

Site
 Project



Annex G: EAME Ground Gas Monitoring (May 2018)

WS	Time Seconds (Minutes)	Gas Flow (l/hr)	Borehole Pressure (Pa)	Methane (%v/v)	Methane (% LEL*)	Carbon Dioxide (%v/v)	Oxygen (%v/v)	Other Gases (ppmv)			Depth to Water (m bgl)	Hexane %	PID Correction Factor	Maximum Methane (%v/v)	Maximum Carbon Dioxide (%v/v)
								PID	H ₂ S	CO					
WS01-17	0	0.0	0	0.0	0.0	0.1	21.0	0.1	0.0	0.0	Water 4.78 Base 4.99	0.051	1.0	0.0	4.9
	15	0.0	0	0.0	0.0	4.6	17.1	0.5	0.0	0.0		0.052	1.0		
	30	0.0	0	0.0	0.0	4.8	16.3	0.4	0.0	0.0		0.053	1.0		
	45	0.0	0	0.0	0.0	4.9	16.1	0.4	0.0	0.0		0.054	1.0		
	60	0.0	0	0.0	0.0	4.9	16.0	0.4	0.0	0.0		0.054	1.0		
	90	0.0	0	0.0	0.0	4.9	15.8	0.2	0.0	0.0		0.053	1.0		
	120	0.0	0	0.0	0.0	4.9	15.8	0.1	0.0	0.0		0.053	1.0		
	180	0.0	0	0.0	0.0	4.9	15.8	0.0	0.0	0.0		0.052	1.0		
Max Gas Flow (l/hr)		0.0											GSV	0.0	0.0
												CIRIA Characteristic Situation	Very Low Risk	Very Low Risk	

Notes:
 Monitoring order is from left to right across table. All monitoring was undertaken for at least 3 minutes. However, where high concentrations of gases were initially recorded, monitoring was extended up to 10 minutes.
 * LEL = Lower Explosive Limit = 5%v/v. Monitoring only undertaken when ambient temperature is between -10°C to +40°C.

Monitored by (name)	M Sylvester and T Nash (EAME)		
Atmospheric pressure (mB)	1004		
Weather	Dry, warm and windy.		
Temperature (°C)	21		
Monitoring equipment used:	GFM436 Gas Analyser	12101	Cal Date 18/05/2018
	MiniRAE PID non-ATEX	595-003281	Cal Date 18/05/2018
Visible signs of vegetation stress	Localised patches of scrub/vegetation only. No obvious signs of stress.		
Other comments/observations	None.		
Sampled for laboratory analysis	None.		

WS	Time Seconds (Minutes)	Gas Flow (l/hr)	Borehole Pressure (Pa)	Methane (%v/v)	Methane (% LEL*)	Carbon Dioxide (%v/v)	Oxygen (%v/v)	Other Gases (ppmv)			Depth to Water (m bgl)	Hexane %	PID Correction Factor	Maximum Methane (%v/v)	Maximum Carbon Dioxide (%v/v)
								PID	H ₂ S	CO					
WS02-17	0	0.0	0	0.0	0.0	0.1	20.8	0.2	0.0	0.0	Water 4.05 Base 4.07	0.050	1.0	0.0	6.4
	15	0.0	0	0.0	0.0	6.1	9.0	0.3	0.0	0.0		0.051	1.0		
	30	0.0	0	0.0	0.0	6.4	8.4	0.1	0.0	0.0		0.050	1.0		
	45	0.0	0	0.0	0.0	6.4	8.4	0.1	0.0	0.0		0.050	1.0		
	60	0.0	0	0.0	0.0	6.4	8.4	0.1	0.0	0.0		0.049	1.0		
	90	0.0	0	0.0	0.0	6.4	8.3	0.1	0.0	0.0		0.049	1.0		
	120	0.0	0	0.0	0.0	6.4	8.0	0.1	0.0	0.0		0.049	1.0		
	180	0.0	0	0.0	0.0	6.4	7.9	0.1	0.0	0.0		0.048	1.0		
Max Gas Flow (l/hr)		0.0											GSV	0.0	0.0
												CIRIA Characteristic Situation	Very Low Risk	Very Low Risk	

Notes:
 Monitoring order is from left to right across table. All monitoring was undertaken for at least 3 minutes. However, where high concentrations of gases were initially recorded, monitoring was extended up to 10 minutes.
 * LEL = Lower Explosive Limit = 5%v/v. Monitoring only undertaken when ambient temperature is between -10°C to +40°C.

Monitored by (name)	M Sylvester and T Nash (EAME)		
Atmospheric pressure (mB)	1001 increasing to 1002.		
Weather	Dry, warm and windy.		
Temperature (°C)	21		
Monitoring equipment used:	GFM436 Gas Analyser	12101	Cal Date 18/05/2018
	MiniRAE PID non-ATEX	595-003281	Cal Date 18/05/2018
Visible signs of vegetation stress	Localised patches of scrub/vegetation only. No obvious signs of stress.		
Other comments/observations	None.		
Sampled for laboratory analysis	None.		

WS	Time Seconds (Minutes)	Gas Flow (l/hr)	Borehole Pressure (Pa)	Methane (%v/v)	Methane (% LEL*)	Carbon Dioxide (%v/v)	Oxygen (%v/v)	Other Gases (ppmv)			Depth to Water (m bgl)	Hexane %	PID Correction Factor	Maximum Methane (%v/v)	Maximum Carbon Dioxide (%v/v)
								PID	H ₂ S	CO					
WS08-17	0	0.0	0	0.0	0.0	2.8	18.2	0.0	0.0	0.0	Water DRY Base 3.87	0.051	1.0	0.0	2.8
	15	0.0	0	0.0	0.0	0.4	20.6	0.1	0.0	0.0		0.053	1.0		
	30	0.0	0	0.0	0.0	0.4	21.0	0.1	0.0	0.0		0.053	1.0		
	45	0.0	0	0.0	0.0	0.4	21.0	0.1	0.0	0.0		0.053	1.0		
	60	0.0	0	0.0	0.0	0.4	21.0	0.1	0.0	0.0		0.053	1.0		
	90	0.0	0	0.0	0.0	0.4	21.0	0.1	0.0	0.0		0.054	1.0		
	120	0.0	0	0.0	0.0	0.4	20.9	0.1	0.0	0.0		0.054	1.0		
	180	0.0	0	0.0	0.0	0.5	20.9	0.1	0.0	0.0		0.054	1.0		
Max Gas Flow (l/hr)		0.0											GSV	0.0	0.0
												CIRIA Characteristic Situation	Very Low Risk	Very Low Risk	

Notes:
 Monitoring order is from left to right across table. All monitoring was undertaken for at least 3 minutes. However, where high concentrations of gases were initially recorded, monitoring was extended up to 10 minutes.
 * LEL = Lower Explosive Limit = 5%v/v. Monitoring only undertaken when ambient temperature is between -10°C to +40°C.

Monitored by (name)	M Sylvester and T Nash (EAME)		
Atmospheric pressure (mB)	1002 increasing to 1003.		
Weather	Dry, warm and windy.		
Temperature (°C)	21		
Monitoring equipment used:	GFM436 Gas Analyser	12101	Cal Date 18/05/2018
	MiniRAE PID non-ATEX	595-003281	Cal Date 18/05/2018
Visible signs of vegetation stress	Localised patches of scrub/vegetation only. No obvious signs of stress.		
Other comments/observations	None.		
Sampled for laboratory analysis	None.		

WS	Time Seconds (Minutes)	Gas Flow (l/hr)	Borehole Pressure (Pa)	Methane (%v/v)	Methane (% LEL*)	Carbon Dioxide (%v/v)	Oxygen (%v/v)	Other Gases (ppmv)			Depth to Water (m bgl)	Hexane %	PID Correction Factor		Maximum Methane (%v/v)	Maximum Carbon Dioxide (%v/v)
								PID	H ₂ S	CO						
WS10-17	0	0.0	0	0.0	0.0	4.9	18.0	0.0	0.0	0.0	Water DRY Base 1.03	0.052	1.0	0.0	4.9	
	15	0.0	0	0.0	0.0	0.2	20.3	0.0	0.0	0.0		0.053	1.0			
	30	0.0	0	0.0	0.0	0.1	21.1	0.0	0.0	0.0		0.053	1.0			
	45	0.0	0	0.0	0.0	0.1	21.2	0.0	0.0	0.0		0.053	1.0			
	60	0.0	0	0.0	0.0	0.1	21.3	0.0	0.0	0.0		0.053	1.0			
	90	0.0	0	0.0	0.0	0.1	21.2	0.0	0.0	0.0		0.052	1.0			
	120	0.0	0	0.0	0.0	0.1	21.2	0.0	0.0	0.0		0.052	1.0			
	180	0.0	0	0.0	0.0	0.0	21.1	0.0	0.0	0.0		0.053	1.0			
	Max Gas Flow (l/hr)		0.0													GSV
CIRIA Characteristic Situation														Very Low Risk	Very Low Risk	
Notes:																
Monitoring order is from left to right across table. All monitoring was undertaken for at least 3 minutes. However, where high concentrations of gases were initially recorded, monitoring was extended up to 10 minutes.																
*LEL = Lower Explosive Limit = 5%/v. Monitoring only undertaken when ambient temperature is between -10°C to +40°C.																

Monitored by (name)	M Sylvester and T Nash (EAME)			
Atmospheric pressure (mB)	1003			
Weather	Dry, warm and windy.			
Temperature (°C)	21			
Monitoring equipment used:	GFM436 Gas Analyser	12101	Cal. Date	18/05/2018
	MiniRAE PID non-ATEX	595-003281	Cal. Date	18/05/2018
Visible signs of vegetation stress	Localised patches of scrub/vegetation only. No obvious signs of stress.			
Other comments/observations	None.			
Sampled for laboratory analysis	None.			

WS	Time Seconds (Minutes)	Gas Flow (l/hr)	Borehole Pressure (Pa)	Methane (%v/v)	Methane (% LEL*)	Carbon Dioxide (%v/v)	Oxygen (%v/v)	Other Gases (ppmv)			Depth to Water (m bgl)	Hexane %	PID Correction Factor		Maximum Methane (%v/v)	Maximum Carbon Dioxide (%v/v)
								PID	H ₂ S	CO						
WS11-17	0	0.0	0	0.0	0.0	0.0	17.6	0.0	0.0	0.0	Water DRY Base 4.03	0.058	1.0	0.0	3.0	
	15	0.0	0	0.0	0.0	2.7	15.8	0.1	0.0	0.0		0.055	1.0			
	30	0.0	0	0.0	0.0	2.8	16.3	0.0	0.0	0.0		0.053	1.0			
	45	0.0	0	0.0	0.0	2.9	16.2	0.0	0.0	0.0		0.053	1.0			
	60	0.0	0	0.0	0.0	2.9	16.3	0.0	0.0	0.0		0.053	1.0			
	90	0.0	0	0.0	0.0	2.9	16.2	0.0	0.0	0.0		0.052	1.0			
	120	0.0	0	0.0	0.0	2.9	16.2	0.0	0.0	0.0		0.051	1.0			
	180	0.0	0	0.0	0.0	3.0	16.2	0.0	0.0	0.0		0.050	1.0			
	Max Gas Flow (l/hr)		0.0													GSV
CIRIA Characteristic Situation														Very Low Risk	Very Low Risk	
Notes:																
Monitoring order is from left to right across table. All monitoring was undertaken for at least 3 minutes. However, where high concentrations of gases were initially recorded, monitoring was extended up to 10 minutes.																
*LEL = Lower Explosive Limit = 5%/v. Monitoring only undertaken when ambient temperature is between -10°C to +40°C.																

Monitored by (name)	M Sylvester and T Nash (EAME)			
Atmospheric pressure (mB)	999 increasing to 1000.			
Weather	Dry, warm and windy.			
Temperature (°C)	21			
Monitoring equipment used:	GFM436 Gas Analyser	12101	Cal. Date	18/05/2018
	MiniRAE PID non-ATEX	595-003281	Cal. Date	18/05/2018
Visible signs of vegetation stress	Localised patches of scrub/vegetation only. No obvious signs of stress.			
Other comments/observations	None.			
Sampled for laboratory analysis	None.			

WS	Time Seconds (Minutes)	Gas Flow (l/hr)	Borehole Pressure (Pa)	Methane (%v/v)	Methane (% LEL*)	Carbon Dioxide (%v/v)	Oxygen (%v/v)	Other Gases (ppmv)			Depth to Water (m bgl)	Hexane %	PID Correction Factor		Maximum Methane (%v/v)	Maximum Carbon Dioxide (%v/v)
								PID	H ₂ S	CO						
WS15-17	0	0.0	0	0.0	0.0	0.1	21.0	0.2	0.0	0.0	Water 4.71 Base 4.72	0.053	1.0	0.0	0.1	
	15	0.0	0	0.0	0.0	0.1	18.7	0.1	0.0	0.0		0.054	1.0			
	30	0.0	0	0.0	0.0	0.1	18.2	0.1	0.0	0.0		0.054	1.0			
	45	0.0	0	0.0	0.0	0.1	17.9	0.2	0.0	0.0		0.054	1.0			
	60	0.0	0	0.0	0.0	0.1	17.7	0.2	0.0	0.0		0.055	1.0			
	90	0.0	0	0.0	0.0	0.1	17.2	0.1	0.0	0.0		0.054	1.0			
	120	0.0	0	0.0	0.0	0.1	16.8	0.1	0.0	0.0		0.053	1.0			
	180	0.0	0	0.0	0.0	0.1	16.0	0.1	0.0	0.0		0.052	1.0			
	Max Gas Flow (l/hr)		0.0													GSV
CIRIA Characteristic Situation														Very Low Risk	Very Low Risk	
Notes:																
Monitoring order is from left to right across table. All monitoring was undertaken for at least 3 minutes. However, where high concentrations of gases were initially recorded, monitoring was extended up to 10 minutes.																
*LEL = Lower Explosive Limit = 5%/v. Monitoring only undertaken when ambient temperature is between -10°C to +40°C.																

Monitored by (name)	M Sylvester and T Nash (EAME)			
Atmospheric pressure (mB)	1001 increasing to 1002.			
Weather	Dry, warm and windy.			
Temperature (°C)	21			
Monitoring equipment used:	GFM436 Gas Analyser	12101	Cal. Date	18/05/2018
	MiniRAE PID non-ATEX	595-003281	Cal. Date	18/05/2018
Visible signs of vegetation stress	Localised patches of scrub/vegetation only. No obvious signs of stress.			
Other comments/observations	None.			
Sampled for laboratory analysis	None.			

WS	Time Seconds (Minutes)	Gas Flow (l/hr)	Borehole Pressure (Pa)	Methane (%v/v)	Methane (% LEL*)	Carbon Dioxide (%v/v)	Oxygen (%v/v)	Other Gases (ppmv)			Depth to Water (m bgl)	Hexane %	PID Correction Factor	Maximum Methane (%v/v)	Maximum Carbon Dioxide (%v/v)				
								PID	H ₂ S	CO									
WS19-17	0	0.0	0	0.0	0.0	0.1	20.8	0.0	0.0	0.0	Water 1.35 Base 1.46	0.059	1.0	0.0	0.1				
	15	0.0	0	0.0	0.0	0.0	12.8	0.0	0.0	0.0		0.059	1.0						
	30	0.0	0	0.0	0.0	0.0	12.3	0.0	0.0	0.0		0.059	1.0						
	45	0.1	0	0.0	0.0	0.0	11.9	0.0	0.0	0.0		0.058	1.0						
	60	0.0	0	0.0	0.0	0.0	11.5	0.0	0.0	0.0		0.058	1.0						
	90	0.0	0	0.0	0.0	0.0	10.7	0.0	0.0	0.0		0.059	1.0						
	120	0.0	0	0.0	0.0	0.0	10.4	0.0	0.0	0.0		0.058	1.0						
	180	0.0	0	0.0	0.0	0.0	9.9	0.0	0.0	0.0		0.059	1.0						
	Max Gas Flow (l/hr)		0.1													GSV	0.0	0.0	
	CIRIA Characteristic Situation															Very Low Risk	Very Low Risk		
Notes:																			
Monitoring order is from left to right across table. All monitoring was undertaken for at least 3 minutes. However, where high concentrations of gases were initially recorded, monitoring was extended up to 10 minutes.																			
* LEL = Lower Explosive Limit = 5%/v. Monitoring only undertaken when ambient temperature is between -10°C to +40°C.																			

Monitored by (name)	M Sylvester and T Nash (EAME)		
Atmospheric pressure (mB)	1001 increasing to 1002.		
Weather	Dry, warm and windy.		
Temperature (°C)	21		
Monitoring equipment used:	GFM436 Gas Analyser	12101	Cal. Date 18/05/2018
	MiniRAE PID non-ATEX	595-003281	Cal. Date 18/05/2018
Visible signs of vegetation stress	Localised patches of scrub/vegetation only. No obvious signs of stress.		
Other comments/observations	None.		
Sampled for laboratory analysis	None.		

WS	Time Seconds (Minutes)	Gas Flow (l/hr)	Borehole Pressure (Pa)	Methane (%v/v)	Methane (% LEL*)	Carbon Dioxide (%v/v)	Oxygen (%v/v)	Other Gases (ppmv)			Depth to Water (m bgl)	Hexane %	PID Correction Factor	Maximum Methane (%v/v)	Maximum Carbon Dioxide (%v/v)				
								PID	H ₂ S	CO									
WS22-17	0	0.0	0	0.0	0.0	0.2	20.0	0.1	0.0	0.0	Water 1.35 Base 1.46	0.058	1.0	0.0	1.9				
	15	0.0	0	0.0	0.0	1.9	19.5	0.2	0.0	0.0		0.057	1.0						
	30	0.0	0	0.0	0.0	1.8	19.4	0.2	0.0	0.0		0.056	1.0						
	45	0.0	0	0.0	0.0	1.8	19.5	0.2	0.0	0.0		0.055	1.0						
	60	0.0	0	0.0	0.0	1.7	19.6	0.2	0.0	0.0		0.053	1.0						
	90	0.0	0	0.0	0.0	1.4	19.8	0.2	0.0	0.0		0.054	1.0						
	120	0.0	0	0.0	0.0	1.2	20.0	0.2	0.0	0.0		0.053	1.0						
	180	0.0	0	0.0	0.0	0.8	20.4	0.2	0.0	0.0		0.053	1.0						
	Max Gas Flow (l/hr)		0.0													GSV	0.0	0.0	
	CIRIA Characteristic Situation															Very Low Risk	Very Low Risk		
Notes:																			
Monitoring order is from left to right across table. All monitoring was undertaken for at least 3 minutes. However, where high concentrations of gases were initially recorded, monitoring was extended up to 10 minutes.																			
* LEL = Lower Explosive Limit = 5%/v. Monitoring only undertaken when ambient temperature is between -10°C to +40°C.																			

Monitored by (name)	M Sylvester and T Nash (EAME)		
Atmospheric pressure (mB)	1001 decreasing to 1000.		
Weather	Dry, warm and windy.		
Temperature (°C)	21		
Monitoring equipment used:	GFM436 Gas Analyser	12101	Cal. Date 18/05/2018
	MiniRAE PID non-ATEX	595-003281	Cal. Date 18/05/2018
Visible signs of vegetation stress	Localised patches of scrub/vegetation only. No obvious signs of stress.		
Other comments/observations	None.		
Sampled for laboratory analysis	None.		

WS	Time Seconds (Minutes)	Gas Flow (l/hr)	Borehole Pressure (Pa)	Methane (%v/v)	Methane (% LEL*)	Carbon Dioxide (%v/v)	Oxygen (%v/v)	Other Gases (ppmv)			Depth to Water (m bgl)	Hexane %	PID Correction Factor	Maximum Methane (%v/v)	Maximum Carbon Dioxide (%v/v)
								PID	H ₂ S	CO					
WS23-17	0	1.1	6	0.0	0.0	0.6	20.7	0.0	0.0	0.0	Water DRY Base 1.92	0.056	1.0	0.0	0.6
	15	0.2	1	0.0	0.0	0.0	21.3	0.1	0.0	0.0		0.056	1.0		
	30	0.2	1	0.0	0.0	0.0	21.2	0.1	0.0	0.0		0.058	1.0		
	45	0.0	0	0.0	0.0	0.0	21.1	0.1	0.0	0.0		0.058	1.0		
	60	0.1	1	0.0	0.0	0.0	21.1	0.1	0.0	0.0		0.056	1.0		
	90	0.3	2	0.0	0.0	0.0	21.1	0.1	0.0	0.0		0.056	1.0		
	120	0.0	0	0.0	0.0	0.0	21.1	0.1	0.0	0.0		0.056	1.0		
	180	0.2	0	0.0	0.0	0.0	21.1	0.1	0.0	0.0		0.056	1.0		
	240 (4)	0.0	0.0	0.0	0.0	0.0	21.1	0.1	0.0	0.0		0.056	1.0		
	300 (5)	0.0	0.0	0.0	0.0	0.0	21.1	0.1	0.0	0.0		0.056	1.0		
	360 (6)	0.0	0.0	0.0	0.0	0.0	21.1	0.1	0.0	0.0		0.056	1.0		
	420 (7)	0.0	0.0	0.0	0.0	0.0	21.1	0.1	0.0	0.0		0.056	1.0		
	480 (8)	1.8	0.0	0.0	0.0	0.0	21.1	0.1	0.0	0.0		0.056	1.0		
	540 (9)	0.0	0.0	0.0	0.0	0.0	21.1	0.1	0.0	0.0		0.056	1.0		
	600 (10)	0.0	0.0	0.0	0.0	0.0	21.1	0.1	0.0	0.0		0.056	1.0		
Max Gas Flow (l/hr)		1.8											GSV	0.0	0.0
CIRIA Characteristic Situation													Very Low Risk	Very Low Risk	
Notes:															
Monitoring order is from left to right across table. All monitoring was undertaken for at least 3 minutes. However, where high concentrations of gases were initially recorded, monitoring was extended up to 10 minutes.															
* LEL = Lower Explosive Limit = 5%/v. Monitoring only undertaken when ambient temperature is between -10°C to +40°C.															

Monitored by (name)	M Sylvester and T Nash (EAME)		
Atmospheric pressure (mB)	1002 decreasing to 1000.		
Weather	Dry, warm and windy.		
Temperature (°C)	21		
Monitoring equipment used:	GFM436 Gas Analyser	12101	Cal. Date 18/05/2018
	MiniRAE PID non-ATEX	595-003281	Cal. Date 18/05/2018
Visible signs of vegetation stress	Localised patches of scrub/vegetation only. No obvious signs of stress.		
Other comments/observations	None.		
Sampled for laboratory analysis	None.		

GSV Worst-case (Entire Site)

Maximum Methane	0.0	%v/v
Maximum Carbon dioxide	6.4	%v/v
Maximum Flow Rate	1.8	l/hr

Gas Screening Value (GSV) 0.12 Low Risk