## East Midlands Gateway Phase 2 (EMG2)

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**Volume 2 Technical Appendices** 

Appendix 14I

# EMG1 Factual Ground Investigation Report

July 2025

The East Midlands Gateway Phase 2 and Highway Order 202X and The East Midlands Gateway Rail Freight and Highway (Amendment) Order 202X



SEGRO.COM/SLPEMG2



## **Roxhill Developments Limited**

# East Midlands Gateway Strategic Rail Freight Interchange

# Zone 1 Main Development Plateau and Rail Freight Terminal

Factual Ground Investigation Report

312494-01 - 02 (00)



**DECEMBER 2013** 



# **RSK GENERAL NOTES**

#### **Project No.:** 312494/1 – 02 (00)

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Environment Ltd.



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# **1** INTRODUCTION

### 1.1 Introduction

RSK Environment Limited (RSK) has been commissioned by Roxhill Developments Limited (the Client) to carry out a series of Factual Ground Investigation Reports for the site of the proposed East Midlands Gateway: Strategic Rail Freight Interchange (the Main Development Site).

This report is subject to the RSK service constraints given in Appendix A.

### **1.2 Terms of reference**

This report comprises a factual report in general accordance with the requirements of;

- BS5930:1999+A2:2010 'Code of practice for site investigations'
- Environment Agency CLR 11 2004a 'Model Procedures for the Management of Land Contamination' (Contaminated Land Risk Assessment),
- Highways Agency HD22/08, 'Managing Geotechnical Risk' (Ground Investigation).
- BS EN 1997-2:2007. Eurocode 7 Geotechnical design Part 2: Ground investigation and testing.

### **1.3 Proposed development**

It is understood that the site is being considered for development to provide a Strategic Rail Freight Interchange for the East Midlands regions. This includes a large distribution warehousing complex, major trunk road improvements to the A453, A50 and M1 Junctions 24 and 24a, a new bypass to the south of Kegworth including bridge over the M1, and a new rail freight terminal and associated branch line from the Castle Donington line.

For the purpose of discussion, and to facilitate reporting; the site has been divided into four Zones, on the basis of the four main elements of the proposals as follows. The extent of each of the four Zones is defined by the proposed general arrangement presented as Figure 2.

- Zone 1: Main Development Plateau and Rail Freight Terminal
- Zone 2: Rail Branch Line (Network Rail)
- Zone 3: Major Trunk Road Improvements



• Zone 4: Kegworth Bypass including bridge over the M1

This report presents the investigation relating to Zone 1; Main Development Plateau and Rail Freight Terminal.

### 1.4 Objective

The subject of this report is Zone 1, the proposed Main Development Plateau for the construction of distribution warehouses and the Rail Freight Terminal. In accordance with the Client's specific objectives, requirements and brief; the objective for the works was developed with the aim of providing sufficient preliminary data to:

- provide sufficient data to confirm the ground model
- obtain data to provide a chemical and geotechnical characterisation of each strata
- assist with master planning design
- provide data to support planning applications

In line with Eurocode 7, BS5930, BS10175 and CLR 11 further phases of targeted investigation (post Planning Approval) may be required to provide specific data and information for detailed design of individual elements of the scheme as the design evolves.

### 1.5 Scope

The project has been carried out to an agreed brief as set out in RSK's proposal (ref. East Midlands Gateway; Geotechnical and Geo-environmental Services - Master Planning and EIA Support, dated 13<sup>th</sup> August 2013).

The ground investigation fieldwork carried out on Zone 1 was undertaken in general accordance with the Site Investigation Steering Group's UK Specification for Ground Investigation 2nd edition (2012), BS 5930 and A2: 2010 'Code of practice for site investigations', BS EN ISO 14688-1:2002, BS EN ISO 14689 – 1:2003 and in general accordance with the recommendations made within BS10175:2011 'Investigation of Potentially Contaminated Sites – Code of Practice'.



# 2 SITE DETAILS

### 2.1 Site location

The Development Site covers approximately 374 hectares and currently consists of farmland with some areas of woodland. The M1 motorway, A453 runs roughly north to the east of the main development area of the site. The village of Castle Donington is situated approximately 600m to the west of the site. Hemington and Lockington villages are present directly to the north and East Midlands Airport is adjacent to the southern boundary of the site. The site location is presented within Figure 1.

Zone 1 covers an area of approximately 231Ha, the centre of which is defined by the following National Grid co-ordinates: 447330, 326660. The Zone is bound to the east by the A453 road, to the south by the East Midlands Airport; to the west and north there are no physical boundaries other than the hedgerows which form the field boundaries.

### 2.2 Local topography, geography and geomorphology

The site sits within a formerly glaciated area signified by rolling hills created by the harder geological formations and erosion of the glacial deposits.

Zone 1 generally slopes from the high plateau where East Midlands Airport is located with a general ground level of approximately 88m AOD down to the north east which has a ground level of approximately 44m AOD. The land across Zone 1 is rolling farmland dissected by minor streams with a knoll located in the north west. Two very minor drainage ditch / streams are shown to dissect Zone 1 and appear to originate from springs or rises in the southern part of Zone 1, although they are also fed by the surrounding watershed from the rolling farm lands which they dissect. One stream originates broadly in the middle of the eastern portion of Zone 1 close to Field Farm and runs west and then north through Zone 1 and beyond through Lockington Village, whilst a second stream originates further west and follows a similar path through natural folds in the ground west then north along Zone 1 western boundary through Hemington Village.

The ground beyond the northern boundary of Zone 1 is relatively flat but for the disturbance of manmade features, forming a river terrace to the River Trent which runs broadly west to east approximately 3km north of the Zone 1. The land to the east and west of Zone 1 follows a similar rolling farm land form with a general fall to the north, although further east the land falls east toward the River Soar which flows south to north to join the River Trent.



The geological sequence of the area is understood to be one of interbedded clays, mudstones, siltstones and sandstones deposited within sea conditions and eroded by periods of glaciations and later deposition and erosion from the River Trent which has cut through the geological strata depositing Alluvium and River Gravels along its course and flood plain.

### 2.3 Site description

A site walkover was undertaken on the 9<sup>th</sup> September 2013. Zone 1 is predominately used for arable farming with hedgerow field boundaries including a variety of small, medium and mature sized trees with occasional small areas of woodland. There is one field located in the far north west corner of Zone 1 which was used as a paddock for horses. The majority of fields were under crop or stubble from recent harvesting.

There are two main public footpaths which cross Zone 1 one east west and one north south broadly intersecting each other in the centre of Zone 1 and connecting to the nearby villages of Lockington and Castle Donington.

King Street Plantation located in the centre of Zone 1 is understood to be protected woodland comprising of mature deciduous trees.

Field Farm located in the south eastern quadrant of Zone 1 is the principal set of buildings on Zone 1. The farm is operational and buildings comprise a brick built two storey farm house with outbuildings, office and store including a small garden to the south east and courtyard to the west. The Farm House buildings are surrounded to the west and north by farm sheds, silage bays, a pond/lagoon feature and small overgrown stockpile of soil materials understood to originate from the excavation of the more recent crop drying shed footprint. The crop drying shed is a large aluminium clad grain drying store located in the south western corner of the complex and is heated by a Calor Gas system with two gas tanks being located on its north eastern corner. The larger farm buildings are predominantly steel framed and many appear to be clad and roofed in a corrugated cement bonded boards which may contain asbestos. These barns are used to house tractors, plant and machinery, seed, fertiliser and other ancillary arable farming equipment. There are an extensive number of smaller disused wooden framed former cattle sheds and large bays for the storage of silage and cattle waste together with a heavily overgrown area anticipated to house a lagoon/pond although this was not visible at the time of the walkover. The farmyard area is a combination of mainly concrete hardstanding with some more open gravel at the periphery extents. A large trailer water tank is located centrally and is understood to be topped up with mains water and utilised for spraying. Two large modern diesel tanks are present in the farm yard and are understood to be used for fuel to plant and machinery. A single large tank is located on the northern periphery of the farm yard and is used for fertiliser storage. There are a number of small containers used for storing equipment in too. No spills or obvious areas of contamination were observed and the farmyard was in good order.



A small stand of what appeared to be Japanese Knotweed is located on the perimeter of the farm garden.

Power is received via low level overhead feed from the east with an above ground small substation mounted on the pole to the east of the farm.

The farm is connected by concrete access roads to Lockington Lane in the north east and the A453 in the south east. Further farm tracks and set aside field margins are present around many of the fields affording access for farm machinery to each of the arable fields. Anecdotal evidence suggests that cattle carcases may be buried in the north eastern corner of the farm yard beneath the arising from when the drying warehouse was constructed.

The area of the airport land and the land enclosed within the Airport land in the south western corner of Zone 1 was not accessible at the time of the site walkover.

It is understood from conversations with the Farm Foreman that the farm had until 2000 been used predominantly for milk production with cattle using the fields. From 2000 the farm was turned over to arable crops. It is also understood that the area owned by the airport (formerly part of the RAF Castle Donington) had had some form of earth bunding and partially buried bunkers but that it was believed that these had been decommissioned and removed after the war with only concrete hard standing access roads still being retained.

The springs and streams locations were examined, however in the main the streams were dry or not flowing and only soft boggy ground with occasional stagnant water pools were present at the time of the visit.

### 2.4 Published geology and expected ground conditions

The British geological Survey (BGS) plans and maps obtained have been reviewed to determine the anticipated geology beneath Zone 1.

It is envisaged that the local geology beneath Zone 1 will be in line with the summary below detailed within Table 1.



#### Table 1: Expected geology

Geology	Comment
Surfacing and Buried Structures: (source: Envirocheck History Maps, Site Observation)	The main surfacing area is associated with farm located in the south eastern quadrant of the Zone. There is also the main access road which runs from the north of the Zone to the south to the farm yard and then to the southern boundary. Additional hardstanding tracks and bunkers may still be present in the south western corner of Zone 1.
Made Ground: (source: BGS Maps, Available Borehole Logs, Envirocheck Geology & History Maps, memoirs)	There are several minor areas of made ground deposits located across the zone. An area of disturbed ground is located in the north western corner of Zone 1 likely to be associated with a former quarry. There are four small areas of made ground deposits and infilled materials located in the south western corner of Zone 1 within the East Midlands Airport land probably associated with the former RAF base operations. There are areas of worked and disturbed ground located in the centre of Zone 1 near to the King Street Plantation. Further made ground deposits are shown within the farm yard area.
Drift Deposits: (source: BGS Maps, Available Borehole Logs, Environment Coolegary	A cap of <b>Thrussington Member</b> (Glacial Till) expected to take the form of sandy gravelly Clay is noted in the north western area of Zone 1 forming the knoll feature.
History Maps, memoirs)	There is a finger of <b>Head</b> deposits indicated to be located within the centre of Zone 1 orientated north to south, with further Head deposits indicated to be located in northern area wrapping round along the eastern boundary with a small area in the north western corner. Head deposits are expected to vary between silts, clays, sands and gravels.
	A thin finger of <b>Eagle Moore Sand and Gravel</b> is anticipated to be located in the northern part of Zone 1 with further sand and gravel deposits located in the north of Zone 1 orientated north west to south east, these been defined as the <b>Egginton Common Sand and Gravel</b> and the <b>Wanlip Member</b> .
Bedrock (source: BGS Maps, Available Borehole Logs, Envirocheck Geology & History Maps, memoirs)	Zone 1 is underlain by the Mercia Mudstone Group which is sub divided into the following differing lithologies; The majority of Zone 1 is underlain by the <b>Taporley Siltstone Formation</b> which comprises interbedded mudstones, siltstone and sandstones. The southern boundary of Zone 1 is underlain by the <b>Gunthorpe Member</b> which comprises of interbedded mudstone and dolomitic siltstone. The far north of the Zone 1 is underlain by the <b>Edwalton Member</b> which comprises primarily of mudstone with siltstone and sandstone skerry bands. The underlying <b>Bromsgrove Sandstone Formation</b> is indicated to be present in two small areas to the east and the west.
	It is anticipated that where no drift deposits overlay the solid deposits the Mudstones will have weathered to clays, siltstones to silt and sandstones to sand.
Soil Chemistry (source: Envirocheck / BGS)	Available soil chemistry data suggests that the natural soils anticipated to be present across the site do not have any elevated concentrations of contaminants that would be considered to represent a risk to Human Health for the elements tested for.



Geology	Comment
Mining	None expected.
(source: Coal Authority web viewer, BGS Maps, Available Borehole Logs, Envirocheck records, Geology & History Maps)	
Faults (source: BGS Maps, Available Borehole Logs, Envirocheck Geology Maps, memoirs)	A major fault ( <b>Normanton Hills Fault</b> ) is shown crossing the northern area of Zone 1 with an orientation of east to west down thrown to the north which is the division between the Taporley Siltstone and Edwalton Formation.
	Two further faults are shown in the western half of the Zone which is orientated north to south and both are down thrown to the east.
Opencast Quarrying (source: Coal Authority web viewer, BGS Maps, Envirocheck History Maps)	Two areas of disturbed ground are shown; one in the north western corner and one to the west of the King Street Plantation in the centre of Zone 1.
Mineral Protection (source: Local Authority Plan)	Zone 1 does not fall within the Mineral Protection area.
Groundwater Levels: (source: Available GI)	Due to the variable deposits anticipated to be present across Zone 1 and in particular the interbedded nature of the majority of the solid deposits it is expected that more permeable strata (sandstone and siltstone) beds confined between less permeable mudstones may yield local water tables. Initial monitoring of the preliminary Ground Investigation undertaken by others confirms that when drilled most boreholes were dry; however minor water strikes were encountered in discrete permeable beds. <b>Monitoring of wells installed to different</b> <b>depths and with differing response zones suggest a variety of</b> <b>water tables are present confined within the various confined</b> <b>permeable strata.</b> Several installations remained dry, while others collected only small amounts of groundwater. Given the rural location of Zone 1, it is considered unlikely that the development will be affected by rising groundwater levels associated with diminished abstraction by industry.



The constraints to investigations undertaken in Zone 1 are summarised below in Table 2;

	Table 2:	Constraints	to	investigation
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Issue	Comment			
Landowners	The majority of Zone 1 is owned by Mr Coker.			
Permissions	Airport land was not investigated as the client had not been able to obtain an agreement to undertake investigations on this land at the time of investigations.			
Utilities & Services	<b>Overhead power lines</b> are present across the centre of the site running east to west.			
	A gas main is present along the northern eastern corner of the Zone.			
Live Carriageway	No live carriageways were investigated within Zone 1.			
East Midlands Airport	It was necessary to inform East Midlands Airport of the position (Coordinates and ground level) and height of all exploratory works to ensure that no breach regulated airspace would occur.			
Farming, Crops & Livestock	No investigation was feasible within the area of the <b>farmyard</b> at this time as the farm remained in operation.			
	The location of exploratory holes was constrained by the planting and ongoing harvest and replanting being undertaken at the time of the works.			
	It was not possible to undertake TP318. As the landowner/farmer refused entry to the area as it was required that RSK avoid significant crop damage.			
	Horses were present in the area of CP216 and TP301.			



# 3 **GROUND INVESTIGATION**

### 3.1 Introduction

RSK prepared a site specific Stage 2 Preliminary Ground Investigation Specification in accordance with the Site Investigation Steering Group's UK Specification for Ground Investigation 2nd edition (2012) and BS 5930 and A2: 2010 'Code of practice for site investigations', BS EN ISO 14688-1:2002 and BS EN ISO 14689-1:2003. It was decided that the Mercia Mudstone Formation strata were to be logged for weathering grades in accordance with the guidelines in Chandler and Davis (1973): Further work on the engineering properties of Keuper Marl (CIRIA Report 47) so that the logs maybe readily compared to available historical exploratory hole data to facilitate interpretation.

The specification for the works was developed with the aim of providing sufficient preliminary data to assist with master planning design taking account of the anticipated ground conditions detailed within the Preliminary Sources Study Report.

The site work for the investigation of the East Midlands Strategic Rail Freight Interchange across all four zones was undertaken between 23<sup>rd</sup> September and 11<sup>th</sup> October 2013.

### 3.2 Investigation strategy and methodology

The techniques adopted for the intrusive investigation were appropriate to the expected geology and were also chosen to provide general preliminary non targeted arrangement covering both plan area and depth of strata sufficient to allow the ground model to be confirmed. In addition specific exploratory holes were targeted in order to provide data for specific critical design elements. The investigation and sampling strategy was primarily focused on the assessment of the shallow soils and weathered bedrock.

The rationale for each planned exploratory hole location is detailed within the Stage 2 Preliminary Ground Investigation Specification and summarised within the Provisional Exploratory Hole Schedule included in Appendix B. This formed the basis for the works decision making as works progressed.

Following completion of fieldworks and upon preparation of exploratory hole logs a series of samples were scheduled for a selection of geotechnical and chemical laboratory testing to help characterise the strata properties. Groundwater samples were also taken and analysed where it was viable.

An initial programme of four weekly soil gas and groundwater level monitoring was undertaken to establish the groundwater and ground gas conditions beneath the site.



The results of the monitoring are provided within Appendix J. Monitoring of 6 existing serviceable boreholes CP/RC101 - 106 installed in 2012 by others was also included for completeness.

#### 3.2.1 Health and safety

Services data was obtained and overlaid upon plans to aid in the design and safe positioning of exploratory holes.

RSK liaised with East Midlands Airport and Landowners to agree suitable and safe exploratory hole locations, access routes and to obtain all necessary permits and permissions.

RSK prepared site specific works H&S Plan, risk assessments and method statements for the undertaking of the works. These were reviewed by an independent CDMC appointed by Roxhill Developments Ltd.

A HSE Form F10, notification of construction project, was issued to the HSE to cover the works by the CDMC and was displayed on site throughout the works.

#### 3.2.2 Location of exploratory hole positions and service clearance

RSK met with landowners and stakeholders to confirm suitable access routes and viable exploratory hole locations prior to finalising the ground investigation specification and commencing works.

Services data was obtained and overlaid upon plans to aid in the safe positioning of exploratory holes.

RSK SafeGround team used a number of techniques and equipment to check all exploratory hole positions and the surrounding areas were free of buried services and utilities. SafeGround used the following equipment:

- CAT & Genny (Radiodetection RD8000),
- Ground Penetrating Radar (GPR) GSSI SIR-3000 console with the GSSI 400MHz antenna (standard frequency, used in high risk clearances) and the GSSI 200MHz antenna (low frequency, used in locating the high pressure water pipe)
- EM31 (Geonics)

Hand excavated service avoidance inspection pits were excavated to depths of 1.2mbgl prior to commencing all boreholes.



Upon completion of the works an as-built survey of the exploratory hole positions was commissioned and the coordinates and levels of each position were recorded using a Leica Viva GPS accurate to +/-5mm in horizontal positioning and +/-10mm in elevation. The coordinates and level data are recorded upon each exploratory hole log whilst the position of each exploratory hole is shown upon the exploratory hole location plan presented as Figure 4.

#### 3.2.3 Investigation techniques

#### **Trial pits**

Machine excavated trial pits were utilised to provide coverage across the site and to provide data on the shallow near surface strata. Trial pits also allowed bulk disturbed samples to be taken for strata classification and earthworks testing.

Specific trial pits were undertaken at defined locations to facilitate soakaway testing to provide infiltration data to aid drainage design.

The trial pit logs and photographs are presented in Appendix C.

#### Cable percussion boring

150mm diameter cable percussion boreholes were utilised to penetrate shallow near surface drift strata to full depth and to prove the top of rock head. This technique was also used to provide in-situ strength and density testing (SPT), representative disturbed and undisturbed samples for laboratory testing and to facilitate installation of monitoring instrumentation within the shallow near surface deposits to facilitate long term soil gas and groundwater monitoring.

The cable percussion borehole logs are presented in Appendix D.

#### **Rotary coring boreholes**

92mm diameter ('P' size) rotary core drilling techniques were used to core solid strata at locations adjacent to selected cable percussion boreholes. This allowed representative rock core to be obtained for accurate logging and sub sampled for testing within the laboratory. The boreholes were installed with deep standpipes and standpipe piezometers to allow long term monitoring of groundwater and ground gas.

The rotary borehole logs and photographs are presented in Appendix E.



#### 3.2.4 Zone 1 investigation

The investigation undertaken at Zone 1 comprised the following:

- Setting out and service Clearance (RSK SafeGround).
- Excavation of twenty seven trial pits using an operated wheeled excavator to provisional depths of between 1.50m and 4.60m bgl.
- Carry out six soakaway tests in selected trial pits in general accordance with BRE 365.
- Sinking of nineteen boreholes to depths of between 2.32m and 10.94m bgl using a standard cable percussive drilling rig.
- Sinking of six rotary cored boreholes (air /mist) open holed to rock head and cored (P size) to depth of between 20.00m and 30.00m bgl.
- Installation of twenty eight combined groundwater/gas monitoring wells and piezometers to varying depths including provision of flush lockable covers and 1.5m high wooden marker stakes (in fields).
- Four initial return visits to monitor groundwater levels/ground gas concentrations
- One groundwater sampling visit.
- Surveying in of as built exploratory hole positions using GPS surveying equipment.
- Associated sampling and insitu testing.
- Soil and rock sample geotechnical laboratory testing.
- Soil sample chemical and contamination laboratory testing.
- Groundwater sample chemical and contamination laboratory testing.

#### 3.2.5 Soil sampling, in-situ testing and laboratory analysis

Details of the soil samples obtained during the intrusive investigation are recorded on the exploratory hole logs presented within Appendices C, D and E.

In-situ SPTs were undertaken within the cable percussion boreholes and are presented on the borehole logs included within Appendix D.

In-situ soakaway testing was undertaken in selected trial pit locations as denoted upon the exploratory hole plan presented as Figure 4. Preliminary soakaway tests were undertaken in unsupported shallow trial pits and were attempted in general accordance with the recommendation of BRE 365. Tests undertaken within TPs 301, 302, 303, 304, 305, 351 & 352 did not soakaway sufficiently to allow calculation of infiltration rates. The strata in which these tests were undertaken were predominantly cohesive and not considered to be conducive to soakaway and the testing undertaken has confirmed this. The in-situ soakaway test results are presented in Appendix F and the results are summarised below within Table3.



Hole	Test Zone (Depth m bgl)	Calculated Infiltration Rate m/s	Strata
TPS301	2.10 – 2.80	Insufficient soakage	Tarporley Siltstone Formation - Clay
TPS302	1.60 – 2.50	Insufficient soakage	Tarporley Siltstone Formation - Clay
TPS303	2.20 – 3.15	Insufficient soakage	Edwalton Member - Clay
TPS304	1.62 – 2.50	Insufficient soakage	Edwalton Member - Clay
TPS305	1.68 – 2.65	Insufficient soakage	Eggington Common Sand and Gravel Member
TPS351	1.97 – 2.65	Insufficient soakage	Wanlip Member – clayey sand and gravel
TPS352	1.85 – 2.55	Insufficient soakage	Wanlip Member –clayey gravely sand

Table	3:	Summary	/ of	soakawav	v test	results
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A programme of laboratory testing was scheduled by RSK to be carried out on selected suitable samples, in order to provide characteristic geotechnical strata properties.

The programme of geotechnical testing undertaken is summarised below within Table 4.

Table 4: Summai	y of	geotechnical	testing	programme	undertaken
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Stratum	Analysis Undertaken	Number
	Coefficient of consolidation $c_v$ (m <sup>2</sup> /year)	1
Head Deposits	Undrained shear strength measured by triaxial testing (kN/m <sup>2</sup> )	1
	Sulphate Characterisation (BRE SD1)	1
Thrussington Member	Undrained shear strength measured by triaxial testing (kN/m <sup>2</sup> )	1
Egginton Common Sand and Gravel	Sulphate Characterisation (BRE SD1)	2
Wanlip Member	Classification tests (natural moisture content)	1



Stratum	Analysis Undertaken	Number
	Sulphate Characterisation (BRE SD1)	1
	Classification tests (Atterberg Limits)	1
	Classification tests (natural moisture content)	7
Gunthorpe Member	Undrained shear strength measured by shear vane testing (kN/m <sup>2</sup> )	1
	Undrained shear strength measured by triaxial testing (kN/m <sup>2</sup> )	2
	Point load testing (Axial/ Diametral)	5
	Sulphate Characterisation (BRE SD1)	10
	Classification tests (Atterberg Limits)	12
	Classification tests (natural moisture content)	32
	Dry density (kN/m <sup>3</sup> )	1
	Sieve analysis	6
	Sedimentation analysis	6
	Dry density/moisture content relationship	4
Tarporley Siltstone	California Bearing Ratio	6
Formation	Moisture condition value	4
	Moisture condition value/moisture content relationship	2
	Unconfined compressive strength testing (MPa)	2
	Coefficient of consolidation $c_v$ (m <sup>2</sup> /year)	2
	Undrained shear strength measured by triaxial testing (kN/m <sup>2</sup> )	6
	Point load testing (Axial/ Diametral)	9
	Sulphate Characterisation (BRE SD1)	3
	Classification tests (Atterberg Limits)	2
	Classification tests (natural moisture content)	3
Edwalton Member	Coefficient of consolidation $c_v$ (m <sup>2</sup> /year)	2
	Undrained shear strength measured by triaxial testing (kN/m <sup>2</sup> )	2



Stratum	Analysis Undertaken	Number
Bromsgrove Sandstone Formation	Sulphate Characterisation (BRE SD1)	4
	Classification tests (natural moisture content)	1
	Unconfined compressive strength testing (MPa)	3
	Point load testing (Axial/ Diametral)	20

The results of the geotechnical laboratory testing are presented in full within Appendix G.

In addition a programme of non targeted analytical chemical and contamination suites of tests were scheduled upon selected soil and groundwater samples obtained to confirm characteristic soil and groundwater chemistry and contamination potential.

The programme of analytical chemical and contamination suites of tests undertaken on soil samples is summarised below within Table 5.

Stratum	Analysis Undertaken	Number
	pH, Arsenic, Cadmium, Copper, Chromium, Chromium (hexavalent), Lead, Mercury, Nickel, Selenium, Zinc	4
	Total Organic Carbon (TOC)	1
	Asbestos in Soil	2
Subsoil	Pesticides	4
	Polycyclic Aromatic Hydrocarbons (PAHs)	4
	Triazine Herbicides	4
	Total Petroleum Hydrocarbons Criteria Working Group (TPH CWG) + BTEX and MTBE	4
	pH, Arsenic, Cadmium, Copper, Chromium, Chromium (hexavalent), Lead, Mercury, Nickel, Selenium, Zinc	1
Made Ground	Total Organic Carbon (TOC)	1
	Polycyclic Aromatic Hydrocarbons (PAHs)	1
	Total Petroleum Hydrocarbons Criteria Working Group (TPH CWG) + BTEX and MTBE	1

Table 5: Summary of analytical chemical and contamination testing programmeundertaken on soil samples



Stratum	Stratum Analysis Undertaken					
	pH, Arsenic, Cadmium, Copper, Chromium, Chromium (hexavalent), Lead, Mercury, Nickel, Selenium, Zinc					
	Total Organic Carbon (TOC)	1				
Head Deposits	Asbestos in Soil	1				
	Polycyclic Aromatic Hydrocarbons (PAHs)	1				
	Total Petroleum Hydrocarbons Criteria Working Group (TPH CWG) + BTEX and MTBE	1				
	pH, Arsenic, Cadmium, Copper, Chromium, Chromium (hexavalent), Lead, Mercury, Nickel, Selenium, Zinc	1				
Egginton Common	Total Organic Carbon (TOC)					
Sand and Gravel	Polycyclic Aromatic Hydrocarbons (PAHs)	1				
	Total Petroleum Hydrocarbons Criteria Working Group (TPH CWG) + BTEX and MTBE	1				
	pH, Arsenic, Cadmium, Copper, Chromium, Chromium (hexavalent), Lead, Mercury, Nickel, Selenium, Zinc	1				
	Total Organic Carbon (TOC)	1				
Wanlip Member	Polycyclic Aromatic Hydrocarbons (PAHs)	1				
	Total Petroleum Hydrocarbons Criteria Working Group (TPH CWG) + BTEX and MTBE	1				
	pH, Arsenic, Cadmium, Copper, Chromium, Chromium (hexavalent), Lead, Mercury, Nickel, Selenium, Zinc	3				
Tarporley Siltstone	Total Organic Carbon (TOC)	3				
	Polycyclic Aromatic Hydrocarbons (PAHs)	3				
	Total Petroleum Hydrocarbons Criteria Working Group (TPH CWG) + BTEX and MTBE	3				

The results of the analytical chemical and contamination suites of tests are presented in full within Appendix H.

The programme of analytical chemical and contamination suites of tests undertaken on groundwater samples is summarised below within Table 6.



# Table 6: Summary of analytical chemical and contamination testing programmeundertaken on groundwater samples

Sample	mple Analysis Undertaken			
	pH, Redox potential, Electrical conductivity, dissolved oxygen, hardness, ammoniacal nitrogen, Phenols, Arsenic, Cadmium, Copper, Chromium, Chromium (hexavalent), Lead, Mercury, Nickel, Selenium, Zinc	7		
Groundwater	Polycyclic Aromatic Hydrocarbons (PAHs)	7		
	Semi-Volatile Organic Compounds (SVOCs)	7		
	Volatile Organic Compounds (VOCs)	7		
	Total Petroleum Hydrocarbons Criteria Working Group (TPH CWG) + BTEX and MTBE	7		

The results of the analytical chemical and contamination suites of tests for the groundwater samples are presented in full within Appendix I.

#### 3.2.6 Instrumentation and monitoring

Long term monitoring of gas and groundwater levels was made possible by the installation of standpipes and standpipe piezometers as shown within Table 7. It should be appreciated that monitoring included monitoring of boreholes installed previously (2012) by Geotechnics Ltd as well where still serviceable (Zone 1 only):

Hole	Standpipe Response Zone / Piezometer Response Zone (m)	Standpipe Slotted zone/Piezometer Tip Depth (m)	Strata
CP203	1.00 – 4.00	1.00 – 4.00	Tarporley Siltstone Formation
CP204	1.00 – 4.30	1.00 – 4.00	Gunthorpe Member
CP205	1.00 – 4.30	1.00 – 4.30	Tarporley Siltstone Formation
CP206	1.00 – 3.30	1.00 – 3.30	Tarporley Siltstone Formation and Bromsgrove Sandstone Formation

Table 7: Monitoring well installation details



CP207	1.00 – 2.70	1.00 – 2.70	Tarporley Siltstone Formation
CP208	1.00 – 2.32	1.00 – 2.00	Tarporley Siltstone Formation
CP210	8.50 – 9.50	8.50 – 9.50	Tarporley Siltstone Formation
CP211	1.00 – 7.00	1.00 – 7.00	Gunthorpe Member
CP212	1.00 – 3.45	1.00 – 3.30	Thrussington Member and Tarporley Siltstone Formation
CP213	1.00 – 4.20	1.00 – 4.20	Tarporley Siltstone Formation
CP214	1.00 – 4.20	1.00 – 4.20	Tarporley Siltstone Formation
CP215	1.00 – 4.80	1.00 – 4.80	Bromsgrove Sandstone Formation
CP216	0.50 – 2.40	0.50 – 2.40	Tarporley Siltstone Formation
CP217	1.00 – 4.60	1.00 – 4.60	Tarporley Siltstone Formation
CP218	1.00 – 4.60	1.00 – 4.60	Thrussington Member and Tarporley Siltstone Formation
CP219	1.00 – 7.70	1.00 – 7.50	Thrussington Member, Tarporley Siltstone Formation and Edwalton Member
CP220	1.00 – 5.90	1.00 – 5.70	Head Deposits and Edwalton Member
CP221	1.00 – 10.90	1.00 – 10.70	Egginton Common Sand and Gravel Member and Edwalton Member
CP222	2.50 – 6.00 (S)	6.00(P)	Edwalton Member
CP(R)203	7.00 – 25.00	7.00 – 25.00	Tarporley Siltstone Formation and Bromsgrove Sandstone Formation
	28.80 – 30.00 (S)	29.00 (P)	Bromsgrove Sandstone Formation (P)
CP(R)204	14.00 – 20.00	14.00 – 20.00	Gunthorpe Member
CP(R)205	4.10 – 20.00	4.10 – 19.00	Tarporley Siltstone Formation and Bromsgrove Sandstone Formation

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CP(R)206	9.00 – 21.00	9.00 - 21.00	Bromsgrove Sandstone Formation
	23.80 – 25.00 (S)	24.00 (P)	
CP(R)207	11.00 – 13.00 (S)	12.00 (P)	Tarporley Siltstone Formation (P)
	17.00 – 25.00	17.00 – 25.00	Bromsgrove Sandstone Formation
CP(R)208	5.00 – 20.00	5.00 – 20.00	Tarporley Siltstone Formation and Bromsgrove Sandstone Formation

(p) = Piezometer (S) = Sand Filter

Instrumentation installed within the boreholes has been monitored by trained technicians from RSK.

Initial Gas and Groundwater Monitoring was undertaken on 4 separate occasions over a five week period as follows;

- 16<sup>th</sup> and 17<sup>th</sup> October 2013
- 22<sup>nd</sup> and 23<sup>rd</sup> October 2013
- 30<sup>th</sup> and 31<sup>st</sup> October 2013
- 11<sup>th</sup> November 2013

Groundwater sampling was undertaken from Borehole CP210, CP212, CP213, CP217, CP220, CPR204 and CPR206 on the 22<sup>nd</sup> and 23<sup>rd</sup> October 2013. Groundwater sampling was undertaken in accordance with RSK Procedure No; SHEQ MS TP210 Groundwater and Surface Water – sampling and routine in-situ testing. This has been formulated in accordance with current published guidance. Samples obtained were sent to Envirolab for testing and the results are presented within Appendix I. Details of the insitu water quality results are presented within Appendix J.

Gas and groundwater level monitoring was undertaken in accordance with RSK Group SHEQMS Technical Procedure TP211 Ground Gas (Permanent gases) Monitoring and Sampling. This has been formulated in accordance with current published guidance. Groundwater levels were established using a hand held dipmeter with levels recorded with reference to depth below ground level. Gas monitoring was carried out using a Geotechnical Instruments GA2000+ Infra red gas analyser and Gas Data GFM610 flow pod. Monitoring was carried out to check for Methane, Carbon Monoxide, Carbon dioxide, Hydrogen Sulphide, Oxygen, Barometric pressure and Flow rate. In addition a Mini RAE 3000 Photo Ionisation Detector (PID) was used to confirm if volatile organic compounds were also present. The detailed results of the gas and groundwater level monitoring are presented within Appendix J.



# **FIGURES**











# APPENDIX A SERVICE CONSTRAINTS

- 1. This report and the site investigation carried out in connection with the report (together the "Services") were compiled and carried out by RSK Environment Limited (RSK) for Roxhill Developments Limited in accordance with the terms of a contract between RSK and the "client", dated 3<sup>rd</sup> September 2013. The Services were performed by RSK with the skill and care ordinarily exercised by a reasonable environmental consultant at the time the Services were performed. Further, and in particular, the Services were performed by RSK taking into account the limits of the scope of works required by the client, the time scale involved and the resources, including financial and manpower resources, agreed between RSK and the client.
- 2. Other than that expressly contained in paragraph 1 above, RSK provides no other representation or warranty whether express or implied, in relation to the Services.
- 3. Unless otherwise agreed the Services were performed by RSK exclusively for the purposes of the client. RSK is not aware of any interest of or reliance by any party other than the client in or on the Services. Unless expressly provided in writing, RSK does not authorise, consent or condone any party other than the client relying upon the Services. Should this report or any part of this report, or otherwise details of the Services or any part of the Services be made known to any such party, and such party relies thereon that party does so wholly at its own and sole risk and RSK disclaims any liability to such parties. Any such party would be well advised to seek independent advice from a competent environmental consultant and/or lawyer.
- 4. It is RSK's understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the report is used, or the proposed use of the site change, this report may no longer be valid and any further use of or reliance upon the report in those circumstances by the client without RSK 's review and advice shall be at the client's sole and own risk. Should RSK be requested to review the report after the date hereof, RSK shall be entitled to additional payment at the then existing rates or such other terms as agreed between RSK and the client.
- 5. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK, reliance on the report in the future shall be at the client's own and sole risk. Should RSK be requested to review the report in the future, RSK shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between RSK and the client.
- 6. The observations and conclusions described in this report are based solely upon the Services which were provided pursuant to the agreement between the client and RSK. RSK has not performed any observations, investigations, studies or testing not specifically set out or required by the contract between the client and RSK. RSK is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, RSK did not seek to evaluate the presence on or off the site of asbestos, electromagnetic fields, lead paint, heavy metals, radon gas or other radioactive or hazardous materials.
- 7. The Services are based upon RSK's observations of existing physical conditions at the Site gained from a walk-over survey of the site together with RSK's interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The Services are also based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely. The Services clearly are limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the walk-over survey. Further RSK was not authorised and did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services. RSK is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to RSK and including the doing of any independent investigation of the information provided to RSK save as otherwise provided in the terms of the contract between the client and RSK.
- 8. The phase II or intrusive environmental site investigation aspects of the Services is a limited sampling of the site at pre-determined borehole and soil vapour locations based on the operational configuration of the site. The conclusions given in this report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and RSK] [based on an understanding of the available operational and historical information,] and it should not be inferred that other chemical species are not present.
- 9. Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan, but is (are) used to present the general relative locations of features on, and surrounding, the site.

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# APPENDIX B PROVISIONAL EXPLORATORY HOLE SCHEDULE

## Exploratory Hole Schedule

Normal bitResult bitResul										Position		Estim Grou		
Cont         Data 1/4         Designed         Designed methods are stated as a stated as stated as a stated as a stated as			Provisional	Anticipated CP	Anticipated Coring length	Provisional Instrumentation	Current lise/surfacing	Pursued and use	Special insitu testing / sampling /Likely Lab	-	N			
No. 10.         Point of the second seco	поіе	поле туре	Deptilining	deptil lingi	<u> </u>	riovisional instrumentation	Parabala	Purposea ena use	resting nequirements			MAOI		
Control         Control <t< td=""><td>0000</td><td></td><td></td><td></td><td></td><td>To Do confirmed by Engineer depending upon</td><td>Borenoie</td><td></td><td></td><td>1</td><td>1</td><td></td></t<>	0000					To Do confirmed by Engineer depending upon	Borenoie			1	1			
Control         Control <t< td=""><td>CPR 203</td><td></td><td>30</td><td>8</td><td>13</td><td>ground conditions and water strikes</td><td></td><td>Deep Rail Head Cut</td><td>-</td><td></td><td></td><td></td></t<>	CPR 203		30	8	13	ground conditions and water strikes		Deep Rail Head Cut	-					
$ \begin{array}{c c c c c c } \hline $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $	CPR 205	CP & RC	30	7	23	encountered. In general shallow combined gas	Cropped Fields Beware sewer running					-		
CH 80:       CF 40:       S3       C <thc< th="">       C       C       C       <t< td=""><td>CPR 206</td><td>CP &amp; RC</td><td>25</td><td>i 7</td><td>18</td><td>50mm HDPE pipe to be utilised in Cable</td><td>S-N along eastern hedge boundary foot of A453222</td><td>Deen Reil Head Cut</td><td></td><td></td><td></td><td>1</td></t<></thc<>	CPR 206	CP & RC	25	i 7	18	50mm HDPE pipe to be utilised in Cable	S-N along eastern hedge boundary foot of A453222	Deen Reil Head Cut				1		
	CPR 207	CP & RC	25	7	18	Percussion boreeholes around main buildings								
PP 0         P1         P	CPR 208	CP & RC	20	7	13	and plateaus to allow sanniwo gas and perched or shallow groundwater strikes to be			4					
$ \begin{array}{c c c c c c } \hline  c c c c c c c c c c c c c c c c c c $	CP 210	CP	12	12		monitored . Deeper Standpipes or stand pipe					-			
op 21         op 24         op 34         op 34 <th< td=""><td>CP 211</td><td>CP</td><td>12</td><td>12</td><td></td><td>piezometers to be utilised and installed in</td><td></td><td>Development Cut Slope</td><td></td><td></td><td></td><td></td></th<>	CP 211	CP	12	12		piezometers to be utilised and installed in		Development Cut Slope						
in partial     in partial </td <td>CP 212 CP 213</td> <td>CP</td> <td>8</td> <td>8</td> <td></td> <td>sub artesian or artesian water levels to be</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td>	CP 212 CP 213	CP	8	8		sub artesian or artesian water levels to be						-		
CP 210         CP 210<	CP 214	CP	8	8		monitored.						-		
CP 21         CP 21 <t< td=""><td>CP 215</td><td>CP</td><td>8</td><td>8</td><td></td><td></td><td>Cropped Fields</td><td></td><td></td><td></td><td></td><td></td></t<>	CP 215	CP	8	8			Cropped Fields							
CP 210         CP 24         CP         6 <td< td=""><td>CP 216</td><td>CP</td><td>8</td><td>8</td><td></td><td></td><td>Cropped Fields</td><td></td><td></td><td></td><td></td><td></td></td<>	CP 216	CP	8	8			Cropped Fields							
	CP 217	CP	8	8				Screening Embankment Foundation						
1000000000000000000000000000000000000	CP 218	CP	8	8								-		
CP 22         CP         I <td>CP 219 CP 220</td> <td>CP</td> <td>8</td> <td>8</td> <td></td> <td></td> <td></td> <td>Bail Head</td> <td></td> <td></td> <td></td> <td></td>	CP 219 CP 220	CP	8	8				Bail Head						
CP 22         P         O         No         Part Entrop         Part Entrop <th< td=""><td>CP 221</td><td>CP</td><td>8</td><td>8</td><td></td><td></td><td></td><td>Screening Embankment Foundation</td><td></td><td></td><td></td><td>-</td></th<>	CP 221	CP	8	8				Screening Embankment Foundation				-		
Trial Pils           Trial Pils <th <="" colspan="2" pils<="" td=""><td>CP 222</td><td>CP</td><td>10</td><td>10</td><td></td><td></td><td>Farm Entrance</td><td>Rail embankment and possible underpass structure</td><td>-</td><td></td><td></td><td></td></th>	<td>CP 222</td> <td>CP</td> <td>10</td> <td>10</td> <td></td> <td></td> <td>Farm Entrance</td> <td>Rail embankment and possible underpass structure</td> <td>-</td> <td></td> <td></td> <td></td>		CP 222	CP	10	10			Farm Entrance	Rail embankment and possible underpass structure	-			
TR5300TR5300TR5300TR5300 <td></td> <td>•</td> <td></td> <td></td> <td></td> <td>•</td> <td>Trial Pits</td> <td></td> <td></td> <td></td> <td></td> <td></td>		•				•	Trial Pits							
TR302TTSolation of the solation of	TPS301	TP & Soakaway	2.5	;										
TRADE       TABLE       Area of proposed SUBSistentiation points       1 - 2 m degin       1	TPS302	TP & Soakaway	2.5	5				Area of propsoed SUDS/attenuation ponds Soakaway Infiltration tests at 1 - 2.5m depth						
1430414 S definition2 S11 <th< td=""><td>TPS303</td><td>TP &amp; Soakaway</td><td>2.5</td><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td></th<>	TPS303	TP & Soakaway	2.5				-							
1 mode         1 mode<	TPS304	TP & Soakaway	2.5											
TP 00         TP         4.5         Image: control openation open	TP 307	TP & SUARAWAY	4.5									-		
TP 00     TP     4.5     Image: Contract on the control of the contro of the control of the control of the control of the cont	TP 308	TP	4.5	;				Operated Operation of Operativity of Constructions	HV and Std geotech and Env			1		
TP 301TP4.4Image: Constraint of the cons	TP 309	TP	4.5					General Ground Conditions, foundations	Sampling					
Tr 0 11       TP       4.5       Image: Control 100 and Conditions, foundations, cut oal for anti-out subes in control 100 and Conditions, foundations, cut oal for anti-out subes in control 100 and Conditions, foundations, cut oal for anti-out subes in control 100 and Conditions, foundations, cut oal for anti-out subes in control 100 and Conditions, foundations, cut oal for anti-out subes in control 100 and Conditions, foundations, cut oal for anti-out subes in control 100 and Conditions, foundations, cut oal for anti-out subes in control 100 and Conditions, foundations, cut oal for anti-out subes in control 100 and Conditions, foundations, cut oal for anti-out subes in control 100 and Conditions, foundations, cut oal for anti-out subes in control 100 and Conditions, foundations, cut oal for anti-out subes in control 100 and Conditions, foundations, cut oal for anti-out subes in control 100 and Conditions, foundations, cut oal for anti-out subes in control 100 and Conditions, foundations, cut oal for anti-out subes in control 100 and Conditions, foundations, cut oal for anti-out subes in control 100 and Conditions, foundations, cut oal for anti-out subes in control 100 and Conditions, foundations, cut oal for anti-out subes in control 100 and 100 a	TP 310	ТР	4.5	;										
TP 313     TP     4.5     Composition and conditions, foundations, out solis for earthworks.     Composition and conditions, foundations, foundations, out solis for earthworks.     Composition and conditions, foundations,	TP 311	TP	4.5	; 					HV and Std geotech and Env Sampling, large bulks for					
$ \begin{array}{                                    $	TP 312	TP	4.5					General Ground Conditions, foundations, cut soils for	earthworks classification and			-		
10 mm         10 mm <th< td=""><td>TP 313</td><td>ТР</td><td>4.5</td><td></td><td></td><td></td><td></td><td>cartiworks.</td><td>compactuion test suites in</td><td></td><td></td><td>-</td></th<>	TP 313	ТР	4.5					cartiworks.	compactuion test suites in			-		
TP 316       TP       4.5       Image: Control or Co	TP 315	ТР	4.5				Cropped Fields		near top 1-5m deptn			-		
TP 217       TP       4.5       Celleral Model Conductors, buildaditis       Sampling       Sampling       Celleral Model Conductors, buildaditis       Sampling       Sampling       Celleral Model Conductors, buildadities       Celleral Model Conductors, buildadities       Sampling       Celleral Model Conductors, buildadities       Sampling       Sampling       Celleral Model Conductors, buildadities       Celleral Model Conductors, buildadities       Celleral Model Conductors, buildadities       Sampling, large builds for eartiworks, sampling, large builds	TP 316	TP	4.5	;				Concrel Cround Conditions, foundations	HV and Std geotech and Env					
IP       4.5       Image       Imag	TP 317	TP	4.5	5				General Ground Conditions, joundations	Sampling					
TP 310       IP       4.5       IP       4.5       IP       IP       4.5       IP       IP       4.5       IP	TP 318	TP	4.5							ļ	ļ	1		
1r       4.3       1r       4.3       1 </td <td>TP 319</td> <td>TP</td> <td>4.5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td> </td> <td></td> <td>–</td>	TP 319	TP	4.5									–		
Image       Image <th< td=""><td>TP 320</td><td>ТР</td><td>4.5</td><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td>+</td></th<>	TP 320	ТР	4.5				-					+		
TP 323       TP       4.5       Image: Second Sec	TP 322	TP	4.5				1		HV and Std geotech and Env Sampling, large bulks for		1	1		
TP 324       TP       4.5       Compact on test suites in test test sui	TP 323	TP	4.5	;				General Ground Conditions, foundations, cut soils for	earthworks classification and					
TP 325       TP       4.5       Image of the state	TP 324	TP	4.5					earthworks.	compactuion test suites in					
TP       4.5       Image: state of the state of	TP 325	ТР	4.5						riear top 1-5m depth			$\bot$		
IP       4.5       IP       6.5       IP       1P       1P <th1p< th=""> <th1p< th=""> <th1p< th=""></th1p<></th1p<></th1p<>	TP 326	TP	4.5	; 										
IP & Sola	TP 327	TP	4.5						4					
Hor of the containing in a containi	TP 351	TP & Soakaway	2.5				Cropped Fields	Flood compensation & ponds Main Development				╉───		
HP406       Hand Pit       2       Cycle Path       Flood compensation, required to examine depth to bridge foundations       Log Only/       Log Only/       Image: Compensation of the compens	HP401-405	IF α SUakaway	2.5								1			
NK = Not Known       TBC= To Be Confirmed       Note: Rotary Holes to be commenced 5m away from Cable Percussion holes and open holed to the depth acchieved by Cable Percussion prior to commencing coring.       Image: Commencing coring co	HP406	Hand Pit	2				Cycle Path	Flood compensation, required to examine depth to bridge foundations	Log Only/					
Access not yet available , Acces to these positions still to be confirmed by client and landowner. Do not undertake these investigation positions untill can confirm. Safeground GPR required as high risk utilities in area	NK = Not Kno	own	TBC= To Be Co	nfirmed		Note: Rotary Holes to be commenced 5m av	vay from Cable Percussion holes and	open holed to the depth acchieved by Cable Percussion p	rior to commencing coring.					
Safeground GPR required as high risk utilities in area		Access not yet a	vailable , Acces t	o these position	s still to be conf	irmed by client and landowner. Do not under	take these investigation positions unti	II can confirm.						
		Safeground GPF	R required as high	n risk utilities in a	area									

imated	Estimated Design Ground	
und Level	Level	Diff in level
00	m40D	m
00	IIIAOD	
69	44	25
83	70	13
57	44	13
52	44	8
60	59.5	0.5
65	59.5	5.5
80	72	8
82	74	8
69	73	-4
65	72	-7
63	72	-9
60	82	-22
64	78	-14
71	76	-5
66	76	-10
55	55	0
44	43	1
40	58	-18
37	41	-4
		0
55	53	2
68	66	2
56	54	2
53	51	2
40	38	2
72	77	-5
60	77	-17
63	77	-14
44	44	0
50	59.5	-9.5
52	44	8
53	44	9
60	59.5	0.5
56	66.5	-10.5
68	66.5	1.5
/3	67	6
56	/ט כד	-1
78	/3 72	5
12	73	-1
09 79	72	-3
62	66 5	-4 5
60	70	j _1
62	59.5	2.5
60	60	0
60	44	16
39	37	2
41.6	39.6	2
11.0	55.0	2
		-1
		0



# APPENDIX C TRIAL PIT LOGS AND PHOTOGRAPHS



discontinuity is infilled (refer to Fracture Table for details).

#### **KEY TO EXPLORATORY HOLE LOGS - SUMMARY OF ABBREVIATIONS**

#### **SAMPLING**

Sample type codes

В	=	Bulk disturbed sample.
С	=	Core sample.
CS	=	Core sample taken from rotary core for lab testing.
D	=	Small disturbed sample.
DSPT	=	Small disturbed sample originating from SPT test.
ES	=	Soil sample for environmental testing.
U	=	Undisturbed driven tube sample - Number of blows indicated. % recovery reported.

Undisturbed sample detail codes

100mm diameter undisturbed sample. =  $U_{(100)}$ 

#### **IN-SITU TESTING**

SPT <sub>(c)</sub>	=	Standard Penetration Test using a solid 60 degree cone.
SPT	=	Standard Penetration Test using split spoon sampler. (SPT <sub>(NR)</sub> indicates 'No Sample Recovery').
	=	* denotes extrapolated N value. NP denotes 'No Penetration'.
V	=	Field Vane Test. Peak value $(c_u)$ & Residual value $(c_r)$ , given as shear strength in kPa.

#### **ROTARY DRILLING INFORMATION**

W	=	Water flush returns (%)
TCR	=	Total core recovery (%)
SCR	=	Solid core recovery (%)
RQD	=	Rock quality designations (%)
If	=	Fracture spacing (mm).
		In the fracture column (i) denotes discontinuity is infilled (refer to Fracture
		Where variable the minimum - average - maximum spacing may be quoted.
		'NI' denotes non-intact core. 'NA' denotes not applicable.

All lengths used to determine rock core mechanical properties taken along the centre line of the core. Obvious induced fractures have been ignored.

The assessment of solid core is based on lengths that show a full diameter and not necessarily

a full circumference.

AZCL = Assessed zone of core loss.

#### ADDITIONAL NOTES

1. All soil and rock descriptions and legends in general accordance with BS EN ISO 14688-1, 14688-2, 14689-1, and BS5930:1999 including Amendment 2 (2010).
Material types divided by a broken line (- - ) indicates an unclear boundary.
The data on any sheet within the report showing the AGS icon is available in the AGS format.



### **KEY TO EXPLORATORY HOLE LOGS - SUMMARY OF GRAPHIC SYMBOLS**

#### WATER COLUMN SYMBOLS



First water strike, second water strike etc.

Standing water level following first strike, standing water level following second strike etc.

Seepage. Standing water level recorded at documented date.

#### MATERIAL GRAPHIC LEGENDS





# TRIAL PIT LOG

Contract: Client: Trial Pit:													it:	
	East	t Mid	lands	Gate	way	y	R	Roxhi	ll Develo	pments Ltd			]	ГР307
Contract Ref: Start:					26.	9.13	Ground Level (m A	AOD):	National G	rid Co-ordinate:		Sheet:		
<b>312494</b> End:				26.	9.13	72.61		E:445	822.3 N:327.	327.8		1	of <b>1</b>	
San	ples a	and In-si	tu Tests		er	fill							Depth	Materia
Depth No Type Results				Wat	Back	Description of Strata						(Thick ness)	Legen	
0.10-0.20	1	ES	Tx2+J-	+Vx2			Sparse vegetation slightly gravelly v to coarse quartzite (SUBSOIL)	n over very silt e and ra	stiff to very y CLAY. G re angular br	v stiff dark brown ravel is subangular ick and medium fli	n slightly r to rounde nt.	sandy ed fine	(0.30)	× × ×
							Very stiff dark of CLAY. Gravel is (THRUSSINGTC	range b s subang DN MEI	rown slightly gular to round MBER)	y sandy slightly gr led fine to coarse q	avelly ver uartzite.	ry silty	(0.35)	
0.70	2	V c <sub>u</sub> =98/74/102 B					Stiff to very stiff with occasional occasional sandy coarse mudstone, \(THRUSSINGTO	red bro subang pocket quartzi DN ME	wn slightly s ular to ang s. Gravel is te and occasi MBER)	sandy slightly grav ular sandstone co tabular angular to onal sandstone.	velly silty ( bbles and rounded	CLAY 1 with fine to	- (0.35) - 1.00	
							Very stiff red bro occasional tabular siltstone lithorelic (Weathering Grad	wn slig r to ang ts. le IVb)	htly sandy ve gular fine to 1	ery silty CLAY. R medium gravel size	ecovery in ed mudstor	cludes ne and	-	
1.50-2.00	3	В					(TARTONELT 5						-	× × - × - × - × - × - × - × - × - ×
-													-(1.80) 	
							below 2.30m angular siltstone diameter boulders	n bgl, re and f	ecovery inclu ine sandston	des occasional to s e cobbles and o	some tabul ccasional	lar and 0.25m	-	
							Grey and red bro	own SI	I TSTONE/N	AUDSTONE reco	vered as s	lightly	2.80	
							(TARPORLEY S	very si de II)	Ity very grav	ATION)	gular cobb	oles.	3.00	
• • •								111di j		at 5.00m depui.			-	
													-	
- -													-	
													-	
Plan (Not to Scale) $2.60 \longrightarrow$						General Remarks								
						<ol> <li>Location scanned with a CAT and Signal Generator prior to breaking ground. No services encountered.</li> <li>Trial pit remained stable during excavation.</li> <li>Groundwater not encountered.</li> <li>Trial pit backfilled and compacted with arisings upon completion.</li> <li>Pit terminated as machine unable to make significant further progress.</li> </ol>								
						All dimensions in metres Scale: 1:25								
Method Plan					1				Logged		Checked	d T	шß	
Jseu:	Ma	chine (	lug	Used:			<u> ЈСВ-ЗСХ</u>		<b>Б</b> у.	MHocking	DY:			


Contract:							Client:				Trial P	it:	
]	Eas	t Mid	lands	Gate	eway		Roxhi	ll Develo	pments Ltd			]	F <b>P308</b>
Contract Re	f:			Start:	25.9	0.13	Ground Level (m AOD):	National G	rid Co-ordinate:		Sheet:		
	<u>312</u>	494		End:	25.9	0.13	54.24	E:446	515.8 N:3272	287.5		1	of <b>1</b>
Sam	ples a	ind In-sit	u Tests		/ater	ıckfill		Description	of Strata			Depth (Thick	Materia Graphi
Depth	No	Туре	Res	ults	5	≊ ∞∞∞∞		- 11	14 OLAN			ness)	Legen
							oraclets: Gravel is angu quartzite, flint and rare f (SUBSOIL) Orange brown slightly Gravel is angular to rot subangular fine to mediu (HEAD DEPOSITS)	gravelly silty gravelly silty inded fine to im charcoal.	CLAY, with occ coarse quartzite,	asional ro	potlets.	(0.30) 0.30 (0.90)	
0.80	1	ES	Tx2+J	+Vx2								-	
												1.20	
1.50-1.70	2	В					Stiff fissured red brown CLAY. Recovery includ gravel siltstone fragmen (Weathering Grade IVb) (TARPORLEY SILTST 1.20m bgl, brick and 1.30m bgl, 15cm dia	n occasionally des occasiona ts. ONE FORM I mortar in sid imeter land dr	v mottled green gr l tabular to angular ATION) le of pit. (Land drai ain with flowing w	ey slightl r fine to m in) rater.	y silty nedium	-(0.80)	
-							Ped brown bedded gree	n grov SII TO	STONE bands (	0.1m thic	k) and	2.00	 × × ×
· · ·							fine SANDSTONE rec angular cobble sized frag (Grade II) (TARPORLEY SILTST	overed with gments.	ATION)	as tabula	ar and	-(0.80)	× × × × × × × × × × × × × × × × × × ×
					2	~~~~	Trial	pit terminated	at 2.80m depth.			2.80	XXX
· · · · · ·												- - - - - - - - - -	
Plan (Not to	Scale	<u>م</u> ا						General	Remarks				
		2.30	0>		1. Lo en 2. Ti 3. Gi 4. Ti 5. M 6. Pi	cocation rial pir round rial pir lade g t term	on scanned with a CAT and tered. t remained stable during ex water not encountered. t backfilled and compacted round associated with back hinated as machine unable t	Signal Gener cavation. with arisings fill material f o make signif	ator prior to breaki upon completion. rom the land drain icant further progre	ng ground encounter ess.	1. No se red.	rvices	
							All dimensions in metres	8	Scale:		1:25		
Method Used	Ma	ahina -		Plant Used				Logged By:	MUoslina	Checked	d 7	MB	
	1114		ug				JUJJUA	2	THIOCKING	<u> </u>	-		



Contract:								Client:				Trial Pi	it:	
-	East	t Mid	lands	Gate	way	,		Roxh	ill Develo	opments Ltd			]	ГР309
Contract Re	f:			Start:	25.9	9.13	Groun	d Level (m AOD):	National C	Frid Co-ordinate:		Sheet:		
	3124	494		End:	25.9	9.13		63.52	E:446	680.1 N:3273	302.3		1	of <b>1</b>
Sam	ples a	ind In-sit	tu Tests	ulta	Vater	ackfill			Descriptior	n of Strata			Depth (Thick	Material Graphic
Depth		Туре	Res				Crop	stubble over very	stiff brown	slightly sandy slig	ghtly grav	elly to	ness)	
0.10		ES	Tx2+J	+ <b>v</b> x2			Very Reco	ded fine to coarse q 3SOIL) vn very clayey ar one to fine sandstor AD DEPOSITS) stiff red brown very includes occ	gular to rou: e GRAVEL/ occasionally asional angu	nded fine to coars very gravelly CLA mottled light gre ular to subangular	se quartzi Y. ey silty ( fine to	te and CLAY. coarse	- 0.25 - 0.45 -	
-0.95-1.20	2	В					sands (Wea (TAI (	stone fragments. athering Grade IVb RPORLEY SILTS ).80m bgl, slightly	) ONE FORM gravelly.	ATION)			- (0.75) - - 1.20	
- -							Very inclu lithou (Wea (TAI	stiff fissured red b des occasional ta relicts and siltstone athering Grade IVb RPORLEY SILTS	rown mottled bular and a and fine sand ONE FORM	l green grey silty C ngular fine to c lstone fragments. ATION)	LAY. Re oarse mu	covery idstone	-	
- - -							tabul	below 1.90m bgl, r ar mudstone fragm	ecovery incluents.	des occasional to so	ome cobbl	e sized	(1.50)	
- - - -							Red	brown bedded gr	een grev SII	TSTONE and fine	> SANDS	TONE	2.70	
- -						~~~~~	recov (Wea) (TAI	vered as gravel and athering Grade II) RPORLEY SILTS	tabular and an	ATION)	in clay ma	atrix.		
-								Trial	pit terminated	1 at 2.80m depth.			-	
- - - - -													-	
Plan (Not to	Scale	e)							General	Remarks				
06.0	€ 2.00 → 2.00 → 06 0						n scanr tered. t remain water r t backf ninated	ned with a CAT and ned stable during en not encountered. illed and compacted as machine unable	l Signal Gene ccavation. l with arising to make signi	rator prior to breaki s upon completion. ficant further progre	ing ground	1. No se	rvices	
Method				Dlant			All d	limensions in metre	S Logged	Scale:	Chacka	1:25		
Used:	Ma	chine c	lug	Used	:		JCB	-3CX	By:	MHocking	By:	<b>J</b>	MB	AGS



Contract:								Client:					Trial	Pit:	
	Eas	t Mid	lands	Gate	eway	/		R	oxhil	l Develo	pments ]	Ltd			ГР310
Contract Re	ef:			Start:	25.	9.13	Ground	Level (m A0	OD):	National G	rid Co-ordina	ate:	Sheet		
	312	494		End:	25.	9.13		44.47		E:447	071.9 N:	327481.3	3	1	of 2
San Depth	nples a	and In-sit	tu Tests Res	sults	Water	Backfill			]	Description	of Strata			Depth (Thick ness)	Materia Graphi Legen
							Crop occasi quartz (SUB Dark mediu fine to (EGG	over brown onal to some ite and flint. SOIL) orange brow m SAND w o coarse flint INTON COM	n slight e rootlet n mottl ith occa and qua MMON	tly gravelly ts. Gravel i ed brown s asional root artzite. SAND AN	s silty very s angular to p lightly clayey lets. Gravel D GRAVEL	sandy CLA rounded fine y silty grave is angular to	AY, with e to coarse Ily fine to o rounded		
0.80-0.90	1	ES	Tx2+J	J+Vx2			0.	90m bgl, act	ive land	l drain enco	untered.		- 1:	1.20	
1.50-1.80	2	В					orang round angula (EGG	e brown cla ed to angul ar sandstone INTON COM	ayey ve lar fine and flin MMON	to coarse t. SAND AN	ghtiy graveli quartzite ar	y SAND. 1d occasion:	al tabular	-	
							b	elow 2.10m t	ogl, orai	nge slightly	clayey silty S	SAND.		-	
3.30-3.60	3	В												- (3.40)	
														-	
Plan (Not te	o Scal	e)							(	General	Remarl	25			
06.0		2.7(	0		1. L er 2. T 3. C 4. T 5. P	locatio ncoun Irial pi Iround Irial pi Irial pi	on scanne tered. t remain water no t backfil ninated a	ed with a CA ed stable dur of encountere led and comp s machine ur	T and S ring exce ed. pacted v nable to	Signal Gener avation. with arisings make signif	rator prior to supon complete	breaking gro etion. progress.	ound. No s	services	
							All di	mensions in	metres		Scale:		1:25		



Contract:	Act	t Midl	ande	Gate	way	v		Client:	Rovh	ill Devel	opments Ltd		Trial Pi	it:	ГР310
Contract Ref	245	, iviiui	anus	Start:	25.	9.13	Grour	nd Level (r	n AOD):	National C	Grid Co-ordinate:		Sheet:	-	
3	8124	494		End:	25.	9.13		44.4	7	E:447	7071.9 N:3274	481.3		2	of <b>2</b>
Samj	ples a	nd In-sit	u Tests	ulta	Vater	ackfill				Description	n of Strata			Depth (Thick	Material Graphic
Depth	INO	Type	Res	uns		e XXXXX								$\frac{1}{4}$ ness)	
-															
-															
														-	
Plan (Not to	Scale	e)								General	l Remarks				
06.0		2.70	)												
							All	dimension	s in metre	S	Scale:		1:25	-	
Method Used:	Ma	chine d	lug	Plant   Used	:		JCF	B-3CX		Logged   By:	MHocking	Checked By:	d <b>J</b>	мB	AGS



Contract:							Client:				Trial Pi	it:	
E	ast	t Mid	lands	Gate	way	V	Roxhi	ll Develo	pments Ltd			Т	<b>P311</b>
Contract Ref:				Start:	25.	9.13	Ground Level (m AOD):	National G	rid Co-ordinate:		Sheet:		
3	124	494		End:	25.	9.13	50.03	E:447	067.7 N:3272	271.9		1	of <b>1</b>
Samp	les a	nd In-sit	tu Tests		er	fill						Depth	Materia
Depth	No	Type	Res	ults	Wat	Back		Description	of Strata			(Thick ness)	Graphic Legend
0.00-0.30	1	B					Crop stubble over very s	stiff brown s	lightly gravelly silt	v sandy	CLAY		×
							with occasional subrour	nded quartzite	e cobbles and root	tlets. Gra	avel is ar fine	(0.30)	. <u> </u>
0.20-0.30	2	ES	Tx2+J	+Vx2			brick.	o course quu		iure ungui	аг нис Г	0.30	× · · · · · · · · · · · · · · · · · · ·
							Verv stiff dark orange b	rown mottled	brown slightly gr	avellv ver	v siltv	-	
							CLAY with occasional r	ootlets. Grav	el is subrounded to	rounded	fine to	(0.60)	
							(HEAD DEPOSITS)	e quartzite.				-	×
												0.90	×
-							Very stiff red brown	occasionally	bedded green gre	ey silty C	LAY.	_	× ~
							occasionally coarse gra	ivel sized m	udstone lithorelict	ts and sil	ltstone	-	×
							(Weathering Grade IVb)					-	x
							È (EDWALTON MEMBÉ	ER)				-	<u></u>
												-	
												(1.50)	<u> </u>
												-	
												-	
													×
												-	×
												2.40	×
							Orange brown occasion	ally bedded g	grey very weather	ed SILTS	TONE		
							gravel and cobbles within	recovered as n clay matrix.	tabular and angula	ar fine to	coarse	-	$\begin{array}{c} \times & \times & \times \\ \times & \times & \times \\ \times & \times & \times \end{array}$
							<ul> <li>(Weathering Grade II)</li> <li>(EDWALTON MEMBER</li> </ul>	ER)				-	$\times$ $\times$ $\times$ $\times$ $\times$ $\times$ $\times$ $\times$
							below 2.10m bgl, gr	avelly silty.				-	$\begin{array}{c} \times \times \times \\ \times \times \times \end{array}$
-												(1.35)	$ \begin{array}{c}                                     $
												(1.55)	$\begin{array}{c} \times & \times & \times \\ \times & \times & \times \\ \times & \times & \times \end{array}$
												-	$\begin{array}{c} \times \times \times \\ \times \times \\ \times \times \end{array}$
												-	$\begin{array}{c} \times \ \times \ \times \\ \times \ \times \ \times \end{array}$
												-	$\hat{\mathbf{x}} \times \hat{\mathbf{x}}$
												- 3.75	$\begin{array}{c} \times & \times & \times \\ \times & \times & \times \\ \times & \times & \times \end{array}$
							Trial	pit terminated	at 3.75m depth.			-	
-												-	
												-	
												-	
												-	
Plan (Not to S	Scale	e)						General	Remarks				
		-			1 т	ocati	on coonned with a CAT = 1	Signal Com	ntor prior to here 1	ng (ma 1	I No -	nicos	
	-	- 2.70	0	-	1. L	ncoun	tered.	. Signal Gener	ator prior to breaki	ng ground	I. INO SE	IVICES	
6					2.1 3.0	rial p Bround	it remained stable during ex dwater not encountered.	cavation.					
o V					4. T	rial p	it backfilled and compacted rick fragments associated w	with arisings	upon completion.				
					6. P	it tern	ninated as machine unable t	o make signif	icant further progre	ess.			
											1.05		
Method				Plant			All dimensions in metres	5 Logged	Scale:	Checker	1:25		
Used:	Ma	chine d	lug	Used	:		JCB-3CX	By:	MHocking	By:	Ī	MЬ	AG



Contract:							Client:				Trial P	it:	
Eas	t Mid	lands	Gate	way	7		Roxh	ill Develo	opments Ltd			]	ГР312
Contract Ref:			Start:	27.9	9.13	Groun	d Level (m AOD):	National G	rid Co-ordinate:		Sheet:		
312	494		End:	27.9	9.13		51.47	E:447	222.9 N:327	107.5		1	of <b>1</b>
Samples	and In-sit	tu Tests	ulto	Vater	ackfill			Description	n of Strata			Depth (Thick	Material Graphic
0.10-0.20 1	ES	Tx2+J-	+Vx2		I	Crop CLA medi (SUI Very frequ (Wea (TAI	stubble over very s Y with occasional um quartzite and fli 3SOIL) stiff orange browr ient tabular and ang athering Grade IVb/ RPORLEY SILTST	soft dry slight rootlets. Gr int. I slightly sand ular sandston III) ONE FORM	tly sandy slightly gr avel is angular to dy silty CLAY. Ro e cobbles. ATION)	ravelly ver rounded t ecovery in	ry silty fine to	(0.30) 0.30 (0.65)	
1.00-1.20 2	В					Very inclu fragr (Wea (TAI (	stiff fissured red b des tabular and a nents. athering Grade III) @ 1.10m bgl, green @ 1.40m bgl, green	rown bedded ngular fine ONE FORM grey bands. grey bands.	green grey silty Cl to coarse sandstor ATION)	LAY. Reand si	covery ltstone	- 0.95 	
1.60-1.70 3	В					Angu Red recov 0.25i (Wea (TAI (	below 1.60m bgl, in lar sandstone and si brown bedded gre vered as tabular and m diameter within c athering Grade II) RPORLEY SILTST @ 1.85m bgl, green @ 2.00m bgl, green Trial	recovery inclu litstone cobble en grey fine d angular cob lay matrix. 'ONE FORM grey bands. grey bands. pit terminated	ades occasional to s es. SANDSTONE ar bles and occasion ATION) 1 at 2.10m depth.	ome tabul nd SILTS al boulder	lar and	1.70 -(0.40) - 2.10	
Plan (Not to Scal	e) 2.10	0	-	1. L er 2. T 3. G 4. T 5. P	ocatic ncoun rial pi rounc rial pi it term	on scani tered. it remai lwater r t backf ninated	ned with a CAT and ned stable during ex not encountered. illed and compacted as machine unable	General I Signal Gene acavation. I with arisings to make signif	Remarks rator prior to breaki s upon completion. ficant further progre	ing ground	1. No se	rvices	
Method Used: Ma	chine d	lug	Plant Used:	 :		All d	limensions in metre	s Logged By:	Scale: MHocking	Checked By:	1:25	MB	AGS



Contract:								Client:				Trial Pit	:	
ŀ	East	t Mid	lands	Gate	eway	y		Roxh	ill Develo	pments Ltd			Т	<b>P313</b>
Contract Ref	2			Start:	24.	9.13	Groun	d Level (m AOD):	National G	rid Co-ordinate:		Sheet:		
3	<u>812</u>	494		End:	24.	9.13		52.57	E:447	140.3 N:327	118.1		1	of <b>1</b>
Sam	ples a	and In-sit	u Tests		er	ŨП							Depth	Materia
Depth	No	Type	Resu	ılts	Wat	Back			Description	of Strata		0	(Thick ness)	Graphic Legend
0.20.0.20	1	- JF C	T-2+1				Crop CLA coars	stubble over very Y with frequent re e quartzite and flin	stiff very dry ootlets. Grave t.	brown slightly gra el is subangular to	velly silty rounded f	sandy fine to	(0.35)	
0.20-0.30		ES	1 X2+J-	FVX2			(SUI	BSÔIL)				-	0.35	<u> </u>
							Very	stiff orange bro sional rootlets C	wn slightly g ravel is suba	gravelly silty sand ngular to rounded	dy CLAY 1 fine to a	with -	(0.05)	× ×
							quart	zite and sandstone	10,01 15 5000	ingunar to rounate			(0.35)	$\overline{\times \cdot } \cdot \overline{\times }$
							(HEA	AD DEPOSITS)	www.clightly.c	andy CLAV Pa	covery in	cludes	0.70	× i
							some	to frequent tabu	lar and angul	ar fine grained li	ght grey l	brown		
							sand	stone cobbles.				F		
-							(Wea)	RPORLEY SILTS	ONE FORM	ATION)				
												-		
1 20 1 50	2	р					8					-		
1.50-1.50		D					8					-		
							8					-	(1.60)	
							§1	between 1.60m and	2.00m bgl, co	bble to small bould	der sized p	ockets		
							of sti	ff red brown mottle	ed green grey s	silty CLAY.				
							8					-		
-							8	balow 2.00m b	al light brow	un grou fina ta u	madium a	rainad		
2.10-2.30	3	в					SAN	DSTONE recovere	d as tabular c	obbles and 0.50m	diameter co	obbles		
		_					and	fine to coarse grav	vel in interbed	dded slightly sand	y silty cla	y and	2.30	
								Trial	nit terminated	at 2 30m depth		/[		
									<b>r</b>			-		
												-		
												-		
												-		
												-		
=														
												-		
												-		
												-		
												-		
												-		
												-		
-												-		
												-		
												-		
												-		
Plan (Not to	Scale	e)							General	Remarks				
					1 T	0004	ncorr	ad with a CAT and	Signal Carry	otor prior to brach	ing ground 1	No	iner	
	-	2.6	0		1. L   e	ncoun	tered.	icu witti a CAT allo	i Signai Gener		ing ground	. IND SEP	VICES	
Q					2.7	rial pi	t remain	ned stable during e	cavation.					
0.9					4. T	rial pi	t backf	illed and compacted	l with arisings	upon completion.				
,					5. P	it tern	ninated	as machine unable	to make signif	icant further progre	ess.			
							Δ11 c	imensions in metre	s	Scale:		1.25		
Method				Plant	1		AIL		Logged	Stait.	Checked	1.43	10	
Used:	Ma	chine d	lug	Used	:		JCB	-3CX	By:	MHocking	By:	и	ND.	AGS



Contract:								Client:						Trial P	it:	
E	last	t Mid	lands	Gate	eway	y		]	Roxhi	ll Devel	opments	s Ltd			r	ГР314
Contract Ref:				Start:	25.	9.13	Groun	d Level (m	AOD):	National C	Grid Co-ordi	nate:		Sheet:		
3	124	494		End:	25.	9.13		59.81		E:446	6965.9 N	:3271	21.7		1	of 1
Samp Depth	oles a No	nd In-sit	tu Tests Resi	ults	Water	Backfill				Description	n of Strata				Depth (Thick ness)	Materia Graphic Legend
0.60-0.70	1	ES	Tx2+J	+Vx2			Crop with occa: (SUF Very CLA to me (HE)	stubble ov frequent ra sionally coa 3SOIL) stiff oran; Y with occ edium quart AD DEPOS	ver very ootlets. arse quar ge brow asional r tzite. SITS)	stiff brown Gravel is a zite and flin n mottled b ootlets. grav	slightly san ngular to re t. vrown slight vel is suban	dy grave ounded f tly grave gular to s	lly silty fine to m elly silty subround	CLAY hedium	0.25	
1.00-1.20					Very CLA siltst (Wea (TAI	v stiff fissu Y. Recove one and fin athering Gra RPORLEY	rred red rry incluc e sandsto ade IVb) SILTST	brown occ les occasiona ne fragment ONE FORM	asionally b al angular fi s. IATION)	edded g ne to coa	reen greg	y silty el sized	(0.85)			
- 2.15-2.35	2.15-2.35 3 B						Red recov some (Wea (TAI	brown bed vered as tab cobble size athering Gra RPORLEY	lded gre oular and ed fragm ade III) SILTST	en grey SIL angular fin ents within a ONE FORM	TSTONE a e to coarse ; a clay matrix IATION)	nd fine gravel an	SANDS id occasio	TONE onal to	(1.00)	
									Inal		d at 2.85m c	lepth.			-	
Dlan (Not to )	Pagl									Ganara	Domo	rlza				
Plan (Not to $ \begin{array}{c} 0\\ -\\ 0\\ 0 \end{array} $	€ ↓					locatic ncoun Trial pi Ground Trial pi Vit term	on scant tered. it remain lwater r it backf ninated	ned with a C ned stable d not encounte illed and co as machine	CAT and luring ex ered. mpacted unable t	Signal General cavation. with arising o make signi	erator prior t s upon com ficant furthe	t KS o breakir pletion. er progres	ng ground	d. No se	ervices	
Math 1				D1			All c	limensions	in metres	Lagrad	Scale:	1	Class 1	1:25		8
Method Used:	Ma	chine c	lug	Used	:		JCB	3-3CX		Logged By:	<u>M</u> Hocki	ng	Checked By:	<sup>1</sup> ]	MB	AGS



Contract:							Client:				Trial Pi	t:	
Ea	ast	Midl	ands	Gate	way		Roxhi	ill Develo	pments Ltd			Т	P315
Contract Ref:			:	Start:	26.9	.13	Ground Level (m AOD):	National G	rid Co-ordinate:		Sheet:		
31	24	94	1	End:	26.9	.13	56.37	E:446	555.6 N:3271	118.9		1	of <b>1</b>
Sample	es an	id In-sit	u Tests	1,	Vater	ackfill		Description	of Strata			Depth (Thick	Material Graphic
Deptn N	NO	Type	Kesu	lits	N N	 XXXXX	Cross over stiff brown	alightly an	welly silty CLAN	7 mith fr	aquant	ness)	
0.10-0.20	1	ES	Tx2+J⊣	+Vx2			rootlets. Gravel is angu and flint. (SUBSOIL) Very stiff dark orange occasional rootlets. Grav	brown slight	ly gravelly very si to rounded fine to	ilty CLA	$\frac{1}{2}$	(0.30) 0.30	
0.70		v	c.=92/6	58/78	XXXXXXX		(HEAD DEFOSITS)					- 0.80	<u> </u>
- 1.20-1.40	2	В					Firm to stiff fissured re CLAY. Recovery inclu sandstone fragments. (Weathering Grade IVa- (TARPORLEY SILTST below 1.00m bgl, sandy very clayey SILT.	ed brown occ ides occasion III) ONE FORM. sandy very	casionally mottled al fine to coarse s ATION) silty CLAY and	green gre iltstone ar slightly g	ry silty nd fine ravelly		
· · · · · · · · · · · · · · · · · · ·							below 2.90m bgl, r siltstone and fine sandsto	ecovery inclu one cobbles.	des occasional tab	ular and a	angular	- - - - - - -	
· · · · ·					×××××××		below 3.55m bgl, and tabular and angula (GRAVEL. (Grade III)) Light green grey SILT tabular and angular cobb (Weathering Grade III) (TARPORLEY SILTST Trial)	light green gr ar fine to co STONE and oles within cla ONE FORM. pit terminated	ey interlaminated s aarse siltstone and fine SANDSTON y matrix. ATION) at 3.80m depth.	stiff silty fine san NE recove	CLAY adstone	3.70 3.80	  × × × × × × × × ×
Plan (Not to Sc	cale)							General	Remarks			-	
06.0							on scanned with a CAT and tered. t remained stable during ex lwater not encountered. t backfilled and compacted hinated as machine unable t	Signal Gener cavation. with arisings to make signif	rator prior to breaking upon completion.	ing ground	d. No ser	rvices	
M.d. 1				DI			All dimensions in metres	S	Scale:	<u>C1</u> 1	1:25		
Method Used: M	lac	<u>hi</u> ne d	lug	Used:			JCB-3CX	Logged By:	MHocking	Checked By:		MB	AGS



Contract:								Client:					Trial P	it:	
	East	t Mid	lands	Gate	way	/		Rox	hill [	Developm	ents Ltd			r	ГР316
Contract Re	f:			Start:	26.9	9.13	Groun	d Level (m AOD)	): N	Vational Grid Co	o-ordinate:		Sheet:		
	3124	494		End:	26.9	9.13		68.16		E:446322	.8 N:327(	)59.6		1	of <b>1</b>
Sam	ples a	nd In-si	tu Tests	ulte	Vater	ackfill			De	escription of St	rata			Depth (Thick	Material Graphic
0.10-0.20	1	ES	Tx2+J-	+Vx2			Crop CLA coars	stubble over ver Y with frequent se quartite and ra	ry stiff rootle are brid	f brown slightly ets. Gravel is s ck.	gravelly slig ubangular to	htly sand rounded	ly silty fine to	(0.30)	Legend
0.50		v	>120	x 3			Very occas quart (THI	stiff dark orange sional rootlets. tzite. RUSSINGTON M	e brov Grave /IEMB	wn slightly grav el is subrounde BER)	velly silty san d to rounded	dy CLAY	Y with coarse	(0.50)	
0.80-0.90 0.90	2	B V	>120	x 3			Very Reco (Wea (TAI	stiff fissured re wery includes rare athering Grade IV RPORLEY SILTS	ed bro e tabul b) STON	wn occasionall lar and angular IE FORMATIO	y mottled gro fine sandstone N)	ey silty C e cobbles.	CLAY.	0.80	
								below 1.50m bg	gl, rec	covery includes	frequent gre	y fine to	coarse	(1.15)	
1 00 2 00	2	P					grave  grave	el and cobbles of f below 1.70m bg el and cobbles of f	fine sa gl, rec fine sa	andstone and sil covery includes andstone and sil	tstone. frequent greg tstone.	y fine to	coarse	-	
1.90-2.00	3	В					Ligh recov (Wea (TAI	t grey banded revered as tabular ar athering Grade III RPORLEY SILTS	ed bro nd ang ) STON	own SILTSTO gular cobbles wi IE FORMATIO	NE and fine thin clay mati N)	SANDS rix	TONE	(0.45)	× × × × × × × × × × × × × × × × × × ×
								Tria	al pit t	terminated at 2.4	40m depth.				
Plan (Not to	Scale	e)							Ge	eneral Re	marks				
0.90	•	2.6	0>	]	1. L er 2. T 3. G 4. T 5. M 6. P	ocatic ncoun rial pi rounc rial pi lade g it tern	on scani tered. t remain lwater r t backf round a ninated	ned with a CAT at ned stable during not encountered. illed and compact associated with fa as machine unable	nd Sig excav ted wit rming le to m	gnal Generator p ration. th arisings upon track. nake significant	prior to breaki completion. further progre	ng grounc	1. No se	rvices	
Mothod				Dland			All c	limensions in met	res	Sca	ale:	Charles	1:25		
Wethod Used:	Ma	chine c	lug	Used:	:		JCB	3-3CX		y: MH	ocking	By:	<b>. 7</b>	MB	AGS



Contract:								Client:				Trial P	it:	
]	East	t Mid	lands	Gate	way	7		Roxh	ill Develo	pments Ltd			]	F <b>P317</b>
Contract Re	f:			Start:	26.9	9.13	Groun	d Level (m AOD):	National G	rid Co-ordinate:		Sheet:		
	3124	494		End:	26.9	9.13		73.04	E:446	107.4 N:327	052.1		1	of <b>1</b>
Sam	ples a	and In-si	tu Tests	1,	Vater	ackfill			Description	of Strata			Depth (Thick	Material Graphic
Deptn	INO	Туре	Kest		N N	e XXXX	Crop	stubble and gras	s over very s	tiff brown slightly	y sandy s	slightly	ness)	
0.10-0.30		ES	Tx2+J-	+Vx2			angu (SUF Very	lar to rounded fine <u>3SOIL</u> stiff dark orange	to coarse quar	gravelly very silty	CLAY.	Gravel	(0.30) 0.30 (0.30)	
0.65		v	>120	x 3			(THI Very (Wea (TAI	RUSSINGTON M stiff red brown sli athering Grade IVb RPORLEY SILTS	EMBER) ghtly silty CLA ) TONE FORM	AY.			0.60	
0.90-1.00 -0.90-1.00	2 3	B ES	Tx2+J-	+Vx2			(						-	
													(1.30)	
1.60	4	В											- - - 190	
2.00	5	В					Gree recov upto (Wea (TAI	n grey and red vered as tabular für 0.30m in size. tthering Grade III) <u>PORLEY SILTS</u> Tria	FOWN fine S to coarse gr FONE FORM. pit terminated	ATION) a t 2.10m depth.	d MUDS t tabular c	obbles	2.10	
-													- - - - -	
													-	
Plan (Not to	Scale	e)							General	Remarks				
06.0		2.4	0	-	1. L er 2. T 3. G 4. T 5. P 6. T	ocation ricoum rial pi rounc rial pi it term rial pi	on scanr tered. t remain lwater r t backf ninated t 318 n	ned with a CAT an ned stable during e not encountered. illed and compacte as machine unable ot undertaken due	d Signal Gener xcavation. d with arisings to make signif to crops.	rator prior to break upon completion. icant further progra	ing ground	d. No se	rvices	
				DI			All c	limensions in metro	es	Scale:	01 1	1:25		
Method Used:	Ma	chine c	dug	Plant Used:	:		JCB	-3CX	Logged By:	MHocking	Checked By:	d <b>J</b>	MB	AGS



Co	ntract:							Client:				Trial Pi	it:	
	]	East	t Mid	lands	Gate	way		Roxh	ill Develo	opments Ltd			Т	P319
Co	ntract Re	f:			Start:	25.9	9.13	Ground Level (m AOD):	National G	rid Co-ordinate:		Sheet:		
		3124	494		End:	25.9	.13	77.59	E:446	010.2 N:326	<b>584.3</b>		1	of <b>1</b>
	Sam	ples a	und In-sit	tu Tests		ter	-fill			2.5			Depth	Material
	Depth	No	Туре	Res	ults	Wa	Back		Description	of Strata			(Thick ness)	Legend
0.	10-0.20	1	ES	Tx2+J	I+Vx2			Crop stubble over stiff of CLAY with occasional coarse quartzite and ign (SUBSOIL) Red brown occasional SANDSTONE recover occasional boulders up (Weathering Grade III) (TARPORLEY SILTST	orange brown rootlets. Gr eous rock. ly mottled g ed as tabular o 0.30m in siz	slightly gravelly sli avel is angular to reen grey SILTST and angular grav ze within a clayey r ATION)	ghtly sandy rounded fi FONE and rel, cobble natrix.	y silty ine to	- 0.25	
1. 1.	10-1.20 10-1.20	2 3	B B										(1.25)	
								Trial	nit terminated	t at 1 50m denth			1.50	
Pl	an (Not to	Scale	e)						General	Remarks				
	0.90		2.3(	0		1. Lo en 2. Tr 3. Gi 4. Tr 5. Pi 6. Tr	ocatic coun rial pi rounc rial pi t term rial pi	n scanned with a CAT and tered. t remained stable during e: water not encountered. t backfilled and compacted inated as machine unable t 318 not undertaken due t	l Signal Gener acavation. l with arisings to make signif o crops.	rator prior to breaki s upon completion. ficant further progre	ing ground.	. No ser	rvices	
								All dimensions in metre	S	Scale:		1:25		



Contract:								Client:					Trial I	Pit:	
ŀ	East	t Mid	lands	Gate	eway	y			Roxhi	ll Devel	opments l	Ltd		r	ГР320
Contract Ref	f:			Start:	26.	9.13	Ground	l Level	(m AOD):	National (	Grid Co-ordina	ate:	Sheet:		
3	<u>312</u>	494		End:	26.	9.13		71.4	18	E:446	5101.0 N:	326806.	1	1	of 1
Samı Depth	ples a	ind In-sit	tu Tests Res	ults	Water	Backfill				Description	n of Strata			Depth (Thick ness)	Materia Graphi Legen
0.10-0.20	1	ES	Tx2+J	+Vx2			Crop CLA to me (SUB Stiff Grave (THR	stubble Y with dium qu SOIL) orange el is sub USSIN	over very occasional s iartzite. brown slig rounded to GTON ME	soft brown some rootlets htly sandy rounded fine MBER)	slightly gravel s. Gravel is an slightly grave e to medium qu	ly slightly s ngular to rou lly very sili artzite.	sandy silty unded fine ty CLAY.	(0.30) 0.30	
0.75		V	c <sub>u</sub> =112	2/90/99			Stiff angul (THR Very	light or ar to rou CUSSIN stiff rec	ange browr inded fine t GTON ME l brown bec	n grey slight o medium fl MBER) Ided green g	ily gravelly sil int and quartzi rev slightly sa	lty CLAY. ite. ndv very sil	Gravel is	- <u>1.05</u>	
1.50-1.70 1.50-1.70	23	BB			1 V		Record cobbl (Wea (TAR 	very in es. thering PORLI below le III)	Grade IVa/ Grade IVa/ EY SILTST 1.80m bgl,	iasional tab III) ONE FORM	IATION) includes some	e to frequen	tt cobbles.	(1.90)	
· · · · ·									Trial	pit terminate	d at 3.10m dep	oth.		-	
Plan (Not to	Scale	e)								Genera	l Remarl	75			
06.0		2.4	0		1. I e 2. T 3. C 4. T 5. F	Location Incoun Frial pi Ground Frial pi Pit tern	on scann tered. it remair lwater e it backfi ninated a	ed with ned stab ncounte lled and as mach	a CAT and le during ex red below 1 compacted ine unable t	Signal Generation. .80m bgl. with arising o make sign	erator prior to s upon comple	breaking gro etion. progress.	ound. No s	ervices	
							All d	imensio	ns in metres	3	Scale:	1	1:25		



Contract:							Client:				Trial Pi	t:	
	East	t Mid	lands	Gate	eway	y	Roxh	ill Develo	opments Ltd			]	ГР321
Contract Re	ef:			Start:	26.	9.13	Ground Level (m AOD):	National G	rid Co-ordinate:		Sheet:		
	3124	494		End:	26.	9.13	68.58	E:446	307.6 N:326	646.9		1	of <b>1</b>
San	nples a	ind In-si	tu Tests	1.	Vater	ackfill		Description	n of Strata			Depth (Thick	Materia Graphi
Depth	NO	Type	Res	ults	>		Cross over your stiff h	norran aliahth	aroually alightly	and	u ailtu	ness)	Legend
0.20-0.30	1	ES	Tx2+J	+Vx2			CLAY with frequent ro medium quartzite. (SUBSOIL) Red brown slightly g subangular to rounded sandstone with rare rour (HEAD DEPOSITS)	ravelly sand fine to mediu ided fine quar	y very silty CLA m occasional coar tzite pebbles.	AY. Gra	vel is te and	(0.35) - 0.35 - - - - (0.75)	
0.80-0.90	2	В					Stiff to very stiff red b	rown mottled	light grey and gre	een grey sl	lightly	- - - <u>1.10</u>	
							sandy silty CLAY. Re fine to coarse siltstone a (Weathering Grade IVb) (TARPORLEY SILTST	covery incluent nd fine sands ONE FORM	des occasional tabi tone fragments. ATION)	ular and a	ngular	- - - - -	
-												- (1.40) - - - -	
2.70-2.80	3	В			<b>1</b> <u>−</u>		Red brown SILTSTON and angular fine to co matrix. (Weathering Grade III) (TARPORLEY SILTST	E and fine S barse gravel	ANDSTONE reco and frequent cobb ATION)	wered as t bles within	abular n clay	2.50 (0.35) 2.85	
							Trial	pit terminated	1 at 2.85m depth.				
												-	
Plan (Not to	o Scale	e)						General	Remarks				
06.0	 ↓	2.10	0>	]	1. I e 2. T 3. C 4. T 5. F	Locatic ncoun Trial pi Ground Trial pi Pit term	on scanned with a CAT and tered. t remained stable during es lwater encountered at 2.70 t backfilled and compacted inated as machine unable	I Signal Gene acavation. m bgl. I with arising to make signi	rator prior to breaki s upon completion. ficant further progre	ing ground	l. No sei	rvices	
				1-			All dimensions in metre	S	Scale:		1:25	-	
Method Used:	Ма	china e	վուց	Plant Used			ICB-3CV	Logged By:	MHooking	Checked Bv:	Ţ	MB	AG
	1 <b>11</b> a	UIIII (	Jug				JUD-JUA	- <sup>-</sup>	minuthing	J .			



Contract:							Client:				Trial Pi	t:	
E	ast	Mid	lands	Gate	eway	7	Roxh	ill Develo	pments Ltd			Τ	P322
Contract Ref:				Start:	27.	9.13	Ground Level (m AOD):	National G	rid Co-ordinate:		Sheet:		
31	124	194		End:	27.	9.13	74.20	E:446	496.5 N:3265	577.7		1	of <b>1</b>
Sampl	es a	nd In-sit	tu Tests		ater	ckfill		Description	of Strata			Depth (Thick	Materia Graphi
Depth 1	No	Туре	Resu	ults	M	Ba		Desemption	01 50 400			ness)	Legen
0.60	1	ES B B	Tx2+J-	+Vx2			Crop stubble over very very silty CLAY with subrounded to rounded i (SUBSOIL) Very soft orange brown with occasional small re quartzite and sandstone. (HEAD DEPOSITS) Very stiff slightly red br includes subangular to siltstone fragments. (Weathering Grade IVb) (TARPORLEY SILTST between 1.70m and Very stiff fissured red and angular fine to coa sandstone fragments. (Weathering Grade IVa (TARPORLEY SILTST between 2.30m and between 2.60m and Red brown bedded gre recovered as tabular a boulders up to 0.30m siz (Weathering Grade II) (TARPORLEY SILTST between 2.50m and Red brown bedded gre recovered as tabular a boulders up to 0.30m siz (Weathering Grade II) (TARPORLEY SILTST Trial	stiff dry bro occasional ro fine to mediur slightly sand oots. Gravel i own silty CL. rounded fine ONE FORM. 1.90m bgl cal brown silty C rse gravel size III) ONE FORM. 2.45m green § 2.75m bgl gre en grey SIL nd angular of ze in clayey m <u>ONE FORM.</u> pit terminated	wn slightly gravell otlets and small r n quartzite. y slighty gravelly v s angular to rounde AY. Occasional roo e occasional medit ATION) careous band. CLAY. Recovery ed siltstone and mu ATION) gray band. en grey band. ISTONE and fine cobbles with occa atrix. ATION) l at 2.80m depth.	y slightly oots. Gra /ery silty ( ed fine to otlets. Rea um gravel includes t udstone ar	sandy ivel is CLAY coarse covery sized abular id fine	(0.40) 0.40 (0.70) 1.10 (1.05) 2.15 (0.55) 2.70 2.80 	
Plan (Not to S	cale	)						General	Remarks		-	-	
06.0	-	2.5(	0	-	1. L er 2. T 3. C 4. T 5. P	ocatic ncoun rial pi frounc rial pi it tern	on scanned with a CAT and tered. t remained stable during ex lwater encountered at 2.15 t backfilled and compacted inated as machine unable	l Signal Gener coavation. n bgl. l with arisings to make signif	ator prior to breaki upon completion. icant further progre	ing ground	. No ser	rvices	
Method Used:	/โลก	chine d	վութ	Plant Used	:		All dimensions in metre	s Logged By:	Scale:	Checked By:	1:25	MB	AC



Contract:								Client:						Trial Pi	it:		
]	East	t Mid	lands	Gate	way	Y		R	loxhi	ll Develo	opments	Ltd			r	<b>FP3</b> 2	23
Contract Re	f:		1	Start:	24.9	9.13	Ground	d Level (m A	.OD):	National C	Grid Co-ordi	nate:		Sheet:			_
	3124	494	]	End:	24.9	9.13		61.47		<b>E:446</b>	507.7 N	:3268'	76.3		1	of	1
Sam Depth	ples a	and In-si	tu Tests Resu	ılts	Water	Backfill				Description	n of Strata				Depth (Thick ness)	Mate Gray Leg	erial ohic end
		- ) [ '					Crop (SUE	stubble over SOIL)	stiff re	ed brown CL	AY.				(0.30)		
0.50	1	ES	Tx2+J+	+Vx2			Very pocka to sul (Wea (TAF	stiff red b ets of grey or bangular fine thering Grad PORLEY S	rown ( r green to coa le IVb) ILTST	CLAY, with grey silt. Ro rse sandstone ONE FORM	occasional ecovery inclu e fragments. IATION)	medium udes occa	n gravel asional a	sized ngular	<u>0.30</u> <u>-</u> (1.35)		
.65-1.85 .65-1.85 .65-1.85 .65-1.85	2 3 4 5	B B B B					sands Intert weak SAN (Wea	below 1.50 tone and silt bedded extre to very DSTONE. thering Grad	m bgl, stone fi emely weak le III)	recovery in ragments. weak red bi yellow and	rown SILTS grey fine	sional to STONE = to me	some a and exti dium g	ngular remely rained	- - - - - - - (0.55)		××××××××××××××××××××××××××××××××××××××
							(TAF	PORLEY S	ILTŚT	ONE FORM	IATION)				2.20	× × × × × ×	$\begin{array}{c} \times & \times \\ \times & \times \\ \times & \times \\ \times & \times \end{array}$
									Trial	pit terminated	d at 2.20m d	epth.			-		
Plan (Not to	Scale	e)								General	Remar	·ks					
06.0	•	2.9	0		1. L er 2. T 3. G 4. T 5. P	cocation ncoun Trial pi Tround Trial pi Trial pi	n scann tered. t remair water n t backfi ninated a	ed with a CA ned stable du ot encounter lled and com as machine u	AT and ring ex ed. pacted nable t	Signal Gene cavation. with arising o make signi	erator prior to s upon comp ficant furthe	o breaking pletion. r progress	g ground s.	l. No sei	rvices		
Mathad				Dlart			All d	imensions in	metres	Joggad	Scale:		Chaolar	1:25			
Used:	Ma	chine o	dug	Used:			JCB	-3CX		Logged By:	MHocki	ng	Checkec By:	Ţ	MВ	A	GS



Contract:							(	Client:				Trial Pi	t:	
	East	t Mid	lands	Gate	way	y		Rox	hill Dev	elopments Ltd			]	<b>P324</b>
Contract Re	f:			Start:	24.	9.13	Ground	Level (m AOD)	: Nation	al Grid Co-ordinate:		Sheet:		
	3124	494		End:	24.	9.13		68.40	E:4	46934.7 N:326	646.1		1	of 1
San	ples a	ind In-si	tu Tests	•.	/ater	ackfill			Descrip	tion of Strata			Depth (Thick	Material Graphic
Depth	No	Туре	Resu	ilts	>	ă XXXX	Crop s	stubble over ver	v stiff brov	wn slightly gravelly si	ltv sandv (	CLAY	ness)	Legend
0.10-0.20	1	ES	Tx2+J+	+Vx2			(SUBS) (SUBS) (SUBS) (SUBS) (Subs) (S	Frequent rootlets ite. SOIL) clow 0.20m bgl, e brown very ra l is angular to ro	grey brown re very silt unded quar	y fine SAND with oc tzite and flint.	d fine to	ootlets.	(0.30) 0.30	
· 0.65-0.85	2	В					(HEA)	D DEPOSITS)				-	(0.70)	× 0 × × 0 * × 0 *
- - - - - -							Very s (Weatl (TARI	tiff red brown b hering Grade IV PORLEY SILTS	edded greer b) STONE FO	n grey fissured silty CL RMATION)	.AY.		(1.40)	
2.00-2.50 2.00-2.50 2.00-2.50 2.30-2.50	$\begin{vmatrix} 3 \\ 4 \\ 5 \\ 6 \end{vmatrix}$	B B B					fine to	elow 2.00m bgl coarse gravel si	, recovery i zed siltston	ncludes occasional tab e and fine sandstone fr	oular and a agments.	ngular	2.40	
- - -							Red SILTS fine to (Weatl (TARI	brown bedded TONE and fine coarse gravel, c hering Grade III PORLEY SILTS	green gr e SANDST obbles and ) STONE FO	ey extremely weak ONE recovered as tab boulders up to 0.30 in RMATION)	to very oular and a size.	weak ngular	(0.60)	
							×	Tria	al pit termin	nated at 3.00m depth.			3.00	<u>× × × ×</u>
- - - - -													- -	
Plan (Not to	Scale	e)							Gene	ral Remarks				
0.00		2.4	0		1. L e 2. T 3. C 4. T 5. P	Locatic ncoun Trial pi Ground Trial pi Pit tern	on scanne tered. it remaine lwater no it backfill ninated as	ed with a CAT a ed stable during of encountered. led and compact s machine unabl	nd Signal G excavation. ed with aris e to make si	enerator prior to break	ress.	. No ser	vices	
							All di	mensions in met	res	Scale:		1:25		
Method Used:	Ma	chine (	duσ	Plant Used:			ICR.	3CX	Logged By:	MHocking	Checked By:	k	чB	AGS

GINT\_LIBRARY\_V8\_05.GLB LibVersion: v8\_05 - Lib0004 PitVersion: v8\_05 - Core+Logs 0002 | Log TRIAL PIT\_LOG | 312494 - EAST MIDLANDS GATEWAY GPJ - v8\_05 | 10/12/13 - 10:53 | KF. RSK EnvironmentLtd, The Enterprise Centre, Coventry University Technology Park, Coventry, CV1 27X. Tel: 02476 236816, Fax: 02476 236014, Web; www.rsk.co.uk.



Contract:								Client:				Trial P	it:	
I	East	t Mid	lands	Gate	eway	7		Roxh	ill Develo	pments Ltd			Τ	<b>P325</b>
Contract Ref	2			Start:	10.1	0.13	Groun	d Level (m AOD):	National G	rid Co-ordinate:		Sheet:		
3	<u>812</u> 4	494		End:	10.1	0.13		61.76	E:447	107.9 N:3268	883.5		1	of <b>1</b>
Samj	ples a	ind In-sit	tu Tests		'ater	ckfill			Description	of Strata			Depth (Thick	Material Graphic
Depth	No	Туре	Res	ults	3	E E			1				ness)	Legend
0.05	1	ES	Tx2+J	r+Vx2			Crop to ve fine t (SUI Very angu (HE)	stubble over very ry silty CLAY with o coarse quartzite a <u>3SOIL</u> stiff orange brown lar to rounded fine <u>AD DEPOSITS</u>	stiff brown s. h frequent roo and flint. h slightly grav to medium flin	lightly sandy slight tlets. Gravel is any relly silty sandy Cl nt and quartzite.	tly gravel gular to ro LAY. Gr	bunded	- 0.25 - 0.35 - (0.50)	
							Very fine t (Wea	stiff red brown sil to coarse mudstone athering Grade IVb	ty CLAY. Re lithorelicts.	ecovery includes or	ccasional	tabular	- 0.85	
0.85-1.05	2	В					(TAI Red tabul (TAI  grain	RPORLEY SILTST brown bedded gree ar and angular cobl RPORLEY SILTST between 1.05m ar ed SANDSTONE.	CONE FORM. en grey SILTS oles. CONE FORM. ad 1.10m bgl,	ATION) STONE recovered ATION) green grey SILTS	as very g STONE ai	ravelly	- - - - - - -	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
1.45-2.05	3	В					1	between 1.45m and	1.65m bgl, in	terlaminated with s	oft grey c	lay.		X X X X X X X X X X X X X X X X X X X
							g \grain	ed SANDSTONE.	iu 2.00111 Ugi,	green grey SIL15	STONE a		- 2.05	× × × ×
Plan (Not to	Scale								General	Remarks				
Plan (Not to 9000000000000000000000000000000000000		e) 2.60	0	]	1. L e 2. T 3. C 4. T 5. P	ocatic ncoun rial pi Ground rial pi it tern	on scant tered. t remain lwater r t backf ninated	ned with a CAT and ned stable during er not encountered. illed and compacted as machine unable	I Signal Gener ccavation. I with arisings to make signif	Remarks rator prior to breaking supon completion. Ticant further progra	ing ground	d. No se	rvices	
Method Used:	Ma	chine d	lug	Plan Usec	t 1:		JCB	- <b>3CX</b>	s Logged By:	Scale: MHocking	Checked By:	1:25 d <b>]</b>	MB	AGS



Contract:							Client:				Trial P	it:	
Ε	ast	t Midl	l <mark>ands</mark> G	Gate	way	7	Roxhi	ill Develo	pments Ltd			]	FP326
Contract Ref:			St	tart:	24.9	9.13	Ground Level (m AOD):	National G	rid Co-ordinate:		Sheet:		
3	124	194	E	nd:	24.9	9.13	59.29	E:447	181.0 N:326'	760.8		1	of <b>1</b>
Sampl	les a No	nd In-sit	u Tests Result	te	Water	3ackfill		Description	of Strata			Depth (Thick	Materia Graphic
Deptil		Type	itesuit			I	Crop stubble over very rootlets. Gravel is angu fine brick. ((SUBSOIL) Orange brown slightly rootlets. Gravel is ang	soft brown s ilar to rounde gravelly very	lightly sandy CLA ad fine to coarse q	Y with from a second se	equent nd rare	- 0.25 - 0.50	*****
0.60-0.70	1	ES	Tx2+J+₩	Vx2			(HEAD DEPOSITS) (HEAD DEPOSITS) Red brown friable claye (TARPORLEY SILTST	y sandy SILT ONE FORM	ATION)			- (1.40)	
1.50-1.70	2	В					below 1.40m bgl, sandy SILT.	brown and sl	ightly clayey slight	tly gravell	y very	-	
							Very stiff fissured red b silty CLAY. Recovery medium gravel sized silt (Weathering Grade IVb) (TARPORLEY SILTST	orown beddec includes occ stone fragmer ONE FORM	l green grey slightl asional tabular and nts. ATION)	ly sandy s 1 angular :	lightly fine to	- - - - (1.20)	
							Red brown bedded SILTSTONE and fine S fine to coarse gravel and (Weathering Grade III) (TARPORLEY SILTST Trial	green grey SANDSTONI occasional co ONE FORM pit terminated	extremely weak E recovered as tab obbles with clay lar ATION) I at 3.30m depth.	to very ular and a ninations.	weak ngular	3.10	x xx xx x xx x xx x xx x x x x x x x x x x x x x x x x x x x
Plan (Not to S	Scale	;) 2.7(	)		1. L er 2. T 3. G 4. T 5. P	ocatic ncoun rial pi rounc rial pi it term	n scanned with a CAT and tered. t remained stable during ex water encountered between t backfilled and compacted inated as machine unable t	General Signal Generat cavation. n 1.80m and 2 with arisings to make signif	Remarks rator prior to breaki 2.00m bgl. 5 upon completion. Ticant further progre	ing ground	l. No se	rvices	
Method Used:	Mao	chine d	lug	Plant Used:			All dimensions in metres	s Logged By:	Scale: MHocking	Checked By:	1:25 <sup>1</sup> 7	мB	AG



Contract:								Client:				Trial P	it:	
ŀ	East	t Mid	lands	Gate	way	/		Roxh	ill Develo	opments Ltd			]	ГР327
Contract Ref	2			Start:	24.9	9.13	Groun	d Level (m AOD):	National C	Grid Co-ordinate:		Sheet:		
3	<u>812</u>	494		End:	24.	9.13		59.53	E:447	299.6 N:326	692.1		1	of <b>1</b>
Samj	ples a	ind In-sit	tu Tests	ulto	Vater	ackfill			Description	n of Strata			Depth (Thick	Material Graphic
0.10-0.20	1	ES	Tx2+J	+Vx2			Crop with flint (SUI Dark grave roun (HE)	stubble over very frequent rootlets. and quartzite. 3SOIL) orange brown mot elly very sandy SII ded fine to medium AD DEPOSITS)	soft brown s Gravel is ang tled slightly p T with occas quartzite and	slightly gravelly sil gular to subrounded purple brown slightl sional rootlets. gra I flint.	ty sandy ( I fine to m y clayey s vel is ang	CLAY hedium lightly ular to	(0.30) (0.30) (0.70)	Legenu 
1.20-1.40	2	В					Stiff Recc sized (Wee (TAI	to very stiff fissu very includes occa siltstone and fine thering Grade IVb PORLEY SILTS	red red brow usional tabula sandstone frag ) TONE FORM	n bedded green gr r and angular fine gments. IATION)	rey silty C to coarse	CLAY. gravel	(0.90)	
2.60-2.80	3	В					Red SAN grave (~0.: (Wea (TAI	brown bedded gre DSTONE recover el and occasional 30m) athering Grade III) RPORLEY SILTS	en grey extra ed as silty t cobble sized	emely weak SILTS abular and angular and rare boulder IATION)	TONE an r fine to sized frag	nd fine coarse ments.	- (1.00)	
								Trial	pit terminated	d at 2.90m depth.				
Plan (Not to	Scale	e)							General	Remarks				
06 0		2.40	0>	]	1. L er 2. T 3. C 4. T 5. P	ocatic ncoun rial pi fround rial pi it tern	on scani tered. t remai lwater r t backf ninated	ned with a CAT and ned stable during e not encountered. illed and compacted as machine unable	d Signal Gene excavation. d with arising to make signi	rator prior to breaki s upon completion. ficant further progra	ing ground	l. No se	rvices	
Method				Plant			All c	limensions in metre	S Logged	Scale:	Checker	1:25		
Used:	Ma	chine d	lug	Used:			JCB	-3CX	By:	MHocking	By:	· ]	MВ	AGS



Contract:								Client:				Trial Pi	it:	
	Eas	t Mid	lands	Gate	eway	/		Roxhi	ill Develo	pments Ltd			TI	<b>PS301</b>
Contract Re	ef:			Start:	3.1	0.13	Groun	d Level (m AOD):	National G	rid Co-ordinate:		Sheet:		
	312	494		End:	3.1	0.13		55.46	E:445	476.8 N:327	171.9		1	of <b>1</b>
San	nples a	and In-si	tu Tests		er	fill							Depth	Materia
Depth	No	Type	Res	ults	Wat	Back			Description	of Strata			(Thick ness)	Graphic
1		51					Gras	s and weeds over st	iff to very stil	ff brown desicated	slightly g	ravelly		<u>×&gt;</u>
							silty	sandy CLAY, with lar to rounded fine t	frequent root	lets and occasional	roots. Gr	ravel is	0.20	- <u>×</u> - ,
							(SUI	BSOIL)	to meanant sur	lustone, quarizite a	ina mint.		-	
							Firm	becoming stiff r	ed brown s	lightly sandy ver	y silty (	CLAY.	-	
0.50	1	ES	Tx2+J	+Vx2			medi	um sandstone fragn	nents. Occasi	ional quartzite grav	vel at the s	subsoil	-	
0.60		V	c <sub>u</sub> =56/	66/54			inter	face.						
0.70-1.00	2	В					(TA	RPORLEY SILTST	ONE FORM	ATION)			_	
							8						-	
-													-	
							8						-	<u> </u>
							8						-	
								below 1.30m bgl, r	ecovery inclu	des fine to mediun	n and occa	asional	_	
							coars	se gravel sized sands	stone fragmen	ts.			(2 65)	
							8						-	<u> </u>
							8						-	
													-	
							8						-	
-							8						_	
2.10-2.80	3	В					tabul	between 2.10m and ar sandstone cobble	2.30m bgl, re	covery includes oc	casional to	o some	-	
								below 2 30m bal	recovery in	cludes tabular and	angular	fine to	-	
							coars	se gravel sized sand	stone, and rar	e cobbles.	angula		-	
							8						-	
-							8							
							8						- 2.85	
						XXXXX	*	Trial	pit terminated	at 2.85m depth.			-	
-													_	
													-	
													_	
													-	
													-	
													-	
													-	
													_	
-													-	
													-	
													-	
													-	
					1									
Plan (Not to	o Scal	e)							General	Remarks				
		_	<u>_</u>		1 I	ocatio	on scan	red with a CAT and	Signal Gener	ator prior to breaki	ing ground	1. No se	rvices	
	· –	- 2.7	0	•	e	ncoun	tered.		. Signar Gener	ator prior to break				
65	1				2. T	rial p	t remai	ned stable during ex not encountered	cavation.					
0.0	↓				4. T	rial p	it backf	illed and compacted	with arisings	upon completion.				
					5. S	oakav it tern	vay test ninated	completed. at anticipated maxir	num denth of	soakawav/pond fe	ature			
					0.1				acpui oi	2. Julia i rugi pond 10				
							All c	limensions in metres	5	Scale:		1:25		
Method				Plant	1				Logged		Checked	d T	ne.	
Used:	Ma	chine o	dug	Used	:		JCB	-3CX	By:	MHocking	By:	,	ŝ	AGS



Contract:								Client:				Trial Pi	it:	
-	Eas	t Mid	lands	Gate	eway	y		Roxh	ill Develo	opments Ltd			T	PS302
Contract Re	ef:			Start:	3.1	0.13	Groun	d Level (m AOD):	National C	Grid Co-ordinate:		Sheet:		
	312	494		End:	3.1	0.13		67.94	E:445	940.3 N:3274	428.4		1	of <b>1</b>
Sam	ples a	and In-si	tu Tests		ter	fill			<b>D</b>				Depth	Material
Depth	No	Туре	Res	ults	Wa	Back			Description	n of Strata			(Thick ness)	Legend
							Very Grav occa (SUI	stiff brown desica el is angular to rou sional sandstone an 3SOIL)	ted slightly g nded fine to i d rare brick.	gravelly slightly sar medium occasional	ndy silty C coarse qu	CLAY. artzite,	(0.30) 0.30	
0.40-0.60	1	ES	Tx2+J	+Vx2			Stiff grav quar (THI	dark orange grey elly to gravelly CL tzite, sandstone and RUSSINGTON MI	slightly sandy AY. Gravel i occasional co EMBER)	y slightly silty to v is angular to round oal.	ery silty s ed fine to	lightly coarse	- - - - (0.80)	
_									rain in side o	r pri, ury.			-	
•							Very Reco (Wea	stiff red brown wery includes occas athering Grade IVb	fissured slig sional tabular	ghtly sandy slight sandstone cobbles.	ly silty (	CLAY.	- <u>1.10</u> - -	
1.60-1.80	2	В						CPORLEY SILTS	ONE FORM	IA HON)			-	
		5											-(1.40) -	
2.00-2.40	3	В											-	
													2.50	
						×××××	×	Trial	pit terminated	d at 2.50m depth.				
													-	
													_	
-													_	
													-	
													-	
													-	
													_	
													-	
													_	
-													_	
													-	
													-	
													-	
Plan (Not to	Scale	e)							General	Remarks				
	▲	2.7	0>	-	1. L e 2. T	location ncour Trial p	on scani tered. it remai	ned with a CAT and ned stable during ex	l Signal Gene ccavation.	erator prior to break	ing ground	1. No se	rvices	
0.6;	¥ [				3. C 4. T 5. S 6. P	Fround Frial p Soakav Pit tern	iwater i it backf vay test ninated	not encountered. illed and compacted completed. at anticipated maxi	l with arising mum depth of	s upon completion. f soakaway/pond fe	ature.			
							All	limensions in metre	s	Scale:		1:25		
Method Used:	Ma	chine (	վոս	Plant Used	:	_	JCP	-3CX	Logged By:	MHacking	Checked By:	d <b>J</b>	MB	AGS
	1114		aug				JUD	JUA		MINUKINg	J .			



Contract:							Client:				Trial Pi	it:	
]	East	Mid	lands	Gate	eway		Roxi	nill Devel	opments Ltd			TI	PS303
Contract Ret	f:			Start:	3.10.	<b>13</b> G	round Level (m AOD)	National C	Grid Co-ordinate:		Sheet:		
	<b>312</b> 4	194		End:	3.10.	13	54.36	E:440	6258.9 N:3274	473.2		1	of <b>1</b>
Sam	ples a	nd In-si	tu Tests	ulta	Vater	ackfill		Descriptio	n of Strata			Depth (Thick	Material Graphic
Deptil	INU	Type	- Res	uns			Crop stubble over stiff	to very stiff b	rown desicated sligh	tly gravell	v siltv	ness)	
0.10-0.20	1	ES B D V	Tx2+J c <sub>u</sub> =54,	/+Vx2 /30/34			Sandy CLAY with occ o medium occasional of SUBSOIL) Very stiff orange brow ootlets. Gravel is any flint and sandstone. THRUSSINGTON M below 0.70m bgl, n below 0.70m bgl, n below 0.70m bgl, n Weathering Grade IVI EDWALTON MEME @ 1.90m and sandstone. @ 2.50m bgl, soft Tria	asional rootlet coarse quartzit vn slightly gr gular to round EMBER) are subangula bwn slightly I angular fine d sandstone fi D ER) 2.20m bgl, p to firm.	silty CLAY. Rec e to rounded quartzit artings of green green artings of green green artings of green green	covery in sized mu	cludes dstone he and	(0.30) 0.30 (1.55) (1.55) (1.35) (	
Plan (Not to	Scale	:)						Genera	I Kemarks				
0.65		2.5	0		1. Loc enc 2. Tria 3. Grc 4. Tria 5. Soa 6. Pit	ation s ounter al pit r oundwal al pit b kaway termin	scanned with a CAT ar ed. emained stable during of ater not encountered. ackfilled and compacted test completed. ated at anticipated max	nd Signal Geno excavation. ed with arising imum depth o	erator prior to breaki gs upon completion. of soakaway/pond fea	ng ground ature.	l. No se	rvices	
							All dimensions in metr	res	Scale:		1:25		
Method Used:	Mac	chine o	lug	Plant Used	:		CB-3CX	Logged By:	MHocking	Checked By:	J	MB	AGS

GINT LIBRARY V8 05 GLB LibVersion: v8 05 - Lib0004 PitVersion: v8 05 - Core+Logs 0002 | Log TRIAL PIT LOG | 312494 - EAST MIDLANDS GATEWAY GPJ - v8 05 | 10/12/13 - 10:54 | KF. RSK Environment Ltd. The Enterprise Centre, Coventry University Technology Park, Coventry, CVI 27X. Tel: 02476 236816, Fax: 02476 236014, Web: www.rsk.co.uk.



Contract:							Client:				Trial Pi	it:	
]	East	t Mid	lands	Gate	way	V	Roxhi	ll Develo	pments Ltd			TI	<b>PS304</b>
Contract Re	f:			Start:	1.1	0.13	Ground Level (m AOD):	National G	rid Co-ordinate:		Sheet:		
	3124	494		End:	1.1	0.13	52.85	E:446	679.4 N:3275	528.5		1	of <b>1</b>
Sam	nles a	nd In-si	tu Tests		۲.	E						Depth	Materia
Depth	No	Туре	Resu	ılts	Wate	Backfi		Description	of Strata			(Thick ness)	Graphi Legend
0.20-0.30	1	ES	Tx2+J+	+Vx2			Crop stubble over very slightly gravelly silty subangular to rounded fi (SUBSOII)	stiff very dr CLAY with ne to coarse q	y brown desicated occasional rootle uartzite.	d slightly ets. Gra	sandy vel is	(0.30)	
							Very stiff red brown s Gravel is subangular t	slightly grave o rounded fi	lly sandy to very ne to medium or	sandy C	CLAY.	- 0.45	
							(HEAD DEPOSITS) Stiff red brown slightly	sandy to sand	ly very gravelly C	LAY. Gra	avel is	(0.45)	• <u>-</u> • • -
0.80		v	c <sub>u</sub> =8	34			angular to rounded an quartzite, flint and sands ((HEAD DEPOSITS)	d tabular fii tone.	ne to medium or	ccasional	coarse	0.90	×
-							Stiff to very stiff fissure CLAY. Recovery inclu- gravel sized siltstone and (Grade IVa)	ed red brown des occasiona l fine sandstor	mottled green gre l tabular and angul ne fragments.	ey slightly lar fine to	sandy coarse	-	
							(EDWALTON MEMBE below 1.20m bgl, oc	ER) casional tabul	lar siltstone cobble	s.		-	
												-(1.60)	
1.80-2.30	2	В										-	
-							below 2.00m bg siltstone and fine sandsto between 2.00m and	l, recovery in one cobbles. 2.15m bgl, gro	ncludes some to een clay.	frequent t	abular	-	
												2.50	
							Trial	pit terminated	at 2.50m depth.			-	
												-	
-												-	
												-	
												-	
-												-	
												-	
Plan (Not to	Scale	e)						General	Remarks				
0.65		2.3	0		1. L er 2. T 3. G 4. T 5. S 6 P	location ncoun Trial p Trial p Trial p Trial p	on scanned with a CAT and tered. it remained stable during ex lwater not encountered. it backfilled and compacted vay test completed. junated at anticipated mayin	Signal Gener cavation. with arisings	ator prior to breaki upon completion.	ing ground	. No se	rvices	
					J. I	n tem	All dimensions is method		Soale:		1.25		
Method				Plant			All dimensions in metres	Logged	Scale:	Checked	1:25 I <b>I</b>	MB	
Usea:	Ma	chine (	lug	Used:			JCB-3CX	ву:	MHocking	ву:			AG



Contract:							Client:			,	Trial Pit	:	
]	Eas	t Mid	lands Gat	tewa	у		Roxhi	ll Develo	pments Ltd			T	PS305
Contract Re	f:		Start	1.1	0.13	Groun	d Level (m AOD):	National G	rid Co-ordinate:	:	Sheet:		
	312	494	End:	1.1	0.13		39.42	E:447.	372.8 N:3276	28.6		1	of <b>1</b>
Sam	ples a	and In-si	tu Tests	ıter	kfill			Description	of Strata			Depth	Materia
Depth	No	Туре	Results	Wa	Bac			Description	of Strata		1	ness)	Legen
						Crop grav roun	stubble over very elly silty CLAY wi ded fine to medium	stiff very dry th occasional occasional co	y desicated slightly rootlets. Gravel i arse quartzite.	v sandy sli s subangu	ightly lar to	(0.30) 0.30	
						Very grav quar	stiff slightly oran elly silty CLAY. ( tzite.	ige brown sl Gravel is sub	ightly sandy sligh angular to roundec	ttly gravel I fine to c	ly to coarse		
0.60	1	ES	Tx2+J+Vx2			(WA	NLIP MEMBER) pelow 0 70m bgl_sa	ndv to verv sa	ndv		-	(0.75)	×
							, su	itay to very sa	iidy.		-		
-						Stiff	to very stiff orange	grey mottled	red brown slightly	gravelly s	- sandy -	1.05	<u>·o_×</u>
1.20-1.50	2	В				to v quar	ery sandy CLAY. tzite and occasional	Gravel is a flint.	ngular to rounded	fine to c	oarse	1.30	
						Red	brown very clayey v	very gravelly	fine to medium occ	asionally c	coarse		
						occa (WA	sional flint. NLIP MEMBER)	ulai to touli		e quartzite			
						) i	pelow 1.30m bgl red	brown.			-		<u> </u>
											-	(1.35)	 
2.10-2.30	3	В									-		 
											-		· · · ·
						i	below 2.40m bgl, rea	covery include	es rare tabular sand	stone cobb	les.		
											-	2.65	
							Trial J	pit terminated	at 2.65m depth.		-		
											_		
-											F		
											-		
											-		
											-		
											-		
											-		
											-		
											_	-	
											-		
											-		
Plan (Not to	Scale	e)	I					General	Remarks				
	_	<u> </u>	0	1.1	Locatio	on scan	ned with GPR and a	CAT and Sig	nal Generator prior	to breakin	ig groun	d. No	
4		2.2		2.	service Trial p	s encou it remai	ntered. ned stable during ex	cavation.	-				
0.65				3.0	Ground Trial p	lwater i it backf	not encountered.	with arisings	upon completion				
				5. 5	Soakav Pit tern	vay test	completed. at anticipated maxir	num depth of	soakaway/pond fea	ture.			
							r				1.25		
Method			Pla	nt		All	ilmensions in metres	Logged	Scale:	Checked	1:25 T	2	
Used:	Ma	chine o	dug <sup>Use</sup>	:d		JCE	-3CX	By:	MHocking	By:	И	ND.	AG



Contract:								Client:				Trial Pit	t:	
	East	t Mid	lands	Gate	way	/	9	Rox	chil	I Developments Ltd		<u> </u>	T	PS351
Contract Re	f:	40.4		Start:	1.1	0.13	Groun	d Level (m AOD	<b>D</b> ):	National Grid Co-ordinate:	710	Sheet:	1	1
	3124	494		End:	1.1	0.13		38.54		E:44/112.1 N:32/	/1.9		1	of 1
Sam	ples a	nd In-sit Type	tu Tests Resu	ılts	Water	Backfill				Description of Strata			Depth (Thick ness)	Material Graphic Legend
0.10-0.20	1	ES	Tx2+J-	+Vx2			New silty to m (SUI	crop and crop s CLAY with occ edium occasional 3SOIL)	stubb casion l coa	le over very stiff brown sightly nal rootlets. Gravel is angular rse quartzite and occasional flir	gravelly to rounde it.	sandy ad fine	(0.30) 0.30	
0.60-0.80	2	В					SAN is an (WA	ge grey signify D with occasions gular to rounded NLIP MEMBER	al su fine (R)	brounded to rounded quartzite to coarse quartzite and occasion	cobbles. Conclusion of the cobbles.	Gravel	(0.80)	
-							1	below 0.80m bgl,	, occ	asional cobble sized clay pocke	ts.	-	1.10	
1.20-1.40	3	В					sand sand (WA	to very stiff red t y slightly gravel um quartzite and NLIP MEMBER	brow lly C l occ R)	n mottled orange and grey sligh LAY. Gravel is angular to asional flint.	itly silty si rounded f	ine to	(0.80)	
							Red	brown slightly cl	lave	SAND and GRAVEL Sand	is fine to c	oarse	1.90	
2.20-2.60	4	в			Ŵ		grave occas (WA	el is angular to ro sional sandstone. NLIP MEMBER	ayoy ound R)	ed and tabular fine to coarse qu	artzite, fli	nt and	(0.75)	
								Tri	ial pi	it terminated at 2.65m depth		-	2.65	
· - - - - - -														
												-	<b>-</b>	
Plan (Not to	Scale	e)							(	General Remarks				
0.65		2.50	0		1. L e 2. T 3. C 4. T 5. S 6. P	ocatic ncoun rial pi fround rial pi oakaw it term	on scani tered. it remai lwater e t backf vay test ninated	ned with a CAT a ned stable during encountered below illed and compac completed. at anticipated ma	and S g exc w 2.1 cted v axim	Signal Generator prior to breaki avation. 35m bgl. with arisings upon completion. um depth of soakaway/pond fea	ng ground nture.	. No ser	vices	
				Di			All c	limensions in me	etres	Scale:		1:25	_	
Method Used:	Ma	chine c	lug	Plant Used:			JCB	-3CX		By: MHocking	Checked By:	k	MВ	AGS



Contract:	B			~				Client:				<b>-</b>	- -	Trial Pi	it:	
	East	t Mid	lands	Gate	way	7		Rox	chil	I Develo	pments	Ltd		~1	T	PS35
Contract Re	t: > 1 0	40.4		Start:	1.10	0.13	Groun	d Level (m AOD	):	National G	rid Co-ordin	ate:		Sheet:	1	. 1
•	3124	494		End:	1.10	0.13	1	41.14		E:446	959./ N:	32776	0.9		1	of
Sam	ples a	ind In-si Type	tu Tests Rest	ults	Water	Backfill			1	Description	of Strata				Depth (Thick ness)	Mater Grap Lege
0.50	1	ES	Tx2+J-	+Vx2			New CLA medi (SUI Very Grav and t (WA Stiff sand fine	crop and crop s Y with occasion um quartzite and SOIL) r stiff orange gr el is angular to r flint. NLIP MEMBEF to very stiff red l y to sandy sligh to coarse quartzit	stubb nal red d flint rey sl round R) brow tly g te and R)	ble over very ootlets. Gra t. lightly grave ded fine to n m mottled or gravelly CLA d flint.	y stiff slight avel is angu elly sandy t nedium occa ange and gro VY. Gravel	ly gravel lar to ro to very s asional co ey slightl is angul	lly sandy unded fi sandy CI barse qua y silty sli ar to rou	LAY. urtzite	(0.30) 0.30 - (0.60) - (0.60) - (0.90 - (0.45)	
1 00 2 10		D					Red coars Grav (WA	brown clayey v se SAND with o rel is angular to r NLIP MEMBEF	R) very s occas round R)	silty very gr sional angula led fine to qu	ravelly fine ar flint and partzite and f	to mediu rare qua flint.	um occas rtzite cob	sional obles.	- <u>1.35</u> 	
	2	В					smal	below 1.90m b l boulder sized c	emen	ecovery included sand cla	udes occasio	onal to so		ole to	(1.20) - - - - - <u>2.55</u>	0.00000
-															-	
										7 1	D	1			-	
Plan (Not to		e) 2.5	0>	_	1. L er 2. T 3. G 4. T 5. S 6. P	ocation neoun rial pi rial pi rial pi oakaw it term	n scan tered. t remai water r t backf vay test ninated	ned with a CAT a ned stable during not encountered. filled and compac completed. at anticipated ma	and S g exca cted v aximu	Signal Gener avation. with arisings um depth of	Kemar ator prior to upon compl soakaway/p	KS breaking letion. ond featu	g ground. 1re.	No se	rvices	
Method				Plant			All c	limensions in me	etres	Logged	Scale:		1 Checked	1:25 T	uR	F
Used:	Ma	chine o	dug	Used:	:		JCB	-3CX		By:	MHockin	<b>ig</b> ]	By:		ŝ	



 Photo No.
 Date:

 1
 3.10.13

 Direction raken:
 Photo raken:

 N/A
 Photo raken:

 TPS301 - soakaway test completed within trial pit
 Image: Completed within trial pit



Roxhill Developments Limited

Factual Site Investigation Report: East Midlands Gateway: Strategic Rail Freight Interchange Zone 1 Main Development Plateau and Rail Freight Terminal 312494/1 -02 (00)



Photo No.	Date:	
3	3.10.13	a performent water a final and a second
Direction Taken: N/A	Photo	
Description TPS303 – soa completed wit	I: Ikaway test hin trial pit	





Photo No.	Date:	E. W. C.C.	Parties
5	1.10.13	CALL AND AND	14116
Direction Taken:	Photo		dia - L
N/A			1 aler
Description	1:	22 has 100	
TPS305 – so completed with	akaway test hin trial pit		北京に開始の
			10





Photo No.	Date:	
7	25.09.13	State Constant of Contents
Direction Taken:	Photo	
N/A		
Description	1:	
TP308		and the first of the
		and the state of the





Photo No.	Date:	
9	25.09.13	
Direction Taken:	Photo	
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Descriptior	n:	A LA TANA
TP310		
		and the second se





Photo No.	Date:	
11	27.09.13	
Direction Taken:	Photo	
N/A		
Description	:	
TP312		





Photo No.	Date:
13	25.09.13
Direction Taken: N/A	Photo
Description	:





Photo No.	Date:	
15	26.09.13	
Direction Taken:	Photo	
Description	::	





Date:	
25.09.13	A FRANK
Photo	
:	A Particle A Participant
	Date: 25.09.13 Photo

Photo No.	Date:
18	26.09.13
Direction Taken:	Photo
N/A	
Descriptior	1:
TP320	


Photo No.	Date:	Far I'M A CONTRACT STATE
19	26.09.13	
Direction Taken:	Photo	
N/A		
Description	:	
TP321		
		WALL REALE
		and the man that is





Photo No.	Date:	
21	24.09.13	The Martin ser Actor
Direction Taken:	Photo	AND
N/A		CONTRACTOR ALER
Description	:	
TP323		





Photo No.	Date:	
23	10.10.13	
Direction Taken:	Photo	
N/A		A CAREER COM
Description	:	
TP325		
		1 Harris and a start and a start and a start a





vhoto No.	Date:	
25	24.09.13	
Direction Taken:	Photo	
N/A		
Description	1:	
TP327		





Date:						
1.10.13						
Photo						
N/A						
Description:						
TPS352 – Soakaway test carried out on completion of trial pit						
	Date: 1.10.13 Photo					





#### APPENDIX D CABLE PERCUSSION BOREHOLE LOGS



discontinuity is infilled (refer to Fracture Table for details).

#### **KEY TO EXPLORATORY HOLE LOGS - SUMMARY OF ABBREVIATIONS**

#### **SAMPLING**

Sample type codes

В	=	Bulk disturbed sample.
С	=	Core sample.
CS	=	Core sample taken from rotary core for lab testing.
D	=	Small disturbed sample.
DSPT	=	Small disturbed sample originating from SPT test.
ES	=	Soil sample for environmental testing.
U	=	Undisturbed driven tube sample - Number of blows indicated. % recovery reported.

Undisturbed sample detail codes

100mm diameter undisturbed sample. =  $U_{(100)}$ 

#### **IN-SITU TESTING**

SPT <sub>(c)</sub> SPT	=	Standard Penetration Test using a solid 60 degree cone. Standard Penetration Test using split spoon sampler (SPTorp indicates 'No Sample Recovery')
	=	* denotes extrapolated N value. NP denotes 'No Penetration'.
V	=	Field Vane Test. Peak value $(c_u)$ & Residual value $(c_r)$ , given as shear strength in kPa.

#### **ROTARY DRILLING INFORMATION**

W	=	Water flush returns (%)
TCR	=	Total core recovery (%)
SCR	=	Solid core recovery (%)
RQD	=	Rock quality designations (%)
If	=	Fracture spacing (mm).
		In the fracture column (i) denotes discontinuity is infilled (refer to Fracture
		Where variable the minimum - average - maximum spacing may be quoted.
		'NI' denotes non-intact core. 'NA' denotes not applicable.

All lengths used to determine rock core mechanical properties taken along the centre line of the core. Obvious induced fractures have been ignored.

The assessment of solid core is based on lengths that show a full diameter and not necessarily

a full circumference.

AZCL = Assessed zone of core loss.

#### ADDITIONAL NOTES

1. All soil and rock descriptions and legends in general accordance with BS EN ISO 14688-1, 14688-2, 14689-1, and BS5930:1999 including Amendment 2 (2010).
Material types divided by a broken line (- - ) indicates an unclear boundary.
The data on any sheet within the report showing the AGS icon is available in the AGS format.



#### **KEY TO EXPLORATORY HOLE LOGS - SUMMARY OF GRAPHIC SYMBOLS**

#### WATER COLUMN SYMBOLS



First water strike, second water strike etc.

Standing water level following first strike, standing water level following second strike etc.

Seepage. Standing water level recorded at documented date.

#### MATERIAL GRAPHIC LEGENDS





Contract:						Client:	ole:			
I	East	Mid	lands Gate	way		Roxhi	ll Developments Ltd		0	CP203
Contract Ref	:		Start:	25.9.13	Grou	nd Level (m AOD):	National Grid Co-ordinate:	Sheet:		
<b>312494</b> End: 25				25.9.13		67.92 E:447184.9 N:326594.2				of <b>1</b>
Samples and In-situ Tests				ater fill & ru-	ation					
Depth	No	Туре	Results	Wa Backi Inst	ment					Legend
0.20	1	D			Bro fine (SU	Brown slightly gravelly sandy CLAY. Gravel is angular to subangular ine to medium brick, sandstone. Occasional rootlets. SUBSOIL)				
-					Red	Brown slightly gray	elly clayey fine SAND. Gravel is ang	ular to	0.40	- <u> </u>
0.50	2	D			suba (We (TA	angular fine to medium athering Grade IVa) RPORLEY SILTST	n sandstone. Occasional rootlets.	,	(0.50)	
0.80-0.80	3	В							0.90	
1.00	4	D			Stiff (We (TA	f red brown clayey SI athering Grade IVa) RPORLEY SILTST	LT. Occasional black staining. DNE FORMATION)		-	
1.20-1.65	5	U	29 blows 90% recovery						(0.80)	× × × * * * * * *
-									-	××××
1.70	6	D			→ Stifi	Stiff red brown silty CLAY Recovery includes occasional fine to				<u>^ x ^ x</u>
-					angu (We (TA	alar to subangular finathering Grade IVb) RPORLEY SILTST	e to medium sandstone skerries fragments DNE FORMATION)	S.	(0.30) 2.00	 
2.00	7	D			Stif	f to very stiff red brond broken b	own silty clay becoming very weak red	brown	-	
2.20-2.65 2.20-2.70	1 8	SPT B	N=33		(We (TA	s and sandstone skerr athering Grade III) RPORLEY SILTST(	DNE FORMATION)		-	
2.90	9	D SPT	N-29						(2.11)	
-	2	51 1	11-36						-	
3.70-4.00 3.70	3 10	SPT D	N=100*			at 3.70m bgl, very we	eak to weak.		-	
4.00-4.11	4	SPT	N=333*		*	at 4.00m bgl, modera	tely weak.		4.11	
-	11	U				Boreho	le terminated at 4.11m depth.		-	

		Boring Pr	rogress and	Water C	bservations		Chiselling / Slow Progress			Conorol Domorka				
î	Date	Time	Borehole	Casing	Borehole Diameter	Water	From	То	Duration	General Remarks				
	Duit	Thite	Depth	Depth	(mm)	Depth	110111	10	(nn.mm)	1 Location scanned with CA	T and signal generator prior			
	25/09/13		1.20	1.20	150	Dry	3.70	4.00	01:00	to breaking ground. No se	ervices encountered.			
1.	25/09/13		2.20	1.50	150	Dry				2. Hand dug inspection pit e	xcavated to 1.20m bgl			
	25/09/13		3.00	3.00	150	Dry				<ol> <li>Groundwater not encountered.</li> <li>Gas and groundwater monitoring well installed to 4 00m bel upon completion</li> </ol>				
	25/09/13		3.70	3.00	150	Dry								
í.	25/09/13		4.00	3.00	150	Dry								
										A 11 11 1 1	Quilia 1.05			
										All dimensions in metres	Scale: 1:25			
	Method	Pla			Plant Pilcon Wayfa Jsed: 1500		arer	Drilled		Logged	Checked TIZ			
	Used:	Cable percussion						By:	GH	By: <b>GShaw</b>	By: MAGS			



Contract:		Client:	Client: Borehole:					
East Midlands Gate	eway	Roxhil	<b>Roxhill Developments Ltd</b>					
Contract Ref: Start:	24.9.13	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:				
<b>312494</b> End:	24.9.13	82.82	E:446669.2 N:326418.6	1	of <b>1</b>			
Samples and In-situ Tests	Water hckfill & Instru- entation		Description of Strata					
		Dark brown slightly gra subrounded fine to mediu (SUBSOIL)	velly clayey SILT. Gravel is subangon m sandstone, quartzite with occasional ro	ular to ootlets. -(0.45)				
1.20-1.65 1 SPT N=15		Brown slightly silty CLA subrounded fine to med rootlets. (Weathering Grade IVa) (GUNTHORPE MEMBE Firm to stiff red brown sil (Weathering Grade IVa) (GUNTHORPE MEMBE	Y. Recovery includes occasional subang lium sandstone skerries fragments wit (R) ty CLAY with very weak grey siltstone b (R)	$\frac{1}{1}$				
2.20-2.65 6 U <sub>(100)</sub> 63 blows 70% recovery		Stiff red brown CLAY wa and mudstone bands. (Weathering Grade IVb) (GUNTHORPE MEMBE	ith grey reduction spots and occasional si	1.40 Itstone [ [(1.40)				
2.70     7     D       2.90     8     D       3.00-3.43     2     SPT       3.00-3.50     9     B		Very stiff grey mottled br (Weathering Grade IVb) (GUNTHORPE MEMBE	own silty CLAY. ER)	(0.50)				
3.90 10 D 4.00-4.33 3 SPT N=86*		Very weak red brown occasional grey reduction (Weathering Grade III) (GUNTHORPE MEMBE	MUDSTONE with grey siltstone band spots. ER)	3.30 ds and (1.02)				
		Boreho	le terminated at 4.32m depth.	4.32				

Boring Progress and Water Observations								ing / Slow 1	Progress	Conorol Domortza	
	Date	Time	Borehole	Casing Depth	Borehole Diameter	Water Depth	From	То	Duration (hh:mm)	General	Kellialks
	24/09/13		4.32	3.00	150	Dry				<ol> <li>Location scanned with CA to breaking ground. No see</li> <li>Hand dug inspection pit es</li> <li>Groundwater not encounte</li> <li>Gas and groundwater mon 4.00m bgl upon completio</li> </ol>	T and signal generator prior rvices encountered. ccavated to 1.20m bgl rred. itoring well installed to n.
										All dimensions in metres	Scale: 1:25
	Method Used: Cable percussion		n Plan	t <b>Pilco</b> l:	n Wayfa 1500	arer	Drilled By:	GH	Logged By: <b>GShaw</b>	Checked TAB AGS	



Contract:							Client:		Boreho	ole:	
I	East	Mid	lands Gate	eway	7		Roxhil	l Developments Ltd		(	CP205
Contract Ref			Start:	25.	9.13	G	round Level (m AOD):	National Grid Co-ordinate:	Sheet:		
3	124	194	End:	26.	9.13		56.42	E:447286.1 N:326756.4		1	of <b>1</b>
Samj	oles a	nd In-si	tu Tests	Vater	ckfill & nstru- mtation	cntation		Description of Strata		Depth (Thick	Material Graphic
Depth	NO	Type	Results	-	Ba Ba	Ĕ	Desum alishtha alarar fa	a CAND with according the last		ness)	Legend
0.20	1	D					and rootlets. (SUBSOIL)	ie SAND with occasional black organi	c spots	(0.60)	
-							December 1 CLAN 14	····		0.60	
0.70	2	D					(HEAD DEPOSITS)	occasional rootlets.		(0.30)	
-										0.90	- · ·
1.00	3	D			°*⊟`	°• 1	Stiff red brown silty CI tabulated fine to coarse sa	AY. Recovery includes occasional a ndstone and mudstone lithorelicts.	ngular,	-	
1.00	5	D				ŝ	(Weathering Grade IVa)	NE FORMATION)		(0.50)	××
1.20-1.65 1.20-1.70	1 4	SPT B	N=18				(TARI ORLET SILTST			1.40	
2.00	5	D SPT	N=29			· · · · · · · · · · · · · · · · · · ·	Stiff red brown mottled angular fine to coarse sam (Weathering Grade IVb) (TARPORLEY SILTSTC at 2.20m bgl, become	grey CLAY. Recovery includes occ dstone, mudstone and siltstone lithorelict DNE FORMATION) s stiff to very stiff.	asional S.		
2.90 3.00-3.40 3.00-3.40	6 3 7	D SPT B	N=61*			。。。。。。。。。。。。。。。。。。。。。。。。。。。。 				3.30	
3.70 3.80-4.05	84	D SPT	N=158*			• • • • • • • • • • • • • • • • • • •	Very weak to weak rec reduction spots and sands (Weathering Grade III) (TARPORLEY SILTSTC	t brown MUDSTONE with occasiona tone skerries. DNE FORMATION)	al grey	-(1.07)	
4.30-4.37	5	SPT	N=500*				at 4.30m bgl, modera	tely weak to moderately strong.	,	4.37	
4.30	9	D					Boreho	le terminated at 4.37m depth.	/		
			1117					D			

	Boring Pr	rogress and	Water Ob	servations		Chisel	ling / Slow	Progress	Comoral	Domontra
Date	Time	Borehole	Casing	Borehole Diameter	Water	From	То	Duration (hh:mm)	General	Remarks
		Depth	Depth	(mm)	Depth			()	1 Location scanned with CA	T and signal generator prior
25/09/13		2.65	1.50	150	Dry	3.40	3.80	01:00	to breaking ground. No se	ervices encountered.
26/09/13		4.36	3.00	150	Dry	3.80	4.30	01:00	2. Hand dug inspection pit e	xcavated to 1.20m bgl
									<ol> <li>Groundwater not encounter</li> <li>Gas and groundwater mon 4.30m bgl upon completic</li> </ol>	rea. itoring well installed to n.
									All dimensions in metres	Scale: 1:25
Method			Plant	t Pilco	n Wayfa	arer	Drilled		Logged	Checked TIL
Used:	Cable p	percussio	n Used	l:	1500 <sup>°</sup>		By:	GH	By: <b>GShaw</b>	By: MAD AGS



Contract:						С	lient:			Boreho	ole:	
]	East	t Mid	lands Gate	way			Roxhil	l Develop	oments Ltd		(	CP206
Contract Ref	f:		Start:	1.10	.13	Ground I	Level (m AOD):	National Gri	d Co-ordinate:	Sheet:		
	3124	<u>194</u>	End:	2.10	.13		51.90	E:4474	11.8 N:326888.7		1	of 1
Sam	ples a	nd In-si	tu Tests	ater	tru- $\alpha$ tation			Description of	of Strata		Depth	Material Graphic
Depth	No	Туре	Results	M	Back Ins ment			Description	n Strata		ness)	Legend
0.00-1.00	1	В		у т		Red br coarse (Weath (TARP	own sandy CLAY sandstone skerries ering Grade IVa) ORLEY SILTSTC	. Recovery ir fragments. DNE FORMA	ncludes occasional angular	fine to	-	
- 1.00-1.50	2	В		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		a a a a a					(2.00)	
1.50-1.95	3	U <sub>(100)</sub>	60 blows 75% recovery	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		o o o o o					- 2 00	
2.00-2.15 2.00 2.00-2.45	1 4 5	SPT D B	N=200*	• • • • • • • • • • • • • • • • • • •		Weak t SAND (Weath (TARP	o moderately wea STONE. ering Grade III) ORLEY SILTSTO	k red brown DNE FORMA	thinly bedded MUDSTON TION)	IE and	(1.00)	
2.50-3.00	6	В		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		9 0 0 0 0 0					3.00	
3.00-3.05 3.00-3.30	2 7	SPT B	N=600*	• • •		Modera thinly t (Weath	ately weak to mod bedded SANDSTC ering Grade III)	erately strong NE.	grey and red/brown fine g	grained	(0.35)	
3.30-3.35	3	SPT(c)	N=600*	<u> </u>	<u>••=•</u> •		Boreho	le terminated	at 3.35m depth.		- 3.35	
-									-		-	
L	·										L	l
	oring	Progress	s and Water Obs	ervatio Boreho	ons ole	Water	Chiselling / Slo	w Progress	General l	Rema	arks	

		Boring Pr	ogress and	Water Ob	servations		Chisell	ing / Slow	Progress	Conoral	Domorla
	Date	Time	Borehole	Casing	Borehole Diameter	Water	From	То	Duration (hh:mm)	General	Remarks
			Depth	Depth	(mm)	Depth			(iiii.iiiii)	1 Location scanned with GP	PR a CAT and signal
T 4	01/10/13 02/10/13		2.00 3.35	1.50 1.50	150 150	Dry Dry	3.00	3.30	01:00	<ol> <li>Experimental and the original state of the original s</li></ol>	x a CAT and signal g ground. No services xcavated to 1.20m bgl ered. rrisings upon completion.
	Method Used:	Cable r	ercussio	Plan n Usec	t l: D	ando 15(		Drilled By:	ТС	All dimensions in metres Logged By: <b>CShaw</b>	Scale: 1:25 Checked TAGS



Contract:								Client:					Boreho	ole:	
ŀ	East	Mid	lands	Gate	way	y		]	Roxhil	l Develoj	pments ]	Ltd		C	CP207
Contract Ref	-			Start:	25.	9.13	Groun	d Level (m	AOD):	National Gr	id Co-ordina	ate:	Sheet:		
3	124	194		End:	25.	9.13		63.04		E:4470	86.9 N:	326841.6		1	of <b>1</b>
Samj	oles a	nd In-sit	tu Tests		ater	fill & ru- ation				Description	- f St			Depth	Material
Depth	No	Туре	Res	sults	M	Backd Inst				Description	or Strata			ness)	Legend
0.20	1	D					Brow fine t (MA	n slightly o coarse br DE GROU	gravelly s ick, clinke ND)	slightly claye er, quartzite a	y fine SAN nd concrete.	D. Gravel is	angular	(0.50)	
0.60	2	D					Stiff to co (Wea (TAF	red brown arse mudsto thering Gra RPORLEY	silty CLA one lithore ade IVb) SILTSTO	AY. Recover elicts. DNE FORMA	y includes o ATION)	ccasional ang	ular fine	0.50	
1.10 1.20-1.61 1.20-1.70	3 1 4	D SPT B	N=	59*			Very (Wea (TAF	stiff to ver thering Gra PORLEY	y weak re ade IVb) SILTST(	d brown CLA DNE FORMA	AY with grey	v sandstone sk	erries.	1.00	
- - - -							Very spots (Wea (TAF	weak to w and sandst thering Gra PORLEY	veak red t tone skerr ade III) SILTST(	prown MUDS ies. DNE FORMA	STONE occa	asional grey r	eduction	- - - - -	
2.00	5 2	D SPT	N=	94*			o o o o o o o o o o o o							[(1.57)	
2.70-2.98 2.70	3 6	SPT D	<b>N=</b> ]	120*			0 0 0 0							2 97	
									Boreho	le terminated	at 2.97m de	pth.		-	
D		Drograg	and W	atar Oha	omiot	0.000		Chigal	lling / Sla	Drograge					

	Boring Pi	ogress and	Water Ob	servations		Chisel	ling / Slow l	Progress	Conoral	Domorla
Date	Time	Borehole	Casing	Borehole Diameter	Water	From	То	Duration (hh:mm)	General	Remarks
		Depth	Depth	(mm)	Depth			()	1 Location scanned with CA	T and signal generator prior
25/09/13	i	2.97	1.50	150	Dry	2.40	2.70	01:00	<ol> <li>bocator standa with Criteria to breaking ground. No se</li> <li>Hand dug inspection pit e:</li> <li>Groundwater not encounted</li> <li>Gas and groundwater mon 2.70m bgl upon completion</li> <li>Made ground associated with the standard standard</li></ol>	rvices encountered, xcavated to 1.20m bgl red. itoring well installed to n. yith farm track.
									All dimensions in metres	Scale: 1:25
Method Used:	Cable p	oercussio	n Plant	Pilco	on Wayfa 1500	arer	Drilled By:	GH	Logged By: <b>GShaw</b>	Checked TAB AGS



East Midlands Cateway         Roxhill Developments Ltd         CP20           Contract Ref         Start: 24.9,13         Ground Level (m AOD):         National Grid Co-ordinate:         Sheet:           312494         Fed: 24.9,13         Ground Level (m AOD):         National Grid Co-ordinate:         Sheet:           Image: Start Start Start         Test Start Start         Ground Level (m AOD):         National Grid Co-ordinate:         Description of Starta         0.30 (0.37)         Description of Starta         Description of Star	Contra	act:							(	Client:					Boreho	le:		
Contract Ref       Stat: 24.9.1.3       General Conductive       Stat: 1 or 1         Depth Mater Conservations       Description of Strata       Depth Mater Check No: 326895.9       Stat: 1 or 1         0.00       2       Depth Mater Check Stat: 1       Depth Mater Check Stat: 1       Or 1       Depth Mater Check Stat: 1       Or 20.00       Or 20.00 <th c<="" td=""><td></td><td></td><td>East</td><td>t Mio</td><td>llan</td><td>ds Gate</td><td>ewa</td><td>y</td><td></td><td>R</td><td>oxhill</td><td>Develop</td><td>pments L</td><td>td</td><td></td><td>(</td><td>CP208</td></th>	<td></td> <td></td> <td>East</td> <td>t Mio</td> <td>llan</td> <td>ds Gate</td> <td>ewa</td> <td>y</td> <td></td> <td>R</td> <td>oxhill</td> <td>Develop</td> <td>pments L</td> <td>td</td> <td></td> <td>(</td> <td>CP208</td>			East	t Mio	llan	ds Gate	ewa	y		R	oxhill	Develop	pments L	td		(	CP208
312494         End:         24.9.13         66.58         E:446836.4 N:326895.9         1 of 1         1 of 1           bepth         No         Type         Results         # <th>Contra</th> <th>act Re</th> <th>ef:</th> <th></th> <th></th> <th>Start:</th> <th>24.</th> <th>9.13</th> <th>Ground</th> <th>Level (m A</th> <th>OD):</th> <th>National Gr</th> <th>id Co-ordinate</th> <th>:</th> <th>Sheet:</th> <th></th> <th></th>	Contra	act Re	ef:			Start:	24.	9.13	Ground	Level (m A	OD):	National Gr	id Co-ordinate	:	Sheet:			
Samples and In-situ Tests         by Perform         Weight Perform         Description of Strata         Depth Perform         Media Pressor         Perform			3124	494		End:	24.	9.13		66.58		E:4468	336.4 N:32	.6895.9		1	of <b>1</b>	
Description         Description <thdescription< th=""> <thdescription< th=""></thdescription<></thdescription<>	Det	San oth	nples a	nd In-s	situ Te	sts Results	Water	ackfill & Instru- entation			D	Description	of Strata			Depth (Thick	Material Graphic Legend	
0.20         1         D         (0.30)		pui		Type		Courto			Brown	n slightly gra	avellv sil	ltv CLAY.	Gravel is ang	lar fine to n	nedium	11055)		
0.40     2     D     D     Very stiff red brown slightly sndy slity CLAY. Recovery includes occasion angular and bulated fine to coarse sandstone skernes regeneration. (Weaking regress and stone skernes regeneration). (Weaking regress and Water Observations     D       0.90     3     D     D     D     D       1.20-1.53     1     SPT     N=83*     at 1.20m bgl, becomes very weak.     (2.02)       2.00-2.32     2     SPT     N=86*     at 1.20m bgl, becomes very weak.     (2.02)       2.00-2.32     2     SPT     N=86*     at 1.20m bgl, becomes very weak.     (2.02)       2.00-2.32     2     SPT     N=86*     at 1.20m bgl, becomes very weak.     (2.02)       2.00-2.32     2     SPT     N=86*     at 1.20m bgl, becomes very weak.     (2.02)       2.00-2.32     2     SPT     N=86*     at 1.20m bgl, becomes very weak.     (2.02)       2.00-2.32     2     SPT     N=86*     at 1.20m bgl, becomes very weak.     (2.02)       2.00-2.32     1     D     D     D     at 1.20m bgl, becomes very weak.     (2.02)       2.00-2.32     2     SPT     D     N=86*     at 1.20m bgl, becomes very weak.     (2.10)       2.00-2.01     D     D     D     D     at 1.20m bgl, becomes very weak.	0.20		1	D					sandsto (TOPS	one with occ SOIL)	casional 1	rootlets.				-(0.30) 0.30	$\frac{1}{\sqrt{1}} \cdot \frac{\sqrt{1}}{\sqrt{1}} \cdot \frac{\sqrt{1}}{\sqrt{1}}$	
0.90         3         D         at 1.20m bgl, becomes very weak.         (2.02)           1.20-1.53         1         SPT         N=83*         at 1.20m bgl, becomes very weak.         (2.02)           2.00-2.32         2         SPT         N=86*         at 1.20m bgl, becomes very weak.         (2.02)           2.00-2.32         2         SPT         N=86*         at 1.20m bgl, becomes very weak.         2.32           2.00-2.32         2         SPT         N=86*         at 1.20m bgl, becomes very weak.         2.32           1         D         D         D         D         at 1.20m bgl, becomes very weak.         2.32           2.00-2.32         2         SPT         N=86*         at 1.20m bgl, becomes very weak.         2.32           1         D         D         D         D         D         at 1.20m bgl, becomes very weak.           2.00-2.32         2         SPT         D         D         D         D         at 1.20m bgl, becomes very weak.         2.32         at 1.20m bgl, becomes very weak.	0.40		2	D					Very s occasio fragme (Weath (TARI	stiff red bro onal angula ents. hering Grado PORLEY SI	own slig ar and t e IVb) LTSTOM	htly sandy tabulated fi NE FORMA	silty CLAY. ne to coarse ATION)	Recovery in sandstone s	icludes kerries	-		
1 20-1.53       1       SPT       N=83*	0.90		3	D					0 0							-	xx	
2.00-2.32       2       SPT       N=86*       2.32       3.32	1.20-1	.53	1	SPT		N=83*			•at	1.20m bgl, I	becomes	very weak.				(2.02)		
Boring Progress and Water Observations       Chiselling / Slow Progress         Date       Time       Borehole       Casing         Date       Time       Doepth       Doepth         Date       Time       Doepth       Doepth         Date       Time       Doepth       Doepth         Date       Doepth       Doepth       Doepth         Date       Doepth       Doepth       Doepth         Date       Doepth       Doepth       Doepth       Doepth         Date       Doepth       Doepth       Doepth       Doepth	2.00-2	.32	2 4	SPT D		N=86*			0 0 0 0 0 0		Borehole	e terminated	at 2.32m dept	1.		- 2.32	x x x x x x x x	
Boring Progress and Water Observations         Chiselling / Slow Progress           Date         Time         Borehole Depth         Casing Depth         Borehole Diameter (mm)         Water Depth         From         To         Duration (hh:mm)         I. Location scanned with CAT and signal generator priot to breaking ground. No services encountered.         I. Location scanned with CAT and signal generator priot to breaking ground. No services encountered.																		
Date         Time         Borehole Depth         Casing Diameter (mm)         Borehole Diameter (mm)         Water Depth         From         To         Duration (hh:mm)         General Remarks           24/09/13         2.32         1.50         150         Dry         1.50         2.00         01:00         1. Location scanned with CAT and signal generator priot to breaking ground. No services encountered.		E	Boring	Progre	ss and	Water Ob	servat	ions		Chisellir	ng / Slow	Progress	-	, 1-	<b>D</b>	1		
/ Hond dud mendorion bit ovaciated to 1 dies sal	Date 24/09/	e /13	Time	Bor Do	epth .32	Casing Depth 1.50	Bore Diam (mi 15	hole neter m) 50	Water Depth Dry	From 1.50	To 2.00	Duration (hh:mm) 01:00	1. Location sca to breaking	anned with CA	Kema T and sign rvices enc	al gener	ator prior	

										4. Gas and g 2.00m bgl	roundwater mon l upon completio	itoring wel	l installed t	0
										All dimensi	ions in metres	Scale:	1:25	
Method	~		P	lant	Pilco	n Wayfa	arer	Drilled	~~~	Logged	~~~	Checker	DUB	
Usea:	Cable p	ercussio	<b>n</b>   U	sea:		1500		By:	GH	By:	GShaw	By:	M.2	AGS



Contract:							Client:		Boreho	le:	
]	East	t Mid	lands Gate	way	y		Roxhi	ll Developments Ltd		C	CP210
Contract Ret	f:		Start:	26.	9.13	Groun	d Level (m AOD):	National Grid Co-ordinate:	Sheet:		
	3124	<b>194</b>	End:	26.	9.13		78.01	E:446234.1 N:326489.2		1	of <b>3</b>
Sam	ples a	nd In-si	tu Tests	ater	fill & tru- tru-	TOTAL		Description of Strata		Depth (Thick	Material Graphic
Depth	No	Туре	Results	M	Back Ins			Description of Strata		ness)	Legend
-						Brov Subr	vn slightly gravelly ounded fine to coar	clayey fine SAND. Gravel is subang se quartily with many rootlets and occ	ular to asional	0.05_/	<u></u>
-					192 8	orga	nic remains.	1 2		-	
-						Firm	becoming stiff red	brown CLAY with occasional grey san	dstone	-	
_						(Wea	athering Grade IVa)	on spots.		-	
-						(TA	RPORLEY SILTST	ONE FORMATION)		-	
_										-	
-										-	
1.00-1.20	2	В								-	
1.20-1.65	3	U(100)	20 blows							-	
-		(100)	100% recovery							-	
-										-	
-										-	
1.70-2.00	5	D								(3.45)	
-										-	
2.00-2.45	1	SPT	N=15			8				_	
2.00-2.45	6	В								-	
-										-	
_										-	
2.50-3.00	7	D								-	
-										-	
-										-	
3 00-3 45	8	II	35 blows						·	_	
5.00-5.45	0	U <sub>(100)</sub>	100% recovery							-	
-										-	
-										3 50	
3.50	9	D				Very	stiff red brown clay	ey SILT, occasional grey reduction spots.			×× ××
3.50-4.00	10	D				(We (TA	athering Grade IVb) RPORLEY SILTST	ONE FORMATION)		-(0.50)	××
-										-	× × ×
		ar -				<b>)</b>	1.00			4.00	* * *
4.00-4.45	$\begin{vmatrix} 2 \\ 11 \end{vmatrix}$	SPT B	N=35			Very sand	stiff to very wea stone skerries.	ak red brown MUDSTONE with occ	asıonal	-	
-						(We	athering Grade III)	ONE FORMATION)		-	
-										-	
L	1					я				(1.00)	
D		D	1.11.1 01				C1 : 11: / C1	D			

	Boring Pi	ogress and	Water Ob	servations		Chisel	ling / Slow	Progress	Conoral	Domorla
Date	Time	Borehole	Casing	Borehole Diameter	Water	From	То	Duration (hh:mm)	General	Remarks
		Depth	Depth	(mm)	Depth			(1111.11111)	1 Location scanned with GE	PR a CAT and signal
26/09/13		9.55	1.50	150	9.40	9.00	9.50	01:00	<ol> <li>Docation scanned with Or generator prior to breaking encountered.</li> <li>Hand dug inspection pit e</li> <li>Groundwater not encounted</li> <li>Gas and groundwater mor 9.50m bgl.</li> </ol>	x a CAT and signal g ground. No services xcavated to 1.20m bgl ered. hitoring well installed to
									All dimensions in metres	Scale: 1:25
Method Used:	Cable p	oercussio	n Plan	t <b>Pilco</b> l:	n Wayfa 1500	irer	Drilled By:	GH	Logged By: <b>GShaw</b>	Checked THE AGS



Contract:							Client:					Boreho	le:	
ŀ	East	t Mid	lands	Gate	way		]	Roxhil	l Develo	pments Ltd			C	<b>P210</b>
Contract Ref	:		5	Start:	26.9.	13 Grou	ind Level (m	AOD):	National Gr	id Co-ordinate:		Sheet:		
3	8124	194	I	End:	26.9.	13	78.01		E:4462	234.1 N:3264	189.2		2	of <b>3</b>
Samı Depth	oles a	nd In-sit	tu Tests Resu	lts	Water <sup>3ackfill &amp;</sup>	Instru- nentation		]	Description	of Strata			Depth (Thick ness)	Material Graphic Legend
5.00-5.45	12	U <sub>(100)</sub>	35 blo 100% rec	ows covery		Vei san (W (T/ (str and (W (T/	ry stiff to dstone skerri eathering Gra ARPORLEY <i>atum copied</i> ry weak red b I clay bands. eathering Gra ARPORLEY	very weak es. ade III) SILTSTC from 4.00 prown SIL ade III) SILTSTC	k red brown DNE FORMA Dm from previ TSTONE wi	MUDSTONE TION) <i>ious sheet)</i> th occasional grey TION)	with occa	asional n spots	5.00	
5.50 5.50-6.00	13 14	D D											-	× × × × × × × × × × × × × × × × × × ×
6.00-6.31 6.00-6.45	3 15	SPT B	N=94	4*									- - - - - -	· × × × × × × × × × × × × × × × × × × ×
7.00-7.45	16	U <sub>(100)</sub>	55 blo 70% reco	ows overy									(4.00) 	<pre></pre>
7.50 7.50-8.00	17 18	D B											-	× × × × × × × × × × × × × × × × × × ×
8.00-8.15 8.00-8.50	4 19	SPT B	N=20	0*			. at 8.00m bg	;l, become:	s moderately	weak.				× × × × × × × × × × × × × × × × × × ×
														× × × × × × × × × × × × × × × × × × ×
Bo	oring	Progress	s and Wat	er Obs	ervatior Borehol	ns e Wate	Chise	lling / Slov	w Progress	Ger	neral l	Rema	urks	
Date		Dep	pth De	epth	(mm)	Dept	h		(hh:mm)			<u> </u>		
Method				Plant	Pil	 con Wa	  vfarer	Drilled		All dimensions in	n metres	Scale:	1:25	, ⊨∶∎∎∎
Used: C	able	percu	ission	Used:	111	150	)	By:	GH	By: GS	Shaw	By:	" ME	AGS

	Boring Pr	ogress and	Water Ob	oservations		Chisel	ling / Slow	Progress	Comoral	Domorla	
Date	Time	Borehole	Casing	Borehole Diameter	Water	From	То	Duration	General	Remarks	
Date	TIIIC	Depth	Depth	(mm)	Depth	TIOIII	10	(hh:mm)			
										T	
									All dimensions in metres	Scale: 1:25	
Method			Plar	t Pilco	on Wayfa	rer	Drilled		Logged	Checked DIZ	
Used:	Cable p	Cable percussion		d:	1500		By:	GH	By: <b>GShaw</b>	By:	AGS



Contract:							Client:			Boreho	ole:	
I	East	Mid	lands G	latev	vay		Roxh	ill Develop	ments Ltd		C	CP210
Contract Ref	<u>.</u>		St	art:	26.9.13	Grour	nd Level (m AOD):	National Gri	d Co-ordinate:	Sheet:		
3	<b>B12</b> 4	194	E	nd:	26.9.13		78.01	E:4462	34.1 N:326489.2		3	of <b>3</b>
Samj	ples a	nd In-si	tu Tests		Water ckfill & nstru-	entation		Description o	f Strata		Depth (Thick	Material Graphic
Deptn	INO 5	1 ype	N=200	.S *	Line Line Line Line Line Line Line Line	Ě Was	h as d has say MUD	OTONE			ness)	Legend
9.00-9.15 9.00-9.45	3 20	B	N=200			Wea (We (TA	athering Grade III) RPORLEY SILTS	TONE WITH OCO	rasional grey sandstone sk FION)	erries.	(0.55)	
9.50-9.55	6	SPT	N=600	*			Bore	hole terminated a	at 9.55m depth.		9.55	
Bo	oring	Progres	s and Water	r Obser	vations		Chiselling / S	low Progress	General	Rem	arks	

Duration (hh:mm) Borehole Casing Water Diameter (mm) Date Time From То Depth Depth Depth All dimensions in metres Scale: 1:25 Pilcon Wayfarer 1500 Logged By: Checked Dub By: Drilled AGS Method Plant Used: Used: By: Cable percussion GH GShaw



	Contract:							Client:			Boreho	ole:	
	ŀ	last	Mid	lands Gate	way	Y		Rox	hill	l Developments Ltd		C	CP211
	Contract Ref			Start:	27.	9.13	Ground	d Level (m AOD)	):	National Grid Co-ordinate:	Sheet:		
	3	124	194	End:	27.	9.13		80.98		E:445728.3 N:326608.2		1	of 2
	Samp	oles a	nd In-si	tu Tests	iter	ill & ru- ation			т			Depth	Material
	Depth	No	Туре	Results	Wa	Backf Inst ments			1	Description of Strata		(Thick ness)	Legend
	0.00-1.00	1	В				Brow fine t	n slightly gravel o medium quartzi	lly s ite a	ilty CLAY. Gravel is angular to sub- nd sandstone	angular	-	××
						<b>\$</b>	(SUE	BSOIL)	110 0.			(0.40)	xx x
							D 1	1 1 01	437	<b>D</b> 111 1	1 /	0.40	xx
							subar	igular fine to med	AY. lium	n sandstone skerries fragments.	ular to	-	
							(Wea (GUI	thering Grade IV: NTHORPE MEM	a) IBEl	R)		-	
												-	× 
												_	××
	1.00-1.20	2	В				•						xx
	1.20-1.65	3	U(100)	15 blows			•					(1.60)	××
				50% recovery			。 。					-	<u>x                                    </u>
							0 0					-	xx
							• •					_	××
	1.70 1.70-2.00	4 5	D D				•					-	xx
							•					2.00	×
	2.00-2.45	1 6	SPT B	N=23			Stiff	becoming very	stif	f red brown very clayey SILT. Re lar to subangular fine to medium say	ecovery odstone	-	× × × × ×
	-						skerr	ies fragments, wit	th oc	ccasional grey reduction spots.	lastone	-	× × ×
							(Wea (GUI	NTHORPE MEM	IBEI	R)		-	× × ×
	2.50-3.00	7	D				•					-	^ <u>*</u> **
		,					•					(1.50)	× × × × × ×
							。 。					(1.30)	$\frac{\times}{\times} \frac{\times}{\times} \frac{\times}{\times}$
, ,							0 0					-	$\times - \times - \times - \times - \times$
	3.00-3.45	8	U(100)	55 blows 75% recovery			•					-	× × ×
				70701000V01y			•						$\hat{\mathbf{x}}$
							。 。					-	* * * *
	3 50	9	D				• • • Veru	stiff to very w	eak	red brown MUDSTONE Occasion	al orev	3.50	× × <u>× ×</u> × × × ×
5	3.50-4.00	10	D				sands	stone skerries, and	d gre	ey reduction spots.	ui giey	-	$\begin{array}{c} \times \ \times \ \times \ \times \\ \times \ \times \ \times \ \times \\ \times \ \times \$
							(Wea (GUI	NTHORPE MEM	) IBEI	R)		-	$\begin{array}{c} \times \times \times \times \\ \times \times \times \times \\ \times \times \times \times \end{array}$
Ì							•					-	$\begin{array}{c} \times \times \times \times \\ \times \times \times \times \\ \times \times \times \times \end{array}$
3	4.00-4.45	2	SPT B	N=49			a	t 4.00m bgl, beco	omes	s weak to moderately weak with depth.		-	
		. 1	J				° •					-	$ \begin{array}{c} \hat{\mathbf{x}} & \hat{\mathbf{x}} & \hat{\mathbf{x}} \\ \mathbf{x} & \mathbf{x} & \mathbf{x} \\ \mathbf{x} & \mathbf{x} & \mathbf{x} \\ \mathbf{x} & \mathbf{x} & \mathbf{x} \\ \end{array} $
Ì							0 0					-	$\begin{array}{c} \times & \times & \times & \times \\ \times & \times & \times & \times \\ \times & \times &$
ĺ						<b>₿</b>	•						$\begin{array}{c} \times \times \times \times \\ \times \times \times \end{array}$

Ň		Boring Pr	ogress and	Water Ob	servations		Chisel	ling / Slow 1	Progress	Comoral	Domorla
enue, c	Date	Time	Borehole Denth	Casing Depth	Borehole Diameter (mm)	Water Denth	From	То	Duration (hh:mm)	General	Kellialks
ment Ltd, The Enterprise C	26/09/13 27/09/13		1.70 7.00	1.20	150	Dry 7.00	6.60	7.00	01:00	<ol> <li>Location scanned with CA to breaking ground. No se</li> <li>Hand dug inspection pit ex</li> <li>Groundwater seepage encc</li> <li>Gas and groundwater mon 7.00m bgl.</li> </ol>	T and signal generator prior rvices encountered. kcavated to 1.20m bgl ountered at 7.00m bgl. itoring well installed to
/ILON										All dimensions in metres	Scale: 1:25
Kon ein	Method Used:	Cable p	ercussio	n Plan Usec	t <b>Pilco</b> l:	on Wayfa 1500	arer	Drilled By:	GH	Logged By: <b>GShaw</b>	Checked <b>TAB</b>



Contract:								Client:					Boreho	ole:	
	East	t Mid	lands	Gate	way	/		F	Roxhil	l Develop	oments Lt	d		0	CP211
Contract F	Ref:			Start:	27.	9.13	Ground	d Level (m A	AOD):	National Gri	d Co-ordinate:		Sheet:		
	3124	494		End:	27.	9.13		80.98		E:4457	28.3 N:32	6608.2		2	of 2
Sa	imples a	nd In-si	tu Tests	5	/ater	kfill & stru- ntation			]	Description of	of Strata			Depth (Thick	Material Graphic
Depth	No	Туре	Re	sults	м	Bac				1				ness)	Legend
4.50-5.00 5.00-5.45	12	D U <sub>(100)</sub>	90 t 70% r	blows ecovery			Very sands (Wea (GUN (strat	stiff to ve tone skerrie thering Gra VTHORPE <i>um copied j</i>	ry weak s, and gro de III) MEMBE from 3.50	red brown ey reduction s R) <i>m from previ</i>	MUDSTONE.	Occasiona	al grey		
5.50 5.50-6.00	14 15	DD	N	-50			0 0 0 0 0 0 0 0 0 0 0 0 0							-	
6.00-6.45 6.00-6.45	4	SPT	N	=50	Â		4 4 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7							7.10	X X X X X X X X X X X X X X X X X X X
-									Boreho	e terminated	at 7.10m depth			-	
-														-	
-														- - - - -	
	Boring	Progres	s and W	ater Obs	ervati	ons		Chisell	ing / Slov	w Progress					
Date	Time	Bore	hole (	Casing	Boreh Diam	nole eter	Water	From	То	Duration (hh:mm)	G	eneral	Kema	arks	

		Boring Pr	ogress and	Water Ob	servations		Chiselli	ing / Slow I	Progress	Comoral	Domorla		
· [	Data	Time	Borehole	Casing	Borehole Diameter	Water	From	То	Duration	General	Remarks		
	Date	Time	Depth	Depth	(mm)	Depth	гюш	10	(hh:mm)				
										All dimensions in metres	Scale: 1:2	25	
	Method			Plan	e Pilco	on Wayfa	arer	Drilled		Logged	Checked	R	
	Used:	Cable p	oercussio	n  Used	l:	1500		By:	GH	By: <b>GShaw</b>	By:		AGS



Contract: Client: Borehole:											
I	East	Mid	lands Gate	way	Roxhi	l Developments Ltd		CP212			
Contract Ref			Start:	27.9.13	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:				
3	124	94	End:	27.9.13	69.14	E:445896.8 N:326874.4	1	of <b>1</b>			
Samj	oles a	nd In-si	tu Tests	tter ill & ru- ation			Depth	Material			
Depth	No	Туре	Results	Wa Backf Inst menta		Description of Strata	(Thick ness)	Legend			
0.00-1.00	1	В		J.	Red brown gravelly CLA	Y with angular fine to medium quartzite.	- (0.30)	<u> </u>			
-					(SUBSOIL)		0.30				
-					Firm to stiff red brown	gravelly CLAY with angular fine to n	nedium				
-					(THRUSSINGTON ME	/ reduction spots. /IBER)	-				
-							-				
-							-	- <u> </u>			
-							-				
1.00-1.20	2	В			•		-				
1 20-1 65	3	Harris	35 blows		o o		- (1.70)				
1.20-1.05	5	U <sub>(100)</sub>	80% recovery		•		-				
-					~ •		-				
-					o o		-				
1.70	4	D			o o		-				
-	5	D			•		2.00				
2.00-2.45	1	SPT	N=44		Very stiff to very weak re	d brown thinly bedded SILTSTONE.	2.00				
2.00-2.45	6	В			(Weathering Grade III) (TARPORLEY SILTST	ONE FORMATION)	-				
-					•		-				
	_	5			o o		(1.00)	) $\left  \begin{array}{c} \times \times \times \times \\ \times \times \times \end{array} \right $			
2.50-3.00	7	D			•		-				
-					•		-				
-					9 0 9		- 2.00				
3.00-3.10	2	SPT	N=600*		Moderately weak red bro	wn MUDSTONE thinly bedded.	3.00	× × × ×			
3.00-3.45	8	В			(Weathering Grade III) (TARPORLEY SILTST	ONE FORMATION)	(0.45)	)			
-					•	,	-				
-					Boreho	le terminated at 3 45m denth	- 3.45				
-							-				
-							-				
-							F				
-							╞				
Ę							ļ				
-							ŀ				

	Boring Pi	ogress and	Water Ob	servations		Chisel	ling / Slow	Progress	Comoral	Domortza
Date	Time	Borehole	Casing Depth	Borehole Diameter	Water Denth	From	То	Duration (hh:mm)	General	Kellialks
27/09/13		3.45	1.50	150	Dry	3.00	3.30	01:00	<ol> <li>Location scanned with CA to breaking ground. No se</li> <li>Hand dug inspection pit e:</li> <li>Groundwater not encounte</li> <li>Gas and groundwater mon 3.30m bgl.</li> </ol>	AT and signal generator prior prvices encountered. xcavated to 1.20m bgl ered. itoring well installed to
									All dimensions in metres	Scale: 1:25
Method Used:	Cable p	oercussio	n Plan	t l: D	ando 15(	)	Drilled By:	ТС	Logged By: <b>GShaw</b>	Checked TAB AGS



All dimensions in metres | Scale:

**GShaw** 

Logged By:

1:25

AGS

Checked The

By:

Contract:								Client:				Boreho	ole:	
	Eas	t Mi	lland	ls Gate	eway	y		R	oxhill	Develop	pments Ltd		(	<b>CP213</b>
Contract F	Ref:			Start:	25.	9.13	Ground	d Level (m A	OD):	National Gr	id Co-ordinate:	Sheet:		
	312	494		End:	25.	9.13		65.13		E:4462	274.7 N:326846.0		1	of <b>1</b>
Sa	mples a	and In-	situ Tes	ts esults	Water	ackfill & Instru-	entation		D	Description	of Strata		Depth (Thick	Material Graphic
0.00-0.30	1	D		courto				n clavev fine	SAND	with occasio	nal rootlets		ness)	<u>1.24 1/2 · . 24 1/2 · · 24</u>
-							TOP	PSOIL)		while occusio			(0.30)	12 · <u>· · ·</u> · · · · · · · · · · · · · · ·
0.30-1.00	2	D					Firm	to stiff red	brown s	silty CLAY	with occasional thin sar	ndstone	-	××
-							(Wea (TAR	thering Grad	e IVb) ILTSTON	NE FORMA	TION)		- (0.70)	
-													1.00	xx x xx
1.00-1.20	3	D					Very skerri	weak red b ies.	prown M	UDSTONE	with occasional thin sar	ndstone	-	
1.20-1.65	4	U(100)	45	5 blows			(Wea (TAR		-					
-			80%	recovery							,		-	
-							°.						-	
1 70	5	П					* •						<b></b>	
1.70-2.00	6	D											-	
-2 00-2 38	1	SPT		J=67*			•]	t 2 00m bal	VARU WAA	ŀ			_	
- 2.00-2.45	7	B		N-07			。•a •	u 2.00111 Ugi,	very wea	к.			-	
-													-	
-							č° °						-	
2.50-3.00	8	В											-(3.28)	
-					1									
-					<u> </u>		°. • 3						-	
3.00-3.08	2	SPT	N	=300*			•] •] a	t 3 00m bøl	moderate	lv weak			_	
3.00-3.50	9	B		500			•	. 5.00m ogi,	moderate	iy weak.			_	
-							•						aa.	
-													-	
3.50-4.00	10	В											-	
-					1		°.						-	
-					Ť		°.						-	
_													-	
-		GDT/		2004										
4.20-4.28	3	SP1(c	) N	=300*		.**	•		Borehole	e terminated	at 4.28m depth.		4.28	
-													-	
	Boring	Proore	ss and '	Water Ob	servati	ions		Chisellin	ng / Slow	Progress				
Data	Time	Bo	ehole	Casing	Borel	hole	Water	Erom	т.	Duration	General	Rema	arks	
Date			epth	Depth	(mr	n)	Depth	FIOM	10	(hh:mm)	1. Location scanned with CA	T and sig	nal genera	ator prior
25/09/13 25/09/13 25/09/13	00:00	) 4 ) 4   4	.00 .00 .25	1.50 1.50 1.50	15 15 15	0 0	2.63     3.90     4.20     01:00     to breaking ground. No services encountered.       4.00     3.80     3.80     Gas and groundwater encountered at 4.00m bgl.       4.00     4.00     4.20     4.20						ogl ed to	

GINT\_LIBRARY\_V8\_05.GLB LibVersion: v8\_05 - Lib0004 piJVersion: v8\_05 - Core+Logs 0002 | Log CABLE PERCUSSION LOG | 312494 - EAST MIDLANDS GATEWAY.GPJ - v8\_05 | 10/12/13 - 10:43 | KF. RSK Environment\_Ltd\_The Enterprise Centre, Coventry University Technology Park, Coventry, CV1 27X. Tel: 02476 236816, Fax: 02476 236014, Web: www.rsk.co.uk.

Method

Used:

**Cable percussion** 

Pilcon Wayfarer 1500

Drilled

GH

By:

Plant

Used:



Contract:							Client:		Boreho	ole:	
]	East	t Mid	lands Gate	way			Roxhi	ll Developments Ltd		0	CP214
Contract Ret	f:		Start:	25.9.1	13	Groun	d Level (m AOD):	National Grid Co-ordinate:	Sheet:		
	3124	494	End:	25.9.1	13		60.97	E:446644.1 N:326900.8		1	of <b>1</b>
Sam	ples a	nd In-si	tu Tests	iter ill &	ru- ation					Depth	Material
Depth	No	Туре	Results	W8 Backt	Inst menta			Description of Strata		(Thick ness)	Legend
0.00-0.30	1	D		ļ,	IД,	Brow	vn silty CLAY with	occasional rootlets.		- (0.30)	<u>, , , , , , , , , , , , , , , , , , , </u>
-				ES -	6	(10)	7SOIL)				$\frac{1}{2} \cdot \frac{\sqrt{1}}{2} \cdot \frac{\sqrt{1}}{2} \cdot \frac{\sqrt{1}}{2}$
0.30-1.00	2	D				Soft	orange brown slight	ly clayey SILT.		0.30	××
-						(HEA	AD)			-	×××
-										(0.70)	× × ×
-										-	* * * *
-										1.00	
1.00-1.20	3	D		。。 。。		Soft	to firm red brown	mottled grey sandy CLAY. Recovery i	ncludes	1.00	× × 
				•`• •••		occas (Wea	sional angular fine to thering Grade IVa)	o coarse sandstone skerries fragments.		-	· · · · ·
1.20-1.65	4	B	N=8	• • • • • • • • • • • • • • • • • • •		(TAI	RPORLEY SILTST	ONE FORMATION)		-	
-				*** ***		•				-	<u> </u>
-				• • • • • •		> >				_	- <u>·</u> -·
-						0 0				-	
-						* >				-	
-				••• •••		0 0				_	· · · · · ·
2.00-2.45	25	SPT B	N=13	*** ***		8	at 2.00m bgl, becom	es firm.		-	
-						* •				(2.50)	
-				••• •••		0 0				-	
-				*** ***		•				-	
-						> >				-	· · · · · ·
-						5 5				_	
-						, ,				-	
3.00-3.45	6	U(100)	50 blows			0 0				-	<u> </u>
-			90% recovery			•				-	
-						0 0				-	· · · · · ·
-						• •				3 50	·
3.50	7	D				Red	brown interbedded	thinly bedded MUDSTONE and SILTS	STONE	-	· · ·
-	0	Б				(Wea	thering Grade III)	line to coarse gravel.		(0.40)	
-				••• •••		(TAł	RPORLEY SILTST	ONE FORMATION)		3.90	
		OPT	N. 50			Very	weak grey thinly be	edded medium to coarse SANDSTONE.		(0.25)	
4.00-4.45	3	SPT	N=50			(TAI	RPORLEY SILTST	ONE FORMATION)		(0.35)	
4.20-4.65	4	SPT	N=50		. <b></b>	» •	Roreh	ole terminated at 4 25m depth		4.25	
-							Doren	ere terminatea ar 1.2011 deptil.		-	
L						1				L	
D	orina	Drograg	a and Watar Oha	ornion	~		Chisolling / Sl	Duy Drograss			

	Boring Pr	ogress and	Water Ob	servations		Chisel	ling / Slow	Progress	Comoral	Domortza
Date	Time	Borehole	Casing	Borehole Diameter	Water	From	То	Duration (hh:mm)	General	Kelliarks
		Depth	Depth	(mm)	Depth			()	1 Location scanned with CA	T and signal generator prior
25/09/13		4.25	3.00	150	Dry	3.90	4.20	01:00	<ol> <li>bocatoli scanicu wili CA to breaking ground. No se</li> <li>Hand dug inspection pit e:</li> <li>Groundwater not encounte</li> <li>Gas and groundwater mon 4.20m bgl.</li> </ol>	revices encountered. xcavated to 1.20m bgl ered. litoring well installed to
									All dimensions in metres	Scale: 1:25
Method			Plan	e Pilco	n Wayfa	arer	Drilled		Logged	Checked mil
Used:	Cable p	ercussio	n Used	l:	<b>1500</b>		By:	GH	By: <b>GShaw</b>	By: MAD AGS



Contract:								Client:					Boreho	le:	
E	ast	Mid	lands (	Gatev	vay	7			Roxhil	l Develop	ments Ltd	l		C	CP215
Contract Ref:			S	Start:	30.9	9.13	Groun	d Level (m	AOD):	National Gric	Co-ordinate:		Sheet:		
3	124	194	F	End:	30.9	9.13		59.07		E:44557	75.8 N:327	7009.1		1	of 2
Samp	les a	nd In-si	tu Tests		/ater	kfill & stru- ntation				Description of	Strata			Depth (Thick	Material Graphic
Depth	No	Туре	Resu	lts	≶	Bac In In				I				ness)	Legend
0.00-1.00	1	В					Soft roun (THI	brown slig ded fine to RUSSINGT	ghtly grav medium q FON MEN	relly clayey S uartzite and sa IBER)	ILT. Gravel ndstone.	is subround	ded to	 (1.00) 	x   x   x   x   x   x   x   x   x   x
1.00-1.20	2 1 3	B SPT B	N=4	L			Loos suba (Wea (BR	e brown sl ngular to su athering Gra OMSGROV	lightly gra ıbrounded ade IVa) VE SAND	velly clayey f fine to coarse STONE FORM	ine to coarse S sandstone and d MATION)	AND. Gr. quartzite.	avel is	1.00 - - - - - - - - - -	
2.00-2.45 2.00-2.45	2 4	SPT B	N=10	6			Med SAN (Wea (BRO	ium dense D. Gravel athering Gra OMSGROV	yellow g is angular ade IVa) VE SAND	rey slightly g fine to mediur STONE FORM	ravelly clayey n sandstone. MATION)	fine to m	ledium	2.00	
2.50-3.00	5 3 6	D SPT B	N=1:	5			* * * * * * * * * * * * * * * * * * * *							    	
4.00-4.45	4 7	SPT B	N=4	6			Dens angu (Wea (BRO	e brown s lar fine to c athering Gra DMSGROV	slighty gra coarse sand ade IVb) VE SAND	welly slightly lstone. STONE FORM	clayey fine S. MATION)	AND. Gra	avel is	4.00	

		Boring Pr	ogress and	Water Ob	servations		Chisel	ling / Slow	Progress	Comoral	Domortra
, viiuv, v	Date	Time	Borehole	Casing	Borehole Diameter	Water	From	То	Duration (hh:mm)	General	Kennarks
	30/09/13 30/09/13	00:00	4.50 4.85	1.50 4.50	150 150	4.50 4.25	4.50	4.80	01:00	<ol> <li>Location scanned with GP generator prior to breaking encountered.</li> <li>Hand dug inspection pit ex 3. Groundwater encountered</li> <li>Gas and groundwater mon 4.80m bgl.</li> </ol>	R a CAT and signal ground. No services ceavated to 1.20m bgl at 4.50m bgl. itoring well installed to
										All dimensions in metres	Scale: 1:25
	Method Used:	Cable p	ercussio	n Plan	t 1: <b>D</b>	ando 15	0	Drilled By:	ТС	Logged By: <b>GShaw</b>	Checked <b>DAB</b> AGS



Scale: 1:25 Checked TAB AGS

Contract:							(	Client:					Boreho	ole:	
	Eas	st Mic	lland	s Gate	eway	7		R	oxhil	l Develop	pments Lt	td		0	CP215
Contract	Ref:			Start:	30.9	9.13	Ground	Level (m A	OD):	National Gri	id Co-ordinate	:	Sheet:		
	312	2494		End:	30.	9.13		59.07		E:4455	575.8 N:32	27009.1		2	of <b>2</b>
S Denth	amples	and In-s	itu Tests	S	Water	ackfill & Instru- entation			1	Description of	of Strata			Depth (Thick	Material Graphic
		, Type		.50115	,	й •Н••	Dense	brown slig	ahty gra	velly slightly	v clavev fine	SAND. Gr	avel is	ness)	
	5	SPT	N=	=600*			Dense angula (Weath (BROI \ <i>(stratu</i> )	brown slig r fine to coa hering Grad MSGROVE <i>m copied fr</i>	ghty gra trse sanc e IVb) S SAND Borehol Borehol	velly slightly lstone. STONE FOR <u><i>m</i> from previ</u> e terminated	y clayey fine RMATION) ious sheet) at 4.85m deptl	SAND. Gr	avel is	- 4.85 - 4.85 	
-														-	
-														-	
-														-	
-														-	
L			1		1	1	1							L	1
	Boring	g Progree Bor	ss and W	Vater Obs Casing	Boreh	ons	Water	Chisellin	ng / Slov	v Progress Duration	C	General	Rema	arks	

try Univers	_													
oven		Bo	ring F	rogress	and	Water Ob	servations		Chisell	ing / Slow	Progress		C 1	<b>D</b>
Centre, C	Date	Т	ime	Borel Dep	hole oth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	То	Duration (hh:mm)		General	Rem
onment Ltd, The Enterprise														
RSK Envire	Method Used:	Ca	ıble	percu	ssio	n Plan	t I: <b>I</b>	Dando 150	)	Drilled By:	тс	Logged By:	GShaw	Chec By:



Contract:						Client:	1	Borehol	le:	
	East	t Mid	lands Gate	way		<b>Roxhill Developments Ltd</b>			0	CP216
Contract H	Ref:		Start:	2.10.13	0	Ground Level (m AOD): National Grid Co-ordinate:	5	Sheet:		
	312	494	End:	2.10.13		64.46 E:445621.9 N:327.	310.9		1	of <b>1</b>
Sa	mples a	ind In-si	tu Tests	ater fill & tru-	ation	Description of Strate			Depth	Material Graphic
Depth	No	Туре	Results	Wa Backi Inst	ment	Description of Strata			(1 nick ness)	Legend
0.00-1.00 - - - - -	1	В				Stiff red brown mottled grey sandy silty CLAY. Re occasional angular fine to coarse sandstone skerries fragr (Weathering Grade IVb) (TARPORLEY SILTSTONE FORMATION)	covery inclusion	ludes	- - - - - - - (1.70)	
1.00-1.20	2 3	B U <sub>(100)</sub>	50 blows 80% recovery					-	- - - -	
1.70 1.70-2.00	4 5	D B				Weak to moderately weak red brown thinly bedded MU occasional grey reduction spots. (Weathering Grade III) (TARDOLEY SUITSTONE FORMATION)	JDSTONE	with	1.70 (0.30) 2.00	
2.00-2.13 2.00-2.40	1 6	SPT B	N=300*			(TARPORLEY SILTSTONE FORMATION) Weak to moderately weak grey finely grained SANDSTO (Weathering Grade III) (TARPORLEY SILTSTONE FORMATION)	DNE.		- (0.45)	
2.40-2.48	2	SPT	N=300*		<u></u>	Dough als terminated at 2.45m doubt		-	2.45	
						borenoie terminated at 2.45m deput.				
L										I
Dette	Boring	Bore	s and water Obs	Borehole Diamator	V	Vater Tailor Duration Get	neral R	lema	rks	

	Boring Pr	ogress and	Water Ob	servations		Chisel	ling / Slow 1	Progress	Comoral	Domortza
Date	Time	Borehole	Casing	Borehole Diameter	Water	From	То	Duration (hh:mm)	General	Remarks
		Depth	Depth	(mm)	Depth		10	(1111.11111)	1 Location scanned with CA	T and signal generator prior
02/10/13		2.45	1.50	150	Dry	2.00	2.40	01:00	<ol> <li>bocator scanted with CA to breaking ground. No se</li> <li>Hand dug inspection pit es</li> <li>Groundwater not encounte</li> <li>Gas and groundwater mon 2.40m bgl.</li> </ol>	read. itoring well installed to
									All dimensions in metres	Scale: 1:25
Method Used:	lethod sed: Cable percussion			t l: D	ando 15(	)	Drilled By:	ТС	Logged By: <b>GShaw</b>	Checked TAB AGS



0	Contract:							Client:			Boreho	ole:	
	F	Cast	Mid	lands Gate	eway	7		Rox	hil	l Developments Ltd		0	CP217
(	Contract Ref			Start:	30.9	9.13	Groun	d Level (m AOD	):	National Grid Co-ordinate:	Sheet:		
	3	124	94	End:	1.1(	).13		71.51		E:445967.3 N:327306.0		1	of <b>2</b>
	Samp	oles a	nd In-si	tu Tests	Vater	ckfill & nstru- entation				Description of Strata		Depth (Thick	Material Graphic
	Depth	N0	Type	Results	-	а П П П П	D.1		17			ness)	Legend
-	0.00-1.00	1	Б				Dark (TOI	SOIL)	<b>Υ</b> .			(0.30)	$\frac{1}{1/2} \cdot \underline{\lambda} \cdot \underline{I}_{1/2} \cdot \underline{\lambda} \cdot \underline{I}_{1/2}$
-							Firm subro (THI	to stiff brown sounded to rounde RUSSINGTON N	sligh ad fir MEN	tly sandy slightly gravelly CLAY. Gr to medium quartzite. IBER)	avel is	0.30	
-	1.00-1.20	2	В				: Stiff	red brown silty	CLA	Y. Recovery includes occasional angu	lar fine	1.00	
	1.20-1.65 1.70 1.70-2.00	3 4 5	U <sub>(100)</sub> D D	20 blows 75% recovery			to mo fragn (Wea (TAI	edium mudstone nents. thering Grade IV RPORLEY SILT	litho 7b) STC	orelicts, with occasional grey sandstone s	skerries	-	
	2.00-2.45 2.00-2.45	1 6	SPT B	N=18			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0					(2.00)	
	3.00-3.45	7	U <sub>(100)</sub>	65 blows 75% recovery			Weal (Wea (Wea	< red brown MU thering Grade II RPORLEY SILT	DST I) STC	ONE, with occasional grey reduction sp DNE FORMATION)	ots.	3.00	
-	3.50 3.50-4.00	8 9	D D				7 0 0 0 0 0 0 0 0 0 0					- (1.65)	
	4.00-4.30 4.00-4.60	2 10	SPT B	N=100*			9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9					- - -	

	Boring Pr	ogress and	Water Ob	servations		Chisell	ing / Slow	Progress	Comoral	Domortza
Date	Time	Borehole	Casing	Borehole Diameter	Water	From	То	Duration (hh:mm)	General	Remarks
		Depth	Depth	(mm)	Depth		-	(iiii.iiiii)	1 Location scanned with CA	T and signal generator prior
30/09/13		3.50	3.00	150	Dry	4.20	4.60	01:00	to breaking ground. No se	ervices encountered.
01/10/13		4.65	3.00	150	Dry				2. Hand dug inspection pit ex	xcavated to 1.20m bgl
									<ol> <li>Groundwater not encounte</li> <li>Gas and groundwater mon 4.60m bgl upon completio</li> </ol>	red. itoring well installed to n.
									All dimensions in metres	Scale: 1:25
Method	lethod			t			Drilled		Logged	Checked TIZ
Used:	Cable p	oercussio	n Used	l: D	ando 150	)	By:	TC	By: <b>GShaw</b>	By: AGS



Contract:								(	Client:				Boreho	le:	
	East Midlands Gateway           ract Ref:         Start:         30.9.1           312494         End:         1.10.1           Samples and In-situ Tests         5         5								R	oxhil	l Develoj	pments Ltd		0	CP217
Contract I	Ref:				Start:	30.	9.13	Ground	Level (m A	OD):	National Gr	id Co-ordinate:	Sheet:		
	312	2494	4		End:	1.1	0.13		71.51		E:4459	67.3 N:327306.0		2	of 2
Sa	amples	and ]	In-sit	u Tes	ts	tter	ill & ru- ation							Depth	Material
Depth	Nc	) Ty	ype	R	esults	Wa	Jackf Inst			ļ	Description of	of Strata		(Thick ness)	Legend
_								•						- 165	
4.60-4.68	3	S	PT	N	=300*			•		Borehol	le terminated	at 4.65m depth.		- 4.05	
-														-	
_															
-														-	
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L															
	Boring	g Pro	gress	and	Water Ob	servati	ons		Chisellin	ng / Slov	w Progress	Conoral	Roma	rlza	
Date	Tim	e I	Boreł Dep	nole oth	Casing Depth	Borel Diam (mr	nole eter n)	Water Depth	From	То	Duration (hh:mm)	General			

Boring Pr	ogress and	Water Ob	servations		Chisell	ing / Slow	Progress	Comoral	Domortra
Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	То	Duration (hh:mm)	General	Kemarks
	- <b>T</b> -	T`							
								All dimensions in metres	Scale: 1:25
lethod Plant sed: Cable percussion Used: Dando					n	Drilled By:	тс	Logged By: <b>CShaw</b>	Checked <b>TAB</b>
	Boring Pr Time	Boring Progress and Time Borehole Depth Cable percussio	Boring Progress and Water Ob Time Borehole Depth Depth Depth Borehole Borehole Depth	Boring Progress and Water Observations         Time       Borehole Depth       Casing Depth       Borehole Diameter (mm)         Depth       Depth       Leven       Leven       Leven         Cable percussion       Plant Used:       D       D	Boring Progress and Water Observations         Time       Borehole Depth       Casing Depth       Borehole Diameter (mm)       Water Depth         Image: Colspan="4">Image: Casing Depth       Borehole Diameter (mm)       Water         Image: Colspan="4">Depth       Depth         Image: Colspan="4">Image: Colspan="4">Plant         Image: Colspan="4">Plant         Image: Colspan="4">Depth         Image: Colspan="4">Plant         Image: Colspan="4">Depth	Boring Progress and Water Observations       Chisell         Time       Borehole Depth       Casing Depth       Borehole Diameter (mm)       Water Depth         Image: Depth       Depth       Depth       Borehole Diameter (mm)       Water Depth       From         Image: Depth       Image: Depth       Image: Depth       Image: Depth       Image: Depth       Image: Depth       From         Image: Depth       Imag	Boring Progress and Water Observations     Chiselling / Slow 1       Time     Borehole Depth     Casing Depth     Borehole Diameter (mm)     Water Depth     From     To       Image: Casing Depth     Depth     Depth     Image: Casing Diameter (mm)     Water     From     To       Image: Casing Depth     Depth     Image: Casing Diameter (mm)     Image: Casing Diameter     Image: Casing Diameter     Image: Casing Diameter     Image: Casing Diameter       Image: Casing Depth     Image: Casing Diameter       Image: Casing Depth     Image: Casing Diameter       Image: Casing Depth     Image: Casing Diameter       Image: Casing Depth     Image: Casing Diameter       Image: Casing Depth     Image: Casing Diameter       Image: Casing Depth     Image: Casing Diameter     Image: Casing Diameter     Image: Casing Diameter     Image: Cas	Boring Progress and Water Observations       Chiselling / Slow Progress         Time       Borehole Depth       Casing Depth       Borehole Diameter (mm)       Water Depth       From       To       Duration (hh:mm)         Image: State of the state of th	Boring Progress and Water Observations       Chiselling / Slow Progress         Time       Borehole Depth       Casing Depth       Borehole Diameter (mm)       Borehole Depth       Water Depth       To       Duration (hh:mm)         Image: Solution of the state of the



Co	ontract:							Client:			Boreho	le:	
	F	Cast	t Mid	lands Gate	way	V		Roxhi	II Developments I	Ltd		0	CP218
Co	ontract Ref			Start:	1.1	0.13	Groun	d Level (m AOD):	National Grid Co-ordina	ate:	Sheet:		
	3	124	<b>194</b>	End:	1.1	0.13		65.61	E:446269.8 N:	327306.0		1	of 2
	Samp	oles a	nd In-sit	tu Tests	ater	fill & tru- ation			Description of Strate			Depth	Material Graphic
	Depth	No	Туре	Results	W	Back Inst			Description of Strata			(Thick ness)	Legend
0.	00-1.00	1	В				Brov	vn slightly clayey sl	ightly gravelly SILT. Gr	avel is subroun	ided to	_	× × × × ×
-						727 F	(THI	RUSSINGTON ME	MBER)			-	× × ×
												-	×
-												(1.00)	
-												-	
												-	× × × ×
-												1.00	x x x
-1.	00-1.08	1	SPT(c)	N=300*			Very	dense red brown	mottled grey slightly gr	avelly clayey S	SAND.	1.00	
[ 1.	00-1.45	2	В				Grav	el is angular fine to RUSSINGTON ME	coarse sandstone. MBER)			-	- <i>- 0</i>
-							•		,			-	
							• •					_	
1.	50-2.00	3	В				•					-	$\vec{v}$
-							° °					-	
							• •					-	
+2	00-2.45	4	II	65 blows			•					(2.00)	
- 2.	00-2.45	-	U <sub>(100)</sub>	90% recovery			° °					-	÷
							• •					-	
							•					-	
2.	50	5	D				•					-	
2.	50	6	D				• •					-	
-							•						
Ľ							•					3.00	
3.	00-3.30 00-3.45	2 7	SPT B	N=100*			Weal	k red brown MUI stone	OSTONE thinly bedded	with grey bar	nds of	-	
-							(Wea	athering Grade III)				-	
Ĺ								APORLEY SIL1510	JNE FORMATION)			-	
F							• •					-	
;							•						
Ĺ							•					(1.65)	
-							•						
4.	00-4.10	3	SPT	N=300*			• • • • • •	at 4.00m bgl, becom	es moderately weak with d	lepth.		-	
4.	00-4.60	8	В				•		-			-	
,  -							• •					-	
F							•					-	
L						· • Ħ•	м					L	

		Boring Pr	ogress and	Water Ob	servations		Chisel	ling / Slow	Progress	Comoral	Domorla
	Date	Time	Borehole	Casing	Borehole Diameter	Water	From	То	Duration (hh:mm)	General	Remarks
			Depth	Depth	(mm)	Depth			()	1 Location scanned with CA	T and signal generator prior
T	01/10/13		4.65	1.00	150	Dry	4.40	4.60	01:00	to breaking ground. No see 2. Hand dug inspection pit e: 3. Groundwater not encounted 4. Gas and groundwater mon 4.60m bgl upon completion	rvices encountered. xcavated to 1.20m bgl red. itoring well installed to m.
										All dimensions in metres	Scale: 1:25
	Method			Plan	t			Drilled		Logged	Checked THE
	Used:	Cable p	ercussio	n Used	l: D	ando 150	)	By:	TC	By: <b>GShaw</b>	By: MAD AGS



Contract:								C	Client:					Borehol	le:	
	Ea	st N	Mid	land	ls Gate	eway	V		R	oxhill	Develop	pments Ltd			C	P218
Contract I	Ref:	• 40			Start:	1.1	0.13	Ground	Level (m A	.OD):	National Gri	id Co-ordinate:		Sheet:	•	•
	312	249	4		End:	1.1	0.13		65.61		E:4462	269.8 N:3273	606.0		2	of 2
Sa	amples	and	In-sit	tu Tes	ts	/ater	kfill 8 stru- ntation			Ι	Description of	of Strata			Depth (Thick	Material Graphic
Depth	N	o T	уре	R	esults	3	Bacl				p				ness)	Legend
4.60-4.70	4		SPT	N	=300*			• •							4.65	
			-							Borehol	e terminated	at 4.65m depth.		-	-	
-															-	
-															_	
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_	Dari	a D.	0.0770-0	1 0 0 1	Water Ol		082		Chinall	ng / S1-	Drogram					
	DOFIN	ig Pf	Borel	hole	Casing	Borel	nole	Water			Duration	Ger	neral F	Rema	rks	
Date	Tin	ne	Dep	oth	Depth	Diam (mr	n)	Depth	From	То	(hh:mm)					

		Boring Pr	ogress and	Water Ob	servations		Chisell	ing / Slow I	Progress	Conorol	Domorla	
	Date	Time	Borehole	Casing Depth	Borehole Diameter	Water Denth	From	То	Duration (hh:mm)	General	Kemarks	
ł			Depui	Deptii	(11111)	Deptil						
•												
											I	
										All dimensions in metres	Scale: 1:25	
	Method			Plan	t			Drilled		Logged	Checked DI 2	
	Used:	Cable p	ercussio	n   Usec	l: <b>D</b>	<u>ando 15(</u>	)	By:	TC	By: <b>GShaw</b>	By:	AGS



Contract:						0	Client:					Boreho	ole:	
	East	t Mid	lands	Gate	eway		R	Roxhill	Develop	oments L	td		0	CP219
Contract F	Ref:			Start:	26.9.13	Ground	Level (m A	AOD):	National Gri	d Co-ordinate	e:	Sheet:		
	3124	494		End:	27.9.13		54.46		E:4469	22.2 N:3	27317.5		1	of <b>2</b>
Sa	amples a	ind In-si	tu Tests	ulta	Water ckfill & nstru-			Γ	Description of	of Strata			Depth (Thick	Materi Graph
Deptil		Type	Kes			Brown	slightly g	gravelly c	layey fine S	SAND. Grav	vel is subang	ular to	(0.30)	
0.20	1	D				(TOPS	SOIL)	d brown	alightly are	wally condy		wal is	0.30	<u></u>
						subang	gular to r onal rootlet	counded	fine to me	dium quartz	tite, sandston	aver is	-	
0.60	2	D				(THRU	USSINGIC	JN MEM	BER)				-	
-						* *							F(1.50)	
1.20-1.65	3	U <sub>(100)</sub>	56 bl 100% re	lows ecovery										· <u>···</u> ··
						* * *							-	
1.70	4	D						1.1	1 1.4 -	1			1.80	
1.90	5	D	Nī	22		Stiff g occasions sandsto	rey and red onal angul one lithorel	1 brown s lar to s licts fragn	lightly sandy ubangular f nents.	ine to medi	. Recovery in ium mudston	icludes ie and	-	×
2.00-2.43	6	B	IN-	22		(Weatl (TARI	hering Grad PORLEY S	de IVb) SILTSTO	NE FORMA	TION)			(1.00)	
													(1.00)	
						* • •							-	×
						Stiff r	ed brown	slightly	silty CLAY	. Recovery	includes occ	asional	2.80	×
2.90 3.00-3.45	7 8	D U <sub>(100)</sub>	75 bl	ows		angula skerrie (Weatl	r to subang s fragments hering Grad	gular fine s. de IVb)	to coarse mu	dstone, with	occasional san	dstone	_	
			70%10	covery		(EDW	ALTON M	IEMBÉR	)				-	×
2 50	0	D				•							(1.50)	
5.50	9	D				• • •							-	× × 
													-	
4.00 4.10-4.47	10 2	D SPT	N=7	70*		• • •at	4.10m bgl,	becomin	g very stiff.				-	
4.10-4.50		В				Descri	iption on ne	ext sheet					4.30	
						<b>`</b>								x o
Date	Boring	Progress Bore	s and Wa	ater Obs	Borehole Diameter	Water	Chiselli From	ing / Slow	Progress Duration	(	General	Rema	arks	
26/09/13 27/09/13	1 1110	Dej 1.7 7.7	pth <u>D</u> 70 70 3	Depth - 3.00	(mm) 150 150	Depth Dry Dry	6.80 7.10	7.10 7.50	(hh:mm) 01:00 01:00	<ol> <li>Location sc to breaking</li> <li>Hand dug i</li> <li>Groundwat</li> <li>Gas and group</li> </ol>	canned with CA ground. No set nspection pit ex er not encounter oundwater moni	T and sign rvices enc cavated to red. itoring we	nal genera countered o 1.20m b	ator pric ogl d to
										/.SUM bgl i	upon completion	1.		
				PI			 			All dimensio	ons in metres	Scale:	1:25	5
Method Used:	Cable	nercu	Ission	Plant   Used	: Pilco	n wayfa 1500	arer	Drilled By:	GH	Logged By:	GShaw	Checke By:		> AG

		Boring Pr	ogress and	Water Ob	servations		Chisel	ling / Slow	Progress	Comoral	Domortra
, , , , , , , , , , , , , , , , , , ,	Date	Time	Borehole	Casing Depth	Borehole Diameter	Water Depth	From	То	Duration (hh:mm)	General	Kellialks
	26/09/13 27/09/13	26/09/13 27/09/13 7.70			150 150	Dry Dry Dry	6.80 7.10	7.10 7.50	01:00 01:00	<ol> <li>Location scanned with CA to breaking ground. No se</li> <li>Hand dug inspection pit e:</li> <li>Groundwater not encounte</li> <li>Gas and groundwater mon 7.50m bgl upon completic</li> </ol>	T and signal generator prior rvices encountered. xcavated to 1.20m bgl ered. iitoring well installed to n.
										All dimensions in metres	Scale: 1:25
	Method Used:	fethod <sup>Jsed:</sup> Cable percuss			t <b>Pilco</b> l:	on Wayfa 1500	arer	Drilled By:	GH	Logged By: <b>GShaw</b>	Checked TAB AGS



Contract:								Client:				Boreho	ole:	
-	East	t Mid	llands G	ate	way	/		Roxh	ill Develoj	pments Ltd			(	CP219
Contract Re	f:		St	art:	26.	9.13	Ground	Level (m AOD):	National Gr	id Co-ordinate:		Sheet:		
	3124	494	Er	nd:	27.	9.13		54.46	E:4469	22.2 N:3273	317.5		2	of 2
San	ples a	ind In-s	itu Tests		Water	ckfill & nstru- entation			Description	of Strata			Depth (Thick	Materia Graphic
Deptii	INO	Type	Kesuit	5	-	ю Н. Ва	• Verv	stiff to very weak	red brown S	II TSTONE with	occasions	al orev	ness)	
4.90 5.00-5.45	12 3	D SPT	N=46				very sandst (Weat (EDW a previc	still to very weak thering Grade III) /ALTON MEMBI t 4.30m bgl, becon bus sheet)	ER) ming very stiff	(stratum copied fr	occasiona	n from		
5.90 6.00-6.39 6.00-6.50	13 4 14	D SPT B	N=62*				<b>.</b>						-	
-							•						6.80	
6.90	15	D					Weak sands Weat	red brown thinl tone skerries. hering Grade III)	y bedded MU	JDSTONE with a	occasiona	l grey	-	
7.10-7.34	5	SPT	N=167*	k			(EDW	ALTON MEMBI	ER)				(0.90)	
7.40 7.50-7.71	16 6	D SPT	N=158*	k			0 0 0 0							× × × × × × × × × × × × × × × × × × ×
Ĺ				ŀ		` <u>``````</u> `	•	Boreh	ole terminated	at 7.70m depth.			7.70	
-													-	
E	oring	Progres	ss and Water	·Obse	ervati	ons	1	Chiselling / Sl	ow Progress	0	1 7	D -	L	<u> </u>

	Boring Pr	ogress and	Water Ob	servations		Chiselli	ing / Slow l	Progress	Conoral	Domorla	a	
Date	Time	Borehole	Casing Depth	Borehole Diameter	Water Depth	From	То	Duration (hh:mm)	General	<b>NEIIIAI</b> K	5	
		Depth	Depui	(mm)	Depth			· · /				
										1		
									All dimensions in metres	Scale: 1	:25	
Method			Plan	t <b>Pilco</b>	on Wavfa	arer	Drilled		Logged	Checked <b>T</b>	0	
Used:	Cable p	ercussio	n Used	l:	1500		By:	GH	By: GShaw	By:	ND.	AGS



1. Location scanned with GPR a CAT and signal generator prior to breaking ground. No services encountered.

encountered.
2. Hand dug inspection pit excavates to
3. Groundwater not encountered.
4. Gas and groundwater monitoring well installed to
5.70m bgl upon completion.

1:25

AGS

Checked TAB

By:

All dimensions in metres | Scale:

**GShaw** 

Logged By:

Contract:							(	Client:				]	Borehol	le:	
]	East	Mid	land	s Gate	eway	y		R	loxhill	Develop	pments Ltd			0	CP220
Contract Re	f:			Start:	26.	9.13	Ground	l Level (m A	.OD): 1	National Gr	id Co-ordinate:	1	Sheet:		
	3124	194		End:	26.	9.13		43.62		E:4472	285.5 N:3272	287.4		1	of <b>2</b>
Sarr Depth	ples a	nd In-si Type	tu Test Re	s esults	Water	3ackfill & Instru-	пенанон		D	Description	of Strata			Depth (Thick ness)	Material Graphic Legend
						Ī	Brown	n slightly cla	ayey silty	fine SAND	with occasional r	ootlets.			$(\underline{x}, \underline{y}, \underline{y}, \underline{x}, \underline{y}, \underline{y}, \underline{y}, \underline{y}, \underline{y})$
0.20	1	D					A (TOP)	SOIL)					-	(0.45) 0.45	$\frac{1}{2} \cdot \frac{\sqrt{1}}{\sqrt{1}} \cdot $
0.50-0.80 0.55	2 3	B D					Orang round (HEA	ge brown slig ed fine to co D DEPOSI	ghtly grav parse quar ΓS)	elly silty fir tzite.	e SAND. Gravel	is subround	led to	(0.35) 0.80	
0.90	4	D					Firm r (HEA	red brown sl D DEPOSI	ightly silt ΓS)	y CLAY wi	th occasional root	tlets.		- - - (0.70)	
1.20-1.65	20-1.65 5 U <sub>(100)</sub> 29 blows 90% recovery												-	(0.70) - -	
-							Red b	rown slightl	y clayey r	medium to c	oarse SAND.			1.50	
	70 6 D						(HEA	D DEPOSI	ΓS)					(0.30)	
1.70	.70 6 D						• • Firm	red brown	mottled	grev san	iv CLAY. Re	coverv inc	ludes	1.80	·
2.00	.70 6 D .00 7 D						occasi mudst	ional suban tone lithoreli thering Grad	gular to icts. le IVb)	subrounde	d fine to coarse	sandstone	and	-	
2.20-2.65	1 8	SPT B	נ	N=9				VALION M	EWIDER)	)			-	(1.00)	
-							Verv	weak red	brown M		thinly bedded	with sands	stone	2.80	
2.90 3.00-3.45	9 10	D U <sub>(100)</sub>	87 80% :	blows recovery			Recov Occas (Weat	vered as fin sional grey re thering Grad ALTON M	e to coa eduction s le III) EMBER)	spots.	sized tabular an	gular fragn	nents.	- - -	
3.50	3.50 11 D												-	(1.60)	
4.00 4.10-4.51 4.10-4.50	4.00 12 D 4.10-4.51 2 SPT N=58*							intion on the	out shart					- - - - 4.40	
L						<u>.</u> ⊟•••1	· Descr	ipiion on ne	π sneei						× × × ×
В	oring	Progress	s and V	Vater Ob	servati	ons		Chiselli	ng / Slow	Progress	Ga	noral D	emo	rba	
Date	Time	Bore Der	hole oth	Casing Depth	Borel Diam (mn	nole eter n)	Water Depth	From	То	Duration (hh:mm)				112	1

Dry

Pilcon Wayfarer 1500

150

4.90

5.70

Drilled

By:

4.50

5.20

01:00

01:00

GH

Date Time Depth Depth 5.92 3.00 26/09/13 Method Plant Used: Used: **Cable percussion** 



Contract R Sar Depth	East ef: 3124 mples a No	t Mi 494	dland	Is Ga Start	tev t:	way 26 9	, ) 12		F	Roxhill	Develor	oments Ltd		C	P220
Contract R Sar Depth	ef: <b>312</b> mples a No	494		Start	t:	26 9	112				L				
Sar Depth	3124 nples a	494		1		-0.,	<i>י</i> .13	Ground	Level (m A	AOD): 1	National Gri	d Co-ordinate:	Sheet:	_	_
Saı Depth	nples a			End	:	26.9	9.13		43.62		E:4472	85.5 N:327287.4		2	of <b>2</b>
1		ind In-	-situ Tes e R	ts esults		Water	ackfill & Instru- nentation			D	escription c	of Strata		Depth (Thick ness)	Material Graphic Legend
4.90-5.22 4.90	3 14	SPT D		N=88*			· · · · · · · · · · · · · · · · · · ·	Red b (Weat (EDW  previc	rown SILT hering Grac /ALTON k at 4.40m t bus sheet) t 4.90m bgl,	STONE w de III) IEMBER) ogl, becon becomes	rith occasion	al grey reduction spots.	n from		
5.60 5.70-5.93	15 4	D SPT	C N	=167*				• • at	t 5.70m bgl,	, becomes	weak.			- 5.92	× × × × × × × × × × × × × × × × × × ×
<b>-</b>															
Date	Boring Time	Progr Bo	ress and rehole	Water C Casing	Dbse g I	rvatio Boreh Diame	ons ole eter	Water	Chisell	ing / Slow	Progress Duration	General	Rema	arks	
			Jepin	Depin		(mm		Depth				All dimensions in metres	Scale:	1:25	
Method Used:	Cahla	ner	دررونهم	n Pla	ant sed:	P	ilcon	Wayf 1500	arer	Drilled By:	СН	Logged By: <b>CShaw</b>	Checke By:		AGS

		Boring Pr	ogress and	Water Ol	servations		Chisel	ing / Slow I	Progress	Comorol	Domorly		
	Date	Time	Borehole	Casing	Borehole Diameter	Water	From	То	Duration (hh:mm)	General	Remarks	<b>;</b>	
	2410		Depth	Depth	(mm)	Depth		10	(1111.11111)				
1													
										All dimensions in metres	Scale: 1:	25	-
	Method				t <b>Pilco</b>	on Wayfa	arer	Drilled		Logged	Checked 7	12	
	Used:	Cable p	ercussio	n Use	d:	1500 <sup>ĭ</sup>		By:	GH	By: GShaw	By:	Ø	AGS



Co	ontract:								C	lient:				Boreho	ole:	
		Eas	t Mi	dland	ls Gate	eway	y			R	oxhill	Develo	pments Ltd		0	CP221
Co	ontract F	Ref:			Start:	27.	9.13	GI GI	round I	Level (m A	.OD):	National Gr	id Co-ordinate:	Sheet:		
		312	494		End:	30.	9.13	3		41.66		E:447(	51.9 N:327694.5		1	of <b>3</b>
	Sa	amples	and In-	situ Test	ts	ater	fill & tru-	ation			г	Description	of Strata		Depth	Material Graphic
	Depth	No	Туре	R	esults	Ň	Back Ins	ment			L	Description	or Strata		ness)	Legend
-	10	1	D				Į		Brown	silty fine S	SAND wi	th occasiona	al rootlets.		(0.35)	<u><u>x</u>, <u>y</u>, <u>x</u>, <u>y</u>, <u>y</u></u>
0.	.10						727 (		1015	OIL)					(0.33)	N. 6. N. 6. N
								F	Brown	slightly s	iltv grav	ellv fine S	AND. Gravel is subang	ular to	- 0.35	**************************************
- 0.	45	$\begin{vmatrix} 2\\ 2 \end{vmatrix}$	D					r	ounder	d fine to co	arse quar	tzite and fli	nt. ) GRAVEL MEMBER)		-	x X
	.50-1.00		D						LOON			5/11(1)/11(1			(0.75)	×°×
-															-	o x x Ø ∞
-															-	
-									A 1'		1.	1.4 11	1 (* 1: .		1.10	× · · ·
1.	20-1.65	1	SPT(c		N=15			··· [	Gravel	n dense bi is subangu	lar to rou	inded fine to	coarse quartzite.	SAND.	-	
[ 1.	.20	4	D	, 				;; ;;	EGGI	NTON CO	MMON	SAND ANI	O GRAVEL MEMBER)		-	
-								• • • • • •							-	
								•••							-	-# ÷
-								•••							(1.40)	
-								••• •••							-	
2.	.00	5	D												-	- <del>0</del>
2.	20-2.65	2	SPT(c		N=16			• • • • • •							-	
				´				• • •							-	
-									Firm br	rown CLA	V with or	casional or	av reduction spots		2.50	
-									Weath	ering Grad	e IVb)		ey reduction spots.		-	
-								•••• ( •••		ALIONM	ENIDER	)			-	
2.	.90	6	D					• • • •							-	
3.	.00-3.45	7	U(100)	31	blows			•••							-	
-				10070	, 1000, 01			•••							-	
															-	
3	50	8	D					。。 。。 。。							(2.15)	
			D													
-								••• •••							-	
-								•••							-	
4.	.00	9	D												_	
4	.20-4.65	3	SPT	ז	N=11			。。 。。 。。							-	
								•`• •`•							-	
								<b>.</b> .								<u> </u>
		Boring	g Progre	ess and V	Water Ob	servat	ions			Chiselli	ng / Slow	Progress	C 1	<b>D</b>	1	
	Date Time Borehole Casing Borehole V Depth Depth (mm) I								ater	From	То	Duration	General	Kema	arks	
27	7/09/12	00.0		epth	Depth 4 00	(mr	n)	De 1	epth 65	10.30	10.70	01·00	1. Location scanned with CA	T and sig	nal gener	ator prior
27	/09/13	00:2		0.65	6.00	15	0	4. 9.	.65	10.30	10.70	01.00	2. Hand dug inspection pit ex Groundwater encountered	at 9 65m	ountered o 1.20m t	ogl
$\begin{vmatrix} 30 \\ 30 \end{vmatrix}$	)/09/13 )/09/13		1	0.94	6.00 6.00	15 15	0	9. 10	.65 ).94				4. Gas and groundwater mon 10.70m bgl upon completion	itoring we	ell installe	ed to

GINT LIBRARY V8 05/GLB LibVersion: v8 05 - Lib0004 piJVersion: v8 05 - Core+Logs 0002 | Log CABLE PERCUSSION LOG | 312494 - EAST MIDLANDS GATEWAY.GPJ - v8\_05 | 10/12/13 - 10:47 | KF. RSK EnvironmenenLtd. The Enterprise Centre, Coventry University Technology Park, Coventry, CV1 27X. Tel: 02476 236816, Fax: 02476 236014, Web: www.rsk.co.uk.

Method       Plant       Pilcon Wayfarer       Drilled       Logged       Cable percussion       Checked TWB       All dimensions in metres       Scale:       1:25											S . F F			
Method Used: Cable percussion Plant Used: 1500 Drilled By: GH Logged By: Checked By: Check										All dimensi	ons in metres	Scale:	1:25	
	Method Used:	Cable p	ercussio	n Plant	t <b>Pilco</b>	on Wayfa 1500	arer	Drilled By:	GH	Logged By:	GShaw	Checked By:	TMB	AGS



Contract:							Client:			Boreh	ole:	
]	East	t Mid	lands Gate	way	7		Roxh	ill Develo	pments Ltd		(	CP221
Contract Ref	f:		Start:	27.9	9.13	Groun	d Level (m AOD):	National G	id Co-ordinate:	Sheet:		
	3124	494	End:	30.	9.13		41.66	E:447(	)51.9 N:327694.4	5	2	of <b>3</b>
Sam	ples a	ind In-si Type	tu Tests Results	Water	sackfill & Instru- nentation			Description	of Strata		Depth (Thick ness)	Material Graphic Legend
						•						
4.90 5.00-5.45	10 4	D SPT	N=11			Firm inclu lithor (Wea (ED)	brown CLAY w des occasional au relicts and grey red athering Grade IVb WALTON MEMB	with occasiona ngular fine to uction spots. ) ER)	l sandstone skerries. medium gravel sized	Recovery mudstone	<u>-</u> - - - - - - - - - - - - - - - - - -	
5.80	11	D				0 0 0					-	
6.00-6.45	12	U <sub>(100)</sub>	43 blows 100% recovery			0 0 0 0 0					-	
6.50	13	D				0 0 0 0 0 0 0					-	
7.00	14	D				0 0					(4.85)	
7.20-7.65	5 15	SPT B	N=24			• • • • • • • •	at 7.20m bgl, becor	ning stiff.			-	
8.00	16	D				0 0 0 0					- 	
8.20-8.65	17	U <sub>(100)</sub>	54 blows 100% recovery			0 0 0 0 0					-	
8.70	18	D				0 0 0 0 0					-	
B	oring	Progress	s and Water Obs	ervati	ons		Chiselling / S	low Progress	~	1.5		

oven		Boring Pr	ogress and	Water O	bservations		Chiselli	ing / Slow l	Progress	Comorol	Domorla	~	
nure, c	Date	Time	Borehole	Casing	Borehole Diameter	Water	From	То	Duration (hh:mm)	General	Remark	5	
S			Depth	Depth	(mm)	Depth			()				
IISE													
terp													
Ц													
The													
ťā,													
I L													
mei													
/ILON										All dimensions in metres	Scale: 1	:25	
SK EUV	Method Used:	Cabla r	aroussia	Pla Use	nt <b>Pilc</b>	on Wayfa	arer	Drilled Bv:	СН	Logged By: <b>CShow</b>	Checked <b>D</b>	NB	AGS



Scale: 1:25 Checked By:

AGS

All dimensions in metres Scale:

GShaw

Logged By:

Contract:							(	Client:					Boreho	ole:	
]	East	t Mid	land	ls Gate	eway	y		R	oxhill	Develoj	pments L	td		0	CP221
Contract Re	f:			Start:	27.	9.13	Ground	Level (m A	.OD): N	National Gr	id Co-ordinate	2:	Sheet:		
	3124	494		End:	30.	9.13		41.66		E:4470	051.9 N:32	27694.5		3	of <b>3</b>
Sam Depth	ples a	nd In-si Type	tu Tes	sts Results	Water	ackfill & Instru-			De	escription of	of Strata			Depth (Thick ness)	Material Graphic Legend
9.10 9.20-9.65	19 6	D SPT		N=50	3		Firm I include lithore (Weath (EDW <i>(stratu</i> ) at Very s to med (Weath	brown CL es occasion licts and gra- nering Grad ALTON M <i>m copied fi</i> 9.20m bgl, tiff grey sai lium mudsto nering Grad	AY with nal angula ey reduction le IVb) EMBER) com 4.65m becoming ndy CLAY one and sa le IVb)	occasional ar fine to on spots. <i>from prevu</i> stiff to ver d. Recover ndstone lith	l sandstone s medium grav <i>ious sheet)</i> y stiff. y includes occ norelicts.	skerries. Re vel sized mu casional angul	covery Idstone	- - - - - -	
- 10.00-10.34 10.00	7 20	SPT D	1	N=79*			(EDW)	ALTON M	l, becomin	g weak.				(1.00)	
10.60 10.70-10.95	0.60 21 D 9.70-10.95 8 SPT(c) N=158*						Weak (Weath (ARD)	grey brown nering Grad EN SANDS	SANDST le III) STONE FO	ONE recov	vered as suban N)	gular coarse g	gravel.	10.50 - (0.44) - 10.94	
	0.60 21 D 0.70-10.95 8 SPT(c) N=158*														
В	oring	Progress	s and	Water Ob	servati	ons		Chiselli	ng / Slow	Progress	(	Concret	Dame	mlea	
Date	Time	Bore De	hole oth	Casing Depth	Borel Diam (mr	nole eter n)	Water Depth	From	То	Duration (hh:mm)				11 KS	

Pilcon Wayfarer 1500

Drilled

GH

By:

Plant

Used:

Cable percussion

GINT\_LIBRARY\_V8\_05.GLB LibVersion: v8\_05 - Lib0004 PijVersion: v8\_05 - Core+Logs 0002 | Log CABLE PERCUSSION LOG | 312494 - EAST MIDLANDS GATEWAY.GPJ - v8\_05 | 10/12/13 - 10:48 | KF. RSK EnvironmentLtd. The Enterprise Centre, Coventry University Technology Park, Coventry, CV1 27X. Tel: 02476 236816, Fax: 02476 236014, Web: www.rsk.co.uk.

Method Used:


Contract:							Client:			Boreho	ole:	
I	East	t Mid	lands Gate	way	7		Roxhi	ll Developmen	ts Ltd		0	CP222
Contract Ref	2		Start:	3.1	0.13	Groun	d Level (m AOD):	National Grid Co-or	dinate:	Sheet:		
3	8124	194	End:	3.1	0.13		37.05	E:447259.3	N:327820.5		1	of 2
Samj	ples a	nd In-si	tu Tests	tter	ill & ru- ation						Depth	Material
Depth	No	Туре	Results	W	Backf Inst			Description of Strata	1		(Thick ness)	Legend
-						Gras	s over brown slightl DE GROUND)	y clayey SAND, with	occasional rootlets.		0.15	
- 0.25	1	D			127 B	Coar	se angular GRAVE	L of limestone.			0.30	
0.23	2	D				Brov	vn slightly clayey g	ravelly fine SAND.	Gravel is subroun	ded to	0.50	
-		2				\(WA	ded quartzite and sa NLIP MEMBER)	ndstone.			0.30	······································
0.60	3	D				Med subro	ium dense brown s ounded to rounded c	lightly clayey gravely uartzite and sandstone	y fine SAND. Gr	avel is	-	
0.80-1.20	4	В				(WA	NLIP MEMBER)				-	
_											-(1.10)	
											-	
1.20-1.65 1.20-1.65	1 5	SPT(c) B	N=12								-	
-											-	
-						Med	ium dense orange	and red brown slight	ly gravelly clayey	coarse	1.60	
1.70	6	D				SAN sand	D. Gravel is suban	gular to subrounded fi	ine to coarse quartz	ite and	-	
-						(WA	NLIP MEMBER)				-	
-											-	 
2.20-2.65	2	SPT	N=18								-	
											-	
-											(1.80)	
-											-	
											-	
2.90	7	D				.]					-	
3.00-3.45	8	U(100)	38 blows 100% recovery								-	
-			-								-	
-						Soft	to firm red brow	n clightly condy CI	AV Pacovery in	aludas	3.40	
3.50	9	D				occa	sional angular fin	e mudstone and sar	idstone lithorelicts	, with	-	
- -						. (Wea	athering Grade IVa)	n spois.			-	
-						.  (ED'	WALTON MEMBE	к)			E	
3.90	10	D SPT	N-7								-	
4.00-4.50	11	B	TA—/			:					ŀ	· · · · · ·
-											-	
-											-	
-	•		-								-	

		Boring Pr	rogress and	Water Obs	servations		Chisel	ling / Slow	Progress	Comorol	Domortra
· · · · · · · · · · · · · · · · · · ·	Date	Time	Borehole	Casing	Borehole Diameter	Water	From	То	Duration (hh:mm)	General	Kemarks
5			Depth	Depth	(mm)	Depth			(	1. Location scanned with GP	'R and CAT and signal
	03/10/13	00:00	6.40	6.00	150	6.40	7.50	8.00	01:00	generator prior to breaking	g ground. No services
	03/10/13	00:20	6.40	6.00	150	5.66				encountered.	recorded to 1.20m hol
	03/10/13		8.29	7.50	150	Dry				<ol> <li>Hand dug inspection pit e</li> <li>Groundwater encountered</li> <li>Gas and groundwater mon</li> <li>6.00m bgl upon completio</li> </ol>	cavated to 1.20m bgi at 6.40m bgl. itoring well installed to n.
										All dimensions in metres	Scale: 1:25
	Method Used:	Cable p	oercussio	n Plant	Pilco	on Wayfa 1500	rer	Drilled By:	GH	Logged By: <b>GShaw</b>	Checked TAB AGS

GINT LIBRARY V8 05 GLB LibVersion: v8 05 - Lib0004 pijVersion: v8 05 - Core+Logs 0002 | Log CABLE PERCUSSION LOG | 312494 - EAST MIDLANDS GATEWAY.GPJ - v8\_05 | 10/12/13 - 10:48 | KF. RSK EnvironmentLtd. The Enterprise Centre, Coventry University Technology Park, Coventry, CV1 27X. Tel: 02476 236816, Fax: 02476 236014, Web: www.rsk.co.uk.



Scale: 1:25 Checked **Dub** By:

AGS

All dimensions in metres | Scale:

GShaw

Logged By:

Contract:							C	Client:					Boreho	ole:	
]	East	Mid	land	s Gate	eway			R	oxhill	Develop	pments Ltd	l		0	CP222
Contract Re	f:			Start:	3.10	.13	Ground	Level (m A	.OD):	National Gr	id Co-ordinate:		Sheet:		
	3124	94		End:	3.10	.13	1	37.05		E:4472	259.3 N:327	820.5		2	of 2
Sam	ples a	nd In-si	tu Test	ts	ater	stru- tation			Г	Description	of Strata			Depth (Thick	Material Graphic
Depth	No	Туре	R	esults	A T	D Ins			L	vesenption (	51 Stidu			ness)	Legend
4.90 5.00-5.45 5.50	12 13 14	D U <sub>(100)</sub> D	53 90%	blows recovery	1		Soft tc occasic occasic (Weath (EDW) ( <i>stratus</i>	<ul> <li>firm real onal angul onal grey re hering Grad ALTON M <i>m copied fr</i></li> </ul>	d brown ar fine duction s le IVa) EMBER com 3.40n	slightly sa mudstone a pots. ) n from previ	ndy CLAY. R and sandstone	ecovery ir lithorelicts	with	(2.80) 	
6.00 6.10-6.44	15 4	D SPT	Ν	I=79*	1		Very v skerrie (Weath (EDW)	weak red b s. hering Grad ALTON M	orown M le III) EMBER	UDSTONE )	with occasiona	ıl grey san	dstone	- - - - - - - -	
7.00	16 5	D SPT	Ν	I=59*										- - - (2.09) - - - -	
8.00-8.30 8.00 8.00	6 17	SPT D	N	=103*					Borehole	e terminated	at 8.29m depth.			- 8.29	
-														-	
B	oring	Progress	s and V	Water Oh	servatio	ons		Chiselli	ng / Slow	Progress	~			1	
Date	Time	Bore	hole	Casing	Boreho	ole ter	Water	From	То	Duration (hh·mm)	Ge	eneral ]	Kema	arks	
		Dej	oth	Depth	(mm)	)	Depth								

Pilcon Wayfarer 1500

Drilled

GH

By:

Plant

Used:

Cable percussion

GINT\_LIBRARY\_V8\_05.GLB LibVersion: v8\_05 - Lib0004 PijVersion: v8\_05 - Core+Logs 0002 | Log CABLE PERCUSSION LOG | 312494 - EAST MIDLANDS GATEWAY.GPJ - v8\_05 | 10/12/13 - 10:49 | KF. RSK EnvironmentLtd. The Enterprise Centre, Coventry University Technology Park, Coventry, CVI 27X. Tel: 02476 236816, Fax: 02476 236014, Web: www.rsk.co.uk.

Method

Used:



#### APPENDIX E ROTARY CORED BOREHOLE LOGS AND PHOTOGRAPHS



discontinuity is infilled (refer to Fracture Table for details).

#### **KEY TO EXPLORATORY HOLE LOGS - SUMMARY OF ABBREVIATIONS**

#### **SAMPLING**

Sample type codes

В	=	Bulk disturbed sample.
С	=	Core sample.
CS	=	Core sample taken from rotary core for lab testing.
D	=	Small disturbed sample.
DSPT	=	Small disturbed sample originating from SPT test.
ES	=	Soil sample for environmental testing.
U	=	Undisturbed driven tube sample - Number of blows indicated. % recovery reported.

Undisturbed sample detail codes

100mm diameter undisturbed sample. =  $U_{(100)}$ 

#### **IN-SITU TESTING**

SPT <sub>(c)</sub> SPT	=	Standard Penetration Test using a solid 60 degree cone. Standard Penetration Test using split spoon sampler (SPTorp indicates 'No Sample Recovery')
	=	* denotes extrapolated N value. NP denotes 'No Penetration'.
V	=	Field Vane Test. Peak value $(c_u)$ & Residual value $(c_r)$ , given as shear strength in kPa.

#### **ROTARY DRILLING INFORMATION**

W	=	Water flush returns (%)
TCR	=	Total core recovery (%)
SCR	=	Solid core recovery (%)
RQD	=	Rock quality designations (%)
If	=	Fracture spacing (mm).
		In the fracture column (i) denotes discontinuity is infilled (refer to Fracture
		Where variable the minimum - average - maximum spacing may be quoted.
		'NI' denotes non-intact core. 'NA' denotes not applicable.

All lengths used to determine rock core mechanical properties taken along the centre line of the core. Obvious induced fractures have been ignored.

The assessment of solid core is based on lengths that show a full diameter and not necessarily

a full circumference.

AZCL = Assessed zone of core loss.

#### ADDITIONAL NOTES

1. All soil and rock descriptions and legends in general accordance with BS EN ISO 14688-1, 14688-2, 14689-1, and BS5930:1999 including Amendment 2 (2010).
Material types divided by a broken line (- - ) indicates an unclear boundary.
The data on any sheet within the report showing the AGS icon is available in the AGS format.



#### **KEY TO EXPLORATORY HOLE LOGS - SUMMARY OF GRAPHIC SYMBOLS**

#### WATER COLUMN SYMBOLS



First water strike, second water strike etc.

Standing water level following first strike, standing water level following second strike etc.

Seepage. Standing water level recorded at documented date.

#### MATERIAL GRAPHIC LEGENDS





Contract:								Cli	ient:				Boreho	ole:	
ŀ	East	t Mid	lands	Gate	eway	V				Roz	xhil	l Developments Ltd		CP(I	R)203
Contract Ref				Start:	2.1	0.13	Grou	nd L	evel (m	AOI	D):	National Grid Co-ordinate:	Sheet:		
3	5124	194		End:	3.1	0.13		(	57 <b>.</b> 92			E:447184.9 N:326594.0		1	of <b>5</b>
Depth		Sample	s & Test	ting	N TCR	Mecha SCR	nical ROD	Log If	kfill & 1stru- ntation	Vater		Description of Strata		Depth (Thick	Material Graphic
(m)	No	Туре	Res	sults	(%)	(%)	(%)	(mm)		>	Dril	larg description Grass over red brow	n cilta	ness)	Legend $\overline{\mathbf{x}} - \overline{\mathbf{x}}$
											Dril CL/ Dril MU	lers description - Grass over red brow AY. lers description - Weak red DSTONE.	n silty brown	(1.20)	
- - - - - - -											Dril	lers description - Red brown MUDSTON	IE.	4.90 	
6.40-6.60	1	CS			93	60	27				Wea inte and very plar ope occa clay (Wea (TA Des	ak to strong thinly interlaminated to rbedded light grey and red brown SILTS mudstone. Discontinuities are subhor v closely to medium spaced (28/13 har rough and undulating rough partly c n with some grey and orange brown st asional black speckling and occasional smearing. eathering Grade I) RPORLEY SILTSTONE FORMATION cription on next sheet	thinly TONE izontal 0/230) pen to aining, al thin	5.60	
	rina	Drogras	and W	ator Obc	orvoti	000									

	Doring Pi	ogress and	water Ob	servations				C	maral	Domorla		
Date	Time	Borehole	Casing	Borehole Diameter	Water			Ge	merai	Remarks		
Date	1 mile	Depth	Depth	(mm)	Depth	1 Locatio	on scanned w	ith GPR and CA	F and signal o	penerator prior to break	ing ground Hand dug se	ervice
02/10/13	08:00	5.50	5.50	121	-	pit to 1	.20m bgl. N	o services encoun	tered.	generator prior to break	ing ground. Thand dug se	JI VICC
02/10/13	17:00	28.00	5.50	121	-	2. Rotary 3 Boreho	open noted i ole advanced	to 3.50m bgi. to 30.00m bgi us	ing coring tec	chniques		
03/10/13	08:00	28.00	5.50	121	-	4. Gas an	d groundwat	er monitoring we	ll installed to	25.00m bgl upon com	pletion.	
03/10/13	17:00	30.00	5.50	121	-	<ol> <li>No groundwater strikes noted.</li> <li>Piezometer installed at 29.00m bgl.</li> </ol>						
						A	All dimens	sions in metre	es	Scale:	1:39	
Method Used:	Rotary Rotai	open hole + ry Cored	- Plant Used	t l: Comac	chio MC4	50-P1	Drilled By:	LS/PC	Logged By:	LAlderman	Checked THE By:	AGS



Contract:								Client:					Boreho	ole:	
ŀ	East	t Mid	lands	Gate	eway	V			Roxhil	l Develo	pments	Ltd		CP(l	R)203
Contract Ref				Start:	2.1	0.13	Groun	d Level (m	AOD):	National Gr	id Co-ordi	nate:	Sheet:		
3	<u>812</u>	194		End:	3.1	0.13		67.92		E:4471	184.9 N	:326594.0		2	of 5
Depth (m)	No	Sample Type	s & Test	ting sults	TCR	Mecha SCR	anical L	ackfill & go	Water	D	escription	of Strata		Depth (Thick ness)	Materia Graphic Legend
7.00-8.50					100	43	23		sub sub sub step Wea inte and very plar	. between 5 horizontal fra . between 6 horizontal fra between 6.6- pped subhoriz ak to strong rrbedded light mudstone. y closely to nar rough and	5.90m and ceturing 5.20m and ceturing 4m and 7.1 contal fract g thinly in grey and Discontin D medium d undulati	6.00m bgl, und 6.33m bgl, und 00m bgl, undulati uring. nterlaminated to red brown SILTS uities are subhor spaced (28/13 ng rough partly c	ulating ulating ing and thinly TONE izontal 60/230) open to	(4.20)	, x x x x x x x x x x x x x x x x x x x
8.50-10.00					100	47	16		ope occ: clay (We (TA (stru sub  step	n with some asional black y smearing. eathering Gra ARPORLEY S <i>atum copied j</i> . between 7 horizontal fra . between 8.7: oped subhoriz	grey and c specklin de I) SILTSTOI from 5.60n 2.56m and iccturing 2m and 8.9 contal fract	orange brown st g and occasions n from previous s 7.69m bgl, und 97m bgl, undulati uring.	aining, al thin N) <i>heet)</i> ulating ing and		× × × × × × × × × × × × × × × × × × ×
					100.	60	<b>V</b> <b>A</b> 14		We thin SIL ver plar ope thin (We (TA	ak to mediur ly bedded re ly to thi TSTONE. y closely to nar rough or n with some clay smearin eathering Gra NRPORLEY 5 at 10.85m bg between 10 vertical fractu	n strong t d brown I inly inte Discontinu o medium undulatin grey staining. de I) SILTSTOI gl, moistur 0.96m and Ire.	hinly laminated 1 MUDSTONE wit erbedded light attices are subhor spaced (35/10 g rough partly o ng, black speckli NE FORMATION e on fracture surfa 11.25m bgl, und	to very th very grey izontal 00/290) open to ng and N) ace. ulating	-(2.07)	
11.50-13.00									Me	dium strong t	to strong t	ninly to medium	bedded	11.87	
12.10-12.37	2	CS			100	61	47		ligh SAI thin Dis mec ope	at grey and ro NDSTONE aly interbed continuities a dium spaced on to open wite earing and occ	ed brown with thic ded muc are subhor (38/250/3 h some gro casionally	fine grained mic kly interlamina lstone and sil- izontal very clo 30) planar rough ey staining and the micaceous.	aceous ted to ltstone. sely to partly in clay	(0.71)	
13.00-14.50					100	67	41		(We (TA  Des	ARPORLEY S at 11.98m bg scription on n between 13	de I) SILTSTO gl, open clo eext sheet 3.45m and	NE FORMATION ean vug. 13.65m bgl, ver	N) y weak	- - - - - - - - -	
-														(2.80)	
Be	oring	Progres	s and W	ater Ob	servati	ons									
Date ,	Time	Bore	hole C pth l	Casing Depth	Boreh Diamo (mn	nole eter n)	Water Depth			Ge		Kemarks			
								I	All dimens	sions in metre	s	Scale:	1:39		
Method F Used:	Rotar Rot	y open l tary Co	hole + red	Plant   Used	t I: Co	omaco	chio MC	C450-P1	Drilled By:	LS/PC	Logged By:	LAlderman	Checke By:		
										-	L -		1		تحد ا

_														
000		Boring Pr	rogress and	Water Ob	servations				C		Damanla			
, n	Date	Time	Borehole	Casing	Borehole Diameter	Water			Ge	eneral	Remarks			
5	Date	THIC	Depth	Depth	(mm)	Depth								
1120														
ncin														
Ĩ														
Ľ,														
ent														
							-	All dimons	ions in motr	20	Caplar	1.30		
Z								An unnens	sions in meure	25	Scale.	1.39		
đ	Method	Rotary	open hole +	- Plan	t			Drilled		Logged		Checked	n R	
6	Used:	Rota	rv Cored	Use	1: Coma	cchio MC4	50-P1	By:	LS/PC	By:	LAlderman	By:	~~ C	MAR



	Contract:								Cli	ent:				Boreho	ole:	
	]	East	Midl	land	ls Gate	eway	7				Ro	xhil	ll Developments Ltd		CP(l	R)203
	Contract Ret				Start:	2.10	).13	Groun	nd Le	evel (m	AO	D):	National Grid Co-ordinate:	Sheet:		
		<b>B12</b> 4	194		End:	3.10	).13		6	57.92			E:447184.9 N:326594.0		3	of <b>5</b>
	Depth	N	Samples	s & Te	esting	N TCR	Aecha SCR	anical L RQD	.og If	ckfill & nstru- entation	Vater		Description of Strata		Depth (Thick	Material Graphic
-	(m)	INO	Type	<u>к</u>	esuits	(%)	(%)	(%) (1	mm)	me I ™ I	-	Wea	ak to medium strong thinly laminated to	thinly	ness)	
	14.50-16.00					100 ¥ 100	67	41				MU red Dise med occa and (We (TA	JDSTONE and siltstone with thinly inter brown fine micaceous san continuities are subhorizontal very clo dium spaced (38/90/230) planar roug asional grey staining and thin clay sn occassionally micaceous. eathering Grade I) ARPORLEY SILTSTONE FORMATION atum conied from 12 58m from previous	y) sheet)		
	16.00-16.50					100 ¥	77	20 V				Sub Sub Mea thin grai are part grey (Wea (TA Wea bed and inte	a between 14.17m and 14.85m bgl, und vertical fracture. dium strong to strong thickly lamina ily bedded light green grey and red brow ined micaceous SANDSTONE. Discont subhorizontal closely spaced planar tly open to open micaceous with occ y staining and thin clay smearing. eathering Grade I) ARPORLEY SILTSTONE FORMATION ak to medium strong thinly laminated to ded red brown and light grey MUDS siltstone, with thickly interlaminated to rbedded red brown fine grained mic	ulating uted to vn fine nuities rough asional N) thinly TONE thinly accous	-(0.69) -16.07 -(1.36)	
	17.50-19.00	. 3	CS			100	87	73				sand closs to c grey clay (We (BR  Sub Mea ligh mic sub	dstone. Discontinuities are subhorizont sely to closely spaced (50/100/180) part open planar rough and undulating roug y staining, occasional black speckling a y smearing. eathering Grade I) ROMSGROVE SANDSTONE FORMAT . between 16.40m and 16.55m bgl, und vertical fracture. dium strong to strong thinly to medium it green grey and red brown fine accous SANDSTONE. Discontinuit horizontal very closely to medium	al very y open h with nd thin (TION) ulating bedded grained es are spaced	17.43	
	20.50-22.00					31	23	20				(24/ with (We (BR loss	(150/440) planar rough and undulating h thin clay smearing. eathering Grade I) ROMSGROVE SANDSTONE FORMA' between 19.00m and 20.04m bgl, zone 3.	; rough FION) of core	(6.17)	
-						100	67	36							-	
	B	oring	Progress	s and V	Water Obs	servatio Boreh	ons ole	Water					General Remarks			
-	Date	Time	Dep	oth	Depth	Diame (mr	eter 1)	Depth								

GINT\_LIBRARY\_V8\_05.GLB LibVersion: v8\_05 - Lib0004 PrjVersion: v8\_05 - Core+Logs 0002 | Log COMPOSITE LOG | 312494 - EAST MIDLANDS GATEWAY.GPJ - v8\_05 | 10/12/13 - 10:41 | KF. RSK Environment Ltd., The Enterprise Centre, Coventry University Technology Park, Coventry, CV1 2TX., Tel: 02476 236816, Fax: 02476 236014, Web: www.rsk.co.uk.

							All dimens	ions in metre	es	Scale:	1:39	
Method Used:	Rotary oj Rotary	pen hole + Cored	- Plan Usec	t 1: Coma	cchio MC4	50-P1	Drilled By:	LS/PC	Logged By:	LAlderman	Checked THB	AGS



Contract:							Client:				Boreho	ole:	
ŀ	Cast	t Mid	lands Gat	eway	y			Ro	xhil	l Developments Ltd		CP(l	R)203
Contract Ref			Start:	2.1	0.13	Grou	nd Level (n	n AO	D):	National Grid Co-ordinate:	Sheet:		
3	124	<b>194</b>	End:	3.1	0.13		67.92	2		E:447184.9 N:326594.0		4	of <b>5</b>
Depth (m)	No	Samples Type	s & Testing Results	TCR	Mecha SCR	anical I RQD	Instru- nentation	Water		Description of Strata		Depth (Thick ness)	Material Graphic Legend
22.00-23.50				100 97	67 67 87	36			Mecc ligh mic. subl (24/ with (We (BR (street))	dium strong to strong thinly to medium l tt green grey and red brown fine g aceous SANDSTONE. Discontinuiti horizontal very closely to medium (150/440) planar rough and undulating h thin clay smearing. eathering Grade I) ROMSGROVE SANDSTONE FORMAT atum copied from 17.43m from previous . at 23.02m bgl, 25mm vug with partial ll.	bedded grained es are spaced rough FION) <i>sheet</i> )		
23.50-25.00					X	X		2 2 2 2	infi	. at 23.39m bgl, 32mm vug with partial ll.	calcite	23.60	
23.83-24.12	4	CS		97	60	37		- - - - - - - - - - - - - - - - - - -	Wea brow with grai subl (40/ with sme (We (BR	ak to medium strong thinly interlamina wn and light grey MUDSTONE and si h occasional thin interbeds of light gre ined micaceous sandstone. Discontinuit horizontal closely to medium (180/290) planar rough partly open to h occasional grey staining and thin earing. eathering Grade I) ROMSGROVE SANDSTONE FORMAT at 24 06m bel 8mm yug with partial	ted red ltstone ey fine ies are spaced o open n clay	- (0.76)	
25.00-26.50				100	83	58			infil infil Wea gree SAI very plar oper (We (BR	II. . at 24.08m bgl, 12mm vug with partial II. ak to strong thinly to medium bedde en grey and brown grey fine grained mic NDSTONE. Discontinuities are subhor y closely to medium spaced (39/20 har rough and planar undulating partly of n. eathering Grade I) ROMSGROVE SANDSTONE FORMAT	calcite d light aceous izontal 0/500) open to	- - - - - - - - - - - -	
26.50-28.00	5	CS		92	87	54			frac	. between 24.50m and 24.80m bgl, sub- turing (possible drilling induced) . between 25.98m and 26.12m bgl, band wn mudstone.	ombed	(5.64)	
- - -						<b>↓</b>			part	tial calcite infill.		-	

2/13 - 10:41   KF.	- - - -					97	87	44			at 23.02m b	ogl, 25mm	n vug with partial	calcite	-	·         ·
3_05   10/12	23.50-25.0	0				X	-	X			$\therefore$ at 23.39m b $\neg$ infill.	gl, 32mm	vug with partial	calcite	23.60	
ST MIDLANDS GATEWAY.GPJ - v8 236014, Web: www.rsk.co.uk.	23.83-24.1	2 4	CS			97	60	37			Weak to medium brown and light with occasional grained micaceou subhorizontal (40/180/290) p with occasional smearing. (Weathering Graa (BROMSGROV) at 24.06m	n strong t grey MU thin inter us sandsto closely lanar rou grey s de I) E SANDS bgl, 8mm	hinly interlaminat JDSTONE and si beds of light gree one. Discontinuit to medium si gh partly open to taining and thin STONE FORMAT vug with partial	ed red ltstone ey fine ies are spaced o open n clay TION) calcite	(0.76) 	
02   Log COMPOSITE LOG  312494 - EA CV1 2TX. Tel: 02476 236816, Fax: 02476	- 25.00-26.5	0				100	83	58			infill. at 24.08m b infill. Weak to strong green grey and b SANDSTONE. very closely to planar rough and open. (Weathering Grad (BROMSGROV) between 24.	thinly to rown grey Discontin planar u de I) E SANDS 50m and	a vug with partial medium beddec fine grained mic: muities are subhori n spaced (39/20 ndulating partly o STONE FORMAT 24.80m bgl, subv vinduced)	calcite d light aceous izontal 0/500) open to CION) vertical		
0004 PrjVersion: v8_05 - Core+Logs 00 University Technology Park, Coventry,	- 27.02-27.4	7 5	CS			92	87	54			between 25. brown mudstone.	98m and 38 and 27 to coarse ill.	26.12m bgl, band 7.52m bgl, honeyc 9 gravel sized vug	of red ombed s with	(5.64)	
05 - Lib( Joventry 1	H	Boring	Progress an	nd Wate	er Obs	ervatio	ons				Ca	noral	Domarka			
5.GLB LibVersion: v8 he Enterprise Centre, 6	Date	Time	Borehol Depth	e Cas Dej	ing pth	Boreh Diame (mm	ole eter	Water Depth								
LIBRARY_V8_05 Invironment_Ltd, T	Mahal	<b>D</b> /			Dland					All d	imensions in metre	S	Scale:	1:39	J	
GINT RSK Ē	Used:	Rotar Rot	y open hole tary Cored	<u>e</u> +	Used:	Co	maco	chio MC4	50-P1	By	LS/PC	Logged By:	LAlderman	By:	a <b>Tar</b> e	AGS



Contract:								Client:				Boreho	ole:	
	Eas	t Mid	lano	ds Gate	way	/			Ro	xhi	ll Developments Ltd		CP(l	R)203
Contract Re	f:			Start:	2.1	0.13	Grou	nd Level (r	n AO	D):	National Grid Co-ordinate:	Sheet:		
	312	494		End:	3.1	0.13		67.92	2		E:447184.9 N:326594.0		5	of <b>5</b>
Donth		Sample	s & T	esting	ľ	Mecha	inical I	Log 😵 - in	ter				Depth	Material
(m)	No	Туре	F	Results	TCR (%)	SCR (%)	RQD (%) (	unts Backf JI Backf (mm)	Wa		Description of Strata		(Thick ness)	Legend
(m) 28.00-29.50 28.35-28.60 29.50-30.00	No 6	Type	F	Results	ICK     (%)       77     100       Y     100	SCR (%) 73 40 ¥	(%)       (%)       58       24       V			We great ope (Wi (BF (str	ak to strong thinly to medium bedde en grey and brown grey fine grained mix NDSTONE. Discontinuities are subhor y closely to medium spaced (39/20 nar rough and planar undulating partly on eathering Grade I) ROMSGROVE SANDSTONE FORMAT atum copied from 24.37m from previous between 29.50m and 30.00m bgl, p ling induced subhorizontal and sub- stures. between 29.65m and 29.77r neycombed band of medium to coarse ed open clean vugs.	d light caceous izontal 00/500) open to TION) <i>sheet</i> ) cossible vertical n bgl, gravel	30.00	Legend
-													-	
R	oring	Progres	s and	Water Obs	ervati	ons	·							
Date	Time	Bore	hole	Casing	Boreh	ole eter	Water				General Remarks			

Depth Depth (mm) Depth 1:39 All dimensions in metres Scale: Rotary open hole + Rotary Cored Logged By: Checked TAB By: Drilled AGS Method Plant Used: Used: Comacchio MC450-P1 By: LS/PC LAlderman



Contract:								Client:				Boreho	ole:	
]	East	t Mid	lands	Gate	eway	7			Ro	xhil	l Developments Ltd		CP(	R)204
Contract Ref				Start:	3.1	0.13	Grou	nd Level (n	n AO	D):	National Grid Co-ordinate:	Sheet:		
3	8124	494		End:	3.1	0.13		82.81			E:446666.4 N:326419.4		1	of <b>3</b>
Depth		Sample	s & Test	ting	N TCD	Mecha	nical	rtru- fill & Log	ater		Description of Strata		Depth	Material Graphic
(m)	No	Туре	Res	sults	1CR (%)	SCR (%)	кор (%)	$\operatorname{Back}_{\operatorname{Back}}$ 11 $\operatorname{Back}_{\operatorname{Back}}$ 11 $\operatorname{Back}_{\operatorname{Back}}$ 11	Ň		Description of Strata		ness)	Legend
-										Dril grav	llers description - Stiff red brown CLA vels.	Y with	-	
-													-	
-														
-													-	
													-	
-													E	
-													(3 55)	
-													-	
-													-	
-													-	
-													-	
-														
-													-	
						_	_			L		. С	3.55	
5.50-5.00					Ī	Ī	Ī			lloss	between 3.50m and 3.55m bgi, zone	of core		<u> </u>
-										Stif	f red brown slightly sandy CLAY. Re	covery	-	- <u>·</u> ···
-						72				incl	udes angular to subangular medium to	coarse	-	<u> </u>
-					9/	/3	20			(We	eathering Grade III)		(1.85)	<u> </u>
-										GU (GU	JNTHORPE MEMBER)	ht arou	-	<u> </u>
-										silts	stone band.	nt grey	-	<u> </u>
5.00-6.50						<b>A</b>					. between 4.00m and 4.13m bgl, we	ak red	-	- <u>·</u>
-										hon	every ever	with	5.40	
er 81											. between 4.18m and 4.25m bgl, w	eak to	-	
aa					97	51	19			ban	dium strong light grey fine to grained sar	dstone	-	
-											between 4.93m and 5.00m bgl, w	reak to	_	
-										ban	dium strong light grey fine to grained sar	idstone	(1.92)	
					+	<u> </u>	<u> </u>				between 5.00m and 5.05m bgl, zone	of core	È	
- 6.50-8.00 [					ΙĨ	Ī	Ī			loss	b. between 5.05m and 5.40m bol, several (	trilling		
-										ind	uced fractures/disturbance and vegetatio	n from	-	
-						-				surf	face.		7 32	
-					100	59	40			bed	ded red brown micaceous MUDS	FONE	-	
-										Dis	continuities are subhorizontal very clo	sely to	F	
-											sely spaced rough undulating tight to operation of the space of the speckling and this clay smeared black speckling and this clay smeared black speckling and the speckling an	en with	-	
8.00-9.50										(We	eathering Grade III)		F	
8.25-8.50	1	CS								(Gl	JNTHORPE MEMBER) between 5.90m and 6.15m between	h verv		
-					97	77	43			thin	ly interbedded weak light grey siltstone l	bands.	F	
-											. between 6.82m and 7.04m bgl, recover	ered as	F	
-										son	to mini graveny ciay.		-	-

	Boring Pi	ogress and	Water Ob	servations				$\mathbf{C}$	maral	Domorla		
Date	Time	Borehole	Casing	Borehole Diameter	Water			Ge	merai	Remarks		
Date	1 mile	Depth	Depth	(mm)	Depth	1 Locatio	on scanned w	ith GPR and CA	T and signal	concernation prior to break	ring ground Hand dug s	arvica
03/10/13 03/10/13	08:00 17:00	5.00 20.00	5.00 7.00	121 121	-	1. Locati pit to 1 2. Rotary 3. Boreho 4. Gas an 5. No gro	.20m bgl. No open holed t ble advanced d groundwate undwater stri	o services encoun o 3.55m bgl. to 20.00m bgl us r monitoring we kes noted.	ing coring ted	chniques. 20.00m bgl upon comp	pletion.	ervice
						A	All dimens	sions in metre	es	Scale:	1:50	
Method Used:	Rotary Rotai	open hole + y Cored	Plant Used	t I: Comac	cchio MC4	50-P1	Drilled By:	SC/JO	Logged By:	LAlderman	Checked <b>TAB</b>	AGS

GINT LIBRARY V8 05.6LB LibVersion: v8 05 - Lib0004 PrjVersion: v8 05 - Core+Logs 0002 | Log COMPOSITE LOG | 312494 - EAST MIDLANDS GATEWAY.GPJ - v8\_05 | 10/12/13 - 10:41 | KF. RSK Environment\_Ltd. The Enterprise Centre, Coventry University Technology Park, Coventry, CV1 2TX. Tel: 02476 236816, Fax: 02476 236014, Web: www.rsk.co.uk.



East Midlands Gateway         Roxhill Developments Ltd         CPQ           Contract Ret         Sam:         3.10.13         Growal Level (m AOD):         National Grid Co-ordinate:         Sheet           312494         Freid         Machamel Long         State         1.10.13         Growal Level (m AOD):         National Grid Co-ordinate:         Participation of Strata         2           Depth         No         Type         Results         Constrate Results	Contract:							Client:					Boreho	ole:	
Start 310.13 Ground Level (m AOD):       National Grid Co-ordinate:       Sheet:         Both: 310.13 Ground Level (m AOD):       National Grid Co-ordinate:       Sheet:         Depth       Ex446666.4 N:326419.4       Depth         No       Type       Results       TCRS CR ROD if (mm)/g       Bet       Description of Stata       Depth         9.50-11.00       9       7       7       43	F	Cast	t Midla	inds Gate	eway	7		]	Roxhil	l Develoj	pments Ltd	l		CP(I	R)204
312494         Find:         3.10.13         82.8.1         F:446666.4 N:326419.4         2           Depth (m)         No         Type         Results         CRS SCREW(%) (mm)         Security         Security         Security         Description of Strata (%) (%) (%) (mm)         Description of Strata (%) (mm)         Depth (mm)         Description of Strata (%) (mm)         Depth (mm)         Depth        <	Contract Ref:			Start:	3.10	0.13	Groun	d Level (m	AOD):	National Gr	id Co-ordinate:		Sheet:		
Samples & Testing         Mechanical Log (%)         Mechanic	3	124	194	End:	3.10	0.13		82.81		E:4466	666.4 N:326	419.4		2	of <b>3</b>
Depth       No       Type       Results       ICKS (CR (KO))       If SCR (KO) (M) (M) (M) (M) (M) (M) (M) (M) (M) (M			Samples &	& Testing	N	Mecha	anical L	.og 😤 <u></u>	r					Depth	Materia
9.50-11.00     97     77     43       9.50-11.00     97     77     43       9.50-11.00     93     70     43       9.3     70     43       9.3     70     43       9.3     70     43       9.3     70     43       9.3     70     43       9.3     70     43       9.3     70     43       9.3     70     43       9.3     70     43       9.3     70     43       9.3     70     43       9.3     70     43       9.3     70     43       9.3     70     43       9.3     70     43       9.3     70     43       9.3     70     43       11.00-12.50     91     70       12.50-14.00     67     32       12.50-14.00     67     32       12.90-13.20     2     CS       14.00-15.50     91     50       91     50     13       91     50     13       91     50     13       91     50     13       91     50     13       91 <td>Depth (m)</td> <td>No</td> <td>Туре</td> <td>Results</td> <td>TCR (%)</td> <td>SCR (%)</td> <td>RQD (%) (1</td> <td>Backfil Instru mentat</td> <td>Wate</td> <td>De</td> <td>escription of Stra</td> <td>ata</td> <td></td> <td>(Thick ness)</td> <td>Graphic Legend</td>	Depth (m)	No	Туре	Results	TCR (%)	SCR (%)	RQD (%) (1	Backfil Instru mentat	Wate	De	escription of Stra	ata		(Thick ness)	Graphic Legend
11.00-12.50       Image: Solution of S	9.50-11.00				97 97 93	77	43		soft ligh loss clea	between 7. to firm grave between 7.2: t grey fine grave between 8.4 between 8.4 n subvertic uced.	15m and 7.25m shily clay. 5m and 7.32m bg ained sandstone b 00m and 8.05m 0m and 8.55m b al fracture; p	bgl, recover gl, medium band. bgl, zone of gl, stepped bossible of bal firm i	strong of core rough drilling	(5.18)	
12.50-14.00	11.00-12.50				100	67	32		grav We micc sub spa rou occ (Wo (GU	ak to mediun aceous MUI horizontal vo ced (20/150/2 gh tight to o asional black eathering Graa JNTHORPE	a strong thinly b DSTONE. Di ery closely to 300) undulating pen with thin cl speckling. de I) MEMBER) from 7.32m from	edded red scontinuitia medium o rough and ay smearin	brown es are closely planar ng and		
14.00-15.50       100       68       28         14.00-15.50       100       68       28         14.00-15.50       1100       68       28         14.00-15.50       1100       68       28         15.50-17.00       1100       1100       1100         15.50-17.00       1100       1100       1100       1100         15.50-17.00       1100       1100       1100       1100         11.50       1100       1100       1100       1100       1100         11.50       1100       1100       1100       1100       1100       1100         11.000       1100       1100       1100       1100       1100       1100       1100         11.000       1100       1100       1100       1100       1100       1100       1100         11.000       11000       1100       1100       1100 </td <td>12.50-14.00</td> <td>2</td> <td>CS</td> <td></td> <td></td> <td></td> <td>X</td> <td>I</td> <td>rou</td> <td>between 9 gh clean sub- uced. at 10.30n between.</td> <td>0.25m and 9.50m vertical fracture; n bgl, thin (2m</td> <td>n bgl, und possible c m) subhor</td> <td>ulating Irilling izontal</td> <td>12.50</td> <td></td>	12.50-14.00	2	CS				X	I	rou	between 9 gh clean sub- uced. at 10.30n between.	0.25m and 9.50m vertical fracture; n bgl, thin (2m	n bgl, und possible c m) subhor	ulating Irilling izontal	12.50	
14.00-15.50       initial initerease initerease initial initial initerease initial ini	12.70-13.20	2	0			68	28	Ι	grey grey Me	y silt band. between 11.0 between 11.0 y sandstone ba dium strong	0.05m and 10.78 00m and 11.40m .08m and 12.17n and. to strong thinly	bgl, very w bgl, very w n bgl, wea	veak. k light	- - - - -	
15.50-17.00       Image: state of the state	14.00-15.50				91	50	13		thur MU thir bro sub (14, tigh occ (Wo	Ity interbedd IDSTONE ar interbeds of wn sandst horizontal ex (100/290) pla t to open asional black eathering Grav	led red brown nd siltstone with f fine grained ligone. Disc tremely closely to anar rough and to with thin clay speckling. de I)	and light occasiona ght grey a ontinuities o medium undulating y smearing	t grey al very nd red are spaced rough g and	- - - - - - - - - - - - - - - - - -	
17.00-18.50       Image: Solution of the second secon	15.50-17.00				80	37	0		(GU loss loss	JNTHORPE between 14.0 between 15.2 at 16.00m bg	MEMBER) 00m and 14.14m 50m and 15.80m gl, 35mm clean ca	bgl, zone bgl, zone avity.	of core of core	-(7.50)	
Boring Progress and Water Observations         Date       Time       Borehole Depth       Casing Diameter (mm)       Water Depth         Date       Time       Borehole Depth       Casing Diameter (mm)       Water Depth         Image: Depth       Depth       Depth       Image: Depth       Scale:       1:50         Method       Rotary open hole +       Plant       Drilled       Logged       Checked Transmitter	17.00-18.50				80	39	0 		loss	between 17.	00m and 17.30m	bgl, zone o	of core		
Date       Time       Depth       Depth       Depth       Depth         Image: Depth       Depth       Depth       Depth       Depth       Depth         Image: Depth       Depth       Image: Depth       Depth       Depth       Depth         Image: Depth       Depth       Image: Depth       Depth       Depth       Depth         Image: Depth       Image: Depth       Image: Depth       Image: Depth       Depth       Image: Depth         Image: Depth       Image: Depth       Image: Depth       Image: Depth       Image: Depth       Image: Depth         Image: Depth       Image: Depth       Image: Depth       Image: Depth       Image: Depth       Image: Depth         Method       Rotary open hole +       Plant       Image: Depth       Image: Depth       Image: Depth	Bo	oring	Progress a Boreho	nd Water Obs	Boreh	ons	Water			Ge	neral Rem	narks			
Method     Rotary open hole +     Plant     All dimensions in metres     Scale:     1:50	Date 7	Гime	Boreho Depth	le Casing Depth	Boren Diame (mm	iole eter 1)	Water Depth								
Method Rotary open hole + Plant Drilled Logged Checked								I	All dimen	sions in metre	s Scale:		1:50		
	Method R	lotar	y open ho	le + Plant	~				Drilled	0.0170	Logged		Checke		

		Boring Pr	ogress and	Water Ob	servations				Ca	maral	Domorla		
Î	Date	Time	Borehole	Casing	Borehole Diameter	Water			Ge	merai	Remarks		
	Dute	Time	Depth	Depth	(mm)	Depth							
1													
							I	All dimens	ions in metre	s	Scale:	1:50	
	Method Used:	Rotary Rotar	open hole + y Cored	- Plan Usec	t l: <b>Coma</b> o	chio MC4	50-P1	Drilled By:	SC/JO	Logged By:	LAlderman	Checked The By:	AGS



Contract:								Client:					Boreho	le:	
] ]	East	Mid	lano	ds Gate	eway	7			]	Roy	xhil	ll Developments Ltd		CP(I	R)204
Contract Ref				Start:	3.10	0.13	Ground	i Level	(m.	AOI	D):	National Grid Co-ordinate:	Sheet:		
	<b>B12</b> 4	94		End:	3.10	0.13		82.	81			E:4466666.4 N:326419.4		3	of <b>3</b>
Donth		Sample	s & T	esting	N	Mecha	unical Lo	og 😵 🗄	tion	ter				Depth	Material
(m)	No	Туре	F	Results	TCR (%)	SCR (%)	RQD [ (%) (n	If ack II	menta	Wa		Description of Strata		(Thick ness)	Legend
(m) 18.50-20.00 18.87-19.04	No 3	CS				(%) 39 <b>Y</b> 53 <b>V</b>					Mec thim MU thim brov subl (14/ tigh occa (We (GU (stro- cavi occa vug R	dium strong to strong thinly interlaminally interbedded red brown and light JDSTONE and siltstone with occasional interbeds of fine grained light grey at wn sandstone. Discontinuities horizontal extremely closely to medium s/100/290) planar rough and undulating asional black speckling. eathering Grade I) JNTHORPE MEMBER) atum copied from 12.50m from previous at 18.26m bgl, 20mm honeycombed ity between 18.50m and 18.65m bgl, zone of s. at 19.15m bgl, 12mm clean cavity between 19.50m and 20.00m bgl asional bands of medium gravel sized gs. Rotary probehole terminated at 20.00m de	ted to grey l very id red are paced rough ; and sheet) clean of core with clean pth.	ness)	
	oring	Progres	s and	Water Obs	Boreh	ons ole	Water	-				General Remarks			
Date	Time	De	pth	Depth	Diame (mr	eter 1)	Depth								

GINT LIBRARY V8 05.GLB LibVersion: v8 05 - Lib0004 PŋYersion: v8 05 - Core+Logs 0002| Log COMPOSITE LOG| 312494 - EAST MIDLANDS GATEWAY.GPJ - v8\_05| 10/12/13 - 10:41| KF. RSK Environment Ltd. The Enterprise Centre, Coventry University Technology Park, Coventry, CV1 2TX. Tel: 02476 236816, Fax: 02476 236014, Web: www.rsk.co.uk.

					A	All dimensi	ons in metre	s	Scale:	1:50	
Method Used:	Rotary open hole + Rotary Cored	Plant Used:	Comac	chio MC45	50-P1	Drilled By:	SC/JO	Logged By:	LAlderman	Checked TAB	GS



Contract:								Client:				Boreho	ole:	
ŀ	Cast	Mid	lands	Gate	way	7			Ro	xhil	ll Developments Ltd		CP(	R)205
Contract Ref				Start:	3.1	0.13	Grou	ind Level (n	1 AO	D):	National Grid Co-ordinate:	Sheet:		,
3	124	194		End:	4.1	0.13		56.42	2		E:447286.1 N:326753.4		1	of <b>4</b>
		Samples	s & Test	ing	N	Mecha	anical	Log 💐 🛓 🔤	er				Depth	Material
Depth (m)	No	Туре	Res	sults	TCR (%)	SCR (%)	RQD (%)	(mu) Backfi Instr mental	Wate		Description of Strata		(Thick ness)	Graphic Legend
-										Dril	llers description - Red brown silty CLA	Υ.	-	
-													(1.20)	
-														
-													- - 1 20	
-										Dril	llers description - Weak red	brown	1.20	
-										MU	JDSTONE.		-	
-													-	
													-	
-													-	
-													(2.90)	
-													-	
-													-	
-													-	
-													-	
-													-	
-									•	Dril	llers description - Red brown MUDSTO	NE	- 4.10	
-									• •				4.50	
4.50-6.00					<b>A</b>		1		•	Wea	ak to medium strong thinly interlamin	nated to	-	
-									。 。	MU	JDSTONE and siltstone with occasion	nal very	-	
-					100		1.5		•	thin sand	aly interbedded light grey brown fine dstone Discontinuities are subho	grained	-	
-					100	/5	15		0 0	und	lulating rough and planar rough ex	tremely	-	
-									•	ope	n with thin clay smearing, occasional	orange	-	
-					V		🖌		•	bro	wn staining and black specklin	g and	-	
6.00-7.50					A	A			• •	We	eathering Grade I)		-	
-									•	(TA	ARPORLEY SILTSTONE FORMATIO	N)	-	
a.									0 0				(4.40)	
-					100	91	60		•		between 6.87m and 7.11m bol uno	lulating	-	
-									0 0	sub	vertical fracture.	aululing	-	
-					•				•	ligh	between 6.90m and 7.06m bgl, medium t grev brown fine to medium grained sa	n strong ndstone	-	
7.50-9.00					A				•	ban	d.	l coloito	-	
-									•	infi	1. at 7.05111 0g1, 5111111 vug with partia		-	
-									° °	 jnfi	. at 7.05m bgl, 22mm vug with partia	l calcite	-	
					97	/8	42		•		between 7.20m and 7.80m bgl, mediur	n strong	-	
8.58-8.70	1	CS							•	ligh   inte	at grey brown fine grained sandstone with relaminated light grey and red brown s	n thinly siltstone	-	
-									•	and	mudstone.	ſ	8.90	
Bo	oring	Progress	s and W	ater Obs	ervati	ons					General Remarks			

5		Doring FI	ogress and	water Ob	servations				$\mathbf{C}_{\mathbf{a}}$	maral	Domorla		
, , ,	Date	Time	Borehole	Casing	Borehole Diameter	Water			Ge	merai	Remarks		
3	Date	TIME	Depth	Depth	(mm)	Depth	1 1 0 00	tion coon	ad with CDI	and CA	T and signal gamer	entor prior to brool	ina
Dem	03/10/13	08:00	4.50	4.50	121	-	1. LOCa	nd Hand	dug service i	$t_{\text{and CA}}$	m hgl. No service	ator prior to breat	king
- L	03/10/13	17:00	28.50	4.50	121	-	2. Rota	rv open ho	bled to 4.50m	n bgl.		s chebuntered.	
	04/10/13	08:00	28.50	4.50	121	-	3. Bore	hole adva	nced to 30.00	)m bgl usi	ing coring technic	ques.	
i	04/10/13	17:00	30.00	4.50	121	-	4. Gas	and groun	dwater monit	toring wel	ll installed to 19.0	Ôm bgl upon com	pletion.
Î							5. No g	roundwate	er strikes not	ed.			
							A	All dimens	ions in metre	s	Scale:	1:50	
	Method	Rotary	open hole +	- Plan	t			Drilled		Logged		Checked TI 2	
	Used:	Rotai	ry Cored	Usec	t: Coma	cchio MC4	50-P1	By:	LS/PC	By:	LAlderman	By:	'  AGS

GINT LIBRARY V8 05.6LB LibVersion: v8 05 - Lib0004 PrjVersion: v8 05 - Core+Logs 0002 | Log COMPOSITE LOG | 312494 - EAST MIDLANDS GATEWAY.GPJ - v8\_05 | 10/12/13 - 10:41 | KF. RSK Environment\_Ltd. The Enterprise Centre, Coventry University Technology Park, Coventry, CV1 2TX. Tel: 02476 236816, Fax: 02476 236014, Web: www.rsk.co.uk.



Contract:							Client:				Boreho	ole:	
ŀ	Cast	Mid	lands Gate	way	7			Ro	xhil	l Developments Ltd		CP(l	R)205
Contract Ref			Start:	3.1	0.13	Grou	nd Level (m	AO	D):	National Grid Co-ordinate:	Sheet:		
3	124	194	End:	4.1	0.13		56.42	1		E:447286.1 N:326753.4		2	of <b>4</b>
Depth (m)	No	Samples Type	s & Testing Results	M TCR (%)	Mecha SCR (%)	nical RQD (%)	Backfill & gor Instru- mentation	Water		Description of Strata		Depth (Thick ness)	Material Graphic Legend
9.00-10.50				Â	Â	Å			 part	. at 7.35m bgl, large vugs up to 38m ial calcite infill.	n with	-	· · · · · · · · · · ·
9.70-9.92	2	CS		100	91	58			Med bed to n hon inte brow	dium strong to strong very thinly to ded light green grey and light brown gr nedium grained SANDSTONE with occ eycombed appearance, with rlaminated to very thinly interbedd wn and light grey mudstone and si continuities are subhorizontal undulating	thinly ey fine asional thinly ed red ltstone.		
10.50-12.00				Ť		*			and (21/	planar rough closely to medium (100/220) tight to open with thin clay sn	spaced		
10.92-11.11	3	CS		100	94	 75			occa mic (BR (stra	asional black speckling and occas accous. COMSGROVE SANDSTONE FORMA' <i>atum copied from 8.90m from previous s</i> . between 9.77m and 9.81m bgl, with n correst gravel sized suge with postial	FION) heet) hedium	-	
12.00-13.50				100	87	73			stro infil stro inte MU sand	. between 10.60m and 11.40m bgl, n ng thinly interlaminated to very rbedded red brown and light IDSTONE, siltstone and fine g dstone. between 10.90 and 10.92m bgl, gravelly	edium thinly grey grained clay.	- 11.95	
13.50-15.00									clay Med bed med occa thin red	. between 11.30m and 11.33m bgl, g dium strong to strong very thinly to ded red brown and light grey brown lium grained micaceous SANDSTONI asional honeycombed appearance with ly interlaminated to very thinly inter brown and light grey mudstone and si	thinly fine to E with some bedded	- - - - - - - - -	
15.00-16.50				100	51	19			Disc and spac sme brow (We (BR	continuities are subhorizontal undulating planar rough extremely closely to n ced (11/150/430) tight to open with th earing, occasional black speckling and wn staining and occasionally micaceous. eathering Grade I) COMSGROVE SANDSTONE FORMAT	rough nedium in clay orange	- - - - - - - - -	
				93	79	56			roug subl vug	at 12.5/m bgl, 20mm clean vug. between 13.67m and 13.78m bgl, s gh subvertical fracture. at 13.88m bgl, up to 10mm horizontal string (interconnecting) of s. . between 14.00m and 14.01m bgl, vel.	thick clean clayey	- - - - - - - - -	
16.50-18.00	4	CS		100	84	60			grav grav roug dark spec	<ul> <li>between 14.18m and 14.21m bgl, vel.</li> <li>between 14.38 and 14.93m bgl, und gh subvertical fracture with thin clay c red brown staining and localised cking.</li> <li>between 15.78m and 15.85m bgl, plana vertical fracture with black specking</li> </ul>	clayey ulating smear, black	- - - - - - - - - - - - -	
-					↓ ▼	V			grav	. between 16.76m and 16.79m bg velly clay.	l, firm	-	

ove		Boring Pr	ogress and	Water Ob	servations				Ca	moral	Domortra			
, entre	Date	Time	Borehole	Casing	Borehole Diameter	Water			Ge	merai	Remarks			
Cer	Dute	Thine	Depth	Depth	(mm)	Depth								
orise														
nterp														
E E														
÷.														
t Lt														
men														
/Iron								All dimens	sions in metre	s	Scale:	1:50		
Env	Method	Rotary	open hole +	- Plan	t			Drilled		Logged		Checked The		
X	Used:	Rota	ry Cored	Usec	l: Coma	cchio MC4	50-P1	By:	LS/PC	By:	LAlderman	By:	2   A	H.



1:50

Checked TAB By:

AGS

Scale:

LAlderman

Logged By:

Contract:							0	lient:				Boreho	ole:	
ŀ	East	Midl	and	ls Gate	eway	7			Ro	xhil	ll Developments Ltd		CP(I	R)205
Contract Ref	-			Start:	3.1	0.13	Ground	Level (n	n AO	D):	National Grid Co-ordinate:	Sheet:		
3	124	94		End:	4.1	0.13		56.42	2		E:447286.1 N:326753.4		3	of <b>4</b>
Donth	S	Samples	& Te	esting	N	Mecha	anical Log	ru- &	ter				Depth	Material
(m)	No	Туре	R	esults	TCR (%)	SCR (%)	RQD If (%) (mr	Inst Inst menta	Wa		Description of Strata		(Thick ness)	Legend
18.00-19.50					<b>A</b>	Ť			*		. between 17.01m and 17.06m bgl, firm	to stiff	-	
- - - - - - - -					100	86	29		> > > > > >	Me bed mec occ thin	dium strong to strong very thinly to lded red brown and light grey brown dium grained micaceous SANDSTON assional honeycombed appearance with nly interlaminated to very thinly inter brown and light grey mudetone and si	thinly fine to E with some bedded	- - - - - - -	
19.50-21.00									>	Dis and spa sme bro (We	I planar rough extremely closely to r ced (11/150/430) tight to open with th earing, occasional black speckling and wn staining and occasionally micaceous. eathering Grade I)	g rough nedium in clay orange	- - - - - - - -	
						56	36			(BF (str) coa with	ROMSGROVE SANDSTONE FORMA' atum copied from 11.95m from previous . between 19.07m and 19.14m bgl, med rse gravel sized vugs, some clean occas h partial calcite infill.	TION) sheet) dium to sionally	(18.05)	
- 21.00-22.30					100	95	59			grav grav grav	<ul> <li>between 19.40m and 19.48m ogi, inm velly clay.</li> <li>between 19.68m and 19.72m bgl, vel.</li> <li>between 19.84m and 20.00m bgl, und gh subvertical fracture with dark red</li> </ul>	clayey lulating	-	
22.50-24.00	50-24.00						¥			stai grav	ning. . between 21.15m and 22.01m bgl, vel. . at 21.43m bgl, 32mm clean vug. . at 21.93m bgl, 16mm clean vug. between 22.41m and 22.50m bgl mec	clayey	-	
- 					100	83	55			coa calc rou and	rse gravel sized clean vugs, rarely with cite infill. . between 22.86m and 22.96m bgl, unc gh subvertical fracture with thin clay sr I micaceous. . between 23.12m and 23.15m bgl, firm	partial lulating nearing to stiff	-	
24.00-25.50						<b>-</b>				grav grav	<ul> <li>velly clay.</li> <li>between 23.37m and 23.42m bgl, vel.</li> <li>between 24.12m and 24.20m bgl, clay</li> </ul>	clayey infilled	- - - -	
- - - - 					95	 89 	80			frac	tures.		- - - - -	
25.50-27.00					+	+					between 25.50m and 25.70m bgl, zone	of core	-	
					87	65	55			med	s. . between 25.86m and 25.92m bgl, w dium to coarse gravel sized clean vugs.	ith rare	- - - - - -	
-										sub	. between 26.68m and 26.70m bgl, w rounded to rounded medium to coarse gr	ith rare avel of	-	
Bo	oring P	rogress	and	Water Obs	servati	ons								
Date	Fime	Boreh	nole th	Casing Depth	Boreh Diame (mn	ole eter 1)	Water Depth				General Remarks			

All dimensions in metres

LS/PC

Drilled

By:

GINT\_LIBRARY\_V8\_05.GLB LibVersion: v8\_05 - Lib0004 PŋVersion: v8\_05 - Core+Logs 0002| Log COMPOSITE LOG| 312494 - EAST MIDLANDS GATEWAY.GPJ - v8\_05| 10/12/13 - 10:41| KF. RSK Environment Ltd. The Enterprise Centre, Coventry University Technology Park, Coventry, CV1 2TX. Tel: 02476 236816, Fax: 02476 236014, Web: www.rsk.co.uk.

Rotary open hole + Rotary Cored Plant

Used:

Comacchio MC450-P1

Method

Used:



[	Contract:								Client	t:				Boreho	ole:	
	E	Cast	Midla	ands G	late	way	,			]	Roz	xhil	ll Developments Ltd		CP(I	R)205
	Contract Ref			St	art:	3.1	).13	Groun	nd Leve	el (m	AOI	D):	National Grid Co-ordinate:	Sheet:		,
	3	124	94	Eı	nd:	4.1(	).13		56	.42			E:447286.1 N:326753.4		4	of <b>4</b>
[		S	amples a	& Testing	Ş	Ν	Aecha	inical I	Log 💐	u- tion	er				Depth	Material
	Depth (m)	No	Туре	Result	S	TCR (%)	SCR (%)	RQD (%) (	If Backfill mm) Backfill	Instr menta	Wat		Description of Strata		(Thick ness)	Graphic Legend
	27.00-28.50 27.79-28.00 28.50-30.00	5	CS	and Water	r Obs	97 97 99 99 99 ervatie	87 87 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9					qua  Med bed mec occ: thin red Dis and space same bro (We (BR (str  ban coa  ban coa  F	rtzite. . between 26.80m and 26.90m bgl, und gh subvertical fracture. dium strong to strong very thinly to lded red brown and light grey brown dium grained micaceous SANDSTONI asional honeycombed appearance with hly interlaminated to very thinly interl brown and light grey mudstone and sil continuities are subhorizontal undulating l planar rough extremely closely to m ced (11/150/430) tight to open with th earing, occasional black speckling and wn staining and occasionally micaceous. eathering Grade I) ROMSGROVE SANDSTONE FORMATI <i>atum copied from 11.95m from previous</i> . between 28.32m and 27.05m bgl, zone 5. . at 27.24m bgl, 18mm clean vug. . between 28.32m and 28.50m bgl, g ds, gravel is subrounded to rounded in rise quartzite, sandstone and mudstone. . between 28.50m and 28.52m bgl, zone 5. . between 28.50m and 28.52m bgl, g ds, gravel is subrounded to rounded in rise quartzite, sandstone and mudstone. . between 28.94m and 28.98m bgl, g ds, gravel is subrounded to rounded in rise quartzite, sandstone and mudstone. . between 28.94m and 28.98m bgl, g ds, gravel is subrounded to rounded in rise quartzite, sandstone and mudstone. . between 28.94m and 28.98m bgl, g ds, gravel is subrounded to rounded in rise quartzite, sandstone and mudstone. Rotary probehole terminated at 30.00m de	ulating thinly fine to a with some bedded tstone. (rough hedium in clay orange (TION) <i>sheet</i> ) of core ered as ravelly fine to of core ravelly fine to pth.	30.00	
	Date	Time	Boreho	ole Casi h Dep	ng oth	Boreh Diame (mm	ole eter	Water Depth					General Kemarks			

	Boring Pr	ogress and	Water Ob	servations				Ca	noral	Domorla		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth			Ge	nerai	Kemarks		
							All dimensi	ons in metre	.c	Scale	1.50	
Method Used:	Rotary o Rotar	open hole + y Cored	- Plan Used	t I: Comac	cchio MC4	50-P1	Drilled By:	LS/PC	Logged By:	LAlderman	Checked <b>DAB</b>	AGS



1:50

Checked TAB

AGS

Scale:

LAlderman

Logged By:

Contract:	<b>F</b> 4	N/1° JI		Cat				Cli	ient:	<b>D</b>			Boreho	ole:	
Contract Pe	Lasi	Ivita				0 12	Grour	d L	avel (m	<b>KO</b>		I Developments Lta	Shoot:	CP(	K)200
Contract Re		04		Start.	4.1	0.13	Gioui			AOI	<i>D</i> ).	<b>F</b> . <b>47409</b> (N-22(901 (	Sheet.	1	· 1
	3124	94		End:	4.1	0.13			51.84			E:44/408.6 N:326891.6		<u> </u>	of 4
Depth (m)	No	Samples Type	s & Tes Re	sting esults	TCR (%)	Mecha SCR (%)	anical I RQD (%) (	Log If (mm)	Backfill & Instru- mentation	Water		Description of Strata		Depth (Thick ness)	Material Graphic Legend
4.00-5.50		1 ypc			(%) (%) 100 97 	(%) 77 75	27 39	<u>mm</u> )			Met bed mec bed mic (We (BR  loss	dium strong to very strong very thinly to dium strong to very strong very thinly to ded light grey brown and red brown lium grained SANDSTONE with oc eycombed appearance, with occasiona hickly interlaminated mudstone and s continuities are subhorizontal undulatin planar rough very closely to medium (130/250) tight to open with thin clay sr asional black speckling and occa aceous. athering Grade I) COMSGROVE SANDSTONE FORMA . between 5.50m and 5.55m bgl, zone .	o thinly fine to casional l thinly iltstone. g rough spaced nearing, sionally TION) of core	4.00	
7.00-8.50		97 75 39													
8.50-10.00					100	<b>X</b> 80	42				grav calc	vel sized vugs with partial and some c	omplete	- - - -	
E	Boring	Progress	s and V	Vater Ob	servati	ons						General Remarks			
Date 04/10/13 04/10/13	Time 08:00 17:00	Borel Der 5.5 25.0	hole oth 50 00	Casing Depth 3.00 7.00	Boreh Diamo (mn 12) 12)	lole eter 1) 1 1	Water Depth -		<ol> <li>Location pit to 1</li> <li>Rotary</li> <li>Boreho</li> <li>Gas and</li> <li>No group</li> <li>Piezon</li> </ol>	on sca 20m open ole adv ole grou oundw neter i	nned w bgl. No holed t vanced undwate ater stri	ith GPR and CAT and signal generator prior to bread o services encountered. o 4.00m bgl. to 25.00m bgl using coring technicques. er monitoring well installed to 21.00m bgl upon com ikes noted. a t 24.00m bgl.	king ground.	Hand dug	g service

All dimensions in metres

SC/JO

Drilled

By:

GINT\_LIBRARY\_V8\_05.GLB LibVersion: v8\_05 - Lib0004 PŋVersion: v8\_05 - Core+Logs 0002| Log COMPOSITE LOG| 312494 - EAST MIDLANDS GATEWAY.GPJ - v8\_05| 10/12/13 - 10:41| KF. RSK Environment Ltd. The Enterprise Centre, Coventry University Technology Park, Coventry, CV1 2TX. Tel: 02476 236816, Fax: 02476 236014, Web: www.rsk.co.uk.

Method

Used:

Rotary open hole + Rotary Cored Plant

Used:

Comacchio MC450-P1



Contract:								Cl	ient:				Boreho	ole:	
I	East	Mid	lands	Gate	way	/				Roz	xhil	l Developments Ltd		CP(l	R)206
Contract Ref				Start:	4.1	0.13	Grou	ind L	evel (m	AOI	D):	National Grid Co-ordinate:	Sheet:		
3	<b>5124</b>	94		End:	4.1	0.13			51.84			E:447408.6 N:326891.6		2	of <b>4</b>
Depth (m)	No	Samples Type	s & Test Res	ing sults	TCR	Mecha SCR (%)	anical RQD (%)	Log If (mm)	Jackfill & Instru- mentation	Water		Description of Strata		Depth (Thick ness)	Material Graphic Legend
10.00-11.50					100	80	42				Med bed hon to t Disc and (22/ occa	tium strong to very strong very thinly to ded light grey brown and red brown lium grained SANDSTONE with occ eycombed appearance, with occasional hickly interlaminated mudstone and si continuities are subhorizontal undulating planar rough very closely to medium 130/250) tight to open with thin clay sm asional black speckling and occas	o thinly fine to asional thinly ltstone. g rough spaced hearing, ionally	(11.57)	
- 11.50-13.00					91	68	39				mic (We (BR (stre mec muc infil	aceous. eathering Grade I) OMSGROVE SANDSTONE FORMA' <i>atum copied from 4.00m from previous s</i> between 9.05m and 9.25m bgl, w lium strong thinly interlaminated red lstone and siltstone. at 9.60m bgl, 6mm subhorizontal lled fracture. between 10.00m and 10.13m bgl, zone	FION) <i>heet)</i> yeak to brown calcite of core	-	
13.00-14.50					97	73	30				loss loss brov stro silts calc	between 11.50m and 11.55m bgl, zone . between 11.80m and 11.83m bgl, fi wn silty gravelly clay. . between 11.83m and 12.08m bgl, n ng thinly interlaminated red brown mu tone and sandstone. . at 12.18m bgl, 32mm cavity with ite infill.	of core frm red nedium dstone, partial		
- 14.50-16.00					87 	59 81	39		• • • • • • • • • • • • • • • • • • •		vug loss  und	<ul> <li>at 12.20m bg, median to coase grave s with partial calcite infill.</li> <li>between 13.00m and 13.20m bgl, zone</li> <li>between 13.41m and 13.53m bgl, sub ulating rough fracture.</li> <li>between 14.78m and 14.98m bgl, sub ulating rough fracture.</li> </ul>	of core vertical vertical	- 15.57	
- - 16.00-17.50					93	45	15				Wea inte mic MU app und mec with spec (Wea (BR	ak to strong thickly interlaminated to rbedded red brown and light grey aceous fine grained SANDSTONE DSTONE with occasional honeyc earance. Discontinuities are sub- ulating rough and planar rough clos lium spaced (35/100/230) partly open to thin clay smearing, occasional exhing and occasionally micaceous. eathering Grade I) OMSGROVE SANDSTONE FORMAT	thinly brown E and combed vertical sely to to open black	(1.68)	
17.50-19.00					90	80	62				loss  plar	between 16.00m and 16.10m bgl, zone between 16.28m and 16.40m bgl, sub ar rough fracture with calcite infill.	of core vertical	- - - - - -	

GINT LIE RSK Envi	Method Used:	Rotar Rot	y open hole - tary Cored	+ Pla Use	nt ed: Co	omac	chio MC4	50-P1	Dril By:	lled SC/JO	Logged By:	LAlderman	Checke By:	d TANB	AGS
RARY_V8_05.GLB I onment_Ltd, The Enter									A 11 .1:	monoione in meter	9	Saular	1.50		
LibVersion rprise Cen	Buit	1 1110	Depth	Depth	(mn	n)	Depth								
n: v8_05 - itre, Cove	Date	Boring Time	Progress and Borehole	Water O Casing	bservati Boreh Diam	ons nole eter	Water			Ge	neral	Remarks			
- Lib0 ntry L			I I					eu*1.*.1							
004 Prj/ Jniversit	- 17.30-19. - -				90	80	62			between 16 planar rough frac	.28m and ture with	l 16.40m bgl, subv calcite infill.	vertical	-	· · · · · · · · · · ·
Version: v8_05 y Technology ]	- 17 50-10	00								(Weathering Grad (BROMSGROV) between 16.0	de I) E SAND 00m and	STONE FORMAT 16.10m bgl, zone	FION) of core	17.25	·         ·
- Core+Logs ( Park, Coventry	- - - - -				93	45	15			appearance. undulating roug medium spaced ( with thin clay speckling and cost	Discontir h and p (35/100/2 y smear	nuities are subv planar rough clos 230) partly open to ing, occasional	vertical sely to o open black	(1.68)	
002   Log COI , CV1 2TX. Te	16.00-17.	50				<b>X</b>				Weak to strong interbedded red micaceous fine MUDSTONE	thickly brown grained with oc	interlaminated to and light grey d SANDSTONE casional honeyc	thinly brown and ombed	-	
MPOSITE I el: 02476 23	-				100	81	35			undulating rough				15.57	
	- 14.50-16. 	00								between 14	.78m and	l 14.98m bgl, subv	vertical	-	
4 - EAST N 02476 2360										loss. between 13.0 undulating rough	.41m and fracture	13.20m bgl, zone	or core vertical	-	·         ·
dIDLANDS 14, Web: w	- - - -				87	   59	39			calcite infill. at 12.20m b vugs with partial	gl, mediu calcite in	im to coarse grave fill.	el sized	-	
, GATEWA ww.rsk.co.u	13.00-14.	50				X				strong thinly into siltstone and sand	erlaminat Istone. n bgl, 32	ed red brown much 2mm cavity with	dstone,	-	<ul> <li>N</li> <li>N&lt;</li></ul>
Y.GPJ - v8 lk.	-									loss. between 1 brown silty grave	1.80m ar elly clay.	nd 11.83m bgl, fi	rm red	-	
05   10/1					97	73	30			loss. between 11.5	50m and	10.13m bgl, zone 11.55m bgl, zone	of core	 - -	
2/13 - 10:4	- 11.50-13.	00								infilled fracture.	bgl, 6m	m subhorizontal	calcite	-	· · · · · · · · · · · · · · · · · · ·
41   KF.										medium strong	9.05m an thinly in	d 9.25m bgl, w iterlaminated red	eak to brown	-	· · · · · · · · · ·



Contract:							Client:				Boreho	ole:	
ŀ	East	Mid	lands Gate	eway	/			Ro	xhil	l Developments Ltd		CP(l	R)206
Contract Ref			Start:	4.1	0.13	Grou	nd Level (n	n AO	D):	National Grid Co-ordinate:	Sheet:		
3	124	94	End:	4.1	0.13		51.84			E:447408.6 N:326891.6		3	of <b>4</b>
Depth (m)	No	Sample: Type	s & Testing Results	N TCR (%)	Mecha SCR (%)	anical RQD	ackfill & gor Jackfill & JI Instru- mentation	Water		Description of Strata		Depth (Thick ness)	Material Graphic Legend
19.00-20.50				90 90 91	80	62 48			loss Mec mic occa Dise and (30/ sme occa (We (BR (street)	between 17.50m and 17.65m bgl, zone dium strong to strong thinly bedded red aceous fine grained SANDSTONE asional honeycombed appe continuities are subhorizontal undulating planar rough very closely to medium (150/290) partly open to open with th aring, occasional black speckling assionally micaceous. eathering Grade I) ROMSGROVE SANDSTONE FORMA atum copied from 17.25m from previous between 1000m and 10.2m bcl. acros	of core brown with arance. grough spaced in clay g and TION) <i>sheet</i> )	(2.55)	
20.50-22.00				97	73	49			Mea thin fine hon inte and Dise and space	between 19.00m and 19.13m bgl, zone dium strong to strong thickly interlamir ily interbedded red brown and light grey grained SANDSTONE, very occ eycombed appearance with rlaminated to very thinly interbedded lig red brown siltstone and mu continuities are subhorizontal undulating planar rough extremely closely to r ced (15/80/250) partly open to open w	ated to brown asional thickly th grey dstone. g rough nedium ith thin	-	
22.00-23.50				57	37	9			loss und clay	<ul> <li>between 20.50m and 20.55m bgl, zone</li> <li>between 21.29m and 21.37m bgl, sub lulating rough fracture.</li> <li>between 21.50m and 22.00m bgl, med rse grained.</li> <li>between 22.00m and 22.75m bgl, zone</li> </ul>	of core vertical lium to of core	(4.40)	
23.50-25.00				93	53	13 V			loss infi stra coan coan to c Red coan silts (CCC Mea very brov muc	between 23.50m and 23.60m bgl, zone at 23.17m bgl, 14mm vug with partial ll. between 23.90m and 24.00m bgl tified. between 23.90m and 24.05m bgl, mea rse. between 24.17m and 24.19m bg ts/evidence of scouring within mudstone between 24.19m and 24.21m glomerate with subrounded to runded r oarse quartzite, flint and sandstone clasts brown grey white subrounded to r rse GRAVEL of sandstone, quartzi stone. DNGLOMERATE) dium strong to strong thickly interlamir y thinly interbedded red brown, grey an wn fine grained SANDSTONE, siltsto dstone. Discontinuities are subhorizonta	of core calcite , cross dium to l, flute band. n bgl, nedium s. ounded te and ated to nd grey ne and l	24.20 24.30- (0.70) 25.00	<u>n ) r</u>
	· ·	D			I			1				L	I
Bo	oring	Bore	s and water Obs	Boreh	ons iole	Wate				General Remarks			

Method	Rotary	open hole +	- Plant	l t		Drilled	ons in metre	s Logged	Scale:	Checked The	
		Depui	Depui	(mm)	Depui					1.50	
Date	Boring Pr Time	ogress and Borehole	Water Ob Casing	servations Borehole Diameter	Water		Ge	neral	Remarks		



1:50

Checked TAB By:

AGS

Scale:

LAlderman

Logged By:

Contract:	Contract:								ent:							Boreho	ole:	
	East	t Mic	llan	ds Gate	eway	7				Ro	xhil	ll Develop	ments	Ltd			CP(I	R)206
Contract R	ef:			Start:	4.1	0.13	Groun	d L	evel (m	AO	D):	National Grid	d Co-ordi	nate:		Sheet:		
	3124	194		End:	4.1	0.13		4	51.84			E:44740	08.6 N	:3268	91.6		4	of <b>4</b>
Depth (m)	No	Sample Type	es & T	Testing Results	TCR	Mecha SCR	anical L RQD	.og If mm)	3ackfill & Instru- nentation	Water		Des	scription	of Strata	l		Depth (Thick ness)	Material Graphic Legend
											und mec sme (Wa (BR F	lulating rough dium spaced ( earing. eathering Grad. COMSGROVE Rotary probeho	and pl. 70/90/100 e I) SANDS ile termina	anar rou 0) open TONE F ated at 2:	igh clos with th ORMA 5.00m de	ely to in clay <u>FION</u> ppth.		
	Boring Progress and Water Ob					ons	Watar					Ger	neral l	Rema	rks			
Date	Date     Time     Borehole     Casing       Depth     Depth     Depth					eter 1)	Depth	╢										

All dimensions in metres

SC/JO

Drilled

By:

Rotary open hole + Rotary Cored Plant

Used:

Comacchio MC450-P1

Method

Used:



Contract:								Client	t:						Bor	ehole:	
	East	t Mid	lands	s Gate	eway	y				Rox	hil	l Develop	pment	s Ltd		CP(	<b>R)207</b>
Contract	Ref:			Start:	1.1	0.13	Grou	nd Leve	el (m	AOD	):	National Gri	id Co-ord	inate:	She	et:	
	312	494		End:	1.1	0.13		63	.04	ł		E:4470	86.9 N	N:326841	.6	1	of <b>4</b>
Depth	No	Sample Type	s & Tes	sting	TCR	Mecha SCR	nical RQD	Log If J	Instru- entation	Water		De	escriptior	n of Strata		Depth (Thick	Material Graphic
		Type		Suits	(%)	(%)	(%)	(mm) 🛱			Dril	lers descripti	ion - Gra	ss over red	brown sil	1000000000000000000000000000000000000	
-											CLA Dril	AY. lers description	on - Red l	brown silty C	CLAY.		
- - - -																-(1.10)	
- - - - -											Dril MU	lers descrij DSTONE.	ption -	Weak r	red brow	vn -(1.10) -	
2.30-3.8	2.30-3.80										Ver MU	y weak th DSTONE.	hickly 1	aminated	red brow	vn (0.40)	
-											(We (TA Wea	athering Grad RPORLEY S ik to strong	de II) SILTSTO thickly	NE FORMA	ATION) ed to thin	2.70	
= - - -			100	52	0				inter MU inter grain	bedded re DSTONE an laminated to ned sands	d brownd siltston o very tone.	vn and he with occas thinly intert Discontin	light gro sional thin bedded fin uities a	ey - lly - ne - re -			
3.80-5.3	30						<b>.</b>				subl very to o dark	closely to n pen with thi brown an	nedium sp nedium sp n clay sr nd orang	rough and p paced (28/12 nearing, with e brown st	blanar roug 20/290) tig h occasion taining ar	gh - cht - nd -	
-					100	57	13				occa mica (We (TA  grav  grav	athering Grad RPORLEY S between 2.85 elly clay. between 3.09 elly clay.	de I) SILTSTO 8m and 2. 9m and 3.	NE FORMA 93m bgl, red 13m bgl, red	ATION) I brown sil I brown sil	ity ty	
5.30-6.8	0				<b>X</b>	X	X				grav step	between 3.30 elly clay. between 4 ped rough fra moist surface	0m and 3. .60m and acturing v	39m bgl, red 1 4.95m bgl, vith dark bro	l brown sil , subvertic own stainir	ty _ cal _ ng _	
-											grav	. between 5. rel. . between 5. rel.	.45m and .55m and	5.49m bgl, 5.62m bgl,	firm claye	ey ey	
-					100	53	23				light sanc	between 5.9' t grey brow lstone. . between 6.	7m and 6 7n and r .39m and	.22m bgl, me ed brown f 6.43m bgl,	edium stron fine grain firm claye	ng - ed - ey -	
6.80-8.3	0										grav subv stair	el. between vertical stepp ning.	6.60m a ed rough	and 6.73m fractures wi	bgl, sever th dark gro	ral - ey -	
	Boring	Progres	s and W	Vater Obs	servati	ons						~		D 1			
Date	Date         Time         Borehole Depth         Casing Depth         Borehole Diameter (mm)         W           01/10/13         08:00         3.80         2.30         121							r n 1 1	[	ion scarr	ned w	Ge	neral	Remark	S breaking gro	und Hand du	o service
01/10/13         08:00         3.80         2.30         121         -           01/10/13         13:00         12.80         12.10         121         -           01/10/13         17:00         24.80         12.10         121         -								1.1 2.1 3.1 4.0 5.1 6.1	Docati pit to Rotar Boreh Gas an No gr Piezon	1.20m by y open ho ole adva nd groun oundwat meter ins	gl. No oled to inced to idwate er stri stalled	our or R and CAT o services encount o 2.30m bgl. to 24.80m bgl usi r monitoring wel kes noted. at 12.10m bgl.	ing coring te	chniques. 24.80m bgl upor	n completion.	unu. Fiand du	15 201 VICE
										All dir	nens	ions in metre	s	Scale:	1:3	9	
Method Used:	Rotar Ro	y open tary Co	hole + red	Plant Used	: Co	omacc	hio M	C450-P	1	Drill By:	ed	LS/PC	Logged By:	LAlderm	an Che By:	ecked I	B AGS



1:39

Checked TAB By:

AGS

Scale:

LAlderman

Logged By:

Contract:									Cli	ent:				Boreho	ole:	
	Eas	st N	Midla	nd	s Gate	eway	7				Ro	xhil	ll Developments Ltd		CP(l	R)207
Contract R	Ref:				Start:	1.1	0.13	Grour	nd Le	evel (n	n AOI	D):	National Grid Co-ordinate:	Sheet:		
	312	249	4		End:	1.1	0.13		6	53.04	1		E:447086.9 N:326841.6		2	of <b>4</b>
Depth (m)	N	Sa o T	mples &	z Tes Re	sting esults	N TCR (%)	Mecha SCR (%)	anical I RQD (%) (	Log If (mm)	3ackfill & Instru- mentation	Water		Description of Strata		Depth (Thick ness)	Material Graphic Legend
8.30-9.80	.30-9.80 .80-11.30						60 • •	21 <b>v</b> 41				We inte grai sub very to o darl occ mic (We (TA (stre sub) occ amic (TA (stre sub) occ amic (stre sub) occ amic (stre sub) occ amic (stre sub) occ amic (stre sub) occ amic (stre sub) occ amic (stre sub) occ amic (stre sub) occ amic (stre sub) occ amic (stre sub) occ amic (stre sub) occ amic (stre sub) occ amic (stre sub) occ (stre (stre sub) occ (stre (stre (stre (stre (stre (stre (stre (stre (stre (stre (stre (stre (stre (stre (stre (stre (stre (stre (stre)) occ (stre) occ (stre) occ (stre) occ (stre) occ (stre) (stre) occ (stre) (stre	ak to strong thickly interlaminated to proveded red brown and light JDSTONE and siltstone with occasiona rlaminated to very thinly interbedded ined sandstone. Discontinuities horizontal undulating rough and planar y closely to medium spaced (28/120/29/ open with thin clay smearing, with occ k brown and orange brown staining asional black speckling and occas raceous. eathering Grade I) ARPORLEY SILTSTONE FORMATION <i>atum copied from 2.70m from previous s</i> . between 7.81m and 7.86m bgl, firm vel	thinly grey thinly d fine are rough )) tight asional g and ionally N) <i>heet</i> ) clayey	(10.30)	
9.80-11.3	.80-11.30						_					infi infi	at 8.20m bgl, 26mm cavity with partial ll. . at 8.97m bgl, 35mm vug with partial ll.	calcite calcite	-	
- 11.30-12.	0.80-11.30						87	30				brov freq 45n	. between 10.60m and 10.83m bgl, lig wn fine to medium grained sandston juent medium to coarse gravel sized nm) vugs with partial calcite infill. . between 10.90m and 11.25m bgl, lig wn fine to medium grained sandston upent medium to coarse gravel sized	ht grey e with (up to ht grey e with	-	
-	11.30-12.80					100	85	29				45n	nm) vugs with partial calcite infill.	(4) 10	-	
[ 12.80-14.	2.80-14.30						63	47			•	Des	scription on next sheet		13.00	
-												very	. between 13.70m and 13.86m bgl, da y thin cross stratification.	rk grey	-	
	Borin	ıg Pro	ogress a	nd W	Vater Obs	ervati	ons						C 1 D 1			
Date	Tim	ne	Boreho	le	Casing	Boreh	ole eter	Water	:				General Kemarks			
Duit	1 111		Depth	<u>ı</u>	Depth	(mn	1)	Depth								

All dimensions in metres

LS/PC

Drilled

By:

GINT\_LIBRARY\_V8\_05.GLB LibVersion: v8\_05 - Lib0004 PŋVersion: v8\_05 - Core+Logs 0002| Log COMPOSITE LOG| 312494 - EAST MIDLANDS GATEWAY.GPJ - v8\_05| 10/12/13 - 10:41| KF. RSK Environment Ltd. The Enterprise Centre, Coventry University Technology Park, Coventry, CV1 2TX. Tel: 02476 236816, Fax: 02476 236014, Web: www.rsk.co.uk.

Rotary open hole + Rotary Cored Plant

Used:

Comacchio MC450-P1

Method

Used:



Contract:	ontract:						Client:				Borehole:					
E	Cast	t Midl	ands	Gate	eway	7			Roy	xhill	Develop	pment	s Ltd		CP(I	R)207
Contract Ref				Start:	1.1	0.13	Grou	nd Level (m	N AOE	D):	National Gr	id Co-ord	inate:	Sheet:		
3	124	494		End:	1.1	0.13		63.04	•		E:4470	86.9 N	:326841.6		3	of <b>4</b>
		Samples	& Test	ing	ľ	Mecha	anical I	og a - u	er						Depth	Materia
Depth (m)	No	Туре	Res	sults	TCR (%)	SCR (%)	RQD (%)	Backfi Um) Instr mental	Wate		De	escription	of Strata		(Thick ness)	Graphi Legend
					100	63	47			nlana	between 13 r rough fra	.92m and cture with	14.05m bgl, sub orange brown s	vertical taining	(2.25)	· · · · · · ·
14.30-15.80					A	A				and s	andy surfac	e.	4:11 1 :	. 1 .	-	
										thinl	y bedded lig	ht grey bi	own and red brow	wn fine	-	· · · · · · · ·
										grain	ed SAND	STONE	with occasional	thick	-	· · · · · · ·
										Disc	ontinuities a	re subhor	izontal undulating	rough	F	· · · · · · ·
					100	89	67			and	planar rough	h very clo	osely to medium	spaced	-	· · · · · · ·
										(26/1 smea	50/290) pai ring occasi	onal blac	to open with the	in clay rarely	- 15.25	
										mica	ceous.		an opeening and	10101)	L	
										(Wea	thering Gra	de I) F SANDS	STONE FORMA	FION)	-	
15 20 17 20					-	<u> </u>				(stra	tum copied f	from 13.00	Om from previous	sheet)	-	
15.80-17.50					Ī	ΙĪ	IĪI			subh	betwe	en 14.44 dulating i	and 14.65r	n bgl, th dark	-	· · · · · · ·
										grey	staining.	autatilig I	Sugn naciule wi	ui uain	F	· · · · · · ·
										Med	um strong	to strong	g very thinly to	thinly	E	· · · · · · ·
					05	07				bedd	ed light gre	y brown SANDS	and red brown	tine to asional	-	· · · · · · ·
					95	0/				thick	ly interlan	ninated	to thinly inter	bedded	-	· · · · · · ·
										muds	stone nd	siltstone.	Discontinuiti	es are	-	· · · · · · ·
										extre	mely closely	y to medi	um spaced (12/17	70/300)	-	· · · · · · ·
										partl	y open to	open wi	th thin clay sm	earing,	-	· · · · · · ·
17.30-18.80										(Wea	thering Gra	de I)	and farery micaci	eous.	-	· · · · · · ·
										(BRC	MSGROV	E SÁNDS	STONE FORMA	ΓΙΟN)	-	· · · · · · · ·
										erave	between sized vugs	with part	ind 15.40m bgl, ial calcite infill.	coarse	-	· · · · · · ·
											petween 15.	80m and	15.87m bgl, zone	of core	-	· · · · · · ·
					100	68	45			loss.	hetween	16.44m a	nd 16.48m hol	coarse	-	· · · · · · ·
										grave	el sized vug	s with pa	rtial and some co	mplete	-	
										calci	te infill.	17 57m	and $17.64$ m ba	1 firm	-	
										grave	elly clay.	17.37111		, 11111	L	
18 80-20 30					X	X				8	ut 18.16m bg	$g_{1}, 45 \text{mm}$	clean cavity.	ofcore	-	
10.00-20.50								[:.::]		loss.	Jetween 18.	sonn anu	18.94111 Ugi, 2011e	of core	-	
															-	
															_	
					01	36									-	
						50									-	· · · · · · ·
								[:::]∄							-	· · · · · · ·
-															(9.75)	· · · · · · ·
						¥.	<b>V</b>								-	· · · · · · ·
20.30-21.80					1		1								L	· · · · · · ·
					100	65					between 20	.50m and	20.53m bgl, med	lium to	F	
					100	05	3/			coars	e.				-	· · · · · · ·
															-	
Bo	oring	Progress	and W	ater Ob	servati	ons	XX7 /				Ge	neral	Remarks			
Date	Гime	Boreh	th T	asing Denth	Diam	eter	water Denth	·								
				- opui	(uui		Lopu	·								
Method P	loto-	y open h		Dlant					All di	imensi	ons in metre	S Longed	Scale:	1:39	d <b>-</b>	
Used:	Ro	tary Core	ed	Used	: Co	omacc	hio M	C450-P1	By:		LS/PC	By:	LAlderman	By:	. WE	> AGS

Ř		Boring Progress and Water Observations							Ca	noral	Domortza		
, L	Data	Time	Borehole	Casing	Borehole	Water			Ge	nerai	Remarks		
150	Date	TILL	Depth	Depth	(mm)	Depth							
Delle													
T T													
								4 11 12	,		G 1	1.20	
VIIV							A	All dimens	ions in metre	S	Scale:	1:39	
Kon Eu	Method Used:	Rotary o Rotai	open hole + y Cored	- Pla Us	nt ed: Coma	cchio MC4	50-P1	Drilled By:	LS/PC	Logged By:	LAlderman	Checked <b>TAB</b>	AGS



1:39

Checked TAB By:

AGS

Scale:

LAlderman

Logged By:

ſ	Contract:							Client:					Borehole:			
		Eas	t Mi	dlan	ds Gate	eway	V				Ro	xhi	ll Developments Ltd		CP(I	R)207
ŀ	Contract Re	ef:			Start:	1.1	0.13	Grou	and I	Level (n	n AO	D):	National Grid Co-ordinate:	Sheet:		,
		3124	494		End:	1.1	0.13			63.04	Ļ		E:447086.9 N:326841.6		4	of <b>4</b>
ſ			Samp	les & T	esting	I	Mech	anical	Log	on _&			1		Denth	Material
	Depth (m)	No	Тур	e I	Results	TCR (%)	SCR (%)	RQD (%)	If (mn	Backfill Instru mentati	Wate		Description of Strata		(Thick ness)	Graphic Legend
	21.80-23.3	0				100 100 100 100	65 • 73	37	-			Me bed mec thic sub exti part occ (Wi (BF (str  und 	dium strong to strong very thinly to Ided light grey brown and red brown dium grained SANDSTONE with occ: kly interlaminated to thinly interl dstone nd siltstone. Discontinuitie oborizontal undulating rough and planar remely closely to medium spaced (12/17 tly open to open with thin clay sm vasional black speckling and rarely micace eathering Grade I) ROMSGROVE SANDSTONE FORMAT ratum copied from 15.25m from previous between 21.03m and 21.30m bgl, sub- dulating rough fracture. between 22.47 and 22.51m bgl, soft g	thinity fine to asional bedded ss are rough 0/300) earing, cous. FION) sheet) vertical ravelly	- - - - - - - - - - - - - - - - - - -	
	- 23.30-24.8	0				100	87	58	-			clay clay	y. . between 22.79 and 22.82m bgl, soft g y.	ravelly	- - - - - - - - - - - - - - - - - - -	
	- - - - -						•		-			infi	. at 24.53m bgl, 28mm vug with partial ll.	calcite	25.00	
, _		1				1						1			L	1
	E	Boring	Progr Bc	ess and	Water Ob Casing	servati Boreh Diam	ons ole eter	Wate	er				General Remarks			
	Date	1 ime	I	Depth	Depth	(mn	n)	Dept	h							

All dimensions in metres

LS/PC

Drilled

By:

GINT\_LIBRARY\_V8\_05.GLB LibVersion: v8\_05 - Lib0004 PŋVersion: v8\_05 - Core+Logs 0002| Log COMPOSITE LOG| 312494 - EAST MIDLANDS GATEWAY.GPJ - v8\_05| 10/12/13 - 10:41| KF. RSK Environment Ltd. The Enterprise Centre, Coventry University Technology Park, Coventry, CV1 2TX. Tel: 02476 236816, Fax: 02476 236014, Web: www.rsk.co.uk.

Rotary open hole + Rotary Cored Plant

Used:

Comacchio MC450-P1

Method

Used:



Contract:	Contract:						Client: Borehold				le:					
	East Midlands Gateway						]	Roxhil	l Develoj	pments	Ltd		CP(I	R)208		
Contract R	Ref:			5	Start:	4.1	0.13	Groun	d Level (m	AOD):	National Gr	id Co-ordir	nate:	Sheet:		
	312	494		1	End:	4.1	0.13		66.58		E:4468	834.8 Na	326895.4		1	of <b>3</b>
		Sampl	es & T	estin	ıg	ľ	Mecha	anical L	og 😤 🛓 🗓	ti l					Depth	Materia
Depth (m)	No	Туре	. ]	Resu	ılts	TCR (%)	SCR (%)	RQD (%) (1	Backfi mentat mentat	Wate	D	escription	of Strata		(Thick ness)	Graphic Legend
										Dril	lers Descript	ions - Dark	brown silty CL	AY.	-	×>
										Dril	lers Descript	ions - Red l	prown silty CLA	v	0.40	<u>x                                    </u>
											lers Desempt		Showin Sinty CEA		(0.80)	<u> </u>
															_	
										D. 1	1 D	. D 11	MUDOT		1.20	:
										Drii	iers Descript	ions - Red i	brown MUDSIC	JNE.	-	
															(1.00)	
															-	
															2.20	
										Dril	lers Descript	ions - Grey	MUDSTONE.		2.50	
										Dril	lers Descript	ions - Red l	orown MUDST(	ONE.	-	
															(1.00)	
															-	
															3.50	
3.50-5.00										Firn	n red brown	and light g	rey silty slightly	sandy	3.60	
-										subr	ounded fine	to coarse m	udstone lithoreli	icts.	4.00	
											RPORLEY S	SILTSTON	E FORMATIO	N) brown	(0.65)	
						100	00	21		SAN	NDSTONE.		ig light groy	DIOWI	-	
										(TA	PORLEY S	SILTSTON 8.82m and	E FORMATIO 3.89m bgl. occ	N) asional	- 4.65	
-							Y.			med	ium to coar	se gravel s	sized vugs, som	e with	-	
5.00-6.50										Rec	overed as r	111. ed brown	angular blocks	/coarse	-	
										grav	el with small	amount of	clay along fract	ures.	-	
						100	Q1			(We	RPORLEY S	ae II) SILTSTON	E FORMATIO	(V	-	
-						100	04	4/		i	. between 4.	06 and 4.3	5m bgl, stepped	rough	_	
										Wea	ik to medium	strong thic	kly laminated to	thinly	(3 /3)	
							<u> </u>	Y.		inter	rbedded re	ed brown	and light	grey	-	
6.50-8.00						Î	Î	1		to t	hinly interbe	edded red	brown and light	nt grey	_	
-										brov Disc	vn fine to continuities a	o medium re subhoriz	grained san	dstone. g rough	-	
						100	87	38		and	planar roug	gh extreme	ly closely to n	nedium	-	
7.40-7.59	1	CS				100				spac	aring, occas	ional blac	k speckling an	d grey	-	
										stair	ning and occa	sionally m	icaceous. E FORMATIO	D.	-	
8 00 0 50						1	<u> </u>				. between 4	.95m and 5	5.20m bgl, stron	g light	- 8.08	
8.00-9.50										grey	between 5.0	0.00000000000000000000000000000000000	07m bgl, with n	nedium	-	
						98	89	26		to c	oarse gravel	l sized vu	gs with partial	calcite	(1.12)	· · · · · · · ·
											between 5.20	0m and 5.6	0m bgl, clayey g	ravel.		
-									<u></u>						-	
	Boring	Progre	ess and	Wat	ter Obs	servati	ons				C		<b>)</b> 1			
Date	Time	Bo	rehole	Ca	sing	Boreh Diamo	ole eter	Water			Ge	eneral F	cemarks			
04/10/12	00.00		epth		epth	(mn	n)	Depth	1. Loca	tion scan	ned with GPF	R and CAT	and signal gener	ator prio	r to brea	ıking
04/10/13	17:00	$\hat{b} \mid 2$	0.00	3.	.50	12	1	-	grou 2. Rota	nd. Hand ry open ho	dug service j bled to 3.50m	pit 10-1.20r 1 bgl.	n bgl. No servic	es encou	ntered.	
									3. Bore	hole adva	nced to 20.00	)m bgl usin	g coring techniq	ues. Om bal		
									5. No g	roundwat	er stikes note	d.	instance to 20.0	om ogi.		
				I I						All dimens	ions in metre		Scale	1.50		
Mathad	Dat-		hal	L	Dlone					Drillad	ions in mene	Logged	Scale.	Chaster	d <b>ee</b> P	

	Boring P	rogress and	Water Ob	servations				G	morol	Domarka		
Date	Time	Borehole	Casing	Borehole Diameter	Water			Ue	nerai	<b>NEIHAIKS</b>		
Duu	1 1110	Depth	Depth	(mm)	Depth	1 1		and with CDI		T		
04/10/ 04/10/	13 08:00 13 17:00	3.50 20.00	3.50 3.50	121 121	-	1. Loca grou 2. Rota 3. Bore 4. Gas 5. No g	nd. Hand ry open ho hole adva and groun roundwat	dug service bled to 3.50n nced to 20.00 dwater moni er stikes note	on bgl. 2000 bgl usi 2000 bgl u	I and signal gener Om bgl. No service ing coring techniq Il installed to 20.0	ues. 0m bgl.	ing
Metho Used	d Rotary Rota	open hole + ry Cored	- Plan	t Coma	rchio MC4	50-P1	All dimens	ions in metre	es Logged By:	Scale:	1:50 Checked Table	AGS



E	Contract:						Client: <b>Poyhill Developments I td</b>				_	Borehole:		
East Midlands Gateway							R	loxhil	l Develop	pments L	ıtd		CP(I	R)208
Contract Ref:			Start:	4.1	0.13	Groun	d Level (m A	lOD):	National Gri	id Co-ordinate	e:	Sheet:		-
31	124	94	End:	4.1	0.13		66.58		E:4468	334.8 N:3	26895.4		2	of <b>3</b>
Depth (m)	No	Samples & Tes Type Re	ting sults	TCR	Mecha SCR	anical L RQD	Water Water	water	De	escription of	Strata		Depth (Thick ness)	Materia Graphic Legend
9.50-11.00 9.98-10.15	2	CS		98 98 97	89 ¥ 90	26 Y 40		to st sanc  subv 	between 5.31 between 5. rse gravel size between 6.55 trong light gr lstone band. between 6.6 vertical fractu between 8.0	Im and 5.37m .53m and 5.5 ed vugs with p 5m and 6.60n rey brown fin- 44m and 6.90r tre. 00m and 8.03	bgl, clayey gr 56m bgl, medi bartial calcite in h bgl, medium e to medium g n bgl, stepped 8m bgl, zone c	avel. ium to nfill. strong grained rough of core	9.20	
11.00-12.50	3	CS		100	87	35		infil Mec thin to m med calc Disc	. at 8.27m bg ll. dium strong to ly bedded lig redium graine lium to coars ite infill with thinly interb continuities a	gl, 34mm vug o very strong ht grey brown ed SANDSTC se gravel size n occasional th bedded muds re subhorizon	g with partial thickly lamina n and red brow DNE with occa d vugs with nickly interlam tone and sil tal undulating	calcite ated to vn fine asional partial iinated tstone. rough	10.90	
12.50-14.00				100	87	76		and (48/ clay occa (BR (stra Mea very	planar rough 100/270) tig smearing, assionally mic OMSGROVI atum copied f lium strong t to thinly inter	h very closely th to modera occasional b caceous. E SANDSTO from 8.08m fr to strong thicl bedded red b	y to medium s ttely wide wit lack specklin NE FORMAT om previous sl kly interlamina rown and ligh	spaced h thin g and (ION) heet) ated to at grey	12.55	
14.00-15.50 14.15-14.35	4	CS		100	82	47		MU inter brow Disc and (26/ sme blac (We (BR	DSTONE an rlaminated to wn and red continuities au planer rough 80/170) part aring, occasi k speckling a athering Graa OMSGROVI	ld siltstone wi very thinly in brown fine re subhorizon h very closely thy open to c ional orange and occassiona de I) E SANDSTO	th occasional t interbedded ligh grained sanc tal undulating y to medium s open with thin brown staine ally micaceous WE FORMAT	nickly nt grey Istone. rough spaced n clay d and TION)	-	-         -
15.50-17.00						¥		loss Mec very grain grey subl very	between 9.5 dium strong t thinly intened SANDS siltstone an horizontal un closely to	to strong thicle erbedded light TONE and r ad mudstone. adulating roug o medium sp	kly interlamina ht green grey ed brown and Discontinuiti gh and planar paced (25/10)	ated to y fine 1 light ies are rough 0/200)		
17.00-18.50				90	73 73 94	29 45		part sme (BR  grav  grav Des coar Des	Iy open to aring, micaci ckling and ora .OMSGROVI between rel. . between rel. <i>cription on me</i>	moderately o eous and wi ange brown st E SANDSTO 11.46m and 11.70m and 2.67s/med 13.7 ed vugs with p ext sheet	pen with thi th occasional aining. NE FORMAT 11.48m bgl, 11.74m bgl, 71m bgl, medi partial calcite in	n clay black TION) clayey clayey ium to nfill.	· · · · · · · · · · · · · · · · · · ·	
Bori	ing I	Progress and W Borehole	√ater Obs Casing	servati Boreh Diamo	ons ole eter	Water			Ge	eneral Re	emarks			

Cover		Boring Pr	ogress and	Water Ob	servations				C	moral	Domorka			
atre, (	Date	Time	Borehole	Casing	Borehole Diameter	Water			Ge	merai	Remarks			
ē			Depth	Depth	(mm)	Depth								
lse														
erpi														
Ent														
lhe														
Ę.														
Ę														
nen														
/iron								All dimens	ions in metre	es	Scale:	1:50		
En	Method	Rotary	open hole +	- Plan	t			Drilled		Logged		Checked	210	
š	Used:	Rota	v Cored	Used	l: Coma	chio MC4	50-P1	By:	SC/JO	By:	LAlderman	By:	mD	AGS



Contract:							Clien	lt:				Boreho	ole:	
ŀ	last	Mid	lands Gate	eway	7				Ro	xhil	ll Developments Ltd		CP(I	R)208
Contract Ref			Start:	4.1(	).13	Grou	nd Leve	el (m	AO	D):	National Grid Co-ordinate:	Sheet:		
3	124	94	End:	4.1(	).13		66	5.58			E:446834.8 N:326895.4		3	of <b>3</b>
Depth (m)	No	Sample Type	s & Testing Results	N TCR	Aecha SCR	anical RQD	Log & If Illyon	Instru- nentation	Water		Description of Strata		Depth (Thick ness)	Material Graphic Legend
18.50-20.00	5	CS	s and Water Obs	98 98 •••••••••••••••••••••••••••••••••	00000000000000000000000000000000000000					grav loss  grav grav grav  grav grav  grav  grav  grav  grav  grav  grav  grav  grav  grav  grav  grav  grav  grav  grav  grav  grav grav grav grav grav grav grav grav	<ul> <li>between 15.04m and 15.11m bgl, vel sized vugs with partial calcite infill.</li> <li>between 15.50m and 15.65m bgl, zone s.</li> <li>between 16.00m and 16.25m bgl, und gh subvertical fracture.</li> <li>between 16.48m and 16.50m bg velly clay.</li> <li>between 16.77m and 16.78m bgl, vel.</li> <li>between 17.48m and 17.50m bg asional medium to coarse gravel sized h partial calcite infill.</li> <li>dium strong to very strong thickly lamin ly bedded light grey brown and red bro medium grained SANDSTONE, with occ kly interlaminated and very thinly interdstone and siltstone. Discontinuit horizontal undulating rough and plana y closely to medium spaced (26/150/300 m to moderately open with thin clay sme ROMSGROVE SANDSTONE FORMA <i>atum copied from 12.55m from previous</i>.</li> <li>between 19.80m and 19.86m bgl, vel.</li> </ul>	coarse of core hulating gl, firm clayey d, with d vugs hated to wn fine casional bedded es are er rough ) partly aring. TION) sheet) clayey epth.	20.00	
BC	ning	Bore	s and water Obs	Boreh	ole	Wate	r				General Remarks			

	Boring Progress and Water Observations							C	moral	Domortza		
Date	Time	Borehole	Casing Depth	Borehole Diameter	Water Depth			Ge	merai	Remarks		
		Depui	Depui	(11111)	Depui							
							All dimens	ions in metre	es	Scale:	1:50	
Method Used:	Rotary Rota	open hole + ry Cored	· Plant Used	: Coma	chio MC4	50-P1	Drilled By:	SC/JO	Logged By:	LAlderman	Checked TAB	AGS



#### APPENDIX E ROTARY CORED BOREHOLE PHOTOGRAPHS







Zone:	
1	
Borehole	CONTRACT: EAST MIDLANDS GATEWAY
number:	CONTRACT NO 312494 BORE HOLE NO: 203 CORE BOX NO: 3
CP(R)203	DEPTH - FROM: 8 5, TO: 10.0
Date drilled:	
02/10/13	
Depth range:	
8.50 – 10.00m	





Zone:	
1	
Borehole number:	CONTRACT: EAST MIDLANDS GATEWAY CONTRACT NO 312494 BORE HOLE NO: 202 CORE BOX NO: 5
CP(R)203	DEPTH - FROM: 11-5 TO: 13.0
Date drilled:	
02/10/13	
Depth range:	
11.50 – 13.00m	







Zone:	
1	
	CONTRACT, FACT MIDLANDS CATEWAY
Borehole number:	CONTRACT: EAST MIDLANDS GATEWAY CONTRACT NO 312494 BORF HOLE NO: 1203 CORE BOX NO: 8
CP(R)203	DEPTH - FROM: 16-0 TO: 17:5
Date drilled:	
02/10/13	
Depth range:	
16.00 – 17.50m	



Zone:	R
1	
Borehole number:	CONTRACT: EAST MIDLANDS GATEWAY CONTRACT NO 312494 BORE HOLE NO: 2000 CORE BOX NO: 9
CP(R)203	DEPTH - FROM: 17.5 TO: 10.0
Date drilled:	
02/10/13	
Depth range:	1
17.50 – 19.00m	











Zone:	
1	
Borehole number:	CONTRACT: EAST MIDLANDS GATEWAY CONTRACT NO 312494 BORE HOLE NO: 202 CORE BOX NO: 13
CP(R)203	DEPTH - FROM: 23-5 TO: 25-0
Date drilled:	
02/10/13	
Depth range:	
23.50 – 25.00m	












































































































Zone:	
1	
Borehole number:	CONTRACT: EAST MIDLANDS GATEWAY CONTRACT NO 312494 BORE HOLE NO: 206 CORE BOX NO: 05
CP(R)206	DEPTH - FROM: 10:00 TO: 11-50
Date drilled:	
04/10/13	
Depth range:	
10.00 – 11.50m	





Zone:	
1	1
Borehole number:	CONTRACT: EAST MIDLANDS GATEWAY CONTRACT NO 312494 BORE HOLE NO: 206 CORE BOX NO: 07
CP(R)206	DEPTH - FROM: 13:00 TO: 14050
Date drilled:	
04/10/13	
Depth range:	
13.00 – 14.50m	























Zone:	
1	p to a second
Borehole number:	CONTRACT: EAST MIDLANDS GATEWAY CONTRACT NO 312494 BORE HOLE NO: 12107 CORE BOX NO: 101
CP(R)207	DEPTH - FROM: 203 TO: 308
Date drilled:	
01/10/13	
Depth range:	
2.30 – 3.80m	Charles and the second s



-
14.5
5.3 1
-

Zone:	
1	
Borehole number:	CONTRACT EAST MIDLANDS GATEWAY CONTRACT NO 312494 BORE HOLE NO 207 CORE BOX NO: 108
CP(R)207	DEPTH - FROM: TO: 6-8
Date drilled:	
01/10/13	
Depth range:	
5.30 – 6.80m	











Zone:	
1	A CONTRACT OF A
Borehole number:	CONTRACT: EAST MIDLANDS GATEWAY CONTRACT NO 312494 BORE HOLE NO: 2007 CORE BOX NO: 07
CP(R)207	DEPTH - FROM: 11-3 TO: 12-8
Date drilled:	
01/10/13	
Depth range:	
11.30 – 12.80m	



Zone:	
1	printer and a state of the second
Borehole number:	CONTRACT: EAST MIDLANDS GATEWAY CONTRACT NO 312494 BORE HOLE NO: 1213 CORE BOX NO: 108
CP(R)207	DEPTH - FROM: 12 TO: 14-3
Date drilled:	
01/10/13	
Depth range:	
12.80 – 14.30m	







Zone:	
1	the second s
Borehole number:	CONTRACT: EAST MIDLANDS GATEWAY CONTRACT NO 312494
CP(R)207	DEPTH - FROM: 172 TO: 1800
Date drilled:	
01/10/13	
Depth range:	
17.30 – 18.80m	



Zone:	
1	
	CONTRACT: EAST MIDLANDS GATEWAY
Borehole number:	CONTRACT NO 312494
CP(R)207	DEPTH - FROM: 18:8 TO: 20:3
Date drilled:	
01/10/13	
Depth range:	
18.80 – 20.30m	





Zone:	
1	
Borehole number:	CONTRACT: EAST MIDLANDS GATEWAY CONTRACT NO 312494 BORE HOLE NO: 2007 CORE BOX NO: 14
CP(R)207	DEPTH - FROM: 21:8 TO: 28:3
Date drilled:	
01/10/13	
Depth range:	
21.80 – 23.30m	

















Zone:	
1	
Borehole number:	CONTRACT: EAST MIDLANDS GATEWAY CONTRACT NO 312494 BORE HOLE NO: 208 CORE BOX NO: 05
CP(R)208	DEPTH - FROM: 9:50 TO: 11:00
Date drilled:	
04/10/13	
<b>Depth range:</b> 9.50 – 11.00m	





Zone:	
1	A CONTRACT OF A
Borehole number:	CONTRACT: EAST MIDLANDS GATEWAY CONTRACT NO 312494 BORE HOLE NO 200 CORE BOX NO: 107
CP(R)208	DEPTH - FROM: 12-50 TO: 1400
Date drilled:	
04/10/13	
Depth range:	
12.50 – 14.00m	











## APPENDIX F IN-SITU SOAKAWAY TEST RESULTS



## STRUCTURAL SOILS LTD

## INSITU TESTING REPORT

Report No.	744139R.01(02)				
Date	13-November-2013	Contract Field	Farm, Lockington		
Client	<b>RSK</b> Environment I td				
Address	Abbey Park				
i iddi 055	Humber Road				
	Coventry				
	CV3 4AQ				
For the Atter	ntion of Gareth Sl	haw			
0.1	1	10.0 / 1 2012		N	
Order receiv	ed	18-September-2013	Client Reference	None D0225652	
Testing Completed		11 October 2013	Instruction Type	P0253055 Written	
Testing Con	ipieted	11-0000001-2015	instruction Type	WILLEN	
Test(s) unde	rtaken (Not UKAS Accredit	red)			
7no Insitu a	a large to to a mind out at	leastions specified by al	iont		
/no. Insitu s	oakaway lesis carried out at	locations specified by cl	ient.		
Testing unde	ertaken in the Laboratory				
0	,				
Environmen	tal conditions (if relevant)				
The results r	epresent the ground condition	ons at the specified locat	ions and depths at the time	of testing.	
	<u> </u>				
Please Note: I	Remaining samples will be retai	ined for a period of one mo	onth from today and will then b	be disposed of .	
Opinions and	interpretations expressed in thi	s report are outside the sco	pe of accreditation for this lab	oratory.	
-r-nons und		r causide die 500		Page 1 of	8
Structu	ral Soils Ltd 1a Princess Street Bec	dminster Bristol BS3 4AG Tel	.0117 9471000 Fax.0117 9471004	4 e-mail david.trowbridge@so	ils.co.uk
Non standard test

Soakaway Test - Position ID : TP301

#### PLOT OF DEPTH OF WATER BELOW GROUND LEVEL AGAINST TIME



Soakaway Test - Position ID : TP302

#### PLOT OF DEPTH OF WATER BELOW GROUND LEVEL AGAINST TIME



MS



Non standard test

Soakaway Test - Position ID : TP303

#### PLOT OF DEPTH OF WATER BELOW GROUND LEVEL AGAINST TIME



Non standard test

Soakaway Test - Position ID : TP304

#### PLOT OF DEPTH OF WATER BELOW GROUND LEVEL AGAINST TIME



MS

Soakaway Test - Position ID : TP305

#### PLOT OF DEPTH OF WATER BELOW GROUND LEVEL AGAINST TIME



MS

Non standard test

Soakaway Test - Position ID : TP351

#### PLOT OF DEPTH OF WATER BELOW GROUND LEVEL AGAINST TIME







## APPENDIX G GEOTECHNICAL LABORATORY TESTING RESULTS



#### STRUCTURAL SOILS LTD

#### **TEST REPORT**



Report No.	744186R.01(00	0)	1774
Date	20-November-2	2013 Contract East Midlands Gateway - Zone 1	
Client Address	RSK Environm Abbey Park Humber Road Coventry CV3 4AQ	nent	
For the Atter	ntion of	Darren Bench	
Samples sub Testing Start Testing Com	mitted by client ted apleted	16-October-2013Client Reference31249418-October-2013Client Order No.None14-November-2013Instruction TypeWritten	
Tests marked Laboratory.	d 'Not UKAS Aco	ccredited' in this report are not included in the UKAS Accreditation Schedule for our	
UKAS Accre	edited Tests		
	1.01 1.03 1.08 1.10 3.02 3.04 3.10 3.06 3.07 5.05 10.06	Moisture Content (oven drying method) BS1377:Part 2:1990:clause 3.2 Liquid Limit (one point method ) & Plastic Limit BS1377:Part 2:1990,clause 4.4/5 Density linear measurement method BS1377:Part 2:1990, clause 7.2 Particle Size Distribution wet sieve method BS1377:Part 2:1990,clause 9.2 Dry density/moisture content relationship 4.5kg rammer method BS1377:Part 4:19 clause 3.5 Dry density/moisture content relationship 4.5kg rammer method BS1377:Part 4:19 clause 3.6 California Bearing Ratio BS1377:Part 4:1990,clause 7.4 Moisture condition value natural moisture content BS1377:Part 4:1990,clause 5.4 Moisture condition value/moisture content relationship BS1377:Part 4:1990,clause Undrained shear strength triaxial compression without pore pressure measurement (multistage loading) BS1377:Part 7:1990,clause 9.4 Point Load Index ISRM:1985	.3 90 90 5.5
Not UKAS A	Acredited Tests		
	1.13	Particle Size Distribution sedimentation hydrometer method BS1377:Part 2: 1990,clause 9.5	
	4.01	One-dimensional consolidation BS1377:Part 5:1990,clause 3.5 Hand Vane	
		Page 1 or	f 55

Structural Soils Ltd 1a Princess Street Bedminster Bristol BS3 4AG Tel.0117 9471000 Fax.0117 9471004 e-mail david.trowbridge@soils.co.uk



### STRUCTURAL SOILS LTD



Report No. 744186R.01(00)

1774

Testing carried out by an external laboratory - Envirolab

2.06	Sulphate content (acid extract) in accordance with BRE Special Digest 1:2005
2.04	Sulphate content (water extract) in accordance with BRE Special Digest 1:2005
2.07	pH value in accordance with BRE Special Digest 1:2005

2.07prit value in accordance with BRE Special Digest 1:20052.05Total sulphur in accordance with BRE Special Digest 1:2005

Please Note: Remaining samples will be retained for a period of one month from today and will then be disposed of . Test were undertaken on samples 'as received' unless otherwise stated.

Opinions and interpretations expressed in this report are outside the scope of accreditation for this laboratory.

Page 1 of 55

Structural Soils Ltd 1a Princess Street Bedminster Bristol BS3 4AG Tel.0117 9471000 Fax.0117 9471004 e-mail david.trowbridge@soils.co.uk

## TESTING VERIFICATION CERTIFICATE



The test results included in this report are certified as:-

**ISSUE STATUS: FINAL** 

In accordance with Structural Soils Ltd Laboratory Quality Assurance Manual, Issue 6, January 2010 all results sheets and summaries of results issued by the laboratory are checked by an approved signatory. This check will also involve checking of at least 10% of calculations for each test type to ensure that data has been correctly entered into the computer and calculated. The integrity of the test data and results are ensured by control of the computer system employed by the laboratory as part of the Software Verification Program as detailed in the Laboratory Quality Assurance Manual.

This testing verification certificate covers all testing compiled on or before the following datetime: 16/11/2013 09:01:43.

Testing reported after this date is not covered by this Verification Certificate.

SPD-

#### Approved Signatory Justin Barrett (Laboratory Manager)

STRUCTURAL SOILS<br/>1a Princess Street<br/>Bedminster<br/>Bristol<br/>BS3 4AG
Contract:
Job No:

Image: Contract in the second street in the seco

#### SUMMARY OF MOISTURE CONTENT TESTS In accordance with clause 3.2 of BS1377:Part 2

Exploratory Position ID	Sample Ref	Depth (m)	Sample Type	Moisture Content (%)
CP203	8	2.20	DSPT	14
CP203	11	3.00	DSPT	12
CP203	12	3.70	D	15
CP204	4	1.20	DSPT	14
CP204	10	3.00	DSPT	12
CP204	13	4.00	DSPT	15
CP205	4	1.20	DSPT	13
CP205	7	2.20	DSPT	14
CP205	9	3.00	DSPT	13
CP205	12	3.80	DSPT	10
CP206	5	2.00	D	23
CP206	8	3.00	D	12
CP210		2.00	D	17
CP210	12	4.00	D	14
CP210		6.00	D	12
CP210	5	8.00	D	14
CP210	24	9.00	D	13
CP211	6	2.00	D	15
CP211	12	4.00	D	13
CP211	18	6.00	D	11
CP211	11	7.00	D	12
CP221	12	4.20	DSPT	32
CP221	14	5.00	DSPT	26
CP222	7	2.20	DSPT	9.4
CP222	12	4.00	DSPT	35

á

STRUCTURAL SOILS 1a Princess Street Bedminster Bristol BS3 4AG Approved Signatories: J.BARRETT A.FROST M.STOKES S.HANDCOCK

	Compi	led By		Date
soils reet	A.S. fre		ALAN FROST	15/11/13
r	Contract:		Contract Ref:	
L	East Midlands Gateway - Zo	one 1	744186	





GINT LIBRARY V8 05.GLB LibVersion: v8 05 - Lib0004 PijVersion: v8 05 - Core+Logs+Geotech Lab-Bristol - 0004 | Graph L - ALINE STANDARD - EC7 | 744186.GPJ - v8 05 | 15/11/13 - 06:34 | AF. Structural Soils Lid, Branch Office - Bristol Lab: 1a Princess Street, Bedminster, Bristol, BS3 4AG. Tel: 0117-947-1000, Fax: 0117-947-1004, Web: www.soils.co.uk, Email: ask@soils.co.uk.

# SUMMARY OF DENSITY TESTS In accordance with clause 7.2 of BS1377:Part 2:1990

Exploratory Position ID	Sample Ref	Depth (m)	Sample Type	Moisture Content (%)	Bulk Density (Mg/m <sup>3</sup> )	Dry Density (Mg/m <sup>3</sup> )
CP204	7	2.20	U	15	2.08	1.81

Approved Signatories: J.BARRETT A.FROST M.STOKES S.HANDCOCK

STRUCTURAL SOUS	Compi	led By		Date
1a Princess Street	A.S. fre		ALAN FROST	15/11/13
Bedminster	Contract:		Contract Ref:	
Bristol	East Midlands Gateway - Zo	one 1	744186	
BS3 4AG				

In accordance with clauses 3.2,4.3,4.4,5.3,5.4,7.2,8.2,8.3 of BS1377:Part 2:1990

Exploratory Position ID	Sample Ref	Sample Type	Depth (m)	Moisture Content %	Bulk Density Mg/m <sup>3</sup>	Dry Density Mg/m <sup>3</sup>	Liquid Limit %	Plastic Limit %	Plasticity Index %	% <425um	MCV (%)	% retained on 20 mm sieve	Description of Sample
CP203	5	U	1.27	13			24	17	7	100			Brown slightly sandy silty CLAY
CP203	8	DSPT	2.20	14									Reddish brown slightly sandy CLAY
CP203	11	DSPT	3.00	12									Reddish brown slightly gravelly CLAY
CP203	12	D	3.70	15									Reddish brown CLAY
CP204	4	DSPT	1.20	14									Reddish brown mottled greenish grey CLAY
CP204	7	U	2.20	15	2.08	1.81	31	16	15	100			Reddish brown slightly sandy CLAY
CP204	10	DSPT	3.00	12									Reddish brown mottled greenish grey slightly sandy CLAY
CP204	13	DSPT	4.00	15									Reddish brown slightly sandy CLAY
				Contro									Contract Dof
<i>Ma</i>	STR	UCT	URAI	-	ici.			East M	[] d] a]	Cat		. 1	

East Midlands Gateway - Zone 1

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In accordance with clauses 3.2,4.3,4.4,5.3,5.4,7.2,8.2,8.3 of BS1377:Part 2:1990

Exploratory Position ID	Sample Ref	Sample Type	Depth (m)	Moisture Content %	Bulk Density Mg/m <sup>3</sup>	Dry Density Mg/m <sup>3</sup>	Liquid Limit %	Plastic Limit %	Plasticity Index %	% <425um	MCV (%)	% retained on 20 mm sieve	Descript	ion of Sample
CP205	4	DSPT	1.20	13									Reddish brown mottled greenish g	rey CLAY
CP205	7	DSPT	2.20	14									Reddish brown mottled greenish g	rey CLAY
CP205	9	DSPT	3.00	13									Reddish brown mottled greenish g	rey CLAY
CP205	12	DSPT	3.80	10									Greenish grey mottled reddish bro	wn slightly gravelly slightly sandy
CP206	5	D	2.00	23									CLAY Reddish brown slightly sandy CLA	ΛY
CP206	8	D	3.00	12									Greenish grey mottled reddish bro	wn CLAY
CP207	4	DSPT	1.20	15									Brown mottled grey CLAY	
CP207	7	DSPT	2.10	12									Brown CLAY	
an an				Contra	ict:									Contract Ref:
	STR S(	NUCT	URAI LTD	_				East M	lidlands	Gatewa	y - Zon	e 1		744186

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In accordance with clauses 3.2,4.3,4.4,5.3,5.4,7.2,8.2,8.3 of BS1377:Part 2:1990

Exploratory Position ID	Sample Ref	Sample Type	Depth (m)	Moisture Content %	Bulk Density Mg/m <sup>3</sup>	Dry Density Mg/m <sup>3</sup>	Liquid Limit %	Plastic Limit %	Plasticity Index %	% <425um	MCV (%)	% retained on 20 mm sieve	Description of Sample
CP207	9	DSPT	2.70	12									Brown CLAY
CP210	3	U	1.57	17			39	17	22	92			Reddish brown mottled grey slightly gravelly CLAY
CP210		D	2.00	17									Reddish brown slightly sandy CLAY
CP210	9	U	3.06	19			34	17	17	74			Brown slightly sandy slightly gravelly CLAY
CP210	12	D	4.00	14									Reddish brown CLAY
CP210	14	TI	5.00	12			31	16	15	60			Brown clightly candy clightly gravally CLAV
	17		5.00	12			51	10	15	07			
CP210		D	6.00	12									Reddish brown CLAY
CP210	5	D	8.00	14									Reddish brown slightly sandy CLAY
A				Contra	ict:								Contract Ref:
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East Midlands Gateway - Zone 1

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In accordance with clauses 3.2,4.3,4.4,5.3,5.4,7.2,8.2,8.3 of BS1377:Part 2:1990

Exploratory Position ID	Sample Ref	Sample Type	Depth (m)	Moisture Content %	Bulk Density Mg/m <sup>3</sup>	Dry Density Mg/m <sup>3</sup>	Liquid Limit %	Plastic Limit %	Plasticity Index %	% <425um	MCV (%)	% retained on 20 mm sieve	Description of Sample
CP210	24	D	9.00	13									Reddish brown CLAY
CP211	6	D	2.00	15									Reddish brown CLAY
CP211	12	D	4.00	13									Reddish brown slightly sandy CLAY
CP211	18	D	6.00	11									Reddish brown mottled greenish grey CLAY
CP211	11	D	7.00	12									Reddish brown CLAY
CP221	9	U	3.35	40			61	26	35	100			Reddish brown slightly sandy CLAY
CP221	12	DSPT	4.20	32									Reddish brown CLAY
CP221	14	DSPT	5.00	26									Reddish brown CLAY
<u>_</u>				Contra	ict:								Contract Ref:
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East Midlands Gateway - Zone 1

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In accordance with clauses 3.2,4.3,4.4,5.3,5.4,7.2,8.2,8.3 of BS1377:Part 2:1990

Exploratory Position ID	Sample Ref	Sample Type	Depth (m)	Moisture Content %	Bulk Density Mg/m <sup>3</sup>	Dry Density Mg/m <sup>3</sup>	Liquid Limit %	Plastic Limit %	Plasticity Index %	% <425um	MCV (%)	% retained on 20 mm sieve	Description of Sample
CP222	7	DSPT	2.20	9.4									Reddish brown mottled greenish grey silty sandy GRAVEL
CP222	9	U	3.42	32			35	26	9	98			Brown slightly gravelly slightly sandy SILT
CP222	12	DSPT	4.00	35									Reddish brown CLAY
TP301		В	0.70	23			25	15	10	93			Reddish brown slightly gravelly slightly sandy silty CLAY
TP302		В	1.60	14			29	15	14	23			Brown slightly gravelly slightly sandy silty CLAY with high cobble
													content
TP321		В	2.70	12			31	18	13	17			Brown slightly sandy slightly silty very gravelly COBBLES
TP322	1	LB	2.20	14			27	16	11	73	9.8	59	Brown mottled grey slightly sandy gravelly CLAY
TP324	1	LB	2.00	16			32	18	14	78	9.9	0	Brown slightly gravelly slightly sandy silty CLAY



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GINT\_LIBRARY\_V8\_05.GLB : L - SUMMARY OF CLASSIFICATION TESTS EC7 : 744186.GPJ : 15/11/13 06:41 : AF

In accordance with clauses 3.2,4.3,4.4,5.3,5.4,7.2,8.2,8.3 of BS1377:Part 2:1990

Exploratory Position ID	Sample Ref	Sample Type	Depth (m)	Moisture Content %	Bulk Density Mg/m <sup>3</sup>	Dry Density Mg/m <sup>3</sup>	Liquid Limit %	Plastic Limit %	Plasticity Index %	% <425um	MCV (%)	% retained on 20 mm sieve	Description of Sample
TP326	1	LB	1.50	15			24	15	9	100			Brown slightly gravelly sandy silty CLAY
TP327	1	LB	1.20	23			36	21	15	77			Reddish brown slightly gravelly slightly sandy CLAY
TP328	1	LB	2.10	14			30	19	11	62			Reddish brown slightly gravelly slightly sandy silty CLAY
an a				Contra	ct:								Contract Ref:
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GINT\_LIBRARY\_V8\_05.GLB LibVersion: v8\_05 - Lib0004 PrJVersion: v8\_05 - Core+Logs+Geotech Lab-Bristol - 0004 | Graph L - PSD - EC7 | 744186.GPJ - v8\_05 | 15/11/13 - 06.42 | AF. Structural Soils Lid, Branch Office - Bristol Lab: 1a Princess Street, BedminsTer, Bristol, BS3 4AG. Tet: 0117-947-1000, Fax: 0117-947-1004, Web: www.soils.co.uE, Email: ask@soils.co.uk.
























1.50

In accordance with clause 5.5 of BS1377:Part 4:1990

Trial Pit : **TP326**Sample Ref: 1Sample Type:LBDepth (m):

Percentage retained on 20mm sieve : 0

Description : Brown slightly gravelly sandy silty CLAY

Test Number	1	2	3	4	5
Moisture Content	15.0	16.3	17.7	13.3	-
MCV	9.0	6.8	4.2	10.8	-



In accordance with clause 5.5 of BS1377:Part 4:1990

Trial Pit : TP327Sample Ref:1Sample Type:LBDepth (m):1.20

Percentage retained on 20mm sieve : 2

Description : Reddish brown slightly gravelly slightly sandy CLAY

Test Number	1	2	3	4	5
Moisture Content	18.8	20.2	20.9	17.3	-
MCV	9.0	7.3	5.2	11.7	-



In accordance with clause 5.5 of BS1377:Part 4:1990

Trial Pit : TP327Sample Ref:1Sample Type:LBDepth (m):2.60

Percentage retained on 20mm sieve : 58

Description : Reddish brown sandy very silty GRAVEL with high cobble content

Test Number	1	2	3	4	5
Moisture Content	14.0	12.5	16.0	16.5	-
MCV	9.7	11.4	7.2	3.6	-



In accordance with clause 5.5 of BS1377:Part 4:1990

Trial Pit : TP328Sample Ref:1Sample Type:LBDepth (m):2.10

Percentage retained on 20mm sieve : 9

Description : Reddish brown slightly gravelly slightly sandy silty CLAY

Test Number	1	2	3	4	5
Moisture Content	15.6	16.9	18.2	14.7	-
MCV	10.9	7.9	4.8	12.6	-







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## SUMMARY OF LABORATORY HAND PENETROMETER & VANE TEST RESULTS

Exploratory Position ID	Sample Ref	Samp Typ	ple I be	Depth (m)	Moisture Content (%)	Vane Type	Average Reading (kPa)	De	Sample escription
CP204	7	U		2.20	15	HVP	134	Reddish brown slightly sandy Cl	LAY
: HVP = Hand	Vane (Peak), HVR	= Hand Va	ine (Remoulded)	), $PP = Pocl$	ket Penetrometer.		Apr	proved Signatories: J.BARRETT A	.FROST M.STOKES S.HANDC
STR	UCTURAL S	OILS			Comp	iled By		Date	Contract Ref:
	a Princess Stre	et	A-9	. fre		A	LAN FROST	15.11.13	
Bedminster Contract: Bristol BS3 4AG							744186		

GINT\_LIBRARY\_V8\_05.GLB : L - SUMMARY OF VANE TESTS : 744186.GPJ : 15/11/13 06:59 : AF

In accordance with BS1377:Part 7:1990, Clause 9

Position ID : CP203 Sample Ref: 5 Sample Type: U Depth (m): 1.35

Description : Brown slightly sandy silty CLAY



In accordance with BS1377:Part 7:1990, Clause 9

Position ID : CP210 Sample Ref: 3 Sample Type: U Depth (m): 1.37

Description : Reddish brown mottled grey slightly gravelly CLAY



In accordance with BS1377:Part 7:1990, Clause 9

Position ID : CP210 Sample Ref: 9 Sample Type: U Depth (m): 3.15

Description : Brown mottled grey slightly sandy CLAY



In accordance with BS1377:Part 7:1990, Clause 9

Position ID : CP210 Sample Ref: 14 Sample Type: U Depth (m): 5.10

Description : Brown slightly sandy slightly gravelly CLAY



In accordance with BS1377:Part 7:1990, Clause 9

Position ID : CP210 Sample Ref: 19 Sample Type: U Depth (m): 7.00

Description : Reddish brown mottled grey CLAY



In accordance with BS1377:Part 7:1990, Clause 9

Position ID : CP211 Sample Ref: 9 Sample Type: U Depth (m): 3.00

Description : Reddish brown mottled grey slightly sandy CLAY



In accordance with BS1377:Part 7:1990, Clause 9

Position ID : CP211 Sample Ref: 15 Sample Type: U Depth (m): 5.01

Description : Reddish brown mottled grey slightly sandy CLAY



In accordance with BS1377:Part 7:1990, Clause 9

Position ID : CP216 Sample Ref: 3 Sample Type: U Depth (m): 1.20

Description : Brown mottled grey CLAY

Remarks : Non-standard height

	STAGE NUMBER						1			2 3					
	SAMPLE DETAILS	Sample Condition					Undi	sturbed							1
		Orientation of samp	ole				Ve	rtical							
		Diameter			(r	nm)	10	3.45							7
		Height			(r	nm)	17	8.75							
		Moisture Content				(%)		15							
		Bulk Density			(Mg/	<sup>/</sup> m <sup>3</sup> )	2	.11							
		Dry Density			(Mg/	<sup>/</sup> m <sup>3</sup> )	1	.83							
	TEST DETAILS	Membrane Thickne	SS		(r	nm)	0	.64		0.	64		0.64		
		Rate of Axial Displ	acement (%/min)				1	.40		1.	40		1.40		
		Cell Pressure	(kPa)					50		10	00		200		
		Membrane Correcti	on		(k	(Pa	1	.49		1.	91		2.35		
		Corrected Deviator	Stress		(k	(Pa	2	207		28	80		401		
		Undrained Shear St	rength		(k	(Pa	1	103		14	40		200		
		Strain at Failure				(%)	1	0.6		15	5.1		19.9		
		Mode of Failure										C	ompou	Ind	
	Key: ———	Stage 1	_			s	tage 2						Stage 3	3	
450															
400															-
350												+			
<b>5</b> 300															-
								+		Ī					
250					/	/									
<b>b</b> <sup>200</sup>												+			-
150															
100												<u> </u>			_
50												+		<u> </u>	-
0															
Ū	0 2	4 6	8	1	0		12	14			16	1	8		20
				Straiı	1 (%)										
			1	Appro	oved Sig	gnator	ries: J.E	BARRET	TA.	FROS	T M.S	TOKES	S S.HA	ND	COCK
_							Com	piled By	/						Date
$\mathbb{A}$	8 1a Prind	cess Street		M. 9	Stp	5				MA	TT ST	OKES			15/11/
	Bedi Bi Bi Bi	Contract East N	Aidlar	nds C	Gate	way -	Zon	e 1	Cont	ract Re	f: <b>74</b> 4	4186		AG	

In accordance with BS1377:Part 7:1990, Clause 9

Position ID : CP218 Sample Ref: 4 Sample Type: U Depth (m): 2.06

Description : Reddish brown slightly gravelly sandy CLAY



In accordance with BS1377:Part 7:1990, Clause 9

Position ID : CP220 Sample Ref: 5 Sample Type: U Depth (m): 1.28

Description : Brown mottled grey and light brown slightly gravelly slightly sandy CLAY



In accordance with BS1377:Part 7:1990, Clause 9

Position ID : CP221 Sample Ref: 9 Sample Type: U Depth (m): 3.14

Description : Reddish brown slightly sandy CLAY



In accordance with BS1377:Part 7:1990, Clause 9

Position ID : CP222 Sample Ref: 9 Sample Type: U Depth (m): 3.10

Description : Brown slightly gravelly slightly sandy SILT



(International Society for Rock Mechanics : 1985)

Exploratory Position ID	Depth (m)	Type of Test	Width or Length (W or L) (mm)	Platen Separation (D) (mm)	Failure Load (P) (kN)	Equivalent Diameter (D <sub>e</sub> ) (mm)	Point Load (I <sub>s</sub> ) (MN/m <sup>2</sup> )	Size Factor (F)	Point Load Index $(I_{s(50)})$ $(MN/m^2)$	Moisture Content (%)	Rock Type	
CP206	1.50	А	86	50	1.419	74	0.26	1.19	0.31	12	MUDSTONE	
CP206	1.50	A	61	18	0.239	37	0.17	0.88	0.15	12	MUDSTONE	
CP206	1.50	Α	65	15	0.098	35	0.08	0.85	0.07	12	MUDSTONE	
$\mathbf{K}_{\text{ev}} \cdot \mathbf{A} = \mathbf{A}_{\text{vial}} \mathbf{\Gamma}$	aver A = Avial D = Diametral I = Irramular D = Diagle I = Darallal to planas of washings D = Darmondiaular to planas of washings - doubted Non Standard Test											
Key . M Tixiai, E		regular, E	Dioex, E Taran	er to planes of wear		cular to planes		ved Signatorie	s <sup>.</sup> JBARRETT	A FROST MS	STOKES S HANDCOCK	
STF	STRUCTURAL SOILS Compiled By Date						Contract Re	f:				
	a Princess Str	eet	A - D .	he		ALAN FROST			15.11.13			
Image: Weight of the sector							744186					

GINT\_LIBRARY\_V8\_05.GLB : L - SUMMARY OF POINT LOAD INDEX TEST : 744186.GPJ : 15/11/13 07:31 : AF

## SUMMARY OF CHEMICAL ANALYSES

Exploratory Position ID	Sample Ref	Sample Type	Depth (m)	Acid Soluble Sulphate (% SO <sub>4</sub> )	Aqueous Extract Sulphate (mg/l SO <sub>4</sub> )	рН	Total Sulphur (%)	Description		
TP326	1	LB	1.50	< 0.02	19	7.91	< 0.01	Brown slightly gravelly sandy silty CLAY		
NOTES:-	All chemic	al tests we	re undertak	en by Envir	olab.	<u> </u>	I	1		
			COLLC				C	Approved Signatories: J.BA	Date	Contract Ref:
	1a Pri	incess S	treet		A.D. L	ALAN FROST 15.11.13				
<u>f</u> ff	Bedminster Bristol BS3 4AG								744186	

GINT\_LIBRARY\_V8\_05.GLB : L - SUMMARY OF CHEMICAL ANALYSES : 744186.GPJ : 15/11/13 07:07 : AF



Edinburgh Road Springhill Shotts ML7 5DT

LABORATORY TEST CERTIFICATE MATERIALS LABORATORY

Certificate NO	Certific	ate No
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13/889 - 01

To :

Client :

Mr Mark Athorne

Structural Soils Limited The Potteries Pottery Street Castleford WF10 1NJ Tel: 01501 822 244 Fax 01501 825 044

email: info@mattest.org Website: www.mattest.org

Dear Sirs,

#### LABORATORY TESTING OF ROCK

#### Introduction

We refer to samples taken from East Midlands Gateway, Zone 1 and delivered to our laboratory on the 18th November 2013.

#### **Material & Source**

Sampled By	:	Client
Test Reference	:	See Report Plates
Description	:	N/A
Date Sampled	:	Not Supplied
Date Tested	:	18th November 2013 Onwards
Source	:	East Midlands Gateway - Zone 1

#### Test Results;

As Detailed On Page 2 to Page 4 inclusive.

#### Comments;

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation This report should not be reproduced except in full without the written approval of the laboratory All remaining samples for this project will be disposed of 28 days after issue of this test certificate

#### Remarks;

Approved for Issue

Date

29/11/2013



Laboratory Manager

C Ferrie

#### STRUCTURAL SOILS LIMITED EAST MIDLANDS GATEWAY - ZONE 1



BOREHOLE	SAMPLE	DEPTH (m)	MOISTURE CONTENT (%)	BULK DENSITY (Mg/m <sup>3</sup> )	DRY DENSITY (Mg/m <sup>3</sup> )
CP(R)203	-	6.40	9.9	2.38	2.17
CP(R)203	-	12.10	6.7	2.41	2.26
CP(R)203	-	18.60	4.4	2.41	2.31
CP(R)203	-	23.83	9.3	2.45	2.24
CP(R)206	-	7.57	10.1	2.25	2.04

Tested in accordance with "ISRM Suggested Methods"

### SUMMARY OF MOISTURE CONTENT AND DENSITY TEST RESULTS



BOREHOLE CORE RUNmmDEPTHSAMPLE DIAMETERmmSAMPLE HEIGHTmmWATER CONTENT%TEST CONDITION%RATE OF LOADINGkN/sTEST DURATIONmin.secDATE OF TESTINGLOAD FRAME USEDLOAD FRAME USEDkNLOAD DIRECTION WITH RESPECT TO LITHOLOGYKNFAILURE LOADkNUNCONFINED COMPRESSIVE STRENGTHMPa	CP(R)203 - 6.40 85.96 136.32 9.9 As received 0.1 4.00 20-Nov-13 50kN Perpendicular 18.8 3.2	SAMPLE FAILURE SHAPES
--	--	-----------------------

Test specimen does not meet specified length / diameter ratio requirements

BOREHOLE   CORE RUN   DEPTH   SAMPLE DIAMETER   MATER CONTENT   WATER CONTENT   WATER CONTENT   RATE OF LOADING   KN/s   TEST DURATION   DATE OF TESTING   LOAD FRAME USED   LOAD DIRECTION WITH RESPECT TO LITHOLOGY   FAILURE LOAD kN   UNCONFINED COMPRESSIVE STRENGTH MPa	CP(R)203 - 12.10 85.75 192.80 6.7 As received 0.2 4.05 20-Nov-13 50kN Perpendicular 39.0 6.8	SAMPLE FAILURE SHAPES
---	---	-----------------------

BOREHOLE CORE RUNDEPTHSAMPLE DIAMETERMMSAMPLE HEIGHTWATER CONTENT%TEST CONDITIONRATE OF LOADINGKN/sTEST DURATIONDATE OF TESTINGLOAD FRAME USEDLOAD DIRECTION WITH RESPECT TO LITHOLOGYFAILURE LOADKNUNCONFINED COMPRESSIVE STRENGTH	CP(R)203 - 18.60 86.30 194.80 4.4 As received 0.2 5.00 20-Nov-13 2000kN Perpendicular 72.6 12.4	SAMPLE FAILURE SHAPES
--	--	-----------------------

Tested in accordance with ASTM D7012 - 10

#### SUMMARY OF UNCONFINED COMPRESSIVE STRENGTH



BOREHOLE CORE RUNmmDEPTHmmSAMPLE DIAMETERmmSAMPLE HEIGHTmmWATER CONTENT%TEST CONDITION%RATE OF LOADINGkN/sTEST DURATIONmin.setDATE OF TESTINGLOAD FRAME USEDLOAD FRAME USEDLOAD DIRECTION WITH RESPECT TO LITHOLOGYFAILURE LOADkNUNCONFINED COMPRESSIVE STRENGTHMPa	CP(R)203 - 23.83 86.55 196.09 9.3 As received 0.3 4.41 20-Nov-13 2000kN Perpendicular 66.6 11.3	SAMPLE FAILURE SHAPES
--	--	-----------------------

BOREHOLE CORE RUN DEPTHmmSAMPLE DIAMETERmmSAMPLE HEIGHTmmWATER CONTENT%TEST CONDITION RATE OF LOADINGkN/sTEST DURATIONmin.sedDATE OF TESTING LOAD FRAME USEDmin.sedLOAD FRAME USEDkNLOAD DIRECTION WITH RESPECT TO LITHOLOGYKNFAILURE LOADkNUNCONFINED COMPRESSIVE STRENGTHMPa	CP(R)206 - 7.57 86.73 149.31 10.1 As received 0.1 14.14 20-Nov-13 2000kN Perpendicular 124.3 21.0	SAMPLE FAILURE SHAPES
--	--	-----------------------

Test specimen does not meet specified length / diameter ratio requirements



Tested in accordance with ASTM D7012 - 10

SUMMARY OF UNCONFINED COMPRESSIVE STRENGTH

Page 4 of 4

(International Society for Rock Mechanics : 1985)

Exploratory Position ID	Depth (m)	Type of Test	Width or Length (W or L) (mm)	Platen Separation (D) (mm)	Failure Load (P) (kN)	Equivalent Diameter (D <sub>e</sub> ) (mm)	Point Load (I <sub>s</sub> ) (MN/m <sup>2</sup> )	Size Factor (F)	Point Load Index (I <sub>s(50)</sub> ) (MN/m <sup>2</sup> )	Moisture Content (%)	Rock Type
CP(R)203	27.02	D	107.5	85	1.015	85	0.14	1.27	0.18	8.4	SANDSTONE
CP(R)203	27.02	A	85	60	0.565	81	0.09	1.24	0.11	8.4	SANDSTONE
CP(R)203	28.35	D	52.645	86.4	1.870	86	0.25	1.28	0.32	5.7	MUDSTONE
CP(R)203	28 35	A	86.4	40 29	1 170	67	0.26	1 14	0.30	5.7	MUDSTONE
				10.27			0.20	1.11			
CP(R)204	8.25	D	62.365	85.87	0.240	86	0.03	1.28	0.04	11	MUDSTONE
CP(R)204	8.25	A	85.87	66.22	0.190	85	0.03	1.27	0.03	11	MUDSTONE
CP(R)204	12.90	A	87.41	69.47	1.640	88	0.21	1.29	0.27	8.8	MUDSTONE
CP(R)204	18.87	D	57.475	86.75	2.320	87	0.31	1.28	0.40	7.4	MUDSTONE
$\overline{ : A = Axial, D}$	= Diametral, I = Ir	regular, B	= Block, L = Paralle	el to planes of weal	kness, P = Perpendi	icular to planes	of weakness. [N	sj denotes Non	Standard Test.	ZCONI M EIGUI	
STRUCTURAL SOILS The Potteries			Compiled By Date					Date	Contract Re	f:	
		5	M. Fisher . MAUREEN FISHER 29.11.13								
<b>S</b> W. Y	Pottery Stree Castleford Yorkshire WF	t 10 1NJ	Contract: East Midlands Gateway - Zone 1								781044

GINT\_LIBRARY\_V8\_05.GLB: L - SUMMARY OF POINT LOAD INDEX TEST: 781044 - EAST MIDLANDS GATEWAY.GPJ: 29/11/13 16:39 : MF

(International Society for Rock Mechanics : 1985)

Exploratory Position ID	Depth (m)	Type	Width or Length	Platen Separation	Failure Load	Equivalent Diameter	Point Load	Size Factor	Point Load Index	Moisture Content	Rock
	(111)	Test	(W or L) (mm)	(D) (mm)	$(\mathbf{P})$ $(\mathbf{kN})$	$(D_e)$ (mm)	$(MN/m^2)$	(F)	$(I_{s(50)})$ (MN/m <sup>2</sup> )	(%)	Type
CP(R)204	18.87	A	86.75	53.79	1.445	77	0.24	1.22	0.30	7.4	MUDSTONE
CP(R)205	8.58	D	60.11	86.31	0.780	86	0.10	1.28	0.13	8.2	MUDSTONE
CP(R)205	8.58	A	86.31	42	1.080	68	0.23	1.15	0.27	8.2	MUDSTONE
CP(R)205	9.70	D	119	85	1.600	85	0.22	1.27	0.28	7.6	MUDSTONE
CP(R)205	9.70	A	85	52.92	1.305	76	0.23	1.21	0.27	7.6	MUDSTONE
CP(R)205	10.92	D	67.72	86.24	2.130	86	0.29	1.28	0.37	8.5	MUDSTONE
CP(R)205	10.92	A	86.24	58.1	2.440	80	0.38	1.23	0.47	8.5	MUDSTONE
CP(R)206	6.61	D	44.22	86.59	2.825	87	0.38	1.28	0.48	9.6	MUDSTONE
: A = Axial, D	= Diametral, I = Ir	regular, B	= Block, L = Paralle	el to planes of weal	kness, P = Perpendi	cular to planes	of weakness. [N	<sub>s]</sub> denotes Non	Standard Test.		
				Approved Sig	natories: J.BARRE	TT M.ATHOR	NE A.FROST	M.RANDER	SON R.CLARI	KSON M.FISHE	ER C.COLE M.STC
STRUCTURAL SOILS			A 4	Galas	Compiled By	MAUDEEN EISHED			20 11 12		•
<b>j</b> W V	Pottery Street Castleford W Vorkshire WE10 1NU Contract: Contract: East Midlands Gateway - Zone 1								781044		

GINT\_LIBRARY\_V8\_05.GLB : L - SUMMARY OF POINT LOAD INDEX TEST : 781044 - EAST MIDLANDS GATEWAY.GPJ : 29/11/13 16:39 : MF

(International Society for Rock Mechanics : 1985)

Exploratory Position ID	Depth (m)	Type of Test	Width or Length (W or L) (mm)	Platen Separation (D) (mm)	Failure Load (P) (kN)	Equivalent Diameter (D <sub>e</sub> ) (mm)	Point Load (I <sub>s</sub> ) (MN/m <sup>2</sup> )	Size Factor (F)	Point Load Index (I <sub>s(50)</sub> ) (MN/m <sup>2</sup> )	Moisture Content (%)	Rock Type
CP(R)206	6.61	А	86.59	28.16	3.010	56	0.97	1.05	1.02	9.6	MUDSTONE
CP(R)206	12.72	D	65.9	86.57	3.155	87	0.42	1.28	0.54	5.9	MUDSTONE
CP(R)206	12.72	A	86.57	62.92	3.255	83	0.47	1.26	0.59	5.9	MUDSTONE
CP(R)207	9.40	D	52.08	86.4	0.790	86	0.11	1.28	0.14	8.6	MUDSTONE
CP(R)207	9.40	A	86.4	42.65	1.170	68	0.25	1.15	0.29	8.6	MUDSTONE
CP(R)207	16.64	D	63.225	86.3	0.940	86	0.13	1.28	0.16	6.7	MUDSTONE
CP(R)207	16.64	A	86.3	56.13	2.465	79	0.40	1.23	0.49	6.7	MUDSTONE
CP(R)207	24.15	D	43.955	86.1	0.370	86	0.05	1.28	0.06	7.1	MUDSTONE
: A = Axial, D	= Diametral, I = Ir	regular, B	= Block, L = Paralle	el to planes of weal	kness, P = Perpendi	icular to planes	of weakness. [N	sj denotes Non	Standard Test.		
			Compiled By Date						Contract Rei	ON M.FISHER C.COLE M.STO	
The Potteries		$\frac{1}{5}$	M.	M. Fisher MAUREEN FISHER 29.11					29.11.13	,	
<b>S</b> W. Y	Pottery Stree Castleford orkshire WF	t 10 1NJ	Contract: East Midlands Gateway - Zone 1								781044

GINT\_LIBRARY\_V8\_05.GLB: L - SUMMARY OF POINT LOAD INDEX TEST: 781044 - EAST MIDLANDS GATEWAY.GPJ: 29/11/13 16:39 : MF

(International Society for Rock Mechanics : 1985)

Exploratory Position ID	Depth (m)	Type of Test	Width or Length (W or L) (mm)	Platen Separation (D) (mm)	Failure Load (P) (kN)	Equivalent Diameter (D <sub>e</sub> ) (mm)	Point Load (I <sub>s</sub> ) (MN/m <sup>2</sup> )	Size Factor (F)	Point Load Index (I <sub>s(50)</sub> ) (MN/m <sup>2</sup> )	Moisture Content (%)	Rock Type	
CP(R)207	24.15	A	86.1	45.15	0.910	70	0.18	1.17	0.21	7.1	MUDSTONE	
CP(R)208	7.40	D	50	85	0.965	85	0.13	1.27	0.17	9.5	MUDSTONE	
CP(R)208	7.40	A	85	36	0.630	62	0.16	1.10	0.18	9.5	MUDSTONE	
CP(R)208	9.98	D	51.44	86.89	1.955	87	0.26	1.28	0.33	8.0	MUDSTONE	
CP(R)208	9.98	Δ	86.89	45.04	1 115	71	0.22	1 17	0.26	8.0	MUDSTONE	
	7.76		00.07	13.01	1.115	/1	0.22	1.17	0.20	0.0		
CP(R)208	11.22	D	48.285	86.22	4.625	86	0.62	1.28	0.80	12	MUDSTONE	
CP(R)208	11.22	A	86.22	48.13	5.250	73	0.99	1.18	1.18	12	MUDSTONE	
y : A = Axial, D	= Diametral, I = Ir	regular, B	= Block, L = Paralle	el to planes of weal	kness, P = Perpendi	icular to planes	of weakness.	sı denotes Non	Standard Test.			
			·	Approved Sig	natories: J.BARRE	ETT M.ATHOF	NE A.FROST	M.RANDER	SON R.CLAR	KSON M.FISHI	ER C.COLE M.STOKE	
STRUCTURAL SOILS The Potteries Pottery Street		SOILS		2	Compiled By	/ D			Date	Contract Re	f:	
		s t	M.	M. Fisher . MAUREEN FISHER 29.11.13					_	701011		
<b>599</b> <sub>W. Y</sub>	Castleford orkshire WF	10 1NJ	East Midlands Gateway - Zone 1								/81044	

GINT\_LIBRARY\_V8\_05.GLB: L - SUMMARY OF POINT LOAD INDEX TEST: 781044 - EAST MIDLANDS GATEWAY.GPJ: 29/11/13 16:39 : MF



# APPENDIX H CHEMICAL LABORATORY CERTIFICATES FOR SOIL ANALYSIS


## FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: Issue Number: 13/04787 1

Date: 24 October, 2013

**Client:** 

RSK Environment Ltd Coventry Humber Road, Abbey Park Coventry UK CV3 4AQ

Project Manager: Project Name: Project Ref: Order No: Date Samples Received: Date Instructions Received: Date Analysis Completed: Darren Bench / Mariah Hocking / Marc Dixon East Midlands Gateway Zone 1 312494 Not specified 02/10/13 10/10/13 24/10/13

## **Prepared by:**

Manshall

Melanie Marshall Laboratory Coordinator Approved by:

Liz Oliver Client Service Manager





### Client Project Name: East Midlands Gateway Zone 1

					Client	Project Ref	: 312494			
Lab Sample ID	13/04787/1	13/04787/2	13/04787/3	13/04787/4	13/04787/5	13/04787/6	13/04787/7	13/04787/8		
Client Sample No										
Client Sample ID	TP310	TP314	TP323	TP324	TP316	TP319	TP326	TP328		
Depth to Top	0.80	0.60	0.50	0.10	0.10	0.10	0.60	0.15		
Depth To Bottom	0.90	0.70		0.20	0.20	0.20	0.70	0.25		
Date Sampled	25-Sep-13	25-Sep-13	24-Sep-13	24-Sep-13	26-Sep-13	26-Sep-13	24-Sep-13	24-Sep-13		ef
Sample Type	Soil - ES	Soil - ES	Soil - ES	6	n boi					
Sample Matrix Code	5	5	3	6E	6E	6E	6E	6E	Units	Meth
pH <sub>D</sub> <sup>M#</sup>	6.36	7.46	7.98	4.96	5.66	8.30	7.00	7.08	pН	A-T-031s
Total Organic Carbon <sub>D</sub> <sup>M#</sup>	0.41	0.29	0.19	-	1.64	-	0.36	-	% w/w	A-T-032s
Arsenic <sub>D</sub> <sup>#</sup>	3	1	2	4	4	3	2	5	mg/kg	A-T-024
Cadmium <sub>D</sub> <sup>M#</sup>	<0.5	0.7	1.0	0.5	0.7	0.7	0.5	0.6	mg/kg	A-T-024
Copper <sub>D</sub> <sup>M#</sup>	10	14	28	19	17	12	16	21	mg/kg	A-T-024
Chromium <sub>D</sub> #	20	45	57	25	30	40	30	26	mg/kg	A-T-024
Chromium (hexavalent) <sub>D</sub>	<1	<1	<1	<1	<1	<1	<1	<1	mg/kg	A-T-040s
Lead <sub>D</sub> <sup>M#</sup>	11	10	8	25	27	54	9	56	mg/kg	A-T-024
Mercury <sub>D</sub>	<0.17	0.22	0.30	0.24	0.21	0.27	<0.17	0.37	mg/kg	A-T-024
Nickel <sub>d</sub> #	12	28	44	15	21	26	19	22	mg/kg	A-T-024
Selenium <sub>p</sub> #	<1	<1	1	<1	<1	<1	<1	<1	mg/kg	A-T-024
Zinc <sub>D</sub> <sup>M#</sup>	52	102	77	64	71	76	52	77	mg/kg	A-T-024
Asbestos in Soil (inc. matrix)										
Asbestos in soil <sub>D</sub> <sup>#</sup>	-	NAD	-	-	-	NAD	-	-		A-T-045
Asbestos Matrix (visual) <sub>A</sub>	-	N/A	-	-	-	N/A	-	-		Visual
Asbestos Matrix (microscope) <sub>D</sub>	-	N/A	-	-	-	N/A	-	-		A-T-045
,	-	-							•	•



## Client Project Name: East Midlands Gateway Zone 1

Lab Sample ID	13/04787/1	13/04787/2	13/04787/3	13/04787/4	13/04787/5	13/04787/6	13/04787/7	13/04787/8		
Client Sample No										
Client Sample ID	TP310	TP314	TP323	TP324	TP316	TP319	TP326	TP328		
Depth to Top	0.80	0.60	0.50	0.10	0.10	0.10	0.60	0.15		
Depth To Bottom	0.90	0.70		0.20	0.20	0.20	0.70	0.25		
Date Sampled	25-Sep-13	25-Sep-13	24-Sep-13	24-Sep-13	26-Sep-13	26-Sep-13	24-Sep-13	24-Sep-13		ef
Sample Type	Soil - ES	ø	u pou							
Sample Matrix Code	5	5	3	6E	6E	6E	6E	6E	Unit	Meth
Pest-c										
Mevinphos	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
Dichlorvos	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
alpha-Hexachlorocyclohexane (HCH)	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
Diazinon	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
gamma-Hexachlorocyclohexane (HCH / Lindane)	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
Heptachlor	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
Aldrin	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
beta-Hexachlorocyclohexane (HCH)	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
Methyl Parathion	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
Malathion	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
Fenitrothion	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
Heptachlor Epoxide	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
Parathion (Ethyl Parathion)	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
p,p-DDE	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
p,p-DDT	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
p,p-Methoxychlor	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
p,p-TDE (DDD)	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
o,p-DDE	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
o,p-DDT	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
o,p-Methoxychlor	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
o,p-TDE (DDD)	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
Endosulphan I	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
Endosulphan II	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
Endosulphan Sulphate	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
Endrin	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
Ethion	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
Dieldrin	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon
Azinphos-methyl	-	-	-	<50	-	<50	-	<50	µg/kg	Subcon



## Client Project Name: East Midlands Gateway Zone 1

Lab Sample ID	13/04787/1	13/04787/2	13/04787/3	13/04787/4	13/04787/5	13/04787/6	13/04787/7	13/04787/8		
Client Sample No										
Client Sample ID	TP310	TP314	TP323	TP324	TP316	TP319	TP326	TP328		
Depth to Top	0.80	0.60	0.50	0.10	0.10	0.10	0.60	0.15		
Depth To Bottom	0.90	0.70		0.20	0.20	0.20	0.70	0.25		
Date Sampled	25-Sep-13	25-Sep-13	24-Sep-13	24-Sep-13	26-Sep-13	26-Sep-13	24-Sep-13	24-Sep-13		ef
Sample Type	Soil - ES	s	n bot							
Sample Matrix Code	5	5	3	6E	6E	6E	6E	6E	Unit	Meth
PAH 16										
Acenaphthene <sub>A</sub> <sup>M#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-019s
Acenaphthylene <sub>A</sub> <sup>M#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-019s
Anthracene <sub>A</sub> <sup>M#</sup>	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	A-T-019s
Benzo(a)anthracene <sub>A</sub> <sup>M#</sup>	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	A-T-019s
Benzo(a)pyrene <sub>A</sub> <sup>M#</sup>	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.04	mg/kg	A-T-019s
Benzo(b)fluoranthene <sub>A</sub> <sup>M#</sup>	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	A-T-019s
Benzo(ghi)perylene <sub>A</sub> <sup>M#</sup>	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	A-T-019s
Benzo(k)fluoranthene <sub>A</sub> <sup>M#</sup>	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	A-T-019s
Chrysene <sub>A</sub> <sup>M#</sup>	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	mg/kg	A-T-019s
Dibenzo(ah)anthracene <sub>A</sub> <sup>M#</sup>	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	A-T-019s
Fluoranthene <sub>A</sub> <sup>M#</sup>	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	mg/kg	A-T-019s
Fluorene <sup>A<sup>M#</sup></sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-019s
Indeno(123-cd)pyrene <sub>A</sub> <sup>M#</sup>	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	A-T-019s
Naphthalene <sub>A</sub> <sup>M#</sup>	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	A-T-019s
Phenanthrene <sup>A<sup>M#</sup></sup>	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	mg/kg	A-T-019s
Pyrene <sub>A</sub> <sup>M#</sup>	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	A-T-019s
PAH (total 16) <sub>A</sub> <sup>M#</sup>	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.09	mg/kg	A-T-019s



### Client Project Name: East Midlands Gateway Zone 1

•	
Client Project Ref: 312494	

Lab Sample ID	13/04787/1	13/04787/2								
		13/04/07/2	13/04787/3	13/04787/4	13/04787/5	13/04787/6	13/04787/7	13/04787/8		
Client Sample No										
Client Sample ID	TP310	TP314	TP323	TP324	TP316	TP319	TP326	TP328		
Depth to Top	0.80	0.60	0.50	0.10	0.10	0.10	0.60	0.15		
Depth To Bottom	0.90	0.70		0.20	0.20	0.20	0.70	0.25		
Date Sampled	25-Sep-13	25-Sep-13	24-Sep-13	24-Sep-13	26-Sep-13	26-Sep-13	24-Sep-13	24-Sep-13		ef
Sample Type	Soil - ES	ø	n bot							
Sample Matrix Code	5	5	3	6E	6E	6E	6E	6E	Unit	Meth
Triazines (x11)										
Ametryne	-	-	-	<0.2	-	<0.2	-	<0.2	mg/kg	Subcon
Atraton	-	-	-	<0.2	-	<0.2	-	<0.2	mg/kg	Subcon
Atrazine	-	-	-	<0.02	-	<0.02	-	<0.02	mg/kg	Subcon
Cyanazine	-	-	-	<0.02	-	<0.02	-	<0.02	mg/kg	Subcon
Prometon	-	-	-	<0.2	-	<0.2	-	<0.2	mg/kg	Subcon
Prometryn	-	-	-	<0.02	-	<0.02	-	<0.02	mg/kg	Subcon
Propazine	-	-	-	<0.02	-	<0.02	-	<0.02	mg/kg	Subcon
Simazine	-	-	-	<0.02	-	<0.02	-	<0.02	mg/kg	Subcon
Simetryn	-	-	-	<0.2	-	<0.2	-	<0.2	mg/kg	Subcon
Terbuthylazine	-	-	-	<0.02	-	<0.02	-	<0.02	mg/kg	Subcon
Terbutryn	-	-	-	<0.02	-	<0.02	-	<0.02	mg/kg	Subcon



## Client Project Name: East Midlands Gateway Zone 1

Lab Sample ID	13/04787/1	13/04787/2	13/04787/3	13/04787/4	13/04787/5	13/04787/6	13/04787/7	13/04787/8		
Client Sample No										
Client Sample ID	TP310	TP314	TP323	TP324	TP316	TP319	TP326	TP328		
Depth to Top	0.80	0.60	0.50	0.10	0.10	0.10	0.60	0.15		
Depth To Bottom	0.90	0.70		0.20	0.20	0.20	0.70	0.25		
Date Sampled	25-Sep-13	25-Sep-13	24-Sep-13	24-Sep-13	26-Sep-13	26-Sep-13	24-Sep-13	24-Sep-13		4
Sample Type	Soil - ES	<i>"</i>	od re							
Sample Matrix Code	5	5	3	6E	6E	6E	6E	6E	Units	Meth
TPH CWG										
% Stones >10mm <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	% w/w	A-T-044
Ali >C5-C6 <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Ali >C6-C8 <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Ali >C8-C10 <sub>4</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Ali >C10-C12 <sub>A</sub> #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Ali >C12-C16 <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Ali >C16-C21 <sub>A</sub> #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Ali >C21-C35 <sub>A</sub> #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Total Aliphatics <sub>A</sub>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-022+23s
Aro >C5-C7 <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Aro >C7-C8 <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Aro >C8-C9 <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Aro >C9-C10 <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Aro >C10-C12 <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Aro >C12-C16 <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Aro >C16-C21 <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Aro >C21-C35 <sub>4</sub> #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Total Aromatics <sub>A</sub>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-022+23s
TPH (Ali & Aro) <sub>A</sub>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-022+23s
BTEX - Benzene <sub>A</sub> #	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
BTEX - Toluene <sub>A</sub> #	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
BTEX - Ethyl Benzene <sub>A</sub> #	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
BTEX - m & p Xylene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
BTEX - o Xylene <sub>A</sub> #	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
MTBE <sub>A</sub> #	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Mineral Oil (>C10-C35) <sub>A</sub>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-023s
MTBE <sub>A</sub> * Mineral Oil (>C10-C35) <sub>A</sub>	<0.01 <0.1	mg/l mg/l	kg kg							



### **REPORT NOTES**

#### Notes - Soil analysis

All results are reported as dry weight (<40 °C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis. For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

#### Notes - General

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

Superscript "M" indicates method accredited to MCERTS.

For complex, multi-compound analysis, quality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations. If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling.

#### TPH analysis of water by method A-T-007

Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

#### Asbestos in soil

Asbestos in soil analysis is performed on an aliquot of the submitted sample and cannot guarantee to identify asbestos if present at low concentrations or as discrete fibres/fragments.

Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified a being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliguot used.

#### **Predominant Matrix Codes:**

1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER. Samples with Matrix Code 7 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our MCERTS accreditation.

#### Secondary Matrix Codes:

A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis.

NDP indicates No Determination Possible.

NAD indicates No Asbestos Detected.

N/A indicates Not Applicable.

Superscript # indicates method accredited to ISO 17025.

Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.



## FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: Issue Number: 13/04851 1

Date: 28 October, 2013

**Client:** 

RSK Environment Ltd Coventry Humber Road, Abbey Park Coventry UK CV3 4AQ

Project Manager: Project Name: Project Ref: Order No: Date Samples Received: Date Instructions Received: Date Analysis Completed: Derren Bench / Mariah Hocking / Marc Dixon East Midlands Gateway Zone 1 312494 Not specified 15/10/13 15/10/13 28/10/13

Prepared by:

Manshall

Melanie Marshall Laboratory Coordinator Approved by:

Liz Oliver Client Service Manager





Client Project Name: East Midlands Gateway Zone 1

				Client	Project nei	. 312494		
Lab Sample ID	13/04851/1	13/04851/2	13/04851/3					
Client Sample No								
Client Sample ID	TP301	TP303	TP352					
Depth to Top	0.50	0.10	0.50					
Depth To Bottom		0.20	0.70					
Date Sampled	03-Oct-13	03-Oct-13	01-Oct-13					ef
Sample Type	Soil - ES	Soil - ES	Soil - ES				ø	n bot
Sample Matrix Code	5E	5AE	5E				Unit	Meth
pH <sub>D</sub> <sup>M#</sup>	8.32	6.26	6.06				pН	A-T-031s
Total Organic Carbon <sub>D</sub> <sup>M#</sup>	0.61	0.99	0.46				% w/w	A-T-032s
Arsenic <sub>D</sub> <sup>#</sup>	8	3	4				mg/kg	A-T-024
Cadmium <sub>D</sub> <sup>M#</sup>	<0.5	<0.5	<0.5				mg/kg	A-T-024
Copper <sub>D</sub> <sup>M#</sup>	28	14	12				mg/kg	A-T-024
Chromium <sub>D</sub> <sup>#</sup>	30	23	18				mg/kg	A-T-024
Chromium (hexavalent) <sub>D</sub>	<1	<1	<1				mg/kg	A-T-040s
Lead <sub>D</sub> <sup>M#</sup>	11	27	21				mg/kg	A-T-024
Mercury <sub>D</sub>	<0.17	0.17	<0.17				mg/kg	A-T-024
Nickel <sub>D</sub> <sup>#</sup>	23	14	10				mg/kg	A-T-024
Selenium <sub>D</sub> #	<1	<1	<1				mg/kg	A-T-024
Zinc <sub>D</sub> <sup>M#</sup>	45	57	51				mg/kg	A-T-024
Asbestos in Soil (inc. matrix)								
Asbestos in soil <sub>D</sub> <sup>#</sup>	-	NAD	-					A-T-045
Asbestos Matrix (visual) <sub>A</sub>	-	N/A	-					Visual
Asbestos Matrix (microscope) <sub>D</sub>	-	N/A	-					A-T-045



Client Project Name: East Midlands Gateway Zone 1

				Client	Project Ref	: 312494		
Lab Sample ID	13/04851/1	13/04851/2	13/04851/3					
Client Sample No								
Client Sample ID	TP301	TP303	TP352					
Depth to Top	0.50	0.10	0.50					
Depth To Bottom		0.20	0.70					
Date Sampled	03-Oct-13	03-Oct-13	01-Oct-13					ţ.
Sample Type	Soil - ES	Soil - ES	Soil - ES					od re
Sample Matrix Code	5E	5AE	5E				Jnits	Meth
Pest-c								-
Mevinphos	-	<50	-				µg/kg	Subcon
Dichlorvos	-	<50	-				μg/kg	Subcon
alpha-Hexachlorocyclohexane (HCH)	-	<50	-				µg/kg	Subcon
Diazinon	-	<50	-				µg/kg	Subcon
gamma-Hexachlorocyclohexane (HCH / Lindane)	-	<50	-				µg/kg	Subcon
Heptachlor	-	<50	-				µg/kg	Subcon
Aldrin	-	<50	-				µg/kg	Subcon
beta-Hexachlorocyclohexane (HCH)	-	<50	-				µg/kg	Subcon
Methyl Parathion	-	<50	-				µg/kg	Subcon
Malathion	-	<50	-				µg/kg	Subcon
Fenitrothion	-	<50	-				µg/kg	Subcon
Heptachlor Epoxide	-	<50	-				µg/kg	Subcon
Parathion (Ethyl Parathion)	-	<50	-				µg/kg	Subcon
p,p-DDE	-	<50	-				µg/kg	Subcon
p,p-DDT	-	<50	-				µg/kg	Subcon
p,p-Methoxychlor	-	<50	-				µg/kg	Subcon
p,p-TDE (DDD)	-	<50	-				µg/kg	Subcon
o,p-DDE	-	<50	-				µg/kg	Subcon
o,p-DDT	-	<50	-				µg/kg	Subcon
o,p-Methoxychlor	-	<50	-				µg/kg	Subcon
o,p-TDE (DDD)	-	<50	-				µg/kg	Subcon
Endosulphan I	-	<50	-				µg/kg	Subcon
Endosulphan II	-	<50	-				µg/kg	Subcon
Endosulphan Sulphate	-	<50	-				µg/kg	Subcon
Endrin	-	<50	-				µg/kg	Subcon
Ethion	-	<50	-				µg/kg	Subcon
Dieldrin	-	<50	-				µg/kg	Subcon
Azinphos-methyl	-	<50	-				µg/kg	Subcon



### Client Project Name: East Midlands Gateway Zone 1

_				Client	Project Ref	: 312494		
Lab Sample ID	13/04851/1	13/04851/2	13/04851/3					
Client Sample No								
Client Sample ID	TP301	TP303	TP352					
Depth to Top	0.50	0.10	0.50					
Depth To Bottom		0.20	0.70					
Date Sampled	03-Oct-13	03-Oct-13	01-Oct-13					4
Sample Type	Soil - ES	Soil - ES	Soil - ES				<u> </u>	od re
Sample Matrix Code	5E	5AE	5E				Units	Meth
PAH 16								
Acenaphthene <sub>A</sub> <sup>M#</sup>	<0.01	<0.01	<0.01				mg/kg	A-T-019s
Acenaphthylene <sub>A</sub> <sup>M#</sup>	<0.01	<0.01	<0.01				mg/kg	A-T-019s
Anthracene <sub>A</sub> <sup>M#</sup>	<0.02	<0.02	<0.02				mg/kg	A-T-019s
Benzo(a)anthracene <sub>A</sub> <sup>M#</sup>	<0.04	<0.04	<0.04				mg/kg	A-T-019s
Benzo(a)pyrene <sub>A</sub> <sup>M#</sup>	<0.04	<0.04	<0.04				mg/kg	A-T-019s
Benzo(b)fluoranthene <sub>A</sub> <sup>M#</sup>	<0.05	<0.05	<0.05				mg/kg	A-T-019s
Benzo(ghi)perylene <sub>A</sub> <sup>M#</sup>	<0.05	<0.05	<0.05				mg/kg	A-T-019s
Benzo(k)fluoranthene <sub>A</sub> <sup>M#</sup>	<0.07	<0.07	<0.07				mg/kg	A-T-019s
Chrysene <sub>A</sub> <sup>M#</sup>	<0.06	<0.06	<0.06				mg/kg	A-T-019s
Dibenzo(ah)anthracene <sub>A</sub> <sup>M#</sup>	<0.04	<0.04	<0.04				mg/kg	A-T-019s
Fluoranthene <sup>A<sup>M#</sup></sup>	<0.08	<0.08	<0.08				mg/kg	A-T-019s
Fluorene <sup>A<sup>M#</sup></sup>	<0.01	<0.01	<0.01				mg/kg	A-T-019s
Indeno(123-cd)pyrene <sub>A</sub> <sup>M#</sup>	<0.03	<0.03	<0.03				mg/kg	A-T-019s
Naphthalene <sub>A</sub> <sup>M#</sup>	<0.03	<0.03	<0.03				mg/kg	A-T-019s
Phenanthrene <sub>A</sub> <sup>M#</sup>	<0.03	<0.03	<0.03				mg/kg	A-T-019s
Pyrene <sub>A</sub> <sup>M#</sup>	<0.07	<0.07	<0.07				mg/kg	A-T-019s
PAH (total 16) <sub>A</sub> <sup>M#</sup>	<0.08	<0.08	<0.08				mg/kg	A-T-019s



Client Project Name: East Midlands Gateway Zone 1

				Olicint	i ioject liei	. 512454		
Lab Sample ID	13/04851/1	13/04851/2	13/04851/3					
Client Sample No								
Client Sample ID	TP301	TP303	TP352					
Depth to Top	0.50	0.10	0.50					
Depth To Bottom		0.20	0.70					
Date Sampled	03-Oct-13	03-Oct-13	01-Oct-13					ef
Sample Type	Soil - ES	Soil - ES	Soil - ES				s	n bot
Sample Matrix Code	5E	5AE	5E				Unit	Meth
Triazines (x11)								
Ametryne	-	<0.2	-				mg/kg	Subcon
Atraton	-	<0.2	-				mg/kg	Subcon
Atrazine	-	<0.02	-				mg/kg	Subcon
Cyanazine	-	<0.02	-				mg/kg	Subcon
Prometon	-	<0.2	-				mg/kg	Subcon
Prometryn	-	<0.02	-				mg/kg	Subcon
Propazine	-	<0.02	-				mg/kg	Subcon
Simazine	-	<0.02	-				mg/kg	Subcon
Simetryn	-	<0.2	-				mg/kg	Subcon
Terbuthylazine	-	<0.02	-				mg/kg	Subcon
Terbutryn	-	<0.02	-				mg/kg	Subcon



Client Project Name: East Midlands Gateway Zone 1

				Client	Project Ref	: 312494		
Lab Sample ID	13/04851/1	13/04851/2	13/04851/3					
Client Sample No								
Client Sample ID	TP301	TP303	TP352					
Depth to Top	0.50	0.10	0.50					
Depth To Bottom		0.20	0.70					
Date Sampled	03-Oct-13	03-Oct-13	01-Oct-13					÷.
Sample Type	Soil - ES	Soil - ES	Soil - ES					od re
Sample Matrix Code	5E	5AE	5E				Units	Metho
TPH CWG								
% Stones >10mm <sub>A</sub> #	<0.1	4.5	<0.1				% w/w	A-T-044
Ali >C5-C6 <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01				mg/kg	A-T-022s
Ali >C6-C8 <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01				mg/kg	A-T-022s
Ali >C8-C10 <sub>A</sub> #	<0.01	<0.01	<0.01				mg/kg	A-T-022s
Ali >C10-C12 <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1				mg/kg	A-T-023s
Ali >C12-C16 <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1				mg/kg	A-T-023s
Ali >C16-C21 <sub>A</sub> #	<0.1	<0.1	<0.1				mg/kg	A-T-023s
Ali >C21-C35 <sub>A</sub> #	<0.1	<0.1	<0.1				mg/kg	A-T-023s
Total Aliphatics <sub>A</sub>	<0.1	<0.1	<0.1				mg/kg	A-T-022+23s
Aro >C5-C7 <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01				mg/kg	A-T-022s
Aro >C7-C8 <sub>4</sub> <sup>#</sup>	<0.01	<0.01	<0.01				mg/kg	A-T-022s
Aro >C8-C9 <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01				mg/kg	A-T-022s
Aro >C9-C10 <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01				mg/kg	A-T-022s
Aro >C10-C12 <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1				mg/kg	A-T-023s
Aro >C12-C16 <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1				mg/kg	A-T-023s
Aro >C16-C21 <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1				mg/kg	A-T-023s
Aro >C21-C35 <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1				mg/kg	A-T-023s
Total Aromatics <sub>A</sub>	<0.1	<0.1	<0.1				mg/kg	A-T-022+23s
TPH (Ali & Aro) <sub>A</sub>	<0.1	<0.1	<0.1				mg/kg	A-T-022+23s
BTEX - Benzene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01				mg/kg	A-T-022s
BTEX - Toluene <sub>A</sub> #	<0.01	<0.01	<0.01				mg/kg	A-T-022s
BTEX - Ethyl Benzene <sub>A</sub> #	<0.01	<0.01	<0.01				mg/kg	A-T-022s
BTEX - m & p Xylene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01				mg/kg	A-T-022s
BTEX - o Xylene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01				mg/kg	A-T-022s
MTBE <sub>A</sub> #	<0.01	<0.01	<0.01				mg/kg	A-T-022s
Mineral Oil (>C10-C35) <sub>A</sub>	<0.1	<0.1	<0.1				mg/kg	A-T-023s



### **REPORT NOTES**

#### Notes - Soil analysis

All results are reported as dry weight (<40 °C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis. For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

#### Notes - General

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

Superscript "M" indicates method accredited to MCERTS.

For complex, multi-compound analysis, quality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations. If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling.

#### TPH analysis of water by method A-T-007

Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

#### Asbestos in soil

Asbestos in soil analysis is performed on an aliquot of the submitted sample and cannot guarantee to identify asbestos if present at low concentrations or as discrete fibres/fragments.

Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified a being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliguot used.

#### **Predominant Matrix Codes:**

1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER. Samples with Matrix Code 7 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our MCERTS accreditation.

#### Secondary Matrix Codes:

A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis.

NDP indicates No Determination Possible.

NAD indicates No Asbestos Detected.

N/A indicates Not Applicable.

Superscript # indicates method accredited to ISO 17025.

Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.



## FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: Issue Number: 13/04858 2

Date: 19 November, 2013

**Client:** 

RSK Environment Ltd Coventry Humber Road, Abbey Park Coventry UK CV3 4AQ

Project Manager: Project Name: Project Ref: Order No: Date Samples Received: Date Instructions Received: Date Analysis Completed: Darren Bench / Mariah Hocking / Marc Dixon East Midlands Gateway Zone 1 312494 Not specified 15/10/13 16/10/13 23/10/13

Prepared by:

Lynette Toon Administrative Assistant Approved by:

Liz Oliver Client Service Manager





## Client Project Name: East Midlands Gateway Zone 1

						•				
Lab Sample ID	13/04858/1	13/04858/2	13/04858/3	13/04858/4	13/04858/5	13/04858/6	13/04858/7	13/04858/8		
Client Sample No	4	8	20	2	14	2	4	8		
Client Sample ID	CP219	CP219	CP219	CP203	CP203	CP221	CP221	CP221		
Depth to Top	1.70	2.90	6.90	0.50	4.00	0.45	1.20	2.90		
Depth To Bottom										
Date Sampled	26-Sep-13	27-Sep-13	27-Sep-13	25-Sep-13	25-Sep-13	27-Sep-13	27-Sep-13	27-Sep-13		ef
Sample Type	Soil - D	ø	u pou							
Sample Matrix Code	3	3	3	6E	3	4AE	4AE	3	Unit	Meth
% Stones >10mm <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	8.3	11.7	<0.1	% w/w	A-T-044
pH BRE <sub>D</sub> <sup>M#</sup>	8.71	8.70	8.73	8.10	8.74	7.35	8.22	6.94	pН	A-T-031s
Sulphate BRE (water sol 2:1) <sub>D</sub> <sup>M#</sup>	142	39	25	<10	20	<10	12	32	mg/l	A-T-026s
Sulphate BRE (acid sol) <sub>D</sub> <sup>M#</sup>	0.07	0.05	0.04	0.02	0.02	<0.02	<0.02	<0.02	% w/w	A-T-028
Sulphur BRE (total) <sub>D</sub>	0.03	0.02	0.02	0.01	<0.01	<0.01	<0.01	<0.01	% w/w	A-T-024



## Client Project Name: East Midlands Gateway Zone 1

								•
Lab Sample ID	13/04858/9	13/04858/10	13/04858/11	13/04858/12	13/04858/13			
Client Sample No				5	9			
Client Sample ID	CP210	CP210	CP210	CP217	CP217			
Depth to Top	1.70	5.50	7.50	1.70	3.50			
Depth To Bottom	2.00			2.00				
Date Sampled				27-Sep-13	27-Sep-13			ef
Sample Type	Soil - D	Soil - D	Soil - D	Soil - D	Soil - D		ø	nod r
Sample Matrix Code	6	6	6	6	6		Unit	Meth
% Stones >10mm <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1		% w/w	A-T-044
pH BRE <sub>D</sub> <sup>M#</sup>	8.54	8.60	8.74	8.43	8.67		рН	A-T-031s
Sulphate BRE (water sol 2:1) <sub>D</sub> <sup>M#</sup>	13	15	15	22	32		mg/l	A-T-026s
Sulphate BRE (acid sol) <sub>D</sub> <sup>M#</sup>	<0.02	<0.02	0.03	<0.02	0.04		% w/w	A-T-028
Sulphur BRE (total) <sub>D</sub>	<0.01	<0.01	<0.01	<0.01	0.01		% w/w	A-T-024



#### **REPORT NOTES**

#### Notes - Soil chemical analysis

All results are reported as dry weight (<40  $^{\circ}$ C). For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis. For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

#### Notes - General

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts

Superscript "M" indicates method accredited to MCERTS.

For complex, multi-compound analysis, guality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations. If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling.

#### TPH analysis of water by method A-T-007

Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

#### Asbestos in soil

Asbestos in soil analysis is performed on a dried aliguot of the submitted sample and cannot guarantee to identify asbestos if present as discrete fibres/fragments. Stones etc. are not removed from the sample prior to analysis.

Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified a being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) guantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

#### Predominant Matrix Codes:

1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER. Samples with Matrix Code 7 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our MCERTS accreditation.

#### Secondary Matrix Codes:

A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

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Please contact us if you need any further information.



## FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: Issue Number: 13/05397 2a

Date: 20 November, 2013

**Client:** 

Structural Soils Castleford Lab The Potteries Pottery Street Castleford West Yorkshire UK WF10 1NJ

Project Manager: Project Name: Project Ref: Order No: Date Samples Received: Date Instructions Received: Date Analysis Completed: Mark Athorne East Midlands Gateway - Zone 1 781044 Not specified 12/11/13 13/11/13 20/11/13

**Prepared by:** 

Manshall

Melanie Marshall Laboratory Coordinator Approved by:

Liz Oliver Client Service Manager





## Client Project Name: East Midlands Gateway - Zone 1

						-			
Lab Sample ID	13/05397/1	13/05397/2	13/05397/3	13/05397/4	13/05397/5	13/05397/6			
Client Sample No									
Client Sample ID	CP(R)203	CP(R)203	CP(R)204	CP(R)205	CP(R)206	CP(R)208			
Depth to Top	18.60	27.02	8.25	9.70	7.57	7.40			
Depth To Bottom	18.94	27.47	8.50	9.92	7.85	7.59			
Date Sampled									ef
Sample Type	Solid	Solid	Soil	Solid	Solid	Solid		s	u pot
Sample Matrix Code	7	7	5	7	7	7		Unit	Meth
% Stones >10mm <sub>A</sub> <sup>#</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		% w/w	A-T-044
pH BRE <sub>D</sub> <sup>M#</sup>	8.98	8.95	8.90	9.08	9.25	9.14		pН	A-T-031s
Sulphate BRE (water sol 2:1) <sub>D</sub> <sup>M#</sup>	15	17	21	<10	<10	<10		mg/l	A-T-026s
Sulphate BRE (acid sol) <sub>D</sub> <sup>M#</sup>	<0.02	0.03	0.03	<0.02	0.02	0.03		% w/w	A-T-028
Sulphur BRE (total) <sub>D</sub>	<0.01	<0.01	0.01	<0.01	<0.01	0.01		% w/w	A-T-024



### REPORT NOTES

#### Notes - Soil chemical analysis

All results are reported as dry weight (<40 °C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis. For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

#### Notes - General

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts.

Superscript "M" indicates method accredited to MCERTS.

For complex, multi-compound analysis, quality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations. If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling.

#### TPH analysis of water by method A-T-007

Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

#### Asbestos in soil

Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if present as discrete fibres/fragments. Stones etc. are not removed from the sample prior to analysis.

Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified a being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

#### **Predominant Matrix Codes:**

1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER. Samples with Matrix Code 7 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our MCERTS accreditation.

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A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

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NDP indicates No Determination Possible.

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Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.



# APPENDIX I CHEMICAL LABORATORY CERTIFICATES FOR GROUNDWATER ANALYSIS



## FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: Issue Number: 13/05152 2a

Date: 29 November, 2013

**Client:** 

RSK Environment Ltd Coventry Humber Road, Abbey Park Coventry UK CV3 4AQ

Project Manager: Project Name: Project Ref: Order No: Date Samples Received: Date Instructions Received: Date Analysis Completed: Gareth Shaw / Darren Bench / Leon Terrace East Midlands RFT 312494 Not specified 29/10/13 31/10/13 13/11/13

## Prepared by:

Manshall

Melanie Marshall Laboratory Coordinator

Approved by:

GSAK

Gill Scott Laboratory Manager





## Client Project Name: East Midlands RFT

Lab Sample ID	13/05152/1	13/05152/2	13/05152/3	13/05152/4	13/05152/6	13/05152/7	13/05050/1	13/05050/2		
Client Sample No							Deep			
Client Sample ID	CP220	CP210	CP213	CP217	CP212	CP204	CPR206	CPR204		
Depth to Top							14.68			
Depth To Bottom										
Date Sampled	23-Oct-13	24-Oct-13	24-Oct-13	23-Oct-13	24-Oct-13	22-Oct-13	22-Oct-13	22-Oct-13		ef
Sample Type	Water - W	s	r bot							
Sample Matrix Code									Unit	Meth
pH (w) <sub>A</sub> #	8.14	8.03	7.91	7.92	8.05	8.00	7.11	7.20	рН	A-T-031w
Redox Potential (w) <sub>A</sub>	246	263	274	284	287	259	239	232	mV	A-T-048
Electrical conductivity @ 20 °C (w) A <sup>#</sup>	1220	1030	868	2690	847	645	1040	675	µs/cm	A-T-037w
Dissolved oxygen <sub>A</sub>	8.6	5.8	7.6	3.7	6.1	8.1	3.7	6.2	mg/l	A-T-048
Hardness <sub>A</sub> <sup>#</sup>	458	493	522	838	499	383	552	447	mg/l Ca CO3	A-T-049
Ammoniacal nitrogen (w) <sub>A</sub> <sup>#</sup>	0.21	0.09	0.16	0.31	0.18	0.06	0.09	0.03	mg/l	A-T-033w
Phenols - Total by HPLC (w) <sub>A</sub>	0.02	0.05	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	mg/l	A-T-050w
Arsenic (dissolved) <sub>A</sub> <sup>#</sup>	1	1	<1	1	<1	<1	<1	<1	μg/l	A-T-025
Boron (dissolved) <sub>A</sub> <sup>#</sup>	48	62	52	82	53	22	50	25	μg/l	A-T-025
Cadmium (dissolved) <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-025
Copper (dissolved) <sub>A</sub> <sup>#</sup>	2	2	2	4	2	<1	2	2	µg/l	A-T-025
Chromium (dissolved) <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-025
Chromium (hexavalent) (w) <sub>A</sub> <sup>#</sup>	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/l	A-T-040w
Lead (dissolved) <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-025
Mercury (dissolved) <sub>A</sub> #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	μg/l	A-T-025
Nickel (dissolved) <sub>A</sub> <sup>#</sup>	3	3	1	3	1	<1	1	<1	µg/l	A-T-025
Selenium (dissolved) <sub>A</sub> #	39	1	<1	4	<1	<1	<1	<1	μg/l	A-T-025
Zinc (dissolved) <sub>A</sub> <sup>#</sup>	7	9	2	4	6	<1	6	6	μg/l	A-T-025
										-



## Client Project Name: East Midlands RFT

Lab Sample ID	13/05152/1	13/05152/2	13/05152/3	13/05152/4	13/05152/6	13/05152/7	13/05050/1	13/05050/2		
Client Sample No							Deep			
Client Sample ID	CP220	CP210	CP213	CP217	CP212	CP204	CPR206	CPR204		
Depth to Top							14.68			
Depth To Bottom										
Date Sampled	23-Oct-13	24-Oct-13	24-Oct-13	23-Oct-13	24-Oct-13	22-Oct-13	22-Oct-13	22-Oct-13		ef
Sample Type	Water - W	s	u pot							
Sample Matrix Code									Unit	Meth
PAH 16MS (w)										
Acenaphthene (w) <sub>A</sub> #	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	µg/l	A-T-019w
Acenaphthylene (w) <sub>A</sub> #	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	µg/l	A-T-019w
Anthracene (w) <sub>A</sub> #	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	µg∕l	A-T-019w
Benzo(a)anthracene (w) <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	µg∕l	A-T-019w
Benzo(a)pyrene (w) <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	µg∕l	A-T-019w
Benzo(b)fluoranthene (w) <sub>A</sub> #	0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	µg/l	A-T-019w
Benzo(ghi)perylene (w) <sub>A</sub> #	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	µg/l	A-T-019w
Benzo(k)fluoranthene (w) <sub>A</sub> #	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	µg/l	A-T-019w
Chrysene (w) <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	µg/l	A-T-019w
Dibenzo(ah)anthracene (w) <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	µg/l	A-T-019w
Fluoranthene (w) <sub>A</sub> <sup>#</sup>	0.02	<0.01	<0.01	0.02	<0.01	-	0.01	<0.01	μg/l	A-T-019w
Fluorene (w) <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	µg/l	A-T-019w
Indeno(123-cd)pyrene (w) <sub>A</sub> #	<0.01	<0.01	<0.01	0.01	0.01	-	<0.01	<0.01	μg/l	A-T-019w
Naphthalene (w) <sub>A</sub> <sup>#</sup>	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	μg/l	A-T-019w
Phenanthrene (w) <sub>A</sub> <sup>#</sup>	0.02	<0.01	<0.01	0.01	<0.01	-	<0.01	<0.01	μg/l	A-T-019w
Pyrene (w) <sub>A</sub> <sup>#</sup>	0.03	<0.01	0.01	0.02	0.01	-	<0.01	<0.01	μg/l	A-T-019w
PAH (total 16) (w) <sub>A</sub> <sup>#</sup>	0.08	<0.01	0.01	0.06	0.02	-	0.01	<0.01	μg/l	A-T-019w



## Client Project Name: East Midlands RFT

Lab Sample ID	13/05152/1	13/05152/2	13/05152/3	13/05152/4	13/05152/6	13/05152/7	13/05050/1	13/05050/2		
Client Sample No							Deep			
Client Sample ID	CP220	CP210	CP213	CP217	CP212	CP204	CPR206	CPR204		
Depth to Top							14.68			
Depth To Bottom										
Date Sampled	23-Oct-13	24-Oct-13	24-Oct-13	23-Oct-13	24-Oct-13	22-Oct-13	22-Oct-13	22-Oct-13		t.
Sample Type	Water - W		od re							
Sample Matrix Code									Units	Meth
SVOC (w)										
1,2,4-Trichlorobenzene A	<1	<1	<1	<1	<1	-	<1	<1	µg/l	A-T-052
1,2-Dichlorobenzene A	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
1,3-Dichlorobenzene <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	µg/l	A-T-052
1,4-Dichlorobenzene <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	µg/l	A-T-052
2,4,5-Trichlorophenol <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	µg∕l	A-T-052
2,4,6-Trichlorophenol <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	µg∕l	A-T-052
2,4-Dichlorophenol <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
2,4-Dimethylphenol <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
2,4-Dinitrotoluene <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	µg/l	A-T-052
2,6-Dinitrotoluene <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	µg/l	A-T-052
2-Chloronaphthalene <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
2-Chlorophenol <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	µg/l	A-T-052
2-Methylnaphthalene <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	µg/l	A-T-052
2-Methylphenol <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
2-Nitrophenol <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	µg/l	A-T-052
4-Bromophenyl phenyl ether <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	µg/l	A-T-052
4-Chloro-3-methylphenol <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
4-Methylphenol <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
4-Nitrophenol <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Acenaphthene A	<1	<1	<1	<1	<1	-	<1	<1	µg/l	A-T-052
Acenaphthylene A	<1	<1	<1	<1	<1	-	<1	<1	µg/l	A-T-052
Anthracene A	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Bis(2-chloroethyl)ether <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Bis(2-chloroethoxy)methane <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Bis(2-ethylhexyl)phthalate <sub>A</sub>	<2	<2	<2	<2	<2	-	<2	<2	µg/l	A-T-052
Benzo(a)anthracene	<1	<1	<1	<1	<1	-	<1	<1	µg/l	A-T-052
Butylbenzyl phthalate <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	µg/l	A-T-052
Benzo(b)fluoranthene A	<1	<1	<1	<1	<1	-	<1	<1	µg/I	A-T-052
Benzo(k)fluoranthene A	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052



#### **Client Project Name: East Midlands RFT**

Lab Sample ID	13/05152/1	13/05152/2	13/05152/3	13/05152/4	13/05152/6	13/05152/7	13/05050/1	13/05050/2		
Client Sample No							Deep			
Client Sample ID	CP220	CP210	CP213	CP217	CP212	CP204	CPR206	CPR204		
Depth to Top							14.68			
Depth To Bottom										
Date Sampled	23-Oct-13	24-Oct-13	24-Oct-13	23-Oct-13	24-Oct-13	22-Oct-13	22-Oct-13	22-Oct-13		۲.
Sample Type	Water - W		od re							
Sample Matrix Code									Units	Meth
Benzo(a)pyrene <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Benzo(ghi)perylene A	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Carbazole <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Chrysene <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Dibenzofuran <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	µg/I	A-T-052
n-Dibutylphthalate <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
n-Dioctylphthalate <sub>A</sub>	<5	<5	<5	<5	<5	-	<5	<5	μg/l	A-T-052
n-Nitroso-n-dipropylamine <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Diethyl phthalate <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Dimethyl phthalate <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Dibenzo(ah)anthracene <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Fluorene A	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Fluoranthene A	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Hexachlorobutadiene A	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Hexachlorobenzene <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Pentachlorophenol <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Phenol <sub>A</sub>	<1	<1	<1	<1	<1	-	4	<1	μg/l	A-T-052
Hexachloroethane <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Nitrobenzene <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Naphthalene A	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Isophorone <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Hexachlorocyclopentadiene <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Phenanthrene A	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Pyrene <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Indeno(1,2,3-cd)pyrene <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Bis(2-chloroisopropyl)ether <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
2,4-Dinitrophenol <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
4,6-Dinitro-2-methylphenol <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052
Perylene <sub>A</sub>	<1	<1	<1	<1	<1	-	<1	<1	μg/l	A-T-052



## Client Project Name: East Midlands RFT

Lab Sample ID	13/05152/1	13/05152/2	13/05152/3	13/05152/4	13/05152/6	13/05152/7	13/05050/1	13/05050/2		
Client Sample No							Deep			
Client Sample ID	CP220	CP210	CP213	CP217	CP212	CP204	CPR206	CPR204		
Depth to Top							14.68			
Depth To Bottom										
Date Sampled	23-Oct-13	24-Oct-13	24-Oct-13	23-Oct-13	24-Oct-13	22-Oct-13	22-Oct-13	22-Oct-13		Ť
Sample Type	Water - W		od re							
Sample Matrix Code									Units	Meth
VOC (w)										
Dichlorodifluoromethane <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
Chloromethane <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
Vinyl Chloride <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
Bromomethane <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
Chloroethane <sub>4</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
Trichlorofluoromethane <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
trans 1,2-Dichloroethene <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
Dichloromethane <sub>A</sub>	<100	<100	<100	<100	<100	<100	<100	<100	μg/l	A-T-006
Carbon Disulphide <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
1,1-Dichloroethene <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
1,1-Dichloroethane <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
cis 1,2-Dichloroethene <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
Bromochloromethane <sub>A</sub> #	<5	<5	<5	<5	<5	<5	<5	<5	μg/l	A-T-006
Chloroform <sub>A</sub> <sup>#</sup>	<25	<25	<25	<25	<25	<25	<25	<25	μg/l	A-T-006
2,2-Dichloropropane <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
1,2-Dichloroethane <sub>A</sub> #	<2	<2	<2	<2	<2	<2	<2	<2	μg/l	A-T-006
1,1,1-Trichloroethane <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
1,1-Dichloropropene <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
Benzene VOC <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
Carbon Tetrachloride <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
Dibromomethane <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
1,2-Dichloropropane <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
Bromodichloromethane <sub>A</sub> #	<10	<10	<10	<10	<10	<10	<10	<10	μg/l	A-T-006
Trichloroethene <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
cis 1,3-Dichloropropene <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
trans 1,3-Dichloropropene <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
1,1,2-Trichloroethane <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
Toluene VOC <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
1,3-Dichloropropane <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006



#### **Client Project Name: East Midlands RFT**

Lab Sample ID	13/05152/1	13/05152/2	13/05152/3	13/05152/4	13/05152/6	13/05152/7	13/05050/1	13/05050/2		
Client Sample No							Deep			
Client Sample ID	CP220	CP210	CP213	CP217	CP212	CP204	CPR206	CPR204		
Depth to Top							14.68			
Depth To Bottom										
Date Sampled	23-Oct-13	24-Oct-13	24-Oct-13	23-Oct-13	24-Oct-13	22-Oct-13	22-Oct-13	22-Oct-13		Ť
Sample Type	Water - W		od re							
Sample Matrix Code									Units	Meth
Dibromochloromethane <sub>A</sub> #	<3	<3	<3	<3	<3	<3	<3	<3	μg/l	A-T-006
1,2-Dibromoethane <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
Tetrachloroethene <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
1,1,1,2-Tetrachloroethane <sub>A</sub>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
Chlorobenzene <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
Ethylbenzene <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
m & p Xylene <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
Bromoform <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
Styrene <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
1,1,2,2-Tetrachloroethane <sub>A</sub>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
o-Xylene <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
1,2,3-Trichloropropane <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
lsopropylbenzene <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
Bromobenzene <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
2-Chlorotoluene <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
n-propylbenzene <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
4-Chlorotoluene <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
1,2,4-Trimethylbenzene <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
4-IsopropyItoluene <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
1,3,5-Trimethylbenzene <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
1,2-Dichlorobenzene <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
1,4-Dichlorobenzene <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
sec-Butylbenzene <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
tert-Butylbenzene <sub>A</sub> #	<2	<2	<2	<2	<2	<2	<2	<2	μg/l	A-T-006
1,3-Dichlorobenzene <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
n-butylbenzene <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006
1,2-Dibromo-3-chloropropane <sub>A</sub> <sup>#</sup>	<2	<2	<2	<2	<2	<2	<2	<2	μg/l	A-T-006
1,2,4-Trichlorobenzene <sub>A</sub> #	<3	<3	<3	<3	<3	<3	<3	<3	μg/l	A-T-006
1,2,3-Trichlorobenzene <sup>#</sup>	<3	<3	<3	<3	<3	<3	<3	<3	μg/l	A-T-006
Hexachlorobutadiene <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-006



## Client Project Name: East Midlands RFT

Lab Sample ID	13/05152/1	13/05152/2	13/05152/3	13/05152/4	13/05152/6	13/05152/7	13/05050/1	13/05050/2		
Client Sample No							Deep			
Client Sample ID	CP220	CP210	CP213	CP217	CP212	CP204	CPR206	CPR204		
Depth to Top							14.68			
Depth To Bottom										
Date Sampled	23-Oct-13	24-Oct-13	24-Oct-13	23-Oct-13	24-Oct-13	22-Oct-13	22-Oct-13	22-Oct-13		÷
Sample Type	Water - W		od re							
Sample Matrix Code									Units	Meth
TPH CWG										_
Ali >C5-C6 (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	µg/l	A-T-022w
Ali >C6-C8 (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	µg/l	A-T-022w
Ali >C8-C10 (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-022w
Ali >C10-C12 (w) <sub>A</sub> <sup>#</sup>	<5	<5	<5	<5	<5	<5	<5	<5	μg/l	A-T-023w
Ali >C12-C16 (w) <sub>A</sub> <sup>#</sup>	<5	<5	<5	<5	<5	<5	<5	<5	μg/l	A-T-023w
Ali >C16-C21 (w) <sub>A</sub> <sup>#</sup>	<5	<5	<5	<5	<5	<5	<5	<5	μg/l	A-T-023w
Ali >C21-C35 (w) <sub>A</sub> <sup>#</sup>	<5	<5	<5	<5	<5	<5	<5	<5	μg/l	A-T-023w
Total Aliphatics (w) <sub>A</sub>	<5	<5	<5	<5	<5	<5	<5	<5	μg/l	A-T-022+23w
Aro >C5-C7 (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	µg/l	A-T-022w
Aro >C7-C8 (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	µg/I	A-T-022w
Aro >C8-C9 (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	µg/I	A-T-022w
Aro >C9-C10 (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	µg/l	A-T-022w
Aro >C10-C12 (w) <sub>A</sub> <sup>#</sup>	<5	<5	<5	<5	<5	<5	<5	<5	µg∕l	A-T-023w
Aro >C12-C16 (w) <sub>A</sub> <sup>#</sup>	<5	<5	<5	<5	<5	<5	<5	<5	μg/l	A-T-023w
Aro >C16-C21 (w) <sub>A</sub> <sup>#</sup>	<5	<5	<5	<5	<5	<5	<5	<5	μg/l	A-T-023w
Aro >C21-C35 (w) <sub>A</sub> <sup>#</sup>	<5	<5	<5	<5	<5	<5	<5	<5	μg/l	A-T-023w
Total Aromatics (w) <sub>A</sub>	<5	<5	<5	<5	<5	<5	<5	<5	µg/I	A-T-022+23w
TPH (Ali & Aro) (w) <sub>A</sub>	<5	<5	<5	<5	<5	<5	<5	<5	μg/l	A-T-022+23w
Mineral Oil (>C10-C35) (w) <sub>A</sub> <sup>#</sup>	<5	<5	<5	<5	<5	<5	<5	<5	μg/l	A-T-023w
BTEX - Benzene (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-022w
BTEX - Toluene (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-022w
BTEX - Ethyl Benzene (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	µg∕l	A-T-022w
BTEX - m & p Xylene (w) <sub>A</sub> #	<1	<1	<1	<1	<1	<1	<1	<1	μg/l	A-T-022w
BTEX - o Xylene (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	µg∕I	A-T-022w
MTBE (w) <sub>A</sub> <sup>#</sup>	<1	<1	<1	<1	<1	<1	<1	<1	µg/I	A-T-022w



### REPORT NOTES

#### Notes - Soil analysis

All results are reported as dry weight (<40 °C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis. For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

#### Notes - General

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts.

Superscript "M" indicates method accredited to MCERTS.

For complex, multi-compound analysis, quality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations. If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling.

#### TPH analysis of water by method A-T-007

Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

#### Asbestos in soil

Asbestos in soil analysis is performed on an aliquot of the submitted sample and cannot guarantee to identify asbestos if present at low concentrations or as discrete fibres/fragments.

Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified a being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

#### **Predominant Matrix Codes:**

1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER. Samples with Matrix Code 7 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our MCERTS accreditation.

#### Secondary Matrix Codes:

A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis.

NDP indicates No Determination Possible.

NAD indicates No Asbestos Detected.

N/A indicates Not Applicable.

Superscript # indicates method accredited to ISO 17025.

Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.



# APPENDIX J GAS AND GROUNDWATER MONITORING RESULTS

Equipment Used & Remarks

[Pressures]	Previous	During	<u>Start</u>	End
Round 1 Round 2 Round 3 Round 4	- - -	Constant Constant Constant Constant	1003 984 1012 1020	1003 984 1012 1020

Dipmeter + GA2000 SN-GA07744 + Weather: Overcast + Ground: Wet + Wind: None + Air Temp: 12DegC Dipmeter + GA2000 SN-GA07744 + Weather: Overcast + Ground: Wet + Wind: None + Air Temp: 15DegC Dipmeter + GA2000 SN-GA07744 + Weather: Sunny + Ground: Wet + Wind: None + Air Temp: 12DegC Dipmeter + GA2000 SN-GA07744 + Weather: Overcast + Ground: Wet + Wind: None + Air Temp: 10DegC

AGS

Exploratory Position ID	Monitoring Round	Measured Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)		
CP203	1	3.77	16/10/2013 12:33:00	1003	1003	-	DRY	0.1	0.0	20.7	0.0	0.0	0.0		
CP203	1		15 secs	-	-	-	-	1.5	0.0	19.9	0.0	0.0	0.0		
CP203	1		30 secs	-	-	-	-	1.4	0.0	18.8	0.0	0.0	0.0		
CP203	1		60 secs	-	-	-	-	1.4	0.0	19.0	0.0	0.0	0.0		
CP203	1		90 secs	-	-	-	-	1.5	0.0	18.9	0.0	0.0	0.0		
CP203	1		120 secs	-	-	-	-	1.4	0.0	18.9	0.0	0.0	0.0		
CP203	1		180 secs	-	-	-	-	1.5	0.0	19.0	0.0	0.0	0.0		
CP203	1		240 secs	-	-	-	-	1.5	0.0	19.0	0.0	0.0	0.0		
CP203	1		300 secs	-	-	-	-	1.6	0.0	19.0	0.0	0.0	0.0		
CP203	2	3.78	23/10/2013 13:42:00	987	987	-0.1 <sub>(I)</sub>	DRY	0.0	0.0	20.8	0.0	0.0	0.0		
CP203	2		15 secs	-	-	0.0 <sub>(SS)</sub>	-	1.9	0.0	19.9	0.0	0.0	0.0		
CP203	2		30 secs	-	-	-	-	1.8	0.1	19.8	1.0	0.0	0.0		
CP203	2		60 secs	-	-	-	-	2.0	0.0	18.6	0.0	0.0	0.0		
CP203	2		90 secs	-	-	-	-	2.0	0.0	18.5	0.0	0.0	0.0		
CP203	2		120 secs	-	-	-	-	2.0	0.0	18.6	0.0	0.0	0.0		
CP203	2		180 secs	-	-	-	-	2.0	0.0	18.8	0.0	0.0	0.0		
CP203	2		240 secs	-	-	-	-	2.1	0.0	18.7	0.0	0.0	0.0		
CP203	2		300 secs	-	-	-	-	2.0	0.0	18.7	0.0	0.0	0.0		
v: I = Initial, P	= Peak, SS = S	teady State. N	lote: LEL = Lower Exp	plosive Limi	t = 5% v/v.		Date		Chec	ked Bv		Dat	e	Contract Ref:	
	SK Enviro Abbey	nment Lt Park Poad	d <u>K</u> .	For		28	/11/13		Rese	æ.		28/11	/13		312494
	Cover CV3 4	ntry AO	Contract:			E	ast Midl	ands Ga	iteway					Page:	1 of 36

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)		
CP203	3	3.74	30/10/2013 16:50:00	1010	1010	0.0 <sub>(I)</sub>	DRY	0.1	0.0	20.8	0.0	0.0	0.0		
CP203	3		15 secs	-	-	0.0 <sub>(SS)</sub>	-	1.4	0.0	18.1	0.0	0.0	0.0		
CP203	3		30 secs	-	-	-	-	1.7	0.0	17.8	0.0	0.0	0.0		
CP203	3		60 secs	-	-	-	-	1.6	0.1	17.8	1.0	0.0	0.0		
CP203	3		90 secs	-	-	-	-	1.6	0.1	17.8	1.0	0.0	0.0		
CP203	3		120 secs	-	-	-	-	1.7	0.1	17.7	1.0	0.0	0.0		
CP203	3		180 secs	-	-	-	-	1.4	0.1	18.2	1.0	0.0	0.0		
CP203	3		240 secs	-	-	-	-	1.6	0.1	18.1	1.0	0.0	0.0		
CP203	3		300 secs	-	-	-	-	1.5	0.1	18.4	1.0	0.0	0.0		
CP203	4	3.76	12/11/2013 10:22:00	1020	1020	0.3 <sub>(I)</sub>	DRY	0.1	0.0	20.8	0.0	0.0	0.0		
CP203	4		15 secs	-	-	0.1 <sub>(SS)</sub>	-	1.4	0.0	18.6	0.0	0.0	0.0		
CP203	4		30 secs	-	-	-	-	1.2	0.0	17.9	0.0	0.0	0.0		
CP203	4		60 secs	-	-	-	-	1.2	0.0	17.8	0.0	13.0	0.0		
CP203	4		90 secs	-	-	-	-	1.3	0.0	17.8	0.0	0.0	0.0		
CP203	4		120 secs	-	-	-	-	1.3	0.0	17.9	0.0	0.0	0.0		
CP203	4		180 secs	-	-	-	-	1.3	0.0	17.8	0.0	2.0	0.0		
CP203	4		240 secs	-	-	-	-	1.3	0.0	18.0	0.0	4.0	0.0		
CP203	4		300 secs	-	-	-	-	1.3	0.0	17.9	0.0	0.0	0.0		
CP204	1	3.90	17/10/2013 16:06:00	1010	1010	-	DRY	0.0	0.0	20.8	0.0	0.0	0.0		
CP204	1		15 secs	-	-	-	-	1.1	0.0	18.9	0.0	0.0	0.0		
CP204	1		30 secs	-	-	-	-	1.1	0.0	16.7	0.0	0.0	0.0		
CP204	1		60 secs	-	-	-	-	1.1	0.0	16.3	0.0	0.0	0.0		
CP204	1		90 secs	-	-	-	-	1.2	0.0	16.4	0.0	0.0	0.0		
CP204	1		120 secs	-	-	-	-	1.2	0.0	16.4	0.0	0.0	0.0		
v: I = Initial, P	= Peak, SS = S	teady State. N	Jote: LEL = Lower Ex	plosive Limi	it = 5% v/v.		1	1		1		-1		1	
R	SK Enviro	nment I t	d Co	mpiled By			Date		Checl	ked By		Dat	te	Contract Ref:	
	Abbey	Park	K.	Toto		28	/11/13		Repe	a.		28/11	/13	]	312494
	Humber Cover CV3 4	Road ntry AO	Contract:			E	ast Midl	ands Ga	iteway		I.			Page:	2 of 36

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP204	1		180 secs	-	-	-	-	1.3	0.0	16.3	0.0	0.0	0.0	
CP204	1		240 secs	-	-	-	-	1.4	0.0	15.9	0.0	0.0	0.0	
CP204	1		300 secs	-	-	-	-	1.4	0.0	15.8	0.0	0.0	0.0	
CP204	2	3.91	22/10/2013 15:38:00	983	983	0.0 <sub>(I)</sub>	DRY	0.1	0.0	20.8	0.0	0.0	0.0	
CP204	2		15 secs	-	-	0.0 <sub>(SS)</sub>	-	0.7	0.0	20.0	0.0	0.0	0.0	
CP204	2		30 secs	-	-	-	-	1.0	0.0	18.6	0.0	0.0	0.0	
CP204	2		60 secs	-	-	-	-	1.3	0.0	17.4	0.0	0.0	0.0	
CP204	2		90 secs	-	-	-	-	1.4	0.1	16.8	1.0	0.0	0.0	
CP204	2		120 secs	-	-	-	-	1.5	0.0	16.7	0.0	0.0	0.0	
CP204	2		180 secs	-	-	-	-	1.6	0.1	16.6	1.0	0.0	0.0	
CP204	2		240 secs	-	-	-	-	1.7	0.0	16.6	0.0	0.0	0.0	
CP204	2		300 secs	-	-	-	-	1.7	0.0	16.7	0.0	0.0	0.0	
CP204	3	3.95	30/10/2013 16:00:00	1009	1009	0.0(1)	DRY	0.1	0.0	20.8	0.0	0.0	0.0	
CP204	3		15 secs	-	-	0.0 <sub>(SS)</sub>	-	0.9	0.0	18.5	0.0	0.0	0.0	
CP204	3		30 secs	-	-	-	-	0.9	0.0	17.6	0.0	0.0	0.0	
CP204	3		60 secs	-	-	-	-	0.9	0.0	17.6	0.0	0.0	0.0	
CP204	3		90 secs	-	-	-	-	0.9	0.0	17.5	0.0	0.0	0.0	
CP204	3		120 secs	-	-	-	-	0.9	0.0	17.5	0.0	0.0	0.0	
CP204	3		180 secs	-	-	-	-	0.9	0.0	17.5	0.0	0.0	0.0	
CP204	3		240 secs	-	-	-	-	0.9	0.0	17.5	0.0	0.0	0.0	
CP204	3		300 secs	-	-	-	-	0.9	0.0	17.5	0.0	0.0	0.0	
CP204	4	3.88	12/11/2013 11:36:00	1020	1020	-0.4 <sub>(I)</sub>	DRY	0.1	0.0	20.8	0.0	0.0	0.0	
CP204	4		15 secs	-	-	0.0 <sub>(SS)</sub>	-	0.1	0.0	20.1	0.0	0.0	0.0	
CP204	4		30 secs	-	-	-	-	0.1	0.0	20.4	0.0	0.0	0.0	
CP204	4		60 secs	-	-	-	-	0.1	0.0	20.4	0.0	3.0	0.0	
Key: I = Initial, P	= Peak, SS = S	teady State. N	lote: LEL = Lower Ex	plosive Limi	it = 5% v/v.	1	1		I	I				
RSK Environment Ltd Abbey Park		td Compiled By			Date			Checked By			Date 28/11/13		Contract Ref:	
		obey Park <i>K. Feb</i>			28	28/11/13 Repeal.							312494	
Humber Road Coventry CV3 4AQ			Contract:	ract: East Midlands Gateway									-	Page: <b>3</b> of <b>36</b>

GINT\_LIBRARY\_V8\_05.GLB : E - GAS MON - REDUCED - A4 - 9A : 312494 - EAST MIDLANDS GATEWAY.GPJ : 28/11/13 17:47 : KF

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)			
CP204	4		90 secs	-	-	-	-	0.1	0.0	20.5	0.0	9.0	0.0			
CP204	4		120 secs	-	-	-	-	0.1	0.0	20.4	0.0	0.0	0.0			
CP204	4		180 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0			
CP204	4		240 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0			
CP204	4		300 secs	-	-	-	-	0.1	0.0	20.5	0.0	1.0	0.0			
CP205	1	4.37	16/10/2013 12:43:00	1003	1003	-	4.13	0.1	0.0	20.7	0.0	0.0	0.0			
CP205	1		15 secs	-	-	-	-	0.9	0.0	20.4	0.0	0.0	0.0			
CP205	1		30 secs	-	-	-	-	1.1	0.0	19.8	0.0	0.0	0.0			
CP205	1		60 secs	-	-	-	-	1.2	0.0	19.7	0.0	0.0	0.0			
CP205	1		90 secs	-	-	-	-	1.2	0.0	19.8	0.0	0.0	0.0			
CP205	1		120 secs	-	-	-	-	1.2	0.0	19.8	0.0	0.0	0.0			
CP205	1		180 secs	-	-	-	-	1.2	0.0	19.7	0.0	0.0	0.0			
CP205	1		240 secs	-	-	-	-	1.2	0.0	19.7	0.0	0.0	0.0			
CP205	1		300 secs	-	-	-	-	1.2	0.0	19.7	0.0	0.0	0.0			
CP205	2	4.37	23/10/2013 14:06:00	987	987	0.0 <sub>(I)</sub>	4.12	0.1	0.0	20.8	0.0	0.0	0.0			
CP205	2		15 secs	-	-	0.0 <sub>(SS)</sub>	-	1.3	0.0	19.6	0.0	0.0	0.0			
CP205	2		30 secs	-	-	-	-	1.3	0.0	18.8	0.0	0.0	0.0			
CP205	2		60 secs	-	-	-	-	1.4	0.0	18.5	0.0	0.0	0.0			
CP205	2		90 secs	-	-	-	-	1.4	0.0	18.6	0.0	0.0	0.0			
CP205	2		120 secs	-	-	-	-	1.4	0.0	18.6	0.0	0.0	0.0			
CP205	2		180 secs	-	-	-	-	1.4	0.0	18.6	0.0	0.0	0.0			
CP205	2		240 secs	-	-	-	-	1.4	0.0	18.6	0.0	0.0	0.0			
CP205	2		300 secs	-	-	-	-	1.4	0.0	18.6	0.0	0.0	0.0			
CP205	3	4.37	30/10/2013 09:25:00	1010	1012	-2.5 <sub>(I)</sub>	4.19	0.1	0.0	20.8	0.0	0.0	0.0			
y: I = Initial, P	= Peak, SS = S	teady State. N	Note: LEL = Lower Exp	plosive Lim	it = 5% v/v.											
RSK Environment I td			d Co	Compiled By			Date		Checked By			Date		Contract Ref:		
Abbey Park		ark K. Fob			28/11/13 Repeal.						28/11	/13	312494			
Humber Road Coventry CV3 4AQ			Contract:	tract: East Midlands Gateway										Page: <b>4</b> of <b>36</b>		

GINT\_LIBRARY\_V8\_05.GLB : E - GAS MON - REDUCED - A4 - 9A : 312494 - EAST MIDLANDS GATEWAY.GPJ : 28/11/13 17:47 : KF
Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)		
CP205	3		15 secs	-	-	-2.5 <sub>(SS)</sub>	-	0.9	0.0	20.5	0.0	0.0	0.0		
CP205	3		30 secs	-	-	-	-	1.1	0.0	19.2	0.0	0.0	0.0		
CP205	3		60 secs	-	-	-	-	1.1	0.0	18.8	0.0	0.0	0.0		
CP205	3		90 secs	-	-	-	-	1.1	0.0	18.9	0.0	0.0	0.0		
CP205	3		120 secs	-	-	-	-	1.1	0.0	18.8	0.0	0.0	0.0		
CP205	3		180 secs	-	-	-	-	1.1	0.0	18.9	0.0	0.0	0.0		
CP205	3		240 secs	-	-	-	-	1.1	0.0	18.8	0.0	0.0	0.0		
CP205	3		300 secs	-	-	-	-	1.1	0.0	18.8	0.0	0.0	0.0		
CP205	4	4.37	12/11/2013 09:45:00	1020	1020	1.0 <sub>(I)</sub>	4.20	0.1	0.0	20.8	0.0	0.0	0.0		
CP205	4		15 secs	-	-	0.4 <sub>(SS)</sub>	-	0.6	0.0	20.3	0.0	0.0	0.0		
CP205	4		30 secs	-	-	-	-	1.1	0.0	18.9	0.0	0.0	0.0		
CP205	4		60 secs	-	-	-	-	1.2	0.0	18.9	0.0	0.0	0.0		
CP205	4		90 secs	-	-	-	-	1.2	0.0	18.8	0.0	0.0	0.0		
CP205	4		120 secs	-	-	-	-	1.2	0.0	18.9	0.0	0.0	0.0		
CP205	4		180 secs	-	-	-	-	1.2	0.0	18.8	0.0	0.0	0.0		
CP205	4		240 secs	-	-	-	-	1.2	0.0	19.0	0.0	0.0	0.0		
CP205	4		300 secs	-	-	-	-	1.2	0.0	19.0	0.0	0.0	0.0		
CP206	1	3.22	16/10/2013 13:37:00	1003	1003	-	DRY	0.1	0.0	20.8	0.0	0.0	0.0		
CP206	1		15 secs	-	-	-	-	2.5	0.0	18.8	0.0	0.0	0.0		
CP206	1		30 secs	-	-	-	-	2.6	0.0	16.0	0.0	0.0	0.0		
CP206	1		60 secs	-	-	-	-	2.6	0.0	15.6	0.0	0.0	0.0		
CP206	1		90 secs	-	-	-	-	2.6	0.0	15.5	0.0	0.0	0.0		
CP206	1		120 secs	-	-	-	-	2.7	0.0	15.5	0.0	0.0	0.0		
CP206	1		180 secs	-	-	-	-	2.7	0.0	15.5	0.0	0.0	0.0		
y: I = Initial, P	= Peak, SS = S	teady State. N	lote: LEL = Lower Exp	plosive Limi	it = 5% v/v.	I	1		1	1		1			
R	SK Enviro	nment I t	d Co	mpiled By			Date		Checl	ked By		Dat	e	Contract Ref:	
	Abbey	Park	и <i>К</i> .	Toto		28	/11/13		Rese	a.		28/11	/13		312494
	Humber Cover CV3 4	Road ntry AO	Contract:			E	ast Midl	ands Ga	nteway					Page:	5 of 36

GINT\_LIBRARY\_V8\_05.GLB : E - GAS MON - REDUCED - A4 - 9A : 312494 - EAST MIDLANDS GATEWAY.GPJ : 28/11/13 17:48 : KF

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)		
CP206	1		240 secs	-	-	-	-	2.7	0.0	15.6	0.0	0.0	0.0		
CP206	1		300 secs	-	-	-	-	2.8	0.0	15.7	0.0	0.0	0.0		
CP206	2	3.23	22/10/2013 14:26:30	988	988	0.4 <sub>(I)</sub>	DRY	0.1	0.0	20.8	0.0	0.0	0.0		
CP206	2		15 secs	-	-	0.3 <sub>(SS)</sub>	-	2.5	0.0	15.4	0.0	0.0	0.0		
CP206	2		30 secs	-	-	-	-	3.4	0.0	12.6	0.0	0.0	0.0		
CP206	2		60 secs	-	-	-	-	3.5	0.0	12.4	0.0	0.0	0.0		
CP206	2		90 secs	-	-	-	-	3.5	0.0	12.6	0.0	0.0	0.0		
CP206	2		120 secs	-	-	-	-	3.5	0.0	12.5	0.0	0.0	0.0		
CP206	2		180 secs	-	-	-	-	3.5	0.0	12.6	0.0	0.0	0.0		
CP206	2		240 secs	-	-	-	-	3.5	0.0	12.6	0.0	0.0	0.0		
CP206	2		300 secs	-	-	-	-	3.5	0.0	12.7	0.0	0.0	0.0		
CP206	3	3.29	30/10/2013 09:43:00	1012	1012	-0.7 <sub>(I)</sub>	DRY	0.1	0.0	20.8	0.0	0.0	0.0		
CP206	3		15 secs	-	-	-0.5 <sub>(SS)</sub>	-	2.7	0.0	19.3	0.0	0.0	0.0		
CP206	3		30 secs	-	-	-	-	2.9	0.0	14.9	0.0	0.0	0.0		
CP206	3		60 secs	-	-	-	-	2.9	0.0	14.7	0.0	0.0	0.0		
CP206	3		90 secs	-	-	-	-	2.9	0.0	14.7	0.0	0.0	0.0		
CP206	3		120 secs	-	-	-	-	2.9	0.0	14.7	0.0	0.0	0.0		
CP206	3		180 secs	-	-	-	-	2.9	0.0	14.9	0.0	0.0	0.0		
CP206	3		240 secs	-	-	-	-	2.9	0.0	14.9	0.0	0.0	0.0		
CP206	3		300 secs	-	-	-	-	2.9	0.0	14.9	0.0	0.0	0.0		
CP206	4	3.21	11/11/2013 16:44:00	1017	1017	0.0 <sub>(I)</sub>	DRY	0.1	0.0	20.8	0.0	0.0	0.0		
CP206	4		15 secs	-	-	0.0 <sub>(SS)</sub>	-	3.3	0.0	12.9	0.0	0.0	0.0		
CP206	4		30 secs	-	-	-	-	3.5	0.0	12.2	0.0	7.0	0.0		
CP206	4		60 secs	-	-	-	_	3.5	0.0	12.1	0.0	0.0	0.0		
CP206	4		90 secs	-	-	-	-	3.5	0.0	12.0	0.0	0.0	0.0		
y: I = Initial, P	= Peak, SS = S	teady State. N	Note: LEL = Lower Exp	plosive Limi	it = 5% v/v.		I		I	1		1		1	
R	SK Enviro	nment I t	d Co	mpiled By			Date		Chec	ked By		Dat	e	Contract Ref:	
	Abbey	Park	I.	Toto		28	/11/13		Rese	a.		28/11	/13		312494
	Humber Cover CV3 4	r Road ntry 4AO	Contract:			Ea	ast Mid	lands Ga	iteway					Page:	6 of 36

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)				
CP206	4		120 secs	-	-	-	-	3.5	0.0	12.1	0.0	2.0	0.0				
CP206	4		180 secs	-	-	-	-	3.5	0.0	12.1	0.0	0.0	0.0				
CP206	4		240 secs	-	-	-	-	3.4	0.0	12.2	0.0	7.0	0.0				
CP206	4		300 secs	-	-	-	-	3.4	0.0	12.3	0.0	0.0	0.0				
<b>GD 6 6</b>		• 60		1000	1000												
CP207	1	2.68	16/10/2013 15:32:00	1003	1003	-	DRY	0.1	0.0	20.7	0.0	0.0	0.0				-
CP207	1		15 secs	-	-	-	-	1.4	0.0	19.6	0.0	0.0	0.0				
CP207	1		30 secs	-	-	-	-	1.5	0.0	13.4	0.0	0.0	0.0				
CP207	1		60 secs	-	-	-	-	1.5	0.0	13.2	0.0	0.0	0.0				
CP207	1		90 secs	-	-	-	-	1.5	0.0	13.0	0.0	0.0	0.0				
CP207	1		120 secs	-	-	-	-	1.5	0.0	17.9	0.0	0.0	0.0				
CP207	1		180 secs	-	-	-	-	1.5	0.0	17.8	0.0	0.0	0.0				
CP207	1		240 secs	-	-	-	-	1.5	0.0	17.8	0.0	0.0	0.0				
CP207	1		300 secs	-	-	-	-	1.5	0.0	17.8	0.0	0.0	0.0				
CP207	2	2.70	23/10/2013 14:40:00	987	987	0.0 <sub>(I)</sub>	DRY	0.0	0.0	20.8	0.0	0.0	0.0				
CP207	2		15 secs	-	-	0.0 <sub>(SS)</sub>	-	1.7	0.0	19.0	0.0	0.0	0.0				
CP207	2		30 secs	-	-	-	-	1.8	0.1	18.5	1.0	0.0	0.0				
CP207	2		60 secs	-	-	-	-	1.7	0.1	18.4	1.0	0.0	0.0				
CP207	2		90 secs	-	-	-	-	1.8	0.1	18.4	1.0	0.0	0.0				
CP207	2		120 secs	-	-	-	-	1.8	0.0	18.5	0.0	0.0	0.0				
CP207	2		180 secs	-	-	-	-	1.8	0.0	18.4	0.0	0.0	0.0				
CP207	2		240 secs	-	-	-	-	1.8	0.0	18.5	0.0	0.0	0.0				
CP207	2		300 secs	-	-	-	-	1.9	0.0	18.5	0.0	0.0	0.0				
CP207	3	2.69	30/10/2013 16:42:00	1010	1010	0.0 <sub>(I)</sub>	DRY	0.1	0.0	20.8	0.0	0.0	0.0				
CP207	3		15 secs	-	-	0.0 <sub>(SS)</sub>	-	1.8	0.0	19.2	0.0	0.0	0.0				
ey: I = Initial, P	= Peak, SS = S	teady State. N	Note: LEL = Lower Exp	plosive Limi	it = 5% v/v.												
R	SK Enviro	nment I t	d Co	mpiled By			Date		Chec	ked By		Dat	e	Contract Ref:			
	Abbey	Park	K.	Tota		28	/11/13		Rese	a.		28/11	/13		3124	94	
SN	Humber Cover CV3	r Road ntry 4AQ	Contract:			E	ast Mid	lands Ga	iteway		I			Page:	<b>7</b> of	36	

GINT\_LIBRARY\_V8\_05.GLB : E - GAS MON - REDUCED - A4 - 9A : 312494 - EAST MIDLANDS GATEWAY.GPJ : 28/11/13 17:49 : KF

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)		
CP207	3		30 secs	-	-	-	-	1.8	0.0	18.6	0.0	0.0	0.0		
CP207	3		60 secs	-	-	-	-	1.8	0.0	18.4	0.0	0.0	0.0		
CP207	3		90 secs	-	-	-	-	1.8	0.0	18.4	0.0	0.0	0.0		
CP207	3		120 secs	-	-	-	-	1.8	0.0	18.3	0.0	0.0	0.0		
CP207	3		180 secs	-	-	-	-	1.9	0.0	18.2	0.0	0.0	0.0		
CP207	3		240 secs	-	-	-	-	1.9	0.0	18.1	0.0	0.0	0.0		
CP207	3		300 secs	-	-	-	-	1.9	0.0	18.0	0.0	0.0	0.0		
CP207	4	2.67	11/11/2013 16:08:00	1017	1017	0.1 <sub>(I)</sub>	DRY	0.1	0.0	20.8	0.0	0.0	0.0		
CP207	4		15 secs	-	-	0.0 <sub>(SS)</sub>	-	0.7	0.0	19.9	0.0	0.0	0.0		
CP207	4		30 secs	-	-	-	-	1.4	0.0	18.2	0.0	24.0	0.0		
CP207	4		60 secs	-	-	-	-	1.8	0.0	17.5	0.0	0.0	0.0		
CP207	4		90 secs	-	-	-	-	1.8	0.0	17.6	0.0	5.0	0.0		
CP207	4		120 secs	-	-	-	-	1.9	0.0	17.6	0.0	0.0	0.0		
CP207	4		180 secs	-	-	-	-	1.9	0.0	17.5	0.0	9.0	0.0		
CP207	4		240 secs	-	-	-	-	1.9	0.0	17.5	0.0	0.0	0.0		
CP207	4		300 secs	-	-	-	-	1.9	0.0	17.5	0.0	4.0	0.0		
CP208	1	1.90	16/10/2013 15:16:41	1003	1003	-	DRY	0.0	0.0	20.7	0.0	0.0	0.0		
CP208	1		15 secs	-	-	-	-	1.2	0.1	19.5	1.0	0.0	0.0		
CP208	1		30 secs	-	-	-	-	1.2	0.1	17.4	1.0	0.0	0.0		
CP208	1		60 secs	-	-	-	-	1.2	0.1	17.4	1.0	0.0	0.0		
CP208	1		90 secs	-	-	-	-	1.2	0.1	17.4	1.0	0.0	0.0		
CP208	1		120 secs	-	-	-	-	1.2	0.0	17.4	0.0	0.0	0.0		
CP208	1		180 secs	-	-	-	-	1.2	0.0	17.4	0.0	0.0	0.0		
CP208	1		240 secs	-	-	-	-	1.2	0.0	17.5	0.0	0.0	0.0		
ey: I = Initial, P	= Peak, $SS = S$	teady State. N	lote: LEL = Lower Ex	plosive Limi	t = 5% v/v.		1		I	1		1		I	
R	SK Enviro	nment I t	d Co	mpiled By			Date		Checl	ked By		Dat	e	Contract Ref:	
	Abbev	Park		The		28	/11/13		Rese	a.		28/11	/13		312494
SK	Humber Cover	Road ntry	Contract:	101 -		E	ast Midl	ands Ga	iteway					Page:	8 of 36

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP208	1		300 secs	-	-	-	-	1.2	0.0	17.3	0.0	0.0	0.0	
CP208	2	1.88	24/10/2013 13:00:00	1005	1005	-0.1 <sub>(I)</sub>	DRY	0.1	0.0	20.8	0.0	0.0	0.0	
CP208	2		15 secs	-	-	0.0 <sub>(SS)</sub>	-	1.2	0.0	19.0	0.0	0.0	0.0	
CP208	2		30 secs	-	-	-	-	1.3	0.0	16.0	0.0	0.0	0.0	
CP208	2		60 secs	-	-	-	-	1.3	0.0	15.7	0.0	0.0	0.0	
CP208	2		90 secs	-	-	-	-	1.3	0.0	15.7	0.0	0.0	0.0	
CP208	2		120 secs	-	-	-	-	1.3	0.0	15.7	0.0	0.0	0.0	
CP208	2		180 secs	-	-	-	-	1.3	0.0	15.6	0.0	0.0	0.0	
CP208	2		240 secs	-	-	-	-	1.3	0.0	15.6	0.0	0.0	0.0	
CP208	2		300 secs	-	-	-	-	1.3	0.0	15.6	0.0	0.0	0.0	
CP208	3	1.90	30/10/2013 16:10:00	1009	1009	-0.1 <sub>(I)</sub>	DRY	0.1	0.0	20.8	0.0	0.0	0.0	
CP208	3		15 secs	-	-	0.0 <sub>(SS)</sub>	-	1.0	0.0	17.7	0.0	0.0	0.0	
CP208	3		30 secs	-	-	-	-	1.0	0.0	16.5	0.0	0.0	0.0	
CP208	3		60 secs	-	-	-	-	1.0	0.0	16.3	0.0	0.0	0.0	
CP208	3		90 secs	-	-	-	-	1.0	0.0	16.3	0.0	0.0	0.0	
CP208	3		120 secs	-	-	-	-	1.0	0.0	16.3	0.0	0.0	0.0	
CP208	3		180 secs	-	-	-	-	1.0	0.0	16.2	0.0	0.0	0.0	
CP208	3		240 secs	-	-	-	-	1.1	0.0	16.2	0.0	0.0	0.0	
CP208	3		300 secs	-	-	-	-	1.1	0.0	16.0	0.0	0.0	0.0	
CP208	4	1.86	11/11/2013 15:36:00	1016	1017	0.9 <sub>(I)</sub>	1.85	0.1	0.0	20.8	0.0	0.0	0.0	
CP208	4		15 secs	-	-	0.2 <sub>(SS)</sub>	-	0.8	0.0	18.2	0.0	0.0	0.0	
CP208	4		30 secs	-	-	-	-	0.9	0.0	16.4	0.0	0.0	0.0	
CP208	4		60 secs	-	-	-	-	1.0	0.0	15.9	0.0	0.0	0.0	
CP208	4		90 secs	-	-	-	-	1.0	0.0	15.6	0.0	0.0	0.0	
CP208	4		120 secs	-	-	-	-	1.0	0.0	15.5	0.0	0.0	0.0	
Key: I = Initial, P	= Peak, SS $=$ S	teady State. N	lote: LEL = Lower Ex	plosive Limi	it = 5% v/v.		I	1		I				
R	SK Enviro	nment I t	d Co	mpiled By			Date		Chec	ked By		Dat	e	Contract Ref:
	Abbev	Park		Fort		28	/11/13		Rese	a.		28/11	/13	312494
	Humber Cover CV3	Road ntry AQ	Contract:	,010		E	ast Midl	ands Ga	iteway					Page: <b>9</b> of <b>36</b>

GINT\_LIBRARY\_V8\_05.GLB : E - GAS MON - REDUCED - A4 - 9A : 312494 - EAST MIDLANDS GATEWAY.GPJ : 28/11/13 17:49 : KF

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP208	4		180 secs	-	-	-	-	1.0	0.0	15.5	0.0	0.0	0.0	
CP208	4		240 secs	-	-	-	-	1.0	0.0	15.6	0.0	0.0	0.0	
CP208	4		300 secs	-	-	-	-	1.0	0.0	15.5	0.0	0.0	0.0	
CP210	1	9.05	17/10/2013 16:31:11	1012	1010	-	5.47	0.0	0.0	20.8	0.0	0.0	0.0	
CP210	1		15 secs	-	-	-	-	0.5	0.0	19.0	0.0	0.0	0.0	
CP210	1		30 secs	-	-	-	-	0.5	0.0	18.1	0.0	0.0	0.0	
CP210	1		60 secs	-	-	-	-	0.5	0.0	18.1	0.0	0.0	0.0	
CP210	1		90 secs	-	-	-	-	0.5	0.0	18.3	0.0	0.0	0.0	
CP210	1		120 secs	-	-	-	-	0.5	0.0	18.3	0.0	0.0	0.0	
CP210	1		180 secs	-	-	-	-	0.5	0.0	18.3	0.0	0.0	0.0	
CP210	1		240 secs	-	-	-	-	0.5	0.0	18.3	0.0	0.0	0.0	
CP210	1		300 secs	-	-	-	-	0.5	0.0	18.3	0.0	0.0	0.0	
CP210	2	9.05	23/10/2013 09:44:00	984	984	0.0 <sub>(I)</sub>	4.77	0.0	0.0	20.8	0.0	0.0	0.0	
CP210	2		15 secs	-	-	0.1 <sub>(SS)</sub>	-	0.5	0.0	19.2	0.0	0.0	0.0	
CP210	2		30 secs	-	-	-	-	0.5	0.0	19.1	0.0	0.0	0.0	
CP210	2		60 secs	-	-	-	-	0.4	0.0	19.4	0.0	0.0	0.0	
CP210	2		90 secs	-	-	-	-	0.4	0.0	19.5	0.0	0.0	0.0	
CP210	2		120 secs	-	-	-	-	0.4	0.0	19.5	0.0	0.0	0.0	
CP210	2		180 secs	-	-	-	-	0.4	0.0	19.6	0.0	0.0	0.0	
CP210	2		240 secs	-	-	-	-	0.4	0.0	19.7	0.0	0.0	0.0	
CP210	2		300 secs	-	-	-	-	0.4	0.0	19.7	0.0	0.0	0.0	
CP210	3	9.03	30/10/2013 14:35:00	1009	1009	0.0 <sub>(I)</sub>	3.88	0.1	0.0	20.8	0.0	0.0	0.0	
CP210	3		15 secs	-	-	0.0 <sub>(SS)</sub>	-	1.7	0.0	19.5	0.0	0.0	0.0	
CP210	3		30 secs	-	-	-	-	1.7	0.0	18.6	0.0	0.0	0.0	
y: I = Initial, P	= Peak, SS = S	teady State. N	Jote: LEL = Lower Ex	plosive Limi	t = 5% v/v.	I	1		1	1		1		1
RS	SK Enviro	nment Lt	d Co	mpiled By			Date		Chec	ked By		Dat	e	Contract Ref:
	Abbey	Park	. K.	Tota		28	/11/13		Rese	a.		28/11	/13	312494
	Humber Cover CV3	Road ntry AQ	Contract:			E	ast Mid	lands Ga	nteway		I			Page: 10 of 36

GINT\_LIBRARY\_V8\_05.GLB : E - GAS MON - REDUCED - A4 - 9A : 312494 - EAST MIDLANDS GATEWAY.GPJ : 28/11/13 17:50 : KF

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)		
CP210	3		60 secs	-	-	-	-	1.4	0.0	18.7	0.0	0.0	0.0		
CP210	3		90 secs	-	-	-	-	1.4	0.0	18.9	0.0	0.0	0.0		
CP210	3		120 secs	-	-	-	-	1.4	0.0	18.8	0.0	0.0	0.0		
CP210	3		180 secs	-	-	-	-	0.8	0.0	19.5	0.0	0.0	0.0		
CP210	3		240 secs	-	-	-	-	0.9	0.0	19.3	0.0	0.0	0.0		
CP210	3		300 secs	-	-	-	-	0.8	0.0	19.3	0.0	0.0	0.0		
CP210	4	9.04	12/11/2013 12:22:00	1019	1020	0.0 <sub>(I)</sub>	3.27	0.1	0.0	20.8	0.0	0.0	0.0		
CP210	4		15 secs	-	-	1.6 <sub>(SS)</sub>	-	1.5	0.0	18.3	0.0	0.0	0.0		
CP210	4		30 secs	-	-	-	-	2.4	0.0	15.1	0.0	5.0	0.0		
CP210	4		60 secs	-	-	-	-	2.4	0.0	15.0	0.0	0.0	0.0		
CP210	4		90 secs	-	-	-	-	2.1	0.0	15.4	0.0	0.0	0.0		
CP210	4		120 secs	-	-	-	-	2.1	0.0	15.5	0.0	0.0	0.0		
CP210	4		180 secs	-	-	-	-	2.1	0.0	15.5	0.0	0.0	0.0		
CP210	4		240 secs	-	-	-	-	2.0	0.0	15.7	0.0	0.0	0.0		
CP210	4		300 secs	-	-	-	-	2.0	0.0	15.9	0.0	0.0	0.0		
CP211	1	6.68	17/10/2013 16:43:18	1010	1010	-	DRY	0.0	0.0	20.8	0.0	0.0	0.0		
CP211	1		15 secs	-	-	-	_	1.9	0.0	16.0	0.0	0.0	0.0		
CP211	1		30 secs	-	-	-	_	2.0	0.0	12.2	0.0	0.0	0.0		
CP211	1		60 secs	_	-	-	_	2.0	0.0	11.9	0.0	0.0	0.0		
CP211	1		90 secs	_	-	-	_	2.0	0.0	11.8	0.0	0.0	0.0		
CP211	1		120 secs	-	-	-	_	2.0	0.0	11.7	0.0	0.0	0.0		
CP211	1		180 secs	-	-	-	-	2.0	0.0	11.8	0.0	0.0	0.0		
CP211	1		240 secs	-	-	-	-	2.0	0.0	11.6	0.0	0.0	0.0		
CP211	1		300 secs	-	-	-	-	2.0	0.0	11.8	0.0	0.0	0.0		
Key: I = Initial, P	= Peak, SS = S	teady State. N	ote: LEL = Lower Ex	plosive Limi	t = 5% v/v.	I	1		1	1		1	I	1	
R	SK Enviro	nment I t	d Co	mpiled By			Date		Chec	ked By		Dat	te	Contract Ref:	
	Abbey	Park	I.	Tota		28	/11/13		Repe	a.		28/11	/13	]	312494
SA	Humber Cove CV3	r Road ntry 4AQ	Contract:			E	ast Mid	lands Ga	nteway					Page:	11 of 36

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP211	2	6.67	24/10/2013 10:40:00	1005	1005	-0.1 <sub>(I)</sub>	6.14	0.0	0.0	20.8	0.0	0.0	0.0	
CP211	2		15 secs	-	-	0.0 <sub>(SS)</sub>	-	2.5	0.0	17.4	0.0	0.0	0.0	
CP211	2		30 secs	-	-	-	-	2.6	0.0	10.9	0.0	0.0	0.0	
CP211	2		60 secs	-	-	-	-	2.6	0.0	10.8	0.0	0.0	0.0	
CP211	2		90 secs	-	-	-	-	2.6	0.0	10.8	0.0	0.0	0.0	
CP211	2		120 secs	-	-	-	-	2.6	0.0	10.8	0.0	0.0	0.0	
CP211	2		180 secs	-	-	-	-	2.6	0.0	10.9	0.0	0.0	0.0	
CP211	2		240 secs	-	-	-	-	2.6	0.0	10.9	0.0	0.0	0.0	
CP211	2		300 secs	-	-	-	-	2.6	0.0	10.9	0.0	0.0	0.0	
CP211	3	6.67	30/10/2013 14:00:00	1008	1009	-0.1 <sub>(I)</sub>	6.14	0.1	0.0	20.8	0.0	0.0	0.0	
CP211	3		15 secs	-	-	0.0 <sub>(SS)</sub>	-	2.1	0.0	15.1	0.0	0.0	0.0	
CP211	3		30 secs	-	-	-	-	2.1	0.0	13.6	0.0	0.0	0.0	
CP211	3		60 secs	-	-	-	-	1.9	0.0	13.9	0.0	0.0	0.0	
CP211	3		90 secs	-	-	-	-	2.0	0.0	13.7	0.0	0.0	0.0	
CP211	3		120 secs	-	-	-	-	1.9	0.0	14.0	0.0	0.0	0.0	
CP211	3		180 secs	-	-	-	-	1.8	0.0	14.3	0.0	0.0	0.0	
CP211	3		240 secs	-	-	-	-	1.9	0.0	14.1	0.0	0.0	0.0	
CP211	3		300 secs	-	-	-	-	1.8	0.0	14.5	0.0	0.0	0.0	
CP211	4	6.65	12/11/2013 12:53:00	1018	1020	0.1 <sub>(I)</sub>	5.96	0.1	0.0	20.8	0.0	0.0	0.0	
CP211	4		15 secs	-	-	0.1 <sub>(SS)</sub>	-	0.3	0.0	20.1	0.0	0.0	0.0	
CP211	4		30 secs	-	-	-	-	2.3	0.0	9.6	0.0	7.0	0.0	
CP211	4		60 secs	-	-	-	-	2.3	0.0	9.2	0.0	0.0	0.0	
CP211	4		90 secs	-	-	-	-	2.2	0.0	9.3	0.0	0.0	0.0	
CP211	4		120 secs	-	-	-	-	1.0	0.0	17.0	0.0	0.0	0.0	
CP211	4		180 secs	-	-	-	-	0.8	0.0	17.1	0.0	0.0	0.0	
Key: I = Initial, P	= Peak, SS = S	teady State. N	lote: LEL = Lower Ex	plosive Limi	it = 5% v/v.							1		
R	SK Enviro	nment I t	d Co	mpiled By			Date		Chec	ked By		Dat	te	Contract Ref:
	Abbey	Park	K.	Tota		28	8/11/13		Repe	a.		28/11	/13	312494
	Humber Cove CV3	r Road ntry 4AQ	Contract:			E	ast Mid	lands Ga	nteway		1			Page: <b>12</b> of <b>36</b>

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP211	4		240 secs	-	-	-	-	0.8	0.0	17.4	0.0	0.0	0.0	
CP211	4		300 secs	-	-	-	-	0.8	0.0	17.3	0.0	0.0	0.0	
CP212	1	3.39	17/10/2013 16:56:18	1010	1010	-	2.22	0.0	0.0	20.8	0.0	0.0	0.0	
CP212	1		15 secs	-	-	-	-	2.3	0.0	19.4	0.0	0.0	0.0	
CP212	1		30 secs	-	-	-	-	2.4	0.0	18.5	0.0	0.0	0.0	
CP212	1		60 secs	-	-	-	-	2.4	0.0	18.2	0.0	0.0	0.0	
CP212	1		90 secs	-	-	-	-	2.4	0.0	18.3	0.0	0.0	0.0	
CP212	1		120 secs	-	-	-	-	2.5	0.0	18.3	0.0	0.0	0.0	
CP212	1		180 secs	-	-	-	-	2.5	0.0	18.1	0.0	0.0	0.0	
CP212	1		240 secs	-	-	-	-	2.4	0.0	18.3	0.0	0.0	0.0	
CP212	1		300 secs	-	-	-	-	2.3	0.0	18.4	0.0	0.0	0.0	
CP212	2	3.39	23/10/2013 10:45:00	984	984	0.1 <sub>(I)</sub>	1.48	0.0	0.0	20.8	0.0	0.0	0.0	
CP212	2		15 secs	-	-	0.0 <sub>(SS)</sub>	-	3.6	0.0	20.0	0.0	0.0	0.0	
CP212	2		30 secs	-	-	-	-	3.8	0.0	15.0	0.0	0.0	0.0	
CP212	2		60 secs	-	-	-	-	3.8	0.0	15.5	0.0	0.0	0.0	
CP212	2		90 secs	-	-	-	-	3.8	0.0	15.5	0.0	0.0	0.0	
CP212	2		120 secs	-	-	-	-	3.8	0.0	15.5	0.0	0.0	0.0	
CP212	2		180 secs	-	-	-	-	3.6	0.0	15.9	0.0	0.0	0.0	
CP212	2		240 secs	-	-	-	-	3.4	0.0	16.4	0.0	0.0	0.0	
CP212	2		300 secs	-	-	-	-	3.2	0.0	16.8	0.0	0.0	0.0	
CP212	3	3.38	30/10/2013 13:55:00	1007	1009	0.3 <sub>(I)</sub>	1.22	0.1	0.0	20.8	0.0	0.0	0.0	
CP212	3		15 secs	-	-	0.4 <sub>(SS)</sub>	-	2.3	0.0	19.5	0.0	0.0	0.0	
CP212	3		30 secs	-	-	-	-	2.4	0.0	18.5	0.0	0.0	0.0	
CP212	3		60 secs	-	-	-	-	2.4	0.0	18.3	0.0	0.0	0.0	
Key: I = Initial, P	= Peak, SS = S	teady State. N	lote: LEL = Lower Ex	plosive Lim	it = 5% v/v.									
R	SK Enviro	nment I t	d Co	mpiled By			Date		Chec	ked By		Dat	e	Contract Ref:
	Abbev	Park			28	/11/13		Rese	a.		28/11	/13	312494	
	Humber Cover CV3 4	Road ntry 4AQ	Contract:	1010-		E	ast Mid	ands Ga	nteway					Page: 13 of 36

GINT\_LIBRARY\_V8\_05.GLB : E - GAS MON - REDUCED - A4 - 9A : 312494 - EAST MIDLANDS GATEWAY.GPJ : 28/11/13 17:51 : KF

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP212	3		90 secs	-	-	-	-	2.4	0.0	18.3	0.0	0.0	0.0	
CP212	3		120 secs	-	-	-	-	2.3	0.0	18.4	0.0	0.0	0.0	
CP212	3		180 secs	-	-	-	-	2.2	0.0	18.6	0.0	0.0	0.0	
CP212	3		240 secs	-	-	-	-	2.0	0.0	18.9	0.0	0.0	0.0	
CP212	3		300 secs	-	-	-	-	1.8	0.0	19.1	0.0	0.0	0.0	
CP212	4	3.37	12/11/2013 13:12:00	1020	1020	-1.6 <sub>(I)</sub>	1.04	0.1	0.0	20.8	0.0	0.0	0.0	
CP212	4		15 secs	-	-	0.1 <sub>(SS)</sub>	-	3.3	0.0	17.0	0.0	0.0	0.0	
CP212	4		30 secs	-	-	-	-	3.4	0.0	16.9	0.0	0.0	0.0	
CP212	4		60 secs	-	-	-	-	3.4	0.0	16.9	0.0	11.0	0.0	
CP212	4		90 secs	-	-	-	-	3.4	0.0	16.8	0.0	0.0	0.0	
CP212	4		120 secs	-	-	-	-	3.3	0.0	16.8	0.0	0.0	0.0	
CP212	4		180 secs	-	-	-	-	2.9	0.0	17.5	0.0	0.0	0.0	
CP212	4		240 secs	-	-	-	-	2.8	0.0	17.6	0.0	0.0	0.0	
CP212	4		300 secs	-	-	-	-	2.8	0.0	17.5	0.0	0.0	0.0	
CP213	1	4.08	17/10/2013 18:00:00	1010	1010	-	2.39	0.0	0.0	20.8	0.0	0.0	0.0	
CP213	1		15 secs	-	-	-	-	1.2	0.0	18.5	0.0	3.0	0.0	
CP213	1		30 secs	-	-	-	-	1.5	0.0	18.3	0.0	2.0	0.0	
CP213	1		60 secs	-	-	-	-	1.3	0.0	18.4	0.0	6.0	0.0	
CP213	1		90 secs	-	-	-	-	1.4	0.0	18.1	0.0	0.0	0.0	
CP213	1		120 secs	-	-	-	-	1.4	0.0	18.1	0.0	0.0	0.0	
CP213	1		180 secs	-	-	-	-	1.5	0.0	18.0	0.0	0.0	0.0	
CP213	1		240 secs	-	-	-	-	1.6	0.0	18.1	0.0	0.0	0.0	
CP213	1		300 secs	-	-	-	-	1.6	0.0	18.1	0.0	0.0	0.0	
CP213	2	4.08	23/10/2013 10:16:00	983	983	0.2 <sub>(I)</sub>	2.24	0.0	0.0	20.8	0.0	0.0	0.0	
Key: I = Initial, P	= Peak, $SS = S$	teady State. N	lote: LEL = Lower Ex	plosive Limi	t = 5% v/v.									
P	SK Enviro	nment I t	d Co	mpiled By			Date		Chec	ked By		Dat	e	Contract Ref:
	Ahhev	Park		The		28	/11/13		Rese	a		28/11	/13	312494
SA	Humber Cover CV3 4	Road ntry AQ	Contract:	1011-		E:	ast Midl	ands Ga	iteway			20,11	., 10	Page: 14 of 36

GINT\_LIBRARY\_V8\_05.GLB : E - GAS MON - REDUCED - A4 - 9A : 312494 - EAST MIDLANDS GATEWAY.GPJ : 28/11/13 17:51 : KF

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP213	2		15 secs	-	-	0.1 <sub>(SS)</sub>	-	1.6	0.0	19.9	0.0	0.0	0.0	
CP213	2		30 secs	-	-	-	-	1.7	0.0	18.0	0.0	0.0	0.0	
CP213	2		60 secs	-	-	-	-	1.7	0.0	17.8	0.0	0.0	0.0	
CP213	2		90 secs	-	-	-	-	1.8	0.0	17.8	0.0	0.0	0.0	
CP213	2		120 secs	-	-	-	-	1.8	0.0	17.6	0.0	0.0	0.0	
CP213	2		180 secs	-	-	-	-	2.0	0.0	17.6	0.0	0.0	0.0	
CP213	2		240 secs	-	-	-	-	2.1	0.0	17.6	0.0	0.0	0.0	
CP213	2		300 secs	-	-	-	-	2.1	0.0	17.6	0.0	0.0	0.0	
CP213	3	4.08	30/10/2013 12:00:00	1012	1012	2.4 <sub>(I)</sub>	2.18	0.1	0.0	20.8	0.0	0.0	0.0	
CP213	3		15 secs	-	-	2.5 <sub>(SS)</sub>	-	2.1	0.0	20.0	0.0	0.0	0.0	
CP213	3		30 secs	-	-	-	-	2.4	0.0	17.2	0.0	0.0	0.0	
CP213	3		60 secs	-	-	-	-	2.4	0.0	17.0	0.0	0.0	0.0	
CP213	3		90 secs	-	-	-	-	2.4	0.0	16.9	0.0	0.0	0.0	
CP213	3		120 secs	-	-	-	-	2.4	0.0	17.0	0.0	0.0	0.0	
CP213	3		180 secs	-	-	-	-	2.4	0.0	17.0	0.0	0.0	0.0	
CP213	3		240 secs	-	-	-	-	2.4	0.0	17.0	0.0	0.0	0.0	
CP213	3		300 secs	-	-	-	-	2.4	0.0	17.0	0.0	0.0	0.0	
CP213	4	4.07	12/11/2013 15:46:00	1020	1020	0.3 <sub>(I)</sub>	1.78	0.1	0.0	20.8	0.0	0.0	0.0	
CP213	4		15 secs	-	-	0.1 <sub>(SS)</sub>	-	1.5	0.0	19.3	0.0	0.0	0.0	
CP213	4		30 secs	-	-	-	-	1.6	0.0	18.5	0.0	0.0	0.0	
CP213	4		60 secs	-	-	-	-	1.9	0.0	17.8	0.0	21.0	0.0	
CP213	4		90 secs	-	-	-	-	2.0	0.0	17.6	0.0	4.0	0.0	
CP213	4		120 secs	-	-	-	-	2.0	0.0	17.7	0.0	0.0	0.0	
CP213	4		180 secs	-	-	-	-	2.0	0.0	17.6	0.0	0.0	0.0	
CP213	4		240 secs	-	-	-	-	2.0	0.0	17.6	0.0	0.0	0.0	
y: I = Initial, P	= Peak, SS = S	teady State. N	lote: LEL = Lower Exp	plosive Limi	t = 5% v/v.			1						
R	SK Enviro	nment I t	d Co	mpiled By			Date		Chec	ked By		Dat	e	Contract Ref:
	Abbey	Park	I.	Tota		28	/11/13		Repe	a.		28/11	/13	312494
	Humber Cover CV3 4	r Road ntry 4AO	Contract:			E	ast Midl	ands Ga	nteway		I			Page: 15 of 36

GINT\_LIBRARY\_V8\_05.GLB : E - GAS MON - REDUCED - A4 - 9A : 312494 - EAST MIDLANDS GATEWAY.GPJ : 28/11/13 17:52 : KF

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)		
CP213	4		300 secs	-	-	-	-	2.0	0.0	17.5	0.0	0.0	0.0		
CP214	1	4.08	17/10/2013 18:20:18	1011	1010	-	3.49	0.0	0.0	20.8	0.0	0.0	0.0		
CP214	1		15 secs	-	-	-	-	3.4	0.0	18.6	0.0	0.0	0.0		
CP214	1		30 secs	-	-	-	-	3.6	0.0	16.1	0.0	0.0	0.0		
CP214	1		60 secs	-	-	-	-	3.6	0.0	15.9	0.0	0.0	0.0		
CP214	1		90 secs	-	-	-	-	3.6	0.0	15.9	0.0	0.0	0.0		
CP214	1		120 secs	-	-	-	-	3.6	0.0	18.8	0.0	0.0	0.0		
CP214	1		180 secs	-	-	-	-	3.6	0.0	18.6	0.0	0.0	0.0		
CP214	1		240 secs	-	-	-	-	3.6	0.0	16.0	0.0	0.0	0.0		
CP214	1		300 secs	-	-	-	-	3.5	0.0	16.0	0.0	0.0	0.0		
CP214	2	4.10	24/10/2013 13:20:00	1005	1005	0.1 <sub>(I)</sub>	3.38	0.1	0.0	20.7	0.0	0.0	0.0		
CP214	2		15 secs	-	-	0.0 <sub>(SS)</sub>	-	3.7	0.0	17.8	0.0	0.0	0.0		
CP214	2		30 secs	-	-	-	-	3.8	0.0	14.5	0.0	0.0	0.0		
CP214	2		60 secs	-	-	-	-	3.7	0.0	14.3	0.0	0.0	0.0		
CP214	2		90 secs	-	-	-	-	3.7	0.0	14.3	0.0	0.0	0.0		
CP214	2		120 secs	-	-	-	-	3.7	0.0	14.3	0.0	0.0	0.0		
CP214	2		180 secs	-	-	-	-	3.7	0.0	14.3	0.0	0.0	0.0		
CP214	2		240 secs	-	-	-	-	3.7	0.0	14.3	0.0	0.0	0.0		
CP214	2		300 secs	-	-	-	-	3.7	0.0	14.3	0.0	0.0	0.0		
CP214	3	4.08	30/10/2013 10:35:00	1012	1012	-1.5 <sub>(I)</sub>	3.00	0.1	0.0	20.8	0.0	0.0	0.0		
CP214	3		15 secs	-	-	-1.0 <sub>(SS)</sub>	-	3.6	0.0	17.9	0.0	0.0	0.0		
CP214	3		30 secs	-	-	-	-	3.8	0.0	13.4	0.0	0.0	0.0		
CP214	3		60 secs	-	-	-	-	3.8	0.0	12.9	0.0	0.0	0.0		
CP214	3		90 secs	-	-	-	-	3.8	0.0	12.8	0.0	0.0	0.0		
y: I = Initial, P	= Peak, SS = S	teady State. N	lote: LEL = Lower Exp	plosive Limi	t = 5% v/v.				1						
R	SK Enviro	nment I t	d Co	mpiled By			Date		Checl	ked By		Dat	e	Contract Ref:	
	Abbev	Park		Forta-		28	/11/13		Rese	a.		28/11	/13	312494	
	Humber Cover CV3 4	Road ntry	Contract:	1011 -		E:	ast Midl	ands Ga	iteway					Page: 16 of	36

GINT\_LIBRARY\_V8\_05.GLB : E - GAS MON - REDUCED - A4 - 9A : 312494 - EAST MIDLANDS GATEWAY.GPJ : 28/11/13 17:52 : KF

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)			
CP214	3		120 secs	-	-	-	-	3.8	0.0	12.9	0.0	0.0	0.0			
CP214	3		180 secs	-	-	-	-	3.8	0.0	12.9	0.0	0.0	0.0			
CP214	3		240 secs	-	-	-	-	3.8	0.0	13.0	0.0	0.0	0.0			
CP214	3		300 secs	-	-	-	-	3.8	0.0	13.0	0.0	0.0	0.0			
CP214	4	4.07	12/11/2013 15:49:00	1020	1020	0.3 <sub>(I)</sub>	2.13	0.1	0.0	20.8	0.0	0.0	0.0			
CP214	4		15 secs	-	-	0.1 <sub>(SS)</sub>	-	4.0	0.0	14.2	0.0	0.0	0.0			
CP214	4		30 secs	-	-	-	-	4.1	0.0	13.1	0.0	0.0	0.0			
CP214	4		60 secs	-	-	-	-	4.1	0.0	12.6	0.0	0.0	0.0			
CP214	4		90 secs	-	-	-	-	4.1	0.0	12.6	0.0	16.0	0.0			
CP214	4		120 secs	-	-	-	-	4.1	0.0	12.6	0.0	0.0	0.0			
CP214	4		180 secs	-	-	-	-	4.1	0.0	12.5	0.0	0.0	0.0			
CP214	4		240 secs	-	-	-	-	4.1	0.0	12.6	0.0	0.0	0.0			
CP214	4		300 secs	-	-	-	-	4.1	0.0	12.5	0.0	0.0	0.0			
CP215	1	4.98	17/10/2013 17:15:00	1010	1010	-	1.72	0.0	0.0	20.8	0.0	0.0	0.0			
CP215	1		15 secs	-	-	-	-	2.5	0.0	18.1	0.0	0.0	0.0			
CP215	1		30 secs	-	-	-	-	1.9	0.0	16.4	0.0	0.0	0.0			
CP215	1		60 secs	-	-	-	-	1.4	0.0	17.8	0.0	0.0	0.0			
CP215	1		90 secs	-	-	-	-	1.2	0.0	18.2	0.0	0.0	0.0			
CP215	1		120 secs	-	-	-	-	1.0	0.0	18.6	0.0	0.0	0.0			
CP215	1		180 secs	-	-	-	-	0.8	0.0	19.3	0.0	0.0	0.0			
CP215	1		240 secs	-	-	-	-	0.6	0.0	19.6	0.0	0.0	0.0			
CP215	1		300 secs	-	-	-	-	0.5	0.0	19.7	0.0	0.0	0.0			
CP215	2	4.98	24/10/2013 11:15:00	1005	1005	0.1 <sub>(I)</sub>	1.07	0.1	0.0	20.8	0.0	0.0	0.0			
CP215	2		15 secs	-	-	0.0 <sub>(SS)</sub>	-	3.1	0.0	18.6	0.0	0.0	0.0			
Key: I = Initial, P	= Peak, $SS = S$	teady State. N	plosive Limi	t = 5% v/v.												
R	SK Enviro	nment I t	d Co	mpiled By			Date		Checl	ked By		Dat	e	Contract Ref:		
	Abbev	Park		The		28	/11/13		Rese	a.		28/11	/13		312494	
	Humber Cover CV3 4	Road ntry AO	Contract:			E:	-0,11		Page: 17	of <b>36</b>						

GINT\_LIBRARY\_V8\_05.GLB : E - GAS MON - REDUCED - A4 - 9A : 312494 - EAST MIDLANDS GATEWAY.GPJ : 28/11/13 17:53 : KF

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP215	2		30 secs	-	-	-	-	2.4	0.0	15.2	0.0	0.0	0.0	
CP215	2		60 secs	-	-	-	-	1.9	0.0	16.3	0.0	0.0	0.0	
CP215	2		90 secs	-	-	-	-	1.5	0.0	17.1	0.0	0.0	0.0	
CP215	2		120 secs	-	-	-	-	1.3	0.0	17.6	0.0	0.0	0.0	
CP215	2		180 secs	-	-	-	-	1.0	0.0	18.3	0.0	0.0	0.0	
CP215	2		240 secs	-	-	-	-	0.9	0.0	18.5	0.0	0.0	0.0	
CP215	2		300 secs	-	-	-	-	0.8	0.0	18.7	0.0	0.0	0.0	
CP215	3	4.98	30/10/2013 13:20:00	1012	1012	-2.3 <sub>(I)</sub>	0.88	0.1	0.0	20.8	0.0	0.0	0.0	
CP215	3		15 secs	-	-	-1.8 <sub>(SS)</sub>	-	2.5	0.0	20.0	0.0	0.0	0.0	
CP215	3		30 secs	-	-	-	-	2.0	0.0	16.5	0.0	0.0	0.0	
CP215	3		60 secs	-	-	-	-	1.2	0.0	18.1	0.0	0.0	0.0	
CP215	3		90 secs	-	-	-	-	1.1	0.0	18.6	0.0	0.0	0.0	
CP215	3		120 secs	-	-	-	-	1.0	0.0	18.9	0.0	0.0	0.0	
CP215	3		180 secs	-	-	-	-	1.1	0.0	18.8	0.0	0.0	0.0	
CP215	3		240 secs	-	-	-	-	1.0	0.0	18.9	0.0	0.0	0.0	
CP215	3		300 secs	-	-	-	-	1.0	0.0	19.0	0.0	0.0	0.0	
CP215	4	4.96	12/11/2013 13:30:00	1019	1020	0.0 <sub>(I)</sub>	0.55	0.1	0.0	20.8	0.0	0.0	0.0	
CP215	4		15 secs	-	-	0.0 <sub>(SS)</sub>	-	3.8	0.0	15.0	0.0	0.0	0.0	
CP215	4		30 secs	-	-	-	-	3.8	0.0	13.6	0.0	0.0	0.0	
CP215	4		60 secs	-	-	-	-	3.8	0.0	13.4	0.0	4.0	0.0	
CP215	4		90 secs	-	-	-	-	3.4	0.0	13.9	0.0	0.0	0.0	
CP215	4		120 secs	-	-	-	-	3.4	0.0	13.9	0.0	0.0	0.0	
CP215	4		180 secs	-	-	-	-	3.4	0.0	14.1	0.0	0.0	0.0	
CP215	4		240 secs	-	-	-	-	3.2	0.0	14.4	0.0	0.0	0.0	
CP215	4		300 secs	-	-	-	-	3.2	0.0	14.4	0.0	0.0	0.0	
y: I = Initial, P	= Peak, $SS = S$	teady State. N	Note: LEL = Lower Exp	plosive Limi	it = 5% v/v.									1
R.	SK Enviro	nment I t	d Co	mpiled By			Date		Checl	ked By		Dat	e	Contract Ref:
	Abbey	Park	K.	Tota		28	/11/13		Rese	a.		28/11	/13	312494
	Abbey Park Humber Road Coventry CV3 4AQ <i>K. Tob</i> 28/11/1328/11/13Contract:Contract:East Midlands Gateway												Page: <b>18</b> of <b>36</b>	

GINT\_LIBRARY\_V8\_05.GLB : E - GAS MON - REDUCED - A4 - 9A : 312494 - EAST MIDLANDS GATEWAY.GPJ : 28/11/13 17:53 : KF

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)		
CP216	3	2.55	18/01/2000	1011	1011	2.4(1)	DRY	0.1	0.0	20.8	0.0	0.0	0.0		
	Remarks	: Borehole co	ould not be located of	on the first	two visits c	nsite.									
CP216	3		15 secs	-	-	2.4 <sub>(SS)</sub>	-	1.4	0.0	19.1	0.0	6.0	0.0		
CP216	3		30 secs	-	-	-	-	1.4	0.0	17.2	0.0	3.0	0.0		
CP216	3		60 secs	-	-	-	-	1.3	0.0	17.4	0.0	0.0	0.0		
CP216	3		90 secs	-	-	-	-	1.2	0.1	17.5	1.0	0.0	0.0		
CP216	3		120 secs	-	-	-	-	1.2	0.1	17.7	1.0	0.0	0.0		
CP216	3		180 secs	-	-	-	-	1.1	0.0	18.0	0.0	0.0	0.0		
CP216	3		240 secs	-	-	-	-	1.0	0.0	18.1	0.0	0.0	0.0		
CP216	3		300 secs	-	-	-	-	1.0	0.0	18.3	0.0	0.0	0.0		
CP216	4	2.55	12/11/2013 14:35:00	1020	1020	2.2 <sub>(I)</sub>	DRY	0.1	0.0	20.8	0.0	0.0	0.0		
CP216	4		15 secs	-	-	2.0 <sub>(SS)</sub>	-	1.4	0.0	19.4	0.0	1.0	0.0		
CP216	4		30 secs	-	-	-	-	1.3	0.0	17.0	0.0	0.0	0.0		
CP216	4		60 secs	-	-	-	-	1.1	0.0	17.7	0.0	0.0	0.0		
CP216	4		90 secs	-	-	-	-	1.0	0.0	17.8	0.0	0.0	0.0		
CP216	4		120 secs	-	-	-	-	1.0	0.0	18.1	0.0	0.0	0.0		
CP216	4		180 secs	-	-	-	-	0.9	0.0	18.3	0.0	12.0	0.0		
CP216	4		240 secs	-	-	-	-	0.9	0.0	18.2	0.0	0.0	0.0		
CP216	4		300 secs	-	-	-	-	0.9	0.0	18.3	0.0	0.0	0.0		
CP217	1	4.64	17/10/2013 17:42:00	1010	1010	_	2.25	0.0	0.0	20.8	0.0	0.0	0.0		
CP217	1		15 secs	-	-	-	-	0.8	0.0	18.1	0.0	0.0	0.0		
CP217	1		30 secs	-	-	-	-	0.6	0.0	17.9	0.0	0.0	0.0		
CP217	1		60 secs	-	-	-	-	0.5	0.0	18.4	0.0	0.0	0.0		
Key: I = Initial, P	= Peak, SS $=$ S	teady State. N	ote: LEL = Lower Ex	plosive Limi	t = 5% v/v.			0.5	0.0	10.1	0.0	0.0	0.0		
R	SK Enviro	nment I t	d Co	mpiled By			Date		Chec	ked By		Dat	e	Contract Ref:	
	Abbey	Park	и <i>К</i> .	Toto		28	/11/13		Rese	a.		28/11	/13		312494
SA	Humber Cove CV3 4	r Road ntry 4AO	Contract:	- - 0.5 0.0 18.4 0.0 0.0 0.0   Explosive Limit = 5% v/v.   Compiled By Date Checked By Date   V. Explosive Limit = 5% v/v.   Compiled By Date Checked By Date   K. Explosive Limit = 5% v/v.   East Midlands Gateway											<b>19</b> of <b>36</b>

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP217	1		90 secs	-	-	-	-	0.5	0.0	18.5	0.0	0.0	0.0	
CP217	1		120 secs	-	-	-	-	0.4	0.0	18.7	0.0	0.0	0.0	
CP217	1		180 secs	-	-	-	-	0.4	0.0	18.8	0.0	0.0	0.0	
CP217	1		240 secs	-	-	-	-	0.4	0.0	18.8	0.0	0.0	0.0	
CP217	1		300 secs	-	-	-	-	0.3	0.0	18.8	0.0	0.0	0.0	
CP217	2	4.64	23/10/2013 11:20:00	984	984	-	1.70	0.1	0.0	20.7	0.0	0.0	0.0	
CP217	2		15 secs	-	-	-	-	1.6	0.0	19.6	0.0	0.0	0.0	
CP217	2		30 secs	-	-	-	-	1.7	0.0	16.2	0.0	0.0	0.0	
CP217	2		60 secs	-	-	-	-	1.1	0.0	17.3	0.0	0.0	0.0	
CP217	2		90 secs	-	-	-	-	0.8	0.0	18.4	0.0	0.0	0.0	
CP217	2		120 secs	-	-	-	-	0.6	0.0	19.1	0.0	0.0	0.0	
CP217	2		180 secs	-	-	-	-	0.4	0.0	20.0	0.0	0.0	0.0	
CP217	2		240 secs	-	-	0.0								
CP217	2		300 secs	-	-	-	-	0.2	0.0	20.6	0.0	0.0	0.0	
CP217	3	4.64	30/10/2013 12:56:00	1011	1012	1.6 <sub>(I)</sub>	1.60	0.1	0.0	20.8	0.0	0.0	0.0	
CP217	3		15 secs	-	-	1.3 <sub>(SS)</sub>	-	2.1	0.0	17.6	0.0	0.0	0.0	
CP217	3		30 secs	-	-	-	-	2.0	0.0	16.8	0.0	0.0	0.0	
CP217	3		60 secs	-	-	-	-	1.3	0.0	17.9	0.0	0.0	0.0	
CP217	3		90 secs	-	-	-	-	1.0	0.0	18.6	0.0	0.0	0.0	
CP217	3		120 secs	-	-	-	-	0.7	0.0	19.3	0.0	0.0	0.0	
CP217	3		180 secs	-	-	-	-	0.6	0.0	19.6	0.0	0.0	0.0	
CP217	3		240 secs	-	-	-	-	0.4	0.0	20.0	0.0	0.0	0.0	
CP217	3		300 secs	-	-	-	-	0.2	0.0	20.2	0.0	0.0	0.0	
CP217	4	4.62	12/11/2013 14:06:00	1020	1020	0.4(1)	1.43	0.1	0.0	20.8	0.0	0.0	0.0	
CP217	4		15 secs	-	-	0.2 <sub>(SS)</sub>	-	2.2	0.0	17.9	0.0	0.0	0.0	
ey: I = Initial, P	= Peak, SS $=$ S	teady State. N	lote: LEL = Lower Ex	plosive Limi	it = 5% v/v.	(55)								
R	SK Enviro	nment I t	d Co	mpiled By			Date		Checl	ked By		Dat	e	Contract Ref:
	Abbev	Park	II.	Tota		28	28/11	/13	312494					
	Humber Cove CV3	Road ntry 4AQ	Contract:	1010		E		-	Page: 20 of 36					

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP217	4		30 secs	-	-	-	-	1.8	0.0	17.7	0.0	0.0	0.0	
CP217	4		60 secs	-	-	-	-	0.8	0.0	19.5	0.0	2.0	0.0	
CP217	4		90 secs	-	-	-	-	0.7	0.0	19.6	0.0	10.0	0.0	
CP217	4		120 secs	-	-	-	-	0.6	0.0	19.9	0.0	0.0	0.0	
CP217	4		180 secs	-	-	-	-	0.5	0.0	19.9	0.0	3.0	0.0	
CP217	4		240 secs	-	-	-	-	0.4	0.0	20.0	0.0	0.0	0.0	
CP217	4		300 secs	-	-	-	-	0.4	0.0	20.0	0.0	0.0	0.0	
CP218	1	4.77	17/10/2013 17:47:19	1011	1010	-	DRY	0.0	0.0	20.8	0.0	0.0	0.0	
CP218	1		15 secs	-	-	-	-	2.0	0.0	18.3	0.0	0.0	0.0	
CP218	1		30 secs	-	-	-	-	2.1	0.0	16.6	0.0	0.0	0.0	
CP218	1		60 secs	-	-	-	-	2.1	0.0	16.7	0.0	0.0	0.0	
CP218	1		90 secs	-	-	-	-	2.1	0.0	16.6	0.0	0.0	0.0	
CP218	1		120 secs	-	-	-	-	2.1	0.0	16.5	0.0	0.0	0.0	
CP218	1		180 secs	-	-	-	-	2.1	0.0	16.6	0.0	0.0	0.0	
CP218	1		240 secs	-	-	-	-	2.1	0.0	16.7	0.0	0.0	0.0	
CP218	1		300 secs	-	-	-	-	2.1	0.0	16.7	0.0	0.0	0.0	
CP218	2	4.77	24/10/2013 11:40:00	1005	1005	0.1 <sub>(I)</sub>	DRY	0.0	0.0	20.7	0.0	0.0	0.0	
CP218	2		15 secs	-	-	0.0 <sub>(SS)</sub>	-	1.4	0.0	19.0	0.0	0.0	0.0	
CP218	2		30 secs	-	-	-	-	1.4	0.0	18.3	0.0	0.0	0.0	
CP218	2		60 secs	-	-	-	-	1.4	0.0	18.1	0.0	0.0	0.0	
CP218	2		90 secs	-	-	-	-	1.4	0.0	18.1	0.0	0.0	0.0	
CP218	2		120 secs	-	-	-	-	1.4	0.0	18.2	0.0	0.0	0.0	
CP218	2		180 secs	-	-	-	-	1.4	0.0	18.2	0.0	0.0	0.0	
CP218	2		240 secs	-	-	-	-	1.4	0.0	18.2	0.0	0.0	0.0	
y: I = Initial, P	= Peak, SS = S	teady State. N	Note: LEL = Lower Exp	plosive Limi	it = 5% v/v.									
Q	SK Enviro	nment I t	d Co	mpiled By			Date		Checl	ked By		Dat	e	Contract Ref:
	Abbey	Park	K.	Tota		/13	312494							
	Abbey Park <i>K. Toto</i> 28/11/1328/11/13Humber Road Coventry CV3 4AQContract:East Midlands Gateway												Page: 21 of 36	

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP218	2		300 secs	-	-	-	-	1.4	0.0	18.3	0.0	0.0	0.0	
CP218	3	4.78	30/10/2013 13:30:00	1013	1012	0.9 <sub>(I)</sub>	DRY	0.1	0.0	20.8	0.0	0.0	0.0	
CP218	3		15 secs	-	-	0.8 <sub>(SS)</sub>	-	1.0	0.0	20.5	0.0	0.0	0.0	
CP218	3		30 secs	-	-	-	-	1.1	0.0	19.9	0.0	0.0	0.0	
CP218	3		60 secs	-	-	-	-	1.1	0.0	19.9	0.0	0.0	0.0	
CP218	3		90 secs	-	-	-	-	1.1	0.0	19.9	0.0	0.0	0.0	
CP218	3		120 secs	-	-	-	-	1.1	0.0	19.9	0.0	0.0	0.0	
CP218	3		180 secs	-	-	-	-	1.1	0.0	19.9	0.0	0.0	0.0	
CP218	3		240 secs	-	-	-	-	1.1	0.0	19.9	0.0	0.0	0.0	
CP218	3		300 secs	-	-	-	-	1.1	0.0	19.9	0.0	0.0	0.0	
CP218	4	4.76	12/11/2013 14:58:00	1020	1020	0.1 <sub>(I)</sub>	4.63	0.1	0.0	20.8	0.0	0.0	0.0	
CP218	4		15 secs	-	-	0.0 <sub>(SS)</sub>	-	1.6	0.0	18.8	0.0	0.0	0.0	
CP218	4		30 secs	-	-	-	-	2.2	0.0	15.8	0.0	0.0	0.0	
CP218	4		60 secs	-	-	-	-	2.5	0.0	15.1	0.0	0.0	0.0	
CP218	4		90 secs	-	-	-	-	2.7	0.0	14.1	0.0	0.0	0.0	
CP218	4		120 secs	-	-	-	-	2.7	0.0	14.0	0.0	0.0	0.0	
CP218	4		180 secs	-	-	-	-	2.7	0.0	14.1	0.0	0.0	0.0	
CP218	4		240 secs	-	-	-	-	2.7	0.0	14.1	0.0	0.0	0.0	
CP218	4		300 secs	-	-	-	-	2.7	0.0	14.0	0.0	0.0	0.0	
CP219	1	7.43	16/10/2013 14:47:23	1003	1003	-	DRY	0.1	0.0	20.8	0.0	0.0	0.0	
CP219	1		15 secs	-	-	-	-	1.5	0.0	18.4	0.0	0.0	0.0	
CP219	1		30 secs	-	-	-	-	1.5	0.0	16.4	0.0	0.0	0.0	
CP219	1		60 secs	-	-	-	-	1.5	0.0	16.0	0.0	0.0	0.0	
CP219	1		90 secs	-	-	-	-	1.5	0.1	15.9	1.0	0.0	0.0	
Key: I = Initial, P	P = Peak, SS = S	teady State. N	Note: LEL = Lower Ex	plosive Limi	it = 5% v/v.		1							
R	SK Enviro	nment I t	d Co	mpiled By			Date		Chec	ked By		Dat	te	Contract Ref:
	Abbey	Park	I.	Tota		28	/11/13		Rese	a.		<b>28/1</b> 1	/13	312494
	Humber Cover CV3 4	Road ntry AO	Contract:					Page: 22 of 36						

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)		
CP219	1		120 secs	-	-	-	-	1.5	0.1	15.9	1.0	0.0	0.0		
CP219	1		180 secs	-	-	-	-	1.6	0.1	15.3	1.0	0.0	0.0		
CP219	1		240 secs	-	-	-	-	1.6	0.1	14.8	1.0	0.0	0.0		
CP219	1		300 secs	-	-	-	-	1.6	0.0	14.6	0.0	0.0	0.0		
CP219	2	7.44	24/10/2013 13:40:00	1006	1006	0.1 <sub>(I)</sub>	DRY	0.1	0.0	20.8	0.0	0.0	0.0		
CP219	2		15 secs	-	-	0.0 <sub>(SS)</sub>	-	0.2	0.0	20.2	0.0	0.0	0.0		
CP219	2		30 secs	-	-	-	-	0.2	0.0	20.1	0.0	0.0	0.0		
CP219	2		60 secs	-	-	-	-	0.1	0.0	20.2	0.0	0.0	0.0		
CP219	2		90 secs	-	-	-	-	0.1	0.0	20.1	0.0	0.0	0.0		
CP219	2		120 secs	-	-	-	-	0.1	0.0	20.2	0.0	0.0	0.0		
CP219	2		180 secs	-	-	-	-	0.1	0.0	20.2	0.0	0.0	0.0		
CP219	2		240 secs	-	-	-	-	0.1	0.0	20.2	0.0	0.0	0.0		
CP219	2		300 secs	-	-	-	-	0.1	0.0	20.2	0.0	0.0	0.0		
CP219	3	7.41	30/10/2013 13:10:13	1009	1009	0.2 <sub>(I)</sub>	7.32	0.1	0.0	20.8	0.0	0.0	0.0		
CP219	3		15 secs	-	-	0.1 <sub>(SS)</sub>	-	1.4	0.0	16.0	0.0	0.0	0.0		
CP219	3		30 secs	-	-	-	-	1.2	0.0	12.3	0.0	0.0	0.0		
CP219	3		60 secs	-	-	-	-	0.9	0.0	14.1	0.0	0.0	0.0		
CP219	3		90 secs	-	-	-	-	0.8	0.0	15.5	0.0	0.0	0.0		
CP219	3		120 secs	-	-	-	-	0.7	0.0	16.1	0.0	0.0	0.0		
CP219	3		180 secs	-	-	-	-	0.6	0.0	17.0	0.0	0.0	0.0		
CP219	3		240 secs	-	-	-	-	0.5	0.0	17.5	0.0	0.0	0.0		
CP219	3		300 secs	-	-	-	-	0.5	0.0	17.8	0.0	0.0	0.0		
CP219	4	7.43	11/11/2013 14:58:00	1017	1017	-3.0 <sub>(I)</sub>	7.34	0.1	0.0	20.8	0.0	0.0	0.0		
CP219	4		15 secs	-	-	1.5 <sub>(SS)</sub>	-	0.9	0.0	19.5	0.0	0.0	0.0		
CP219	4		30 secs	-	-	-	-	0.9	0.0	18.6	0.0	0.0	0.0		
y: I = Initial, P	= Peak, SS = S	teady State. N	Jote: LEL = Lower Ex	plosive Limi	it = 5% v/v.	I			I	1		1			
R	SK Enviro	nment I t	d Co	ompiled By			Date		Checl	ked By		Dat	e	Contract Ref:	
	Abbev	Park		Tota		28	/11/13		Rese	a.		28/11	/13	312494	
	Humber Cover CV3 4	Road ntry AO	Contract:	101 -		E			Page: 23 of	36					

GINT\_LIBRARY\_V8\_05.GLB : E - GAS MON - REDUCED - A4 - 9A : 312494 - EAST MIDLANDS GATEWAY.GPJ : 28/11/13 17:55 : KF

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP219	4		60 secs	-	-	-	-	0.9	0.0	18.8	0.0	0.0	0.0	
CP219	4		90 secs	-	-	-	-	0.8	0.0	18.9	0.0	3.0	0.0	
CP219	4		120 secs	-	-	-	-	0.4	0.0	19.8	0.0	0.0	0.0	
CP219	4		180 secs	-	-	-	-	0.4	0.0	19.9	0.0	0.0	0.0	
CP219	4		240 secs	-	-	-	-	0.3	0.0	20.0	0.0	0.0	0.0	
CP219	4		300 secs	-	-	-	-	0.3	0.0	20.0	0.0	1.0	0.0	
CP220	1	5.79	16/10/2013 13:54:18	1003	1003	-	3.04	0.0	0.0	20.7	0.0	0.0	0.0	
CP220	1		15 secs	-	-	-	-	0.8	0.0	20.4	0.0	0.0	0.0	
CP220	1		30 secs	-	-	-	-	0.8	0.0	19.6	0.0	0.0	0.0	
CP220	1		60 secs	-	-	-	-	0.8	0.0	19.6	0.0	0.0	0.0	
CP220	1		90 secs	-	-	-	-	0.8	0.0	19.6	0.0	0.0	0.0	
CP220	1		120 secs	-	-	-	-	0.8	0.0	19.6	0.0	0.0	0.0	
CP220	1		180 secs	-	-	-	-	0.8	0.0	19.6	0.0	0.0	0.0	
CP220	1		240 secs	-	-	-	-	0.9	0.0	19.5	0.0	0.0	0.0	
CP220	1		300 secs	-	-	-	-	0.9	0.0	19.6	0.0	0.0	0.0	
CP220	2	5.79	22/10/2013 13:28:00	988	988	0.4 <sub>(I)</sub>	3.04	0.1	0.0	20.8	0.0	0.0	0.0	
CP220	2		15 secs	-	-	0.8 <sub>(SS)</sub>	-	0.3	0.0	19.4	0.0	0.0	0.0	
CP220	2		30 secs	-	-	-	-	0.3	0.0	19.5	0.0	0.0	0.0	
CP220	2		60 secs	-	-	-	-	0.3	0.0	19.5	0.0	0.0	0.0	
CP220	2		90 secs	-	-	-	-	0.3	0.0	19.4	0.0	0.0	0.0	
CP220	2		120 secs	-	-	-	-	0.4	0.0	19.4	0.0	0.0	0.0	
CP220	2		180 secs	-	-	-	-	0.4	0.0	19.4	0.0	0.0	0.0	
CP220	2		240 secs	-	-	-	-	0.4	0.0	19.4	0.0	0.0	0.0	
CP220	2		300 secs	-	-	-	-	0.4	0.0	19.4	0.0	0.0	0.0	
y: I = Initial, P	= Peak, SS = S	teady State. N	lote: LEL = Lower Ex	plosive Limi	it = 5% v/v.		1		I	1			I	1
R	SK Enviro	nment I t	d Co	mpiled By			Date		Chec	ked By		Dat	te	Contract Ref:
	Abbey	Park	<i>K</i> .	Tota		28	8/11/13		Rese	a.		28/11	/13	312494
	Abbey Park <i>K. Job</i> 28/11/1328/11/13Humber Road Coventry CV3 4AOContract:Contract:28/11/13													Page: 24 of 36

GINT\_LIBRARY\_V8\_05.GLB : E - GAS MON - REDUCED - A4 - 9A : 312494 - EAST MIDLANDS GATEWAY.GPJ : 28/11/13 17:56 : KF

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP220	3	5.80	30/10/2013 14:40:00	1013	1012	-1.3 <sub>(I)</sub>	2.99	0.1	0.0	20.8	0.0	0.0	0.0	
CP220	3		15 secs	-	-	-1.0 <sub>(SS)</sub>	-	0.5	0.0	20.5	0.0	0.0	0.0	
CP220	3		30 secs	-	-	-	-	0.6	0.0	20.0	0.0	0.0	0.0	
CP220	3		60 secs	-	-	-	-	0.4	0.0	20.2	0.0	0.0	0.0	
CP220	3		90 secs	-	-	-	-	0.4	0.0	20.2	0.0	0.0	0.0	
CP220	3		120 secs	-	-	-	-	0.5	0.0	20.2	0.0	0.0	0.0	
CP220	3		180 secs	-	-	-	-	0.5	0.0	20.0	0.0	0.0	0.0	
CP220	3		240 secs	-	-	-	-	0.5	0.0	20.1	0.0	0.0	0.0	
CP220	3		300 secs	-	-	-	-	0.4	0.0	20.2	0.0	0.0	0.0	
CP220	4	5.77	11/11/2013 14:39:00	1017	1017	1.5 <sub>(I)</sub>	2.08	0.1	0.0	20.8	0.0	0.0	0.0	
CP220	4		15 secs	-	-	1.6 <sub>(SS)</sub>	-	0.1	0.0	20.8	0.0	0.0	0.0	
CP220	4		30 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0	
CP220	4		60 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0	
CP220	4		90 secs	-	-	-	-	0.1	0.0	20.5	0.0	3.0	0.0	
CP220	4		120 secs	-	-	-	-	0.1	0.0	20.7	0.0	4.0	0.0	
CP220	4		180 secs	-	-	-	-	0.1	0.0	20.7	0.0	5.0	0.0	
CP220	4		240 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0	
CP220	4		300 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0	
CP221	1	10.00	16/10/2013 14:30:00	1003	1003	-	5.43	0.1	0.0	20.7	0.0	0.0	0.0	
CP221	1		15 secs	-	-	-	-	1.3	0.0	19.7	0.0	0.0	0.0	
CP221	1		30 secs	-	-	-	-	1.2	0.0	18.8	0.0	0.0	0.0	
CP221	1		60 secs	-	-	-	-	1.2	0.0	18.7	0.0	0.0	0.0	
CP221	1		90 secs	-	-	-	-	1.2	0.0	18.7	0.0	0.0	0.0	
CP221	1		120 secs	-	-	-	-	1.2	0.0	18.7	0.0	0.0	0.0	
y: I = Initial, P	= Peak, SS = S	teady State. N	Jote: LEL = Lower Ex	plosive Lim	it = 5% v/v.				1			1		
R	SK Enviro	nment I t	d Co	mpiled By			Date		Checl	ked By		Dat	te	Contract Ref:
	Abbey	Park	<i>K</i> .	Toto		28	/11/13		Rese	a.		28/11	/13	312494
	Humber Cover CV3 4	r Road ntry 1AQ	Contract:			E	ast Mid	lands Ga	nteway					Page: 25 of 36

GINT\_LIBRARY\_V8\_05.GLB : E - GAS MON - REDUCED - A4 - 9A : 312494 - EAST MIDLANDS GATEWAY.GPJ : 28/11/13 17:56 : KF

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP221	1		180 secs	-	-	-	-	1.2	0.0	18.9	0.0	0.0	0.0	
CP221	1		240 secs	-	-	-	-	1.2	0.0	18.6	0.0	0.0	0.0	
CP221	1		300 secs	-	-	-	-	1.2	0.0	18.9	0.0	0.0	0.0	
CP221	2	10.10	24/10/2013 14:00:00	1006	1006	0.0 <sub>(I)</sub>	5.50	0.0	0.0	20.8	0.0	0.0	0.0	
CP221	2		15 secs	-	-	0.0 <sub>(SS)</sub>	-	1.4	0.0	19.6	0.0	0.0	0.0	
CP221	2		30 secs	-	-	-	-	1.3	0.0	18.6	0.0	0.0	0.0	
CP221	2		60 secs	-	-	-	-	1.2	0.0	18.6	0.0	0.0	0.0	
CP221	2		90 secs	-	-	-	-	1.2	0.0	18.7	0.0	0.0	0.0	
CP221	2		120 secs	-	-	-	-	1.2	0.0	18.7	0.0	0.0	0.0	
CP221	2		180 secs	-	-	-	-	1.2	0.0	18.7	0.0	0.0	0.0	
CP221	2		240 secs	-	-	-	-	1.2	0.0	18.7	0.0	0.0	0.0	
CP221	2		300 secs	-	-	-	-	1.2	0.0	18.7	0.0	0.0	0.0	
CP221	3	10.08	30/10/2013 13:10:00	1008	1009	0.1 <sub>(I)</sub>	5.48	0.1	0.0	20.8	0.0	0.0	0.0	
CP221	3		15 secs	-	-	0.0 <sub>(SS)</sub>	-	1.0	0.0	19.6	0.0	0.0	0.0	
CP221	3		30 secs	-	-	-	-	1.1	0.0	18.6	0.0	0.0	0.0	
CP221	3		60 secs	-	-	-	-	1.3	0.0	18.0	0.0	0.0	0.0	
CP221	3		90 secs	-	-	-	-	1.3	0.0	18.1	0.0	0.0	0.0	
CP221	3		120 secs	-	-	-	-	1.3	0.0	17.4	0.0	0.0	0.0	
CP221	3		180 secs	-	-	-	-	1.3	0.0	18.0	0.0	0.0	0.0	
CP221	3		240 secs	-	-	-	-	1.3	0.0	18.0	0.0	0.0	0.0	
CP221	3		300 secs	-	-	-	-	1.3	0.0	18.1	0.0	0.0	0.0	
CP221	4	10.07	11/11/2013 14:20:00	1017	1017	-	5.36	0.1	0.0	20.8	0.0	0.0	0.0	
CP221	4		15 secs	-	-	-	-	0.6	0.0	20.0	0.0	0.0	0.0	
CP221	4		30 secs	-	-	-	-	1.4	0.0	18.3	0.0	0.0	0.0	
CP221	4		60 secs	-	-	-	-	1.6	0.0	17.7	0.0	0.0	0.0	
ey: I = Initial, P	= Peak, SS = S	teady State. N	lote: LEL = Lower Ex	plosive Limi	t = 5% v/v.	I				1			I	l
R	SK Enviro	nment I t	d Co	mpiled By			Date		Chec	ked By		Dat	e	Contract Ref:
	Abbey	Park	II.	Fort		28	/11/13		Rese	a.		28/11	/13	312494
	Humber Cove CV3	r Road ntry 4AQ	Contract:			E			Page: 26 of 36					

GINT\_LIBRARY\_V8\_05.GLB : E - GAS MON - REDUCED - A4 - 9A : 312494 - EAST MIDLANDS GATEWAY.GPJ : 28/11/13 17:57 : KF

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP221	4		90 secs	-	-	-	-	1.6	0.0	17.7	0.0	0.0	0.0	
CP221	4		120 secs	-	-	-	-	1.6	0.0	17.7	0.0	0.0	0.0	
CP221	4		180 secs	-	-	-	-	1.6	0.0	17.6	0.0	0.0	0.0	
CP221	4		240 secs	-	-	-	-	1.7	0.0	17.7	0.0	0.0	0.0	
CP221	4		300 secs	-	-	-	-	1.7	0.0	17.6	0.0	0.0	0.0	
CP222	1	5.68	16/10/2013 14:12:16	1003	1004	-	2.93	0.1	0.0	20.7	0.0	0.0	0.0	
CP222	1		15 secs	-	-	-	-	0.1	0.0	20.7	0.0	0.0	0.0	
CP222	1		30 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP222	1		60 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0	
CP222	1		90 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0	
CP222	1		120 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0	
CP222	1		180 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0	
CP222	1		240 secs	-	-	-	-	0.1	0.0	20.7	0.0	0.0	0.0	
CP222	1		300 secs	-	-	-	-	0.1	0.0	20.7	0.0	0.0	0.0	
CP222	2	5.95	22/10/2013 12:48:00	988	988	0.4 <sub>(I)</sub>	2.82	0.1	0.0	20.8	0.0	0.0	0.0	
CP222	2		15 secs	-	-	0.4 <sub>(SS)</sub>	-	0.1	0.0	20.6	0.0	0.0	0.0	
CP222	2		30 secs	-	-	-	-	0.1	0.0	20.4	0.0	0.0	0.0	
CP222	2		60 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0	
CP222	2		90 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0	
CP222	2		120 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP222	2		180 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP222	2		240 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0	
CP222	2		300 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP222	3	5.64	30/10/2013 15:10:00	-	-	-	2.44	-	-	-	-	-	-	
v: I = Initial, P	= Peak, SS = S	teady State. N	lote: LEL = Lower Ex	plosive Limi	t = 5% v/v.				I				I	
R	SK Enviro	nment I t	d Co	ompiled By			Date		Chec	ked By		Dat	te	Contract Ref:
	Abbey	Park	K.	Toth		28	8/11/13		Rese	a.		28/11	/13	312494
	Humber Cover CV3 4	Road ntry AO	Contract:			E	ast Midl	ands Ga	nteway		·			Page: 27 of 36

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)		
CP222	4	5.69	11/11/2013 14:10:00	-	-	-	2.42	-	-	-	-	-	-		
CP(R)203	1	24.78	16/10/2013 12:05:00	1003	1003	-	24.47	0.1	0.0	20.8	0.0	0.0	0.0		
CP(R)203	1		15 secs	-	-	-	-	2.2	0.0	18.9	0.0	0.0	0.0		
CP(R)203	1		30 secs	-	-	-	-	2.3	0.1	16.6	1.0	0.0	0.0		
CP(R)203	1		60 secs	-	-	-	-	2.3	0.0	16.2	0.0	0.0	0.0		
CP(R)203	1		90 secs	-	-	-	-	2.3	0.0	16.2	0.0	0.0	0.0		
CP(R)203	1		120 secs	-	-	-	-	2.3	0.0	16.0	0.0	0.0	0.0		
CP(R)203	1		180 secs	-	-	-	-	2.3	0.0	16.0	0.0	0.0	0.0		
CP(R)203	1		240 secs	-	-	-	_	2.3	0.0	16.0	0.0	0.0	0.0		
CP(R)203	1		300 secs	-	-	-	-	2.4	0.0	15.8	0.0	0.0	0.0		
CP(R)203	2	24.81	23/10/2013 13:34:00	987	987	-0.2 <sub>(I)</sub>	24.56	0.1	0.0	20.8	0.0	0.0	0.0		
CP(R)203	2		15 secs	-	-	-0.2 <sub>(SS)</sub>	-	0.1	0.0	20.8	0.0	0.0	0.0		
CP(R)203	2		30 secs	-	-	-	-	2.2	0.1	18.8	1.0	0.0	0.0		
CP(R)203	2		60 secs	-	-	-	-	2.5	0.1	15.6	1.0	0.0	0.0		
CP(R)203	2		90 secs	-	-	-	-	2.5	0.1	15.0	1.0	0.0	0.0		
CP(R)203	2		120 secs	-	-	-	-	2.6	0.1	15.0	1.0	0.0	0.0		
CP(R)203	2		180 secs	-	-	-	-	2.6	0.0	15.0	0.0	0.0	0.0		
CP(R)203	2		240 secs	-	-	-	-	2.6	0.0	15.0	0.0	0.0	0.0		
CP(R)203	2		300 secs	-	-	-	-	2.6	0.0	15.0	0.0	0.0	0.0		
CP(R)203	2		330 secs	-	-	-	-	2.6	0.0	15.0	0.0	0.0	0.0		
CP(R)203	3	24.79	30/10/2013 16:50:00	1010	1010	-0.3 <sub>(I)</sub>	DRY	0.1	0.0	20.8	0.0	0.0	0.0		
CP(R)203	3		15 secs	-	-	-0.2 <sub>(SS)</sub>	-	1.4	0.1	19.4	1.0	0.0	0.0		
CP(R)203	3		30 secs	-	-	-	-	1.4	0.1	19.0	1.0	0.0	0.0		
CP(R)203	3		60 secs	-	-	-	-	1.4	0.1	18.9	1.0	0.0	0.0		
y: I = Initial, P	= Peak, SS = S	teady State. N	lote: LEL = Lower Ex	plosive Limi	it = 5% v/v.										
R	SK Enviro	nment I t	d Co	mpiled By			Date		Chec	ked By		Dat	e	Contract Ref:	
	Abbey	Park	I.	Tota		28	/11/13		Rese	a.		28/11	/13	312494	ł
	Humber Cover CV3 4	r Road ntry 4AO	Contract:			E	ast Mid	lands Ga	nteway					Page: <b>28</b> of	36

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP(R)203	3		90 secs	-	-	-	-	1.4	0.1	18.9	1.0	0.0	0.0	
CP(R)203	3		120 secs	-	-	-	-	1.4	0.1	18.9	1.0	0.0	0.0	
CP(R)203	3		180 secs	-	-	-	-	1.5	0.1	18.9	1.0	0.0	0.0	
CP(R)203	3		240 secs	-	-	-	-	1.5	0.1	18.9	1.0	0.0	0.0	
CP(R)203	3		300 secs	-	-	-	-	1.5	0.1	18.8	1.0	0.0	0.0	
CP(R)203	4	24.77	12/11/2013 10:31:00	1027	1027	-1.3 <sub>(II)</sub>	24.51	0.1	0.0	20.8	0.0	0.0	0.0	
CP(R)203	4		15 secs	-	-	-1.6 <sub>(SS)</sub>	-	0.9	0.0	19.5	0.0	0.0	0.0	
CP(R)203	4		30 secs	-	-	-	-	1.4	0.0	18.4	0.0	0.0	0.0	
CP(R)203	4		60 secs	-	-	-	-	1.6	0.0	17.9	0.0	0.0	0.0	
CP(R)203	4		90 secs	-	-	-	-	1.7	0.0	17.7	0.0	0.0	0.0	
CP(R)203	4		120 secs	-	-	-	-	1.8	0.0	17.5	0.0	0.0	0.0	
CP(R)203	4		180 secs	-	-	-	-	1.9	0.0	17.2	0.0	0.0	0.0	
CP(R)203	4		240 secs	-	-	-	-	1.9	0.0	17.2	0.0	0.0	0.0	
CP(R)203	4		300 secs	-	-	-	-	1.9	0.0	17.2	0.0	0.0	0.0	
CP(R)204	1	19.80	17/10/2013 15:50:00	1010	1010	-	15.90	0.0	0.0	20.8	0.0	0.0	0.0	
CP(R)204	1		15 secs	-	-	-	-	0.9	0.0	19.2	0.0	0.0	0.0	
CP(R)204	1		30 secs	-	-	-	-	0.9	0.0	18.3	0.0	0.0	0.0	
CP(R)204	1		60 secs	-	-	-	-	0.9	0.0	18.2	0.0	0.0	0.0	
CP(R)204	1		90 secs	-	-	-	-	0.9	0.0	18.1	0.0	0.0	0.0	
CP(R)204	1		120 secs	-	-	-	-	0.9	0.0	18.2	0.0	0.0	0.0	
CP(R)204	1		180 secs	-	-	-	-	0.9	0.0	18.3	0.0	0.0	0.0	
CP(R)204	1		240 secs	-	-	-	-	0.9	0.0	18.5	0.0	0.0	0.0	
CP(R)204	1		300 secs	-	-	-	-	0.9	0.0	18.5	0.0	0.0	0.0	
CP(R)204	2	19.80	22/10/2013 15:50:00	985	986	0.0 <sub>(I)</sub>	15.80	0.0	0.0	20.8	0.0	0.0	0.0	
ey: I = Initial, P	= Peak, $SS = S$	teady State. N	lote: LEL = Lower Ex	plosive Lim	it = 5% v/v.	(1)								
R	SK Enviro	nment Lt	d Co	ompiled By			Date		Chec	ked By		Dat	te	Contract Ref:
	Abbey	Park	K.	Toto		28	/11/13		Rese	a.		28/11	/13	312494
JA	Humber Cove CV3 4	r Road ntry 4AO	Contract:			E	ast Mid	lands Ga	nteway					Page: 29 of 36

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP(R)204	2		15 secs	-	-	0.0 <sub>(SS)</sub>	-	0.6	0.0	20.3	0.0	0.0	0.0	
CP(R)204	2		30 secs	-	-	-	-	0.6	0.0	19.5	0.0	0.0	0.0	
CP(R)204	2		60 secs	-	-	-	-	0.6	0.0	19.7	0.0	0.0	0.0	
CP(R)204	2		90 secs	-	-	-	-	0.6	0.0	19.7	0.0	0.0	0.0	
CP(R)204	2		120 secs	-	-	-	-	0.6	0.0	19.7	0.0	0.0	0.0	
CP(R)204	2		180 secs	-	-	-	-	0.6	0.0	19.6	0.0	0.0	0.0	
CP(R)204	2		240 secs	-	-	-	-	0.6	0.0	19.6	0.0	0.0	0.0	
CP(R)204	2		300 secs	-	-	-	-	0.6	0.0	19.6	0.0	0.0	0.0	
CP(R)204	3	19.72	30/10/2013 15:36:00	1008	1009	0.0 <sub>(I)</sub>	15.51	0.1	0.0	20.8	0.0	0.0	0.0	
CP(R)204	3		15 secs	-	-	0.0 <sub>(SS)</sub>	-	0.1	0.0	20.8	0.0	0.0	0.0	
CP(R)204	3		30 secs	-	-	-	-	0.1	0.0	20.8	0.0	0.0	0.0	
CP(R)204	3		60 secs	-	-	-	-	0.1	0.0	20.9	0.0	0.0	0.0	
CP(R)204	3		90 secs	-	-	-	-	0.1	0.0	20.9	0.0	0.0	0.0	
CP(R)204	3		120 secs	-	-	-	-	0.1	0.0	20.9	0.0	0.0	0.0	
CP(R)204	3		180 secs	-	-	-	-	0.1	0.0	20.9	0.0	0.0	0.0	
CP(R)204	3		240 secs	-	-	-	-	0.1	0.0	20.8	0.0	0.0	0.0	
CP(R)204	3		300 secs	-	-	-	-	0.1	0.0	20.7	0.0	0.0	0.0	
CP(R)204	4	19.81	12/11/2013 11:44:00	1020	1020	-14.1 <sub>(1)</sub>	14.93	0.1	0.0	20.8	0.0	0.0	0.0	
CP(R)204	4		15 secs	-	-	-13.1 <sub>(SS)</sub>	-	0.6	0.0	19.7	0.0	0.0	0.0	
CP(R)204	4		30 secs	-	-	-	-	0.6	0.0	18.8	0.0	0.0	0.0	
CP(R)204	4		60 secs	-	-	-	-	1.2	0.0	16.6	0.0	13.0	0.0	
CP(R)204	4		90 secs	-	-	-	-	1.6	0.0	15.1	0.0	1.0	0.0	
CP(R)204	4		120 secs	-	-	-	-	1.7	0.0	14.6	0.0	14.0	0.0	
CP(R)204	4		180 secs	-	-	-	-	1.8	0.0	14.0	0.0	0.0	0.0	
CP(R)204	4		240 secs	-	-	-	-	1.8	0.0	13.8	0.0	0.0	0.0	
Key: I = Initial, P	= Peak, SS $=$ S	teady State. N	lote: LEL = Lower Ex	plosive Limi	it = 5% v/v.		1							
R	SK Enviro	nment I t	d Co	mpiled By			Date		Chec	ked By		Dat	te	Contract Ref:
	Abbey	Park	I.	Toto		28	/11/13		Repe	a.		28/11	/13	312494
	Humber Cover CV3	Road ntry AQ	Contract:			E	ast Mid	ands Ga	nteway					Page: <b>30</b> of <b>36</b>

GINT\_LIBRARY\_V8\_05.GLB : E - GAS MON - REDUCED - A4 - 9A : 312494 - EAST MIDLANDS GATEWAY.GPJ : 28/11/13 17:58 : KF

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP(R)204	4		300 secs	-	-	-	-	1.8	0.0	14.0	0.0	0.0	0.0	
CP(R)205	1	18.41	16/10/2013 12:50:15	1002	1003	-	18.27	0.1	0.0	20.7	0.0	0.0	0.0	
CP(R)205	1		15 secs	-	-	-	-	1.8	0.0	19.7	0.0	0.0	0.0	
CP(R)205	1		30 secs	-	-	-	-	1.9	0.0	17.3	0.0	0.0	0.0	
CP(R)205	1		60 secs	-	-	-	-	1.9	0.0	16.9	0.0	0.0	0.0	
CP(R)205	1		90 secs	-	-	-	-	1.9	0.0	16.7	0.0	0.0	0.0	
CP(R)205	1		120 secs	-	-	-	-	2.0	0.0	16.6	0.0	0.0	0.0	
CP(R)205	1		180 secs	-	-	-	-	2.0	0.0	16.6	0.0	0.0	0.0	
CP(R)205	1		240 secs	-	-	-	-	2.0	0.0	16.5	0.0	0.0	0.0	
CP(R)205	1		300 secs	-	-	-	-	2.0	0.0	16.6	0.0	0.0	0.0	
CP(R)205	2	18.41	23/10/2013 14:14:00	989	987	-3.1 <sub>(I)</sub>	18.28	0.1	0.0	20.7	0.0	0.0	0.0	
CP(R)205	2		15 secs	-	-	-3.0 <sub>(SS)</sub>	-	0.1	0.0	20.3	0.0	0.0	0.0	
CP(R)205	2		30 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP(R)205	2		60 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP(R)205	2		90 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP(R)205	2		120 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP(R)205	2		180 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP(R)205	2		240 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP(R)205	2		300 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP(R)205	3	18.40	30/10/2013 16:55:00	1011	1010	-0.1 <sub>(1)</sub>	18.26	0.1	0.0	20.8	0.0	0.0	0.0	
CP(R)205	3		15 secs	-	-	0.0((SS))	-	0.1	0.0	20.4	0.0	0.0	0.0	
CP(R)205	3		30 secs	-	-	-	-	0.1	0.0	20.4	0.0	0.0	0.0	
CP(R)205	3		60 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP(R)205	3		90 secs	-	-	-	-	0.1	0.0	20.4	0.0	0.0	0.0	
ey: I = Initial, P	= Peak, SS $=$ S	teady State. N	ote: LEL = Lower Ex	plosive Limi	t = 5% v/v.									1
	SK Enviro	nment I t	d Co	mpiled By			Date		Chec	ked By		Dat	e	Contract Ref:
	Abbey	Park	I.	Tota		28	/11/13		Repe	a.		28/11	/13	312494
SR	Humber Cover CV3 4	r Road ntry 4AQ	Contract:			E	ast Midl	ands Ga	nteway					Page: <b>31</b> of <b>36</b>

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)				
CP(R)205	3		120 secs	-	-	-	-	0.1	0.0	20.4	0.0	0.0	0.0				
CP(R)205	3		180 secs	-	-	-	-	0.1	0.0	20.4	0.0	0.0	0.0				
CP(R)205	3		240 secs	-	-	-	-	0.1	0.0	20.4	0.0	0.0	0.0				
CP(R)205	3		300 secs	-	-	-	-	0.1	0.0	20.4	0.0	0.0	0.0				
CP(R)205	4	18.40	12/11/2013 09:55:00	1021	1020	-12.6 <sub>(I)</sub>	18.27	0.1	0.0	20.8	0.0	0.0	0.0				
CP(R)205	4		15 secs	-	-	-18.6 <sub>(SS)</sub>	-	0.1	0.0	20.8	0.0	4.0	0.0				
CP(R)205	4		30 secs	-	-	-	-	0.1	0.0	20.9	0.0	0.0	0.0				
CP(R)205	4		60 secs	-	-	-	-	0.1	0.0	20.9	0.0	0.0	0.0				
CP(R)205	4		90 secs	-	-	-	-	0.1	0.0	20.7	0.0	0.0	0.0				
CP(R)205	4		120 secs	-	-	-	-	0.1	0.0	20.9	0.0	0.0	0.0				
CP(R)205	4		180 secs	-	-	-	-	0.1	0.0	20.9	0.0	0.0	0.0				
CP(R)205	4		240 secs	-	-	-	-	0.1	0.0	20.8	0.0	0.0	0.0				
CP(R)205	4		300 secs	-	-	-	-	0.1	0.0	20.8	0.0	0.0	0.0				
CP(R)206	1	21.17	16/10/2013 13:37:00	1003	1003	-	14.72	0.1	0.0	20.8	0.0	0.0	0.0				
CP(R)206	1		15 secs	-	-	-	-	2.3	0.0	18.7	0.0	0.0	0.0				
CP(R)206	1		30 secs	-	-	-	-	2.4	0.0	16.9	0.0	0.0	0.0				
CP(R)206	1		60 secs	-	-	-	-	2.4	0.0	16.5	0.0	0.0	0.0				
CP(R)206	1		90 secs	-	-	-	-	2.4	0.0	16.4	0.0	0.0	0.0				-
CP(R)206	1		120 secs	-	-	-	-	2.6	0.0	16.6	0.0	0.0	0.0				
CP(R)206	1		180 secs	-	-	-	-	2.6	0.0	16.6	0.0	0.0	0.0				
CP(R)206	1		240 secs	-	-	-	-	2.6	0.0	16.4	0.0	0.0	0.0				
CP(R)206	1		300 secs	-	-	-	-	2.6	0.0	16.5	0.0	0.0	0.0				
CP(R)206	2	21.18	22/10/2013 14:45:00	988	988	1.2 <sub>(I)</sub>	14.68	0.1	0.0	20.8	0.0	0.0	0.0				
CP(R)206	2		15 secs	-	-	1.6 <sub>(SS)</sub>	-	2.4	0.0	16.5	0.0	0.0	0.0				
y: I = Initial, P	= Peak, SS = S	teady State. N	lote: LEL = Lower Ex	plosive Limi	t = 5% v/v.			1		11							
R	SK Enviro	nment I t	d Co	ompiled By			Date		Chec	ked By		Dat	e	Contract Ref:			
	Abbey	Park	. K.	Toth		28	/11/13		Reve	a.		28/11	/13		31	2494	
	Humber Cover CV3 4	r Road ntry 4AO	Contract:			E	ast Midl	ands Ga	iteway					Page:	32	of <b>36</b>	

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP(R)206	2		30 secs	-	-	-	-	2.4	0.0	16.4	0.0	0.0	0.0	
CP(R)206	2		60 secs	-	-	-	-	2.4	0.0	16.2	0.0	0.0	0.0	
CP(R)206	2		90 secs	-	-	-	-	2.4	0.0	16.2	0.0	0.0	0.0	
CP(R)206	2		120 secs	-	-	-	-	2.4	0.0	16.2	0.0	0.0	0.0	
CP(R)206	2		180 secs	-	-	-	-	2.4	0.0	16.3	0.0	0.0	0.0	
CP(R)206	2		240 secs	-	-	-	-	2.4	0.0	16.2	0.0	0.0	0.0	
CP(R)206	2		300 secs	-	-	-	-	2.4	0.0	16.1	0.0	0.0	0.0	
CP(R)206	3	21.11	30/10/2013 10:23:00	1011	1012	-4.6 <sub>(I)</sub>	14.63	0.1	0.0	20.8	0.0	0.0	0.0	
CP(R)206	3		15 secs	-	-	-4.5 <sub>(SS)</sub>	-	0.3	0.0	20.2	0.0	0.0	0.0	
CP(R)206	3		30 secs	-	-	-	-	0.4	0.0	20.0	0.0	0.0	0.0	
CP(R)206	3		60 secs	-	-	-	-	0.5	0.0	19.9	0.0	0.0	0.0	
CP(R)206	3		90 secs	-	-	-	-	0.5	0.0	19.8	0.0	0.0	0.0	
CP(R)206	3		120 secs	-	-	-	-	0.6	0.0	19.7	0.0	0.0	0.0	
CP(R)206	3		180 secs	-	-	-	-	0.8	0.0	19.6	0.0	0.0	0.0	
CP(R)206	3		240 secs	-	-	-	-	1.8	0.0	18.3	0.0	0.0	0.0	
CP(R)206	3		300 secs	-	-	-	-	2.1	0.0	17.7	0.0	0.0	0.0	
CP(R)206	4	21.15	11/11/2013 16:54:00	1017	1017	0.1 <sub>(I)</sub>	14.65	0.1	0.0	20.8	0.0	0.0	0.0	
CP(R)206	4		15 secs	-	-	-5.6 <sub>(SS)</sub>	-	0.1	0.0	20.1	0.0	0.0	0.0	
CP(R)206	4		30 secs	-	-	-	-	0.1	0.0	20.4	0.0	6.0	0.0	
CP(R)206	4		60 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP(R)206	4		90 secs	-	-	-	-	0.1	0.0	20.4	0.0	2.0	0.0	
CP(R)206	4		120 secs	-	-	-	-	0.1	0.0	20.6	0.0	6.0	0.0	
CP(R)206	4		180 secs	-	-	-	-	0.1	0.0	20.4	0.0	2.0	0.0	
CP(R)206	4		240 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP(R)206	4		300 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
Key: I = Initial, P	= Peak, SS $=$ S	teady State. N	ote: LEL = Lower Ex	plosive Limi	it = 5% v/v.									1
R	SK Enviro	nment I t	d Co	mpiled By			Date		Chec	ked By		Dat	e	Contract Ref:
	Abbev	Park		The		28	/11/13		Rese	a.		28/11	/13	312494
	Humber	Road	Contract:	1010 -					10.00			-0,11		Page:
	Cover CV3 4	ntry IAO				E	ast Midl	ands Ga	nteway					<b>33</b> of <b>36</b>

GINT\_LIBRARY\_V8\_05.GLB : E - GAS MON - REDUCED - A4 - 9A : 312494 - EAST MIDLANDS GATEWAY.GPJ : 28/11/13 17:59 : KF

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)		
CP(R)207	1	24 66	16/10/2013 15:40:00	1001	1003	-	24 25	0.1	0.0	20.7	0.0	0.0	0.0		
CP(R)207	1		15 secs	-	-	_	-	2.4	0.0	19.1	0.0	0.0	0.0		
CP(R)207	1		30 secs	_	-	-	-	2.5	0.0	15.5	0.0	0.0	0.0		
CP(R)207	1		60 secs	_	_	_	_	2.5	0.0	14.8	0.0	0.0	0.0		
CP(R)207	1		90 secs	-	-	-	_	2.5	0.0	14.7	0.0	0.0	0.0		
CP(R)207	1		120 secs	-	_	-	_	2.5	0.0	14.6	0.0	0.0	0.0		
CP(R)207	1		180 secs	_	-	-	-	2.5	0.0	14.9	0.0	0.0	0.0		
CP(R)207	1		240 secs	-	-	-	-	2.5	0.0	14.8	0.0	0.0	0.0		
CP(R)207	1		300 secs	-	-	-	-	2.5	0.0	14.9	0.0	0.0	0.0		
CP(R)207	2	24.67	23/10/2013 15:00:00	989	987	-3.4 <sub>(1)</sub>	24.24	0.1	0.0	20.8	0.0	0.0	0.0		
CP(R)207	2		15 secs	-	-	-3.3 <sub>(SS)</sub>	-	0.1	0.0	20.4	0.0	0.0	0.0		
CP(R)207	2		30 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0		
CP(R)207	2		60 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0		
CP(R)207	2		90 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0		
CP(R)207	2		120 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0		
CP(R)207	2		180 secs	-	-	-	-	0.1	0.0	20.7	0.0	0.0	0.0		-
CP(R)207	2		240 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0		
CP(R)207	2		300 secs	-	-	-	-	0.1	0.0	20.7	0.0	0.0	0.0		
CP(R)207	3	24.64	30/10/2013 10:07:00	-	1012	-3.5 <sub>(I)</sub>	24.48	0.1	0.0	20.8	0.0	0.0	0.0		
CP(R)207	3		15 secs	-	-	-3.3 <sub>(SS)</sub>	-	0.3	0.0	19.8	0.0	0.0	0.0		
CP(R)207	3		30 secs	-	-	-	-	0.3	0.0	19.8	0.0	0.0	0.0		
CP(R)207	3		60 secs	-	-	-	-	0.3	0.0	19.7	0.0	0.0	0.0		
CP(R)207	3		90 secs	-	-	-	-	0.6	0.0	19.5	0.0	0.0	0.0		
CP(R)207	3		120 secs	-	-	-	-	0.6	0.0	19.5	0.0	0.0	0.0		
y: I = Initial, P	= Peak, SS $=$ St	teady State. N	Note: LEL = Lower Ex	plosive Limi	it = 5% v/v.		1		1					1	
R	SK Enviro	nment I t	d Co	mpiled By			Date		Chec	ked By		Dat	e	Contract Ref:	
	Abbev	Park	II.	Forten		28	/11/13		Repe	a.		28/11	/13	31249	)4
	Humber Cover CV3 4	·Road ntry IAO	Contract:			E	ast Mid	lands Ga	nteway					Page: <b>34</b> of	36

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)			
CP(R)207	3		180 secs	-	-	-	-	0.7	0.0	19.4	0.0	0.0	0.0			
CP(R)207	3		240 secs	-	-	-	-	0.7	0.0	19.2	0.0	0.0	0.0			
CP(R)207	3		300 secs	-	-	-	-	0.7	0.0	19.3	0.0	0.0	0.0			
CP(R)207	4	24.65	11/11/2013 16:14:00	1017	1017	-12.2 <sub>(I)</sub>	24.54	0.1	0.0	20.8	0.0	0.0	0.0			
CP(R)207	4		15 secs	-	-	-13.5 <sub>(SS)</sub>	-	0.1	0.0	20.4	0.0	0.0	0.0			
CP(R)207	4		30 secs	-	-	-	-	0.1	0.0	20.5	0.0	22.0	0.0			
CP(R)207	4		60 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0			
CP(R)207	4		90 secs	-	-	-	-	0.1	0.0	20.4	0.0	0.0	0.0			
CP(R)207	4		120 secs	-	-	-	-	0.2	0.0	20.5	0.0	0.0	0.0			
CP(R)207	4		180 secs	-	-	-	-	0.4	0.0	20.3	0.0	3.0	0.0			
CP(R)207	4		240 secs	-	-	-	-	0.5	0.0	20.1	0.0	0.0	0.0			
CP(R)207	4		300 secs	-	-	-	-	0.6	0.0	19.9	0.0	0.0	0.0			
CP(R)208	1	20.20	16/10/2013 14:59:01	1002	1003	-	DRY	0.0	0.1	20.7	1.0	0.0	0.0			
CP(R)208	1		15 secs	-	-	-	-	1.4	0.1	19.8	1.0	0.0	0.0			-
CP(R)208	1		30 secs	_	-	-	-	1.4	0.1	17.4	1.0	0.0	0.0			
CP(R)208	1		60 secs	_	-	-	-	1.4	0.1	17.1	1.0	0.0	0.0			
CP(R)208	1		90 secs	_	-	-	-	1.4	0.1	17.2	1.0	0.0	0.0			
CP(R)208	1		120 secs	_	-	-	-	1.4	0.1	17.0	1.0	0.0	0.0			
CP(R)208	1		180 secs	_	-	-	_	1.4	0.1	17.3	1.0	0.0	0.0			
CP(R)208	1		240 secs	_	-	-	-	1.4	0.0	17.5	0.0	0.0	0.0			
CP(R)208	1		300 secs	_	-	-	-	1.4	0.0	17.2	0.0	0.0	0.0			
CP(R)208	2	20.20	24/10/2013 13:08:00	1006	1005	-1.8 <sub>m</sub>	DRY	0.1	0.0	20.7	0.0	0.0	0.0			
CP(R)208	2		15 secs	-	-	-1.9(55)	-	0.1	0.0	20.3	0.0	0.0	0.0			
CP(R)208	2		30 secs	-	-	-	-	0.1	0.0	20.4	0.0	0.0	0.0			
y: $I = Initial, P$	= Peak, $SS = S$	teady State. N	lote: LEL = Lower Ex	plosive Limi	t = 5% v/v.			0.1	0.0	20.4	0.0	0.0	0.0			
R	SK Enviro	nment I t	d Co	mpiled By			Date		Chec	ked By		Dat	e	Contract Ref:		
	Abbey	Park	<i>K</i> .	Toto		28	/11/13		Rese	a.		28/11	/13	]	312494	
	Humber Cover CV3 4	Road ntry AO	Contract:			E	ast Midl	ands Ga	iteway		1			Page:	<b>35</b> of (	36

Exploratory Position ID	Monitoring Round	Installation Depth (mbgl)	Date & Time of Monitoring (elapsed time)	Borehole Pressure (mb)	Atmos Pressure (mb)	Gas Flow (l/hr)	Water Depth (mbgl)	Carbon Dioxide (% / vol)	Methane (% / vol)	Oxygen (% / vol)	LEL (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	
CP(R)208	2		60 secs	-	-	-	-	0.1	0.0	20.4	0.0	0.0	0.0	
CP(R)208	2		90 secs	-	-	-	-	0.1	0.0	20.4	0.0	0.0	0.0	
CP(R)208	2		120 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP(R)208	2		180 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP(R)208	2		240 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP(R)208	2		300 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP(R)208	3	20.19	30/10/2013 16:35:00	1011	1010	-0.1 <sub>(I)</sub>	DRY	0.1	0.0	20.8	0.0	0.0	0.0	
CP(R)208	3		15 secs	-	-	0.0 <sub>(SS)</sub>	-	0.1	0.0	20.7	0.0	0.0	0.0	
CP(R)208	3		30 secs	-	-	-	-	0.1	0.0	20.7	0.0	0.0	0.0	
CP(R)208	3		60 secs	-	-	-	-	0.1	0.0	20.7	0.0	0.0	0.0	
CP(R)208	3		90 secs	-	-	-	-	0.1	0.0	20.7	0.0	0.0	0.0	
CP(R)208	3		120 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0	
CP(R)208	3		180 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0	
CP(R)208	3		240 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP(R)208	3		300 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP(R)208	4	20.19	11/11/2013 15:26:00	1017	1017	1.3 <sub>(I)</sub>	DRY	0.1	0.0	20.8	0.0	0.0	0.0	
CP(R)208	4		15 secs	-	-	1.3 <sub>(SS)</sub>	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP(R)208	4		30 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0	
CP(R)208	4		60 secs	-	-	-	-	0.1	0.0	20.5	0.0	0.0	0.0	
CP(R)208	4		90 secs	-	-	-	-	0.1	0.0	20.6	0.0	4.0	0.0	
CP(R)208	4		120 secs	-	-	-	-	0.1	0.0	20.5	0.0	4.0	0.0	
CP(R)208	4		180 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0	
CP(R)208	4		240 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0	
CP(R)208	4		300 secs	-	-	-	-	0.1	0.0	20.6	0.0	0.0	0.0	
y: I = Initial, P	= Peak, SS = S	teady State. N	lote: LEL = Lower Ex	plosive Limi	t = 5% v/v.									
R	SK Enviro	nment Lt	d Co	mpiled By			Date		Chec	ked By		Dat	te	Contract Ref:
	Abbey	Park	K.	Toth		28	/11/13		Rese	a.		28/11	/13	312494
	Humber Cover CV3 4	Road ntry AQ	Contract:			E	ast Midl	ands Ga	nteway					Page: <b>36</b> of <b>36</b>

	We	ather	Ground	Conditions	Wind Con	Iditions Air Ter	<u>mperature</u> (°C)	Equi	pment Used & Remarks			
Round 1 Round 2 Round 3 Round 4	Over Over Sur Ove	rcast rcast nny rcast	พ พ พ พ	Vet Vet Vet Vet	None None None None	: : : : :	12 15 12 10	Dipn Dipn Dipn Dipn	neter + GA2000 SN-GA neter + GA2000 SN-GA neter + GA2000 SN-GA neter + GA2000 SN-GA	07744 07744 07744 07744		
Exploratory Position ID	Pipe Ref	Pipe Diameter	Monitoring Round / Test Number	Reported Installation c Depth (m)	Measured Installation Depth (mbgl)	Response Zone	Date & Time of Monitoring	Water Depth (mbgl)		Remark	cs	
CP203	1	50	1 / 1	4.00	3.78	1.00 to 4.00	16/10/2013 12:05	DRY				
CP203	1	50	2 / 1	4.00	3.78	1.00 to 4.00	23/10/2013 13:42	DRY				
CP203	1	50	3 / 1	4.00	3.83	1.00 to 4.00	30/10/2013 16:50	DRY				
CP203	1	50	4 / 1	4.00	3.76	1.00 to 4.00	12/11/2013 10:22	DRY				
						l						
CP204	1	50	1 / 1	4.00	3.91	1.00 to 4.00	17/10/2013 15:50	DRY				
CP204	1	50	2 / 1	4.00	3.91	1.00 to 4.00	22/10/2013 15:38	DRY				
CP204	1	50	3 / 1	4.00	3.95	1.00 to 4.00	30/10/2013 16:00	DRY				
CP204	1	50	4 / 1	4.00	3.88	1.00 to 4.00	12/11/2013 11:36	DRY				
CP205	1	50	1 / 1	4.30	4.37	1.00 to 4.30	16/10/2013 12:13	4.13				
CP205	1	50	2 / 1	4.30	4.37	1.00 to 4.30	23/10/2013 14:06	4.12				
CP205	1	50	3 / 1	4.30	4.37	1.00 to 4.30	30/10/2013 09:25	4.19				
CP205	1	50	4 / 1	4.30	4.37	1.00 to 4.30	12/11/2013 09:45	4.20				
						ļ		ļ				
CP206	1	50	1 / 1	3.30	3.23	0.50 to 3.30	16/10/2013 13:37	DRY				
CP206	1	50	2 / 1	3.30	3.23	0.50 to 3.30	22/10/2013 14:26	DRY				
CP206	1	50	3 / 1	3.30	3.29	0.50 to 3.30	30/10/2013 09:43	DRY				
Key: NDA deno	otes 'no date	a available'.										
T		•	4 7 4 4		Compiled By		Date		Checked By	Date	Contract Ref:	
К	XSK En	VIronme	ent Lta		VTL		2/10/12	De	MA CO	29/11/13	$\neg$	312494
SK	AU Hur	ober Ro	.K vad	<u>/</u>	(. 101-	<u>+</u>	3/12/13	-	je m	28/11/13	Dage:	
	C C	oventry V3 4A		Contract.			East Midlands	Gatewa	ay		Page.	1 of 8

Exploratory Position ID	Pipe ref	Pipe Diameter	Monitoring Round / Test Number	Reported Installation Depth (m)	Measured Installation Depth (m)	Response Zone	Date & Time of Monitoring	Water Depth (m)		Remar	ks	
CP206	1	50	4 / 1	3.30	3.21	0.50 to 3.30	11/11/2013 16:44	DRY				
CP207	1	50	1 / 1	2.70	2.68	1.00 to 2.70	16/10/2013 15:32	DRY				
CP207	1	50	2 / 1	2.70	2.70	1.00 to 2.70	23/10/2013 14:40	DRY				
CP207	1	50	3 / 1	2.70	2.69	1.00 to 2.70	30/10/2013 16:42	DRY				
CP207	1	50	4 / 1	2.70	2.67	1.00 to 2.70	11/11/2013 16:08	DRY				
CP208	1	50	1 / 1	2.00	1.90	1.00 to 2.00	16/10/2013 15:41	DRY				
CP208	1	50	2 / 1	2.00	1.88	1.00 to 2.00	24/10/2013 13:00	DRY				
CP208	1	50	3 / 1	2.00	1.90	1.00 to 2.00	30/10/2013 16:10	DRY				
CP208	1	50	4 / 1	2.00	1.85	1.00 to 2.00	11/11/2013 15:36	DRY				
	ļ					<u> </u>						
CP210	1	50	1 / 1	9.50	9.05	8.50 to 9.50	17/10/2013 16:31	5.47	201			
CP210	1	50	2 / 1	9.50	9.05	8.50 to 9.50	23/10/2013 09:00	4.77	Operator: GShaw, Weat volume purged - full sam	ther: Overcast, Surtace ( ople obtained.	Conditions: Wet, G	eneral Remarks: 3x wel
CP210	1	50	3 / 1	9.50	9.03	8.50 to 9.50	30/10/2013 14:35	3.88		-		
CP210	1	50	4 / 1	9.50	9.04	8.50 to 9.50	12/11/2013 12:22	3.27				
	ļ					ļ	_					
CP211	1	50	1 / 1	7.00	6.68	1.00 to 7.00	17/10/2013 16:43	DRY				
CP211	1	50	2 / 1	7.00	6.67	1.00 to 7.00	24/10/2013 10:40	6.14				
CP211	1	50	3 / 1	7.00	6.67	1.00 to 7.00	30/10/2013 14:00	6.14				
CP211	1	50	4 / 1	7.00	6.65	1.00 to 7.00	12/11/2013 12:53	5.96				
CP212	1	50	1/1	2 20	2 20	1.00 to 2.20	17/10/2012 16:56					
CP212		50	2/1	3.30	2 20	1.00  to  3.30	22/10/2013 10:30	2.22	Operator: GShaw, Weat	ther: Overcast, Surface (	Conditions: Wet, G	eneral Remarks: 3x wel
CP212	1	50	2/1	3.50	2 20	1.00  to  3.30	22/10/2013 10:20	1.48	volume purged - full sam	nple obtained.	,	
		30	212	3.30	5.39	1.00 10 3.30	23/10/2013 10.43	1.40				
y: NDA denotes	s no data	available'.								1		
RS	SK En	vironm	ent Ltd		Compiled By		Date		Checked By	Date	Contract Ref:	
	Ab	bey Par	:k		1. Fort		3/12/13	Re	pean.	28/11/13		312494
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GINT\_LIBRARY\_V8\_05.GLB : E - WATER LEVEL - GENERAL - SMALL : 312494 - EAST MIDLANDS GATEWAY.GPJ : 3/12/13 11:11 : KF

Exploratory Position ID	Pipe ref	Pipe Diameter	Monitoring Round / Test Number	Reported Installation Depth (m)	Measured Installation Depth (m)	Response Zone	Date & Time of Monitoring	Water Depth (m)		Remark	<b>KS</b>		
CP212	1	50	3 / 2	3.30	3.38	1.00 to 3.30	30/10/2013 13:55	1.22					
CP212	1	50	4 / 2	3.30	3.37	1.00 to 3.30	12/11/2013 13:12	1.04					
CP213	1	50	1 / 1	4.20	4.08	1.00 to 4.20	17/10/2013 18:00	2.39					
CP213	1	50	2 / 1	4.20	4.08	1.00 to 4.20	22/10/2013 18:00	2.39	Operator: GShaw, Weath volume purged - full sam	er: Overcast, Surface C ple obtained.	Conditions: Wet, Ge	eneral Remarks: 3	x well
CP213	1	50	2 / 2	4.20	4.08	1.00 to 4.20	23/10/2013 10:16	2.24					
CP213	1	50	3 / 1	4.20	4.08	1.00 to 4.20	30/10/2013 12:00	2.18					
CP213	1	50	4 / 1	4.20	4.07	1.00 to 4.20	12/11/2013 15:46	1.78					
CP214	1	50	1 / 1	4.20	4.08	1.00 to 4.20	17/10/2013 18:20	3.49					
CP214	1	50	2 / 1	4.20	4.10	1.00 to 4.20	24/10/2013 13:30	3.38					
CP214	1	50	3 / 1	4.20	4.08	1.00 to 4.20	30/10/2013 10:35	3.00					
CP214	1	50	4 / 1	4.20	4.07	1.00 to 4.20	12/11/2013 15:49	2.13					
CP215	1	50	1 / 1	4.80	4.85	1.00 to 4.80	17/10/2013 17:15	1.72					
CP215	1	50	2 / 1	4.80	4.85	1.00 to 4.80	24/10/2013 11:15	1.07					
CP215	1	50	3 / 1	4.80	4.85	1.00 to 4.80	30/10/2013 13:20	0.88					
CP215	1	50	4 / 1	4.80	4.85	1.00 to 4.80	12/11/2013 13:30	0.55					
CP216	1	50	3 / 1	2.40	2.45	0.50 to 2.40	30/10/2013 12:40	DRY					
CP216	1	50	4 / 1	2.40	2.45	0.50 to 2.40	12/11/2013 14:35	DRY					
CP217	1	50	1 / 1	4.60	4.64	1.00 to 4.60	17/10/2013 17:42	2.25					
CP217	1	50	2 / 1	4.60	4.64	1.00 to 4.60	23/10/2013 11:20	1.70					
CP217	1	50	2 / 2	4.60	4.64	1.00 to 4.60	23/10/2013 12:05	1.70	Operator: GShaw, Weath	ner: Overcast, Surface C	conditions: Wet, Ge	eneral Remarks: 3	xwell
Key: NDA denote	es 'no data	available'.											<u> </u>
D	SK Em	vironm	ant I td		Compiled By		Date		Checked By	Date	Contract Ref:		
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GINT\_LIBRARY\_V8\_05.GLB : E - WATER LEVEL - GENERAL - SMALL : 312494 - EAST MIDLANDS GATEWAY.GPJ : 3/12/13 11:11 : KF

Exploratory Position ID	Pipe ref	Pipe Diameter	Monitoring Round / Test Number	Reported Installation Depth (m)	Measured Installation Depth (m)	Response Zone	Date & Time of Monitoring	Water Depth (m)		Remarks	3	
CP217	1	50	3 / 1	4.60	4.64	1.00 to 4.60	30/10/2013 12:56	1.60				
CP217	1	50	4 / 1	4.60	4.62	1.00 to 4.60	12/11/2013 14:06	1.43				
CP218	1	50	1 / 1	4.60	4.65	1.00 to 4.60	17/10/2013 17:47	DRY				
CP218	1	50	2 / 1	4.60	4.65	1.00 to 4.60	24/10/2013 11:40	DRY				
CP218	1	50	3 / 1	4.60	4.65	1.00 to 4.60	30/10/2013 13:30	DRY				
CP218	1	50	4 / 1	4.60	4.65	1.00 to 4.60	12/11/2013 14:58	4.63				
CP219	1	50	1 / 1	7.50	7.43	1.00 to 7.50	16/10/2013 14:47	DRY				
CP219	1	50	2 / 1	7.50	7.44	1.00 to 7.50	24/10/2013 13:45	DRY				
CP219	1	50	3 / 1	7.50	7.41	1.00 to 7.50	30/10/2013 13:10	7.32				
CP219	1	50	4 / 1	7.50	7.43	1.00 to 7.50	11/11/2013 14:58	7.34				
CP220	1	50	1 / 1	5.70	5.79	0.00 to 5.70	16/10/2013 13:54	3.04				
CP220	1	50	2 / 1	5.70	5.79	0.00 to 5.70	22/10/2013 13:28	3.04				
CP220	1	50	2 / 2	5.70	5.80	0.00 to 5.70	23/10/2013 09:00	4.40	Operator: GShaw, We volume purged - full sa	ather: Overcast, Surface Co ample obtained	onditions: Wet, G	eneral Remarks: 3xwell
CP220	1	50	3 / 1	5.70	5.80	0.00 to 5.70	30/10/2013 14:40	2.99				
CP220	1	50	4 / 1	5.70	5.77	0.00 to 5.70	11/11/2013 14:39	2.08				
CP221	1	50	1 / 1	10.70	10.00	1.00 to 10.70	16/10/2013 14:30	5.43				
CP221	1	50	2 / 1	10.70	10.10	1.00 to 10.70	24/10/2013 14:00	5.50				
CP221	1	50	3 / 1	10.70	10.08	1.00 to 10.70	30/10/2013 13:10	5.48				
CP221	1	50	4 / 1	10.70	10.07	1.00 to 10.70	11/11/2013 14:20	5.36				
CP222	1	19	1/1	6.00	5.68	5 70 to 6 00	17/10/2013 12:45	2.93	Weather: Overcast, Su	urface Conditions: Wet		
	, ,	17	1/1	0.00	5.00	5.70 10 0.00	17/10/2013 12.43	2.35				
ey: NDA denote	s 'no data	available'.										
R	SK En	vironm	ent Ltd $\top$		Compiled By		Date		Checked By	Date	Contract Ref:	
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CP(R)204  1  50  1/1  20.00  19.80  14.00 to 20.00  17/10/2013 16:06  13.90    CP(R)204  1  50  2/1  20.00  19.80  14.00 to 20.00  22/10/2013 15:10  15.80    CP(R)204  1  50  2/2  20.00  19.80  14.00 to 20.00  22/10/2013 16:30  15.80  Operator: GShaw, Weather: Overcast, Surface Conditions: Wet, Gener    CP(R)204  1  50  3/1  20.00  19.72  14.00 to 20.00  30/10/2013 15:36  15.51    CP(R)204  1  50  3/1  20.00  19.81  14.00 to 20.00  30/10/2013 15:36  15.51	1  50  1/1  20.00  19.80  14.00 to 20.00  17/10/2013 16.00  15.90    1  50  2/1  20.00  19.80  14.00 to 20.00  22/10/2013 15:10  15.80    1  50  2/2  20.00  19.80  14.00 to 20.00  22/10/2013 16:30  15.80    1  50  3/1  20.00  19.72  14.00 to 20.00  22/10/2013 15:36  15.51    1  50  3/1  20.00  19.81  14.00 to 20.00  30/10/2013 15:36  15.51    1  50  4/1  20.00  19.81  14.00 to 20.00  12/11/2013 11:36  14.93
C1 (K) 204 1 50 471 20.00 17.81 14.00 10 20.00 12/11/2015 11.50 14.55	
CP(R)205    1    50    1 / 1    19.00    18.41    4.00 to 19.00    16/10/2013 12:13    18.27      CP(R)205    1    50    2 / 1    19.00    18.41    4.00 to 19.00    23/10/2013 14:14    18.28      CP(R)205    1    50    3 / 1    19.00    18.40    4.00 to 19.00    30/10/2013 16:55    18.26      CP(R)205    1    50    3 / 1    19.00    18.40    4.00 to 19.00    30/10/2013 16:55    18.26      CP(R)205    1    50    4 / 1    19.00    18.40    4.00 to 19.00    11/11/2013 09:55    18.27	1    50    1 / 1    19.00    18.41    4.00 to 19.00    16/10/2013 12:13    18.27      1    50    2 / 1    19.00    18.41    4.00 to 19.00    23/10/2013 14:14    18.28      1    50    3 / 1    19.00    18.40    4.00 to 19.00    30/10/2013 16:55    18.26      1    50    4 / 1    19.00    18.40    4.00 to 19.00    11/11/2013 09:55    18.26
CP(R)205  1  50  2 / 1  19.00  18.41  4.00 to 19.00  23/10/2013 14:14  18.28    CP(R)205  1  50  3 / 1  19.00  18.40  4.00 to 19.00  30/10/2013 16:55  18.26    CP(R)205  1  50  4 / 1  19.00  18.40  4.00 to 19.00  11/11/2013 09:55  18.27    CP(R)206  1  50  1 / 1  21.00  21.17  9.00 to 21.00  16/10/2013 13:37  14.72	1  50  2 / 1  19.00  18.41  4.00 to 19.00  23/10/2013 14:14  18.28    1  50  3 / 1  19.00  18.40  4.00 to 19.00  30/10/2013 16:55  18.26    1  50  4 / 1  19.00  18.40  4.00 to 19.00  11/11/2013 09:55  18.26    1  50  4 / 1  19.00  18.40  4.00 to 19.00  11/11/2013 09:55  18.27

Exploratory Position ID	Pipe ref	Pipe Diameter	Monitoring Round / Test Number	Reported Installation Depth (m)	Measured Installation Depth (m)	Response Zone	Date & Time of Monitoring	Water Depth (m)		Remark	S		
CP(R)206	2	19	1 / 1	24.00	24.04	23.70 to 24.00	16/10/2013 13:42	14.65					
CP(R)206	2	19	2 / 1	24.00	24.08	23.70 to 24.00	22/10/2013 13:14	14.69					
CP(R)206	1	50	2 / 1	21.00	21.18	9.00 to 21.00	22/10/2013 14:45	14.68					
CP(R)206	1	50	2 / 2	21.00	21.18	9.00 to 21.00	22/10/2013 14:55	14.68	Operator: GShaw, Wea	ther: Overcast, Surface C	onditions: Wet, Ge	eneral Remarks: 3xwell	
CP(R)206	1	50	3 / 1	21.00	21.11	9.00 to 21.00	30/10/2013 09:53	14.63		<u>r</u>			
CP(R)206	2	19	3 / 1	24.00	23.91	23.70 to 24.00	30/10/2013 10:28	14.57					
CP(R)206	1	50	4 / 1	21.00	21.15	9.00 to 21.00	11/11/2013 16:45	14.65					
CP(R)206	2	19	4 / 1	24.00	24.06	23.70 to 24.00	11/11/2013 17:02	14.78					
CP(R)207	1	50	1/1	25.00	24.66	17.00 to 25.00	16/10/2013 15:40	24.25					
CP(R)207	2	19	1/1	12.10	12.18	11.80 to 12.10	16/10/2013 15:45	10.85					
CP(R)207	1	50	2 / 1	25.00	24.67	17.00 to 25.00	23/10/2013 15:00	24.24					
CP(R)207	2	19	2 / 1	12.10	12.17	11.80 to 12.10	23/10/2013 15:05	10.90					
CP(R)207	1	50	3 / 1	25.00	24.64	17.00 to 25.00	30/10/2013 10:07	24.48					
CP(R)207	2	19	3 / 1	12.10	12.16	11.80 to 12.10	30/10/2013 10:12	10.82					
CP(R)207	1	50	4 / 1	25.00	24.65	17.00 to 25.00	11/11/2013 16:14	24.54					
CP(R)207	2	19	4 / 1	12.10	12.17	11.80 to 12.10	11/11/2013 16:19	10.81					
CP(R)208	1	50	1/1	20.00	20.00	5.00 to 15.00	16/10/2013 14:59	DRY					
CP(R)208	1	50	2 / 1	20.00	20.00	5.00 to 15.00	24/10/2013 13:08	DRY					
CP(R)208	1	50	3 / 1	20.00	20.00	5.00 to 15.00	30/10/2013 16:35	DRY					
CP(R)208	1	50	4 / 1	20.00	20.00	5.00 to 15.00	11/11/2013 15:26	DRY					
CP/RC 101	1	19	1/1	27.60	27.59	14.00 to 27.60	16/10/2013 08:56	26.20					
CP/RC 101	1	19	2 / 1	27.60	27.57	14.00 to 27.60	23/10/2013 13:55	26.16					
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Exploratory Position ID	Pipe ref	Pipe Diameter	Monitoring Round / Test Number	Reported Installation Depth (m)	Measured Installation Depth (m)	Response Zone	Date & Time of Monitoring	Water Depth (m)		Remark	CS .	
CP/RC 101	1	19	3 / 1	27.60	27.57	14.00 to 27.60	30/10/2013 08:56	26.18				
CP/RC 101	1	19	4 / 1	27.60	27.56	14.00 to 27.60	11/11/2013 10:09	26.07				
CP/RC 102	1	19	1 / 1	17.20	4.32	4.00 to 17.20	16/10/2013 11:10	DRY				
CP/RC 102	1	19	2 / 1	17.20	4.32	4.00 to 17.20	23/10/2013 14:27	DRY				
CP/RC 102	1	19	3 / 1	17.20	4.32	4.00 to 17.20	30/10/2013 16:50	DRY				
CP/RC 102	1	19	4 / 1	17.20	4.36	4.00 to 17.20	11/11/2013 16:31	4.34				
CD /D C 102		10		15.00	14.05	10.00 - 15.00	1.0/2012 10 20					
CP/RC 103	1	19	1/1	15.00	14.87	12.00 to 15.00	16/10/2013 10:30	DRY				
CP/RC 103	2	19	1/1	5.00	4.10	1.00 to 5.00	16/10/2013 10:33	DRY				
CP/RC 103	1	19	2/1	15.00	14.81	12.00 to 15.00	23/10/2013 13:08	14.56				
CP/RC 103	2	19	2/1	5.00	4.12	1.00 to 5.00	23/10/2013 13:11					
CP/RC 103	1	19	3/1	15.00	14.75	12.00 to 15.00	30/10/2013 08:15	DRY				
CP/RC 103	2	19	3/1	5.00	4.13	1.00 to 5.00	30/10/2013 08:18					
CP/RC 103	1	19	4/1	15.00	14.88	12.00 to 15.00	12/11/2013 10:59	14.83				
CP/RC 103	2	19	4/1	5.00	4.13	1.00 to 5.00	12/11/2013 11:03	3.83				
CP/RC 104	1	19	1/1	18.00	17.92	16.00 to 18.00	16/10/2013 10:28	DRY				
CP/RC 104	2	19	1/1	12.00	12.96	7 00 to 14 00	16/10/2013 10:29	DRY				
CP/RC 104	-	19	2/1	18.00	17.92	16 00 to 18 00	24/10/2013 10:58	DRY				
CP/RC 104	2	19	2/1	12.00	12.96	7.00 to 14.00	24/10/2013 10:59	DRY				
CP/RC 104	1	19	3/1	18.00	17.91	16.00 to 18.00	31/10/2013 11:50	DRY				
CP/RC 104	2	19	3 / 1	12.00	12.96	7.00 to 14.00	31/10/2013 11:51	DRY				
CP/RC 104	1	19	4 / 1	18.00	17.90	16.00 to 18.00	12/11/2013 12:38	DRY				
CP/RC 104	2	19	4 / 1	12.00	11.95	7.00 to 14.00	12/11/2013 12:39	DRY				
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	Ab	bey Par	k		1. Forton		3/12/13	Re	peal.	28/11/13	312	2494
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Exploratory Position ID	Pipe ref	Pipe Diameter	Monitoring Round / Test Number	Reported Installation Depth (m)	Measured Installation Depth (m)	Response Zone	Date & Time of Monitoring	Water Depth (m)		Remark	<b>.</b> S	
CP/RC 105	1	19	1/1	14.70	14.47	1.00 to 14.70	16/10/2013 10:10	DRY				
CP/RC 105	1	19	2 / 1	14.70	14.52	1.00 to 14.70	24/10/2013 11:35	DRY				
CP/RC 105	1	19	3 / 1	14.70	14.48	1.00 to 14.70	30/10/2013 13:10	DRY				
CP/RC 105	1	19	4 / 1	14.70	14.50	1.00 to 14.70	12/11/2013 15:11	14.44				
P/RC 106	1	19	2/1	16 40	16.10	8 00 to 16 50	24/10/2013 08:30	11 84	General Remarks: Boreho	le not been located on 1	st round of monitor	ring.
P/RC 106	1	19	3/1	16.40	16.09	8 00 to 16 50	30/10/2013 12:00	11.01				
P/RC 106	1	19	4/1	16.40	16.09	8.00 to 16.50	12/11/2013 12:06	11.70				
1/100	1	17	7/1	10.40	10.07	0.00 10 10.50	12/11/2013 12:00	11.52				
y: NDA denote	es 'no data	available'.										
RS	SK Env	vironm	ent Ltd	Compiled By			Date		Checked By	Date	Contract Ref:	
	Ab	bey Par	ey Park				3/12/13	Re	Ral.	28/11/13		312494
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	Weather Ground				nditions Wind Conditions Air Temperature (°C) Equipment Used & Remarks								
Round 2	Over	cast	W	let	None	2	15 Dipmeter + GA2000 SN-GA07744						
Exploratory Position ID	Pipe Ref	Pipe Diameter	Monitoring Round / Test Number	Reported Installation Depth (m)	Measured Installation Depth (mbgl)	Response Zone	Date & Time of Monitoring	Water Depth (mbgl)	рН	Conduc- tivity (uS/cm)	Temp- erature (°C)		Remarks
CP210	1	50	2 / 1	9.50	9.05	8.50 to 9.50	23/10/2013 09:00	4.77	6.43	1830	10.2	Operator: GShaw Wet, General Re obtained.	v, Weather: Overcast, Surface Conditions: emarks: 3x well volume purged - full sample
CP212	1	50	2 / 1	3.30	3.39	1.00 to 3.30	22/10/2013 10:20	2.22	6.24	1837	12.7	Operator: GShaw Wet, General Re obtained.	v, Weather: Overcast, Surface Conditions: emarks: 3x well volume purged - full sampl
CP213	1	50	2 / 1	4.20	4.08	1.00 to 4.20	22/10/2013 18:00	2.39	6.27	1500	10.9	Operator: GShaw Wet, General Re obtained.	v, Weather: Overcast, Surface Conditions: emarks: 3x well volume purged - full sampl
CP217	1	50	2 / 2	4.60	4.64	1.00 to 4.60	23/10/2013 12:05	1.70	5.48	444	11.9	Operator: GShaw Wet, General Re obtained	v, Weather: Overcast, Surface Conditions emarks: 3xwell volume purged - full sampl
CP220	1	50	2 / 2	5.70	5.80	0.00 to 5.70	23/10/2013 09:00	4.40	6.51	256	10.9	Operator: GShaw Wet, General Re obtained	v, Weather: Overcast, Surface Conditions emarks: 3xwell volume purged - full sampl
CP(R)204	1	50	2 / 2	20.00	19.80	14.00 to 20.00	22/10/2013 16:30	15.80	6.18	1530	11.0	Operator: GShaw Wet, General Re obtained	v, Weather: Overcast, Surface Conditions emarks: 3xwell volume purged - full sampl
CP(R)206	1	50	2 / 2	21.00	21.18	9.00 to 21.00	22/10/2013 14:55	14.68	7.54	940	15.1	Operator: GShaw Wet, General Re obtained	v, Weather: Overcast, Surface Conditions emarks: 3xwell volume purged - full sample
r: NDA denote	es 'no data	available'.											
RSK Environment Ltd			vironment Ltd Compiled By				Date Checked By			/	Date		Contract Ref:
	Ab	bey Par	k	1	K. Fort		29/11/13	Re	per	2.	2	28/11/13	312494
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