

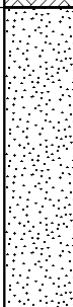
APPENDIX L

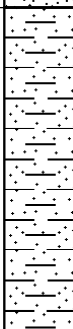
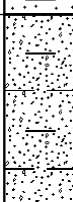
Geo-Ventures (UK) Limited <i>Geotechnical and Environmental Services</i>							Site Home Farm. Gresford Road, Llay, Wrexham		Borehole Number BH01	
Boring Method Cable Percussion		Casing Diameter 150mm cased to 6.00m		Ground Level (mOD)		Client			Job Number 17-1536	
		Location		Dates 16/03/2017		Engineer Robert E Fry & Associates Limited			Sheet 1/1	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.20	D					(0.50)	Brown sandy TOPSOIL with rootlets			
0.50	D					0.50	Firm brown CLAY			
						(0.70)				
1.20-1.65	SPT(C) N=13			2,3/3,3,4,3		1.20	Stiff brown sandy CLAY			
1.20-1.65	D									
2.00-2.45	SPT(C) N=16			2,3/4,3,4,5						
2.00-2.45	D									
3.00-3.45	SPT(C) N=24			4,4/5,6,6,7		(3.80)				
3.00-3.45	D									
4.00-4.45	SPT(C) N=25			4,5/6,6,6,7						
4.00-4.45	D									
5.00-5.45	SPT(C) N=21			3,4/4,5,6,6		5.00	Firm / stiff grey brown sandy gravelly CLAY			
5.00-5.45	D									
6.00-6.45	SPT(C) N=22			4,4/5,5,5,7		(1.45)				
6.00-6.45	D									
						6.45	Complete at 6.45m			
										
										
										
										
										
										
										
										
										
										
										
										
										
										
										
										
										
										
										
										
										
Remarks Services pit excavated by hand to 1.20m Water added to borehole to assist drilling								Scale (approx) 1:50	Logged By Dr J Crook	
								Figure No. 17-1536.BH01		

Geo-Ventures (UK) Limited Geotechnical and Environmental Services							Site Home Farm. Gresford Road, Llay, Wrexham		Borehole Number BH02		
Boring Method Cable Percussion		Casing Diameter 150mm cased to 5.00m			Ground Level (mOD)		Client			Job Number 17-1536	
		Location			Dates 15/03/2017		Engineer Robert E Fry & Associates Limited			Sheet 1/1	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description			Legend	Water
0.20	D					(0.50)	Brown sandy TOPSOIL with rootlets				
0.50	D					0.50	Stiff / very stiff brown sandy / very sandy CLAY				
1.20-1.65 1.20-1.65	SPT(C) N=10 D			2,2/2,3,2,3							
2.00-2.45 2.00-2.45	SPT(C) N=13 D			2,2/3,3,3,4							
3.00-3.45 3.00-3.45	SPT(C) N=15 D			2,3/3,4,4,4		(5.20)					
4.00-4.45 4.00-4.45	SPT(C) N=28 D			4,6/6,7,7,8							
5.00-5.45 5.00-5.45	SPT(C) N=32 D			4,5/7,7,9,9							
						5.70	Complete at 5.70m				
Remarks Water added to borehole to assist drilling Services pit excavated by hand to 1.20m							Scale (approx) 1:50		Logged By Dr J Crook		
							Figure No. 17-1536.BH02				

Geo-Ventures (UK) Limited <i>Geotechnical and Environmental Services</i>							Site Home Farm. Gresford Road, Llay, Wrexham		Borehole Number BH03		
Boring Method Cable Percussion		Casing Diameter 150mm cased to 6.00m		Ground Level (mOD)		Client				Job Number 17-1536	
		Location		Dates 17/03/2017		Engineer Robert E Fry & Associates Limited				Sheet 1/1	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr	
0.20	D			Seepage(1) at 0.50m.		(0.40)	Brown sandy TOPSOIL with rootlets				
						0.40	MADE GROUND : brown clay, sand, soil, gravel, ash and clinker fill		√1		
						(1.10)					
1.20-1.65 1.20-1.65 1.50	SPT(C) N=11 D D			2,2/3,2,3,3		1.50	Firm / stiff brown sandy gravelly CLAY				
2.00-2.45 2.00-2.45	SPT(C) N=12 D			1,2/3,3,3,3							
3.00-3.45 3.00-3.45	SPT(C) N=15 D			2,3/4,4,3,4		(3.50)					
4.00-4.45 4.00 4.00-4.45	SPT(C) N=21 D D			3,4/5,5,5,6							
5.00-5.45 5.00-5.45	SPT(C) N=23 D			4,5/5,6,5,7		5.00	Stiff brown sandy gravelly CLAY				
						(1.45)					
6.00-6.45 6.00-6.45	SPT(C) N=28 D			4,6/6,7,7,8		6.45	Complete at 6.45m				
Remarks Water added to borehole to assist drilling Services pit excavated by hand to 1.20m								Scale (approx) 1:50	Logged By Dr J Crook	Figure No. 17-1536.BH03	

Geo-Ventures (UK) Limited <i>Geotechnical and Environmental Services</i>							Site Home Farm. Gresford Road, Llay, Wrexham	Borehole Number BH04	
Boring Method Cable Percussion		Casing Diameter 150mm cased to 6.00m		Ground Level (mOD)		Client Robert E Fry & Associates Limited	Job Number 17-1536		
		Location		Dates 14/03/2017		Engineer Robert E Fry & Associates Limited	Sheet 1/1		
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D					(0.40)	Brown sandy TOPSOIL with rootlets		
0.50	D					0.40	Firm brown CLAY		
						(0.60)			
						1.00	Stiff brown sandy CLAY		
1.20-1.65	SPT(C) N=16			2,3/3,4,4,5					
1.20-1.65	D								
									
									
2.00-2.45	SPT(C) N=17			2,3/3,4,5,5		(2.00)			
2.00-2.45	D								
									
									
									
3.00-3.07	SPT(C) 50*/70			50/		3.00	Stiff brown sandy gravelly CLAY with sandstone cobbles and boulders		
3.00-3.45	D								
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									

Geo-Ventures (UK) Limited Geotechnical and Environmental Services							Site Home Farm. Gresford Road, Llay, Wrexham		Borehole Number BH05		
Boring Method Cable Percussion		Casing Diameter 150mm cased to 6.00m			Ground Level (mOD)		Client			Job Number 17-1536	
		Location			Dates 15/03/2017		Engineer Robert E Fry & Associates Limited			Sheet 1/1	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description			Legend	Water
0.20	D					(0.60)	Brown sandy TOPSOIL with rootlets				
0.60	D					0.60	Loose brown fine SAND				
1.20-1.65 1.20-1.65	SPT(C) N=7 D			1,1/2,1,2,2		(2.00)					
2.00-2.45 2.00-2.45	SPT(C) N=8 D			2,2/2,2,2,2							
2.60	D					2.60	Firm / stiff brown sandy CLAY				
3.00-3.45 3.00-3.45	SPT(C) N=15 D			2,2/3,4,4,4		(0.90)					
3.50	D					3.50	Medium dense / dense brown coarse SAND and fine / medium sub-rounded GRAVEL				
4.00-4.45 4.00-4.45	SPT(C) N=29 D			6,5/6,6,8,9							
5.00-5.45 5.00-5.45	SPT(C) N=31 D			4,5/7,7,8,9		(2.95)					
6.00-6.45 6.00-6.45	SPT(C) N=30 D			4,5/6,8,7,9		6.45	Complete at 6.45m				
Remarks Water added to borehole to assist drilling Services pit excavated by hand to 1.20m										Scale (approx) 1:50	Logged By Dr J Crook
										Figure No. 17-1536.BH01	

Geo-Ventures (UK) Limited Geotechnical and Environmental Services							Site Home Farm. Gresford Road, Llay, Wrexham		Borehole Number BH06		
Boring Method Cable Percussion		Casing Diameter 150mm cased to 7.00m			Ground Level (mOD)		Client			Job Number 17-1536	
		Location			Dates 13/03/2017		Engineer Robert E Fry & Associates Limited			Sheet 1/1	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description			Legend	Water
0.20	D					(0.60)	Brown TOPSOIL with rootlets				
0.60	D					0.60	Medium dense brown slightly clayey fine / medium SAND with occasional fine sub-rounded gravel				
1.20-1.65 1.20-1.65	SPT(C) N=13 D			2,2/3,3,4,3		(2.00)					
2.00-2.45 2.00-2.45	SPT(C) N=12 D			1,2/3,3,3,3							
2.60	D					2.60	Stiff brown sandy CLAY				
3.00-3.45 3.00-3.45	SPT(C) N=26 D			3,4/5,7,6,8		(2.20)					
4.00-4.45 4.00-4.45	SPT(C) N=27 D			3,5/5,7,7,8							
4.60	D					4.80	Medium dense brown claybound gravelly fine / medium SAND				
5.00-5.45 5.00-5.45	SPT(C) N=28 D			4,5/6,7,7,8		(1.30)					
6.00-6.45 6.00-6.45	SPT(C) N=23 D			5,6/6,6,5,6		6.10	Medium dense / dense brown fine SAND				
7.00-7.45 7.00-7.45	SPT(C) N=32 D			5,6/7,7,8,10		(1.35)					
						7.45	Complete at 7.45m				
Remarks Services pit excavated by hand to 1.20m Water added to borehole to assist drilling								Scale (approx)		Logged By	
								1:50		Dr J Crook	
								Figure No. 17-1536.BH06			

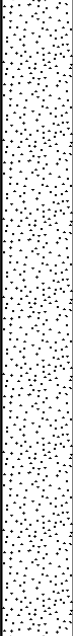
Geo-Ventures (UK) Limited <i>Geotechnical and Environmental Services</i>							Site Home Farm. Gresford Road, Llay, Wrexham		Borehole Number BH07	
Boring Method Cable Percussion		Casing Diameter 150mm cased to 7.00m		Ground Level (mOD)		Client		Job Number 17-1536		
		Location		Dates 13/03/2017		Engineer Robert E Fry & Associates Limited		Sheet 1/1		
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.20	D					(0.60)	Brown sandy TOPSOIL with rootlets			
0.60	D					0.60	Firm / stiff grey / brown sandy CLAY / very sandy CLAY			
1.20-1.65 1.20-1.65	SPT(C) N=21 D			3,4/4,5,6,6		(1.40)				
2.00-2.45 2.00-2.45	SPT(C) N=14 D			2,3/3,4,3,4		2.00	Medium dense grey / brown slightly silty fine SAND			
3.00-3.45 3.00-3.45	SPT(C) N=15 D			2,2/2,3,5,5		3.00	Medium dense brown medium SAND			
4.00-4.45 4.00-4.45	SPT(C) N=14 D			1,1/2,4,4,4		(3.50)				
5.00-5.45 5.00-5.45	SPT(C) N=19 D			2,3/3,4,6,6						
6.00-6.45 6.00-6.45	SPT(C) N=26 D			3,4/4,6,7,9						
6.50	D					6.50	Medium dense brown coarse SAND and fine / medium sub-rounded GRAVEL			
7.00-7.45 7.00-7.45	SPT(C) N=30 D			4,5/5,7,9,9		(0.95)				
						7.45	Complete at 7.45m			
Remarks Water added to borehole to assist drilling Services pit excavated by hand to 1.20m								Scale (approx)	Logged By	
								1:50	Dr J Crook	
								Figure No. 17-1536.BH07		

Geo-Ventures (UK) Limited Geotechnical and Environmental Services							Site Home Farm. Gresford Road, Llay, Wrexham		Borehole Number BH08		
Boring Method Cable Percussion		Casing Diameter 150mm cased to 6.00m			Ground Level (mOD)		Client			Job Number 17-1536	
		Location			Dates 14/03/2017		Engineer Robert E Fry & Associates Limited			Sheet 1/1	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water		
0.20	D					(0.50)	Brown sandy TOPSOIL with rootlets				
0.60	D					0.50 (0.40)	Firm brown very sandy CLAY				
1.20-1.65 1.20-1.65	SPT(C) N=11 D			2,2/3,2,3,3		0.90	Stiff brown sandy CLAY (gravel noted by driller)				
2.00-2.45 2.00-2.45	SPT(C) N=14 D			2,2/3,3,4,4		(3.10)			▼1		
3.00-3.45	D			Slow(1) at 3.00m, rose to 2.70m in 20 mins.					▽1		
3.00-3.45	SPT(C) N=24			1,1/3,4,7,10							
4.00-4.45 4.00-4.45	SPT(C) N=32 D			4,6/6,6,9,11		4.00	Stiff brown sandy CLAY				
5.00-5.45 5.00-5.45	SPT(C) N=32 D			3,6/7,7,9,9		(2.45)					
6.00-6.45 6.00-6.45	SPT(C) N=33 D			4,5/7,8,8,10		6.45	Complete at 6.45m				
Remarks Water added to borehole to assist drilling Services pit excavated by hand to 1.20m								Scale (approx) 1:50	Logged By Dr J Crook		
								Figure No. 17-1536.BH08			

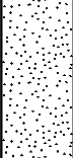
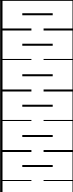
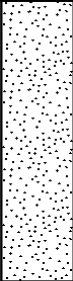
APPENDIX M

Geo-Ventures (UK) Limited Geotechnical and Environmental Services						Site Home Farm. Gresford Road, Llay, Wrexham		Number WS01	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client		Job Number 17-1536	
		Location		Dates 13/03/2017		Engineer Robert E Fry & Associates Limited		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.10	D				(0.20)	Brown clayey TOPSOIL with rootlets			
0.40	D				(0.50)	Firm brown / orange sandy CLAY			
					0.70	Stiff brown CLAY with occasional fine sub-rounded gravel			
1.00-1.45	SPT(C) N=12		2,3/3,3,3,3						
1.00	D				(2.10)				
2.00-2.45	SPT(C) N=23		2,3/4,5,6,8						
2.00	D								
2.60	D				2.80	Brown clayey SILT			
3.00-3.45	SPT(C) N=15		3,3/3,3,4,5		(0.30)	Medium dense brown fine SAND			
3.00	D				3.10				
3.20	D				(1.35)				
4.00-4.45	SPT(C) N=19		3,4/4,4,5,6						
4.00	D				4.45	Complete at 4.45m			
Remarks							Scale (approx) 1:50	Logged By Dr J Crook	
							Figure No. 17-1536.WS01		

Geo-Ventures (UK) Limited Geotechnical and Environmental Services						Site Home Farm. Gresford Road, Llay, Wrexham		Number WS02	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client		Job Number 17-1536	
		Location		Dates 13/03/2017		Engineer Robert E Fry & Associates Limited		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.10	D				(0.20)	Brown clayey TOPSOIL with rootlets			
					0.20	Firm brown slightly sandy CLAY			
0.50	D				(0.40)				
					0.60	Stiff brown slightly sandy CLAY with occasional fine sub-rounded gravel			
1.00-1.45	SPT(C) N=9		2,2/2,2,2,3						
1.00	D				(1.90)				
									
2.00-2.45	SPT(C) N=16		3,3/4,4,4,4						
2.00	D				2.50	Brown medium SAND with occasional fine / medium sub-rounded gravel			
2.60	D				(0.70)				
3.00-3.45	SPT(C) N=21		4,4/5,5,5,6						
3.00	D				3.20	Stiff brown sandy CLAY with occasional fine sub-rounded gravel			
					(1.25)				
4.00-4.45	SPT(C) N=24		4,3/5,5,6,8						
4.00	D				4.45	Complete at 4.45m			
Remarks						Scale (approx) 1:50		Logged By Dr J Crook	
						Figure No. 17-1536.WS02			

Geo-Ventures (UK) Limited Geotechnical and Environmental Services						Site Home Farm. Gresford Road, Llay, Wrexham		Number WS03	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client		Job Number 17-1536	
		Location		Dates 13/03/2017		Engineer Robert E Fry & Associates Limited		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
0.10	D				(0.20) 0.20	Brown sandy TOPSOIL with rootlets			
0.50	D					Medium dense brown medium SAND			
1.00-1.45 1.00	SPT(C) N=13 D		2,2/2,3,4,4						
2.00-2.45 2.00	SPT(C) N=14 D		2,3/3,3,4,4		(4.25)				
3.00-3.45 3.00	SPT(C) N=17 D		3,3/3,4,5,5						
4.00-4.45 4.00	SPT(C) N=20 D		4,4/4,5,5,6		4.45	Complete at 4.45m			
Remarks						Scale (approx) 1:50		Logged By Dr J Crook	
						Figure No. 17-1536.WS03			

Geo-Ventures (UK) Limited Geotechnical and Environmental Services						Site Home Farm. Gresford Road, Llay, Wrexham		Number WS04	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client		Job Number 17-1536	
		Location		Dates 14/03/2017		Engineer Robert E Fry & Associates Limited		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.10	D				(0.20)	Brown clayey sandy TOPSOIL with rootlets			
0.40	D				(0.50)	Firm / stiff brown slightly sandy CLAY with occasional fine sub-rounded gravel			
					0.70	Stiff brown CLAY with occasional fine sub-rounded gravel			
1.00-1.45	SPT(C) N=17		2,3/4,4,4,5		(0.80)				
1.00	D				1.50	Brown slightly sandy SILT			
1.80	D				(0.40)				
2.00-2.45	SPT(C) N=15		2,2/2,4,4,5		1.90	Medium dense brown fine / medium SAND			
2.00	D				(1.30)				
3.00-3.45	SPT(C) N=14		3,3/3,3,4,4		3.20	Medium dense brown medium / coarse SAND with occasional fine sub-rounded gravel (wet)			
3.00	D				(1.25)				
3.50	D				4.45	Complete at 4.45m			
4.00-4.45	SPT(C) N=21		3,4/4,5,6,6						
4.00	D								
Remarks							Scale (approx)	Logged By	
							1:50	Dr J Crook	
							Figure No. 17-1536.WS04		

Geo-Ventures (UK) Limited Geotechnical and Environmental Services						Site Home Farm. Gresford Road, Llay, Wrexham		Number WS05	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client		Job Number 17-1536	
		Location		Dates 13/03/2017		Engineer Robert E Fry & Associates Limited		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.10	D				(0.20)	Brown clayey sandy TOPSOIL with rootlets			
0.40	D				0.20	Brown fine / medium SAND			
					(1.10)				
1.00-1.45	SPT(C) N=10		2,2/2,2,3,3						
1.00	D				1.30	Stiff brown slightly sandy CLAY with occasional fine sub-rounded gravel			
1.50	D								
2.00-2.45	SPT(C) N=14		3,2/3,3,4,4		(1.30)				
2.00	D				2.60	Medium dense brown medium SAND with very occasional fine / medium sub-rounded gravel			
2.50	D								
2.70	D								
3.00-3.45	SPT(C) N=17		3,3/4,4,4,5		(1.85)				
3.00	D								
4.00-4.45	SPT(C) N=19		4,4/4,4,5,6		4.45	Complete at 4.45m			
4.00	D								
Remarks								Scale (approx) 1:50	
								Logged By Dr J Crook	
								Figure No. 17-1536.WS05	

Geo-Ventures (UK) Limited Geotechnical and Environmental Services						Site Home Farm. Gresford Road, Llay, Wrexham		Number WS06	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client		Job Number 17-1536	
		Location		Dates 13/03/2017		Engineer Robert E Fry & Associates Limited		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
0.10	D				(0.20)	Brown clayey TOPSOIL with rootlets			
0.40	D				0.20	Firm / stiff grey / brown slightly sandy CLAY with occasional fine sub-rounded gravel			
1.00-1.45	SPT(C) N=15		2,2/3,4,4,4		(1.60)				
1.00	D								
					1.80	Claybound sandy fine to coarse sub-rounded GRAVEL			
2.00-2.45	SPT(C) N=21		4,4/4,5,6,6		(0.30)				
2.00	D				2.10	Stiff brown slightly sandy CLAY with occasional fine sub-rounded gravel			
2.50	D								
3.00-3.45	SPT(C) N=18		3,3/4,4,4,6		(2.35)				
3.00	D								
4.00-4.45	SPT(C) N=20		4,4/4,5,5,6		4.45	Complete at 4.45m			
4.00	D								
Remarks								Scale (approx)	Logged By
								1:50	Dr J Crook
								Figure No. 17-1536.WS06	

Geo-Ventures (UK) Limited Geotechnical and Environmental Services						Site Home Farm. Gresford Road, Llay, Wrexham		Number WS07	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client		Job Number 17-1536	
		Location		Dates 14/03/2017		Engineer Robert E Fry & Associates Limited		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.10	D				(0.40)	MADE GROUND : brown / black soil, gravel fill with occasional pieces of black shale			
					0.40				
					(0.40)	MADE GROUND : frm brown clay / sand fill			
0.60	D				(0.40)				
0.90	D				0.80				
1.00-1.45	SPT(C) N=10		2,4/3,2,2,3		(0.20)	MADE GROUND : black ash and broken brick fill with coarse sub-rounded gravel			
1.10	D				1.00				
					(0.30)	Black relic TOPSOIL			
					1.30				
						Firm grey / brown sandy CLAY with occasional fine sub-rounded gravel			
					(0.70)				
2.00-2.45	SPT(C) N=13		2,2/2,3,3,5		2.00	No recovery			
2.00	D								
					(1.00)				
3.00-3.45	SPT(C) N=11		3,3/3,3,2,3		3.00				
3.10	D				3.10	Brown clayey fine / medium SAND			
						Stiff brown sandy CLAY with occasional fine sub-rounded gravel			
3.50	D								
					(1.35)				
4.00-4.45	SPT(C) N=21		3,4/5,5,5,6						
4.00	D				4.45	Complete at 4.45m			
Remarks							Scale (approx) 1:50	Logged By Dr J Crook	
							Figure No. 17-1536.WS07		

Geo-Ventures (UK) Limited Geotechnical and Environmental Services						Site Home Farm. Gresford Road, Llay, Wrexham		Number WS08	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client Robert E Fry & Associates Limited		Job Number 17-1536	
		Location		Dates 14/03/2017				Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.10	D				(0.20)	Brown sandy TOPSOIL with rootlets			
0.40	D				(0.50)	Firm grey / brown CLAY with occasional fine sub-rounded gravel			
					0.70	Stiff brown CLAY with occasional fine sub-rounded gravel			
1.00-1.45	SPT(C) N=20		2,3/4,4,6,6		(1.10)				
1.00	D								
					1.80	Brown clayey slightly sandy SILT			
2.00-2.45	SPT(C) N=13		2,2/3,3,3,4		(0.30)	Stiff brown slightly sandy CLAY with occasional fine sub-rounded gravel			
2.00	D				2.10				
2.50	D								
3.00-3.45	SPT(C) N=23		3,3/4,6,6,7		(2.35)				
3.00	D								
4.00-4.45	SPT(C) N=25		5,5/6,6,6,7		4.45	Complete at 4.45m			
4.00	D								
Remarks							Scale (approx)	Logged By	
							1:50	Dr J Crook	
							Figure No. 17-1536.WS08		

Geo-Ventures (UK) Limited Geotechnical and Environmental Services						Site Home Farm. Gresford Road, Llay, Wrexham		Number WS09	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client		Job Number 17-1536	
		Location		Dates 14/03/2017		Engineer Robert E Fry & Associates Limited		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
0.10	D				(0.30)	Brown clayey TOPSOIL with rootlets			
0.50	D				0.30	Firm grey / brown CLAY			
1.00-1.45	SPT(C) N=16		3,3/3,4,4,5		(1.00)				
1.00	D				1.30	Firm / stiff grey / brown CLAY with occasional fine sub-rounded gravel			
1.50	D								
2.00-2.45	SPT(C) N=19		2,3/4,4,5,6						
2.00	D								
					(3.15)				
3.00-3.45	SPT(C) N=20		3,4/4,4,6,6						
3.00	D								
4.00-4.45	SPT(C) N=24		3,4/5,5,7,7						
4.00	D				4.45	Complete at 4.45m			
Remarks								Scale (approx)	Logged By
								1:50	Dr J Crook
								Figure No. 17-1536.WS09	

Geo-Ventures (UK) Limited Geotechnical and Environmental Services						Site Home Farm. Gresford Road, Llay, Wrexham		Number WS10	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client		Job Number 17-1536	
		Location		Dates 14/03/2017		Engineer Robert E Fry & Associates Limited		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
0.10	D				(0.20) 0.20	Brown clayey TOPSOIL with rootlets			
0.50	D				(1.00)	Firm / stiff grey / brown CLAY			
1.00-1.45 1.00	SPT(C) N=15 D		2,3/3,4,4,4		1.20	Stiff brown sandy CLAY with occasional fine sub-rounded gravel			
1.50	D								
2.00-2.45 2.00	SPT(C) N=16 D		3,4/4,4,4,4						
					(3.25)				
3.00-3.45 3.00	SPT(C) N=15 D		3,3/4,4,3,4						
4.00-4.45 4.00	SPT(C) N=20 D		4,4/5,4,5,6		4.45	Complete at 4.45m			
Remarks						Scale (approx) 1:50		Logged By Dr J Crook	
						Figure No. 17-1536.WS10			

Geo-Ventures (UK) Limited <i>Geotechnical and Environmental Services</i>						Site Home Farm. Gresford Road, Llay, Wrexham		Number WS11			
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client		Job Number 17-1536			
		Location		Dates 14/03/2017		Engineer Robert E Fry & Associates Limited		Sheet 1/1			
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water		
0.10	D		2,3/4,4,5,6		(0.20) 0.20	Brown sandy TOPSOIL with rootlets					
0.40	D					Brown fine SAND					
1.00-1.45	SPT(C) N=19					1.20	(1.00)	Medium dense brown silty fine SAND			
1.00	D										
1.40	D										
2.00-2.45	SPT(C) N=20				3,4/4,4,6,6	(3.25)					
2.00	D										
3.00-3.45	SPT(C) N=24										
3.00	D				3,4/4,7,7,6		4.45	Complete at 4.45m			
4.00-4.45	SPT(C) N=24										
4.00	D										
Remarks								Scale (approx) 1:50	Logged By Dr J Crook		
								Figure No. 17-1536.WS11			

Geo-Ventures (UK) Limited <i>Geotechnical and Environmental Services</i>								Standard Penetration Test Results				
Site : Home Farm. Gresford Road, Llay, Wrexham												Job Number 17-1536
Client :												Sheet
Engineer : Robert E Fry & Associates Limited												1 / 3
Borehole Number	Base of Borehole (m)	End of Seating Drive (m)	End of Test Drive (m)	Test Type	Seating Blows per 75mm		Blows for each 75mm penetration				Result	Comments
					1	2	1	2	3	4		
BH01	1.20	1.35	1.65	CPT	2	3	3	3	4	3	N=13	
BH01	2.00	2.15	2.45	CPT	2	3	4	3	4	5	N=16	
BH01	3.00	3.15	3.45	CPT	4	4	5	6	6	7	N=24	
BH01	4.00	4.15	4.45	CPT	4	5	6	6	6	7	N=25	
BH01	5.00	5.15	5.45	CPT	3	4	4	5	6	6	N=21	
BH01	6.00	6.15	6.45	CPT	4	4	5	5	5	7	N=22	
BH02	1.20	1.35	1.65	CPT	2	2	2	3	2	3	N=10	
BH02	2.00	2.15	2.45	CPT	2	2	3	3	3	4	N=13	
BH02	3.00	3.15	3.45	CPT	2	3	3	4	4	4	N=15	
BH02	4.00	4.15	4.45	CPT	4	6	6	7	7	8	N=28	
BH02	5.00	5.15	5.45	CPT	4	5	7	7	9	9	N=32	
BH03	1.20	1.35	1.65	CPT	2	2	3	2	3	3	N=11	
BH03	2.00	2.15	2.45	CPT	1	2	3	3	3	3	N=12	
BH03	3.00	3.15	3.45	CPT	2	3	4	4	3	4	N=15	
BH03	4.00	4.15	4.45	CPT	3	4	5	5	5	6	N=21	
BH03	5.00	5.15	5.45	CPT	4	5	5	6	5	7	N=23	
BH03	6.00	6.15	6.45	CPT	4	6	6	7	7	8	N=28	
BH04	1.20	1.35	1.65	CPT	2	3	3	4	4	5	N=16	Refusal
BH04	2.00	2.15	2.45	CPT	2	3	3	4	5	5	N=17	
BH04	3.00	3.07	3.07	CPT	50						50*/70mm	
BH04	4.00	4.15	4.45	CPT	3	4	3	5	5	5	N=18	
BH04	5.00	5.15	5.45	CPT	3	3	3	4	5	5	N=17	
BH04	6.00	6.15	6.45	CPT	3	4	5	6	6	6	N=23	
BH05	1.20	1.35	1.65	CPT	1	1	2	1	2	2	N=7	
BH05	2.00	2.15	2.45	CPT	2	2	2	2	2	2	N=8	
BH05	3.00	3.15	3.45	CPT	2	2	3	4	4	4	N=15	
BH05	4.00	4.15	4.45	CPT	6	5	6	6	8	9	N=29	
BH05	5.00	5.15	5.45	CPT	4	5	7	7	8	9	N=31	
BH05	6.00	6.15	6.45	CPT	4	5	6	8	7	9	N=30	
BH06	1.20	1.35	1.65	CPT	2	2	3	3	4	3	N=13	
BH06	2.00	2.15	2.45	CPT	1	2	3	3	3	3	N=12	
BH06	3.00	3.15	3.45	CPT	3	4	5	7	6	8	N=26	
BH06	4.00	4.15	4.45	CPT	3	5	5	7	7	8	N=27	
BH06	5.00	5.15	5.45	CPT	4	5	6	7	7	8	N=28	
BH06	6.00	6.15	6.45	CPT	5	6	6	6	5	6	N=23	
BH06	7.00	7.15	7.45	CPT	5	6	7	7	8	10	N=32	
BH07	1.20	1.35	1.65	CPT	3	4	4	5	6	6	N=21	
BH07	2.00	2.15	2.45	CPT	2	3	3	4	3	4	N=14	
BH07	3.00	3.15	3.45	CPT	2	2	2	3	5	5	N=15	
BH07	4.00	4.15	4.45	CPT	1	1	2	4	4	4	N=14	
BH07	5.00	5.15	5.45	CPT	2	3	3	4	6	6	N=19	

Geo-Ventures (UK) Limited <i>Geotechnical and Environmental Services</i>								Standard Penetration Test Results				
Site : Home Farm. Gresford Road, Llay, Wrexham												Job Number 17-1536
Client :												Sheet 2 / 3
Engineer : Robert E Fry & Associates Limited												
Borehole Number	Base of Borehole (m)	End of Seating Drive (m)	End of Test Drive (m)	Test Type	Seating Blows per 75mm		Blows for each 75mm penetration				Result	Comments
					1	2	1	2	3	4		
BH07	6.00	6.15	6.45	CPT	3	4	4	6	7	9	N=26	
BH07	7.00	7.15	7.45	CPT	4	5	5	7	9	9	N=30	
BH08	1.20	1.35	1.65	CPT	2	2	3	2	3	3	N=11	
BH08	2.00	2.15	2.45	CPT	2	2	3	3	4	4	N=14	
BH08	3.00	3.15	3.45	CPT	1	1	3	4	7	10	N=24	
BH08	4.00	4.15	4.45	CPT	4	6	6	6	9	11	N=32	
BH08	5.00	5.15	5.45	CPT	3	6	7	7	9	9	N=32	
BH08	6.00	6.15	6.45	CPT	4	5	7	8	8	10	N=33	
WS01	1.00	1.15	1.45	CPT	2	3	3	3	3	3	N=12	
WS01	2.00	2.15	2.45	CPT	2	3	4	5	6	8	N=23	
WS01	3.00	3.15	3.45	CPT	3	3	3	3	4	5	N=15	
WS01	4.00	4.15	4.45	CPT	3	4	4	4	5	6	N=19	
WS02	1.00	1.15	1.45	CPT	2	2	2	2	2	3	N=9	
WS02	2.00	2.15	2.45	CPT	3	3	4	4	4	4	N=16	
WS02	3.00	3.15	3.45	CPT	4	4	5	5	5	6	N=21	
WS02	4.00	4.15	4.45	CPT	4	3	5	5	6	8	N=24	
WS03	1.00	1.15	1.45	CPT	2	2	2	3	4	4	N=13	
WS03	2.00	2.15	2.45	CPT	2	3	3	3	4	4	N=14	
WS03	3.00	3.15	3.45	CPT	3	3	3	4	5	5	N=17	
WS03	4.00	4.15	4.45	CPT	4	4	4	5	5	6	N=20	
WS04	1.00	1.15	1.45	CPT	2	3	4	4	4	5	N=17	
WS04	2.00	2.15	2.45	CPT	2	2	2	4	4	5	N=15	
WS04	3.00	3.15	3.45	CPT	3	3	3	3	4	4	N=14	
WS04	4.00	4.15	4.45	CPT	3	4	4	5	6	6	N=21	
WS05	1.00	1.15	1.45	CPT	2	2	2	2	3	3	N=10	
WS05	2.00	2.15	2.45	CPT	3	2	3	3	4	4	N=14	
WS05	3.00	3.15	3.45	CPT	3	3	4	4	4	5	N=17	
WS05	4.00	4.15	4.45	CPT	4	4	4	4	5	6	N=19	
WS06	1.00	1.15	1.45	CPT	2	2	3	4	4	4	N=15	
WS06	2.00	2.15	2.45	CPT	4	4	4	5	6	6	N=21	
WS06	3.00	3.15	3.45	CPT	3	3	4	4	4	6	N=18	
WS06	4.00	4.15	4.45	CPT	4	4	4	5	5	6	N=20	
WS07	1.00	1.15	1.45	CPT	2	4	3	2	2	3	N=10	
WS07	2.00	2.15	2.45	CPT	2	2	2	3	3	5	N=13	
WS07	3.00	3.15	3.45	CPT	3	3	3	3	2	3	N=11	
WS07	4.00	4.15	4.45	CPT	3	4	5	5	5	6	N=21	
WS08	1.00	1.15	1.45	CPT	2	3	4	4	6	6	N=20	
WS08	2.00	2.15	2.45	CPT	2	2	3	3	3	4	N=13	
WS08	3.00	3.15	3.45	CPT	3	3	4	6	6	7	N=23	
WS08	4.00	4.15	4.45	CPT	5	5	6	6	6	7	N=25	

Geo-Ventures (UK) Limited <i>Geotechnical and Environmental Services</i>	Standard Penetration Test Results
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Site : Home Farm. Gresford Road, Llay, Wrexham Client : Engineer : Robert E Fry & Associates Limited	Job Number 17-1536
	Sheet 3 / 3

Sheet

3 / 3

Borehole Number	Base of Borehole (m)	End of Seating Drive (m)	End of Test Drive (m)	Test Type	Seating Blows per 75mm		Blows for each 75mm penetration				Result	Comments
					1	2	1	2	3	4		
WS09	1.00	1.15	1.45	CPT	3	3	3	4	4	5	N=16	
WS09	2.00	2.15	2.45	CPT	2	3	4	4	5	6	N=19	
WS09	3.00	3.15	3.45	CPT	3	4	4	4	6	6	N=20	
WS09	4.00	4.15	4.45	CPT	3	4	5	5	7	7	N=24	
WS10	1.00	1.15	1.45	CPT	2	3	3	4	4	4	N=15	
WS10	2.00	2.15	2.45	CPT	3	4	4	4	4	4	N=16	
WS10	3.00	3.15	3.45	CPT	3	3	4	4	3	4	N=15	
WS10	4.00	4.15	4.45	CPT	4	4	5	4	5	6	N=20	
WS11	1.00	1.15	1.45	CPT	2	3	4	4	5	6	N=19	
WS11	2.00	2.15	2.45	CPT	3	4	4	4	6	6	N=20	
WS11	3.00	3.15	3.45	CPT	3	3	6	6	6	6	N=24	
WS11	4.00	4.15	4.45	CPT	3	4	4	7	7	6	N=24	

APPENDIX N

Geo-Ventures (UK) Limited Geotechnical and Environmental Services					Site Home Farm. Gresford Road, Llay, Wrexham					Borehole Number BH01						
Installation Type Single Installation			Dimensions Internal Diameter of Tube [A] = 50 mm Diameter of Filter Zone = 150 mm			Client					Job Number 17-1536					
			Location		Ground Level (mOD)	Engineer Robert E Fry & Associates Limited					Sheet 1/1					
Legend	Water	Instr (A)	Level (mOD)	Depth (m)	Description	Groundwater Strikes During Drilling										
				0.10	Concrete	Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)	
										5 min	10 min	15 min	20 min			
				1.00	Bentonite Seal											
						Groundwater Observations During Drilling										
						Date	Start of Shift				End of Shift					
							Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)
						Instrument Groundwater Observations										
						Inst. [A] Type : Slotted Standpipe										
						Date	Instrument [A]			Remarks						
							Time	Depth (m)	Level (mOD)							

Geo-Ventures (UK) Limited Geotechnical and Environmental Services						Site Home Farm. Gresford Road, Llay, Wrexham							Borehole Number BH03																																																																																																																																																																																																	
Installation Type Single Installation			Dimensions Internal Diameter of Tube [A] = 50 mm Diameter of Filter Zone = 150 mm				Client								Job Number 17-1536																																																																																																																																																																																															
			Location			Ground Level (mOD)		Engineer Robert E Fry & Associates Limited								Sheet 1/1																																																																																																																																																																																														
<table border="1"><thead><tr><th rowspan="2">Legend</th><th rowspan="2">Water</th><th rowspan="2">Instr (A)</th><th rowspan="2">Level (mOD)</th><th rowspan="2">Depth (m)</th><th rowspan="2">Description</th><th colspan="9">Groundwater Strikes During Drilling</th></tr><tr><th>Date</th><th>Time</th><th>Depth Struck (m)</th><th>Casing Depth (m)</th><th>Inflow Rate</th><th colspan="4">Readings</th><th rowspan="2">Depth Sealed (m)</th></tr><tr><th colspan="6"></th><th>5 min</th><th>10 min</th><th>15 min</th><th>20 min</th><th colspan="5"></th></tr></thead><tbody><tr><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2">V1</td><td rowspan="2"></td><td>0.10</td><td>Concrete</td><td rowspan="2">17/03/17</td><td rowspan="2"></td><td rowspan="2">0.50</td><td rowspan="2"></td><td rowspan="2">Seepage</td><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td></tr><tr><td>0.50</td><td>Bentonite Seal</td></tr><tr><td colspan="6">Well Screen</td><td colspan="9">Groundwater Observations During Drilling</td></tr><tr><td colspan="6" rowspan="2"></td><td colspan="2" rowspan="2">Date</td><td colspan="4">Start of Shift</td><td colspan="5">End of Shift</td></tr><tr><td>Time</td><td>Depth Hole (m)</td><td>Casing Depth (m)</td><td>Water Depth (m)</td><td>Water Level (mOD)</td><td>Time</td><td>Depth Hole (m)</td><td>Casing Depth (m)</td><td>Water Depth (m)</td><td>Water Level (mOD)</td></tr><tr><td colspan="6">2.50</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="6">Bentonite Seal</td><td colspan="9">Instrument Groundwater Observations</td></tr><tr><td colspan="6">3.50</td><td colspan="9">Inst. [A] Type : Slotted Standpipe</td></tr><tr><td colspan="6" rowspan="2"></td><td colspan="2" rowspan="2">Date</td><td colspan="2">Instrument [A]</td><td colspan="5" rowspan="2">Remarks</td></tr><tr><td>Time</td><td>Depth (m)</td><td>Level (mOD)</td></tr><tr><td colspan="6">Bottom Fill</td><td></td><td></td><td></td><td></td><td colspan="5"></td></tr><tr><td colspan="6">6.45</td><td></td><td></td><td></td><td></td><td colspan="5"></td></tr></tbody></table>															Legend	Water	Instr (A)	Level (mOD)	Depth (m)	Description	Groundwater Strikes During Drilling									Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)							5 min	10 min	15 min	20 min								V1		0.10	Concrete	17/03/17		0.50		Seepage					0.50	Bentonite Seal	Well Screen						Groundwater Observations During Drilling															Date		Start of Shift				End of Shift					Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	2.50															Bentonite Seal						Instrument Groundwater Observations									3.50						Inst. [A] Type : Slotted Standpipe															Date		Instrument [A]		Remarks					Time	Depth (m)	Level (mOD)	Bottom Fill															6.45														
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[illegible]

Geo-Ventures (UK) Limited Geotechnical and Environmental Services					Site Home Farm. Gresford Road, Llay, Wrexham					Borehole Number WS01						
Installation Type Single Installation			Dimensions Internal Diameter of Tube [A] = 35 mm Diameter of Filter Zone = 70 mm			Client					Job Number 17-1536					
			Location		Ground Level (mOD)	Engineer Robert E Fry & Associates Limited					Sheet 1/1					
Legend	Water	Instr (A)	Level (mOD)	Depth (m)	Description	Groundwater Strikes During Drilling										
			0.10	Concrete	Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)		
										5 min	10 min	15 min	20 min			
					Groundwater Observations During Drilling											
					Date	Start of Shift					End of Shift					
						Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	
					Instrument Groundwater Observations											
					Inst. [A] Type : Slotted Standpipe											
Date	Instrument [A]			Remarks												
	Time	Depth (m)	Level (mOD)													

[illegible]

Geo-Ventures (UK) Limited <i>Geotechnical and Environmental Services</i>						Site Home Farm. Gresford Road, Llay, Wrexham							Borehole Number WS08				
Installation Type Single Installation			Dimensions Internal Diameter of Tube [A] = 35 mm Diameter of Filter Zone = 70 mm				Client									Job Number 17-1536	
			Location			Ground Level (mOD)		Engineer Robert E Fry & Associates Limited									Sheet 1/1
Legend		Water	Instr (A)	Level (mOD)	Depth (m)	Description	Groundwater Strikes During Drilling										
				0.10	Concrete	Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)		
						5 min	10 min	15 min	20 min								
						Bentonite Seal											
					Groundwater Observations During Drilling												
					Date	Start of Shift					End of Shift						
						Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)		
Instrument Groundwater Observations																	
Inst. [A] Type : Slotted Standpipe																	
Date	Instrument [A]			Remarks													
	Time	Depth (m)	Level (mOD)														
				4.00	Bottom Fill												
				4.45													
Remarks																	

APPENDIX O



The Coal
Authority

Resolving the **impacts** of mining

CON29M Non-Residential Mining Report

K & P CARS
CROWN INN
THE DORMOUSE GRESFORD ROAD
WREXHAM

Date of enquiry: 10 March 2017
Date enquiry received: 10 March 2017
Issue date: 10 March 2017

Our reference: 51001387659001
Your reference: 117209248_1 |



CON29M Non-Residential Mining Report

This report is based on, and limited to, the records held by the Coal Authority and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Client name

LANDMARK INFORMATION GROUP LIMITED

Enquiry address

K & P CARS, CROWN INN, THE DORMOUSE
GRESFORD ROAD, WREXHAM

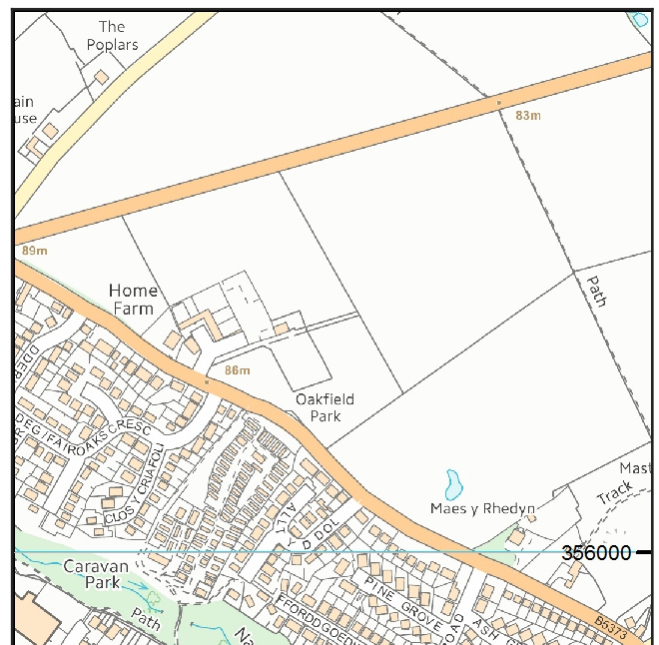
How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

 /company/the-coal-authority
 /thecoalauthority
 /coalauthority



Approximate position of property



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Summary

Has the search report highlighted evidence or potential of		
1	Past underground coal mining	Yes
2	Present underground coal mining	No
3	Future underground coal mining	Yes
4	Mine entries	No
5	Coal mining geology	No
6	Past opencast coal mining	No
7	Present opencast coal mining	No
8	Future opencast coal mining	No
9	Coal mining subsidence	No
10	Mine gas	No
11	Hazards related to coal mining	No
12	Withdrawal of support	Yes
13	Working facilities order	No
14	Payments to owners of former copyhold land	No
15	Information from the Cheshire Brine Subsidence Compensation Board	No

For detailed findings, please go to page 4.

Detailed findings

1. Past underground coal mining

The property is in a surface area that could be affected by underground mining in 5 seams of coal at 660m to 1000m depth, and last worked in 1966.

Any movement in the ground due to coal mining activity should have stopped.

2. Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3. Future underground coal mining

The property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

4. Mine entries

There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

5. Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6. Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7. Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8. Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9. Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

10. Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11. Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

12. Withdrawal of support

The property is in an area where a notice to withdraw support was given in 1944.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

13. Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14. Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

15. Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

Additional remarks

Information provided by the Coal Authority in this report is compiled in response to the Law Society's Con29M Coal Mining and Brine Subsidence Claim enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL. Please note that Brine Subsidence Claim enquiries are only relevant for England and Wales. This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority and Cheshire Brine Board's Terms and Conditions applicable at the time the report was produced.

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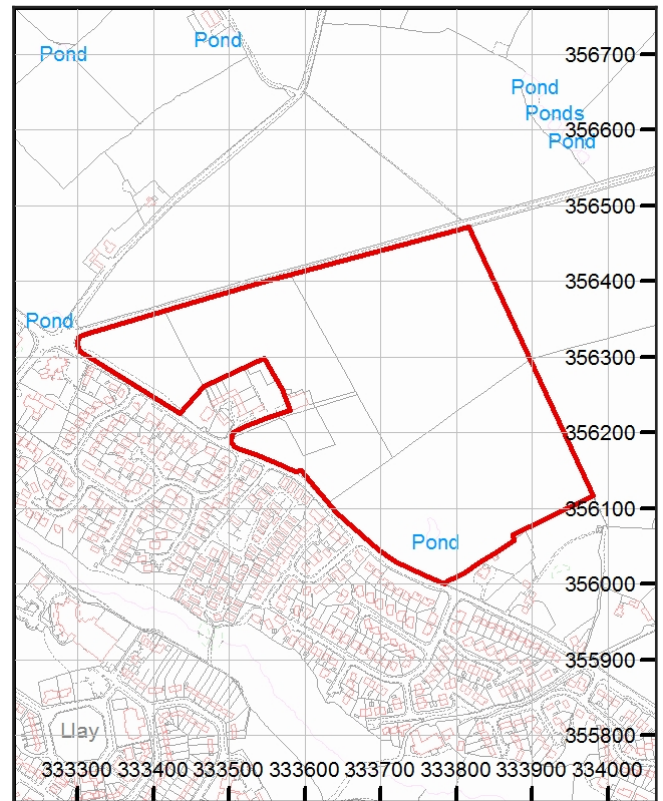
Alternative formats

If you would like this report in an alternative format, please contact our communications team.

Enquiry boundary

Key

Approximate position of enquiry boundary shown



How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

 /company/the-coal-authority

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 /coalauthority



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APPENDIX P

Mark Davies

From: Stephenson, John (APHA) <John.Stephenson@apha.gsi.gov.uk>
Sent: 28 February 2017 15:45
To: Mark Davies
Subject: RE: Gresford Rd, Llay
Attachments: Code of Practice.doc

Hi Mark,

I've checked our records of burials due to outbreaks and can find no details. What I imagine the farmer is referring to, is on-farm burials which used to be common place prior to 2001. Farmers were allowed to bury fallen stock on their land provided no reportable disease was suspected.

Unfortunately, our department would not be informed of these burial locations as they posed no danger to human or animals, allegedly.

I have attached our Code of Practice which has a 24 hour contact number in the event you uncover any remains during your development.

Sorry I could not be more helpful in this instance.

Cheers,
John

John Stephenson
Animal Health Officer

Animal and Plant Health Agency (APHA)

Telephone: 0191 2153009 | Mobile: 07768 462082 | Email: john.stephenson@apha.gsi.gov.uk
Website: www.gov.uk/apha | Twitter: [@APHAgovuk](https://twitter.com/APHAgovuk) | Facebook: [aphagov](https://www.facebook.com/aphagov)

Address: APHA, Whitley Road, Longbenton, Newcastle upon Tyne, NE12 9SE

From: Mark Davies [<mailto:md@refa.co.uk>]
Sent: 28 February 2017 15:24
To: Stephenson, John (APHA)
Subject: Gresford Rd, Llay

Hi John,

We have been asked to look at the above site and we have been informed by our client that the farmer has previously buried some cattle and sheep within his land and I was wondering if you have any records of this? As far as I am aware this did not relate to any outbreaks such as foot and mouth but this is purely word of mouth from the farmer. The centre of the site is located at SJ 33720 56262. I have also attached a site location plan.

Regards

Mark Davies BSc (Hons)
Geo-Environmental Engineer
Tel: 01942 826020 Mobile: 07452 824058
md@refa.co.uk

Robert E Fry & Associates Ltd (REFA)
45 Bridgeman Terrace, Wigan, WN1 1TT
Tel: 01942 826020
www.refa.co.uk



Animal and Plant Health Agency (APHA)

This email and any attachments is intended for the named recipient only.

If you have received it in error you have no authority to use, disclose, store or copy any of its contents and you should destroy it and inform the sender.

Whilst this email and associated attachments will have been checked for known viruses whilst within APHA systems we can accept no responsibility once it has left our systems.

Communications on APHA computer systems may be monitored and/or recorded to secure the effective operation of the system and for other lawful purposes.

APPENDIX Q

Precautions to Prevent the Spread of Animal & Poultry Disease

Code of Practice for Civil Engineers, Surveyors & Contractors

There are a number of animal and poultry diseases, which are highly infectious either to other animals or to man. Usually these can be transmitted only by contact with infected livestock, but they can also be carried on boots or clothing. The only way of preventing the spread of these diseases is first to avoid contact with farm animals (including poultry), and second to ensure that the farmers own precautions are carefully observed.

The following precautions will minimise the risk of spreading disease:

1. Always consult the farmer before entry onto his land. This will give him the opportunity to remove livestock temporarily from the fields concerned or to draw attention to special precautions, which need to be taken on his farm.
2. Avoid all contact with animals and keep strictly to the route or area agreed with the farmer.
3. The work site and access roads should be secured by a stock proof fence to ensure that livestock cannot escape from their premises. This is important where work such as the construction of roads or the laying of pipelines are carried out over or adjacent to land on which livestock are or may be kept.
4. If it is necessary to go onto land which is or has been occupied by livestock, either wear suitable robust footwear which is capable of being cleansed and disinfected* before entry and on leaving or over-boots which can be cleansed and disinfected. This need not apply where such land is traversed only within a working area totally enclosed by the contractor.
5. Buildings occupied or used by livestock should not be entered without the express permission of the farmer. When such entry is necessary, wear robust footwear which is capable of being cleansed and disinfected before entry and on leaving, or over-boots which can be cleansed and disinfected and protective over-garments which should be cleansed and disinfected before entry and on leaving.
6. Close all gates and avoid damage to fences, hedges and walls in order to prevent livestock from straying.
7. Do not leave polythene bags, paint tins or other litter where animals can get to them. This applies particularly to discarded food such as meat sandwiches or pies which may carry infectious agents harmful to animals.
8. Contractors are reminded that paragraphs 1-7 of this code in no way supersede the appropriate clauses as detailed in the current British Standards Institution's Code of Practice (CP 2010 Part 1 Installation of Pipelines Inland).

If there is any doubt about the precautions, which should be taken in particular circumstances, contact the Duty Vet (details below). In the case of major works they

* Boots and other articles cannot be properly disinfected if they are caked with dirt; they must be cleaned first. The only disinfectants to be used should be those which carry a citation on the label stating that they have been approved by DEFRA. They must be used at the correct dilution, kept clean and regularly replenished.

should in any event be consulted to ascertain whether any particular disease restrictions apply to the area.

In addition to these general precautions there are some occasions when special care will be needed:

Foot & Mouth Disease

If an outbreak of this very highly infectious disease occurs there will be widespread publicity in the area concerned. Civil engineers, surveyors and contractors who are engaged on work which may take them on to farm land in the Infected Area should immediately contact the Duty Vet for advice.

Newcastle Disease (Fowl Pest), Swine Fever or Swine Vesicular Disease

Premises on which these diseases are present will carry a notice on the farm gate. Before entering the farm, advice should be sought from the Duty Vet.

Carcase Burial Pits

Animals, which have been slaughtered during outbreaks of certain disease, are often buried in pits. It is illegal to dig up such carcasses. Where there is prior knowledge that burial pits may exist in an area the Duty Vet may be able to help in locating them. If in the course of civil engineering operations such a pit is encountered work should be stopped and the Duty Vet informed immediately.

The advice given in this Code is without prejudice to any special requirements, contractual or otherwise, of the farmer or his agent.

Duty Vet Contact details;

Tel: 03000 200 301(Option 1)
Animal & Plant Health Agency
Whitley Road
Longbenton
Newcastle upon Tyne
NE12 9SE

APPENDIX R



Test Certificate

Client: Robert E Fry & Associates Ltd
45 Bridgeman Terrace, Wigan, Lancashire, WN1 1TT

Site: Gresford Road, Llay

Date Tested: 17/03/17

Date Reported: 27 March, 2017

Date Received: 17 March, 2017

Sample Type: Solid

Certificate No: 17/1423/RG/S/C1

File No: 17/1423/RG/S

Client Ref: 17040

Lab sample ref:	C265710	C265711	C265712	C265713	C265714
Client sample ref:	TP01 0.1m	TP02 0.2m	TP03 0.2m	TP06 0.2m	TP07 0.3m
Date sampled:	13/03/17	13/03/17	13/03/17	13/03/17	13/03/17
Sample matrix (see notes):	S	S	S	S	S

Determinand	Method	Units	ISO17025	MCERTS	LOD					
Deviation Assessment										
Deviation(s)	C. Review	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pH	AN5a	Units	Y	Y	0.1	6.44	6.40	5.86	6.56	6.62
Sulphate (water soluble)	CTP 29	g/l	Y	Y	0.01	0.04	0.01	0.02	0.02	<0.01
Sulphide _{SM}	AN45b	mg/kg	N	N	2	8	7	<2	2	8
Cyanide (total) _{SM}	AN45a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Phenols (screen) _{SM}	AN45a	mg/kg	Y	Y	1	1	<1	3	2	<1
Arsenic	AN8b	mg/kg	Y	Y	2	6	7	6	7	6
Cadmium	AN8a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Chromium (total)	AN8b	mg/kg	Y	Y	2	25	26	26	25	19
Copper	AN8b	mg/kg	Y	Y	2	28	24	36	31	25
Lead	AN8b	mg/kg	Y	Y	2	31	30	39	30	29
Mercury	AN8a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Nickel	AN8b	mg/kg	Y	Y	2	11	12	12	13	10
Selenium	AN8a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Zinc	AN8b	mg/kg	Y	Y	2	97	79	86	96	82
EMR	EMR	%	N	N/A	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% Stones	Stones	% w/w	N	N/A	0.1	<0.1	17.2	<0.1	4.5	<0.1
Moisture Content @ <30°C	AN1	% w/w	Y	N/A	0.1	24.2	18.7	24.6	19.3	16.8
Moisture Content @ 105°	AN1	% w/w	Y	N/A	0.1	24.8	21.6	25.5	22.8	20.6
Sample Description	MCERTS ver4.		N	N/A		2	2A	2	2A	2
Misc										
TOC _S	AN48c	%	N	N	0.1	3.78	2.23	5.68	2.83	2.76
PAH (USEPA16)										
Naphthalene (PAH) _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene _M	GCM501a	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benz(a)anthracene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene _M	GCM501a	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenz(a,h)anthracene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PAH (USEPA16) Total _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1



Test Certificate

Client: Robert E Fry & Associates Ltd
45 Bridgeman Terrace, Wigan, Lancashire, WN1 1TT
Site: Gresford Road, Llay

Date Tested: 17/03/17
Date Reported: 27 March, 2017
Date Received: 17 March, 2017
Sample Type: Solid

Certificate No: 17/1423/RG/S/C1
File No: 17/1423/RG/S
Client Ref: 17040

Lab sample ref:	C265715	C265716	C265717	C265718	C265719
Client sample ref:	TP11 0.1m	TP15 0.1m	TP17 0.3m	TP18 0.1m	TP19 0.2m
Date sampled:	14/03/17	14/03/17	14/03/17	14/03/17	14/03/17
Sample matrix (see notes):	S	S	S	S	S

Determinand	Method	Units	ISO17025	MCERTS	LOD					
Deviation Assessment										
Deviation(s)	C. Review	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pH	AN5a	Units	Y	Y	0.1	6.28	6.75	7.22	6.65	6.20
Sulphate (water soluble)	CTP 29	g/l	Y	Y	0.01	0.01	0.02	0.03	0.02	0.03
Sulphide _{SM}	AN45b	mg/kg	N	N	2	8	<2	4	<2	5
Cyanide (total) _{SM}	AN45a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Phenols (screen) _{SM}	AN45a	mg/kg	Y	Y	1	2	3	<1	3	1
Arsenic	AN8b	mg/kg	Y	Y	2	9	8	<2	5	5
Cadmium	AN8a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Chromium (total)	AN8b	mg/kg	Y	Y	2	29	16	9	17	15
Copper	AN8b	mg/kg	Y	Y	2	23	25	38	39	26
Lead	AN8b	mg/kg	Y	Y	2	33	44	118	43	34
Mercury	AN8a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Nickel	AN8b	mg/kg	Y	Y	2	13	10	17	12	10
Selenium	AN8a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Zinc	AN8b	mg/kg	Y	Y	2	87	99	92	144	93
EMR	EMR	%	N	N/A	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% Stones	Stones	% w/w	N	N/A	0.1	9.5	3.6	16.3	<0.1	<0.1
Moisture Content @ <30 °C	AN1	% w/w	Y	N/A	0.1	19.2	24.3	14.9	31.3	26.2
Moisture Content @ 105 °	AN1	% w/w	Y	N/A	0.1	23.0	25.7	19.7	32.0	27.0
Sample Description	MCERTS ver4.		N	N/A		2A	2A	7A	2	2
Misc										
TOC _S	AN48c	%	N	N	0.1	2.43	4.05	5.27	5.64	4.53
Asbestos	ASB001	Qualitative	Y	N/A		-	-	NAD	-	-
PAH (USEPA16)										
Naphthalene (PAH) _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene _M	GCM501a	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene _M	GCM501	mg/kg	Y	Y	0.1	0.1	0.1	<0.1	0.3	0.1
Pyrene _M	GCM501	mg/kg	Y	Y	0.1	0.1	0.1	<0.1	0.3	<0.1
Benz(a)anthracene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Chrysene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Benzo(b)fluoranthene _M	GCM501	mg/kg	Y	Y	0.1	0.1	0.1	<0.1	0.3	<0.1
Benzo(k)fluoranthene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Indeno(1,2,3-cd)pyrene _M	GCM501a	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenz(a,h)anthracene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	0.1	<0.1
PAH (USEPA16) Total _M	GCM501	mg/kg	Y	Y	0.1	0.5	0.5	<0.1	1.6	0.1



Test Certificate

Client: Robert E Fry & Associates Ltd
45 Bridgeman Terrace, Wigan, Lancashire, WN1 1TT
Site: Gresford Road, Llay

Date Tested: 17/03/17
Date Reported: 27 March, 2017
Date Received: 17 March, 2017
Sample Type: Solid

Certificate No: 17/1423/RG/S/C1
File No: 17/1423/RG/S
Client Ref: 17040

Lab sample ref:	C265715	C265716	C265717	C265718	C265719
Client sample ref:	TP11 0.1m	TP15 0.1m	TP17 0.3m	TP18 0.1m	TP19 0.2m
Date sampled:	14/03/17	14/03/17	14/03/17	14/03/17	14/03/17
Sample matrix (see notes):	S	S	S	S	S

Determinand	Method	Units	ISO17025	MCERTS	LOD					
TPH Banded(Ali/Aro) 1										
EC>5-6 Aliphatic _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
EC>6-8 Aliphatic _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
EC>8-10 Aliphatic _M	SOP05a	µg/kg	Y	N	1000	-	-	<1000	-	-
EC>10-12 Aliphatic _M	SOP05a	µg/kg	Y	N	1000	-	-	<1000	-	-
EC>12-16 Aliphatic _M	SOP05a	µg/kg	Y	N	1000	-	-	<1000	-	-
EC>16-35 Aliphatic _M	SOP05a	µg/kg	Y	N	1000	-	-	9047	-	-
EC>35-44 Aliphatic _M	SOP05a	µg/kg	Y	N	1000	-	-	<1000	-	-
Total Aliphatics (1) _M	SOP05a	µg/kg	Y	N	1000	-	-	9047	-	-
EC>5-7 Aromatic _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
EC>7-8 Aromatic _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
EC>8-10 Aromatic _M	SOP05a	µg/kg	Y	N	1000	-	-	<1000	-	-
EC>10-12 Aromatic _M	SOP05a	µg/kg	Y	N	1000	-	-	<1000	-	-
EC>12-16 Aromatic _M	SOP05a	µg/kg	Y	N	1000	-	-	<1000	-	-
EC>16-21 Aromatic _M	SOP05a	µg/kg	Y	N	1000	-	-	1645	-	-
EC>21-35 Aromatic _M	SOP05a	µg/kg	Y	N	1000	-	-	5074	-	-
EC>35-44 Aromatic _M	SOP05a	µg/kg	Y	N	1000	-	-	<1000	-	-
Total Aromatics (1) _M	SOP05a	µg/kg	Y	N	1000	-	-	6719	-	-
Methyl t-butyl ether _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
Benzene (VPH) _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
Toluene (VPH) _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
Ethylbenzene (VPH) _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
m&p-Xylene (VPH) _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
o-Xylene (VPH) _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
Total VPH _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
TPH _M	SOP05a	µg/kg	Y	N	1000	-	-	15766	-	-



Test Certificate

Client: Robert E Fry & Associates Ltd
45 Bridgeman Terrace, Wigan, Lancashire, WN1 1TT
Site: Gresford Road, Llay

Date Tested: 17/03/17
Date Reported: 27 March, 2017
Date Received: 17 March, 2017
Sample Type: Solid

Certificate No: 17/1423/RG/S/C1
File No: 17/1423/RG/S
Client Ref: 17040

Lab sample ref:	C265720	C265721	C265722	C265723	C265724
Client sample ref:	TP20 0.1m	TP22 0.1m	TP26 0.1m	TP29 0.1m	TP30 0.2m
Date sampled:	14/03/17	14/03/17	14/03/17	15/03/17	15/03/17
Sample matrix (see notes):	S	S	S	S	S

Determinand	Method	Units	ISO17025	MCERTS	LOD					
Deviation Assessment										
Deviation(s)	C. Review	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pH	AN5a	Units	Y	Y	0.1	6.32	6.64	6.39	6.60	6.66
Sulphate (water soluble)	CTP 29	g/l	Y	Y	0.01	0.01	<0.1	0.03	0.05	0.01
Sulphide _{SM}	AN45b	mg/kg	N	N	2	9	<2	10	14	3
Cyanide (total) _{SM}	AN45a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Phenols (screen) _{SM}	AN45a	mg/kg	Y	Y	1	<1	<1	1	<1	<1
Arsenic	AN8b	mg/kg	Y	Y	2	7	5	6	9	8
Cadmium	AN8a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Chromium (total)	AN8b	mg/kg	Y	Y	2	20	16	18	21	19
Copper	AN8b	mg/kg	Y	Y	2	11	25	24	20	20
Lead	AN8b	mg/kg	Y	Y	2	33	28	31	34	30
Mercury	AN8a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Nickel	AN8b	mg/kg	Y	Y	2	12	9	11	13	13
Selenium	AN8a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Zinc	AN8b	mg/kg	Y	Y	2	44	101	93	79	73
EMR	EMR	%	N	N/A	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% Stones	Stones	% w/w	N	N/A	0.1	2.2	<0.1	2.2	4.7	8.2
Moisture Content @ <30°C	AN1	% w/w	Y	N/A	0.1	15.0	25.5	23.3	19.6	19.8
Moisture Content @ 105°	AN1	% w/w	Y	N/A	0.1	20.1	26.2	25.4	22.7	22.9
Sample Description	MCERTS ver4.		N	N/A		2A	2	2A	2A	2A
Misc										
TOC _S	AN48c	%	N	N	0.1	1.40	4.67	3.93	3.05	2.66
PAH (USEPA16)										
Naphthalene (PAH) _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene _M	GCM501a	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Pyrene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Benz(a)anthracene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene _M	GCM501a	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenz(a,h)anthracene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PAH (USEPA16) Total _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	0.3	<0.1	<0.1



Test Certificate

Client: Robert E Fry & Associates Ltd
45 Bridgeman Terrace, Wigan, Lancashire, WN1 1TT
Site: Gresford Road, Llay

Date Tested: 17/03/17
Date Reported: 27 March, 2017
Date Received: 17 March, 2017
Sample Type: Solid

Certificate No: 17/1423/RG/S/C1
File No: 17/1423/RG/S
Client Ref: 17040

Lab sample ref:	C265725	C265726	C265727	C265728	C265729
Client sample ref:	TP34 0.4m	TP35 0.5m	TP36 0.1m	TP37 0.3m	TP39 0.4m
Date sampled:	15/03/17	15/03/17	15/03/17	15/03/17	15/03/17
Sample matrix (see notes):	S	S	S	S	S

Determinand	Method	Units	ISO17025	MCERTS	LOD					
Deviation Assessment										
Deviation(s)	C. Review	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pH	AN5a	Units	Y	Y	0.1	7.16	7.49	6.69	6.37	6.16
Sulphate (water soluble)	CTP 29	g/l	Y	Y	0.01	0.02	0.03	0.02	0.01	<0.01
Sulphide _{SM}	AN45b	mg/kg	N	N	2	<2	2	12	<2	4
Cyanide (total) _{SM}	AN45a	mg/kg	Y	Y	1	2	<1	<1	<1	<1
Phenols (screen) _{SM}	AN45a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Arsenic	AN8b	mg/kg	Y	Y	2	8	6	5	9	7
Cadmium	AN8a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Chromium (total)	AN8b	mg/kg	Y	Y	2	17	19	20	28	21
Copper	AN8b	mg/kg	Y	Y	2	27	17	19	26	22
Lead	AN8b	mg/kg	Y	Y	2	36	30	28	33	37
Mercury	AN8a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Nickel	AN8b	mg/kg	Y	Y	2	13	14	15	13	14
Selenium	AN8a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Zinc	AN8b	mg/kg	Y	Y	2	79	63	43	94	66
EMR	EMR	%	N	N/A	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% Stones	Stones	% w/w	N	N/A	0.1	10.2	1.0	<0.1	4.3	6.3
Moisture Content @ <30 °C	AN1	% w/w	Y	N/A	0.1	15.1	19.2	21.8	19.7	25.5
Moisture Content @ 105 °	AN1	% w/w	Y	N/A	0.1	19.9	22.8	23.8	23.0	27.5
Sample Description	MCERTS ver4.		N	N/A		2A	6A	2	2A	2A
Misc										
TOC _S	AN48c	%	N	N	0.1	2.02	1.63	3.64	2.43	4.64
Asbestos	ASB001	Qualitative	Y	N/A		-	NAD	-	-	-
PAH (USEPA16)										
Naphthalene (PAH) _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene _M	GCM501a	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene _M	GCM501	mg/kg	Y	Y	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Anthracene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene _M	GCM501	mg/kg	Y	Y	0.1	0.9	<0.1	<0.1	<0.1	<0.1
Pyrene _M	GCM501	mg/kg	Y	Y	0.1	0.9	<0.1	<0.1	<0.1	<0.1
Benz(a)anthracene _M	GCM501	mg/kg	Y	Y	0.1	0.6	<0.1	<0.1	<0.1	<0.1
Chrysene _M	GCM501	mg/kg	Y	Y	0.1	0.9	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene _M	GCM501	mg/kg	Y	Y	0.1	1.2	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene _M	GCM501	mg/kg	Y	Y	0.1	0.4	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene _M	GCM501	mg/kg	Y	Y	0.1	0.8	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene _M	GCM501a	mg/kg	Y	Y	0.1	0.5	<0.1	<0.1	<0.1	<0.1
Dibenz(a,h)anthracene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene _M	GCM501	mg/kg	Y	Y	0.1	0.5	<0.1	<0.1	<0.1	<0.1
PAH (USEPA16) Total _M	GCM501	mg/kg	Y	Y	0.1	6.9	<0.1	<0.1	<0.1	<0.1



Test Certificate

Client: Robert E Fry & Associates Ltd
45 Bridgeman Terrace, Wigan, Lancashire, WN1 1TT
Site: Gresford Road, Llay

Date Tested: 17/03/17
Date Reported: 27 March, 2017
Date Received: 17 March, 2017
Sample Type: Solid

Certificate No: 17/1423/RG/S/C1
File No: 17/1423/RG/S
Client Ref: 17040

Lab sample ref:	C265725	C265726	C265727	C265728	C265729
Client sample ref:	TP34 0.4m	TP35 0.5m	TP36 0.1m	TP37 0.3m	TP39 0.4m
Date sampled:	15/03/17	15/03/17	15/03/17	15/03/17	15/03/17
Sample matrix (see notes):	S	S	S	S	S

Determinand	Method	Units	ISO17025	MCERTS	LOD					
TPH Banded(Alk/Aro) 1										
EC>5-6 Aliphatic _M	SOP05	µg/kg	N	N	10	-	<10	-	-	-
EC>6-8 Aliphatic _M	SOP05	µg/kg	N	N	10	-	<10	-	-	-
EC>8-10 Aliphatic _M	SOP05a	µg/kg	Y	N	1000	-	<1000	-	-	-
EC>10-12 Aliphatic _M	SOP05a	µg/kg	Y	N	1000	-	<1000	-	-	-
EC>12-16 Aliphatic _M	SOP05a	µg/kg	Y	N	1000	-	<1000	-	-	-
EC>16-35 Aliphatic _M	SOP05a	µg/kg	Y	N	1000	-	5611	-	-	-
EC>35-44 Aliphatic _M	SOP05a	µg/kg	Y	N	1000	-	<1000	-	-	-
Total Aliphatics (1) _M	SOP05a	µg/kg	Y	N	1000	-	5611	-	-	-
EC>5-7 Aromatic _M	SOP05	µg/kg	N	N	10	-	<10	-	-	-
EC>7-8 Aromatic _M	SOP05	µg/kg	N	N	10	-	<10	-	-	-
EC>8-10 Aromatic _M	SOP05a	µg/kg	Y	N	1000	-	<1000	-	-	-
EC>10-12 Aromatic _M	SOP05a	µg/kg	Y	N	1000	-	<1000	-	-	-
EC>12-16 Aromatic _M	SOP05a	µg/kg	Y	N	1000	-	<1000	-	-	-
EC>16-21 Aromatic _M	SOP05a	µg/kg	Y	N	1000	-	<1000	-	-	-
EC>21-35 Aromatic _M	SOP05a	µg/kg	Y	N	1000	-	4145	-	-	-
EC>35-44 Aromatic _M	SOP05a	µg/kg	Y	N	1000	-	<1000	-	-	-
Total Aromatics (1) _M	SOP05a	µg/kg	Y	N	1000	-	4145	-	-	-
Methyl t-butyl ether _M	SOP05	µg/kg	N	N	10	-	<10	-	-	-
Benzene (VPH) _M	SOP05	µg/kg	N	N	10	-	<10	-	-	-
Toluene (VPH) _M	SOP05	µg/kg	N	N	10	-	<10	-	-	-
Ethylbenzene (VPH) _M	SOP05	µg/kg	N	N	10	-	<10	-	-	-
m&p-Xylene (VPH) _M	SOP05	µg/kg	N	N	10	-	<10	-	-	-
o-Xylene (VPH) _M	SOP05	µg/kg	N	N	10	-	<10	-	-	-
Total VPH _M	SOP05	µg/kg	N	N	10	-	<10	-	-	-
TPH _M	SOP05a	µg/kg	Y	N	1000	-	9756	-	-	-



Test Certificate

Client: Robert E Fry & Associates Ltd
45 Bridgeman Terrace, Wigan, Lancashire, WN1 1TT
Site: Gresford Road, Llay

Date Tested: 17/03/17
Date Reported: 27 March, 2017
Date Received: 17 March, 2017
Sample Type: Solid

Certificate No: 17/1423/RG/S/C1
File No: 17/1423/RG/S
Client Ref: 17040

Lab sample ref:	C265730	C265731	C265732	C265733	C265734
Client sample ref:	TP40 0.1m	TP42 0.3m	TP44 0.4m	TP45 0.4m	TP46 0.2m
Date sampled:	15/03/17	15/03/17	15/03/17	15/03/17	15/03/17
Sample matrix (see notes):	S	S	S	S	S

Determinand	Method	Units	ISO17025	MCERTS	LOD
-------------	--------	-------	----------	--------	-----

Deviation Assessment

Deviation(s)	C. Review	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
--------------	-----------	-----	-----	-----	-----	-----	-----	-----	-----	-----

pH	AN5a	Units	Y	Y	0.1	6.47	6.47	7.04	7.44	7.03
Sulphate (water soluble)	CTP 29	g/l	Y	Y	0.01	0.02	0.02	0.07	0.06	0.06
Sulphide _{SM}	AN45b	mg/kg	N	N	2	7	5	7	<2	6
Cyanide (total) _{SM}	AN45a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Phenols (screen) _{SM}	AN45a	mg/kg	Y	Y	1	3	<1	<1	<1	<1
Arsenic	AN8b	mg/kg	Y	Y	2	5	7	43	23	28
Cadmium	AN8a	mg/kg	Y	Y	1	<1	<1	2	1	1
Chromium (total)	AN8b	mg/kg	Y	Y	2	20	20	25	21	23
Copper	AN8b	mg/kg	Y	Y	2	37	15	200	106	112
Lead	AN8b	mg/kg	Y	Y	2	35	36	106	141	233
Mercury	AN8a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Nickel	AN8b	mg/kg	Y	Y	2	12	9	47	41	38
Selenium	AN8a	mg/kg	Y	Y	1	<1	<1	<1	<1	<1
Zinc	AN8b	mg/kg	Y	Y	2	124	42	401	490	303
EMR	EMR	%	N	N/A	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% Stones	Stones	% w/w	N	N/A	0.1	2.8	3.6	11.0	25.3	17.9
Moisture Content @ <30 °C	AN1	% w/w	Y	N/A	0.1	32.1	19.2	33.6	18.0	23.5
Moisture Content @ 105 °	AN1	% w/w	Y	N/A	0.1	32.1	22.2	33.8	23.6	26.0
Sample Description	MCERTS ver4.		N	N/A		2A	2A	2A	2A	2A

Misc

TOC _S	AN48c	%	N	N	0.1	6.47	2.28	4.60	2.59	4.31
Asbestos	ASB001	Qualitative	Y	N/A		-	-	NAD	NAD	NAD

PAH (USEPA16)

Naphthalene (PAH) _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene _M	GCM501a	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	0.2	0.4	0.3
Anthracene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene _M	GCM501	mg/kg	Y	Y	0.1	0.3	<0.1	0.5	0.9	0.8
Pyrene _M	GCM501	mg/kg	Y	Y	0.1	0.1	<0.1	0.5	0.7	0.8
Benz(a)anthracene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	0.3	0.5	0.5
Chrysene _M	GCM501	mg/kg	Y	Y	0.1	0.3	<0.1	0.5	0.9	0.8
Benzo(b)fluoranthene _M	GCM501	mg/kg	Y	Y	0.1	0.3	<0.1	0.5	1.1	0.8
Benzo(k)fluoranthene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	0.3	0.5	0.4
Benzo(a)pyrene _M	GCM501	mg/kg	Y	Y	0.1	0.1	<0.1	0.3	0.7	0.7
Indeno(1,2,3-cd)pyrene _M	GCM501a	mg/kg	Y	Y	0.1	<0.1	<0.1	0.2	0.5	0.4
Dibenz(a,h)anthracene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	<0.1	0.2	<0.1
Benzo(ghi)perylene _M	GCM501	mg/kg	Y	Y	0.1	<0.1	<0.1	0.3	0.6	0.4
PAH (USEPA16) Total _M	GCM501	mg/kg	Y	Y	0.1	1.0	<0.1	3.3	7.0	5.8



Test Certificate

Client: Robert E Fry & Associates Ltd
45 Bridgeman Terrace, Wigan, Lancashire, WN1 1TT
Site: Gresford Road, Llay

Date Tested: 17/03/17
Date Reported: 27 March, 2017
Date Received: 17 March, 2017
Sample Type: Solid

Certificate No: 17/1423/RG/S/C1
File No: 17/1423/RG/S
Client Ref: 17040

Lab sample ref:	C265730	C265731	C265732	C265733	C265734
Client sample ref:	TP40 0.1m	TP42 0.3m	TP44 0.4m	TP45 0.4m	TP46 0.2m
Date sampled:	15/03/17	15/03/17	15/03/17	15/03/17	15/03/17
Sample matrix (see notes):	S	S	S	S	S

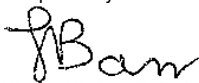
Determinand	Method	Units	ISO17025	MCERTS	LOD					
TPH Banded(Alk/Aro) 1										
EC>5-6 Aliphatic _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
EC>6-8 Aliphatic _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
EC>8-10 Aliphatic _M	SOP05a	µg/kg	Y	N	1000	-	-	<1000	-	-
EC>10-12 Aliphatic _M	SOP05a	µg/kg	Y	N	1000	-	-	<1000	-	-
EC>12-16 Aliphatic _M	SOP05a	µg/kg	Y	N	1000	-	-	<1000	-	-
EC>16-35 Aliphatic _M	SOP05a	µg/kg	Y	N	1000	-	-	2202	-	-
EC>35-44 Aliphatic _M	SOP05a	µg/kg	Y	N	1000	-	-	<1000	-	-
Total Aliphatics (1) _M	SOP05a	µg/kg	Y	N	1000	-	-	2202	-	-
EC>5-7 Aromatic _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
EC>7-8 Aromatic _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
EC>8-10 Aromatic _M	SOP05a	µg/kg	Y	N	1000	-	-	<1000	-	-
EC>10-12 Aromatic _M	SOP05a	µg/kg	Y	N	1000	-	-	<1000	-	-
EC>12-16 Aromatic _M	SOP05a	µg/kg	Y	N	1000	-	-	<1000	-	-
EC>16-21 Aromatic _M	SOP05a	µg/kg	Y	N	1000	-	-	<1000	-	-
EC>21-35 Aromatic _M	SOP05a	µg/kg	Y	N	1000	-	-	2081	-	-
EC>35-44 Aromatic _M	SOP05a	µg/kg	Y	N	1000	-	-	<1000	-	-
Total Aromatics (1) _M	SOP05a	µg/kg	Y	N	1000	-	-	2081	-	-
Methyl t-butyl ether _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
Benzene (VPH) _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
Toluene (VPH) _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
Ethylbenzene (VPH) _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
m&p-Xylene (VPH) _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
o-Xylene (VPH) _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
Total VPH _M	SOP05	µg/kg	N	N	10	-	-	<10	-	-
TPH _M	SOP05a	µg/kg	Y	N	1000	-	-	4283	-	-

Notes

1. All analyses performed on the sample dried at <30°C, except analyses suffixed with 'M'.
2. Analyses suffixed 'M' were performed on the sample as received and corrected for '% moisture at <30°C' where applicable.
3. All results are expressed as dry weight.
4. Sample Matrix key: S - Soil OS - Other Solid MCERTS accreditation applicable to Sample Matrix 'S' only.
5. Natural stones (pebbles, gravels etc.) which do not pass a 4mm sieve are excluded from dried analyses (for chemical testing only).
6. Tests marked * indicate subcontracted analyses.
7. The laboratory has tested the material/items supplied by the client as sampled in accordance with the client's own requirements.
8. ^Sample Description key: 1. - Sand, 2. Loam, 3. Clay, 4. Sand/loam mix, 5. Sand/clay mix, 6. Clay/loam mix, 7. Other.
suffixed with: A - Stones, B - Construction rubble, C - Visible Hydrocarbons, D - Vegetation, E - Glass/metal, F - Strong odour, G - Other.
9. Leachate preparation is not included in our UKAS accreditation.
10. Dates of testing for all parameters are available upon request.
11. EMR denotes Extraneous material.
12. Sampling location details and sample information were supplied with the sample.
13. Bulk Analysis carried out in accordance with DIHM ASB/01 which is based on Health & Safety Executive procedure
Appendix 2: Asbestos in Bulk Materials: Sampling and identification by polarised light microscopy (PLM) set out in HSG248.
14. Asbestos material identification is based on visual examination only. Comments are not covered by UKAS accreditation.
15. NAD denotes - 'No Asbestos Detected'.
16. Any additional letter or number suffix included after the method reference is for internal use only.
17. Please note that results relate only to the items tested and that this test report should not be reproduced except with full permission of the laboratory.
18. LOD denotes Limit of Detection (also our reporting limit)

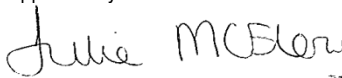
Signed for, and on behalf of Exova (UK) Ltd.

Prepared by:



F Barr
Administrator

Approved by:



J McElery
Operations Manager



0568

APPENDIX S



LABORATORY REPORT



4043

Contract Number: PSL17/1395

Report Date: 30 March 2017
Client's Reference: 17040
Client Name: REFA Consulting Engineers
45 Brdgeman Terrace
Wigan
WN1 1TT

For the attention of: Mark Davies

Contract Title: Gresford Road, Llay
Date Received: 24/3/2017
Date Commenced: 24/3/2017
Date Completed: 30/3/2017

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

R Gunson
(Director)

A Watkins
(Director)

R Berriman
(Quality Manager)

L Knight
(Senior Technician)


S Royle
(Laboratory Manager)

A Fry
(Senior Technician)

5 – 7 Hexthorpe Road, Hexthorpe,
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awatkins@prosoils.co.uk

Page 1 of

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
TP01			0.40		Brown gravelly very sandy CLAY.
TP02			1.00		Brown slightly gravelly very sandy CLAY.
TP03			1.30		Brown slightly gravelly very sandy CLAY.
TP10			1.00		Brown slightly gravelly very sandy CLAY.
TP10			1.40		Brown slightly gravelly very sandy CLAY.
TP13			2.50		Brown slightly gravelly very sandy CLAY.
TP14			2.00		Brown gravelly very sandy CLAY.
TP18			1.50		Brown slightly gravelly very sandy CLAY.
TP21			2.00		Brown slightly gravelly very sandy CLAY.
TP23			2.50		Brown very sandy CLAY.
TP25			1.00		Brown slightly gravelly very sandy CLAY.
TP26			1.50		Brown slightly gravelly sandy CLAY.
TP27			1.00		Brown slightly gravelly SAND.
TP30			1.00		Brown slightly gravelly very sandy CLAY.
TP31			1.50		Brown slightly gravelly very sandy CLAY.
TP34			1.00		Brown slightly gravelly very sandy CLAY.
TP37			1.50		Brown slightly gravelly very sandy CLAY.
TP39			1.50		Brown slightly gravelly very sandy CLAY.
TP40			1.00		Brown slightly gravelly very sandy CLAY.



Gresford Road, Llay

Contract No:

PSL17/1395

Client Ref:

17040

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

[illegible]

PSL
Professional Soils Laboratory

Gresford Road, Llay

Contract No:

PSL17/1395

Client Ref:

17040

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m ³ Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
TP01			0.40		16			27	15	12	86	Low plasticity CL.
TP02			1.00		16			34	17	17	94	Low plasticity CL.
TP03			1.30		16			29	15	14	96	Low plasticity CL.
TP10			1.00		19			27	14	13	92	Low plasticity CL.
TP10			1.40		17			33	17	16	96	Low plasticity CL.
TP13			2.50		19			36	19	17	90	Intermediate plasticity CI.
TP14			2.00		13			25	13	12	84	Low plasticity CL.
TP18			1.50		16			32	17	15	94	Low plasticity CL.
TP21			2.00		14			26	14	12	92	Low plasticity CL.
TP23			2.50		16			28	15	13	100	Low plasticity CL.
TP25			1.00		14			27	15	12	96	Low plasticity CL.
TP26			1.50		23			45	23	22	96	Intermediate plasticity CI.
TP27			1.00		14				NP			
TP30			1.00		16			38	18	20	94	Intermediate plasticity CI.
TP31			1.50		15			30	16	14	92	Low plasticity CL.
TP34			1.00		14			26	14	12	92	Low plasticity CL.
TP37			1.50		12			30	15	15	94	Low plasticity CL.
TP39			1.50		14			31	16	15	92	Low plasticity CL.
TP40			1.00		16			32	16	16	92	Low plasticity CL.

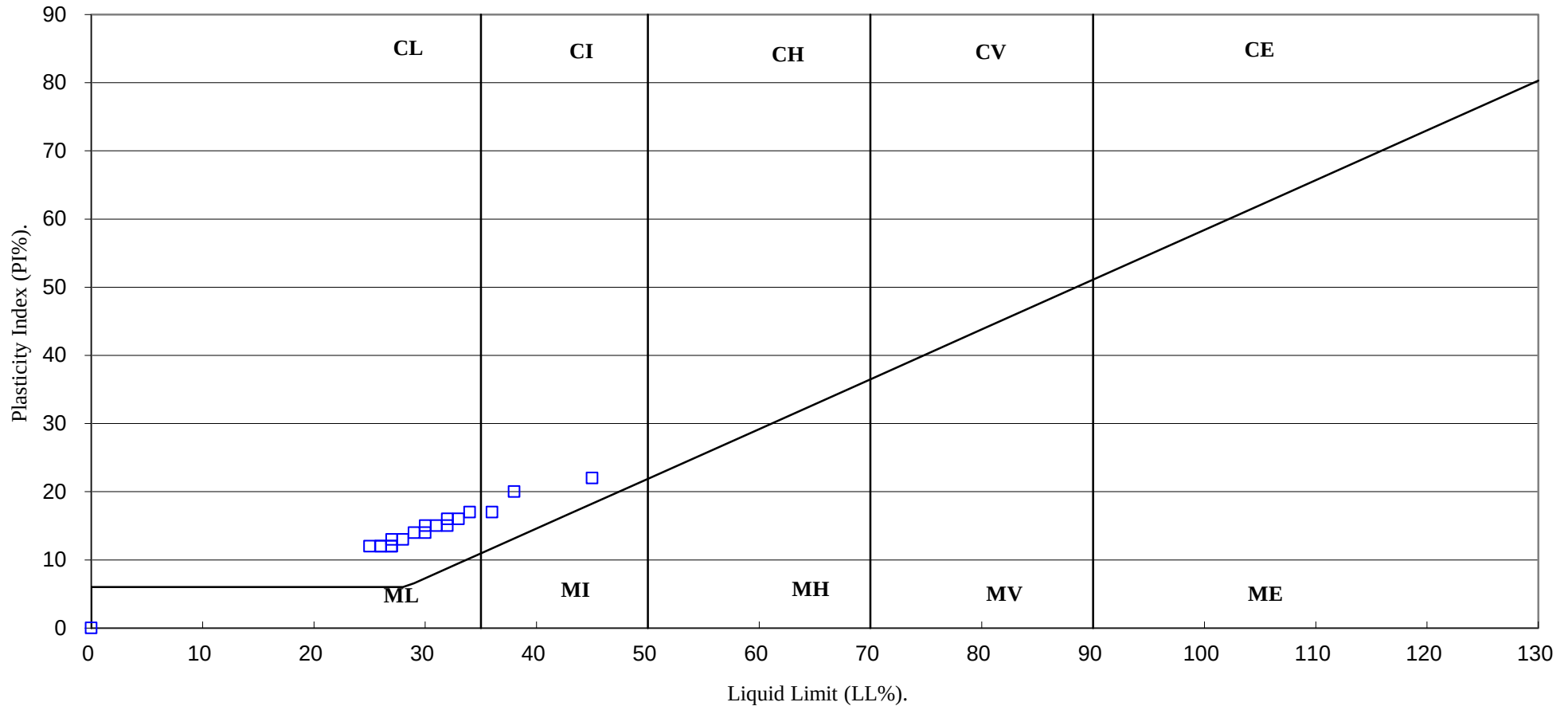
SYMBOLS : NP : Non Plastic

* : Liquid Limit and Plastic Limit Wet Sieved.

		Gresford Road, Llay	Contract No:
			PSL17/1395
			Client Ref:
			17040

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

(BS5930 :2015)



PSL
Professional Soils Laboratory

Gresford Road, Llay

Contract No:

PSL17/1395

Client Ref:

17040

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

[illegible]

SYMBOLS : NP : Non Plastic

*** : Liquid Limit and Plastic Limit Wet Sieved.**



PSL
Professional Soils Laboratory

Gresford Road, Llay

Contract No:

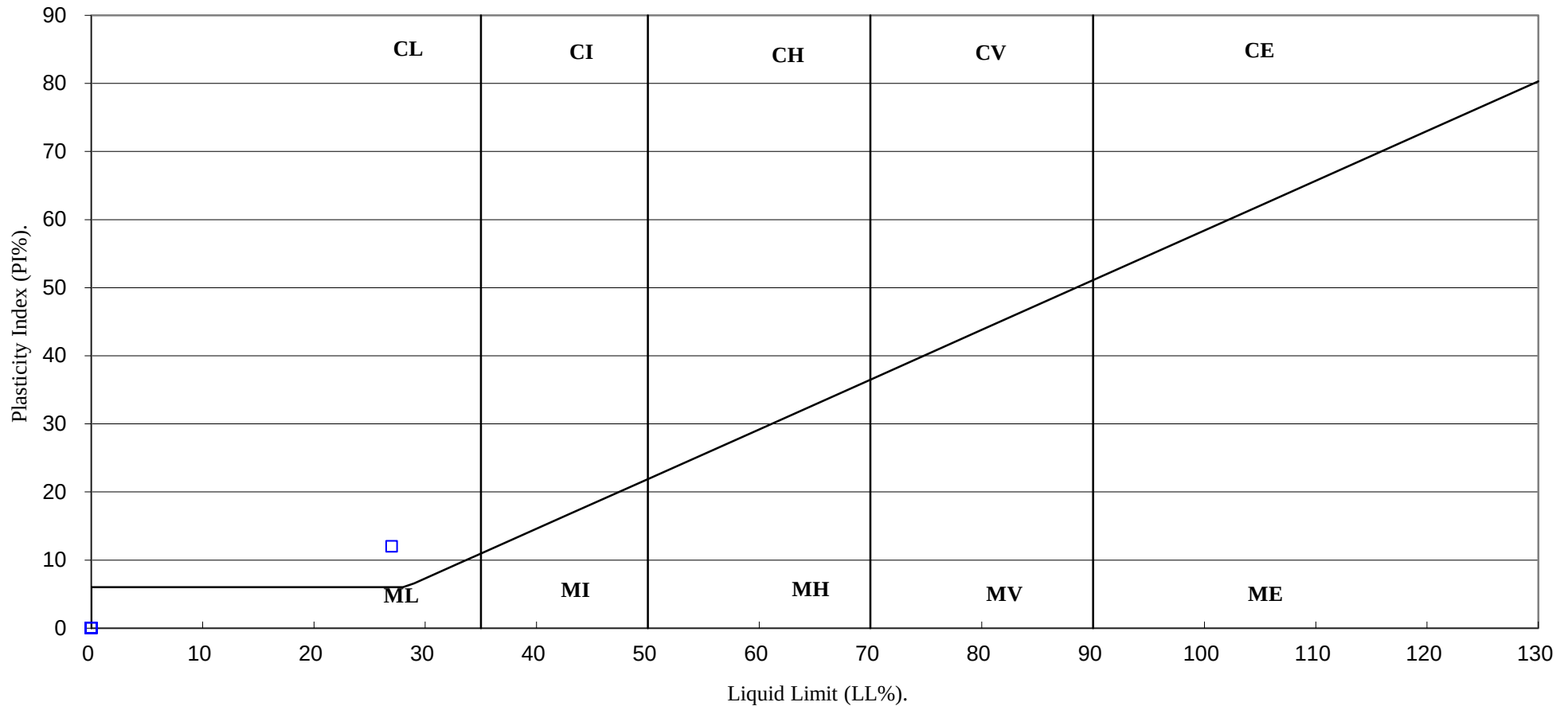
PSL17/1395

Client Ref:

17040

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

(BS5930 :2015)



PSL
Professional Soils Laboratory

Gresford Road, Llay

Contract No:

PSL17/1395

Client Ref:

17040

APPENDIX T

Ground Gas Monitoring Record

Borehole	Gas Flow (l/hr)	Borehole Pressure (Pa)	Methane (% v/v)		Methane (%LEL*)		Carbon Dioxide (%v/v)		Oxygen (%v/v)		Nitrogen (%v/v)		Depth to water (m bgl)	Atmospheric Pressure (mB)	Comments
			Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady			
BH01	0.0	0	0.1				0.3		18.1		81.4		5.52	1017	
BH03	0.0	0	0.0				1.9		19.9		78.1		0.26	1017	
BH07	0.0	0	0.1				1.2		19.3		79.3		5.40	1017	
WS01	0.0	0	0.1				0.4		19.9		79.5		DRY	1017	
WS07	0.0	0	0.0				0.0		20.6		79.3		0.74	1017	
WS08	0.0	0	0.0				0.1		20.5		79.3		0.82	1017	

Notes:

Monitoring should be for not less than 3 Minutes. However, if high concentrations of gases initially recorded, monitoring should be for up to 10 mins.

* LEL = Explosive Limit = 5%v/v

ND - Not Detected

Relevant Information at times of monitoring

Monitored by: Weather : Equipment used: Visible signs of vegetation stress: Boreholes sampled for laboratory analysis: Other comments / observations:	S. Edwards Sunny, dry LMS Type G3 xi Gas Meter	Contract:	Home Farm Llay
		Date:	27.03.2017
		Job No.	
		Sheet No.	1

Geo-Ventures (UK) Limited

70 Riverside Close, Waterside, Howley, Warrington, Cheshire WA1 2JD
 Tel. 01925 240476 email: paul.platt@geoventures.co.uk

Ground Gas Monitoring Record

Borehole	Gas Flow (l/hr)	Borehole Pressure (Pa)	Methane (% v/v)		Methane (%LEL*)		Carbon Dioxide (%v/v)		Oxygen (%v/v)		Nitrogen (%v/v)		Depth to water (m bgl)	Atmospheric Pressure (mB)	Comments
			Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady			
BH01	0.0	0	0.0				0.4		17.8		81.7		4.76	1025	
BH03	0.0	0	0.0				0.9		20.2		78.8		0.30	1025	
BH07	0.0	0	0.0				0.0		20.6		79.3		5.66	1025	
WS01	0.0	0	0.0				0.0		20.6		79.3		DRY	1025	
WS07	0.0	0	0.0				0.1		20.4		79.4		0.75	1025	
WS08	0.0	0	0.0				0.0		20.4		79.5		1.02	1025	

Notes:

Monitoring should be for not less than 3 Minutes. However, if high concentrations of gases initially recorded, monitoring should be for up to 10 mins.

* LEL = Explosive Limit = 5%v/v

ND - Not Detected

Relevant Information at times of monitoring

Monitored by: Weather : Equipment used: Visible signs of vegetation stress: Boreholes sampled for laboratory analysis: Other comments / observations:	P. Platt Dry LMS Type G3 xi Gas Meter	Contract: Home Farm Llay
		Date: 11.04.2017
		Job No.
		Sheet No. 2

Geo-Ventures (UK) Limited

70 Riverside Close, Waterside, Howley, Warrington, Cheshire WA1 2JD

Tel. 01925 240476 email: paul.platt@geoventures.co.uk

Ground Gas Monitoring Record

Borehole	Gas Flow (l/hr)	Borehole Pressure (Pa)	Methane (% v/v)		Methane (%LEL*)		Carbon Dioxide (%v/v)		Oxygen (%v/v)		Nitrogen (%v/v)		Depth to water (m bgl)	Atmospheric Pressure (mB)	Comments
			Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady			
BH01	0.0	0	0.0				0.2		17.4		82.3		4.26	1021	
BH03	0.0	0	0.0				0.7		20.1		79.1		0.28	1021	
BH07	0.0	0	0.0				0.0		20.6		79.3		0.67	1021	
WS01	0.0	0	0.0				0.0		20.4		79.5		DRY	1021	
WS07	0.0	0	0.1				0.1		20.5		79.4		0.73	1021	
WS08	0.0	0	0.0				0.0		20.6		79.2		0.95	1021	

Notes:

Monitoring should be for not less than 3 Minutes. However, if high concentrations of gases initially recorded, monitoring should be for up to 10 mins.

* LEL = Explosive Limit = 5%v/v

ND - Not Detected

Relevant Information at times of monitoring

Monitored by: Weather : Equipment used: Visible signs of vegetation stress: Boreholes sampled for laboratory analysis: Other comments / observations:	J. Crook / P. Platt Dry LMS Type G3 xi Gas Meter	Contract:	Home Farm Llay
		Date:	27.04.2017
		Job No.	
		Sheet No.	3

Geo-Ventures (UK) Limited

70 Riverside Close, Waterside, Howley, Warrington, Cheshire WA1 2JD

Tel. 01925 240476 email: paul.platt@geoventures.co.uk

Ground Gas Monitoring Record

Borehole	Gas Flow (l/hr)	Borehole Pressure (Pa)	Methane (% v/v)		Methane (%LEL*)		Carbon Dioxide (%v/v)		Oxygen (%v/v)		Nitrogen (%v/v)		Depth to water (m bgl)	Atmospheric Pressure (mB)	Comments
			Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady			
BH01	0.0	0	0.0				0.4		17.8		81.7		4.80	1017	
BH03	0.0	0	0.0				0.9		20.2		78.8		0.28	1017	
BH07	0.0	0	0.0				0.0		20.6		79.3		5.60	1017	
WS01	0.0	0	0.0				0.0		20.6		79.4		DRY	1017	
WS07	0.0	0	0.0				0.1		20.5		79.3		0.78	1017	
WS08	0.0	0	0.0				0.0		20.4		79.5		1.00	1017	

Notes:

Monitoring should be for not less than 3 Minutes. However, if high concentrations of gases initially recorded, monitoring should be for up to 10 mins.

* LEL = Explosive Limit = 5%v/v

ND - Not Detected

Relevant Information at times of monitoring

Monitored by: Weather : Equipment used: Visible signs of vegetation stress: Boreholes sampled for laboratory analysis: Other comments / observations:	J. Crook Dry LMS Type G3 xi Gas Meter	Contract: Home Farm Llay
		Date: 10.05.2017
		Job No.
		Sheet No. 4

Geo-Ventures (UK) Limited

70 Riverside Close, Waterside, Howley, Warrington, Cheshire WA1 2JD

Tel. 01925 240476 email: paul.platt@geoventures.co.uk

Ground Gas Monitoring Record

Borehole	Gas Flow (l/hr)	Borehole Pressure (Pa)	Methane (% v/v)		Methane (%LEL*)		Carbon Dioxide (%v/v)		Oxygen (%v/v)		Nitrogen (%v/v)		Depth to water (m bgl)	Atmospheric Pressure (mB)	Comments
			Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady			
BH01	0.0	0	0.0				0.3		19.3		80.3		DRY	1022	
BH03	0.0	0	0.0				0.5		19.7		79.7		0.53	1022	
BH07	0.0	0	0.0				0.0		20.5		79.4		6.30	1022	
WS01	0.0	0	0.0				0.0		20.6		79.3		DRY	1022	
WS07	0.0	0	0.0				0.0		20.6		79.3		0.70	1022	
WS08															Damaged / lost

Notes:

Monitoring should be for not less than 3 Minutes. However, if high concentrations of gases initially recorded, monitoring should be for up to 10 mins.

* LEL = Explosive Limit = 5%v/v

ND - Not Detected

Relevant Information at times of monitoring

Monitored by: Weather : Equipment used: Visible signs of vegetation stress: Boreholes sampled for laboratory analysis: Other comments / observations:	P. Platt Dry, sunny LMS Type G3 xi Gas Meter	Contract:	Home Farm Llay
		Date:	27.05.2017
		Job No.	
		Sheet No.	5

Geo-Ventures (UK) Limited

70 Riverside Close, Waterside, Howley, Warrington, Cheshire WA1 2JD

Tel. 01925 240476 email: paul.platt@geoventures.co.uk

Ground Gas Monitoring Record

Borehole	Gas Flow (l/hr)	Borehole Pressure (Pa)	Methane (% v/v)		Methane (%LEL*)		Carbon Dioxide (%v/v)		Oxygen (%v/v)		Nitrogen (%v/v)		Depth to water (m bgl)	Atmospheric Pressure (mB)	Comments
			Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady			
BH01	0.0	0	0.0				0.2		20.3		79.4		DRY	1013	
BH03	0.0	0	0.0				0.6		20.1		79.2		0.73	1013	
BH07	0.0	0	0.0				0.0		20.4		79.6		6.60	1013	
WS01	0.0	0	0.0				0.0		20.5		79.5		DRY	1013	
WS07															Lost
WS08															Damaged / lost

Notes:

Monitoring should be for not less than 3 Minutes. However, if high concentrations of gases initially recorded, monitoring should be for up to 10 mins.

* LEL = Explosive Limit = 5%v/v

ND - Not Detected

Relevant Information at times of monitoring

Monitored by: Weather : Equipment used: Visible signs of vegetation stress: Boreholes sampled for laboratory analysis: Other comments / observations:	P. Platt / S Edwards Dry LMS Type G3 xi Gas Meter	Contract:	Home Farm Llay
		Date:	06.07.2017
		Job No.	
		Sheet No.	6

Geo-Ventures (UK) Limited

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