



Hamish Byers,  
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Loughborough,  
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Our Ref: 70060615-L01

14 November 2019

CONFIDENTIAL

By Email Only

Dear Hamish,

## **Workhouse Lane, Burbage - Ground Investigation**

### **INTRODUCTION AND AIMS**

Mather Jamie (c/o Central Midlands Estates Limited) instructed WSP to complete ground investigation at the land to the west of Workhouse Lane, Burbage site (the site). On 11 and 12 November 2019 WSP undertook the ground investigation as per proposal reference **70060615-GRR-P01** dated 20 August 2019. The aim of the preliminary ground investigation was to assess the groundwater conditions on site and provide infiltration data to support a viability assessment for soakaway drainage.

### **SITE LOCATION AND DESCRIPTION**

The site is approximately 2km south-east of Hinkley town centre and 300m north of the M69. The site is located to the west of Workhouse Lane, Burbage, Hinckley (LE10 2JW), immediately to the south of Frezenburg Close.

The site is surrounded by open farmland to the south and west, a new residential development with attenuation ponds that bounds the site to the north with Workhouse Lane bounding the west with allotments beyond.

The site is currently tenanted by a farmer who uses the site for cattle grazing. There is some notable ridge and furrow farming features in the north-eastern portion of the site with the remaining areas falling topographically to the southeast. Due to recent rainfall the ground was particularly waterlogged with areas of standing water in topographically lower areas of the site. A spring was recorded on publicly available mapping to be present on-site in the south-eastern corner flowing off-site across the southern boundary.

An 11kv overhead powerline is present running approximately northwest - southeast in the east of the site and a pressurised foul sewer main is present running approximately east-west in the south of the site. A manhole cover for the foul sewer main is located in the west of the site and at this

point the main is approximately 2.2m bgl. No other utilities were indicated to be on site from the statutory plans, this report does not constitute a formal utility survey.

## PUBLISHED GEOLOGICAL MAPPING

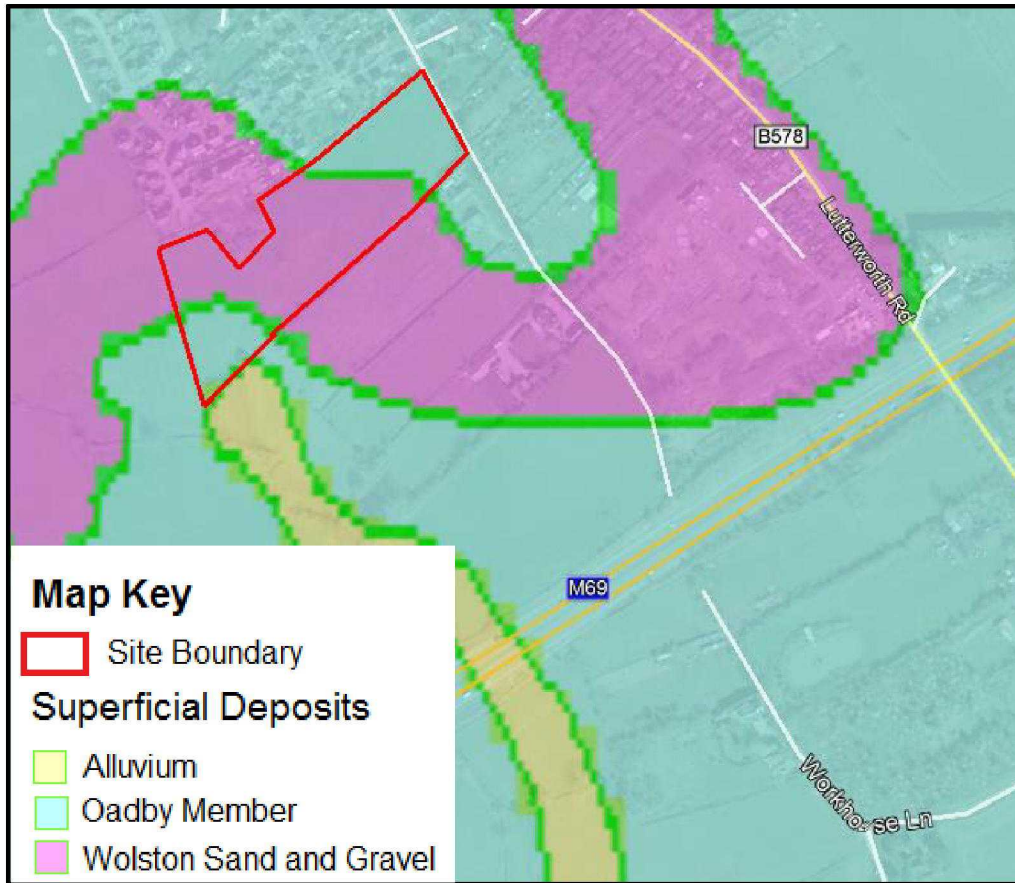
A review of publicly available information from the British Geological Survey (BGS Online Map viewer accessed 14 November 2019) and BGS Sheet 169 Coventry (Solid and Drift Edition) 1:50,000 scale, 1994) shows the site to be underlain by three superficial geologies and a single bedrock geology. Summarised in **Table 1**, below.

*Table 1 Summary of Anticipated Geology*

Type	Strata	BGS Description
<b>Superficial</b>	Alluvium	<i>"Yellow or brown silty clay with sand and gravel"</i>
	Oadby Till (Diamicton)	<i>"Mainly grey pebbly clay with chalk"</i>
	Wolston Sand and Gravel	<i>"Yellow or red sand and gravel"</i>
<b>Bedrock</b>	Mercia Mudstone	<i>"Red occasionally green-grey mudstones with some subordinate siltstones and sandstones"</i>

The BGS indicated potential spatial distribution of deposits are indicated on **Figure 1**, below.

**Figure 1- BGS Inferred spatial distribution of superficial geologies**



British Geological Survey materials ©NERC 2019

## GROUND INVESTIGATION

On 11 November 2019 WSP drilled five windowless sample boreholes to a maximum of 5.00m bgl (WS01-WS05) and installed them with groundwater monitoring wells. Hand pits were excavated to 1.50m bgl prior to drilling for utility avoidance purposes.

On 12 November 2019 WSP excavated four locations (TP01-04) with a JCB 3CX for the purpose of conducting Soakaway testing (in accordance with BRE 365). TP02 encountered groundwater and therefore was unsuitable for soakaway testing. TP04 collapsed during the soakaway test (thus invalidating the test data). Two soakaways were completed in TP01 and TP03.

## GROUND AND GROUNDWATER CONDITIONS

A summary of ground conditions encountered during the investigation is presented in **Table 2**. Exploratory Hole Location Plan and Exploratory Hole Logs are attached as **Annex A** and **Annex B** respectively, to this letter.



*Table 2 Summary of Strata Encountered*

<b>Stratum Name</b>	<b>Depth to Base of Strata (mbgl)*</b>	<b>Elevation of Base of Strata (maod)*</b>	<b>Thickness (m)*</b>
Made Ground	0.60 to 0.60	112.67 to 112.67	0.40 to 0.40
Topsoil	0.30 to 0.80	115.02 to 109.99	0.30 to 0.55
Alluvium	0.60 to 1.80	114.72 to 108.99	0.30 to 1.40
Oadby Member	2.00 to 4.10	112.60 to 106.19	1.20 to 2.80
Wolston Sand and Gravel	3.45 to 3.45 (5.00)	108.81 to 108.81	2.90 to 2.90 (3.20)
Mercia Mudstone Group	Not proven (5.00)	Not proven (105.29)	Not proven (1.55)

*\* Brackets indicate maximum unproven depth and thickness and the minimum elevation*

### **Made Ground**

The only Made Ground encountered on site was encountered in TP02 and is considered to be reworked natural material, possibly dug out and moved as part of farming activities. It consisted wholly of natural materials; however, was classified as Made Ground due to it not being consistent with the surrounding geological sequence. It also overlay a layer of material with a high organic content interpreted to be relict top soil.

The pressurised foul sewer on site is listed on statutory utility plans to be made of asbestos cement utility backfill is likely to comprise of Made Ground but was not encountered during the investigation.

### **Alluvium**

Alluvium was interpreted to be more widespread than indicated on geological mapping. Alluvium was typically described as soft orangish brown slightly gravelly slightly sandy CLAY or orangish / yellowish brown very gravelly slightly clayey SAND. Gravel is typically chert with rare chalk and mudstone.

### **Oadby Member**

Oadby Member was encountered across the site and typically comprised of firm – stiff bluish grey slightly gravelly slightly sandy CLAY. Gravel is angular to rounded of chalk, chert and mudstone. The Oadby Member appears to be of a softer consistency and contain more chert in the upper layers where it may have been weathered via interaction with younger strata.

### **Wolston Sand and Gravel**

Wolston Sand and Gravel was encountered mostly below the Oadby Member and generally comprised of yellowish brown gravelly fine to coarse SAND. Gravel is fine and medium angular to rounded of chert, mudstone and chalk. At WS02 and WS05 the strata contained a narrow band (approximately 5cm) of fine and medium angular gravel of probable coal.



## Mercia Mudstone Group

The Mercia Mudstone Group was only encountered at two locations (WS01 and WS02) at the topographically lowest end of the site. In WS01 the Mercia Mudstone comprised a firm locally stiff reddish brown slightly sandy slightly gravelly CLAY. Gravel is fine and medium angular of mudstone, chalk and chert. In WS02 the Mercia Mudstone Group was of the same description but predominantly grey. In both cases the MMG is considered to be fully weathered (weathering grade IVb, CIRIA C570) and gravel is interpreted to have been incorporated from strata above during weathering.

## GROUNDWATER STRIKES

A summary of groundwater strikes encountered during the investigation is presented in **Table 3**. Groundwater was only struck in granular strata or cohesive strata with a high granular content. In the topographically lower area of the site groundwater appears to be under pressure and becomes artesian to form the onsite spring.

*Table 3 Summary of groundwater encountered during investigation*

Exploratory Hole	Depth Groundwater Encountered (Strike) (mbgl)	Elevation Groundwater Encountered (Strike) (maod)	Depth to Groundwater after 20 mins (mbgl)	Elevation of Groundwater after 20 mins (maod)
WS01	1.10	109.19	0.60	109.69
WS02	1.30	110.96	-	-
WS03	1.30	110.25	-	-
WS04	4.00	111.20	-	-
WS05	0.50	114.79	-	-
TP02	2.20	111.07	1.25	112.02

## SOAKAWAY TESTING

Soakaway tests were to be conducted in trial pits in accordance with BRE 365. Soakaways tests encountered a number of constraints due to the ground conditions. Summary of constraints are listed in **Table 4**, below.

*Table 4 Constraints to Soakaway Testing*

Location	Constraint
TP01	Soakage rate too low for valid test.
TP02	Groundwater strike preventing test.
TP03	Soakage rate too low for valid test. Slow rising level potential indication for groundwater ingress.
TP04	Trial pit collapse during test.

Due to the above constraints, no valid soakage rates could be obtained for the site, and no infiltration rates are able to be provided.

## GROUNDWATER MONITORING

Groundwater monitoring installations were installed at all WS locations on site for ongoing groundwater monitoring. Groundwater installations are shown on borehole logs enclosed and are fitted with ground flush covers. Two groundwater monitoring rounds have been undertaken as part of these works, the results of these are presented in **Table 5**.

*Table 5 - Groundwater Monitoring Results*

Location	Ground Level (m AOD)	Visit One (21/11/2019)				Visit Two (13/12/2019)			
		Depth to Water		Depth to Base		Depth to Water		Depth to Base	
		m bgl	m AOD	m bgl	m AOD	m bgl	m AOD	m bgl	m AOD
WS01	110.29	0.250	110.04	-	-	0.050	110.24	4.94	105.35
WS02	112.26	0.620	111.64	-	-	0.380	111.88	4.43	107.83
WS03	111.55	0.470	111.08	-	-	0.455	111.10	3.9	107.65
WS04	115.20	0.920	114.28	-	-	0.795	114.40	4.59	110.61
WS05	115.29	0.580	114.71	-	-	0.400	114.89	4.24	111.05

Groundwater monitoring data was recorded during early winter and may not represent the annual worst-case groundwater levels. Groundwater visits are also only 3 weeks apart and although they provide a good baseline for assessment, are likely not to provide a reliable overview of the long term hydrogeologic regime of the site.

## CONCLUSIONS

Geology was as anticipated from publicly available mapping. Made Ground was encountered at location TP02 only and is considered likely to be reworked natural. It is unlikely that the presence of this Made Ground will present a contamination issue, though sampling and laboratory analysis would likely be required if the proposed development was to proceed. Made Ground is likely to be encountered surrounding the foul main sewer on site, as the foul main sewer itself is recorded to be constructed from Asbestos Cement, there is potential for this to be present within this Made Ground. Future development should consider how to manage the potential risk of asbestos in this area.

High groundwater levels were recorded both during site works and monitoring. Soakaway tests were not able to be completed on the site due to the high groundwater levels encountered, trial pit collapse and low soakage rates. It is considered that soakaway drainage is unlikely to be viable; however, this letter does not constitute a formal drainage strategy.

If development is proposed the following measures should be considered due to the high groundwater levels:


- A supplementary ground investigation to determine the extents of water-bearing strata and to further characterise the groundwater levels over a wider timeframe.
- Long term continuous electronic monitoring of groundwater levels on site. Long term continuous groundwater monitoring will allow a more accurate characterisation of the groundwater levels and their fluctuation between seasons at the site.
- Excavations on site (if the development were to proceed) will likely need dewatering, including foundation excavations and utility trenching. Foundations and utilities are likely to sit within groundwater, at least partially, during the year. If the site remains at existing levels (which is unlikely to be viable) this should be accounted for within the design.
- Potential for earthworks prior to development to raise the site levels using imported material. This would potentially create an unsaturated zone for excavations etc.

Yours sincerely



Fagan, Becca  
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document  
2019.12.20 15:28:54 Z

**Becca Fagan**  
Assistant Consultant  
Ground Risk and Remediation



Baggott, George  
(UKGEB001)  
I have reviewed this  
document  
2019.12.20 15:29:39

**George Baggott**  
Principal Consultant  
Ground Risk and Remediation

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Annex A – Exploratory Hole Location Plan  
Annex B – Exploratory Hole Logs





## **Annex A – Exploratory Hole Location Plan**





**wsp**

TITLE:

Workhouse Lane, Burbage

FIGURE No:


Figure One - Exploratory Hole Location






## **Annex B – Exploratory Hole Logs**



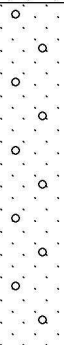

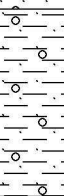



 <b>WSP</b> Level 2, 100 Wharfside Stree, Birmingham B1 1RT Telephone:	<b>BOREHOLE LOG</b>		Hole No. <b>WS01</b>	
	Project <b>Workhouse Lane</b>		Sheet <b>1 of 2</b>	
Job No <b>70060615</b>	Client		Date <b>11-11-19</b> <b>11-11-19</b>	
Contractor / Driller <b>Dynamic Sampling Ltd</b>	Method/Plant Used <b>Premier Rig</b>	Logged By <b>B Fagan</b>	Co-Ordinates (NGR) <b>E 444159.952</b> <b>N 291761.996</b>	Ground Level (m AOD) <b>110.285</b>


SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thickness)	Description	Legend	Geology	Dia. 50 mm
							109.99	0.30	Grass over dark brown clayey slightly gravelly fine to coarse SAND with frequent rootlets. Gravel is medium and coarse angular to rounded of chert. (TOPSOIL)		TS	
							109.79	0.50			ALV	
							109.29	1.00	Dark brown mottled orangish brown slightly gravelly very clayey fine to coarse SAND. Gravel is medium and coarse angular to rounded of chert. (ALLUVIUM)		ALV	
							108.99	1.30	Soft locally firm brown mottled dark bluish grey slightly gravelly slightly sandy CLAY. Gravel is fine to coarse angular to rounded of chert and rare chalk. (ALLUVIUM)		ALV	
							108.79	1.50			ODT	
									Yellowish brown very gravelly fine to coarse SAND. Gravel is fine and medium angular to rounded of chert. (ALLUVIUM)		ODT	
									Soft dark orangish brown mottled bluish grey slightly gravelly very sandy CLAY. Gravel is fine to coarse angular to rounded of chalk and chert. (OADBY MEMBER)			
									Soft mottled bluish grey slightly gravelly slightly sandy CLAY. Gravel is fine to coarse angular to rounded of chalk and chert. (OADBY MEMBER)			
									2.50 Becoming firm locally stiff with additional fine and medium angular mudstone gravel			
							106.19	4.10			MMG	
									Firm locally stiff reddish brown slightly sandy slightly gravelly CLAY. Gravel is fine and medium angular of mudstone, chalk and chert. (WEATHERED MERCIA MUDSTONE GROUP)			
							105.29	5.00				

Boring Progress						Water Strikes					
Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt	Date	Time	Strike	Minutes	Standing	Casing
						11-11-19		1.10	20	0.60	
Chiselling				Water Added		General Remarks Hole completed at 5.00m bgl. Groundwater encountered at 1.10m bgl, hand pit terminated at 1.30m bgl due to blind digging. No visual or olfactory evidence of contamination recorded.					
From	To	Hours	Tool	From	To						
Scale 1:62.5		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.									

 <b>WSP</b> Level 2, 100 Wharfside Street, Birmingham B1 1RT Telephone:	<b>BOREHOLE LOG</b>		Hole No. <b>WS02</b>
	Project <b>Workhouse Lane</b>		Sheet <b>1 of 2</b>
Job No <b>70060615</b>	Client		Date <b>11-11-19</b> <b>11-11-19</b>
Contractor / Driller <b>Dynamic Sampling Ltd</b>	Method/Plant Used <b>Premier Rig</b>	Logged By <b>B Fagan</b>	Co-Ordinates (NGR) <b>E 444152.409</b> <b>N 291825.786</b>
		Ground Level (m AOD) <b>112.258</b>	

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m <sup>2</sup> )	P Pen (kN/m <sup>2</sup> )	Water	Elev. (mAOD)	Depth (Thickness)	Description	Legend	Geology	Dia. 50 mm
							111.71	0.55	Grass over dark brown clayey slightly gravelly fine to coarse SAND with frequent rootlets. Gravel is medium rounded of chert. (TOPSOIL)		TS	
								(2.90)	Pale yellowish brown gravelly fine to coarse SAND. Gravel is fine and medium angular to rounded of chalk and chert. (WOLSTON SAND AND GRAVEL)		WOSG	
							108.81	3.45	2.30 - 2.35 Band of medium black angular gravel of coal			
								(1.55)	Stiff locally firm brownish grey slightly gravelly slightly sandy CLAY. Gravel is fine and medium angular to well rounded of limestone, mudstone and chert. (WEATHERED MERCA MUDSTONE GROUP)		MMG	
							107.26	5.00				


Boring Progress						Water Strikes					
Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt	Date	Time	Strike	Minutes	Standing	Casing
						11-11-19		1.30			
Chiselling					Water Added		General Remarks Hole completed at 5.0m bgl. Groundwater encountered at 1.30m bgl. Hand pit collapse below water strike. No visual or olfactory evidence of contamination recorded.				
From	To	Hours	Tool	From	To						
Scale 1:62.5		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.									







 <b>WSP</b> Level 2, 100 Wharfside Stree, Birmingham B1 1RT Telephone:	<b>BOREHOLE LOG</b>		Hole No. <b>WS03</b>	
	Project <b>Workhouse Lane</b>		Sheet <b>1 of 2</b>	
Job No <b>70060615</b>	Client		Date <b>11-11-19</b> <b>11-11-19</b>	
Contractor / Driller <b>Dynamic Sampling Ltd</b>	Method/Plant Used <b>Premier Rig</b>	Logged By <b>B Fagan</b>	Co-Ordinates (NGR) <b>E 444212.263</b> <b>N 291774.272</b>	Ground Level (m AOD) <b>111.551</b>

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thickness)	Description	Legend	Geology	Dia. 50 mm
							111.25	0.30	Grass over very soft brown very sandy slightly gravelly CLAY with frequent rootlets. Gravel is fine and medium angular to rounded of Chert. (TOPSOIL)		TS	
								(1.40)	Soft brown mottled pale grey slightly gravelly sandy CLAY. Gravel is fine to coarse angular to rounded of chalk and chert. (ALLUVIUM)		ALV	
							109.85	1.70				
							109.55	2.00	Firm dark brown slightly sandy slightly gravelly CLAY. Gravel is fine and medium angular to subrounded of chert. (OADBY MEMBER)		ODT	
								(1.70)	Firm locally stiff grey gravelly CLAY. Gravel is fine to coarse angular to rounded of chalk, mudstone and chert. (OADBY MEMBER)		ODT	
							107.85	3.70				
3.70	SPT	25,0,17 11,12,10 N=50/ 275mm (C)										


Boring Progress						Water Strikes					
Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt	Date	Time	Strike	Minutes	Standing	Casing
						11-11-19		1.30			
Chiselling				Water Added		<b>General Remarks</b> Hole terminated at 3.70m bgl on refusal. Groundwater encountered at 1.30m bgl, hand pit collapse below. No visual or olfactory evidence of contamination recorded.					
From	To	Hours	Tool	From	To						
Scale 1:62.5		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.									



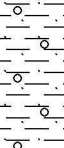

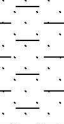






 <b>WSP</b> Level 2, 100 Wharfside Stree, Birmingham B1 1RT Telephone:	<b>BOREHOLE LOG</b>		Hole No. <b>WS04</b>	
	Project <b>Workhouse Lane</b>		Sheet <b>1 of 2</b>	
Job No <b>70060615</b>	Client		Date <b>11-11-19</b> <b>11-11-19</b>	
Contractor / Driller <b>Dynamic Sampling Ltd</b>	Method/Plant Used <b>Premier Rig</b>	Logged By <b>B Fagan</b>	Co-Ordinates (NGR) <b>E 444228.033</b> <b>N 291883.049</b>	Ground Level (m AOD) <b>115.199</b>

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thickness)	Description	Legend	Geology	Dia. 50 mm
							114.80	0.40	Grass over dark brown slightly clayey fine to coarse SAND with frequent rootlets. (TOPSOIL)		TS	
							(2.20)		Soft locally firm grey mottled yellowish brown slightly gravelly sandy CLAY. Gravel is fine and medium angular to rounded of chalk and chert. (OADBY MEMBER)		ODT	
							112.60	2.60	2.15 - 2.30 Very soft grey horizon with elongate wood fragments, localised pocket not throughout core			
							(0.60)		Dark yellowish brown very gravelly medium and coarse SAND. Gravel is fine to coarse angular to well rounded of chalk, mudstone and chert. (WOLSTON SAND AND GRAVEL)		WOSG	
							112.00	3.20				
							(0.80)		Stiff brown gravelly slightly sandy CLAY. Gravel is fine and medium angular to well rounded of chalk, mudstone and chert. (WOLSTON SAND AND GRAVEL)		WOSG	
							111.20	4.00				
							(1.00)		Yellowish brown slightly clayey fine to coarse SAND and fine to coarse very angular to well rounded GRAVEL of chalk, mudstone and chert. (WOLSTON SAND AND GRAVEL)		WOSG	
							110.20	5.00				

Boring Progress						Water Strikes					
Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt	Date	Time	Strike	Minutes	Standing	Casing
						11-11-19		4.00			
Chiselling				Water Added		<b>General Remarks</b> Hole completed at 5.0m bgl. Groundwater encountered at 4.0mbgl. No visual or olfactory evidence of contamination recorded.					
From	To	Hours	Tool	From	To						
Scale 1:62.5		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.									














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Job No <b>70060615</b>	Client		Date <b>11-11-19</b> <b>11-11-19</b>	
Contractor / Driller <b>Dynamic Sampling Ltd</b>	Method/Plant Used <b>Premier Rig</b>	Logged By <b>B Fagan</b>	Co-Ordinates (NGR) <b>E 444300.461</b> <b>N 291868.605</b>	Ground Level (m AOD) <b>115.287</b>

SAMPLES & TESTS							STRATA						Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P. Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thickness)	Description	Legend	Geology	Dia. 50 mm	
						↓	114.79	(0.50) 0.50	Grass over brown slightly clayey fine and medium SAND with frequent rootlets. (TOPSOIL)		TS		
							113.49	(1.30) 1.80	Soft orangish brown slightly gravelly sandy CLAY. Gravel is fine to coarse angular to rounded of chalk, chert and mudstone. (ALLUVIUM)		ALV		
							110.44	4.85	Yellowish brown slightly clayey fine to coarse SAND. (WOLSTON SAND AND GRAVEL)				
							110.29	5.00	2.40 - 2.45 Thin band of fine and medium angular black gravel, probable coal		WOSG		
									Firm dark grey slightly gravelly slightly sandy CLAY. Gravel is fine to coarse angular to rounded of chalk, mudstone and chert. (WOLSTON SAND AND GRAVEL)		WOSG		




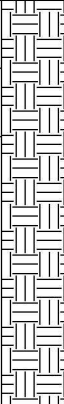


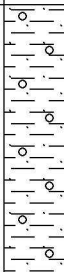
Boring Progress						Water Strikes					
Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt	Date	Time	Strike	Minutes	Standing	Casing
						11-11-19		0.50			
Chiselling				Water Added		General Remarks Hole completed at 5.0m bgl. Groundwater encountered at 0.50m bgl. No visual or olfactory evidence of contamination recorded.					
From	To	Hours	Tool	From	To						
Scale 1:62.5		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.									

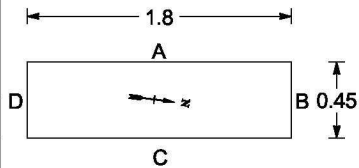




<div>WSP</div> <div>Level 2, 100 Wharfside Stree, Birmingham B1 1RT</div> <div>Telephone:</div>		<div>TRIAL PIT LOG</div>																
Project Workhouse Lane		Job No 70060615		Depth	Type	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	STRATA	Description	Legend	Geology	Install / Backfill		
<div></div> <div></div>										113.07	0.20		Grass over dark brown slightly gravelly slightly clayey fine to coarse SAND with frequent rootlets. Gravel is fine to coarse angular to subrounded of chalk and chert. (TOPSOIL)		TS			
											(0.40)			Firm grey slightly gravelly CLAY. Gravel is fine to coarse angular to subrounded of chalk, chert and mudstone. (Potential reworked OADBY MEMBER)		MG		
											112.67	0.60			Soft black slightly sandy CLAY with frequent rootlets and occasional black wood fragments. (RELICT TOPSOIL)		TS	
											112.47	0.80			Soft orangish brown occasionally grey very sandy CLAY. Gravel is fine to coarse angular to subrounded of chalk, chert and mudstone. (OADBY MEMBER)		ODT	
											(1.20)			1.50 - 2.00 Becoming mottled orangish brown				
											111.27	2.00						
											111.07	2.20		Brownish orange gravelly fine to coarse SAND. Gravel is fine to coarse angular to well rounded of chalk, mudstone and chert. (WOLSTON SAND AND GRAVEL)		WOSG		
														</				






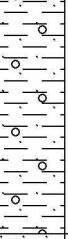

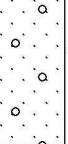

08 WSP TP LOG LS 2 PHOTO WORKHOUSE LANE.GPJ WSPTEMPLATE1.03.GDT 20/12/19

<div><div></div><div><div>WSP</div><div>Level 2, 100 Wharfside Stree, Birmingham</div><div>B1 1RT</div><div>Telephone:</div></div></div> <div><div>TRIAL PIT LOG</div></div>		Depth	Type	PID (ppmV)	HSV (kN/m2)	P-Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	STRATA						
										Description	Legend	Geology	Install / Backfill			
Project Workhouse Lane		Job No 70060615							(0.30)	Grass over soft orangish brown very sandy CLAY with frequent rootlets. (TOPSOIL)					TS	
							(0.30)	Soft locally very soft orangish brown mottled dark grey very sandy CLAY. (ALLUVIUM)								
							(1.20)	Firm locally soft mottled orangish grey occasionally dark brown slightly gravelly sandy CLAY. Gravel is fine to coarse angular to well rounded of chalk, mudstone and chert. (OADBY MEMBER)					ODT			
							113.52	1.80								
		1.80	B													





08 WSP TP LOG LS 2 PHOTO WORKHOUSE LANE.GPJ WSPTEMPLATE1.03.GDT 20/12/19

<div><div><div><div>WSP</div><div>Level 2, 100 Wharfedale Street, Birmingham</div><div>B1 1RT</div><div>Telephone:</div></div></div><div><div>TRIAL PIT LOG</div></div></div>		Depth		Type	PID (ppmV)	HSV (kN/m2)	P-Req (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	STRATA						
Project Workhouse Lane		Job No 70060615									Description				Legend	Geology	Install / Backfill
<div></div>									111.73	0.30	Grass over dark brown slightly gravelly slightly clayey fine to coarse SAND with frequent rootlets. Gravel is fine to coarse angular to rounded of chert. (TOPSOIL)					TS	
										(1.10)	Firm grey slightly gravelly slightly sandy CLAY. Gravel is fine to coarse angular to well rounded of chalk, chert and mudstone. (ALLUVIUM)					ALV	
									110.63	1.40							
										(0.80)	Dark orangish brown occasionally grey slightly gravelly fine to coarse SAND. (WOLSTON SAND AND GRAVEL)					WOSG	
									109.83	2.20							
General Remarks Hole completed at 2.20m bgl. Soakway conducted in sand strata, too much collapse for accurate soakway. No groundwater encountered. No visual or olfactory evidence of contamination recorded.		<div><div><div>2.05</div><div>A</div><div>B 0.45</div><div>C</div></div></div>		Length 2.05m		Logged By B Fagan		Client				Sheet 1 of 1					
Width 0.45m				Ground Level (m AOD) 112.028		Co-Ordinates (NGR) E 444197 N 291821		Date 12-11-19 12-11-19		Trial Hole No. <b>TP04</b>							
Orientation 31 degrees from north				Method/Plant Used JCB-3CX		Contractor Lynch Plant & Haulage Limited		Scale 1:33.3									
Shoring/Support: None Stability: Stable																	
Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.																	