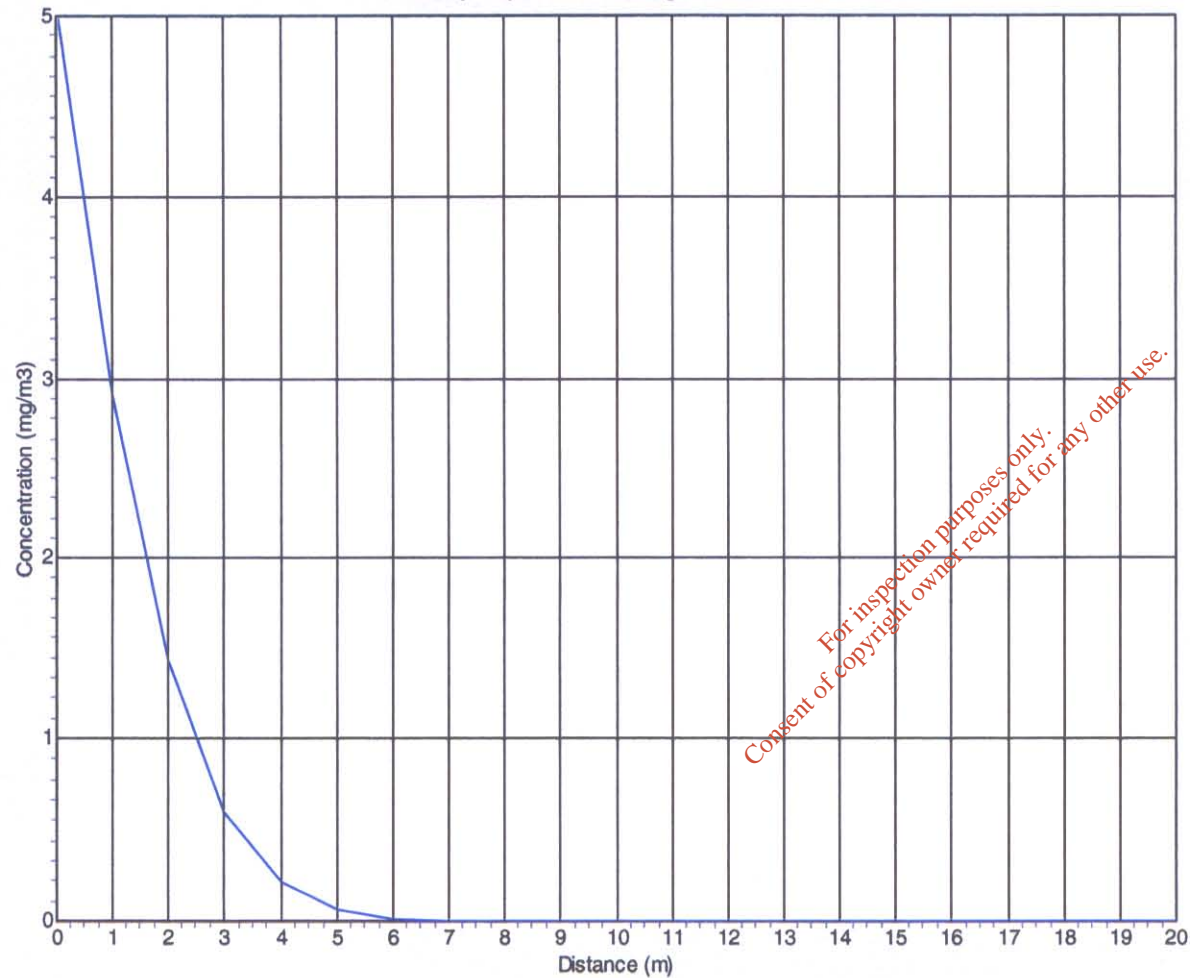


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Lateral Migration of Dimethyl Disulphide

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Dimethyl sulphide - Lateral Migration: 2006

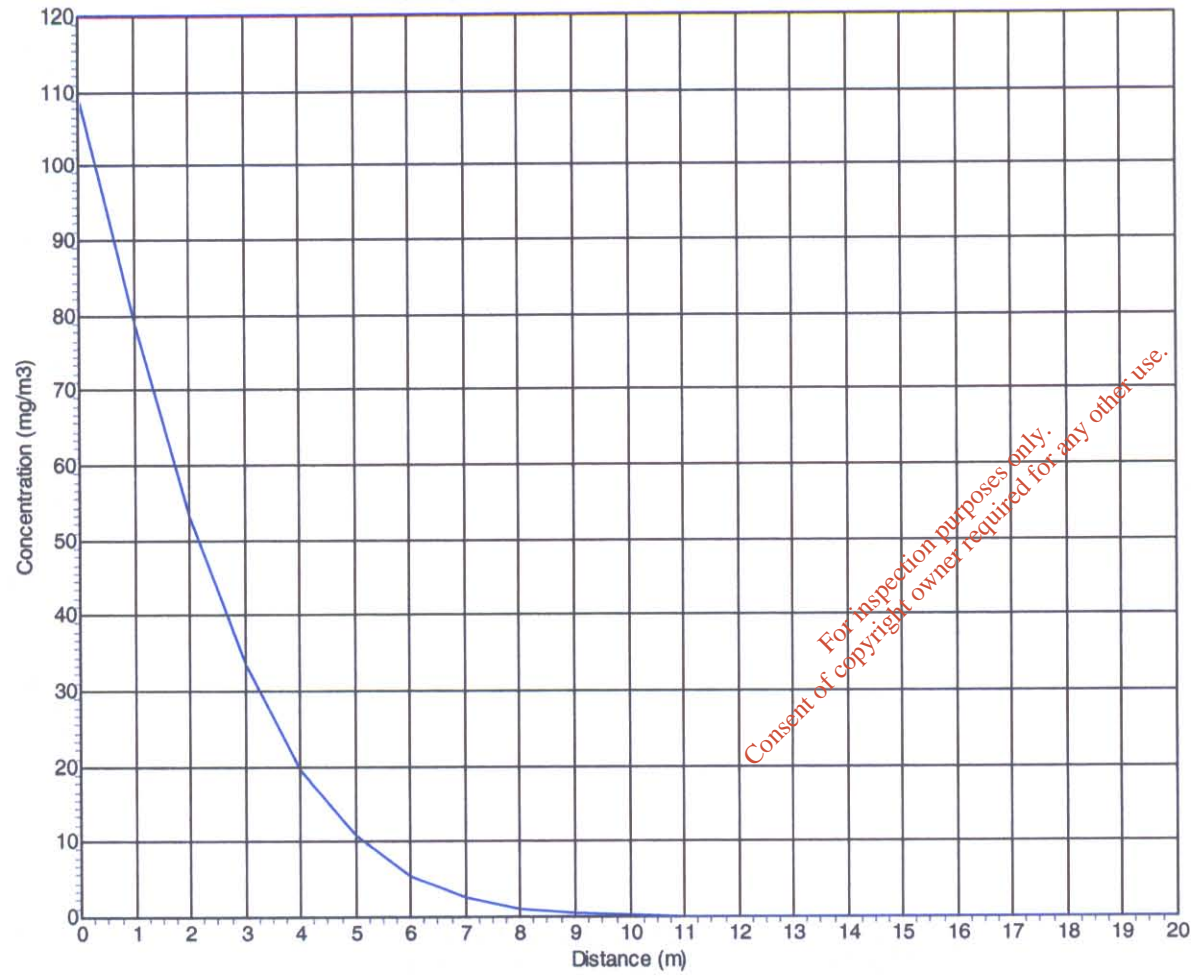


400043 CRH Blessington

Lateral Migration of Dimethyl Sulphide

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Hydrogen sulphide - Lateral Migration: 2006

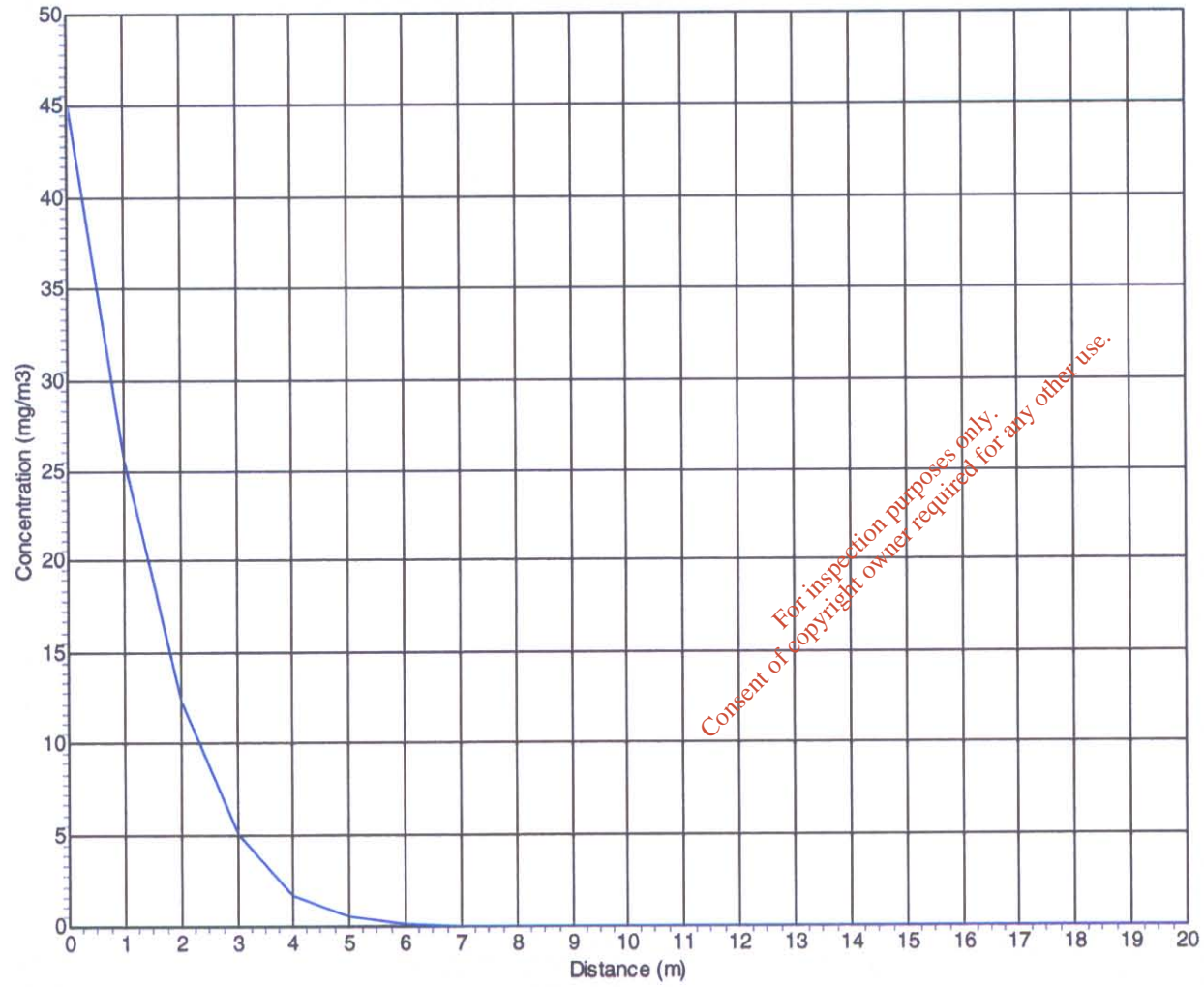


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Lateral Migration of Hydrogen Sulphide

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Toluene - Lateral Migration: 2006

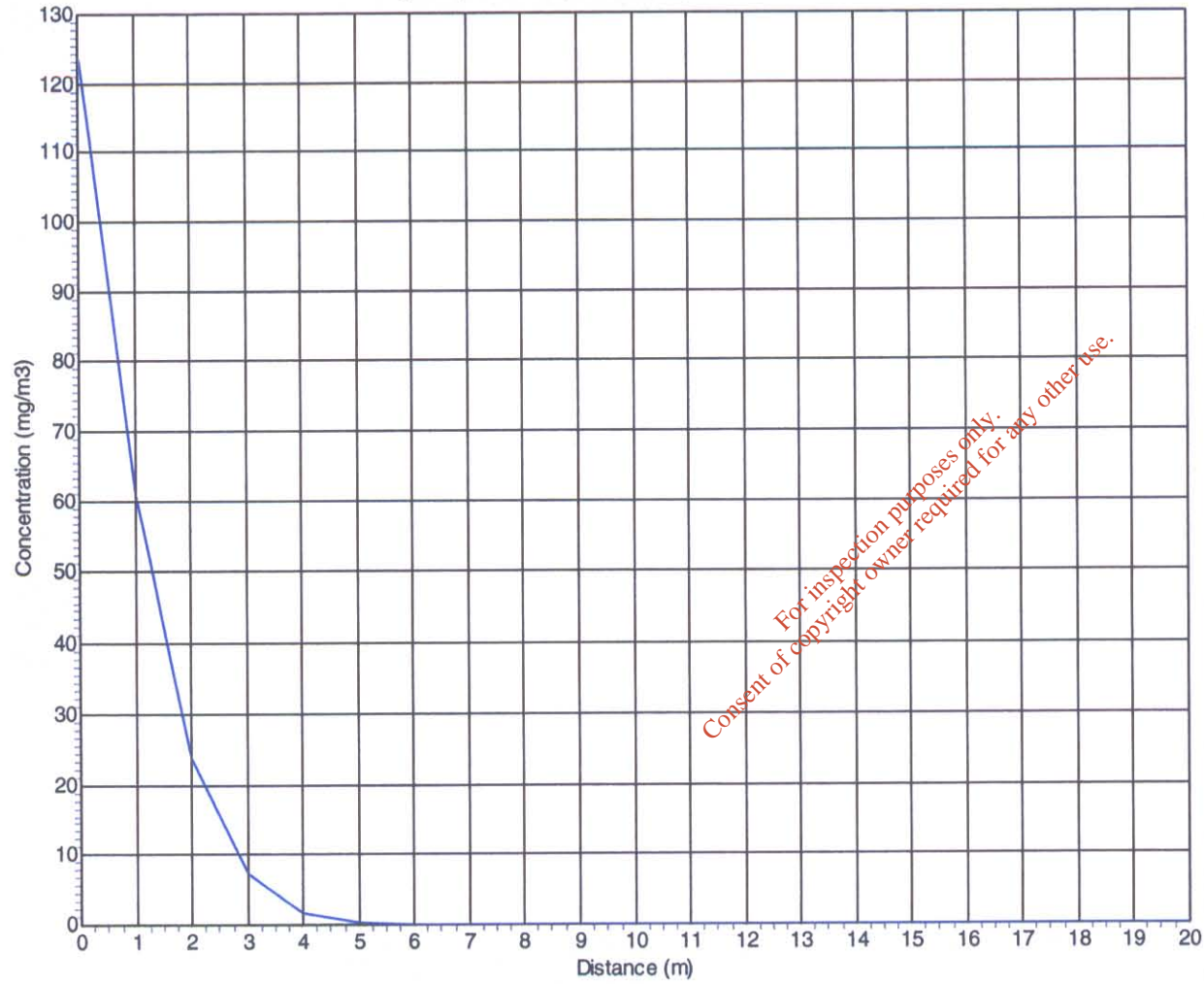


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Lateral Migration of Toluene

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Xylene (all isomers) - Lateral Migration: 2006



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Lateral Migration of Xylene

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Appendix H

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GAS MONITORING FOR; Roadstone Quarry, Blessington
 DATE; 21/03/2003

BOREHOLE	METHANE CH ₄	CARBON DIOXIDE CO ₂	OXYGEN O ₂	CARBON MONOXIDE CO (ppm)	HYDROGEN SULPHIDE H ₂ S (ppm)	BAROMETRIC PRESSURE (mb)	RELATIVE PRESSURE (mb)
BH 6/11	0	7.6	7.4	0	0	999	-2.7
BH 6/10	30.3	15.1	5.0	0	0	999	-2.7
BH 6/12	1.4	0.1	13.8	0	0	999	-2.7
GW 6/3	0	1.7	14.4	0	0	998	-2.5
GW 6/1	0	1.1	18.0	0	0	998	-2.5
GW 6/2	0	2.2	16.0	0	0	998	-2.5
GW 4/3	0	5.1	9.7	0	0	998	-2.5
BH 4/10	0	0.1	19.4	0	0	998	-2.5
GW 1/1	0	1.4	17.6	0	0	998	-2.5
BH 1/10	12.2	8.7	3.3	0	0	998	-2.5
BH 1/12	2	0	17.6	0	0	995	-2.3
BH 1/13	63.8	11.2	0.5	4	0	995	-2.3
BH 1/14	0.2	3.1	5.0	0	0	994	-2.3
BH 1/11	6	11.9	8.1	0	0	995	-2.2
GW 1/2	0	0	20.0	0	0	995	-2.2

997.133333

Gas detection employed by a GA2000 Landfill Gas Analyser which measures CH₄ and CO₂ in % by Infra-red measurement, CO and H₂S in ppm and O₂ in % by internal electrochemical cell measurement.

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DATE; 14/04/2003

BOREHOLE	METHANE CH ₄	CARBON DIOXIDE CO ₂	OXYGEN O ₂	CARBON MONOXIDE CO (ppm)	HYDROGEN SULPHIDE H ₂ S (ppm)	BAROMETRIC PRESSURE (mb)	Flow Rate L/hr	LEL %
BH1/10	0	0	21.3	n/a	n/a	978	0	0
BH1/11	6	3.7	13.6	n/a	n/a	980	see not	>100
BH1/12	1.7	0	18.2	n/a	n/a	979	see note	34
BH1/13	63	11	2.4	n/a	n/a	977	0.2	>100
BH1/14	0	0	20.7	0	0	981	n/a	0
GW1/1	0	0	21.2	n/a	n/a	977	0	0
GW1/2	0	0.1	20.3	0	0	981	n/a	0
GW1/3	0	0.5	19.2	0	0	981	n/a	0
GW1/4	0	0.1	20.5	n/a	n/a	981	n/a	0
BH4/10	0	0	20.7	0	0	982	n/a	0
BH4/11	0.9	0.8	19.5	70	0	982	n/a	18
BH4/12	1.2	0.6	20.1	4	0	981	n/a	24
GW4/3	0	0.2	20.5	0	0	982	n/a	0
GW4/4	0	0.2	19.7	0	0	982	n/a	0
BH6/10	17.1	9	12.8	1	0	987	n/a	>100
BH6/11	0.1	0	20.9	0	0	982	n/a	2
BH6/12	1.2	0	18.2	0	0	982	n/a	24
GW6/1	0	1.7	16.7	1	0	982	n/a	0
GW6/2	0	0.1	20.9	2	0	982	n/a	0
GW6/3	0	0	20.9	0	0	982	n/a	0

981.05

Gas detection employed by a GA2000 Landfill Gas Analyser which measures CH₄ and CO₂ in % by Infra-red measurement, CO and H₂S in ppm and O₂ in % by internal electrochemical cell measurement.

For results with a low rate the gas detection was employed by a GA1.1 Landfill Gas Analyser which measures CH₄ and CO₂ in % by infra-red measurement and was last calibrated on the 14/02/03.

note: BH1/11 the flow rate reading began at .7l/h and after 5 seconds levelled off at 0 l/h
 BH1/12 the flow rate reading began at .6l/h and after 5 seconds levelled oss at .2l/h

DATE: 21/05/2003

BOREHOLE	METHANE CH ₄	CARBON DIOXIDE CO ₂	OXYGEN O ₂	CARBON MONOXIDE CO (ppm)	HYDROGEN SULPHIDE H ₂ S (ppm)	BAROMETRIC PRESSURE (mb)	Flow Rate L/hr
BH1/10	3	5.2	8.7			978	0.2
BH1/11	8.8	5.8	8			986	<0.1
BH1/12	20	0.5	13.5			987	1
BH1/13	64	9.5	2.6			987	1.7
BH1/14	1.1	2.4	9.8	0	0	988	<0.1
GW1/2	0	0.1	20.6	0	0	990	<0.1
GW1/3	0	0	20.2	0	0	984	<0.1
GW1/4	0	1.1	17.1			985	<0.1
BH4/10	0.1	0.8	16.8	0	0	991	
BH4/11	54.3	16.6	2	0	0	992	
BH4/12	0.3	0.2	20.5	0	0	991	
GW4/3	0.1	3	15.8	0	0	991	
GW4/4	0	0.2	20.1	0	0	990	
BH6/10	14.9	7.8	15.5	0	0	991	<0.1
BH6/11	0.1	0.1	20.4	0	0	992	<0.1
BH6/12	6.5	1	2	0	0	991	<0.1
GW6/3	0	0	20.8	0	0	992	

988.5882353

Gas detection employed by a GA2000 Landfill Gas Analyser which measures CH₄ and CO₂ in % by Infra-red measurement, CO and H₂S in ppm and O₂ in % by internal electrochemical cell measurement.

For results with a low rate the gas detection was employed by a GA1 Landfill Gas Analyser which measures CH₄ and CO₂ in % by infra-red measurement and was last calibrated on the 14/02/03.

GAS MONITORING FOR;
DATE;

Roadstone, Blessington.
10/07/2003

BOREHOLE	METHANE CH ₄ %	CARBON DIOXIDE CO ₂ %	OXYGEN O ₂ %	Peak CH ₄ %	LEL CH ₄ %	CARBON MONOXIDE CO (ppm)	HYDROGEN SULPHIDE H ₂ S (ppm)	BAROMETRIC PRESSURE (mb)	Flow L/H
BH 1/10	5.5	4.5	11.6	5.7	>>>	0	0	993	0
BH 1/11	7.9	5.7	9.8	8.0	>>>	0	0	993	0
BH 1/12	0.8	0.3	19.5	0.9	17.0	0	0	993	-0.7
BH 1/13	61	12.3	2.3	61.6	>>>	0	0	994	0.3
BH 1/14	0	0	20.4	0.0	0.0	0	0	994	0
GW 1/1	0	0	20.5	0.0	0.0	0	0	994	0
GW 1/2	0	0.1	20.3	0.0	0.0	0	0	994	-0.2
GW 1/3	0	0.6	19.6	0.0	0.0	0	0	994	0
GW 1/4	0	0.6	18.9	0.0	0.0	0	0	994	0
BH 4/10	0.1	0	20.6	0.1	1.0	0	0	995	-0.9
BH 4/11	44	15.6	4.3	44.7	>>>	0	0	995	-2.2
BH 4/12	0.7	0.1	19.9	0.8	14.0	0	0	995	0
GW 4/2	0	0.3	20.5	0.0	0.0	0	0	995	0
GW 4/3	0	1.7	17.0	0.0	0.0	0	0	995	-3.2
GW 4/4	0.2	0.1	20.0	0.2	2.0	0	0	995	-3.1
BH 6/10	24.1	20.4	2.1	25.2	>>>	0	0	996	0
BH 6/11	0	0	20.5	0.0	0.0	0	0	996	0
BH 6/12	2.7	0.6	9.7	2.8	54.0	0	0	996	0
GW 6/1	0	0	20.8	0.0	0.0	0	0	996	0
GW 6/2	0	0	20.9	0.0	0.0	0	0	996	-0.3
GW 6/3	0	0	20.6	0.0	0.0	0	0	996	-0.5
GW 6/4	0	0	20.9	0.0	0.0	0	0	996	N/A
GW 6/5	0	0	20.8	0.0	0.0	0	0	996	0
GW 6/6	0	0	20.6	0.0	0.0	0	0	996	-0.3
GM 6/5a	0	2.1	18.9	0.1	0.0	0	0	996	0
GM 6/6a	0	0.1	20.6	0.0	0.0	0	0	996	0

994.9615385

BH - Shell & Auger Borehole
GW - Groundwater Monitoring Borehole
GM - Gas monitoring Borehole

Gas detection employed by a GA2000 Landfill Gas Analyser which measures CH₄ and CO₂ in % by Infra-red measurement, CO and H₂S in ppm and O₂ in % by internal electrochemical cell measurement.

GAS MONITORING FOR:

Client :		Roadstone		Consultant Engineers:		John Barnett & Associates		Contract No:		8669	
Location:			Hallmark, Roadstone Quarry, Blessington			Date: 21/10/03					
BOREHOLE	METHANE CH ₄ %	CARBON DIOXIDE CO ₂ %	OXYGEN O ₂ %	Peak CH ₄ %	LEL CH ₄ %	BAROMETRIC PRESSURE (mb)	Flow L/H	CARBON MONOXIDE CO (ppm)	HYDROGEN SULPHIDE H ₂ S (ppm)		
BH1/14	0	2.4	10.4	0.0	0.0	987	0.1	0	0		
BH1/13	64.9	12.8	0.0	65.6	>>>	987	1	0	0		
BH1/12	2.1	1.3	1.3	2.1	4.0	986	0.5	0	0		
GW1/1	0	0.5	18.5	0.0	0.0	986	0.1	0	0		
BH1/10	6.5	7.6	5.6	6.6	>>>	986	0.1	0	0		
BH1/11	11.2	7.2	5.7	11.4	>>>	986	-0.4	0	0		
GW1/2	0	0	20.7	0.0	0.0	986	0.1	0	0		
GW1/3	0	0	20.0	0.0	0.0	986	-0.2	0	0		
GW1/4	0	0.5	19.4	0.0	0.0	986	-0.1	0	0		
BH4/12	0	0.2	20.4	0.0	0.0	986	-0.9	0	0		
BH4/11	20.8	11.3	6.6	21.2	>>>	986	-0.8	0	0		
BH4/10	25.2	14.7	1.0	25.6	>>>	986	-0.3	0	0		
GW4/4	1.1	2.9	2.4	1.2	23.0	986	1.9	0	0		
GW4/2	0	0.5	20.3	0.0	0.0	987	-0.2	0	0		
GW4/3	0	0	20.8	0.0	0.0	987	-1.3	0	0		
GW6/3	0	2.4	13.7	0.0	0.0	987	-0.1	0	0		
GW6/4	0	1.1	15.5	0.0	0.0	987	0	0	0		
BH6/12	3.1	2.3	0.0	0.0	0.0	987	-0.1	0	0		
BH6/9	6.4	9.6	10.8	11.5	>>>	987	0	0	0		
BH6/11	0	7	4.4	0.0	0.0	987	0	0	0		
GWR1	0	0.2	19.3	0.0	0.0	987	0.2	0	0		
GW6/6 West	0	0	20.9	0.0	0.0	987	0	0	0		
GW6/6 East	0	0	21.0	0.0	0.0	987	0	0	0		
GW6/5 North	0	0	21.1	0.0	0.0	987	0.1	0	0		
GW6/5 South	0	0	21.0	0.0	0.0	987	0	0	0		
GW6/2	0	0	20.7	0.0	0.0	987	0	0	0		
GW6/1	0	0	21.0	0.0	0.0	987	0	0	0		
GWR2	0	1.7	20.6	0.0	0.0	987	0	0	0		
GWR3	0	0.5	20.0	0.0	0.0	987	0.2	0	0		
GW4/4	0	0	20.7	0.0	0.0	987	0	0	0		
GW4/3	0	0	21	0	0	987	0	0	0		
GW4/2	0	0	20.5	0	0	987	0	0	0		
986.6875											
Gas detection employed by a GA2000 Landfill Gas Analyser which measures CH ₄ and CO ₂ in % by Infra-red measurement, CO and O ₂ in % by internal electrochemical cell measurement.											

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GAS MONITORING FOR+A32

Client:		Roadstone		Consultant Engineers:		John Barnett & Associates		Contract No:		8669	
Location:		Dorans, Roadstone Quarry, Blessington				Date:		13/01/2004			
BOREHOLE	METHANE CH ₄ %	CARBON DIOXIDE CO ₂ %	OXYGEN O ₂ %	Peak CH ₄ %	LEL CH ₄ %	BAROMETRIC PRESSURE (mb)	Flow L/H	CARBON MONOXIDE CO (ppm)	HYDROGEN SULPHIDE H ₂ S (ppm)		
GW1/1	0	0.1	19.4	0.0	0.0	962	0.1	0	0		
GW1/2	0	0.1	20.4	0.0	0.0	963	0.1	0	0		
GW1/3	0	0	19.9	0.0	0.0	963	-0.2	0	0		
GW1/4	0	0.3	20.1	0.0	0.0	962	0	0	0		
BH1/10	15.5	8.3	7.5	15.8	>>>	962	1	0	1		
BH1/11	0	0.2	20.2	0.0	0.0	962	0	0	0		
BH1/12	20.2	1.1	12.1	20.8	>>>	962	0.1	0	0		
BH1/13	23.4	3.9	12.8	24.7	>>>	962	-0.8	0	0		
BH1/14	0	0	19.7	0.0	0.0	962	0	0	0		
GW4/2	0	0.1	20.2	0.0	0.0	965	0	0	0		
GW4/3	0	0	19.9	0.0	0.0	963	0.2	0	0		
GW4/4	1.6	0.9	14.5	1.6	32.0	964	-0.1	0	0		
BH4/10	40.2	15.9	0.1	40.3	40.3	965	0	0	0		
BH4/11	35.3	14.9	0.0	35.8	>>>	965	0	0	0		
BH4/12	5.7	2.8	6.9	5.8	>>>	965	-0.5	0	0		
GW6/1	0	0.2	20.4	0.0	0.0	966	0	0	0		
GW6/2	0	0	20.8	0.0	0.0	966	0	0	0		
GW6/3	0	3.9	17.4	0.0	0.0	966	-0.2	0	0		
GW6/4	0	0	20.0	0.0	0.0	966	0	0	0		
GW6/5 North	0	0	21.0	0.0	0.0	966	0	0	0		
GW6/5 South	0	0	21.0	0.0	0.0	966	0	0	0		
GW6/6 West	0	0	20.9	0.0	0.0	966	0	0	0		
GW6/6 East	0	0	21.0	0.0	0.0	966	0	0	0		
BH6/9	7.9	10.4	12.6	9.2	>>>	966	0	0	0		
BH6/11	0	0	20.1	0.0	0.0	966	0.1	0	0		
BH6/12	1.2	0.6	14.3	1.2	2.3	964	0	0	0		
GWR1	0	0.4	0.0	0.0	0.0	966	0	0	0		
GWR2	0	0.1	20.4	0.0	0.0	966	0	0	0		
GWR3	0	0	21.1	0.0	0.0	966	0	0	0		

Gas detection employed by a GA2000 Landfill Gas Analyser which measures CH₄ and CO₂ in % by Infra-red measurement, CO and H₂S in ppm and O₂ in % by internal electrochemical cell measurement.

GW4/4	0	0	20.3	0.0	0.0	966	0	0	0	
GW4/3	0	0	20.9	0	0	966	0	0	0	
GW4/2	0	0	20.7	0	0	966	0	0	0	

964.59375

Appendix H -Trace Gas Results March 04

Compound Identity	Location BLA1 concentration (µg m ⁻³)	Compound Identity	Location BLA1 concentration (µg m ⁻³)	Compound Identity	Location BLA1 concentration (µg m ⁻³)	Compound Identity	Location BLA1 concentration (µg m ⁻³)	Compound Identity	Location BLA1 concentration (µg m ⁻³)	Compound Identity	Location BLA1 concentration (µg m ⁻³)	Compound Identity	Location BLA1 concentration (µg m ⁻³)
Chloroethane	<LOD	Chloroethane	<LOD	Chloroethane	<LOD	Chloroethane	<LOD	Chloroethane	<LOD	Chloroethane	<LOD	Chloroethane	<LOD
Chloroethene (Vinyl chloride)	<LOD	Chloroethene (Vinyl chloride)	<LOD	Chloroethene (Vinyl chloride)	<LOD	Chloroethene (Vinyl chloride)	<LOD	Chloroethene (Vinyl chloride)	<LOD	Chloroethene (Vinyl chloride)	<LOD	Chloroethene (Vinyl chloride)	<LOD
Benzene	<LOD	Benzene	<LOD	Benzene	<LOD	Benzene	932.4	Benzene	280.83	Benzene	<LOD	Benzene	<LOD
2-butoxy ethanol	<LOD	2-butoxy ethanol	<LOD	2-butoxy ethanol	<LOD	2-butoxy ethanol	<LOD	2-butoxy ethanol	<LOD	2-butoxy ethanol	<LOD	2-butoxy ethanol	<LOD
1,1-dichloroethane	<LOD	1,1-dichloroethane	<LOD	1,1-dichloroethane	<LOD	1,1-dichloroethane	<LOD	1,1-dichloroethane	<LOD	1,1-dichloroethane	<LOD	1,1-dichloroethane	<LOD
Trichloroethene	<LOD	Trichloroethene	<LOD	Trichloroethene	<LOD	Trichloroethene	<LOD	Trichloroethene	<LOD	Trichloroethene	<LOD	Trichloroethene	<LOD
Tetrachloromethane	<LOD	Tetrachloromethane	<LOD	Tetrachloromethane	<LOD	Tetrachloromethane	<LOD	Tetrachloromethane	<LOD	Tetrachloromethane	<LOD	Tetrachloromethane	<LOD
Hydrogen sulphide	<LOD	Hydrogen sulphide	<LOD	Hydrogen sulphide	<LOD	Hydrogen sulphide	<LOD	Hydrogen sulphide	<LOD	Hydrogen sulphide	<LOD	Hydrogen sulphide	<LOD
1,1-dichloroethene	<LOD	1,1-dichloroethene	<LOD	1,1-dichloroethene	<LOD	1,1-dichloroethene	<LOD	1,1-dichloroethene	83.94	1,1-dichloroethene	<LOD	1,1-dichloroethene	<LOD
1,2-dichloroethene	<LOD	1,2-dichloroethene	<LOD	1,2-dichloroethene	<LOD	1,2-dichloroethene	<LOD	1,2-dichloroethene	<LOD	1,2-dichloroethene	<LOD	1,2-dichloroethene	<LOD
Carbon disulphide	<LOD	Carbon disulphide	<LOD	Carbon disulphide	<LOD	Carbon disulphide	<LOD	Carbon disulphide	<LOD	Carbon disulphide	<LOD	Carbon disulphide	<LOD
Methanethiol	<LOD	Methanethiol	<LOD	Methanethiol	<LOD	Methanethiol	<LOD	Methanethiol	<LOD	Methanethiol	<LOD	Methanethiol	<LOD
Butyric acid	<LOD	Butyric acid	<LOD	Butyric acid	<LOD	Butyric acid	<LOD	Butyric acid	<LOD	Butyric acid	<LOD	Butyric acid	<LOD
Ethanal (acetaldehyde)	<LOD	Ethanal (acetaldehyde)	<LOD	Ethanal (acetaldehyde)	<LOD	Ethanal (acetaldehyde)	<LOD	Ethanal (acetaldehyde)	<LOD	Ethanal (acetaldehyde)	<LOD	Ethanal (acetaldehyde)	<LOD
Ethyl butyrate	<LOD	Ethyl butyrate	<LOD	Ethyl butyrate	<LOD	Ethyl butyrate	<LOD	Ethyl butyrate	<LOD	Ethyl butyrate	<LOD	Ethyl butyrate	<LOD
1-propanethiol	<LOD	1-propanethiol	<LOD	1-propanethiol	<LOD	1-propanethiol	<LOD	1-propanethiol	<LOD	1-propanethiol	<LOD	1-propanethiol	<LOD
Dimethyl disulphide	<LOD	Dimethyl disulphide	<LOD	Dimethyl disulphide	<LOD	Dimethyl disulphide	<LOD	Dimethyl disulphide	68.91	Dimethyl disulphide	<LOD	Dimethyl disulphide	<LOD
Ethanethiol	<LOD	Ethanethiol	<LOD	Ethanethiol	<LOD	Ethanethiol	<LOD	Ethanethiol	<LOD	Ethanethiol	<LOD	Ethanethiol	<LOD
1-pentene	<LOD	1-pentene	<LOD	1-pentene	<LOD	1-pentene	<LOD	1-pentene	<LOD	1-pentene	<LOD	1-pentene	<LOD
1-butanethiol	<LOD	1-butanethiol	<LOD	1-butanethiol	<LOD	1-butanethiol	<LOD	1-butanethiol	<LOD	1-butanethiol	<LOD	1-butanethiol	<LOD
Dimethyl sulphide	<LOD	Dimethyl sulphide	<LOD	Dimethyl sulphide	<LOD	Dimethyl sulphide	<LOD	Dimethyl sulphide	<LOD	Dimethyl sulphide	<LOD	Dimethyl sulphide	<LOD
Limonene	<LOD	Limonene	<LOD	Limonene	<LOD	Limonene	<LOD	Limonene	2480.45	Limonene	<LOD	Limonene	<LOD

Appendix H -Trace Gas Results March 04

Compound Identity	Location BLA1 concentration (µg m ⁻³)	Compound Identity	Location BLA1 concentration (µg m ⁻³)	Compound Identity	Location BLA1 concentration (µg m ⁻³)	Compound Identity	Location BLA1 concentration (µg m ⁻³)	Compound Identity	Location BLA1 concentration (µg m ⁻³)	Compound Identity	Location BLA1 concentration (µg m ⁻³)	Compound Identity	Location BLA1 concentration (µg m ⁻³)
1H-Indole-3-carboxylic acid, 5-hydroxy-	17.05												
Benzoic Acid	15.25												
3-Buten-2-ol, 1-bromo-2-methyl-	11.21												
Nonanal	10.8												
Benzaldehyde	10.21												
Eicosane	10.18												
2-Methyl-5-nitro-2H-indazole	9.4												
Trimethylsilyl methyl sulfide	8.56												
Acetonitrile, 1-(6-chloro-2-pyridyl)-1-(4-cyanomethylphenyl)-	6.83												
Decanal	6.62												
Total Voc's	345.93												

Toluene	35.43	Toluene	39.62
Benzaldehyde	19.29	Benzaldehyde	12.26
Decane	14.6		
Nonanal	13.86		
Nonane	12.33		
1-Hexanol, 2-ethyl-	12.03		
p-Xylene	9.37		
Pyrrolidine, 2,5-dimethyl-1-nitroso-	9.35		
Acetophenone	8.71		
Cyclohexane, propyl-	8.53		
Total Voc's	648.9		

2-mercapto-3-benzothienylidene-4-methylaniline	5.31
1,3-Bis(trimethylsilyl)benzene	158.18
Hydrazine, 1,1-dimethyl-	12.25
Nonanal	6.78
p-Xylene	6.36
Oxime-, methoxy-phenyl-	6.21
Decanal	5.65
Acetophenone	4.88
Eicosane	3.32
Total Voc's	432.39

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Appendix H - Trace Gas Results March 04

Compound Identity	Location BLA1 concentration ($\mu\text{g m}^{-3}$)	Compound Identity	Location BLA1 concentration ($\mu\text{g m}^{-3}$)	Compound Identity	Location BLA1 concentration ($\mu\text{g m}^{-3}$)	Compound Identity	Location BLA1 concentration ($\mu\text{g m}^{-3}$)	Compound Identity	Location BLA1 concentration ($\mu\text{g m}^{-3}$)	Compound Identity	Location BLA1 concentration ($\mu\text{g m}^{-3}$)	Compound Identity	Location BLA1 concentration ($\mu\text{g m}^{-3}$)
						Nonane, 4-methyl-	1442.23						
						Cyclohexane, propyl-	1232.19						
						Decane, 4-methyl-	1214.45						
						Benzene, 1,2,3-trimethyl-	1207						
						Nonane, 3-methyl-	1079.93						
						Benzene, 1-ethyl-2-methyl-	987.2						
						Octane, 2,6-dimethyl-	947.17						
						2-Hexene, 3-methyl-, (Z)-	824.54						
						Nonane	780.9						
						Octane, 3-methyl-	778.73						
						Total Voc's	39117.75						

Benzene, 1-methyl-2-(1-methylethyl)-	1661.34
alpha-Pinene	1257.02
3-Carene	1146.94
Toluene	1095.71
Nonane	1002.41
Ethylbenzene	995.88
Octane, 2,6-dimethyl-	840.92
Cyclohexane, propyl-	806.38
Nonane, 4-methyl-	801.42
Ethane, 1,1,1-trichloro-	793.38
Total Voc's	32040.25

Benzene, 1-methyl-2-(1-methylethyl)-	4512.4
Bicyclo[4.1.0]heptane, 3,7,7-trimethyl-	2224.15
Decane, 4-methyl-	1888.66
Nonane	1672.51
4-Octene, 2,6-dimethyl-, [S-(Z)]-	1519.57
Octane, 2,5-dimethyl-	1387.03
Decane	1106.41
3-Carene	1104.27
Cyclohexane, propyl-	1098.04
1-Methyl-4-(1-methylethyl)-cyclohexane	1055.1
Total Voc's	39214.16

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Appendix H -Trace Gas Results March 04

Compound Identity	Location BLA1 concentration ($\mu\text{g m}^{-3}$)	Compound Identity	Location BLA1 concentration ($\mu\text{g m}^{-3}$)	Compound Identity	Location BLA1 concentration ($\mu\text{g m}^{-3}$)	Compound Identity	Location BLA1 concentration ($\mu\text{g m}^{-3}$)	Compound Identity	Location BLA1 concentration ($\mu\text{g m}^{-3}$)	Compound Identity	Location BLA1 concentration ($\mu\text{g m}^{-3}$)	Compound Identity	Location BLA1 concentration ($\mu\text{g m}^{-3}$)
												1,3-Bis(trimethylsilyl)benzene	1.92
												Silicic acid, diethyl bis(trimethylsilyl) ester	2.04
												2,4-Cyclohexadien-1-one, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-	1.16
												N-Methyl-1-adamantanecetamide	0.94
												Indole-2-one, 2,3-dihydro-N-hydroxy-4-methoxy-3,3-dimethyl-	0.5
												2-Ethylacridine	0.49
												Arsenous acid, tris(trimethylsilyl) ester	0.46
												5-Methyl-2-phenylindolizine	0.45
												Silanamine, N-[2,6-dimethyl-4-[(trimethylsilyl)oxy]phenyl]-1,1,1-trimethyl-	0.43
												Acetaldehyde, chloro-	0.39
												Total Voc's	55.71

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Gas Monitoring Results at Boreholes GW+BH, RDL Blessington

Monitoring date: 19th April 2004. Monitoring undertaken by JBA
Instrument: Geotechnical Instruments GA2000 Gas analyser

BOREHOLE	METHANE CH ₄ %	CARBON DIOXIDE CO ₂ %	OXYGEN O ₂ %	Peak CH ₄ %	LEL CH ₄ %	BAROMETRIC PRESSURE (mb)	Flow L/H	CARBON MONOXIDE CO (ppm)	HYDROGEN SULPHIDE H ₂ S (ppm)
GW 1/1	0	1	21	0	0	995	0	0	0
GW 1/2	0	2	20.5	0	0	995	0	0	0
GW 1/3	0	0.2	20.3	0	0	995	0	0	0
GW 1/4	0	0.1	20.9	0	0	995	0	0	0
BH 1/10	19.7	9.7	3.9	19.7	>>>	995	0.5-0.5	0	0
BH 1/11	0	0.7	20.4	0	0	979	0.2-1.1	0	0
BH 1/12	35.2	2.02	6.8	35.3	>>>	995	0.2-0.7	0	0
BH 1/13	59	10.8	1.9	59.1	>>>	995	1.2	0	0
BH 1/14	0	0.1	20.9	0	0	995	0	0	0
GW 4/1	0	0.1	21	0	0	980	0	0	0
GW 4/2	0	1	20.5	0	0	980	0	0	0
GW 4/3	0	0.1	20.9	0	0	980	0	0	0
GW 4/4	0.3	0.2	19.9	0.3	0.6	980	0	0	0
BH 4/10	12.1	3.5	0.8	12.1	>>>	980	0	0	0
BH 4/11	40.1	12.7	2.7	40.2	>>>	980	0.2-0.9	0	0
BH 4/12	19.5	9.2	1.9	19.8	>>>	980	0.3-1.4	0	0
GW 6/1	0	1.2	18.2	0	0	958	0	0	0
GW 6/2	0	0.1	20.8	0	0	958	0	0	0
GW 6/3	0	1.7	16.7	0	0	980	0	0	0
GW 6/4	0	0.2	21.2	0	0	980	0	0	0
GW 6/5	0	0.1	20.6	0	0	958	0	0	0
GW 6/5A	0	0.1	20.6	0	0	958	0	0	0
GW 6/6	0	0	21	0	0	958	0	0	0
GW 6/6A	0	0.8	20.5	0	0	958	0	0	0
BH 6/10	0	0.4	20.5	0	0	980	0	0	0
BH 6/11	0	0.1	20.8	0	0	980	0	0	0
BH 6/12	1.6	1.2	9.3	1.7	32	980	0.2-0.4	0	0
GWR1	0	1	20.9	0	0	958	0	0	0
GWR2	0	2.6	17.8	0	0	958	0	0	0
GWR3	0	1.5	18.6	0	0	958	0	0	0

Gas detection employed by a GA2000 Landfill Gas Analyser which measures CH₄ and CO₂ in % by Infra-red measurement, CO and H₂S in ppm and O₂ in % by internal electrochemical cell measurement.

Gas Monitoring Results at Boreholes GW+BH, RDL Blessington

Monitoring date: 19th April 2004. Monitoring undertaken by JBA
Instrument: Geotechnical Instruments GA2000 Gas analyser

BOREHOLE	METHANE CH ₄ %	CARBON DIOXIDE CO ₂ %	OXYGEN O ₂ %	Peak CH ₄ %	LEL CH ₄ %	BAROMETRIC PRESSURE (mb)	Flow L/H	CARBON MONOXIDE CO (ppm)	HYDROGEN SULPHIDE H ₂ S (ppm)
P1	0	0.2	20.7	0	0	980	-	0	0
P2	0	0.2	20.9	0	0	980	-	0	0
P3	0	0.5	20.7	0	0	980	-	0	0
P4	0	0.1	21.2	0	0	980	-	0	0
P6	0	0.1	21.3	0	0	980	-	0	0
P7	0	0.1	21.4	0	0	980	-	0	0
A4	0.2	1.4	19.6	0.3	4	980	-	0	0
A5	7.2	11.1	6.8	58.1	>>>	980	-	0	0
A6	19.1	18.7	5.3	19.1	>>>	980	-	0	0

Gas detection employed by a GA2000 Landfill Gas Analyser which measures CH₄ and CO₂ in % by Infra-red measurement, CO and H₂S in ppm and O₂ in % by internal electrochemical cell measurement.

P = vent stack installed in perimeter vent trench
A = passive vent installed into waste body

977.974359

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Gas Monitoring Results at Boreholes GW+BH, RDL Blessington

Monitoring date: 21st May 2004 Monitoring undertaken by JBA
Instrument: Geotechnical Instruments GA2000 Gas analyser

BOREHOLE	METHANE CH ₄ %	CARBON DIOXIDE CO ₂ %	OXYGEN O ₂ %	Peak CH ₄ %	LEL CH ₄ %	BAROMETRIC PRESSURE (mb)	Flow L/H	CARBON MONOXIDE CO (ppm)	HYDROGEN SULPHIDE H ₂ S (ppm)
GW 1/1	0	0	22.5	0	0	994	na.	0	0
GW 1/2	0	0.5	21.6	0	0	994	0.3-1.1	0	0
GW 1/3	0	0	22.4	0	0	994	0.1-1.7	0	0
GW 1/4	0	0.1	22.5	0	0	994	0.1-1.2	0	0
BH 1/10	11.4	8.6	4.9	11.5	<<<	994	0.3	0	0
BH 1/11	0	0.8	23.2	0	0	994	0.1-0.5	0	0
BH 1/12	8.3	2.6	15.7	8.11	<<<	994	0.2-1.1	0	0
BH 1/13	57.5	11	1.5	57.6	<<<	994	1-1.5	0	0
BH 1/14	0	0	22.3	0	0	994	0.2-0.5	0	0
GW 4/1	0	0	22.4	0	0	996	0.2-0.4	0	0
GW 4/2	0	0.6	21.9	0	0	996	0.1-0.8	0	0
GW 4/3	0	0	22.2	0	0	996	0.1-0.5	0	0
GW 4/4	0	0	22.5	0	0	996	0.1	0	0
BH 4/10	0	0	22.5	0	0	994	0.1-1	0	0
BH 4/11	34.5	12	5.6	34.7	<<<	994	0.1-0.7	0	0
BH 4/12	2.4	0.9	20.6	17.5	<<<	994	0.1	0	0
GW 6/1	0	1.1	20.4	0	0	996	0.2-0.8	0	0
GW 6/2	0	0	22.6	0	0	998	0.2-1.1	0	0
GW 6/3	0	0	21.1	0	0	998	0.4-2	0	0
GW 6/4	0	0	21.2	0	0	998	na.	0	0
GW 6/5	0	0.2	22.3	0	0	996	0.1	0	0
GW 6/5A	0	1.6	21.6	0	0	996	0.1-0.8	0	0
GW 6/6	0	0	22.4	0	0	996	0.2-0.8	0	0
GW 6/6A	0	0	22.5	0	0	996	na.	0	0
BH 6/10	0.1	0.3	20.3	0.1	2	998	0.2-0.8	0	0
BH 6/11	0	0	20.4	0	0	998	0.2-1.1	0	0
BH 6/12	0.2	0.2	19.3	0.2	3	998	0.1	0	0
GWR1	0	1.3	21.7	0	0	996	0.1	0	0
GWR2	0	2.2	19	0	0	996	na.	0	0
GWR3	0	1.4	20.4	0	0	996	0.1-0.8	0	0

Gas detection employed by a GA2000 Landfill Gas Analyser which measures CH₄ and CO₂ in % by Infra-red measurement, CO and H₂S in ppm and O₂ in % by internal electrochemical cell measurement.

Gas Monitoring Results at Boreholes GW+BH, RDL Blessington

Monitoring date: 21st May 2004. Monitoring undertaken by JBA
Instrument: Geotechnical Instruments GA2000 Gas analyser

BOREHOLE	METHANE CH ₄ %	CARBON DIOXIDE CO ₂ %	OXYGEN O ₂ %	Peak CH ₄ %	LEL CH ₄ %	BAROMETRIC PRESSURE (mb)	Flow L/H	CARBON MONOXIDE CO (ppm)	HYDROGEN SULPHIDE H ₂ S (ppm)
P1	0	0	20.4	0	0	998	na.	0	0
P2	0	0.2	20.4	0	0	998	na.	0	0
P3	0	0	20.5	0	0	998	na.	0	0
P4	0	0.6	20.3	0	0	998	na.	0	0
P6	0	0.2	20.6	0	0	998	na.	0	0
P7	0	0	20.8	0	0	998	na.	0	0
A4	9.1	16.3	1.6	9.1	<<<	998	na.	0	0
A5	2.4	4.3	15.2	2.4	49	998	na.	0	0
A6	6.6	6	115.3	18.2	<<<	998	na.	0	0

Gas detection employed by a GA2000 Landfill Gas Analyser which measures CH₄ and CO₂ in % by Infra-red measurement, CO and H₂S in ppm and O₂ in % by internal electrochemical cell measurement.

Gas Monitoring Results at Boreholes GW+BH, RDL Blessington

Monitoring date: 17/18 June 2004

Monitoring undertaken by JBA

Instrument: Geotechnical Instruments GA2000 Gas analyser

BOREHOLE	METHANE CH ₄ %	CARBON DIOXIDE CO ₂ %	OXYGEN O ₂ %	Peak CH ₄ %	LEL CH ₄ %	BAROMETRIC PRESSURE (mb)	Flow L/H	CARBON MONOXIDE CO (ppm)	HYDROGEN SULPHIDE H ₂ S (ppm)
GW 1/1	0	0	21.7	0	0	981	-	0	0
GW 1/2	0	0	21.7	0	0	981	0.8	0	0
GW 1/3	0	0.1	21.7	0	0	981	1.3-2.2	0	0
GW 1/4	0	0	21.8	0	0	981	1.3	0	0
BH 1/10	0	0	21.9	0	0	981	0.2	0	0
BH 1/11	0	0.7	21.2	0	0	981	1.3-2.2	0	0
BH 1/12	1.1	1.8	4.6	1.2	24	981	0.2-0.3	0	0
BH 1/13	55	11.3	0.9	55	>>>	981	0.8-1.2	0	0
BH 1/14	0	3.2	8.4	0	0	981	0.1-0.8	0	0
GW 4/1	0	0	22.1	0	0	982	0.1-0.4	0	0
GW 4/2	0	0.8	21.3	0	0	982	0.2	0	0
GW 4/3	0	307	14.4	0	0	981	1.4	0	0
GW 4/4	0	0.8	19.3	0	0	981	1.5	0	0
BH 4/10	0	0	22	0	0	981	0.1-0.5	0	0
BH 4/11	29.5	11.5	7.1	29.7	>>>	981	0.2-1	0	0
BH 4/12	19.5	7	6.5	19.6	>>>	981	0.4-1.2	0	0
GW 6/1	0	1.3	19.6	0	0	983	0	0	0
GW 6/2	0	0.5	21.5	0	0	983	0.1	0	0
GW 6/3	0	0	22.2	0	0	985	1	0	0
GW 6/4	0	0	22.1	0	0	985	0	0	0
GW 6/5	0	0.5	21.9	0	0	983	0.1-0.4	0	0
GW 6/5A	0	2.4	20.7	0	0	983	0.1-0.4	0	0
GW 6/6	0	1.5	18.8	0	0	983	0.2	0	0
GW 6/6A	0	0.4	21.8	0	0	983	0	0	0
BH 6/10	0	0.1	21.7	0	0	985	1.7-0.8	0	0
BH 6/11	0	0	21.7	0	0	985	0.8-1.5	0	0
BH 6/12	0	0	21.8	0	0	985	0.8-1.4	0	0
GWR1	0	1.6	21.2	0	0	983	-	0	0
GWR2	0	2.9	19	0	0	983	-	0	0
GWR3	0	0.8	21.1	0	0	983	0.1	0	0

Gas detection employed by a GA2000 Landfill Gas Analyser which measures CH₄ and CO₂ in % by Infra-red measurement, CO and H₂S in ppm and O₂ in % by internal electrochemical cell measurement.

Gas Monitoring Results at Boreholes GW+BH, RDL Blessington

Monitoring date: 17/18 June 2004

Monitoring undertaken by JBA

Instrument: Geotechnical Instruments GA2000 Gas analyser

BOREHOLE	METHANE CH ₄ %	CARBON DIOXIDE CO ₂ %	OXYGEN O ₂ %	Peak CH ₄ %	LEL CH ₄ %	BAROMETRIC PRESSURE (mb)	Flow L/H	CARBON MONOXIDE CO (ppm)	HYDROGEN SULPHIDE H ₂ S (ppm)
P1	0	0	22.1	0	0	985	-	0	0
P2	0	0	22.1	0	0	985	-	0	0
P3	0	0	22.2	0	0	985	-	0	0
P4	0	0.6	21.6	0	0	985	-	0	0
P6	0	0.9	21.3	0	0	985	-	0	0
P7	0	0	22.3	0	0	985	-	0	0
A4	14.4	18.8	2	14.4	>>>	985	-	0	0
A5	11	15.4	3.6	11.1	>>>	985	-	0	0
A6	20	22.9	3.1	21.8	>>>	985	-	0	0

Gas detection employed by a GA2000 Landfill Gas Analyser which measures CH₄ and CO₂ in % by Infra-red measurement, CO and H₂S in ppm and O₂ in % by internal electrochemical cell measurement.

Gas Monitoring Results at Boreholes GW+BH, RDL Blessington

Monitoring date: 10th December 2004 Monitoring undertaken by JBA

Instrument: Geotechnical Instruments GA2000 Gas analyser

BOREHOLE	METHANE CH ₄ %	CARBON DIOXIDE CO ₂ %	OXYGEN O ₂ %	Peak CH ₄ %	LEL CH ₄ %	BAROMETRIC PRESSURE (mb)	Flow L/H	CARBON MONOXIDE CO (ppm)	HYDROGEN SULPHIDE H ₂ S (ppm)
GW 1/1	0	0	21.2	-	-	988	na.	0	0
GW 1/2	0	0	21.3	-	-	988	na.	0	0
GW 1/3	0	0	21.3	-	-	988	0.5	0	0
GW 1/4	0	0.1	21	-	-	988	0.7	0	0
BH 1/10	18.4	10.4	0.7	18.6	>>>	988	1.5	0	0
BH 1/11	0	4	13.2	-	-	988	1.9	0	0
BH 1/12	30.7	1.9	7.3	31.3	>>>	988	1.9	0	0
BH 1/13	50.6	9.9	2.3	51.3	>>>	988	1.6	0	0
BH 1/14	0	0	21.4	-	-	988	0.8	0	0
GW 4/1									
GW 4/2	0	0.9	20.4	-	-	989	0.5	0	0
GW 4/3	0	0	21	-	-	989	2.8	0	0
GW 4/4	0	1	15	-	-	989	3.4	0	0
BH 4/10	0	0	21.1	-	-	989	0.2	0	0
BH 4/11	3.8	2.9	16.9	4.4	98	989	1.2	0	0
BH 4/12	0	0	21	-	-	989	1.3	0	0
GW 6/1	0	1.2	19	-	-	991	1.6	0	0
GW 6/2	0	0.1	21.3	-	-	991	1.8	0	0
GW 6/3	0	0	21.1	-	-	990	na.	0	0
GW 6/4	0	0	21.3	-	-	990	na.	0	0
GW 6/5	0	0.1	21.3	-	-	991	na.	0	0
GW 6/5A	0	0.1	21.3	-	-	991	1.5	0	0
GW 6/6	0	0	21.2	-	-	991	2.2	0	0
GW 6/6A	0	0	21.2	-	-	991	na.	0	0
BH 6/10	0	0	20.8	-	-	990	1.4	0	0
BH 6/11	0	0	21	-	-	990	1.4	0	0
BH 6/12	0	0	20.8	-	-	990	1.7	0	0
GWR1	0	0	21.5	-	-	990	na.	0	0
GWR2	0	0	21.2	-	-	990	na.	0	0
GWR3	0	0.2	21.2	-	-	990	1.3	0	0

Gas detection employed by a GA2000 Landfill Gas Analyser which measures CH₄ and CO₂ in % by Infra-red measurement, CO and H₂S in ppm and O₂ in % by internal electrochemical cell measurement.

Gas Monitoring Results at Boreholes GW+BH, RDL Blessington

Monitoring date: 10th December 2004. Monitoring undertaken by JBA

Instrument: Geotechnical Instruments GA2000 Gas analyser

BOREHOLE	METHANE CH ₄ %	CARBON DIOXIDE CO ₂ %	OXYGEN O ₂ %	Peak CH ₄ %	LEL CH ₄ %	BAROMETRIC PRESSURE (mb)	Flow L/H	CARBON MONOXIDE CO (ppm)	HYDROGEN SULPHIDE H ₂ S (ppm)
P1	0	0.1	21	-	-	990	na.	0	0
P2	0	0	21.1	-	-	990	na.	0	0
P3	0	0	21	-	-	990	na.	0	0
P4	0	0.3	20.8	-	-	990	na.	0	0
P6	0	0	21	-	-	990	na.	0	0
P7	0	0	21	-	-	990	na.	0	0
A4	0	0.8	20.3	-	-	990	na.	0	0
A5	0	0	21.2	-	-	990	na.	0	0
A6	0	0.1	21	-	-	990	na.	0	0

Gas detection employed by a GA2000 Landfill Gas Analyser which measures CH₄ and CO₂ in % by Infra-red measurement, CO and H₂S in ppm and O₂ in % by internal electrochemical cell measurement.

Gas Monitoring Results at Boreholes GW+BH, RDL Blessington

Monitoring date: 13th September 2004 Monitoring undertaken by JBA
Instrument: Geotechnical Instruments GA2000 Gas analyser

BOREHOLE	METHANE CH ₄ %	CARBON DIOXIDE CO ₂ %	OXYGEN O ₂ %	Peak CH ₄ %	LEL CH ₄ %	BAROMETRIC PRESSURE (mb)	Flow L/H	CARBON MONOXIDE CO (ppm)	HYDROGEN SULPHIDE H ₂ S (ppm)
GW 1/1	0	0	20.9	0	0	963	na	0	0
GW 1/2	0	0.4	20.6	0	0	963	1.8	0	0
GW 1/3	0	0	21.1	0	0	963	2	0	0
GW 1/4	0	0.1	21	0	0	963	1.6-2.3	0	0
BH 1/10	13.8	7.1	9.3	14	>>>	963	1.6	0	0
BH 1/11	2.3	2.6	15.5	2.3	14	963	1.5	0	0
BH 1/12	17.2	3.6	6.4	17.3	>>>	963	1.6-2.3	0	0
BH 1/13	55.8	10.4	1.3	55.8	>>>	963	1.4-2.1	0	0
BH 1/14	0	3.1	19	0	0	963	1.4	0	0
GW 4/1									
GW 4/2									
GW 4/3	0	4	14.9	0	0	963	2	0	0
GW 4/4	3.4	2.1	5.2	3.4	67	963	2.3	0	0
BH 4/10	1.6	3.6	7.6	2.3	40	963	1.6	0	0
BH 4/11	31.7	12.1	3.8	32.1	>>>	963	1.6-2	0	0
BH 4/12	12.9	9.3	9	16	>>>	963	1.4-2.2	0	0
GW 6/1	0	0	21.2	0	0	963	1.5	0	0
GW 6/2	0	1.3	19.8	0	0	963	1.5	0	0
GW 6/3	0	0	21	0	0	964	1.5	0	0
GW 6/4	0	0	21.4	0	0	964	na.	0	0
GW 6/5	0	2.3	18.6	0	0	963	1.7	0	0
GW 6/5A	0	3	18	0	0	963	1.6	0	0
GW 6/6									
GW 6/6A									
BH 6/10	0	0	21.2	0	0	964	1.4	0	0
BH 6/11	0	0	21.2	0	0	964	1.3	0	0
BH 6/12	0	1.3	14.3	0	0	964	1.8	0	0
GWR1	0	1.5	19.9	0	0	963	na.	0	0
GWR2	0	3	18.4	0	0	963	na	0	0
GWR3	0	0.6	20.9	0	0	963	i	0	0

Gas detection employed by a GA2000 Landfill Gas Analyser which measures CH₄ and CO₂ in % by Infra-red measurement, CO and H₂S in ppm and O₂ in % by internal electrochemical cell measurement.

Gas Monitoring Results at Boreholes GW+BH, RDL Blessington

Monitoring date: 13th September 2004. Monitoring undertaken by JBA
Instrument: Geotechnical Instruments GA2000 Gas analyser

BOREHOLE	METHANE CH ₄ %	CARBON DIOXIDE CO ₂ %	OXYGEN O ₂ %	Peak CH ₄ %	LEL CH ₄ %	BAROMETRIC PRESSURE (mb)	Flow L/H	CARBON MONOXIDE CO (ppm)	HYDROGEN SULPHIDE H ₂ S (ppm)
P1	0	0	20.8	0	0	964	na.	0	0
P2	0	0	20.9	0	0	964	na.	0	0
P3	0	0.3	20.3	0	0	964	na.	0	0
P4	0	0	20.9	0	0	964	na.	0	0
P6	0	1.8	19.6	0	0	964	na.	0	0
P7	0	0	21.1	0	0	964	na.	0	0
A4	6	10.1	9.5	6.6	>>>	964	na.	0	0
A5	4.9	10.4	11.1	4.9	97	964	na.	0	0
A6	1.5	4.1	18.1	3	68	964	na.	0	0

Gas detection employed by a GA2000 Landfill Gas Analyser which measures CH₄ and CO₂ in % by Infra-red measurement, CO and H₂S in ppm and O₂ in % by internal electrochemical cell measurement.

Gas Monitoring Results at Boreholes GW+BH, RDL Blessington

Monitoring date: 28th January 2005 Monitoring undertaken by JBA
 Instrument: Geotechnical Instruments GA2000 Gas analyser

BOREHOLE	METHANE CH ₄ %	CARBON DIOXIDE CO ₂ %	OXYGEN O ₂ %	Peak CH ₄ %	LEL CH ₄ %	BAROMETRIC PRESSURE (mb)	Flow L/H	CARBON MONOXIDE CO (ppm)	HYDROGEN SULPHIDE H ₂ S (ppm)
GW 1/1	0	0	21.3	-	-	997	-	0	0
GW 1/2	0	0.1	21.2	-	-	997	-	0	0
GW 1/3	0	0.2	20.3	-	-	997	1.5	0	0
GW 1/4	0	0.1	21	-	-	997	1.6	0	0
BH 1/10	0	0	21.2	-	-	997	1.5	0	0
BH 1/11	0	2.4	17.7	-	-	997	1.9	0	0
BH 1/12	7.1	2.5	3.6	7.1	<<<	997	2	0	0
BH 1/13	50.1	9.1	2.3	50.7	<<<	997	1.9	0	0
BH 1/14	0	0.1	20.8	-	-	997	1.2	0	0
GW 4/1	-	-	-	-	-	-	-	-	-
GW 4/2	0	0.9	20.4	-	-	997	1.4	0	0
GW 4/3	0	4	14	-	-	997	0.6	0	0
GW 4/4	0	0.9	17.9	-	-	997	1.1	0	0
BH 4/10	2.6	3.8	0.6	2.6	52	997	1	0	0
BH 4/11	30.1	9.9	0.3	30.2	<<<	997	1.1	0	0
BH 4/12	15.1	10.2	6.6	19	<<<	997	1	0	0
GW 6/1	0	0.9	19.4	-	-	998	1.5	0	0
GW 6/2	0	0	21	-	-	998	1.5	0	0
GW 6/3	0	0.8	19.3	-	-	998	-	0	0
GW 6/4	0	0	20.9	-	-	998	-	0	0
GW 6/5	0	1.8	19.4	-	-	998	-	0	0
GW 6/5A	0	2.3	18.7	-	-	998	1.5	0	0
GW 6/6	0	0.3	20.3	-	-	998	1.5	0	0
GW 6/6A	0	0	21	-	-	998	-	0	0
BH 6/10	-	-	-	-	-	-	-	-	-
BH 6/11	0	0.2	20.5	-	-	998	1.5	0	0
BH 6/12	0	1.7	9.3	-	-	998	1.6	0	0
GWR1	0	1.5	20.2	-	-	998	-	0	0
GWR2	0	3.3	17.7	-	-	998	-	0	0
GWR3	0	0.6	20.9	-	-	998	1.5	0	0

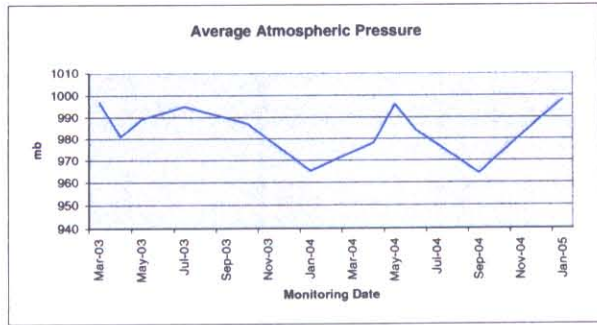
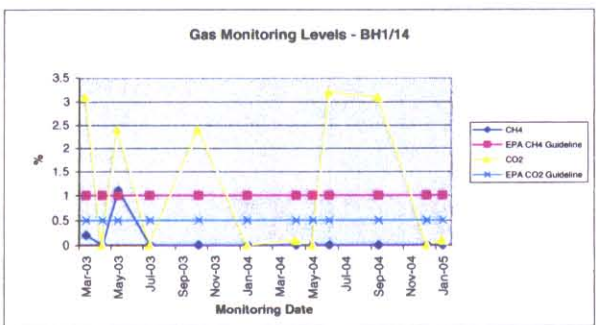
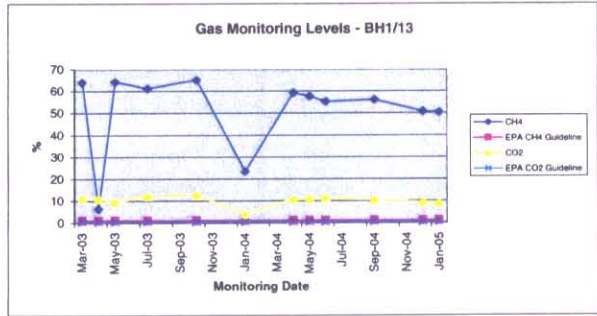
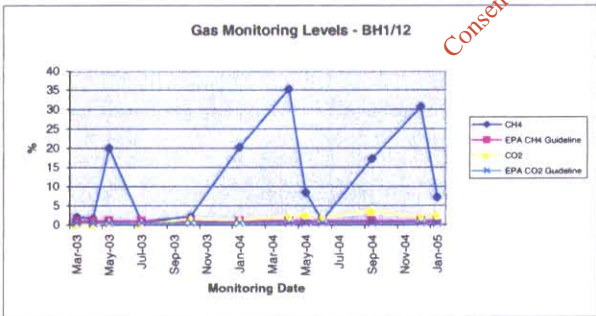
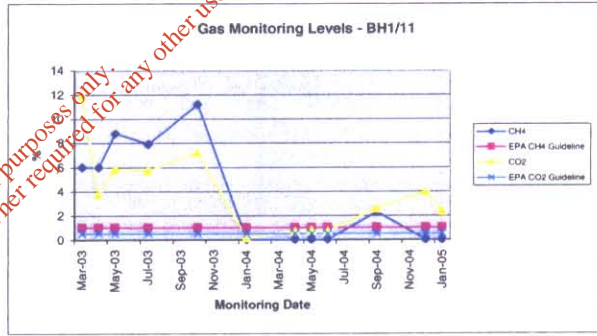
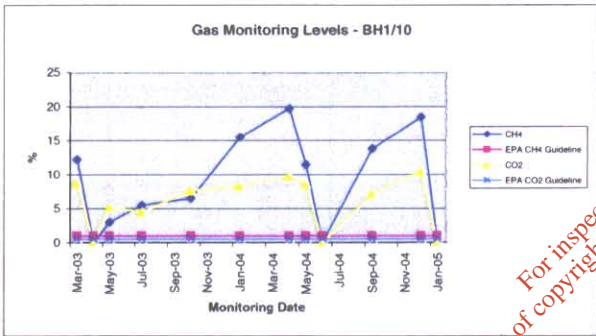
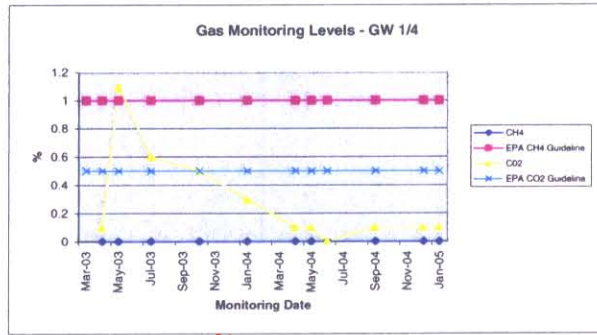
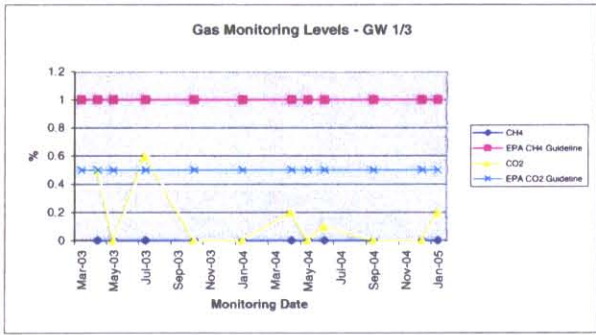
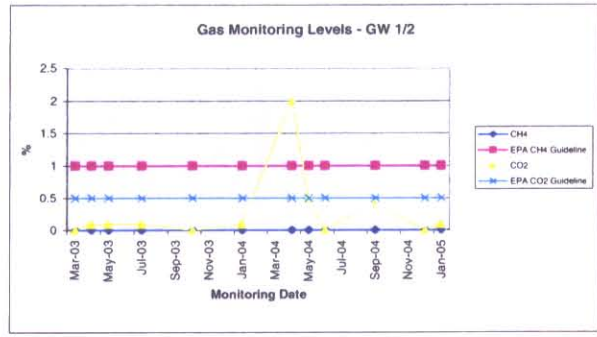
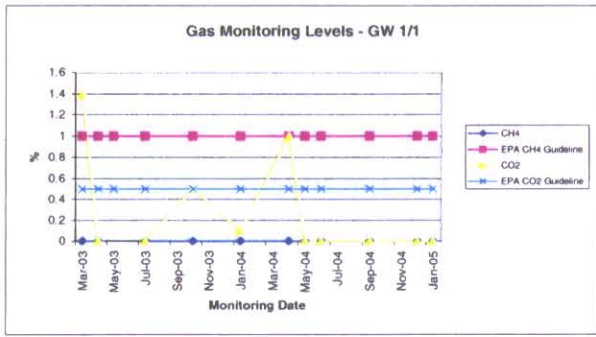
Gas detection employed by a GA2000 Landfill Gas Analyser which measures CH₄ and CO₂ in % by Infra-red measurement, CO and H₂S in ppm and O₂ in % by internal electrochemical cell measurement.

Gas Monitoring Results at Boreholes GW+BH, RDL Blessington

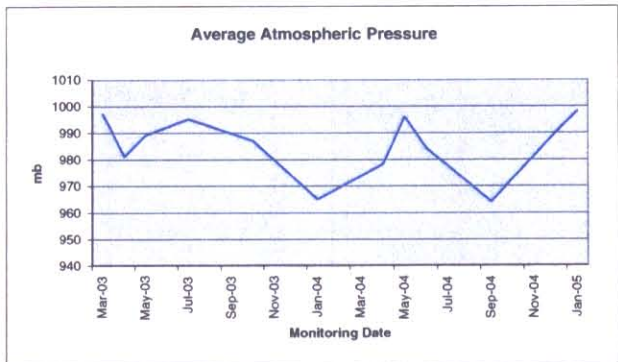
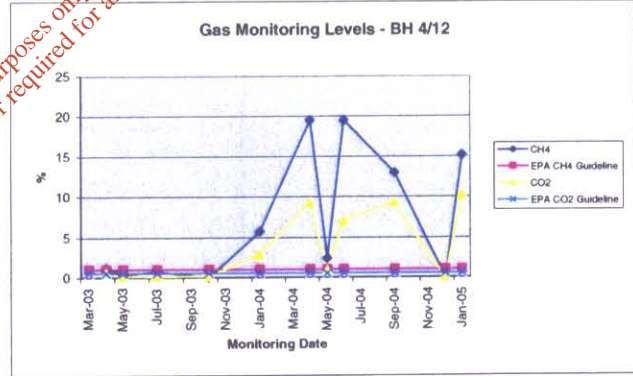
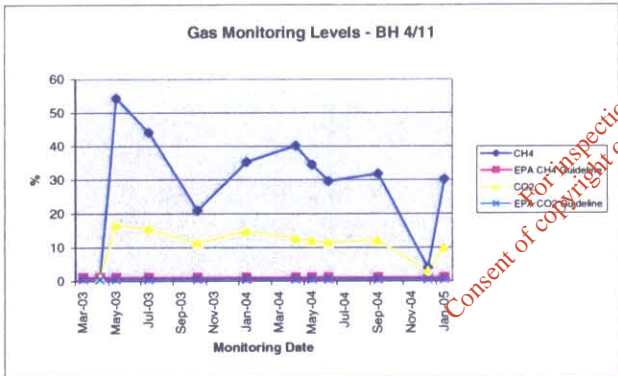
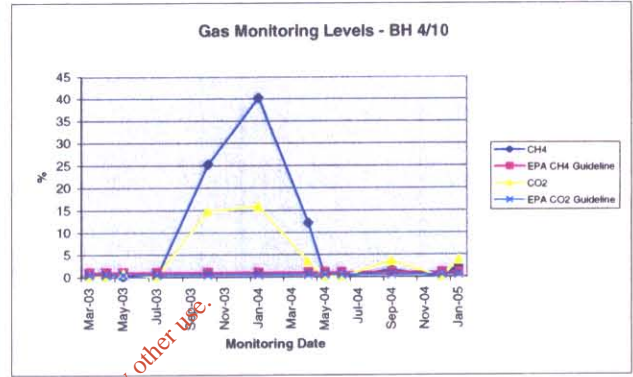
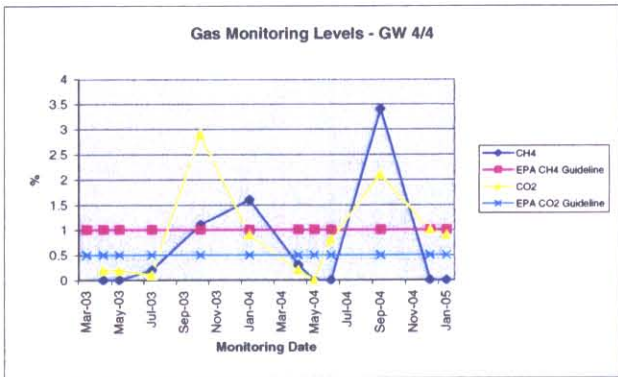
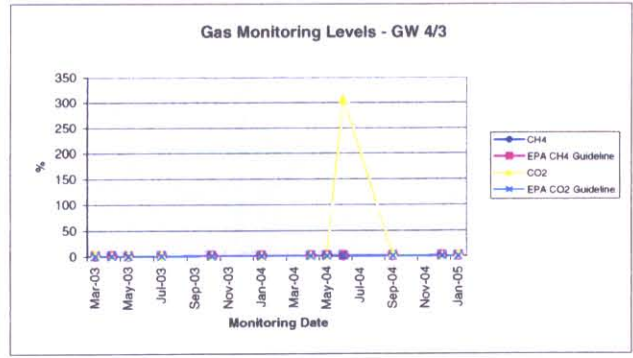
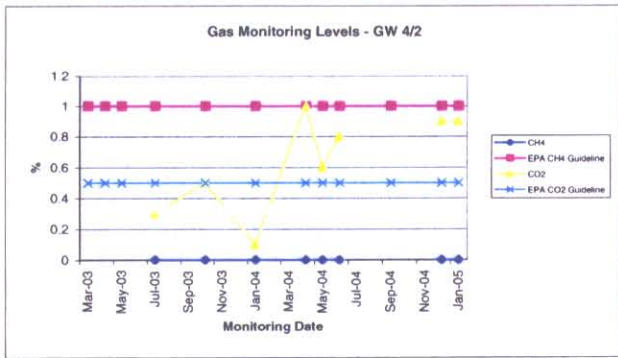
Monitoring date: 28th January 2005. Monitoring undertaken by JBA
 Instrument: Geotechnical Instruments GA2000 Gas analyser

BOREHOLE	METHANE CH ₄ %	CARBON DIOXIDE CO ₂ %	OXYGEN O ₂ %	Peak CH ₄ %	LEL CH ₄ %	BAROMETRIC PRESSURE (mb)	Flow L/H	CARBON MONOXIDE CO (ppm)	HYDROGEN SULPHIDE H ₂ S (ppm)
P1	0	0	20.9	-	-	998	-	0	0
P2	0	0.1	20.8	-	-	998	-	0	0
P3	0	0.2	20.9	-	-	998	-	0	0
P4	0	0.9	20.3	-	-	998	-	0	0
P6	0	0	20.9	-	-	998	-	0	0
P7	0	0.6	20.6	-	-	998	-	0	0
A4	5.2	14.2	2.8	5.2	89	998	-	0	0
A5	5.8	14.7	2.6	5.8	<<<	998	-	0	0
A6	5.7	7.7	13.2	8.3	<<<	998	-	0	0

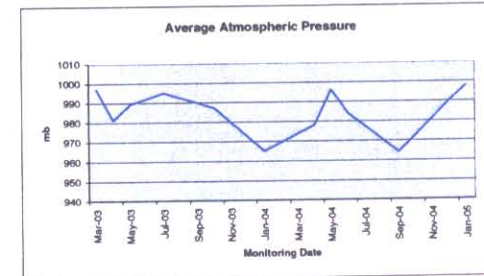
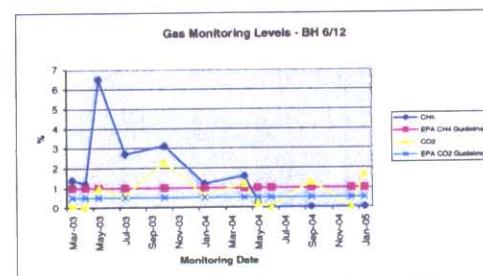
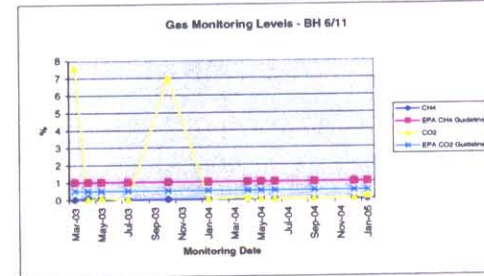
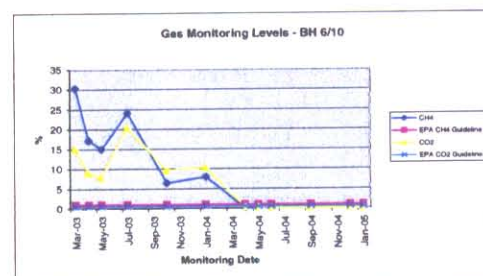
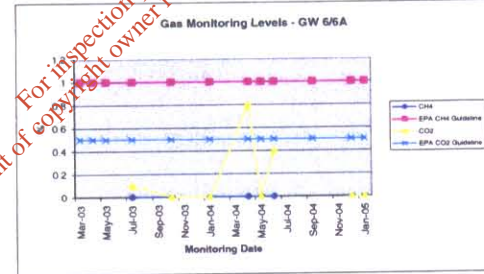
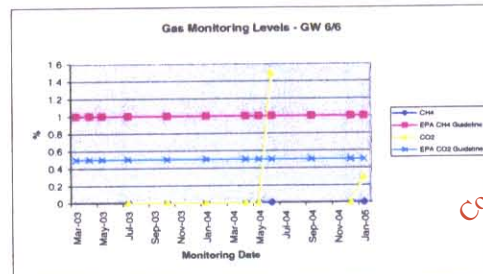
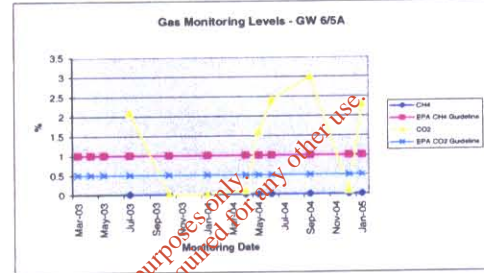
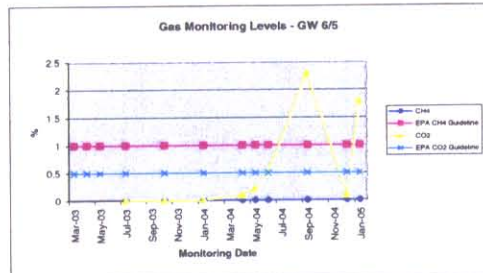
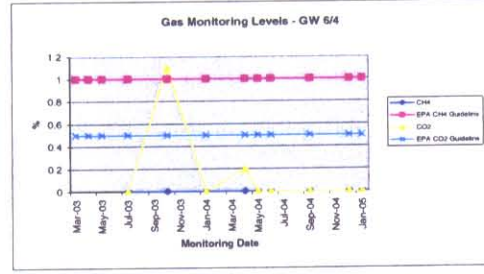
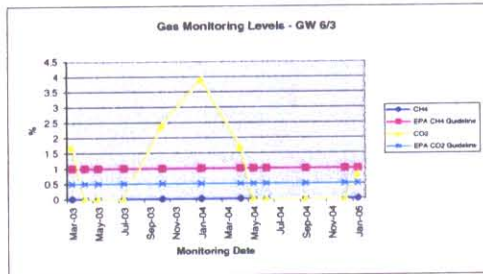
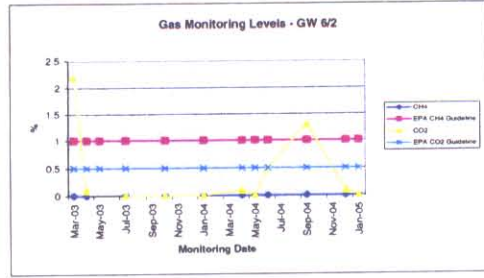
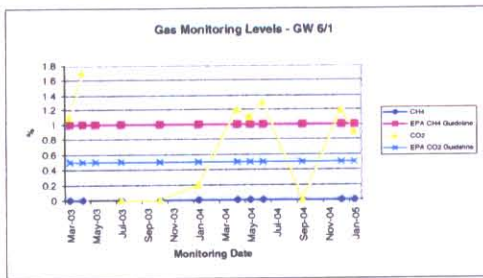
Gas detection employed by a GA2000 Landfill Gas Analyser which measures CH₄ and CO₂ in % by Infra-red measurement, CO and H₂S in ppm and O₂ in % by internal electrochemical cell measurement.



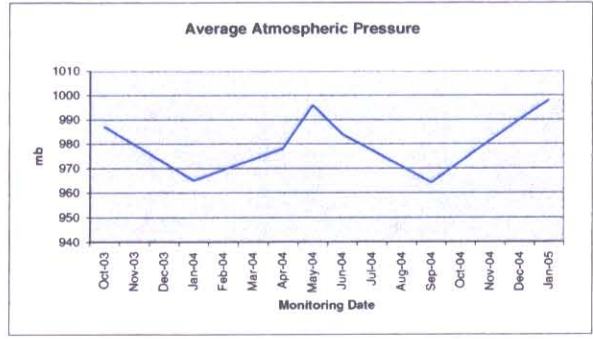
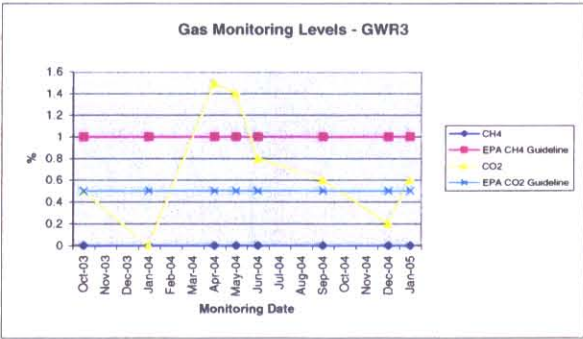
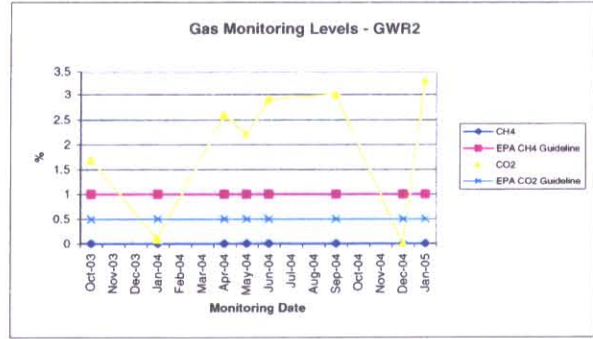
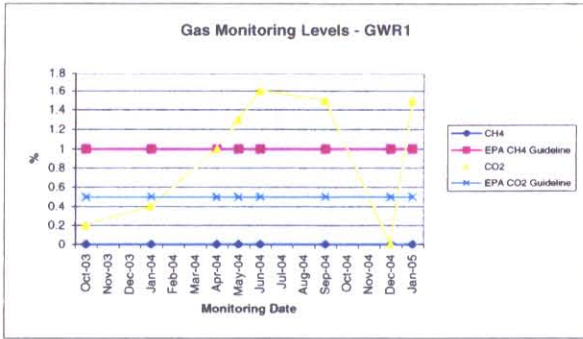
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Methane	Mar-03	Apr-03	May-03	Jul-03	Oct-03	Jan-04	Apr-04	May-04	Jun-04	Sep-04	Dec-04	Jan-05
GW 1/1	0	0		0	0	0	0	0	0	0	0	0
GW 1/2	0	0	0	0	0	0	0	0	0	0	0	0
GW 1/3		0	0	0	0	0	0	0	0	0	0	0
GW 1/4		0	0	0	0	0	0	0	0	0	0	0
BH 1/10	12.2	0	3	5.5	6.5	15.5	19.7	11.4	0	13.8	18.4	0
BH 1/11	6	6	8.8	7.9	11.2	0	0	0	0	2.3	0	0
BH 1/12	2	1.7	20	0.8	2.1	20.2	35.2	8.3	1.1	17.2	30.7	7.1
BH 1/13	63.8	6.3	64	61	64.9	23.4	59	57.5	55	55.8	50.6	50.1
BH 1/14	0.2	0	1.1	0	0	0	0	0	0	0	0	0
GW 4/1							0	0	0			
GW 4/2				0	0	0	0	0	0		0	0
GW 4/3	0	0	0.1	0	0	0	0	0	0	0	0	0
GW 4/4		0	0	0.2	1.1	1.6	0.3	0	0	3.4	0	0
BH 4/10	0	0	0.1	0.1	25.2	40.2	12.1	0	0	1.6	0	2.6
BH 4/11		0.9	54.3	44	20.8	35.3	40.1	34.5	29.5	31.7	3.8	30.1
BH 4/12		1.2	0.3	0.7	0	5.7	19.5	2.4	19.5	12.9	0	15.1
GW 6/1	0	0		0	0	0	0	0	0	0	0	0
GW 6/2	0	0		0	0	0	0	0	0	0	0	0
GW 6/3	0	0	0	0	0	0	0	0	0	0	0	0
GW 6/4				0	0	0	0	0	0	0	0	0
GW 6/5				0	0	0	0	0	0	0	0	0
GW 6/5A				0	0	0	0	0	0	0	0	0
GW 6/6				0	0	0	0	0	0	0	0	0
GW 6/6A				0	0	0	0	0	0	0	0	0
BH 6/10	30.3	17.1	14.9	24.1	6.4	7.9	0	0.1	0	0	0	0
BH 6/11	0	0.1	0.1	0	0	0	0	0	0	0	0	0
BH 6/12	1.4	1.2	6.5	2.7	3.1	1.2	1.6	0.2	0	0	0	0
GWR1					0	0	0	0	0	0	0	0
GWR2					0	0	0	0	0	0	0	0
GWR3					0	0	0	0	0	0	0	0
P1							0	0	0	0	0	0
P2							0	0	0	0	0	0
P3							0	0	0	0	0	0
P4							0	0	0	0	0	0
P6							0	0	0	0	0	0
P7							0	0	0	0	0	0
A4							0.2	9.1	14.4	6	0	5.2
A5							7.2	2.4	11	4.9	0	5.8
A6							19.1	6.6	20	1.5	0	5.7
EPA Guideline	1	1	1	1	1	1	1	1	1	1	1	1

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CO2	Mar-03	Apr-03	May-03	Jul-03	Oct-03	Jan-04	Apr-04	May-04	Jun-04	Sep-04	Dec-04	Jan-05
GW 1/1	1.4	0		0	0.5	0.1	1	0	0	0	0	0
GW 1/2	0	0.1	0.1	0.1	0	0.1	2	0.5	0	0.4	0	0.1
GW 1/3		0.5	0	0.6	0	0	0.2	0	0.1	0	0	0.2
GW 1/4		0.1	1.1	0.6	0.5	0.3	0.1	0.1	0	0.1	0.1	0.1
BH 1/10	8.7	0	5.2	4.5	7.6	8.3	9.7	8.6	0	7.1	10.4	0
BH 1/11	11.9	3.7	5.8	5.7	7.2	0.2	0.7	0.8	0.7	2.6	4	2.4
BH 1/12	0	0	0.5	0.3	1.3	1.1	2.02	2.6	1.8	3.6	1.9	2.5
BH 1/13	11.2	11	9.5	12.3	12.8	3.9	10.8	11	11.3	10.4	9.3	9.1
BH 1/14	3.1	0	2.4	0	2.4	0	0.1	0	3.2	3.1	0	0.1
GW 4/1							0.1	0	0			
GW 4/2				0.3	0.5	0.1	1	0.6	0.8		0.9	0.9
GW 4/3	5.1	0.2	3	1.7	0	0	0.1	0	307	4	0	4
GW 4/4		0.2	0.2	0.1	2.9	0.9	0.2	0	0.8	2.1	1	0.9
BH 4/10	0.1	0	0.8	0	14.7	15.9	3.5	0	0	3.6	0	3.8
BH 4/11		0.8	16.6	15.6	11.3	14.9	12.7	12	11.5	12.1	2.9	9.9
BH 4/12		0.6	0.2	0.1	0.2	2.8	9.2	0.9	7	9.3	0	10.2
GW 6/1	1.1	1.7		0	0	0.2	1.2	1.1	1.3	0	1.2	0.9
GW 6/2	2.2	0.1		0	0	0	0.1	0	0.5	1.3	0.1	0
GW 6/3	1.7	0	0	0	2.4	3.9	1.7	0	0	0	0	0.8
GW 6/4				0	1.1	0	0.2	0	0	0	0	0
GW 6/5				0	0	0	0.1	0.2	0.5	2.3	0.1	1.8
GW 6/5A				2.1	0	0	0.1	1.6	2.4	3	0.1	2.3
GW 6/6				0	0	0	0	0	1.5		0	0.3
GW 6/6A				0.1	0	0	0.8	0	0.4		0	0
BH 6/10	15.1	9	7.8	20.4	9.6	10.4	0.4	0.3	0.1	0	0	
BH 6/11	7.6	0	0.1	0	7	0	0.1	0	0	0	0	0.2
BH 6/12	0.1	0	1	0.6	2.3	0.6	1.2	0.2	0	1.3	0	1.7
GWR1					0.2	0.4	1	1.3	1.6	1.5	0	1.5
GWR2					1.7	0.1	2.6	2.2	2.9	3	0	3.3
GWR3					0.5	0	1.5	1.4	0.8	0.6	0.2	0.6
P1							0.2	0	0	0	0.1	0
P2							0.2	0.2	0	0	0	0.1
P3							0.5	0	0	0.3	0	0.2
P4							0.1	0.6	0.6	0	0.3	0.9
P6							0.1	0.2	0.9	1.8	0	0
P7							0.1	0	0	0	0	0.6
A4							1.4	16.3	18.8	10.1	0.8	14.2
A5							11.1	4.3	15.4	10.4	0	14.7
A6							18.7	6	22.9	4.1	0.1	7.7
EPA Guideline	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Atmospheric Pressure	997	981	989	995	987	965	978	996	984	964	990	998

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