

Cosmeston Farm
Cardiff
Results of Hazardous Gas and Groundwater Monitoring
(Spot Monitoring)
Project Ref. 7061b



Monitoring Event 1

Date:	05/04/2019	Atmospheric Pressure (start):	1,000 mb	Trend:	falling
Time:	14:30	Atmospheric Pressure (end):	1,000 mb		
Engineer:	CD	Site Status:	Farmland and Paddocks		
Weather:	Wet	Ground Conditions:			
Instrument:	Gas Data LMSxi G3, 18e meter	Next Calibration Due Date:	26/02/2020		
Instrument:	Tiger LT	Next Calibration Due Date:	23/04/2019		

Well ID:	BH1	Well dia.(mm):	50	Date installed:		Response stratum:				
		Well depth (m):	7.35			Groundwater depth (m):	2.05			
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	0.0	78.4	1.1	0.0	20.4	0.0	-0.1	0.2
After 30 Seconds		0.0	0.0	78.4	1.1	0.0	20.4	0.0	-0.2	0.1
After 1 Minute		0.0	0.0	78.3	0.8	0.0	20.8	0.0	-0.4	0.1
After 2 Minutes		0.0	0.0	78.4	0.7	0.0	20.9	0.0	-0.3	0.1
Steady State		0.0	0.0	78.3	0.6	0.0	21.0	0.0	-0.2	0.1
min		0.0	0.0	78.3	0.6	0.0	20.4	0.0	-0.4	0.1
max		0.0	0.0	78.4	1.1	0.0	21.0	0.0	-0.1	0.2
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)						Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)						Methane:	0.00 L/hr	Carbon Dioxide	-0.00126 L/hr	
Comments:										

Well ID:	BH2	Well dia.(mm):	50	Date installed:		Response stratum:				
		Well depth (m):	7.44			Groundwater depth (m):	1.30			
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	0.0	78.3	2.0	0.0	19.6	0.0	0.0	0.1
After 30 Seconds		0.0	0.0	78.4	1.7	0.0	19.8	0.0	0.0	0.0
After 1 Minute		0.0	0.0	78.4	1.6	0.0	19.9	0.0	0.0	0.0
After 2 Minutes		0.0	0.0	78.4	1.6	0.0	19.9	0.0	0.0	0.0
Steady State		0.0	0.0	78.4	1.6	0.0	19.9	0.0	0.0	0.0
min		0.0	0.0	78.3	1.6	0.0	19.6	0.0	0.0	0.0
max		0.0	0.0	78.4	2.0	0.0	19.9	0.0	0.0	0.1
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)						Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)						Methane:	0.00 L/hr	Carbon Dioxide	0.00016 L/hr	
Comments:										

Well ID:	BH3	Well dia.(mm):	50	Date installed:		Response stratum:				
		Well depth (m):	7.20			Groundwater depth (m):	1.20			
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	0.0	80.0	2.3	0.0	17.6	0.0	0.0	0.1
After 30 Seconds		0.0	0.0	79.4	3.0	0.0	17.5	0.0	0.1	0.0
After 1 Minute		0.0	0.0	79.2	3.0	0.0	17.6	0.0	0.1	0.0
After 2 Minutes		0.0	0.0	79.1	2.9	0.0	17.9	0.0	0.0	0.0
Steady State		0.0	0.0	79.1	2.7	0.0	18.1	0.0	0.0	0.0
min		0.0	0.0	79.1	2.3	0.0	17.5	0.0	0.0	0.0
max		0.0	0.0	80.0	3.0	0.0	18.1	0.0	0.1	0.1
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)						Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)						Methane:	0.00 L/hr	Carbon Dioxide	0.00027 L/hr	
Comments:										

Well ID:	BH4	Well dia.(mm):	50	Date installed:		Response stratum:				
		Well depth (m):	6.90			Groundwater depth (m):	5.80			
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		19.0	0.0	91.6	4.3	0.0	3.5	0.0	7.4	0.2
After 30 Seconds		19.0	0.0	91.6	4.9	0.0	3.4	0.0	7.1	0.1
After 1 Minute		20.0	0.0	91.7	4.9	0.0	3.3	0.0	7.1	0.1
After 2 Minutes		20.0	0.0	91.7	4.9	0.0	3.3	0.0	7.1	0.1
Steady State		20.0	0.0	91.7	4.9	0.0	3.3	0.0	7.2	0.1
min		19.0	0.0	91.6	4.3	0.0	3.3	0.0	7.1	0.0
max		20.0	0.0	91.7	4.9	0.0	3.5	0.0	7.4	0.2
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)						Methane:	0 L/hr	Carbon Dioxide	0.36 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)						Methane:	0.00 L/hr	Carbon Dioxide	0.35329 L/hr	
Comments:										

Well ID:	BH5 (s)	Well dia.(mm):	50	Date installed:		Response stratum:				
		Well depth (m):	7.28			Groundwater depth (m):	Dry			
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	22.4	75.5	0.2	2.6	21.7	0.0	-0.2	0.0
After 30 Seconds		0.0	72.5	74.4	0.5	3.6	21.5	0.0	-0.1	0.0
After 1 Minute		0.0	0.6	78.1	0.5	0.0	21.4	0.0	-0.3	0.0
After 2 Minutes		0.0	0.0	78.1	0.6	0.0	21.3	0.0	0.0	0.0
Steady State		0.0	0.0	78.1	0.6	0.0	21.3	0.0	0.0	0.0
min		0.0	0.0	74.4	0.2	0.0	21.3	0.0	-0.3	0.0
max		0.0	72.5	78.1	0.6	3.6	21.7	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)						Methane:	0.00036 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)						Methane:	0.00 L/hr	Carbon Dioxide	0.00006 L/hr	
Comments:										

Well ID:	BH5 (d)	Well dia.(mm):	50	Date installed:		Response stratum:				
		Well depth (m):	12.57			Groundwater depth (m):	Dry			
Monitored Variables		dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading		0.0	0.8	78.2	0.0	0.0	21.7	0.0	-0.1	0.0
After 30 Seconds		0.0	0.3	78.4	0.0	0.0	21.5	0.0	0.0	0.0
After 1 Minute		0.0	0.8	78.5	0.0	0.0	21.4	0.0	0.0	0.0
After 2 Minutes		0.0	0.5	78.5	0.0	0.0	21.4	0.0	0.0	0.0

Steady State	0.0	0.6	78.5	0.0	0.0	21.4	0.0	0.0	0.0
min	0.0	0.3	78.2	0.0	0.0	21.4	0.0	-0.1	0.0
max	0.0	0.8	78.5	0.0	0.0	21.7	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0 L/hr	
Comments:									

Well ID:	BH6 (s)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	4.34			Groundwater depth (m):	Dry		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	25.2	77.3	0.5	0.9	21.2	0.0	0.0	0.3
After 30 Seconds	0.0	18.5	77.6	0.6	0.7	21.0	0.0	0.5	0.5
After 1 Minute	0.0	19.9	77.3	0.6	0.8	21.2	0.0	-0.2	0.5
After 2 Minutes	0.0	18.6	77.3	0.6	0.9	21.1	0.0	0.0	0.5
Steady State	0.0	23.0	77.3	0.6	0.9	21.1	0.0	0.0	0.5
min	0.0	18.5	77.3	0.5	0.7	21.0	0.0	-0.2	0.0
max	0.0	25.2	77.6	0.6	0.9	21.2	0.0	0.5	0.5
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0.00459 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.00006 L/hr	
Comments:									

Well ID:	BH6 (d)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	15.15			Groundwater depth (m):	10.22		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	28.8	77.2	1.0	0.9	20.8	0.0	-0.1	0.4
After 30 Seconds	0.0	30.5	75.8	2.4	1.5	20.2	0.0	0.0	0.5
After 1 Minute	0.0	62.0	75.7	2.5	1.6	20.1	0.0	0.0	0.6
After 2 Minutes	0.0	23.2	76.2	2.5	1.2	20.0	0.0	-0.3	0.8
Steady State	0.0	26.1	76.0	2.6	1.3	20.0	0.0	0.0	0.8
min	0.0	23.2	75.7	1.0	0.9	20.0	0.0	-0.3	0.0
max	0.0	62.0	77.2	2.6	1.6	20.8	0.0	0.0	0.8
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0.00016 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.00026 L/hr	
Comments:									

Well ID:	BH7 (s)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	5.68			Groundwater depth (m):	Dry		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	0.0	78.1	0.0	0.0	21.8	0.0	0.0	0.1
After 30 Seconds	0.0	0.0	78.6	0.0	0.0	21.3	0.0	0.0	0.1
After 1 Minute	0.0	0.0	78.6	0.0	0.0	21.3	0.0	0.0	0.0
After 2 Minutes	0.0	0.0	78.6	0.0	0.0	21.3	0.0	0.0	0.0
Steady State	0.0	0.0	78.7	0.0	0.0	21.2	0.0	0.0	0.0
min	0.0	0.0	78.1	0.0	0.0	21.2	0.0	0.0	0.0
max	0.0	0.0	78.7	0.0	0.0	21.8	0.0	0.0	0.1
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0 L/hr	
Comments:									

Well ID:	BH7 (d)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	13.95			Groundwater depth (m):	8.96		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	0.0	78.5	1.0	0.0	20.4	0.0	0.0	0.1
After 30 Seconds	0.0	0.0	78.4	1.3	0.0	20.2	0.0	0.0	0.1
After 1 Minute	0.0	0.0	78.4	1.4	0.0	20.1	0.0	0.0	0.0
After 2 Minutes	0.0	0.0	78.4	1.5	0.0	20.0	0.0	0.0	0.0
Steady State	0.0	0.0	78.8	1.0	0.0	20.1	0.0	0.0	0.0
min	0.0	0.0	78.4	1.0	0.0	20.0	0.0	0.0	0.0
max	0.0	0.0	78.8	1.5	0.0	20.4	0.0	0.0	0.1
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.0001 L/hr	
Comments:									

Well ID:	BH8 (s)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	6.20			Groundwater depth (m):	4.80		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	0.0	78.1	0.4	0.0	21.4	0.0	0.0	0.1
After 30 Seconds	0.0	0.0	78.0	0.8	0.0	21.1	0.0	0.0	0.0
After 1 Minute	0.0	0.0	78.0	0.9	0.0	21.0	0.0	0.0	0.0
After 2 Minutes	0.0	0.0	77.9	1.0	0.0	21.0	0.0	0.0	0.0
Steady State	0.0	0.0	77.9	1.0	0.0	21.0	0.0	0.0	0.0
min	0.0	0.0	77.9	0.4	0.0	21.0	0.0	0.0	0.0
max	0.0	0.0	78.1	1.0	0.0	21.4	0.0	0.0	0.1
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.0001 L/hr	
Comments:									

Well ID:	BH8 (d)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	12.00			Groundwater depth (m):	5.45		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	0.0	78.5	0.0	0.0	21.4	0.0	0.0	0.1
After 30 Seconds	0.0	0.0	78.5	0.0	0.0	21.4	0.0	0.0	0.0
After 1 Minute	0.0	0.0	78.6	0.0	0.0	21.3	0.0	0.0	0.0
After 2 Minutes	0.0	0.0	78.6	0.0	0.0	21.3	0.0	0.0	0.0
Steady State	0.0	0.0	78.6	0.0	0.0	21.3	0.0	0.0	0.0
min	0.0	0.0	78.5	0.0	0.0	21.3	0.0	0.0	0.0
max	0.0	0.0	78.6	0.0	0.0	21.4	0.0	0.0	0.1
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0 L/hr	
Comments:									

Well ID:	BH9 (s)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	6.63			Groundwater depth (m):	6.42		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	2.0	>>>	59.3	16.0	23.5	1.1	0.0	1.4	2.0
After 30 Seconds	2.0	>>>	55.2	17.0	27.0	0.7	0.0	1.3	2.2
After 1 Minute	1.0	>>>	55.4	17.0	27.0	0.5	0.0	1.4	2.2
After 2 Minutes	1.0	>>>	55.4	17.0	27.0	0.5	0.0	0.8	2.2

Steady State	1.0	>>>	55.5	17.0	27.0	0.4	0.0	0.7	2.4
min	1.0	0.0	55.2	16.0	23.5	0.4	0.0	0.7	0.0
max	2.0	0.0	59.3	17.0	27.0	1.1	0.0	1.4	2.4
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0.3807 L/hr	Carbon Dioxide	0.24 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.19 L/hr	Carbon Dioxide	0.1207 L/hr	
Comments:									

Well ID:	BH9 (d)	Well dia.(mm):	50	Date installed:		Response stratum:				
		Well depth (m):	12.40			Groundwater depth (m):	8.10			
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)	
Immediate Reading	0.0	48.6	75.7	2.7	2.3	19.2	0.0	-0.3	0.2	
After 30 Seconds	0.0	46.1	74.8	3.1	2.4	19.6	0.0	-0.7	0.2	
After 1 Minute	0.0	33.4	75.8	2.5	1.4	20.2	0.0	-0.1	0.1	
After 2 Minutes	0.0	14.6	77.0	1.4	1.0	20.6	0.0	0.0	0.1	
Steady State	0.0	7.0	77.9	0.8	0.3	20.9	0.0	-0.1	0.1	
min	0.0	7.0	74.8	0.8	0.3	19.2	0.0	-0.7	0.0	
max	0.0	48.6	77.9	3.1	2.4	20.9	0.0	0.0	0.2	
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0.00024 L/hr	Carbon Dioxide	0.00 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	-0.00088 L/hr		
Comments:										

Well ID:	BH10 (s)	Well dia.(mm):	50	Date installed:		Response stratum:				
		Well depth (m):	7.00			Groundwater depth (m):	5.59			
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)	
Immediate Reading	4.0	>>>	59.4	15.0	24.3	1.2	0.0	1.9	1.5	
After 30 Seconds	3.0	>>>	58.5	16.0	24.5	0.9	0.0	1.8	1.6	
After 1 Minute	4.0	>>>	57.6	17.0	24.6	0.7	0.0	1.9	1.9	
After 2 Minutes	5.0	>>>	57.8	17.0	24.5	0.6	0.0	1.5	2.0	
Steady State	4.0	>>>	57.3	17.0	25.0	0.6	0.0	1.2	2.1	
min	3.0	0.0	57.3	15.0	24.3	0.6	0.0	1.2	0.0	
max	5.0	0.0	59.4	17.0	25.0	1.2	0.0	1.9	2.1	
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0.4775 L/hr	Carbon Dioxide	0.32 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.30 L/hr	Carbon Dioxide	0.2057 L/hr		
Comments:										

Well ID:	BH10 (d)	Well dia.(mm):	50	Date installed:		Response stratum:				
		Well depth (m):	12.50			Groundwater depth (m):	5.10			
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)	
Immediate Reading	0.0	>>>	71.7	7.7	7.5	13.0	0.0	-0.5	1.5	
After 30 Seconds	0.0	>>>	69.6	9.0	8.8	12.5	0.0	0.1	2.1	
After 1 Minute	0.0	>>>	69.3	9.4	8.7	12.5	0.0	0.3	2.0	
After 2 Minutes	0.0	>>>	69.4	9.4	8.7	12.4	0.0	0.0	1.9	
Steady State	0.0	>>>	69.3	9.5	8.8	12.3	0.0	0.0	1.9	
min	0.0	0.0	69.3	7.7	7.5	12.3	0.0	-0.5	0.0	
max	0.0	0.0	71.7	9.5	8.8	13.0	0.0	0.3	2.1	
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0.02728 L/hr	Carbon Dioxide	0.03 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.00095 L/hr		
Comments:										

Well ID:	BH11	Well dia.(mm):	50	Date installed:		Response stratum:				
		Well depth (m):	7.00			Groundwater depth (m):	5.35			
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)	
Immediate Reading	0.0	0.0	78.7	0.2	0.0	21.0	0.0	0.1	0.1	
After 30 Seconds	0.0	0.0	78.9	0.6	0.0	20.4	0.0	0.2	0.1	
After 1 Minute	0.0	0.0	79.0	0.6	0.0	20.4	0.0	0.0	0.1	
After 2 Minutes	0.0	0.0	79.0	0.6	0.0	20.4	0.0	0.0	0.1	
Steady State	0.0	0.0	79.0	0.6	0.0	20.3	0.0	0.0	0.1	
min	0.0	0.0	78.7	0.2	0.0	2.0	0.0	0.0	0.0	
max	0.0	0.0	79.0	0.6	0.0	21.0	0.0	0.2	0.1	
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.00006 L/hr		
Comments:										

Well ID:	BH12	Well dia.(mm):	50	Date installed:		Response stratum:				
		Well depth (m):	6.90			Groundwater depth (m):	1.30			
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)	
Immediate Reading	0.0	0.0	78.1	0.3	0.0	21.6	0.0	-0.1	0.1	
After 30 Seconds	0.0	0.0	78.3	0.1	0.0	21.5	0.0	-0.4	0.1	
After 1 Minute	0.0	0.0	78.3	0.1	0.0	21.5	0.0	-0.3	0.2	
After 2 Minutes	0.0	0.0	78.3	0.1	0.0	21.5	0.0	-0.3	0.1	
Steady State	0.0	0.0	78.3	0.1	0.0	21.5	0.0	-0.2	0.1	
min	0.0	0.0	78.1	0.1	0.0	21.5	0.0	-0.4	0.0	
max	0.0	0.0	78.3	0.3	0.0	21.6	0.0	-0.1	0.2	
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	-0.00021 L/hr		
Comments:										

Well ID:	BH13	Well dia.(mm):	50	Date installed:		Response stratum:				
		Well depth (m):	10.50			Groundwater depth (m):	8.80			
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)	
Immediate Reading	-1.0	0.0	78.0	0.0	0.0	22.0	0.0	-1.2	0.1	
After 30 Seconds	-1.0	0.0	78.0	0.0	0.0	21.9	0.0	-0.3	0.0	
After 1 Minute	-2.0	0.0	78.2	0.0	0.0	21.7	0.0	-0.3	0.0	
After 2 Minutes	-1.0	0.0	78.2	0.0	0.0	21.7	0.0	-1.2	0.0	
Steady State	-1.0	0.0	78.2	0.0	0.0	21.7	0.0	-0.2	0.0	
min	-2.0	0.0	78.0	0.0	0.0	21.7	0.0	-1.2	0.0	
max	-1.0	0.0	78.2	0.0	0.0	22.0	0.0	-0.2	0.1	
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr		
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0 L/hr		
Comments:										

Key:
dP - differential pressure (well-atmosphere)
LEL - Lower Explosive Limit (methane)
N₂ - nitrogen
CO₂ - carbon dioxide
CH₄ - methane
O₂ - oxygen
H₂S - Hydrogen sulphide
PID - measure of volatile organic compounds

Notes on Monit
Monitor the gas
obtain steady s
occurs within 2
comments how

Time is particularly crucia
e.g. being det
Ground Condition: frozen,

Calibration due date - dem

Use 'dry' if no groundwater

Totals:
99.9
99.9
99.9
100.0
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84

Use 'dry' if no groundwater

Totals:
99.9
99.9
99.9
99.9
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84

Use 'dry' if no groundwater

Totals:
99.9
99.9
99.8
99.9
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84

Use 'dry' if no groundwater

Totals:
99.4
99.9
99.9
99.9
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84

Use 'dry' if no groundwater

Totals:
100.0
100.0
100.0
100.0
100.0

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84

Use 'dry' if no groundwater

Totals:
99.9
99.9
99.9
99.9

99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84)

Use 'dry' if no groundwater

Totals:
99.9
99.9
99.9
99.9
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84)

Use 'dry' if no groundwater

Totals:
99.9
99.9
99.9
99.9
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84)

Use 'dry' if no groundwater

Totals:
99.9
99.9
99.9
99.9
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84)

Use 'dry' if no groundwater

Totals:
99.9
99.9
99.9
99.9
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84)

Use 'dry' if no groundwater

Totals:
99.9
99.9
99.9
99.9
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84)

Use 'dry' if no groundwater

Totals:
99.9
99.9
99.9
99.9
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84)

Use 'dry' if no groundwater

Totals:
99.9
99.9
99.9
99.9

99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84)

Use 'dry' if no groundwater

Totals:
99.9
99.9
99.9
100.0
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84)

Use 'dry' if no groundwater

Totals:
99.9
99.9
99.9
99.9
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84)

Use 'dry' if no groundwater

Totals:
99.9
99.9
99.9
99.9
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84)

Use 'dry' if no groundwater

Totals:
99.9
99.9
100.0
100.0
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84)

Use 'dry' if no groundwater

Totals:
100.0
99.9
99.9
99.9
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84)

Use 'dry' if no groundwater

Totals:
100.0
99.9
99.9
99.9
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84)

Cosmeston Farm
Penarth Road, Cardiff
Results of Hazardous Gas and Groundwater Monitoring
(Spot Monitoring)
Project Ref. 7061b



Monitoring Event 2

Date:	26/04/2019	Atmospheric Pressure (start):	1,005 mb	Trend:	rising
Time:	10	Atmospheric Pressure (end):	1,009 mb		
Engineer:	CD/BF	Site Status:	Farmland and Paddocks		
Weather:	Inclement	Ground Conditions:	Unsaturated Soft		
Instrument:	Gas Data LMSxi G3, 18e meter	Next Calibration Due Date:	26/02/2020		
Instrument:	Tiger LT	Next Calibration Due Date:	23/04/2019		

Well ID:	BH1	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):				Groundwater depth (m):			
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading									
After 30 Seconds									
After 1 Minute									
After 2 Minutes									
Steady State									
min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0 L/hr	
Comments:	BH1 was not monitored due to 6 horses being present close to the well.								

Well ID:	BH2	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	7.44			Groundwater depth (m):	1.83		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	0.0	80.6	1.1	0.0	18.2	0.0	0.0	
After 30 Seconds	0.0	0.0	79.6	3.9	0.0	16.4	0.0	-0.1	
After 1 Minute	0.0	0.0	79.6	3.9	0.0	16.4	0.0	0.0	
After 2 Minutes	0.0	0.0	79.6	3.9	0.0	16.4	0.0	0.0	
Steady State	0.0	0.0	79.6	3.9	0.0	16.4	0.0	0.0	
min	0.0	0.0	79.6	1.1	0.0	16.4	0.0	-0.1	0.0
max	0.0	0.0	80.6	3.9	0.0	18.2	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.00039 L/hr	
Comments:	PID out for calibration.								

Well ID:	BH3	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	7.00			Groundwater depth (m):	1.48		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	0.0	88.9	4.4	0.0	6.6	0.0	0.0	
After 30 Seconds	0.0	0.0	88.9	4.7	0.0	6.3	0.0	0.0	
After 1 Minute	0.0	0.0	89.0	4.7	0.0	6.2	0.0	0.0	
After 2 Minutes	0.0	0.0	89.0	4.7	0.0	6.2	0.0	0.0	
Steady State	0.0	0.0	89.0	4.7	0.0	6.2	0.0	0.0	
min	0.0	0.0	88.9	4.4	0.0	6.2	0.0	0.0	0.0
max	0.0	0.0	89.0	4.7	0.0	6.6	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.00047 L/hr	
Comments:	PID out for calibration.								

Well ID:	BH4	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	6.60			Groundwater depth (m):	Damp		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	0.0	78.6	1.0	0.0	20.5	0.0	0.0	
After 30 Seconds	0.0	0.0	78.7	0.6	0.0	20.8	0.0	0.0	
After 1 Minute	0.0	0.0	78.6	0.5	0.0	20.9	0.0	0.0	
After 2 Minutes	0.0	0.0	78.7	0.4	0.0	20.9	0.0	0.0	
Steady State	0.0	0.0	78.6	0.4	0.0	20.9	0.0	0.0	
min	0.0	0.0	78.6	0.4	0.0	20.5	0.0	0.0	0.0
max	0.0	0.0	78.7	1.0	0.0	20.9	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.00004 L/hr	
Comments:	PID out for calibration.								

Well ID:	BH5 (s)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	7.28			Groundwater depth (m):	Dry		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading									
After 30 Seconds									
After 1 Minute									
After 2 Minutes									
Steady State									
min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0 L/hr	
Comments:	BH is missing tap. Water only								

Well ID:	BH5 (d)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	12.57			Groundwater depth (m):	Dry		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	3.0	0.0	77.9	1.3	0.0	20.7	0.0	-0.1	
After 30 Seconds	3.0	0.0	77.8	1.7	0.0	20.4	0.0	0.0	
After 1 Minute	3.0	0.0	77.8	1.9	0.0	20.2	0.0	0.0	
After 2 Minutes	3.0	0.0	77.9	1.9	0.0	20.1	0.0	0.0	
Borehole Hazardous Gas Flow Rates Q _{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q _{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0 L/hr	

Steady State	3.0	0.0	77.9	2.0	0.0	20.0	0.0	0.0	0.0
min	3.0	0.0	77.8	1.3	0.0	20.0	0.0	-0.1	0.0
max	3.0	0.0	77.9	2.0	0.0	20.7	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.0002 L/hr	
Comments:	PID out for calibration.								

Well ID:	BH6 (s)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	4.34			Groundwater depth (m):	Dry		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	0.0	78.5	0.3	0.0	21.1	0.0	-0.5	
After 30 Seconds	0.0	0.0	78.0	1.1	0.0	20.8	0.0	-0.6	
After 1 Minute	0.0	0.0	77.9	1.1	0.0	20.9	0.0	-0.6	
After 2 Minutes	0.0	0.0	78.0	1.1	0.0	20.9	0.0	0.0	
Steady State	0.0	0.0	78.0	1.1	0.0	20.8	0.0	0.0	
min	0.0	0.0	77.9	0.3	0.0	20.8	0.0	-0.6	0.0
max	0.0	0.0	78.5	1.1	0.0	21.1	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.00011 L/hr	
Comments:	PID out for calibration.								

Well ID:	BH6 (d)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	15.00			Groundwater depth (m):	10.24		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	-2.0	0.0	77.9	1.1	0.0	20.9	0.0	0.4	
After 30 Seconds	-2.0	0.0	77.7	1.7	0.0	20.5	0.0	0.0	
After 1 Minute	-2.0	0.0	77.8	1.7	0.0	20.4	0.0	-0.3	
After 2 Minutes	-2.0	0.0	77.8	1.8	0.0	20.3	0.0	-0.6	
Steady State	0.0	0.0	77.8	1.8	0.0	20.3	0.0	0.0	
min	-2.0	0.0	77.7	1.1	0.0	20.3	0.0	-0.6	0.0
max	0.0	0.0	77.9	1.8	0.0	20.9	0.0	0.4	0.0
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.01 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.00018 L/hr	
Comments:	PID out for calibration.								

Well ID:	BH7 (s)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	5.68			Groundwater depth (m):	Dry		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	0.0	78.1	2.5	0.0	19.4	0.0	0.2	
After 30 Seconds	0.0	0.0	77.0	3.1	0.0	19.8	0.0	0.2	
After 1 Minute	0.0	0.0	77.1	3.3	0.0	19.5	0.0	0.1	
After 2 Minutes	0.0	0.0	77.2	3.3	0.0	19.4	0.0	0.3	
Steady State	0.0	0.0	77.2	3.3	0.0	19.4	0.0	0.3	
min	0.0	0.0	77.0	2.5	0.0	19.4	0.0	0.1	0.0
max	0.0	0.0	78.1	3.3	0.0	19.8	0.0	0.3	0.0
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.01 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.01023 L/hr	
Comments:	PID out for calibration.								

Well ID:	BH7 (d)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	13.95			Groundwater depth (m):	8.85		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	0.0	79.0	1.9	0.0	19.0	0.0	0.1	
After 30 Seconds	0.0	0.0	77.9	4.0	0.0	17.9	0.0	0.1	
After 1 Minute	0.0	0.0	77.9	4.1	0.0	17.9	0.0	0.1	
After 2 Minutes	0.0	0.0	78.0	4.1	0.0	17.9	0.0	0.1	
Steady State	0.0	0.0	78.0	4.1	0.0	17.8	0.0	0.1	
min	0.0	0.0	77.9	1.9	0.0	17.8	0.0	0.1	0.0
max	0.0	0.0	79.0	4.1	0.0	19.0	0.0	0.1	0.0
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.00451 L/hr	
Comments:	PID out for calibration.								

Well ID:	BH8 (s)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	6.20			Groundwater depth (m):	5.07		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	0.0	78.7	4.2	0.0	17.0	0.0	0.0	
After 30 Seconds	0.0	0.0	80.0	6.7	0.0	13.2	0.0	0.0	
After 1 Minute	0.0	0.0	79.3	7.9	0.0	12.8	0.0	0.0	
After 2 Minutes	0.0	0.0	79.3	7.9	0.0	12.7	0.0	0.0	
Steady State	0.0	0.0	79.3	7.9	0.0	12.7	0.0	0.0	
min	0.0	0.0	78.7	4.2	0.0	12.7	0.0	0.0	0.0
max	0.0	0.0	80.0	7.9	0.0	17.0	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.00079 L/hr	
Comments:	PID out for calibration.								

Well ID:	BH8 (d)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	12.00			Groundwater depth (m):	5.74		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	0.0	78.5	0.2	0.0	21.2	0.0	0.0	
After 30 Seconds	0.0	0.0	78.4	0.3	0.0	21.2	0.0	0.0	
After 1 Minute	0.0	0.0	78.4	0.3	0.0	21.3	0.0	0.0	
After 2 Minutes	0.0	0.0	78.4	0.5	0.0	21.1	0.0	0.0	
Steady State	0.0	0.0	78.4	0.5	0.0	21.1	0.0	0.0	
min	0.0	0.0	78.4	0.2	0.0	21.1	0.0	0.0	0.0
max	0.0	0.0	78.5	0.5	0.0	21.3	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.00005 L/hr	
Comments:	PID out for calibration.								

Well ID:	BH9 (s)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	6.70			Groundwater depth (m):	Damp		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	>>>	47.9	19.0	31.5	1.5	0.0	1.1	
After 30 Seconds	0.0	>>>	46.1	20.0	33.0	0.8	0.0	0.6	
After 1 Minute	0.0	>>>	46.3	20.0	33.0	0.6	0.0	0.8	
After 2 Minutes	0.0	>>>	46.0	20.0	33.5	0.5	0.0	0.3	

Steady State	0.0	>>>	45.1	21.0	33.5	0.4	0.0	0.1	
min	0.0	0.0	45.1	19.0	31.5	0.4	0.0	0.1	0.0
max	0.0	0.0	47.9	21.0	33.5	1.5	0.0	1.1	0.0
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0.37185 L/hr	Carbon Dioxide	0.23 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.04 L/hr	Carbon Dioxide	0.0231 L/hr	
Comments:	PID out for calibration.								

Well ID:	BH9 (d)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	12.40			Groundwater depth (m):	8.30		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	>>>	75.0	5.5	3.2	16.2	0.0	-0.1	
After 30 Seconds	0.0	>>>	71.7	7.5	4.9	15.9	0.0	-0.1	
After 1 Minute	0.0	35.4	72.6	5.1	3.7	18.5	0.0	-0.5	
After 2 Minutes	0.0	30.3	75.2	3.4	1.8	19.6	0.0	0.0	
Steady State	0.0	24.3	75.6	2.9	1.5	19.9	0.0	0.0	
min	0.0	24.3	71.7	2.9	1.5	15.9	0.0	-0.5	0.0
max	0.0	35.4	75.6	7.5	4.9	19.9	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0.00049 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.00029 L/hr	
Comments:	PID out for calibration.								

Well ID:	BH10 (s)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	6.30			Groundwater depth (m):	5.31		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	3.0	>>>	48.1	22.0	28.0	1.8	0.0	2.3	
After 30 Seconds	3.0	>>>	47.8	22.0	29.0	1.1	0.0	3.7	
After 1 Minute	3.0	>>>	47.9	22.0	29.0	1.0	0.0	1.7	
After 2 Minutes	3.0	>>>	48.0	22.0	29.0	0.9	0.0	1.0	
Steady State	3.0	>>>	47.7	22.0	29.5	0.7	0.0	0.5	
min	3.0	0.0	47.7	22.0	28.0	0.7	0.0	0.5	0.0
max	3.0	0.0	48.1	22.0	29.5	1.8	0.0	3.7	0.0
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	1.09445 L/hr	Carbon Dioxide	0.82 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.15 L/hr	Carbon Dioxide	0.1122 L/hr	
Comments:	PID out for calibration.								

Well ID:	BH10 (d)	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	12.40			Groundwater depth (m):	5.30		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	49.4	76.3	2.8	1.9	18.9	0.0	-0.1	
After 30 Seconds	0.0	42.3	75.4	3.5	2.0	19.0	0.0	-0.2	
After 1 Minute	0.0	40.7	75.4	3.5	2.0	19.0	0.0	0.0	
After 2 Minutes	0.0	41.9	75.5	3.6	2.0	18.8	0.0	0.0	
Steady State	0.0	36.7	75.5	3.5	2.0	18.9	0.0	0.0	
min	0.0	36.7	75.4	2.8	1.9	18.8	0.0	-0.2	0.0
max	0.0	49.4	76.3	3.6	2.0	19.0	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0.0002 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.00035 L/hr	
Comments:	PID out for calibration.								

Well ID:	BH11	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	7.00			Groundwater depth (m):	6.80		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	-1.0	0.0	79.9	3.3	0.0	16.7	0.0	-0.1	
After 30 Seconds	-1.0	0.0	79.5	4.1	0.0	16.3	0.0	-0.1	
After 1 Minute	0.0	0.0	79.6	4.2	0.0	16.1	0.0	0.0	
After 2 Minutes	0.0	0.0	79.7	4.2	0.0	16.0	0.0	0.0	
Steady State	0.0	0.0	79.7	4.2	0.0	16.0	0.0	0.0	
min	-1.0	0.0	79.5	3.3	0.0	2.0	0.0	-0.1	0.0
max	0.0	0.0	79.9	4.2	0.0	16.7	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.00042 L/hr	
Comments:	PID out for calibration.								

Well ID:	BH12	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	6.90			Groundwater depth (m):	4.20		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	0.0	0.0	82.3	2.6	0.0	15.0	0.0	0.0	
After 30 Seconds	0.0	0.0	81.8	3.1	0.0	15.0	0.0	0.0	
After 1 Minute	0.0	0.0	81.8	3.2	0.0	14.9	0.0	0.0	
After 2 Minutes	0.0	0.0	81.9	3.2	0.0	14.8	0.0	0.0	
Steady State	0.0	0.0	81.9	3.2	0.0	14.8	0.0	0.0	
min	0.0	0.0	81.8	2.6	0.0	14.8	0.0	0.0	0.0
max	0.0	0.0	82.3	3.2	0.0	15.0	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	0.00 L/hr	Carbon Dioxide	0.00032 L/hr	
Comments:	PID out for calibration.								

Well ID:	BH13	Well dia.(mm):	50	Date installed:		Response stratum:			
		Well depth (m):	10.50			Groundwater depth (m):	9.24		
Monitored Variables	dP (Pa)	LEL (%)	N ₂ (%)	CO ₂ (%)	CH ₄ (%)	O ₂ (%)	H ₂ S (ppm)	Flow (L/hr)	PID (ppm)
Immediate Reading	<<<	0.0	78.1	0.1	0.0	21.8	0.0	<<<	
After 30 Seconds	<<<	0.0	78.1	0.0	0.0	21.8	0.0	<<<	
After 1 Minute	<<<	0.0	78.2	0.0	0.0	21.8	0.0	<<<	
After 2 Minutes	<<<	0.0	78.2	0.0	0.0	21.7	0.0	<<<	
Steady State	<<<	0.0	78.2	0.0	0.0	21.7	0.0	<<<	
min	0.0	0.0	78.1	0.0	0.0	21.7	0.0	0.0	0.0
max	0.0	0.0	78.2	0.1	0.0	21.8	0.0	0.0	0.0
Borehole Hazardous Gas Flow Rates Q_{hg} (max gas conc)					Methane:	0 L/hr	Carbon Dioxide	0.00 L/hr	
Borehole Hazardous Gas Flow Rates Q_{hg} (steady state gas conc)					Methane:	#VALUE! L/hr	Carbon Dioxide	#VALUE! L/hr	
Comments:									

Key:
dP - differential pressure (well-atmosphere)
LEL - Lower Explosive Limit (methane)
N₂ - nitrogen
CO₂ - carbon dioxide
CH₄ - methane
O₂ - oxygen
H₂S - Hydrogen sulphide
PID - measure of volatile organic compounds

Notes on Monit
Monitor the gas
obtain steady s
occurs within 2
comments how

Time is particularly crucia
e.g. being det
Ground Condition: frozen,

Calibration due date - dem

Use 'dry' if no groundwater

Totals:

0.0
0.0
0.0
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Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84

Use 'dry' if no groundwater

Totals:

99.9
99.9
99.9
99.9
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84

Use 'dry' if no groundwater

Totals:

99.9
99.9
99.9
99.9
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84

Use 'dry' if no groundwater

Totals:

100.1
100.1
100.0
100.0
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84

Use 'dry' if no groundwater

Totals:

0.0
0.0
0.0
0.0
0.0

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO2 and CH4. (BS84

Use 'dry' if no groundwater

Totals:

99.9
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99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO₂ and CH₄. (BS84)

Use 'dry' if no groundwater

Totals:
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Totals should be 100%

Q_{hg} must be calculated for ea
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Use 'dry' if no groundwater

Totals:
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Totals should be 100%

Q_{hg} must be calculated for ea
for both CO₂ and CH₄. (BS84)

Use 'dry' if no groundwater

Totals:
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99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO₂ and CH₄. (BS84)

Use 'dry' if no groundwater

Totals:
99.9
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99.9
100.0
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO₂ and CH₄. (BS84)

Use 'dry' if no groundwater

Totals:
99.9
99.9
100.0
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99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO₂ and CH₄. (BS84)

Use 'dry' if no groundwater

Totals:
99.9
99.9
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100.0
100.0

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO₂ and CH₄. (BS84)

Use 'dry' if no groundwater

Totals:
99.9
99.9
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100.0

100.0

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO₂ and CH₄. (BS84)

Use 'dry' if no groundwater

Totals:
99.9
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99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO₂ and CH₄. (BS84)

Use 'dry' if no groundwater

Totals:
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Totals should be 100%

Q_{hg} must be calculated for ea
for both CO₂ and CH₄. (BS84)

Use 'dry' if no groundwater

Totals:
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Totals should be 100%

Q_{hg} must be calculated for ea
for both CO₂ and CH₄. (BS84)

Use 'dry' if no groundwater

Totals:
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Totals should be 100%

Q_{hg} must be calculated for ea
for both CO₂ and CH₄. (BS84)

Use 'dry' if no groundwater

Totals:
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99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO₂ and CH₄. (BS84)

Use 'dry' if no groundwater

Totals:
100.0
99.9
100.0
99.9
99.9

Totals should be 100%

Q_{hg} must be calculated for ea
for both CO₂ and CH₄. (BS84)

