GAS MEMBRANE VALIDATION

Site: Barrel Yard, Manchester	
Date: 18th December 2018	Project Number: 11-416
Project Manager: S. Ellis	E3P Engineer:
Ground Gas Risk Assessment: **Characteristic Situation 2 / Amber 1**	

Overview:

The membrane comprised a Visqueen low permeability gas membrane (Yellow) resistant to radon, carbon dioxide and low levels of methane. Upon being laid the membrane is to be covered with a Celotex (closed Cell) floor insulation material which is considered to provide a high degree of protection.

E3P did not attend the site during validation, however have received photographs showing the quality of installation.

All external joints have been inspected and E3P can confirm that the membrane was overlapped and double taped to external and internal gas resistant DPM. The membrane was taped to the gas resistant DPM using a double sided jointing tape. All the overlaps were then additionally taped using foil backed girth tape.

Each unit has a service duct located to the front and outer edge of the property.

Based on the information provided within this report, the site inspections and validation checklists, E3P can confirm that **Plots A, B, C, D, E** have been installed with gas protection measures in accordance with Characteristic Situation 2 / Amber 1 to an acceptable level of workmanship.

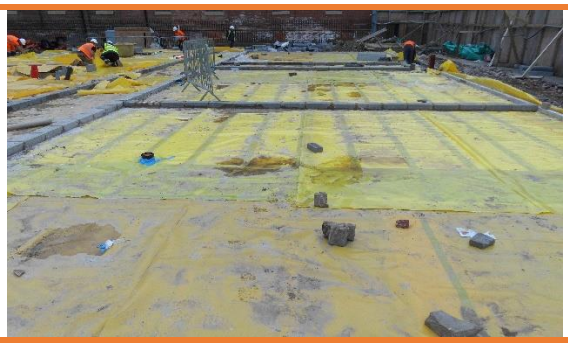
Membrane Specification: Visqueen Gas Membrane (Yellow)



Plot - A

General Condition of Membrane-Good Condition

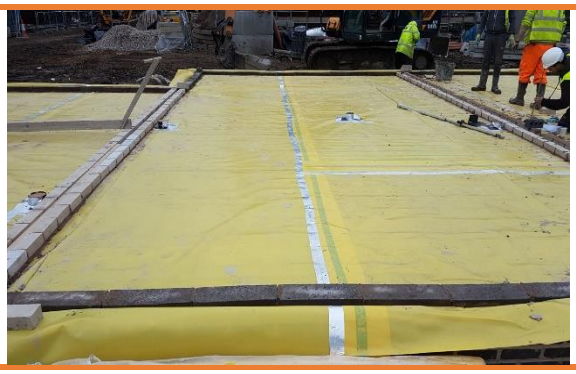




Plot - B

General Condition of Membrane-Good Condition





Verification of Joints and Seals-Good Condition





Verification of Service Penetrations-Good Condition

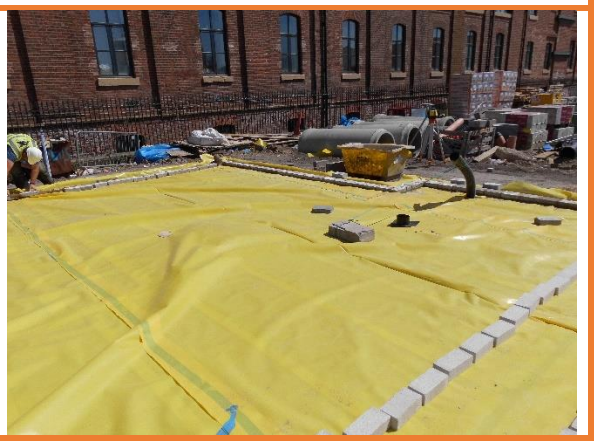




Plot - C

General Condition of Membrane-Good Condition





Plot - D

General Condition of Membrane-Good Condition





Plot - E
General Condition of Membrane-Good Condition
 
Verification of Joints and Seals-Good Condition

Verification of Ventilation-Good Condition


GROUND INVESTIGATION REPORT
PHASE II GEOENVIRONMENTAL SITE INVESTIGATION
AND INTERPRETATIVE REPORT
ON LAND AT
MOSS LANE WEST
MANCHESTER

Prepared for: -

Forshaw Land & Property Group Ltd
14 Wood Street,
Bolton,
Lancs,
BL1 1DY

GeoCon Site Investigations Ltd
Suite 8 Marple House
39 Stockport Road
Marple
Stockport
SK6 6BD

July 2015
Ref: E0189 IW (GSI0397) GI Report JS FG 130715

Quality Assurance	
Report Title	Ground Investigation Report, Phase II Geoenvironmental Site Investigation, and Interpretative Report, on land at Moss Lane West, Manchester
Report Reference	E0189 IW (GSI0397) GI Report JS FG 130715
Client	Forshaw Land & Property Group Ltd
Version	Revision B
Status	Final
Date of First Issue	July 2015
Revision Date	August 2015
Written by	*Ian Walker* For and on behalf of GeoCon Site Investigations Ltd Ian Walker B.Sc. (Hons) F.G.S Senior Engineering Geologist/Director
Checked by	*Rob Lewis* For and on behalf of GeoCon Site Investigations Ltd Rob Lewis B.Sc. (Hons) F.G.S Senior Geotechnical Engineer
Authorised by	*Ian Walker* For and on behalf of GeoCon Site Investigations Ltd Ian Walker B.Sc. (Hons) F.G.S Senior Engineering Geologist/Director

This document has been prepared for the titled project (or named part thereof) and should not be relied upon or used for any other project without an independent check being carried out as to its suitability and prior written authorization being obtained from GeoCon. GeoCon accepts no responsibility or liability for the consequences of the use of this document, wholly or in part, for any other purpose than that for which it was commissioned. Any persons using or relying upon this document for such other purpose do so at their own risk.

This report was prepared for the sole use of the named Client, as defined above, and shall not be relied upon or transferred to any other party without the express written authorisation of GeoCon. It may contain material subject to copyright or obtained subject to license; unauthorised copying of this report will be in breach of copyright/license.

From herein after GeoCon Site Investigations Ltd will be referred to as GeoCon.

GeoCon Offices:

Manchester (Head Office)
15 Belmont Drive
Marple Bridge
Stockport
Greater Manchester
SK6 5EA
Tel: 0844 504 3901

Birmingham
2nd Floor,
Quayside Tower,
Broad Street,
Birmingham.
B1 2HF
Tel: 0844 504 6901

London (East)
Fortis House
160 London Rd,
Barking
London
IG11 8BB
Tel: 0844 504 7901

Newcastle-Upon-Tyne:
The Axis Building,
Maingate, Kingsway North,
Team Valley,
Gateshead,
NE11 0NQ
Tel: 0844 504 7981

Bristol:
2430 / 2440
The Quadrant,
Almondsbury,
Bristol,
BS32 4AQ
Tel: 0844 504 9208

London (West)
Building 3 Chiswick Park,
566 Chiswick High Road,
Chiswick,
London,
W4 5YA
Tel: 0844 504 4901

Table of Contents

1.0 INTRODUCTION 1

1.1 Instruction 1
1.2 Scope of Works 1
1.3 Limitations 2

2.0 SITE LOCATION AND DESCRIPTION 3

2.1 Site Location 3
2.2 Site Description 3
2.3 Site Usage 3
2.4 Future Site Usage 3
2.5 Surrounding Area 3
2.6 Statutory Services 4
2.7 Site Reconnaissance 4

3.0 GROUND INVESTIGATION 5

3.1 General 5
3.2 Restrictions 5
3.3 Hand Held Windowless Sample Boreholes 6
3.4 Tracked Windowless Sample Boreholes 6
3.5 Insitu Sampling and Testing 6
3.6 Installations and Backfill 6
3.1 Groundwater 7
3.2 Sampling 7
3.3 Laboratory testing 7

4.0 GROUND CONDITIONS 8

4.1 Published Geology 8
4.2 General 8
4.3 Made Ground 8
4.4 Clay 9
4.5 Glaciofluvial Sheet Deposits 9
4.6 Glacial Till 9
4.7 Bedrock (Wilmslow Sandstone Formation) 9
4.8 Groundwater 9
4.9 Obstructions 9
4.10 Voids 10
4.11 Contamination 10

5.0 CHEMICAL TESTING AND RESULTS 11

5.1 General 11
5.2 Chemical Results 11

6.0 GENERIC QUANTITATIVE RISK ASSESSMENT (GQRA) 14

6.1 Criteria for interpretation 14
6.2 Human Health Receptors 14
6.3 Risks to Human Health 14
6.4 Risk to Controlled Waters 17
6.5 Plants and Native grasses 17
6.6 Buried Services and Utilities 18

7.0 GROUND GAS RISK ASSESSMENT 19

7.1 General 19
Hydrogen Sulphide 19
Carbon Monoxide 20
8.0 OTHER POTENTIAL DEVELOPMENT CONSIDERATIONS 21
8.1 Waste Soils Characterisation 21
8.2 Imported Fill 21
8.3 Construction Activities 21
9.0 References 22

List of Tables

TABLE 3.1: GROUND GAS AND GROUNDWATER MONITORING STANDPIPE INSTALLATIONS 6
TABLE 4.2: GEOLOGY 8
TABLE 5.1: SUMMARY OF CHEMICAL TESTING SUITE 11
TABLE 5.2: SUMMARY OF SOIL CHEMICAL TESTING RESULTS 12

APPENDICES

Appendix	Information
A	Drawings
B	Windowless Sample Borehole Logs
C	Chemical Testing Results
D	Chemical Screening Criteria
E	Gas Monitoring Results

LIST OF ACRONYMS

Acronym	Meaning
BGS	British Geological Survey
BH	Borehole
CDM	Construction Design and Management
CL:AIRE	Contaminated Land: Applications In Real Environments
CLR	Contaminated Land Report
COSHH	Control Of Substances Hazardous to Health
CSM	Conceptual Site Model
DCP	Dynamic Cone Penetrometer
DEFRA	Department for Environment Foods and Rural Affairs
DP	Dynamic Probe
DOE	Department Of Environment
DQRA	Detailed Quantitative Risk Assessment
DWS	Drinking Water Standards
EA	Environment agency
EQS	Environmental Quality Standards
GAC	Generic Acceptance Criteria
GQA	General Quality Assessment
GQRA	Generic Quantitative Risk Assessment
HP	Hand Pit
HA	Hand Auger
IPPC	Integrated Pollution Prevention and Control
LQM	Land Quality Management
mbgl	Meters Below Ground Level
MP	Mackintosh Probe
NGR	National Grid Reference
OS	Ordnance Survey
PAH	Poly-nuclear Aromatic Hydrocarbon
PCB	Poly-Chlorinated Biphenyl's
SGV	Soil Guideline Value
SSV	Soil Screening Value
WSV	Water Screening Value
SPOSH	Significant Possibility of Significant Harm
SPZ	Source Protection Zone
SSSI	Site of Special Scientific Interest
TP	Trial Pit
TPH CWG	Total Petroleum Hydrocarbons Criteria Working Group
TT	Trial Trench
WS	Windowless Sample / Window Sample

1.0 INTRODUCTION

1.1 Instruction

1.1.1 GeoCon Site Investigations Ltd (GeoCon) has been commissioned by Forshaw Land & Property Group Ltd (to be referred to as FLPG from hereon in) to undertake a Phase II Geotechnical Site Investigation of Land at Moss Lane West, Manchester.

1.1.2 It is understood that a Phase II Geoenvironmental Site Investigation is required to assist with a planning application for a proposed residential development at the site; to establish the potential for and presence of any contamination at the site, and provide a Generic Quantitative Risk Assessment for the site following the recommendations within a Phase I Preliminary Risk Assessment has carried out by GeoCon in January 2015 referenced E0189 IW (GSI0397) GI Report JS FG 130715.

1.1.3 It is understood that the former brewery part of the site will be mainly refurbished with partial demolition of the external ancillary building, and some new build units being constructed in these locations. The former barrel yard part of the site has currently not been allocated but is understood to comprise a residential development.

1.2 Scope of Works

1.2.1 The remit for the Phase II Site Investigation was based on a specification provided by Trident and their professional advisers and includes the following:

Phase II

- Two day's windowless sampling at approximately ten locations to a nominal depth of up to 5.00mbgl or refusal.
- One days hand held windowless sampling in the restricted areas of the site to a nominal depth of up to 5.00mbgl or refusal
- Insitu geoenvironmental testing and sampling.
- Full supervision of all works by engineering geologist including sampling and detailed geotechnical descriptions to BS5930, EN ISO 14688-1 EN ISO 14688-2 and EN ISO 14689 of all strata types encountered within the exploratory holes.
- The installation of three No. combined gas and groundwater monitoring wells. For quotation purposes we have used a nominal depth of 3.00mbgl, however we understand that this would be decided following the completion of the boreholes and confirmation of the ground conditions.
- Subsequent gas and groundwater monitoring via the use of gas clams insitu data loggers in the former Brewery part of the site, and conventional gas monitoring in the barrel yard part of the site.
- Provision of interpretative report to undertake a Generic Quantitative Risk Assessment (GQRA) for the site.

1.3 Limitations

1.3.1 The assessment and interpretation of the factual data obtained as part of this Phase I Preliminary Site Investigation and Phase II Site Investigation has been undertaken in accordance with standard consulting practise and with current national and international guidance.

1.3.2 This report presents the observations made during the Phase I Preliminary Site Investigation and Phase II Site Investigation and the factual data obtained. The conclusions and recommendations in this report are limited to those which can be made based on the findings of the survey and information provided by third parties. GeoCon assumes all third party data to be true and correct. No responsibility can be accepted by GeoCon for inaccuracies in the information provided by any other party.

1.3.3 This report is written in the context of an agreed scope of works and should not be used in a different context. Furthermore new information, improved practises, and changes in legislation may require the reinterpretation of the report in whole or in part after its original issue. GeoCon reserve the right to alter their conclusions and recommendations in the light of further information that may become available. This report is provided for the sole use of the client and their professional advisers and is confidential to them unless agreed otherwise in writing.

1.3.4 Ground conditions can be variable and change rapidly, especially in areas of Made Ground, however it is assumed that the ground conditions encountered and observed are typical and representative of the site as a whole. Most specifically with regard to this limited investigation, the ground conditions have been determined from a limited number of exploratory holes formed across the site, therefore only a small percentage of the total area of the site has been investigated. Interpolation between exploratory holes has enabled a general picture of the subsurface conditions to be produced. Conclusions drawn from the ground investigation should be read in this context. GeoCon cannot accept responsibility for any situations resulting from locally unforeseen ground conditions occurring between exploratory holes.

1.3.5 In addition, subsurface conditions including contaminant concentrations and groundwater levels may vary spatially with time. This factor should be given due consideration in the event that the information contained within this report is used after any significant period of time has elapsed.

2.0 SITE LOCATION AND DESCRIPTION

2.1 Site Location

2.1.1 The site is located at land adjacent to Moss Lane West, Manchester at approximate National Grid Reference NGR: 383180:395870 (centre of the site).

2.1.2 A site location plan is presented as Drawing No. GSI0397/01 in Appendix A.

2.2 Site Description

2.2.1 The site is an irregular shaped piece of land with an approximate area of 1.07Ha.

Eastern Half (Former Brewery)

2.2.2 The eastern half of the site is currently occupied by a derelict former brewery comprising a multi storey brick built warehouse with basement level. The building is horseshoe shaped with the main body of the building at the southern end of the site, the centre of the site is the entrance and has a cobbled road (most likely used for loading / unloading and deliveries at the site).

2.2.3 There is an above ground storage tank located along the eastern edge of the site.

2.2.4 Inside the building there are several storage tanks / cylinders located within the ground floor level. From anecdotal information given to GeoCon on site, some of these tanks / cylinders contain (or did contain) caustic soda used for cleaning out the pipe runs used in the brewery.

Western Half (Former Depot)

2.2.5 The western half of the site is effectively open land that appears to have been used for storage associated with the adjacent brewery. There are some above ground cylinders on the site and areas of waste mainly associated with the adjacent brewery such as empty beer barrels. This part of the site is covered with hardcore at the surface.

2.2.6 The topography of the site is generally flat.

2.2.7 The site is bound by Moss Lane West to the north, government offices to the west, and residential properties to the east, and south.

2.2.8 Access to the site is via Moss Lane West from the north.

2.3 Site Usage

2.3.1 The site appears to have been undeveloped since the earliest available historical maps until CIRCA 1893 when the site is shown to be occupied by the Queens Brewery. This brewery has then undergone a name change and some redevelopment and expansion over the course of time but has remained as a brewery until 2014 and the site remains unchanged to present day although is currently derelict / disused.

2.4 Future Site Usage

2.4.1 It is currently proposed to redevelop the site with residential properties comprising a mixture of apartments and conventional housing, with associated private gardens, driveways and access road.

2.5 Surrounding Area

2.5.1 The current surrounding land use to the site is generally residential in all directions.

2.5.2 The topography of the surrounding area is generally flat.

2.6 Statutory Services

2.6.1 GeoCon have not been provided with buried service location plans at this stage.

2.7 Site Reconnaissance

2.7.1 A site walkover was carried out on Friday 9th January 2015. All details from the site walkover are included in the site description above. There are no further relevant details above those which are already given in this report.

There are no further relevant details above those which are already given in this report.

3.0 GROUND INVESTIGATION

3.1 General

3.1.1 The intrusive investigation was carried out on the 19th and 21st May 2015.

3.1.2 The specification and scope of works for the ground investigation has been recommended by GeoCon based on the information given in the Phase I PRA carried out by GeoCon.

3.1.3 The ground investigation has been carried out in accordance with BS5930 and the UK Specification for Ground Investigation Second Edition 2012.

3.1.4 All strata descriptions were undertaken in accordance with BS5930 Amendment 1; EN ISO 14688 -1; EN ISO 14688 -2; and EN ISO 14689.

3.1.5 The ground investigation comprised the formation of:

- Two day's windowless sampling at approximately ten locations to a nominal depth of up to 5.00mbgl or refusal.
- One days hand held windowless sampling in the restricted areas of the site to a nominal depth of up to 5.00mbgl or refusal
- Insitu geoenvironmental testing and sampling.
- Full supervision of all works by engineering geologist including sampling and detailed geotechnical descriptions to BS5930, EN ISO 14688-1 EN ISO 14688-2 and EN ISO 14689 of all strata types encountered within the exploratory holes.
- The installation of eight No. combined gas and groundwater monitoring wells.
- Subsequent gas and groundwater monitoring via the use of gas clams insitu data loggers in the former Brewery part of the site, and conventional gas monitoring in the barrel yard part of the site.
- Provision of interpretative report to undertake a Generic Quantitative Risk Assessment (GQRA) for the site.

3.1.6 The locations of the exploratory holes were recommended by GeoCon, and were positioned to gain key information from the proposed turbine location.

3.1.7 All locations were checked against buried service plans, scanned with a Cable Avoidance Tool (CAT) prior to excavation and marked out by GeoCon on site who were responsible for issuing a permit to dig at each location. All locations were then checked again with a Cable Avoidance Tool (CAT) by GeoCon prior to excavation; each location was then continued by hand down to a minimum of 1.20mbgl to clear each location of any buried services or other.

3.1.8 All access permissions were arranged by FLPG prior to the ground investigation commencing.

3.1.9 Exploratory hole location plans are presented in Appendix A as drawing number GSI0397/02.

3.2 Restrictions

3.2.1 It should be noted that large parts of the basement area within the brewery part of the site due to the presence of asbestos in these areas and access being prohibited.

3.2.2 In addition, a restricted access drilling rig (hand held windowless sampling rig) was required within the brewery part of the site to facilitate access into the available basement area. All locations within the barrel yard part of the site were drilled using a standard tracked windowless sampling rig.

3.3 Hand Held Windowless Sample Boreholes

3.3.1 Four hand held windowless sample boreholes were drilled at the site referenced WS01 to WS04, and were drilled to depths of between 1.10 and 2.50mbgl where the borehole refused, within the garden area to gain an understanding of the existing ground conditions beneath the site.

3.3.2 WS03 and WS04 were drilled externally to the east, adjacent to the former brewery part of the site, within the site boundary.

3.3.3 The window sample borehole logs is presented in Appendix B.

3.4 Tracked Windowless Sample Boreholes

3.4.1 A total of fifteen windowless sample boreholes were drilled across the site using a tracked windowless sample rig beneath the position of the proposed development to gain an understanding of the existing ground conditions and soil / rock strengths beneath the site.

3.4.2 The windowless sample boreholes have been referenced WS05 to WS14 and were drilled to depths of between 0.15 and 3.00mbgl.

3.4.3 All exploratory hole were pre-marked prior to carrying out the ground investigation, and then set out on site based on actual site conditions, buried service location and any other access restrictions.

3.4.4 WS07 refused at 0.15mbgl on a concrete obstruction. This location was then relocated within relevant distance to the original location and redrilled six times as WS07A to WS07E. The location was then terminated after all attempts refused at 0.15mbgl on a concrete obstruction.

3.4.5 All windowless sample borehole logs are presented in Appendix B.

3.5 Insitu Sampling and Testing

3.5.1 The chemical sampling regime and insitu testing regime included the following:

- Environmental samples taken at from each strata (in particular each made ground horizon) and at 1.00m intervals thereafter;

3.6 Installations and Backfill

3.6.1 Eight of the windowless sample boreholes were installed with combined gas and ground water monitoring standpipes. The details of the gas and ground water monitoring standpipes are summarised below in Table 8.1: Gas and Groundwater Monitoring Standpipe:

3.6.2 Full details of the installations and backfill are presented on the relevant borehole logs.

3.6.3 The ground gas and groundwater monitoring standpipe installation has been summarised below in Table 3.1: Ground Gas and Groundwater Monitoring Standpipe Installations:

Table 3.1: Ground Gas and Groundwater Monitoring Standpipe Installations

BH	Installation Depth (mbgl)	Response Zone (mbgl)	Installation Date	Comments
WS01	1.00	0.50 – 1.00	19/05/2015	NA
WS02	1.00	0.50 – 1.00	19/05/2015	NA
WS03	2.50	0.50 – 2.50	19/05/2015	Gas Clam Installed

WS04	2.50	0.50 – 2.50	19/05/2015	Gas Clam Installed
WS05	2.00	0.50 – 2.00	20/05/2015	NA
WS08	2.00	0.50 – 2.00	20/05/2015	NA
WS09	3.00	1.00 –3.00	20/05/2015	NA
WS13	2.00	0.50 – 2.00	21/05/2015	NA

3.6.4 Gas Clam data loggers were installed within two of the monitoring standpipes located within the former brewery part of the site (WS03 & WS04) and were scheduled to be rotated to WS01 & WS02 for the second half of the monitoring period, however due to high groundwater levels on the return visits it was not possible to use the gas clams in the remaining locations, therefore the remained in WS03 and WS04 for the duration of the monitoring period.

3.6.5 Conventional gas monitoring was carried out on the monitoring standpipes without Gas Clams on each visit and continued on the former barrel yard part of the site.

3.6.6 The remaining exploratory holes were backfilled with arisings and made level at the surface to a similar condition as prior to the work.

3.1 Groundwater

3.1.1 Where groundwater was encountered a waiting period of 20 minutes was allowed to monitor any change (rise or fall) in the levels of each groundwater strike.

3.2 Sampling

3.2.1 Soil samples were collected for geotechnical analysis by the engineering geologist on site based on physical and visual inspection in addition to standard sampling, and were subsequently sampled and transferred to a geotechnical laboratory in prepared bulk bags and plastic tubs.

3.2.2 All samples were stored in pre-chilled cool-boxes prior to immediate dispatch to laboratory.

3.3 Laboratory testing

3.3.1 Chemical laboratory testing was subsequently carried out on selected samples of soil. Further details of the geotechnical laboratory testing are given within section 5.0 – Chemical Testing and Results.

3.3.2 All chemical laboratory testing will be scheduled by GeoCon.

4.0 GROUND CONDITIONS

4.1 Published Geology

4.1.1 The British Geological Survey (BGS) Open Geoscience shows the site to be underlain by the geological succession outlined below in Table 4.2: Geology.

Table 4.1: Geology

Geology	Description /strata
Artificial	None Recorded
Superficial	Glaciofluvial Sheet Deposits
Bedrock	Wilmslow Sandstone Formation (Part of the Sherwood Sandstone Group)

4.1.2 There are no artificial deposits indicated underlying the site.

4.1.3 The superficial deposits indicated underlying the site are Glaciofluvial Deposits. No BGS description is available; however, these deposits generally comprise varying portions of sand and gravel.

4.1.4 The bedrock geology beneath the site is shown to be the Wilmslow Sandstone Formation which is generally described as *'sandstone, fine- to medium-grained, red-brown to brick red, generally pebble-free, cross stratified, with sporadic siltstones'* (BGS general description).

4.2 General

4.2.1 The actual ground conditions encountered across the site were generally uniform and comprised made ground overlying clay overlying glaciofluvial sheet deposits, overlying glacial till.

4.2.2 The general ground conditions encountered have been summarised below:

4.2.3 Detailed strata descriptions are presented on the hand held windowless sample borehole logs and the windowless borehole logs presented in Appendix B.

4.3 Made Ground

4.3.1 Made ground was encountered in all exploratory location formed across the site from ground level to depths of between 0.15 and 1.00mbgl.

4.3.2 The made ground generally comprised hardstanding (either tarmac or concrete) and or gravel sub-base type materials at the surface overlying mixed horizons of granular and cohesive made ground materials.

4.3.3 The granular made ground generally comprised clayey sandy gravel / gravelly sand, varying between locations, with fragments of brick concrete timber and flint.

4.3.4 The cohesive made ground generally comprised sandy gravelly clay with occasional cobbles, with fragments of brick concrete timber and flint.

4.3.5 In addition, in the former barrel yard part of the site, clay which was similar in composition to glacial till was encountered above the glaciofluvial sheet deposits, therefore this deposit could represent possible reworked materials associated with the historic basement excavations associated with the former brewery part of the site. No obvious inclusions were observed within these clay deposits to allow GeoCon to confidently categorise as made ground, however it is likely that these materials are reworked.

4.4 Clay

4.4.1 Clay was encountered directly beneath the made ground materials in WS05, WS06, Ws08, WS09, WS10, WS11, WS12, WS13 and WS14 within the former barrel yard part of the site.

4.4.2 The clay generally comprised soft to stiff sandy clay.

4.4.3 The clay which was similar in composition to glacial till was encountered above the glaciofluvial sheet deposits, however the geological sequence is glaciofluvial sheet deposits overlying glacial till, therefore as discussed above it is likely that these deposit are reworked.

4.4.4 The clay deposits were encountered directly beneath the made ground and were proven to depths of between 0.65 and 1.60mbgl.

4.5 Glaciofluvial Sheet Deposits

4.5.1 Sand and gravel deposits were encountered in all locations with the exception of WS03, WS04 and WS07 to WS07E, and were encountered beneath the made ground in the former brewery part of the site, and beneath the possible reworked clay deposits within the former barrel yard part of the site.

4.5.2 These deposits were proven to depths of between 0.90 and 3.00mbgl.

4.5.3 The sand and gravel deposits generally comprised gravelly sand.

4.5.4 These deposits are considered to represent the indicated glaciofluvial sheet deposits.

4.6 Glacial Till

4.6.1 Materials considered to represent glacial till were encountered in WS01, WS02, WS03 and WS04 only, and were encountered beneath the made ground or glaciofluvial deposits, and were proven to depths of between 1.10 and 2.50mbgl.

4.6.2 The glacial till generally comprised firm to very stiff locally soft to firm sandy gravelly clay.

4.6.3 It should be noted that the locations of WS01 and WS02 are within the basement and that the ground levels at these locations will be significantly lower (mAOD) than the remaining windowless sample boreholes.

4.7 Bedrock (Wilmslow Sandstone Formation)

4.7.1 Bedrock was not encountered during this ground investigation.

4.8 Groundwater

4.8.1 Groundwater was not encountered during this ground investigation.

4.9 Obstructions

4.9.1 Obstructions were encountered in the location of WS07. Details are as follows:

- WS07 refused at 0.15mbgl on a concrete obstruction – relocated and redrilled as WS07A.
- WS07A refused at 0.15mbgl on a concrete obstruction – relocated and redrilled as WS07B.
- WS07B refused at 0.15mbgl on a concrete obstruction – relocated and redrilled as WS07C.
- WS07C refused at 0.15mbgl on a concrete obstruction – relocated and redrilled as WS07D.
- WS07D refused at 0.15mbgl on a concrete obstruction – relocated and redrilled as WS07E.

- WS07E refused at 0.15mbgl on a concrete obstruction – location abandoned.

4.10 Voids

4.10.1 No voids were encountered during this ground investigation.

4.11 Contamination

4.11.1 No obvious visual or olfactory evidence of contamination was observed during the ground investigation, with the exception of general made ground materials, and a mild odour noted in WS02 between 0.80 and 0.90mbgl.

5.0 CHEMICAL TESTING AND RESULTS

5.1 General

5.1.1 All samples were sent to a UCAS accredited chemical testing laboratory, and MCERTS were used where available. The analytical strategy focussed on a general suite of potential contaminants and the analytical suites are summarised in Table 5.1 Summary of Chemical Testing Suite below. Chemical results have been screened against current guideline values where applicable for the current commercial / industrial end use.

5.1.2 All chemical testing results are presented in Appendix C.

Table 5.1: Summary of Chemical Testing Suite

Testing	Comment	No. of soil samples analysed
General metals suite including: Arsenic, cadmium, chromium, copper, cyanide, lead, mercury, nickel, phenol, selenium, zinc, pH, and water soluble sulphate	General analysis of made ground within the area previously not accessible to achieve general site coverage, and targeting former uses on site and off site within influencing distance	12
Speciated PAH	General analysis of made ground within the area previously not accessible to achieve general site coverage, and targeting former uses on site and off site within influencing distance	12
TPH CWG	General analysis of made ground within the area previously not accessible to achieve general site coverage, and targeting former uses on site and off site within influencing distance	12
Asbestos	General analysis of made ground within the area previously not accessible to achieve general site coverage, and targeting former uses on site and off site within influencing distance	12
PCB's	General analysis of made ground within the area previously not accessible to achieve general site coverage, and targeting former uses on site and off site within influencing distance	12

5.2 Chemical Results

5.2.1 Only detectable concentrations of contaminants reported above the limit of detection of the analytical instrument are presented overleaf in Table 5.2 Summary of Soil Chemical Testing Results. Any compound concentrations which exceed the screening value are highlighted in bold. All other chemicals analysed not listed in the table recoded levels below the limits of detection. Where screening criteria is not available, any determinands that record concentrations above the detection limits are highlighted in bold.

5.2.2 All chemical results have initially been compared against screening criteria for a residential end use.

5.2.3 Total Organic Carbon (TOC) was analysed in all five samples from the site. The results of the TOC recorded values between 0.09 and 9.82%. From this Soil Organic Matter (SOM has been calculated at values of between 0.15 and 16.89. Therefore a worst case scenario of 1% SOM has been used where appropriate in the chemical assessment overleaf.

Table 5.2: Summary of Soil Chemical Testing Results

Determinand	No. Of samples analysed	Screening value (mg/kg) (where applicable)	Determinand concentration range (mg/kg)	No of Samples exceeding screening value
Summary of soil results				
Arsenic	12	32	<1 – **33**	1
Cadmium	12	10	<0.5 – 0.8	0
Chromium	12	627	3 – 22	0
Copper	12	3970	7 – 258	0
Lead	12	276	6 - **1680**	1
Mercury	12	170	<0.17 – 2.63	0
Nickel	12	130	3 - 36	0
Selenium	12	350	<1 – 1	0
Zinc	12	16900	16 – 484	0
TPH Ali >C12-C16	12	5100	<0.1 – 4.9	0
TPH Ali >C16-C21	12	145000	<0.1 – 25	0
TPH Ali >C21-C35	12		<0.1 – 177	0
TPH Aro >C7-C8	12	69.8	<0.01 – 0.02	0
TPH Aro >C8-C9	12	9.79	<0.01 – 0.03	0
TPH Aro >C9-C10	12		<0.01 – 0.1	0
TPH Aro >C10-C12	12	57.3	<0.1 – 2.3	0
TPH Aro >C12-C16	12	142	<0.1 – 17.1	0
TPH Aro >C16-C21	12	272	<0.1 – 104	0
TPH Aro >C21-C35	12	888	<0.1 – 300	0
Acenaphthene	12	588	<0.01 – 3.97	0
Acenapthylene	12	170	<0.01 – 0.05	0
Anthracene	12	8270	<0.02 – 6.41	0
Benzo(a)anthracene	12	4.52	<0.04 – **12.4**	2
Benzo(a)pyrene	12	5	<0.04 – **12.2**	2
Benzo(b)fluoranthene	12	7.72	<0.05 – **10.7**	1
Benzo(ghi)perylene	12	96.2	<0.05 – 6.32	0
Benzo(k)fluoranthene	12	84.4	<0.07 – 9.51	0
Chrysene	12	585	<0.06 – 12.7	0
Dibenzo(ah)anthracene	12	0.838	<0.04 – **1.66**	2
Fluoranthene	12	822	<0.08 – 29.9	0
Fluorene	12	615	<0.01 – 2.62	0
Indeno(123-cd)pyrene	12	7.31	<0.03 – 7.44	1
Naphthalene	12	0.585	<0.03 – 1.25	2
Phenanthrene	12	92	<0.03 – 20.4	0
Pyrene	12	563	<0.07 – 26.5	0

BD = Below Detection

NL = No Limit

NGV = No Guideline Screening Value Available

5.2.4 In addition to the above, all samples were analysed for asbestos screen. All samples came back with no fibres detected.

6.0 GENERIC QUANTITATIVE RISK ASSESSMENT (GQRA)

6.1 Criteria for interpretation

6.1.1 The regime for contaminated land was set out in Part IIA of the Environmental Protection Act (EPA) 1990, as inserted by S.57 of The Environment Act 1995 and came into effect in England on 1st April 2000 as The Contaminated Land (England) Regulations 2000 (SI 2000/227). These regulations were subsequently updated with the provision of The Contaminated Land (England) Regulations 2006 (SI 2006/1380), which consolidated the previous regulations and amendments and added in provisions regarding radioactive contaminated land. These regulations came into force on 4th August 2006. This modified the wording for "Contaminated Land" under Part IIA of the EPA. Section 78A (2) defines contaminated land as "land which appears to be in such a condition, by reason of substances in, on or under the land, that:

- significant harm is being caused, or there is a significant possibility of significant harm being caused (SPOSH);

6.2 Human Health Receptors

6.2.1 An initial Generic Quantitative Risk Assessment (GQRA) for human health has been undertaken by comparison of the soil analytical results with published guidance criteria. These can be classified as Generic Assessment Criteria (GAC) and are widely referred to by consultants, Regulatory Authorities and other professionals within the industry and include the following:

- Current published Soil Guideline Values (SGVs) published by the Environmental Agency (EA).
- Land Quality Management (LQM) have published a series of GACs via the CLEA v1.04 software which are applicable to the UK for common determinands. The GAC's can be applied to a wide range of land contamination problems, which can be used as initial screening criteria in order to assess potentially contaminated land.
- ATRISK Soil SSV's (Soil Screening Values) at 1% SOM for a sand soil derived by Atkins in line with the Environment Agency 2009 guidance (SR2, SR3, SR4, SR7) using the CLEA v1.04 and CLEA v1.06 software; and WSV's (Water Screening Values) for Human Health using the RBCA v2.5 software. The modelling inputs were made compliant with the SR3 residential conceptual site model and follow the guidance provided within SR3 where possible.
- Contaminated Land: Applications in Real Environments (CL:AIRE) 'The Soil Generic Assessment Criteria for Human Health Risk Assessment' GAC's via the CLEA v1.06 software (updated version of the v1.04 update after the release of LQM GAC's).

6.2.2 It should be noted that the above guidance criteria is generally restricted with depth i.e. the values quoted with reference to human health are generally only applicable in the top 1.00m of soil and do not (dependant on the conceptual site model and conditions identified on site) necessarily identify significant harm. Further detailed quantitative risk assessment (DQRA) may be required.

6.2.3 A list of the screening criteria used for soils is presented in Appendix E.

6.3 Risks to Human Health

6.3.1 The majority of the chemical determinands analysed recorded levels below the relevant screening criteria for a residential end use, with the exception of arsenic, lead, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(ah)anthracene, indeno(123-cd)pyrene, and naphthalene.

6.3.2 Elevated concentrations of arsenic were recorded in the sample from WS04 at 0.10mbgl of 33mg/kg, slightly exceeding the screening criteria of 32mg/kg for a residential end use.

6.3.3 Elevated concentrations of lead were recorded in the sample from WS08 at 0.20mbgl of 1680mg/kg, slightly exceeding the screening criteria of 276mg/kg for a residential end use.

6.3.4 Elevated concentrations of benzo(a)anthracene were recorded in two samples from WS05 at 0.30mbgl of 12.4mg/kg and WS06 at 0.30 of 7.96, both exceeding the screening criteria of 4.52mg/kg for a residential end use.

6.3.5 Elevated concentrations of benzo(a)pyrene were recorded in two samples from WS05 at 0.30mbgl of 12.2mg/kg and WS06 at 0.30 of 7.85, both exceeding the screening criteria of 5mg/kg for a residential end use.

6.3.6 Elevated concentrations of benzo(b)fluoranthene were recorded in one sample from WS05 at 0.30mbgl of 10.7mg/kg exceeding the screening criteria of 7.72mg/kg for a residential end use.

6.3.7 Elevated concentrations of dibenzo(ah)anthracene were recorded in two samples from WS05 at 0.30mbgl of 1.66mg/kg and WS06 at 0.30 of 1.17mg/kg, both exceeding the screening criteria of 0.838mg/kg for a residential end use.

6.3.8 Elevated concentrations of indeno(123-cd)pyrene were recorded in one sample from were recorded in one sample from WS05 at 0.30mbgl of 7.44mg/kg exceeding the screening criteria of 0.585mg/kg for a residential end use.

6.3.9 Elevated concentrations of naphthalene were recorded in two samples from WS05 at 0.30mbgl of 0.74mg/kg and WS06 at 0.30 of 0.66mg/kg, both exceeding the screening criteria of 0.585mg/kg for a residential end use.

6.3.10 Twelve samples were analysed for asbestos screen. No fibres were detected in any of the samples. Asbestos-containing materials were not observed within the soils encountered during this ground investigation. However, the possibility of asbestos containing materials being present within made ground materials cannot be entirely discounted. It is therefore recommended that an asbestos contractor is appointed to fully assess the risk from asbestos.

6.3.11 The proposed development within the former brewery part of the site comprises the refurbishment of the brewery building, and demolition of the external ancillary buildings with new build unit in this location and associated parking and access roads. Based on the above, contamination does appear to be present within the made ground materials across the site. The elevated levels of contamination may represent either localised hotspots of contamination or the results could be representative of the site as a whole, however at this stage it is not possible to determine the full extent of the soil contamination.

6.3.12 It is understood that the former brewery part of the site will be completely covered by hardstanding and proposed buildings, therefore the path way for elevated arsenic contamination in this area to come into contact with human health receptors is considered to be removed, thus the pollutant linkage will be broken. In addition all other chemical determinands recorded levels below the screening criteria in this part of the site.

6.3.13 Therefore in consideration of the above, the risks to human health are considered to be very low, and the site is considered to be suitable for use for the former brewery part of the site.

6.3.14 If current proposals change to include any areas of landscaping or private gardens, then the above risk will need to be reassessed.

6.3.15 With regards the former barrel yard part of the site, no plans or proposed details have been provided to GeoCon at this stage. Based on the results of the soils testing to date, this part of the site would be

considered contaminated at this stage. Should the site be completely covered by hardstanding and buildings then the path way for elevated lead, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(ah)anthracene, indeno(123-cd)pyrene, and naphthalene contamination in this area to come into contact with human health receptors is considered to be removed, thus the pollutant linkage will be broken, and the site would be deemed suitable for use with no remedial measures required, however if private gardens and / or landscaped areas are proposed then remedial measures would be required. The following remedial options are available:

1. Made ground materials across the site are removed from the site and replaced with clean imported materials.
2. Undertake further sampling and analysis on a close grid to establish the extent of the lead PAH contamination which could potentially reduce volumes of soils requiring removal.
3. Alternative remediation of the site.

Option 1:

6.3.16 If option 1 is preferred, the made ground materials should be removed in accordance with BRE Cover systems for land regeneration 2004. This document recommends that based on the soil testing results, a minimum of 800mm of made ground below proposed formation level should be removed from site and replaced with clean inert materials comprising a capillary break layer comprising 100mm of compacted stone and a further 900mm of clean inert imported topsoil material in line with BS 3882: 2007 Specification for topsoil above the break layer. Some of these materials may require removal anyway as part of the construction process. Made ground materials should also be removed horizontally up to the extremities of the site to prevent any future horizontal intermixing.

6.3.17 Where the made ground materials are less than 800mm thick, only the made ground materials will require removal.

6.3.18 In areas of the site where buildings and hardstanding is proposed the made ground can be left insitu as the buildings and hardstanding areas will break the 'pollutant linkage' and remove the pathway for contamination and come in to contact with the end users.

6.3.19 Risks to construction workers are considered to be low. All construction workers should wear appropriate Personal Protective Equipment (PPE) including latex gloves and dust masks. Provisions should be made for water on site to 'damp down' any dust in dry conditions.

6.3.20 A watching brief should be maintained during construction to ensure that any unsuitable materials are removed at the time.

6.3.21 Should any erroneous materials or previously unidentified contamination be encountered during construction then further sampling and analysis may be required.

Option 2:

6.3.22 Further sampling and analysis on a closer grid pattern across the site to attempt to further delineate the extent of the PAH contamination and provide greater confidence levels with regards to remediation of the site and potentially reduce the areas of the site requiring remediation.

Option 3:

6.3.23 Remediation of the site. Option 1 is a form of basic remediation, however it may be worth considering alternative types of remedial action which may prove more cost effective for example bio-remediation or soil mixing. It is recommended that a suitable remediation contractor is approached to advise on the types of remediation available for this site given the type and nature of contamination recorded.

6.3.24 Additional site investigation and further sampling and analysis may also be required for this option.

6.3.25 The above recommendations should be agreed in principle with the Local Authority and Environment Agency prior to development to avoid any delays or complications at a later stage.

6.4 Risk to Controlled Waters

Surface Water

6.4.1 There are no surface water courses within 500m of the site.

6.4.2 Therefore based on the above, the results of the chemical analysis, the ground conditions encountered, and given that natural attenuation, dilution and dispersion will take place, the risks to surface waters courses are considered to be very low to negligible at this stage.

Groundwater

6.4.3 The Environmental Agency aquifer classification scheme indicates that the superficial aquifer designation for the site is classed as a Secondary A aquifer and the bedrock is classed as Principle Aquifer.

6.4.4 There are three licensed groundwater abstraction points located on the site, for breweries / wine process water. These are considered to be associated with the former brewery on site and are therefore no longer applicable.

6.4.5 There are a further ten licensed water abstractions within 1000m of the site. The nearest to the site is located approximately 630m to the east (two entries) breweries / wine process water. Remaining entries include breweries / wine process water, a heat pump and schools & colleges. There are a further eleven licensed groundwater abstraction points between 1000 and 2000m of the site for cooling, schools & colleges general use, schools & colleges general use – heat pump, general cooling, and metals process water. There are no known public drinking water abstraction within 2000m of the site. It is possible that there may be private unlicensed water abstractions that exist locally in the area.

6.4.6 There are four Source Protection Zone (SPZ) – Zone III Total Catchment, and there is one further SPZ within 2000m of the site, which include a Zone III – total catchment; located approximately 314m to the east; a Zone II - outer protection zone; located approximately 362m to the east; a Zone I - inner protection zone; located approximately 505m to the east; and the groundwater source, located approximately 615m to the east.

6.4.7 Therefore based on the above, the results of the chemical analysis, the ground conditions encountered, and given that natural attenuation, dilution and dispersion will take place, and the layer of generally impermeable clay between the glaciofluvial sheet deposits and the underlying bedrock, (although a thickness has not been proven at this stage), the likelihood of this contamination mobilising into the groundwater is considered to be very low, and therefore risks to groundwater are considered to be very low to negligible at this stage.

6.4.8 It should be noted that during the monitoring period, insufficient quantities of groundwater were encountered within the monitoring standpipes to enable groundwater sampling, therefore no groundwater has been analysed at this stage.

6.5 Plants and Native grasses

6.5.1 Any plants that may be grown at the site in areas of landscaping may potentially be at risk from phytotoxic elements in any artificial soils beneath the site.

6.5.2 No plant growth as part of the proposed development.

6.5.3 Based on the results of the chemical analysis from this phase of investigation, risks to plants and native grasses from phytotoxic effects are considered to be low.

6.6 Buried Services and Utilities

6.6.1 Any organic contamination present in the soils or groundwater beneath the site would pose a risk of premature failure to below ground services via chemical reaction. Based on the chemical analysis carried out during this ground investigation, the risks to buried services and pipelines are considered to be low to medium.

6.6.2 It is the responsibility of the utility providers to confirm the risk status and determine what materials should be used in the provision of any newly proposed buried services and utilities based on the results of the chemical analysis with this report. A copy of this report should therefore be provided to the utility contractors.

6.6.3 Further chemical analysis of samples taken from the location of any proposed utilities should be taken for confirmation prior to the installation of any buried utilities at the site.

7.0 GROUND GAS RISK ASSESSMENT

7.1 General

7.1.1 A gas and groundwater monitoring regime has been carried out at the site. Due to the short timescales available, it was proposed to use Gas Clam data loggers as an alternative to conventional monitoring within the former brewery part of the site (and conventional monitoring across the former barrel yard) which enables continuous ground gas monitoring on an hourly frequency.

7.1.2 The gas monitoring period spanned from the 21st May to the 16th July 2015. On the first visit Gas Clams were installed in WS03 and WS04. These were due to be rotated 3rd June 2015 into WS01 and WS02, however due to the shallow installation depths (due to the ground conditions encountered and the restricted access machinery with limited capability) shallow groundwater at the base of the holes prevented the use of the gas clams in these locations, therefore they remained within WS03 and WS04 for the duration of the monitoring period.

7.1.3 The Gas Clam units were setup to record gas concentrations once every hour.

7.1.4 Conventional monitoring was carried out during each return visit to site and at the monitoring locations within the former barrel yard part of the site.

7.1.5 All gas monitoring results are presented in Appendix E.

7.1.6 Gas concentrations recorded were fairly consistent with respect to each monitoring location during the monitoring period.

7.1.7 A summary of the gas monitoring results are given below:

- Methane concentrations ranged between 0.0 and 3.3 % v/v;
- Carbon dioxide concentrations ranged between 0.0 and 4.1 % v/v;
- Oxygen concentrations ranged between 17.4 and 20.6 % v/v;
- Carbon Monoxide concentrations ranged between 0 and 17 ppm;
- Hydrogen Sulphide concentrations were all recorded at 0 ppm;
- VOC concentrations ranged between 0 and 18 ppm;

7.1.8 During the conventional gas monitoring, flow measurements were recorded between -1.6 and 0.2 l/hr. No flow measurements were recorded from the Gas Clam data loggers (due to the instrumentation not being able to record flow measurements). Based on a worst case scenarios from the information available, the GSV's calculated for methane ranged between -0.0002 and +0.0003 l/hr, the GSV's for carbon dioxide ranged between -0.0576 and +0.0010l/hr.

7.1.9 In the case of any negative flows, it should be assumed that any negative flows can become positive and therefore the any negative GSV's should be taken as positive.

7.1.10 Very minor limited quantities of groundwater were encountered during the monitoring period.

<u>Hydrogen Sulphide</u>

7.1.11 Information taken directly from the HSE (Health & Safety Executive) Online provides the following:

- 0.0047 ppm is the recognition threshold of human smell, the concentration at which 50% of humans can detect the characteristic odour of hydrogen sulphide.
- 10-20 ppm is the borderline concentration for eye irritation.
- 50-100 ppm leads to eye damage.

- At 150-250 ppm the olfactory nerve is paralyzed after a few inhalations, and the sense of smell disappears, often together with awareness of danger.
- 320-530 ppm leads to pulmonary edema with the possibility of death.
- 530-1000 ppm causes strong stimulation of the central nervous system and rapid breathing, leading to loss of breathing.
- Concentrations over 1000 ppm cause immediate collapse with loss of breathing, even after inhalation of a single breath.

Carbon Monoxide

7.1.12 Information provided by the World Health Organisation (WHO) provides air quality guidelines for Europe 2000, which provides time weighted average exposures that have been determined in such a way that the carboxyhaemoglobin (COHb) level of 2.5% is not exceeded. These are as follows:

- 87ppm for 15 minutes
- 52ppm for 30 minutes
- 26ppm for one hour
- 9ppm for eight hours

7.1.13 In addition recommended WHO European guidelines for indoor air quality is as follow:

- 6ppm for twenty four hours so as not to exceed 2% COHb for chronic exposure.

7.1.14 Therefore based on the above information, this site has been categorised as falling under CIRIA 149 Characteristic Situation (CS) 2; which would mean that the following special precautions should be incorporated into the construction of the proposed residential development.

- Low permeability gas membrane – minimum 1200g DPM2 for suspended, non-suspended or raft and minimum 2000g DPM2 for beam and block or precast concrete slab – gas membrane would also need to be suitable to protect against VOC's and CO. It is recommended that a specialist gas membrane supplier is commissioned to provide, design and install the correct gas membrane barrier for the site conditions.
- Well-constructed ground slab / basement walls
- Ventilation of confined spaces within building
- Minimum penetration of ground slab by services
- All joints and penetrations sealed

7.1.15 The membrane should also be suitable to protect against carbon monoxide and VOC's.

7.1.16 It is recommended that the above conclusions should be agreed with the local Authority to gain their approval prior to commencing with the construction of the new development.

8.0 OTHER POTENTIAL DEVELOPMENT CONSIDERATIONS

8.1 Waste Soils Characterisation

8.1.1 Any excavation works may potentially produce waste soils for which appropriate waste management will be required. Assessment of chemical analysis data indicates that soils would likely be classified as Non-Hazardous Waste across the site should off-site disposal be required. However, this would need to be confirmed with the landfill operator and may require appropriate classification testing prior to disposal. Isolated hotspots if encountered may need to be taken off as Non-Hazardous or Hazardous waste, however this is considered to be very unlikely. Any off-site disposal of soil requires careful management and due consideration of appropriate legislation, guidance and Duty of Care responsibilities.

8.1.2 Waste Acceptance Criteria (WAC) testing should be carried out samples from any materials that require off-site disposal to confirm their waste category. The results of the WAC testing should then be presented to the landfill operator for their confirmation.

8.2 Imported Fill

8.2.1 Any imported fill will be subject to specific quality requirements, particularly in any proposed areas of landscaping. Allowance should be made for the testing of imported fill materials prior to emplacement to ensure suitability should the materials be delivered with no testing certification.

8.3 Construction Activities

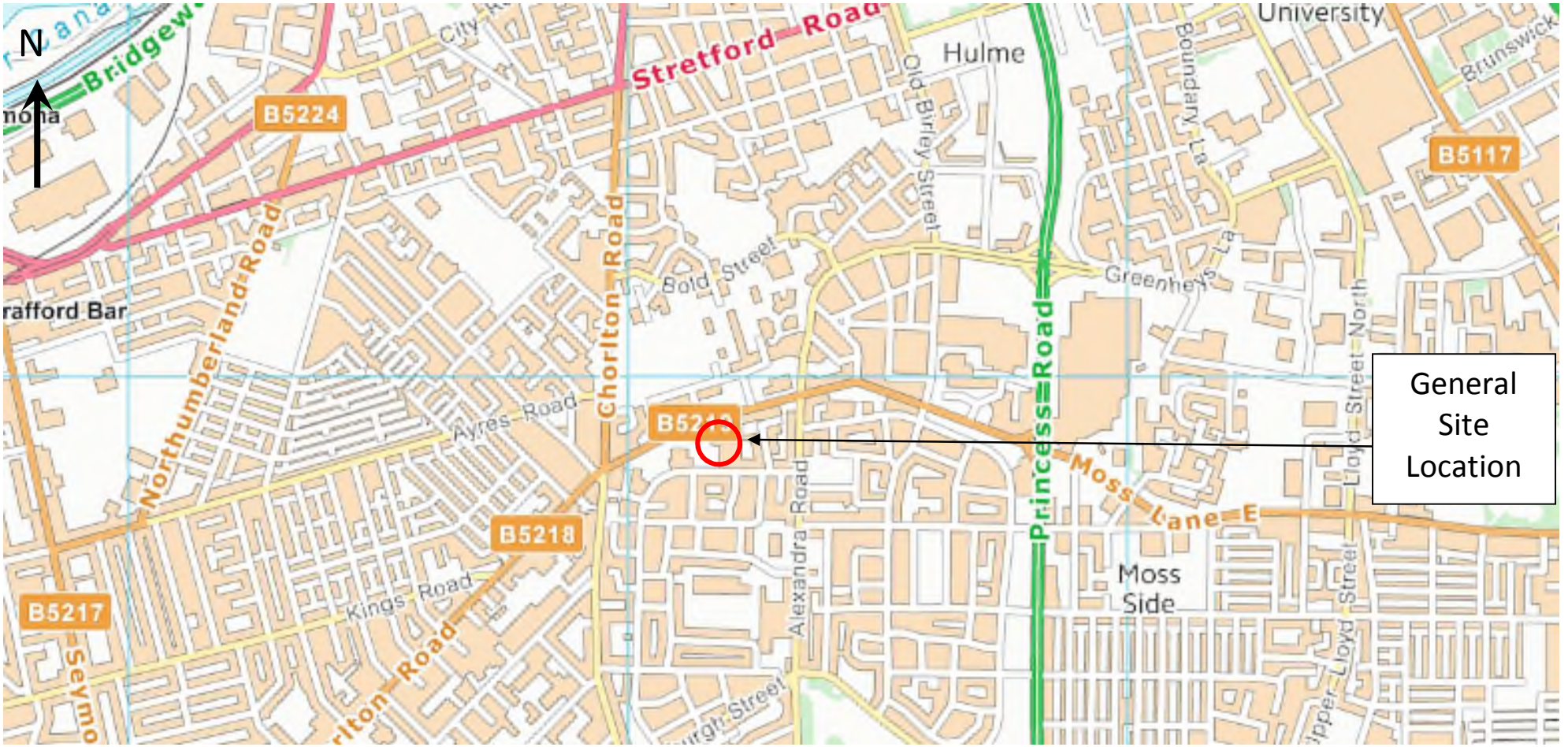
8.3.1 Due consideration should be given to the suppression of noise, dust and vibration emissions from the site during construction.

9.0 REFERENCES

- *AGS: A clients guides and tool kit*
- *Atkins: AtRisk Soil Screening Values and Water Screening Values*
- *British Geological Survey (BGS): 1:50'000 geological maps of the area*
- *British Geological Survey (BGS): Open geoscience online mapping tool*
- *BS 5930: code of Practise for Site Investigation Amendment 2*
- *BS 10175: Code of Practise for the Investigation of Potentially Contaminated Sites*
- *BRE 211 Radon: Guidance on protective measures for new buildings*
- *CIRIA 552: Contaminated Land Risk Assessment; A Guide to Good Practise 2001*
- *CIRIA 665: Assessing the Risks Posed by Hazardous Ground Gases for Buildings 2007*
- *Coal Authority: Coal authority mining report and Cheshire brine subsidence report*
- *Contaminated Land: Applications in Real Environments (CL:AIRE): 'The Soil Generic Assessment Criteria for Human Health Risk Assessment' GAC's.*
- *David Norbury: Soil and Rock Descriptions in Engineering Practise*
- *Department of the Environment: DOE industry profiles*
- *EN ISO 14688-1: Geotechnical investigation and testing -- Identification and classification of soil -- Part 1: Identification and description*
- *EN ISO 14688-2: Geotechnical investigation and testing -- Identification and classification of soil -- Part 2: Principles for a classification*
- *EN ISO 14689: Geotechnical investigation and testing -- Identification and classification of rock -- Part 1: Identification and description*
- *Environment Agency (EA): EA Online & What's in my back yard*
- *Environment Agency (EA): Soil Guideline Values (SGVs)*
- *Land Quality Management (LQM): Generic Screening Criteria (GACs)*
- *Landmark: Envirocheck report and Envirocheck analysis online historical mapping tool.*
- *Ordnance survey: OS Landranger map for the area; OS open data online mapping tool*
- *Planning Policy 23: Planning and Pollution Control, Office of The Deputy Prime Minister 2004*
- *R&D Publication CLR 8: Assessment of risks to human health from land contamination.*
- *R&D Publication CLR 10: The Contaminated Land Exposure Model (CLEA)*
- *R&D Publication CLR 11: Model Procedure for the Management of Contaminated Land DEFRA 2004*
- *UK Specification for Ground Investigation Second Edition 2012*

APPENDIX A

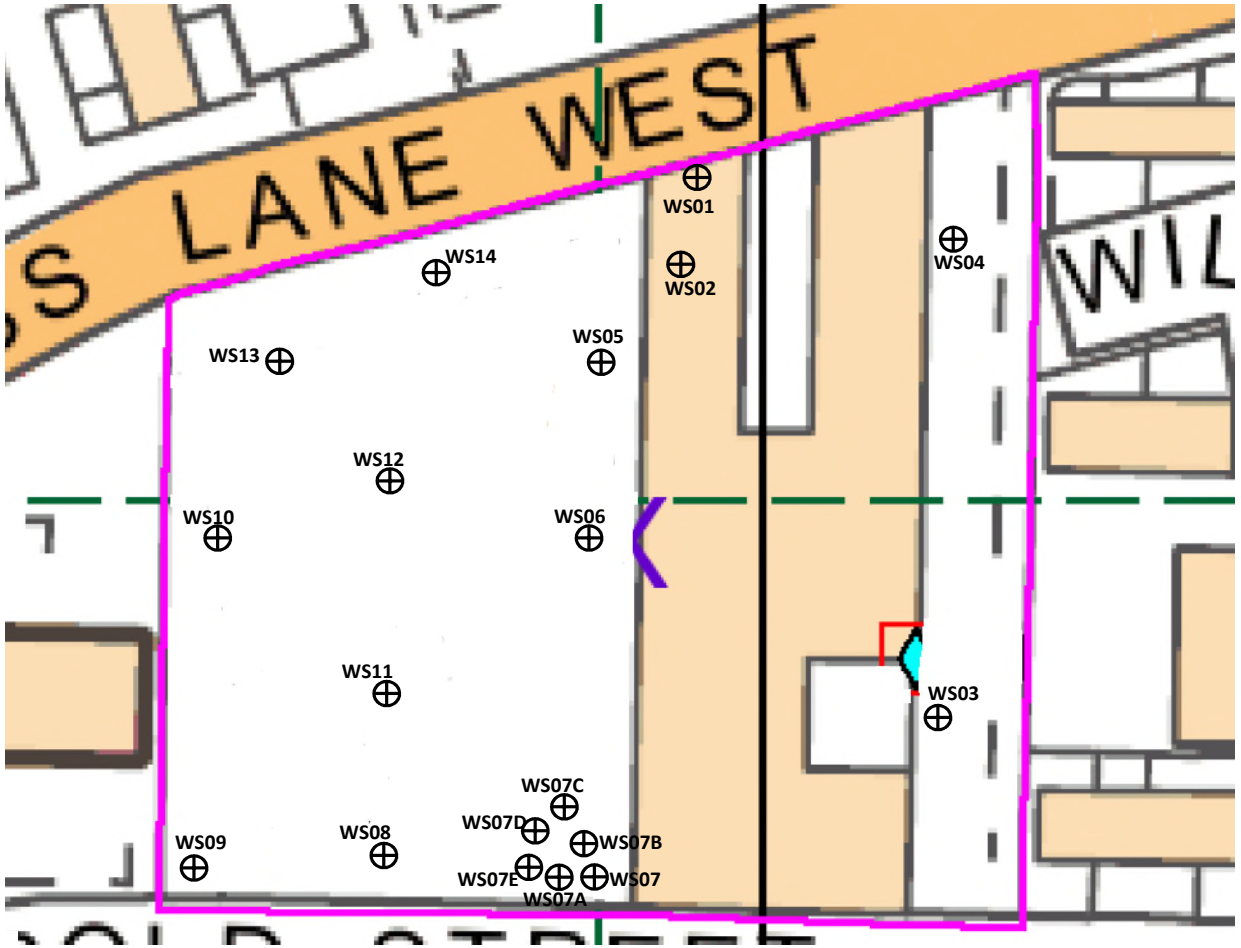
DRAWINGS



GeoCon Site Investigations Ltd
Suite 8 Marple House,
39 Stockport Road,
Marple,
Stockport,
SK6 6BD.
Tel: 0844 504 3901, Fax: 0844 504 3902,
Email: info@geoconsiteinvestigations.com
Web: www.geoconsiteinvestigations.com

SITE NAME/CONTRACT	DRAWING NO.	SCALE
Moss Lane West, Manchester	GSI0397/01	N.T.S
TITLE	**DATE**	**DRAWN BY**
Site Location Plan	July 2015	IW

N



Legend:

⊕ = Windowless Sample Borehole Location

GeoCon Site Investigations Ltd
Suite 8 Marple House,
39 Stockport Road,
Marple,
Stockport,
SK6 6BD.
Tel: 0844 504 3901, Fax: 0844 504 3902,
Email: info@geoconsiteinvestigations.com
Web: www.geoconsiteinvestigations.com

SITE NAME/CONTRACT	DRAWING NO.	SCALE
Moss Lane West, Manchester	GSI0397/02	N.T.S
TITLE	**DATE**	**DRAWN BY**
Exploratory Hole Location Plan	July 2015	IW

APPENDIX B

WINDOWLESS SAMPLE BOREHOLE LOGS

LITHOLOGIC SYMBOLS (Unified Soil Classification System)


MADE GROUND: MADE GROUND


CONCRETE: CONCRETE


CLAY sa: Sandy CLAY


CLAY sa gr: Sandy gravelly CLAY


SAND gr: Gravelly SAND


GRAVEL sa: Sandy GRAVEL

BACKFILL / WELL SYMBOLS


Bentonite Seal: 1 pipe group, 1 pipe


Cement Seal: 1 pipe group, 1 pipe


Slotted Pipe: 1 pipe group, 1 pipe


Slough at bottom of hole

SOIL & ROCK DESCRIPTIONS

All soils and rock descriptions were undertaken in accordance with BS5930 Amendment 1; EN ISO 14688 -1; EN ISO 14688 -2; and EN ISO 14689.

ABBREVIATIONS

D	- Small Disturbed Sample	ES	Environmental Sample - Soil
B	- Bulk Disturbed Sample		
BD	- Bulk & Small Disturbed Sample	EW	Environmental Sample - Water
S	- Standard Penetration Test		
U	- Undisturbed Sample		

▽ Water Rise Level after 20 minutes

▼ Water Level at Time of Strike

▼ Water Level After 24 Hours, or as Shown

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport. SK6 5EA
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com
Email: info@.geoconsiteinvestigations.com

KEY TO SYMBOLS

Client: Forshaw Land & Property Group

Project: Moss Lane West, Manchester

Number: GSI 0397

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

HAND HELD WINDOW SAMPLE BOREHOLE LOG

Project				WINDOW SAMPLE No
Moss Lane West, Manchester				**WS01**
Project ID: GSI 0397	Date: 19-05-15 19-05-15	Ground Level (m):	Co-Ordinates ():	
Contractor: Forshaw Land & Property Group				Sheet: 1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
						(0.65) 0.65	MADE GROUND: Light grey CONCRETE.	MG	
0.70-1.00	ES					(0.35) 1.00	Light brown to brown very sandy GRAVEL. Gravel is angular to rounded fine to coarse of mixed lithology. (GLACIOFLUVIAL SHEET DEPOSITS)	GFSD	
1.10	ES					(0.60) 1.60	Stiff to very stiff dark brown sandy CLAY. (GLACIAL TILL)	TILL	
1.50	ES								

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Exploratory hole cleared of buried services. Drilling barrel refused at 1.60mbgl. No Groundwater encountered. Borehole collapsing from 0.65mbgl.

All dimensions in metres Scale 1:25	Client: Forshaw Land & Property Group	Method / Plant Used: Hand Held Window Sampling Equipment	Logged By: Sam Gough

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

HAND HELD WINDOW SAMPLE BOREHOLE LOG

Project				WINDOW SAMPLE No
Moss Lane West, Manchester				**WS02**
Project ID: GSI 0397	Date: 19-05-15 19-05-15	Ground Level (m):	Co-Ordinates ():	
Contractor: Forshaw Land & Property Group				Sheet: 1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
						(0.65) 0.65	MADE GROUND: Light grey CONCRETE.	MG	
0.65-0.90	ES					(0.25) 0.90	Light brown to brown very sandy GRAVEL. Gravel is angular to rounded fine to coarse of mixed lithology. (GLACIOFLUVIAL SHEET DEPOSITS) 0.80 - 0.90 Dark blackish grey, with a greasy lustre and weak chemical odour.	GFSD	
0.90-1.10	ES					(0.20) 1.10	Stiff to very stiff dark brown sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine of mixed lithology. (GLACIAL TILL)	TILL	

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Exploratory hole cleared of buried services. Drilling barrel refused at 1.10mbgl. No Groundwater encountered. Borehole collapsing from 0.65mbgl.

All dimensions in metres Scale 1:25	Client: Forshaw Land & Property Group	Method / Plant Used: Hand Held Window Sampling Equipment	Logged By: Sam Gough

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

HAND HELD WINDOW SAMPLE BOREHOLE LOG

Project				WINDOW SAMPLE No
Moss Lane West, Manchester				**WS03**
Project ID: GSI 0397	Date: 19-05-15 19-05-15	Ground Level (m):	Co-Ordinates ():	
Contractor: Forshaw Land & Property Group				Sheet: 1 of 1

SAMPLES & TESTS				STRATA					
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
						0.10	MADE GROUND: Light grey CONCRETE.	MG	
0.15	ES					0.25	MADE GROUND: Dark blackish brown clayey very sandy GRAVEL. Gravel is angular to subangular fine to coarse of ash clinker and brick.	MG	
0.35	ES					0.40	MADE GROUND: Firm greenish grey very sandy gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse of ash clinker and brick. Cobbles are angular to subangular of brick and mixed lithology.	MG	
0.50	ES					(0.60)	MADE GROUND: Soft to firm greenish dark grey sandy slightly gravelly CLAY. Gravel is angular to subangular fine to medium of brick glass and mixed lithology.	MG	
						1.00			
1.10	ES					(1.50)	Firm greenish grey mottled light brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of mixed lithology. (GLACIAL TILL) 1.20 BEcomes soft and very sandy below 1.20mbgl.	TILL	
						2.50			

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Exploratory hole cleared of buried services. Hand pit excavated to 1.20mbgl. Drilling barrel refused at 2.50mbgl. No Groundwater encountered.

All dimensions in metres Scale 1:25	Client: Forshaw Land & Property Group	Method / Plant Used: Hand Held Window Sampling Equipment	Logged By: Sam Gough

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

HAND HELD WINDOW SAMPLE BOREHOLE LOG

Project				WINDOW SAMPLE No
Moss Lane West, Manchester				**WS04**
Project ID: GSI 0397	Date: 19-05-15 19-05-15	Ground Level (m):	Co-Ordinates ():	
Contractor: Forshaw Land & Property Group				Sheet: 1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
0.10	ES					(0.20) 0.20	MADE GROUND: Dark brown very sandy very gravelly CLAY. Gravel is angular to subangular fine to coarse of brick glass and mixed lithology.	MG	
0.30	ES					(0.60) 0.80	Firm orangish brown very sandy gravelly CLAY. Gravel is subangular to subrounded fine to medium of mixed lithology. (GLACIAL TILL)	TILL	
1.00	ES					(1.70) 2.50	Soft to firm light grey mottled orangish brown sandy gravelly CLAY. Gravel is subangular to subrounded fine to medium of mixed lithology. 1.00 Becomes very sandy below 1.00mbgl.	TILL	
1.80	ES						1.80 Becomes very gravelly below 1.80mbgl.		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	Exploratory hole cleared of buried services. Hand pit excavated to 1.20mbgl. Drilling barrel refused at 2.50mbgl. No Groundwater encountered.

All dimensions in metres Scale 1:25	Client: Forshaw Land & Property Group	Method / Plant Used: Hand Held Window Sampling Equipment	Logged By: Sam Gough

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

WINDOWLESS SAMPLE BOREHOLE LOG

Project				WINDOWLESS SAMPLE BOREHOLE No
Moss Lane West, Manchester				**WS05**
Project ID: GSI 0397	Date: 20-05-15 / 20-05-15	Ground Level (m):	Co-Ordinates (): E 383,178.0 N 395,876.0	
Contractor: Forshaw Land & Property Group				Sheet: 1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
0.30	ES					(0.60)	MADE GROUND: Grass over, brown to dark brown sandy very gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse of ash clinker slag brick and mixed lithology. Cobbles are angular to subangular of brick and fire brick.	MG	
0.50	ES					0.60			
0.70	ES					(0.70)	Firm light greyish brown mottled orangish brown slightly sandy CLAY. (POSSIBLE REWORKED MATERIALS)		
1.40	ES					1.30			
						(0.70)	Orangish light brown slightly gravelly SAND. Gravel is subrounded to rounded fine to medium of light brown sandstone. (GLACIOFLUVIAL SHEET DEPOSITS)	GFSD	
						2.00			

Boring Progress and Water Observations						Chiselling			Water Added	
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To

GENERAL REMARKS

Exploratory hole cleared of buried services. Hand pit excavated to 1.20mbgl. Drilling barrel refused at 2.00mbgl. No Groundwater encountered.

All dimensions in metres Scale 1:25	Client: Forshaw Land & Property Group	Method / Plant Used: Competitor Dart	Logged By: Sam Gough

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

WINDOWLESS SAMPLE BOREHOLE LOG

Project				WINDOWLESS SAMPLE BOREHOLE No
Moss Lane West, Manchester				**WS06**
Project ID: GSI 0397	Date: 20-05-15 / 20-05-15	Ground Level (m):	Co-Ordinates (): E 383,182.0 N 395,855.0	
Contractor: Forshaw Land & Property Group				Sheet: 1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
0.30	ES					(0.50) 0.50	MADE GROUND: Grass over, dark brown very sandy very gravelly CLAY. Gravel is angular to subangular fine to coarse of ash clinker brick and mixed lithology.	MG	
0.50	ES					(0.20) 0.70	MADE GROUND: Light grey sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone.	MG	
0.80	ES					(0.50) 1.20	Soft light brownish grey mottled orangish brown slightly sandy CLAY. (POSSIBLE REWORKED MATERIALS)		
1.30	ES					(0.80)	Orangish light brown slightly gravelly SAND. Gravel is subrounded to rounded fine to medium of light brown sandstone. (GLACIOFLUVIAL SHEET DEPOSITS)	GFSD	
1.90	ES					2.00	1.90 Gravel becomes fine to coarse below 1.90mbgl.		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	Exploratory hole cleared of buried services. Drilling barrel refused at 2.00mbgl. No Groundwater encountered.

All dimensions in metres Scale 1:25	Client: Forshaw Land & Property Group	Method / Plant Used: Competitor Dart	Logged By: Sam Gough

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

WINDOWLESS SAMPLE BOREHOLE LOG

Project				WINDOWLESS SAMPLE BOREHOLE No
Moss Lane West, Manchester				**WS07**
Project ID: GSI 0397	Date: 20-05-15 / 20-05-15	Ground Level (m):	Co-Ordinates (): E 383,180.0 N 395,829.0	
Contractor: Forshaw Land & Property Group				Sheet: 1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
						0.10	MADE GROUND: Dark blackish grey sandy GRAVEL. Gravel is angular to subangular fine to coarse of mixed lithology and brick.	MG	
						0.15	MADE GROUND: Light brown very sandy GRAVEL. Gravel is subangular to subrounded fine to coarse of light brown sandstone.	MG	

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Exploratory hole cleared of buried services. Drilling barrel refused at 0.15mbgl due to concrete obstruction. Redrilled as WS07A. No Groundwater encountered.

All dimensions in metres Scale 1:25	Client: Forshaw Land & Property Group	Method / Plant Used: Competitor Dart	Logged By: Sam Gough

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

WINDOWLESS SAMPLE BOREHOLE LOG

Project				WINDOWLESS SAMPLE BOREHOLE No
Moss Lane West, Manchester				**WS07A**
Project ID: GSI 0397	Date: 20-05-15 / 20-05-15	Ground Level (m):	Co-Ordinates (): E 383,180.0 N 395,829.0	
Contractor: Forshaw Land & Property Group				Sheet: 1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
						0.10	MADE GROUND: Dark blackish grey sandy GRAVEL. Gravel is angular to subangular fine to coarse of mixed lithology and brick.	MG	
						0.15	MADE GROUND: Light brown very sandy GRAVEL. Gravel is subangular to subrounded fine to coarse of light brown sandstone.	MG	

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Exploratory hole cleared of buried services. Drilling barrel refused at 0.15mbgl due to concrete obstruction. Redrilled as WS07B. No Groundwater encountered.

All dimensions in metres Scale 1:25	Client: Forshaw Land & Property Group	Method / Plant Used: Competitor Dart	Logged By: Sam Gough

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

WINDOWLESS SAMPLE BOREHOLE LOG

Project				WINDOWLESS SAMPLE BOREHOLE No
Moss Lane West, Manchester				
Project ID	Date	Ground Level (m)	Co-Ordinates ()	**WS07B**
GSI 0397	20-05-15 20-05-15		E 383,180.0 N 395,829.0	
Contractor				Sheet
Forshaw Land & Property Group				1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
						0.08	MADE GROUND: Light brownish grey concrete paving flag.	MG	
						0.15	MADE GROUND: Light brown very sandy GRAVEL. Gravel is subangular to subrounded fine to coarse of light brown sandstone. (SUB-BASE)	MG	

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Exploratory hole cleared of buried services. Drilling barrel refused at 0.15mbgl due to concrete obstruction. Redrilled as WS07C. No Groundwater encountered.

All dimensions in metres Scale 1:25	Client Forshaw Land & Property Group	Method / Plant Used Competitor Dart	Logged By Sam Gough

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

WINDOWLESS SAMPLE BOREHOLE LOG

Project				WINDOWLESS SAMPLE BOREHOLE No
Moss Lane West, Manchester				
Project ID	Date	Ground Level (m)	Co-Ordinates ()	**WS07C**
GSI 0397	20-05-15 20-05-15		E 383,180.0 N 395,829.0	
Contractor				Sheet
Forshaw Land & Property Group				1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
						0.10	MADE GROUND: Dark blackish grey sandy GRAVEL. Gravel is angular to subangular fine to coarse of mixed lithology and brick.	MG	
						0.15	MADE GROUND: Light brown very sandy GRAVEL. Gravel is subangular to subrounded fine to coarse of light brown sandstone.	MG	

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Exploratory hole cleared of buried services. Drilling barrel refused at 0.15mbgl due to concrete obstruction. Redrilled as WS07D. No Groundwater encountered.

All dimensions in metres Scale 1:25	Client Forshaw Land & Property Group	Method / Plant Used Competitor Dart	Logged By Sam Gough

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

WINDOWLESS SAMPLE BOREHOLE LOG

Project				WINDOWLESS SAMPLE BOREHOLE No
Moss Lane West, Manchester				**WS07D**
Project ID: GSI 0397	Date: 20-05-15 / 20-05-15	Ground Level (m):	Co-Ordinates (): E 383,180.0 N 395,829.0	
Contractor: Forshaw Land & Property Group				Sheet: 1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
						0.10	MADE GROUND: Dark blackish grey sandy GRAVEL. Gravel is angular to subangular fine to coarse of mixed lithology and brick.	MG	
						0.15	MADE GROUND: Light brown very sandy GRAVEL. Gravel is subangular to subrounded fine to coarse of light brown sandstone.	MG	

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To	Exploratory hole cleared of buried services. Cased from GL to 0.15mbgl. Drilling barrel refused at 0.15mbgl due to concrete. Moved and redrilled as WS07E. No Groundwater encountered.

All dimensions in metres Scale 1:25	Client: Forshaw Land & Property Group	Method / Plant Used: Competitor Dart	Logged By: Sam Gough

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

WINDOWLESS SAMPLE BOREHOLE LOG

Project				WINDOWLESS SAMPLE BOREHOLE No
Moss Lane West, Manchester				
Project ID: GSI 0397	Date: 20-05-15 20-05-15	Ground Level (m):	Co-Ordinates (): E 383,180.0 N 395,829.0	**WS07E**
Contractor: Forshaw Land & Property Group				Sheet: 1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
						0.10	MADE GROUND: Dark blackish grey sandy GRAVEL. Gravel is angular to subangular fine to coarse of mixed lithology and brick.	MG	
						0.15	MADE GROUND: Light brown very sandy GRAVEL. Gravel is subangular to subrounded fine to coarse of light brown sandstone.	MG	

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Exploratory hole cleared of buried services. Drilling barrel refused at 0.15mbgl due to concrete obstruction - location abandoned. No Groundwater encountered.

All dimensions in metres Scale 1:25	Client: Forshaw Land & Property Group	Method / Plant Used: Competitor Dart	Logged By: Sam Gough

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

WINDOWLESS SAMPLE BOREHOLE LOG

Project				WINDOWLESS SAMPLE BOREHOLE No
Moss Lane West, Manchester				**WS08**
Project ID: GSI 0397	Date: 20-05-15 / 20-05-15	Ground Level (m):	Co-Ordinates (): E 383,161.0 N 395,826.0	
Contractor: Forshaw Land & Property Group				Sheet: 1 of 1

SAMPLES & TESTS				STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill	
						0.10	MADE GROUND: Dark blackish brown very sandy GRAVEL. Gravel is angular to subangular fine to coarse of ash clinker brick and mixed lithology.	MG		
0.20	ES					(0.45)	MADE GROUND: Light greyish brown very sandy very gravelly CLAY. Gravel is angular to subangular fine to coarse of brick slag and limestone.	MG		
						0.55				
0.60	ES						Firm to stiff light greyish brown mottled orangish brown slightly sandy CLAY. (POSSIBLE REWORKED MATERIALS)			
1.00	ES					(0.85)				
						1.40				
1.50	ES						Orangish light brown slightly clayey slightly gravelly SAND. Gravel is subangular to subrounded fine to coarse of mixed lithology. (GLACIOFLUVIAL SHEET DEPOSITS)		
						(0.60)		GFSD		
1.90	ES						1.75 CLay ceases below 1.75mbgl. Becomes very gravelly SAND.			
						2.00				

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Exploratory hole cleared of buried services. Drilling barrel refused at 2.00mbgl. No Groundwater encountered.

All dimensions in metres Scale 1:25	Client: Forshaw Land & Property Group	Method / Plant Used: Competitor Dart	Logged By: Sam Gough

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

WINDOWLESS SAMPLE BOREHOLE LOG

Project				WINDOWLESS SAMPLE BOREHOLE No
Moss Lane West, Manchester				**WS09**
Project ID: GSI 0397	Date: 20-05-15 / 20-05-15	Ground Level (m):	Co-Ordinates (): E 383,130.0 N 395,830.0	
Contractor: Forshaw Land & Property Group				Sheet: 1 of 1

SAMPLES & TESTS				STRATA					
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
						0.10	MADE GROUND: Dark blackish brown very sandy GRAVEL. Gravel is angular to subangular fine to coarse of ash clinker brick and mixed lithology.	MG	
0.30	ES					(0.40)	MADE GROUND: Light grey very sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone.	MG	
						0.50			
0.55	ES					0.65	Firm to stiff dark brown very sandy CLAY. (POSSIBLE REWORKED MATERIALS)		
0.75	ES						Orangish light brown slightly gravelly SAND with rare cobble. Gravel is subangular to subrounded fine to medium of mixed lithology. Cobble is of subangular of coal. (GLACIOFLUVIAL SHEET DEPOSITS)		
							1.50 Gravel becomes fine to coarse below 1.50mbgl.		
1.75	ES					(2.35)		GFSD	
1.90	ES								
2.90	ES					3.00			

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Exploratory hole cleared of buried services. Drilling barrel refused at 3.00mbgl. No Groundwater encountered.

All dimensions in metres Scale 1:25	Client: Forshaw Land & Property Group	Method / Plant Used: Competitor Dart	Logged By: Sam Gough

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

WINDOWLESS SAMPLE BOREHOLE LOG

Project				WINDOWLESS SAMPLE BOREHOLE No
Moss Lane West, Manchester				
Project ID	Date	Ground Level (m)	Co-Ordinates ()	**WS10**
GSI 0397	21-05-15 21-05-15		E 383,133.0 N 395,865.0	
Contractor				Sheet
Forshaw Land & Property Group				1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
						0.10	MADE GROUND: Dark blackish brown very sandy GRAVEL. Gravel is angular to subangular fine to coarse of ash clinker brick and mixed lithology.	MG	
0.15	ES					(0.20)		MG	
						0.30	MADE GROUND: Light brownish grey very gravelly SAND. Gravel is angular to subangular fine to coarse of limestone quartz brick and timber.		
0.40	ES					(0.25)		MG	
						0.55	MADE GROUND: Light grey sandy GRAVEL with occasional cobbles. Gravel is angular to subangular fine to coarse of limestone quartz and brick. Cobbles are angular of brick.		
0.65	ES					(0.35)	MADE GROUND: Firm brown to multicoloured sandy very gravelly CLAY. Gravel is angular to subangular fine to coarse of mixed lithology and brick.	MG	
						0.90			
1.00	ES					(0.70)	Firm dark brown sandy CLAY. (POSSIBLE REWORKED MATERIALS)		
						1.60			
1.70	ES					(0.40)	Orangish light brown gravelly SAND. Gravel is subangular to subrounded fine to medium of mixed lithology. (GLACIOFLUVIAL SHEET DEPOSITS) 1.80 Gravel becomes fine to coarse below 1.80mbgl.	GFSD	
						2.00			

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Exploratory hole cleared of buried services. Drilling barrel refused at 2.00mbgl. No Groundwater encountered.

All dimensions in metres Scale 1:25	Client Forshaw Land & Property Group	Method / Plant Used Competitor Dart	Logged By Sam Gough

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

WINDOWLESS SAMPLE BOREHOLE LOG

Project				WINDOWLESS SAMPLE BOREHOLE No
Moss Lane West, Manchester				**WS11**
Project ID: GSI 0397	Date: 21-05-15 21-05-15	Ground Level (m):	Co-Ordinates (): E 383,158.0 N 395,840.0	
Contractor: Forshaw Land & Property Group				Sheet: 1 of 1

SAMPLES & TESTS				STRATA					
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
						0.10	MADE GROUND: Dark blackish brown very sandy GRAVEL. Gravel is angular to subangular fine to coarse of ash clinker brick and mixed lithology.	MG	
0.20	ES					(0.25)	MADE GROUND: Light greyish brown very sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone brick and charcoal.	MG	
						0.35			
0.45	ES						Firm to stiff light grey mottled orangish brown slightly sandy CLAY. (POSSIBLE REWORKED MATERIALS)		
0.90	ES					(1.05)			
						1.40			
1.50	ES						Orangish light brown slightly gravelly SAND. Gravel is subangular to subrounded fine to coarse of mixed lithology. (GLACIOFLUVIAL SHEET DEPOSITS)		
						(0.60)		GFSD	
							1.80 Becomes slightly clayey and very gravelly below 1.80mbgl.		
						2.00			

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Exploratory hole cleared of buried services. Drilling barrel refused at 2.00mbgl. No Groundwater encountered.

All dimensions in metres Scale 1:25	Client: Forshaw Land & Property Group	Method / Plant Used: Competitor Dart	Logged By: Sam Gough

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

WINDOWLESS SAMPLE BOREHOLE LOG

Project				WINDOWLESS SAMPLE BOREHOLE No
Moss Lane West, Manchester				
Project ID	Date	Ground Level (m)	Co-Ordinates ()	**WS12**
GSI 0397	21-05-15 21-05-15		E 383,158.0 N 395,862.0	
Contractor				Sheet
Forshaw Land & Property Group				1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
0.10	ES					0.10	MADE GROUND: Dark blackish brown very sandy GRAVEL. Gravel is angular to subangular fine to coarse of ash clinker brick and mixed lithology.	MG	
						0.25		MG	
0.30	ES					(0.25)	MADE GROUND: Dark brown slightly clayey gravelly SAND. Gravel is angular to subangular fine to coarse of sandstone limestone brick and charcoal.	MG	
						0.50	MADE GROUND: Light grey very sandy GRAVEL with occasional cobbles. Gravel is angular to subangular fine to coarse of limestone and brick. Cobbles are angular to subangular of limestone.		
0.60	ES						Stiff light grey mottled orangish brown slightly sandy CLAY. (POSSIBLE REWORKED MATERIALS)		
1.00	ES					(0.90)	0.85 Clour change below 0.85mbgl, from light orangish brown mottled light grey		
						1.40			
1.50	ES					(0.50)	Orangish light brown gravelly SAND. Gravel is subangular to subrounded fine to coarse of mixed lithology. (GLACIOFLUVIAL SHEET DEPOSITS)	GFSD	
						1.90			

Boring Progress and Water Observations					
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

Exploratory hole cleared of buried services. Drilling barrel refused at 1.90mbgl. No Groundwater encountered.

All dimensions in metres Scale 1:25	Client Forshaw Land & Property Group	Method / Plant Used Competitor Dart	Logged By Sam Gough

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

WINDOWLESS SAMPLE BOREHOLE LOG

Project				WINDOWLESS SAMPLE BOREHOLE No
Moss Lane West, Manchester				**WS13**
Project ID: GSI 0397	Date: 21-05-15 / 21-05-15	Ground Level (m):	Co-Ordinates (): E 383,145.0 N 395,882.0	
Contractor: Forshaw Land & Property Group				Sheet: 1 of 1

SAMPLES & TESTS				STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill	
						0.10	MADE GROUND: Dark blackish brown very sandy GRAVEL. Gravel is angular to subangular fine to coarse of ash clinker brick and mixed lithology.	MG		
0.15	ES					0.25	MADE GROUND: Light grey clayey very sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone.	MG		
0.35	ES					(0.30) 0.55	MADE GROUND: Reddish dark brown clayey very sandy GRAVEL. Gravel is angular to subangular fine to coarse of brick and mixed lithology.	MG		
0.65	ES					(0.85) 1.40	Firm light grey mottled orangish brown slightly sandy CLAY. (POSSIBLE REWORKED MATERIALS)			
1.20	ES									
1.50	ES					(0.60) 2.00	Orangish dark brown to orangish light brown very gravelly SAND. Gravel is subangular to subrounded fine to coarse of mixed lithology. (GLACIOFLUVIAL SHEET DEPOSITS)	GFSD		

Boring Progress and Water Observations						Chiselling			Water Added	
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To

GENERAL REMARKS

Exploratory hole cleared of buried services. Drilling barrel refused at 2.00mbgl. No Groundwater encountered.

All dimensions in metres Scale 1:25	Client: Forshaw Land & Property Group	Method / Plant Used: Competitor Dart	Logged By: Sam Gough

GeoCon Site Investigations Ltd
15 Belmont Drive, Marple Bridge, Stockport SK6 5EA.
Tel: 08445043901 Fax: 08445043902
Web: www.geoconsiteinvestigations.com Email: info@geoconsiteinvestigations.com

WINDOWLESS SAMPLE BOREHOLE LOG

Project				WINDOWLESS SAMPLE BOREHOLE No
Moss Lane West, Manchester				
Project ID	Date	Ground Level (m)	Co-Ordinates ()	**WS14**
GSI 0397	21-05-15 21-05-15		E 383,169.0 N 395,894.0	
Contractor				Sheet
Forshaw Land & Property Group				1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION	Geology	Instrument & Backfill
						0.10	MADE GROUND: Dark blackish brown very sandy GRAVEL. Gravel is angular to subangular fine to coarse of ash clinker brick and mixed lithology.	MG	
0.30	ES					(0.80)	MADE GROUND: Light grey to brown slightly clayey very sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone.	MG	
0.50	ES					0.90			
1.00	ES					(0.50)	Very stiff orangish light brown mottled light grey slightly sandy CLAY. (POSSIBLE REWORKED MATERIALS)		
						1.40			
1.50	ES					(0.60)	Orangish light brown gravelly SAND. Gravel is subangular to subrounded fine to medium of sandstone and coal. (GLACIOFLUVIAL SHEET DEPOSITS)	GFSD	
1.90	ES					2.00	1.90 Gravel becomes fine to coarse below 1.90mbgl.		

Boring Progress and Water Observations						Chiselling			Water Added	
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Depth	From	To	Hours	From	To

GENERAL REMARKS

Exploratory hole cleared of buried services. Drilling barrel refused at 2.00mbgl. No Groundwater encountered.

All dimensions in metres Scale 1:25	Client Forshaw Land & Property Group	Method / Plant Used Competitor Dart	Logged By Sam Gough

APPENDIX C

CHEMICAL TESTING RESULTS

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 15/03406
Issue Number: 1 **Date:** 03 June, 2015

Client: Geocon Site Investigations Ltd
15 Belmont Drive
Marple Bridge
Stockport
UK
SK6 5EA

Project Manager: Ian Walker
Project Name: Moss Lane West, Manchester
Project Ref: GSI 0397
Order No: PO 15/0200
Date Samples Received: 22/05/15
Date Instructions Received: 26/05/15
Date Analysis Completed: 03/06/15

Prepared by:

Melanie Marshall
Laboratory Coordinator

Approved by:

Iain Haslock
Analytical Consultant

Envirolab Job Number: 15/03406

Client Project Name: Moss Lane West, Manchester

Client Project Ref: GSI 0397

Lab Sample ID	15/03406/1	15/03406/2	15/03406/3	15/03406/4	15/03406/5	15/03406/6	15/03406/7	15/03406/8	Units	Method ref
Client Sample No										
Client Sample ID	WS01	WS02	WS03	WS04	WS05	WS06	WS08	WS09		
Depth to Top	0.70	0.65	0.35	0.10	0.30	0.30	0.20	0.30		
Depth To Bottom	1.00	0.90								
Date Sampled	19-May-15	19-May-15	19-May-15	19-May-15	20-May-15	20-May-15	20-May-15	20-May-15		
Sample Type	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Solid		
MCERTS Sample Matrix Code	1A	7	5A	6A	4AE	6A	4A	7		
% Stones >10mm$_A^{\#}$	37.2	<0.1	2.4	35.9	32.5	17.3	7.1	<0.1	% w/w	A-T-044
pH$_D^{M\#}$	9.33	10.04	8.48	7.99	8.38	8.34	8.57	9.22	pH	A-T-031s
Sulphate (water sol 2:1)$_D^{M\#}$	0.04	0.05	0.05	0.11	<0.01	<0.01	0.06	<0.01	g/l	A-T-026s
Cyanide (total)$_A^{M\#}$	<1	<1	<1	<1	<1	<1	<1	<1	mg/kg	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	A-T-050s
Total Organic Carbon$_D^{M\#}$	0.70	0.20	3.08	2.12	1.66	9.82	1.67	0.09	% w/w	A-T-032s
Arsenic$_D^{M\#}$	2	2	9	33	2	9	8	1	mg/kg	A-T-024s
Cadmium$_D^{M\#}$	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	0.8	mg/kg	A-T-024s
Copper$_D^{M\#}$	10	10	49	258	24	36	28	7	mg/kg	A-T-024s
Chromium$_D^{M\#}$	7	22	18	19	8	11	18	3	mg/kg	A-T-024s
Lead$_D^{M\#}$	6	11	121	186	80	123	1680	20	mg/kg	A-T-024s
Mercury$_D$	<0.17	<0.17	0.37	0.33	0.46	0.93	1.35	2.63	mg/kg	A-T-024s
Nickel$_D^{M\#}$	8	20	21	36	11	17	11	3	mg/kg	A-T-024s
Selenium$_D^{M\#}$	<1	<1	<1	1	<1	<1	<1	<1	mg/kg	A-T-024s
Zinc$_D^{M\#}$	19	33	68	103	62	78	386	16	mg/kg	A-T-024s

Envirolab Job Number: 15/03406

Client Project Name: Moss Lane West, Manchester

Client Project Ref: GSI 0397

Lab Sample ID	15/03406/1	15/03406/2	15/03406/3	15/03406/4	15/03406/5	15/03406/6	15/03406/7	15/03406/8	Units	Method ref
Client Sample No										
Client Sample ID	WS01	WS02	WS03	WS04	WS05	WS06	WS08	WS09		
Depth to Top	0.70	0.65	0.35	0.10	0.30	0.30	0.20	0.30		
Depth To Bottom	1.00	0.90								
Date Sampled	19-May-15	19-May-15	19-May-15	19-May-15	20-May-15	20-May-15	20-May-15	20-May-15		
Sample Type	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Solid		
MCERTS Sample Matrix Code	1A	7	5A	6A	4AE	6A	4A	7		
TPH CWG										
Ali >C5-C6$_A^\#$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Ali >C6-C8$_A^\#$	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Ali >C8-C10$_A^\#$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Ali >C10-C12$_A^\#$	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Ali >C12-C16$_A^\#$	<0.1	<0.1	<0.1	<0.1	4.9	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Ali >C16-C21$_A^\#$	<0.1	<0.1	<0.1	<0.1	25.0	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Ali >C21-C35$_A^\#$	<0.1	<0.1	<0.1	<0.1	138	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Total Aliphatics$_A$	<0.1	<0.1	<0.1	<0.1	168	<0.1	<0.1	<0.1	mg/kg	A-T-022+23s
Aro >C5-C7$_A^\#$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Aro >C7-C8$_A^\#$	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Aro >C8-C9$_A^\#$	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Aro >C9-C10$_A^\#$	<0.01	<0.01	0.10	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
Aro >C10-C12$_A^\#$	<0.1	<0.1	2.3	<0.1	0.6	<0.1	<0.1	<0.1	mg/kg	A-T-023s
Aro >C12-C16$_A^\#$	<0.1	0.2	16.3	0.6	17.1	4.3	<0.1	<0.1	mg/kg	A-T-023s
Aro >C16-C21$_A^\#$	<0.1	2.7	41.7	4.3	104	26.4	1.3	5.1	mg/kg	A-T-023s
Aro >C21-C35$_A^\#$	<0.1	1.3	44.9	10.4	300	61.2	0.6	5.4	mg/kg	A-T-023s
Total Aromatics$_A$	<0.1	4.3	106	15.2	422	91.9	1.9	10.4	mg/kg	A-T-022+23s
TPH (Ali & Aro)$_A$	<0.1	4.3	106	15.2	590	91.9	1.9	10.4	mg/kg	A-T-022+23s
BTEX - Benzene$_A^\#$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
BTEX - Toluene$_A^\#$	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
BTEX - Ethyl Benzene$_A^\#$	<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$_A^\#$	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
BTEX - o Xylene$_A^\#$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	A-T-022s
MTBE$_A^\#$	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	mg/kg	A-T-022s
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_A^\#$	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD		A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_D$	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		Gravimetry

Envirolab Job Number: 15/03406

Client Project Name: Moss Lane West, Manchester

Client Project Ref: GSI 0397

Lab Sample ID	15/03406/1	15/03406/2	15/03406/3	15/03406/4	15/03406/5	15/03406/6	15/03406/7	15/03406/8	Units	Method ref
Client Sample No										
Client Sample ID	WS01	WS02	WS03	WS04	WS05	WS06	WS08	WS09		
Depth to Top	0.70	0.65	0.35	0.10	0.30	0.30	0.20	0.30		
Depth To Bottom	1.00	0.90								
Date Sampled	19-May-15	19-May-15	19-May-15	19-May-15	20-May-15	20-May-15	20-May-15	20-May-15		
Sample Type	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Solid		
MCERTS Sample Matrix Code	1A	7	5A	6A	4AE	6A	4A	7		
PAH 16										
Acenaphthene$_A^{M\#}$	<0.01	<0.01	1.24	0.13	3.97	2.17	0.03	0.09	mg/kg	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.01	<0.01	<0.01	0.04	0.05	0.01	<0.01	mg/kg	A-T-019s
Anthracene$_A^{M\#}$	<0.02	0.02	1.37	0.14	6.41	3.19	0.10	0.24	mg/kg	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	<0.04	0.05	1.56	0.48	12.4	7.96	0.57	0.67	mg/kg	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	<0.04	0.05	1.31	0.46	12.2	7.85	0.63	0.74	mg/kg	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	<0.05	<0.05	1.10	0.35	10.7	7.21	0.47	0.63	mg/kg	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05	<0.05	0.69	0.27	6.32	4.09	0.38	0.46	mg/kg	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	<0.07	0.93	0.33	9.51	5.92	0.52	0.56	mg/kg	A-T-019s
Chrysene$_A^{M\#}$	<0.06	0.08	1.75	0.59	12.7	8.89	0.67	0.78	mg/kg	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04	<0.04	0.17	0.07	1.66	1.17	0.11	0.11	mg/kg	A-T-019s
Fluoranthene$_A^{M\#}$	<0.08	0.13	4.75	1.05	29.9	19	0.94	1.52	mg/kg	A-T-019s
Fluorene$_A^{M\#}$	<0.01	<0.01	0.91	0.08	2.62	1.44	0.02	0.09	mg/kg	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	<0.03	0.03	0.77	0.27	7.44	4.74	0.41	0.52	mg/kg	A-T-019s
Naphthalene$_A^{M\#}$	<0.03	<0.03	1.25	0.08	0.74	0.66	<0.03	<0.03	mg/kg	A-T-019s
Phenanthrene$_A^{M\#}$	<0.03	0.10	5.86	0.77	20.4	12.4	0.39	0.87	mg/kg	A-T-019s
Pyrene$_A^{M\#}$	<0.07	0.12	4.00	1.08	26.5	16.6	0.97	1.33	mg/kg	A-T-019s
PAH (total 16)$_A^{M\#}$	<0.08	0.59	27.7	6.18	163	103	6.22	8.59	mg/kg	A-T-019s

Envirolab Job Number: 15/03406

Client Project Name: Moss Lane West, Manchester

Client Project Ref: GSI 0397

Lab Sample ID	15/03406/1	15/03406/2	15/03406/3	15/03406/4	15/03406/5	15/03406/6	15/03406/7	15/03406/8	Units	Method ref
Client Sample No										
Client Sample ID	WS01	WS02	WS03	WS04	WS05	WS06	WS08	WS09		
Depth to Top	0.70	0.65	0.35	0.10	0.30	0.30	0.20	0.30		
Depth To Bottom	1.00	0.90								
Date Sampled	19-May-15	19-May-15	19-May-15	19-May-15	20-May-15	20-May-15	20-May-15	20-May-15		
Sample Type	Soil - ES	Solid	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Solid		
MCERTS Sample Matrix Code	1A	7	5A	6A	4AE	6A	4A	7		
Speciated PCB-EC7										
PCB BZ $28_A^{M\#}$	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	-	mg/kg	A-T-004s
PCB BZ $52_A^{M\#}$	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	-	mg/kg	A-T-004s
PCB BZ $101_A^{M\#}$	<0.004	<0.004	<0.004	<0.004	<0.004	-	<0.004	-	mg/kg	A-T-004s
PCB BZ $118_A^{M\#}$	<0.007	<0.007	<0.007	<0.007	<0.007	-	<0.007	-	mg/kg	A-T-004s
PCB BZ $138_A^{M\#}$	<0.006	<0.006	<0.006	<0.006	<0.006	-	<0.006	-	mg/kg	A-T-004s
PCB BZ $153_A^{M\#}$	<0.004	<0.004	<0.004	<0.004	<0.004	-	<0.004	-	mg/kg	A-T-004s
PCB BZ $180_A^{M\#}$	<0.004	<0.004	<0.004	<0.004	<0.004	-	<0.004	-	mg/kg	A-T-004s

Envirolab Job Number: 15/03406

Client Project Name: Moss Lane West, Manchester

Client Project Ref: GSI 0397

Lab Sample ID	15/03406/9	15/03406/10	15/03406/11	15/03406/12					Units	Method ref
Client Sample No										
Client Sample ID	WS10	WS11	WS12	WS13						
Depth to Top	0.15	0.20	0.10	0.35						
Depth To Bottom										
Date Sampled	21-May-15	21-May-15	19-May-15	21-May-15						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
MCERTS Sample Matrix Code	1A	1A	4A	4AB						
% Stones >10mm$_A^{\#}$	26.7	33.3	43.3	22.0					% w/w	A-T-044
pH$_D^{M\#}$	12.09	10.32	9.54	9.17					pH	A-T-031s
Sulphate (water sol 2:1)$_D^{M\#}$	<0.01	0.03	0.01	<0.01					g/l	A-T-026s
Cyanide (total)$_A^{M\#}$	<1	<1	<1	<1					mg/kg	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2					mg/kg	A-T-050s
Total Organic Carbon$_D^{M\#}$	0.28	1.71	1.83	0.74					% w/w	A-T-032s
Arsenic$_D^{M\#}$	2	1	<1	5					mg/kg	A-T-024s
Cadmium$_D^{M\#}$	<0.5	<0.5	<0.5	0.5					mg/kg	A-T-024s
Copper$_D^{M\#}$	8	10	7	12					mg/kg	A-T-024s
Chromium$_D^{M\#}$	10	8	9	13					mg/kg	A-T-024s
Lead$_D^{M\#}$	21	28	15	41					mg/kg	A-T-024s
Mercury$_D$	0.64	1.25	0.50	<0.17					mg/kg	A-T-024s
Nickel$_D^{M\#}$	7	6	10	10					mg/kg	A-T-024s
Selenium$_D^{M\#}$	<1	<1	<1	<1					mg/kg	A-T-024s
Zinc$_D^{M\#}$	24	38	31	484					mg/kg	A-T-024s

Envirolab Job Number: 15/03406

Client Project Name: Moss Lane West, Manchester

Client Project Ref: GSI 0397

Lab Sample ID	15/03406/9	15/03406/10	15/03406/11	15/03406/12					Units	Method ref
Client Sample No										
Client Sample ID	WS10	WS11	WS12	WS13						
Depth to Top	0.15	0.20	0.10	0.35						
Depth To Bottom										
Date Sampled	21-May-15	21-May-15	19-May-15	21-May-15						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
MCERTS Sample Matrix Code	1A	1A	4A	4AB						
TPH CWG										
Ali >C5-C6$_A^\#$	<0.01	<0.01	<0.01	<0.01					mg/kg	A-T-022s
Ali >C6-C8$_A^\#$	<0.01	<0.01	<0.01	<0.01					mg/kg	A-T-022s
Ali >C8-C10$_A^\#$	<0.01	<0.01	<0.01	<0.01					mg/kg	A-T-022s
Ali >C10-C12$_A^\#$	<0.1	<0.1	<0.1	<0.1					mg/kg	A-T-023s
Ali >C12-C16$_A^\#$	0.7	<0.1	2.9	<0.1					mg/kg	A-T-023s
Ali >C16-C21$_A^\#$	4.1	<0.1	12.2	<0.1					mg/kg	A-T-023s
Ali >C21-C35$_A^\#$	4.1	<0.1	177	<0.1					mg/kg	A-T-023s
Total Aliphatics$_A$	8.9	<0.1	192	<0.1					mg/kg	A-T-022+23s
Aro >C5-C7$_A^\#$	<0.01	<0.01	<0.01	<0.01					mg/kg	A-T-022s
Aro >C7-C8$_A^\#$	<0.01	<0.01	<0.01	<0.01					mg/kg	A-T-022s
Aro >C8-C9$_A^\#$	<0.01	<0.01	<0.01	<0.01					mg/kg	A-T-022s
Aro >C9-C10$_A^\#$	<0.01	<0.01	<0.01	<0.01					mg/kg	A-T-022s
Aro >C10-C12$_A^\#$	<0.1	<0.1	1.8	<0.1					mg/kg	A-T-023s
Aro >C12-C16$_A^\#$	<0.1	2.0	8.6	1.1					mg/kg	A-T-023s
Aro >C16-C21$_A^\#$	1.4	1.2	42.6	10.3					mg/kg	A-T-023s
Aro >C21-C35$_A^\#$	0.2	2.9	272	24.2					mg/kg	A-T-023s
Total Aromatics$_A$	1.5	6.1	325	35.6					mg/kg	A-T-022+23s
TPH (Ali & Aro)$_A$	10.4	6.1	518	35.6					mg/kg	A-T-022+23s
BTEX - Benzene$_A^\#$	<0.01	<0.01	<0.01	<0.01					mg/kg	A-T-022s
BTEX - Toluene$_A^\#$	<0.01	<0.01	<0.01	<0.01					mg/kg	A-T-022s
BTEX - Ethyl Benzene$_A^\#$	<0.01	<0.01	<0.01	<0.01					mg/kg	A-T-022s
BTEX - m & p Xylene$_A^\#$	<0.01	<0.01	<0.01	<0.01					mg/kg	A-T-022s
BTEX - o Xylene$_A^\#$	<0.01	<0.01	<0.01	<0.01					mg/kg	A-T-022s
MTBE$_A^\#$	*<0.01*	*<0.01*	*<0.01*	*<0.01*					mg/kg	A-T-022s
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_A^\#$	NAD	NAD	NAD	NAD						A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_D$	N/A	N/A	N/A	N/A						Gravimetry

Envirolab Job Number: 15/03406

Client Project Name: Moss Lane West, Manchester

Client Project Ref: GSI 0397

Lab Sample ID	15/03406/9	15/03406/10	15/03406/11	15/03406/12					Units	Method ref
Client Sample No										
Client Sample ID	WS10	WS11	WS12	WS13						
Depth to Top	0.15	0.20	0.10	0.35						
Depth To Bottom										
Date Sampled	21-May-15	21-May-15	19-May-15	21-May-15						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
MCERTS Sample Matrix Code	1A	1A	4A	4AB						
PAH 16										
Acenaphthene$_A^{M\#}$	<0.01	0.16	0.12	0.20					mg/kg	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	0.01	0.02	<0.01					mg/kg	A-T-019s
Anthracene$_A^{M\#}$	<0.02	0.35	0.42	0.29					mg/kg	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.05	1.12	1.55	1.14					mg/kg	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.04	1.09	2.40	1.23					mg/kg	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	<0.05	0.91	1.83	1.00					mg/kg	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05	0.59	1.70	0.68					mg/kg	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	0.82	1.63	0.99					mg/kg	A-T-019s
Chrysene$_A^{M\#}$	<0.06	1.24	1.70	1.25					mg/kg	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04	0.16	0.37	0.18					mg/kg	A-T-019s
Fluoranthene$_A^{M\#}$	0.10	2.47	2.89	2.32					mg/kg	A-T-019s
Fluorene$_A^{M\#}$	<0.01	0.11	0.10	0.09					mg/kg	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.03	0.65	1.77	0.78					mg/kg	A-T-019s
Naphthalene$_A^{M\#}$	<0.03	<0.03	<0.03	0.04					mg/kg	A-T-019s
Phenanthrene$_A^{M\#}$	0.12	1.43	1.07	1.28					mg/kg	A-T-019s
Pyrene$_A^{M\#}$	0.09	2.38	2.69	2.07					mg/kg	A-T-019s
PAH (total 16)$_A^{M\#}$	0.51	13.5	20.3	13.6					mg/kg	A-T-019s

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
This report shall not be reproduced, except in full, without written approval from Envirolab.
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.
If results are in italic font they are associated with an AQC failure. These are not accredited and are 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 and, as a result, may be invalid.

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 BSEN 17025 or MCERTS accreditations.

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.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Geocon Site Investigations Ltd, 15 Belmont Drive, Marple Bridge, Stockport, UK, SK6 5EA

Project No: 15/03406

Date Instructions Received: 26/05/2015 (am)

Project: Moss Lane West, Manchester

Clients Project No: GSI 0397

NO DEVIATIONS IDENTIFIED

APPENDIX D

CHEMICAL SCREENING CRITERIA

GeoCon Site Investigations Ltd

August 2013

GENERIC SCREENING CRITERIA

FOR

GENERIC QUANTITATIVE RISK ASSESSMENT

GeoCon Screening Values For a Residential End Use With Consumption of Home Grown Vegetables at 1% SOM **August 2013**

Compound	SSV's Residential With Consumption of Home Grown Vegetables		WSV's Residential		DWS		EQS	
	mg/kg	Ref	mg/l	Ref	µg/l	Ref	µg/l	Ref
Metals								
Antimnoy	113	E	-	-	-	-	-	-
Arsenic	32	E	-	-	10	F	50	G
Barium	43.4	E	-	-	-	-	-	-
Beryllium	60.3	E	-	-	-	-	-	-
Boron	291	B	-	-	-	-	-	-
Cadmium (pH 6, 7, 8)	10	E	-	-	5	F	5	G
Chromium III	627	B	-	-	-	-	-	-
Chromium VI	4.3	B	-	-	50	F	5	G
Copper	3970	E	-	-	2000	F	1	G
Lead	276	E	-	-	25	F	4	G
Mercury (elemental)	0.0607	E	0.00463	E	-	-	-	-
Mercury (Inorganic)	170	E	-	-	-	-	-	-
Mercury (methyl)	6.28	E	45.5	E	1	F	1	G
Molybdenum	74.6	E	-	-	-	-	-	-
Nickel	130	E	-	-	20	F	50	G
Selenium	350	E	-	-	10	F	-	-
Vanadium	113	E	-	-	-	-	-	-
Zinc	16900	E	-	-	5000	F	75	G
Non-Metals								
Free-Cyanide (Total)	34	E	-	-	50	F	-	-
Phenol and Chlorophenols								
Phenol	162	E	1690	E	0.5	F	-	-
Chlorophenols	0.87	B	-	-	-	-	-	-
Pentachlorophenol	0.55	B	-	-	-	-	-	-
Poly Aromatic Hydrocarbons (PAH) (1.0% SOM)								
Acenapthene	588	E	-	-	-	-	-	-
Acenapthylene	170	B	-	-	-	-	-	-
Anthracene	8270	E	-	-	-	-	-	-
Benzo(a)anthracene	4.52	E	-	-	-	-	-	-
Benzo(a)pyrene	0.818	E	-	-	-	-	-	-
Benzo(b)fluoranthene	7.72	E	-	-	-	-	-	-
Benzo(ghi)perylene	96.2	E	-	-	0.01	F	-	-
Benzo(k)fluoranthene	84.4	E	-	-	-	-	-	-
Chrysene	585	E	-	-	-	-	-	-
Dibenzo(ah)anthracene	0.838	E	-	-	-	-	-	-
Fluoranthene	822	E	-	-	-	-	0.02	G
Fluorene	615	E	-	-	-	-	-	-
Indeno(123-cd)pyrene	7.31	E	-	-	-	-	-	-
Napthalene	0.585	E	0.952	E	-	-	-	-
Phenanthrene	92	B	-	-	-	-	-	-
Pyrene	563	E	-	-	-	-	-	-

CONFIDENTIAL
Not to be copied or distributed to third parties without written consent from GeoCon.

GeoCon Site Investigations Ltd

August 2013

GENERIC SCREENING CRITERIA

FOR

GENERIC QUANTITATIVE RISK ASSESSMENT

Compound	SSV's Residential With Consumption of Home Grown Vegetables		WSV's Residential		DWS		EQS	
	mg/kg	Ref	mg/l	Ref	µg/l	Ref	µg/l	Ref
Total PAH	-		-	-	0.2	F	-	-
Petroleum Hydrocarbons (TPH CWG)								
MTBE	20	E	-	-	-	-	-	-
Bezene	0.0493	E	0.0888	E	-	-	-	-
Toluene	86.9	E	96.4	E	-	-	-	-
Ethylbenzene	38.2	E	13.4	E	-	-	-	-
o-Xylene	18.9	E	5	E	-	-	-	-
m-Xylene	17.9	E	4.1	E	-	-	-	-
p-Xylene	17.2	E	4.29	E	-	-	-	-
TPH Aliphatic EC5-6	30.1	E	1.93	E	-	-	-	-
TPH Aliphatic EC6-8	69.8	E	1.4	E	-	-	-	-
TPH Aliphatic EC8-10	9.79	E	0.0296	E	-	-	-	-
TPH Aliphatic EC10-12	1390	E	0.0228	E	-	-	-	-
TPH Aliphatic EC12-16	5100	E	0.00547	E	-	-	-	-
TPH Aliphatic EC16-35	145000	E	-	-	-	-	-	-
TPH Aliphatic EC35-44	45000	B	-	-	-	-	-	-
TPH Aromatic EC5-7	0.0493	E	0.888	E	-	-	-	-
TPH Aromatic EC7-8	86.9	E	96.4	E	-	-	-	-
TPH Aromatic EC8-10	14.8	E	0.985	E	-	-	-	-
TPH Aromatic EC10-12	57.3	E	3.87	E	-	-	-	-
TPH Aromatic EC12-16	142	E	10.5	E	-	-	-	-
TPH Aromatic EC16-21	272	E	-	-	-	-	-	-
TPH Aromatic EC21-35	888	E	-	-	-	-	-	-
VOC and SVOC								
1,1,1-Trichloroethane	2.23	E	13.1	E	-	-	-	-
1,1,1,2-Tetrachloroethane	0.353	E	1.05	E	-	-	-	-
1,1,2,2-Tetrachloroethane	0.695	E	6.89	E	-	-	-	-
1,2-Dichloroethane	0.00190	E	0.0373	E	-	-	-	-
1,1,2 Trichloroethane	0.258	E	2.23	E	-	-	-	-
1,1-Dichloroethane	0.827	E	11.4	E	-	-	-	-
1,1-Dichloroethene	0.0857	E	0.683	E	-	-	-	-
1,2,4-Trimethylbenzene	0.906	E	0.11	E	-	-	-	-
1,2-Dichloropropane	0.00784	E	0.0969	E	-	-	-	-
2-Chloronaphthalene	1.42	E	0.695	E	-	-	-	-
2-Methylphenol	78.1	E	11000	E	-	-	-	-
2,4-Dichloro-o-cresol	31.1	E	1960	E	-	-	-	-
2,4-Dimethylphenol	17.2	E	291	E	-	-	-	-
2,4-Dinitrotoluene	1.41	E	3250	E	-	-	-	-
2,4,6-Trinitrotoluene	1.6	B	-	-	-	-	-	-
2,6-Dinitrotoluene	0.751	E	921	E	-	-	-	-
2,6-bis(1,1-dimethyl)-4-(1-methylpropyl)-phenol	21.7	E	13.2	E	-	-	-	-
3-Methylphenol	77.4	E	17900	-	-	-	-	-
4-Methylphenol	76.8	E	12000	-	-	-	-	-
Biphenyl	82.8	E	64.4	-	-	-	-	-
Bis (2-ethylhexyl) phthalate	282	E	-	-	-	-	-	-

CONFIDENTIAL
Not to be copied or distributed to third parties without written consent from GeoCon.

GeoCon Site Investigations Ltd

August 2013

GENERIC SCREENING CRITERIA

FOR

GENERIC QUANTITATIVE RISK ASSESSMENT

Compound	SSV's Residential With Consumption of Home Grown Vegetables		WSV's Residential		DWS		EQS	
	mg/kg	Ref	mg/l	Ref	µg/l	Ref	µg/l	Ref
Bromobenzene	0.319	E	0.941	E	-	-	-	-
Bromodichloromethane	0.00598	E	0.0725	E	-	-	-	-
Bromoform	1.4	E	15.9	E	-	-	-	-
Butyl benzyl phthalate	1410	E	-	-	-	-	-	-
Carbon disulphide	0.0739	E	-	-	-	-	-	-
Carbon tetrachloride	0.00656	E	0.0229	E	-	-	-	-
Chlorobenzene	3.49	E	13.7	-	-	-	-	-
Chloroethane	3.05	E	41.5	E	-	-	-	-
Chloroform / Trichloromethane	0.307	E	3.88	E	-	-	-	-
Chloromethane	0.00301	E	0.0531	E	-	-	-	-
Cis 1,2 Dichloroethene	0.0393	E	0.548	E	-	-	-	-
DDD	26.3	E	7.18	E	-	-	-	-
Dibromochloromethane	0.0623	E	0.394	E	-	-	-	-
Dichloromethane	0.382	E	13.6	E	-	-	-	-
Diethyl Phthalate	108	E	-	-	-	-	-	-
Di-n-butyl phthalate	12.9	E	-	-	-	-	-	-
Di-n-octyl phthalate	2250	E	-	-	-		-	-
Dinoseb	0.0477	E	0.11	E	-	-	-	-
Formaldehyde	1.89	E	21.6	E	-	-	-	-
Hexachlorobutadiene	0.21	B	-	-	-	-	-	-
Hexachloroethane	0.0735	E	0.0388	E	-	-	-	-
HMX	5.7	B	-	-	-	-	-	-
Isopropylbenzene	34.4	E	3.89	E	-	-	-	-
Methyl tert-butyl ether	20	E	352	E	-	-	-	-
Nicotine	0.0916	E	573	E	-	-	-	-
Prochloraz	8.49	E	-	-	-	-	-	-
Propylbenzene	85.6	E	12.3	E	-	-	-	-
RDX	3.5	B	-	-	-	-	-	-
Styrene	9.42	E	38.6	E	-	-	-	-
Tetrachloroethene	0.455	E	1.66	E	-	-	-	-
Total Cresols (2-, 3- and 4-methylphenol)	80	D	-	-	-	-	-	-
Trans 1,2 Dichloroethene	0.0671	E	0.676	E	-	-	-	-
Tributyl tin oxide	0.248	E	0.423	E	-	-	-	-
Trichloroethene	0.0382	E	0.222	E	-	-	-	-
Trichloromethane	0.018	B	-	-	-	-	-	-
Trichloromethylbenzene	0.000157	E	-	-	-	-	-	-
Vinyl chloride	0.000202	E	0.00248	E	-	-	-	-
Pesticides								
Aldrin	1.7	B	-	-	-	-	-	-
Dieldrin	0.69	B	-	-	-	-	-	-
Atrazine	0.24	B	-	-	-	-	-	-
Dichlorvos	0.29	B	-	-	-	-	-	-
Alpha-Endosulfans	2.9	B	-	-	-	-	-	-
Beta-Endosulfans	2.8	B	-	-	-	-	-	-
Alpha-Hexachlorocyclohexane	19	B	-	-	-	-	-	-
Beta-Hexachlorocyclohexane	1.7	B	-	-	-	-	-	-

CONFIDENTIAL
Not to be copied or distributed to third parties without written consent from GeoCon.

GeoCon Site Investigations Ltd

August 2013

GENERIC SCREENING CRITERIA

FOR

GENERIC QUANTITATIVE RISK ASSESSMENT

Compound	SSV's Residential With Consumption of Home Grown Vegetables		WSV's Residential		DWS		EQS	
	mg/kg	Ref	mg/l	Ref	µg/l	Ref	µg/l	Ref
Polychlorinated Biphenols (PCB)								
Sum of PCDDs, PCDFs and dioxin-like PCBs	8	A	-	-	-	-	-	-
Chlorobenzenes								
Chlorobenzene	0.33	B	-	-	-	-	-	-
1,2-Dichlorobenzene	16	B	-	-	-	-	-	-
1,3-Dichlorobenzene	0.29	B	-	-	-	-	-	-
1,4-Dichlorobenzene	30	B	-	-	-	-	-	-
Hexachlorobenzene	0.59	B	-	-	-	-	-	-
Pentachlorobenzene	5.2	B	-	-	-	-	-	-
1,2,3-Trichlorobenzene	1.0	B	-	-	-	-	-	-
1,2,4-Trichlorobenzene	1.8	B						
1,3,5-Trichlorobenzene	0.23	B						
1,2,3,4-Tetrachlorobenzene	12	B						
1,2,3,5-Tetrachlorobenzene	0.49	B	-	-	-	-	-	-
1,2,4,5-Tetrachlorobenzene	0.3	B	-	-	-	-	-	-

CONFIDENTIAL
Not to be copied or distributed to third parties without written consent from GeoCon.

GeoCon Site Investigations Ltd

GENERIC SCREENING CRITERIA

FOR

GENERIC QUANTITATIVE RISK ASSESSMENT

Screening Criteria Reference Guide:

Soil GAC Source Reference	
A	UK (CLEA) Soil Guideline Value 2009
B	LQM GAC Values July 2009
C	UK (CLEA) Soil Guideline Value 2002
D	CL:AIRE GAC Values December 2009
E	AtRisk Soil Screening Values and Water Screening Values Produces by Atkins 2011
F	UK Drinking Water Standards (DWS)
G	Environment Agency, Environmental Quality Standards (EQS)
Abbreviations	
SOM	Soil Organic Matter
N/P	No pathway - no risk is posed by this substance under the specific land-use scenario
MTBE	Methyl Tertiary Butyl Ether - a petroleum fuel additive which is a common groundwater contaminant

CONFIDENTIAL

Not to be copied or distributed to third parties without written consent from GeoCon.

APPENDIX E

GAS AND GROUNDWATER MONITORING RESULTS

Site: Moss Lane West, Manchester
Project Number: GSI 0397
National Grid Reference: 383180:395870
Instrument: Gas Clam Data Logger

Monitoring Point Reference	Date and Time	Atmospheric pressure (mb) at start	Methane (% v/v)	Carbon Dioxide (% v/v)	Oxygen (% v/v)	VOC	Hydrogen Sulphide (ppm)	Carbon Monoxide (ppm)
	21/05/2015 10:47	1030	0.5	0.6	18.1	4	0	11
	21/05/2015 11:47	1029	0.5	0.6	17.8	5	0	13
	21/05/2015 12:47	1029	0.5	0.6	17.8	5	0	15
	21/05/2015 13:47	1029	0.5	0.6	17.9	5	0	13
	21/05/2015 14:47	1029	0.5	0.6	17.8	5	0	15
	21/05/2015 15:47	1029	0.5	0.6	17.8	5	0	15
	21/05/2015 16:47	1029	0.5	0.6	17.8	5	0	17
	21/05/2015 17:47	1029	0.5	0.6	17.8	5	0	17
	21/05/2015 18:47	1029	0.5	0.6	17.8	5	0	16
	21/05/2015 19:47	1029	0.5	0.6	17.8	5	0	15
	21/05/2015 20:47	1029	0.5	1.3	17.8	5	0	17
	21/05/2015 21:47	1029	0.5	1.3	17.8	4	0	17
	21/05/2015 22:47	1030	0.5	1.3	17.8	5	0	17
	21/05/2015 23:47	1029	0.5	1.3	17.8	3	0	17
	22/05/2015 00:47	1029	0.5	1.3	17.8	3	0	15
	22/05/2015 01:47	1029	0.5	1.3	17.7	4	0	16
	22/05/2015 02:47	1029	0.5	1.3	17.8	4	0	15
	22/05/2015 03:47	1029	0.5	1.3	17.7	4	0	16
	22/05/2015 04:47	1028	0.5	1.3	17.7	2	0	15
	22/05/2015 05:47	1028	0.5	1.3	17.7	3	0	17
	22/05/2015 06:47	1028	0.5	1.3	17.7	3	0	13
	22/05/2015 07:47	1028	0.5	1.3	17.7	3	0	14
	22/05/2015 08:47	1028	0.5	1.3	17.7	3	0	13
	22/05/2015 09:47	1028	0.5	1.3	17.7	2	0	14
	22/05/2015 10:47	1028	0.5	1.3	17.7	2	0	13
	22/05/2015 11:47	1028	0.5	1.3	17.7	2	0	13
	22/05/2015 12:47	1028	0.5	1.3	17.7	2	0	13
	22/05/2015 13:47	1028	0.5	1.3	17.7	2	0	13
	22/05/2015 14:47	1028	0.5	1.3	17.7	2	0	13
	22/05/2015 15:47	1027	0.5	1.3	17.7	2	0	13
	22/05/2015 16:47	1027	0.5	1.3	17.7	2	0	13
	22/05/2015 17:47	1027	0.5	1.3	17.7	2	0	11
	22/05/2015 18:47	1027	0.5	1.3	17.7	1	0	13
	22/05/2015 19:47	1028	0.5	1.3	17.7	2	0	13
	22/05/2015 20:47	1028	0.5	1.3	17.8	1	0	15
	22/05/2015 21:47	1028	0.0	1.3	17.8	1	0	11
	22/05/2015 22:47	1029	0.5	1.3	17.8	1	0	12
	22/05/2015 23:47	1029	0.5	1.3	17.8	1	0	9
	23/05/2015 00:47	1029	0.5	1.3	17.8	1	0	10
	23/05/2015 01:47	1029	0.5	1.3	17.8	1	0	9
	23/05/2015 02:47	1029	0.5	1.3	17.8	1	0	11
	23/05/2015 03:47	1029	0.0	1.3	17.8	1	0	11
	23/05/2015 04:47	1029	0.5	1.3	17.8	1	0	11
	23/05/2015 05:47	1029	0.5	1.3	17.8	1	0	11
	23/05/2015 06:47	1030	0.0	1.3	17.8	1	0	10
	23/05/2015 07:47	1030	0.5	1.3	17.8	0	0	8
	23/05/2015 08:47	1030	0.0	1.3	17.8	0	0	10
	23/05/2015 09:47	1030	0.0	1.3	17.8	0	0	8
	23/05/2015 10:47	1030	0.0	1.3	17.8	0	0	10
	23/05/2015 11:47	1030	0.0	1.3	17.8	0	0	8
	23/05/2015 12:47	1029	0.0	1.3	17.7	0	0	8
	23/05/2015 13:47	1029	0.0	1.3	17.7	0	0	9
	23/05/2015 14:47	1028	0.0	1.3	17.7	0	0	9
	23/05/2015 15:47	1028	0.0	1.3	17.7	0	0	9
	23/05/2015 16:47	1028	0.0	1.3	17.7	0	0	8
	23/05/2015 17:47	1027	0.0	1.3	17.7	0	0	8
	23/05/2015 18:47	1027	0.0	1.3	17.7	0	0	8
	23/05/2015 19:47	1026	0.0	1.3	17.7	0	0	7
	23/05/2015 20:47	1026	0.0	1.3	17.8	0	0	8
	23/05/2015 21:47	1026	0.0	1.3	17.8	0	0	7
	23/05/2015 22:47	1026	0.0	1.3	17.8	0	0	7
	23/05/2015 23:47	1026	0.0	1.3	17.8	0	0	8

24/05/2015 00:47	1025	0.0	1.3	17.7	0	0	7
24/05/2015 01:47	1025	0.0	1.3	17.7	0	0	7
24/05/2015 02:47	1024	0.0	1.3	17.7	0	0	5
24/05/2015 03:47	1024	0.0	1.3	17.7	0	0	5
24/05/2015 04:47	1023	0.0	1.3	17.7	0	0	9
24/05/2015 05:47	1023	0.0	1.3	17.7	0	0	5
24/05/2015 06:47	1023	0.0	1.3	17.7	0	0	6
24/05/2015 07:47	1023	0.0	1.3	17.7	0	0	6
24/05/2015 08:47	1022	0.0	1.3	17.7	0	0	5
24/05/2015 09:47	1022	0.0	1.3	17.8	0	0	5
24/05/2015 10:47	1023	0.0	1.3	17.8	0	0	5
24/05/2015 11:47	1023	0.0	1.3	17.8	0	0	5
24/05/2015 12:47	1023	0.0	1.3	17.8	0	0	4
24/05/2015 13:47	1023	0.0	1.3	17.9	0	0	5
24/05/2015 14:47	1023	0.0	1.3	17.8	0	0	7
24/05/2015 15:47	1023	0.0	1.3	17.9	0	0	5
24/05/2015 16:47	1023	0.0	1.3	17.9	0	0	7
24/05/2015 17:47	1023	0.0	1.3	17.9	0	0	5
24/05/2015 18:47	1024	0.0	1.3	17.9	0	0	5
24/05/2015 19:47	1024	0.0	1.3	18	0	0	3
24/05/2015 20:47	1024	0.0	1.3	17.9	0	0	5
24/05/2015 21:47	1024	0.0	1.3	18	0	0	5
24/05/2015 22:47	1024	0.0	1.3	18	0	0	3
24/05/2015 23:47	1024	0.0	1.3	18	0	0	6
25/05/2015 00:47	1024	0.0	1.3	18.1	0	0	4
25/05/2015 01:47	1024	0.0	1.3	18	0	0	4
25/05/2015 02:47	1023	0.0	1.3	18.1	0	0	4
25/05/2015 03:47	1023	0.0	1.3	18.1	0	0	6
25/05/2015 04:47	1023	0.0	1.3	18.1	0	0	4
25/05/2015 05:47	1023	0.0	1.3	18	0	0	5
25/05/2015 06:47	1023	0.0	1.3	18	0	0	3
25/05/2015 07:47	1023	0.0	1.3	18.1	0	0	4
25/05/2015 08:47	1023	0.0	1.3	18	0	0	3
25/05/2015 09:47	1023	0.0	1.3	18.1	0	0	5
25/05/2015 10:47	1023	0.0	1.3	18	0	0	5
25/05/2015 11:47	1023	0.0	1.3	18.1	0	0	5
25/05/2015 12:47	1023	0.0	1.3	18.1	0	0	5
25/05/2015 13:47	1023	0.0	1.3	18.1	0	0	3
25/05/2015 14:47	1023	0.0	1.3	18.1	0	0	5
25/05/2015 15:47	1023	0.0	1.3	18.1	0	0	3
25/05/2015 16:47	1023	0.0	1.3	18.1	0	0	4
25/05/2015 17:47	1023	0.0	1.3	18.2	0	0	5
25/05/2015 18:47	1023	0.0	1.3	18.1	0	0	4
25/05/2015 19:47	1024	0.0	1.3	18.2	0	0	3
25/05/2015 20:47	1024	0.0	1.3	18.1	0	0	3
25/05/2015 21:47	1024	0.0	1.9	18.2	0	0	4
25/05/2015 22:47	1025	0.0	1.3	18.2	0	0	2
25/05/2015 23:47	1025	0.0	1.3	18.2	0	0	5
26/05/2015 00:47	1025	0.0	1.9	18.2	0	0	3
26/05/2015 01:47	1025	0.0	1.9	18.2	0	0	3
26/05/2015 02:47	1025	0.0	1.9	18.2	0	0	3
26/05/2015 03:47	1025	0.0	1.9	18.2	0	0	3
26/05/2015 04:47	1025	0.0	1.9	18.2	0	0	4
26/05/2015 05:47	1026	0.0	1.9	18.2	0	0	3
26/05/2015 06:47	1026	0.0	1.9	18.2	0	0	4
26/05/2015 07:47	1027	0.0	1.9	18.2	0	0	4
26/05/2015 08:47	1027	0.0	1.9	18.2	0	0	3
26/05/2015 09:47	1027	0.0	1.9	18.2	0	0	5
26/05/2015 10:47	1027	0.0	1.9	18.2	0	0	4
26/05/2015 11:47	1028	0.0	1.9	18.2	0	0	5
26/05/2015 12:47	1028	0.0	1.9	18.2	0	0	3
26/05/2015 13:47	1028	0.0	1.9	18.2	0	0	3
26/05/2015 14:47	1029	0.0	1.9	18.2	0	0	4
26/05/2015 15:47	1030	0.0	1.9	18.2	0	0	3
26/05/2015 16:47	1030	0.0	1.9	18.2	0	0	3
26/05/2015 17:47	1030	0.0	1.9	18.2	0	0	3
26/05/2015 18:47	1030	0.0	1.9	18.2	0	0	4
26/05/2015 19:47	1030	0.0	1.9	18.2	0	0	3
26/05/2015 20:47	1030	0.0	1.9	18.3	0	0	3
26/05/2015 21:47	1031	0.0	1.9	18.3	0	0	4
26/05/2015 22:47	1031	0.0	1.9	18.3	0	0	3
26/05/2015 23:47	1031	0.0	1.9	18.3	0	0	3
27/05/2015 00:47	1031	0.0	1.9	18.3	0	0	3
27/05/2015 01:47	1031	0.0	1.9	18.3	0	0	5
27/05/2015 02:47	1030	0.0	1.9	18.3	0	0	4
27/05/2015 03:47	1030	0.0	1.9	18.3	0	0	2

27/05/2015 04:47	1030	0.0	1.9	18.3	0	0	3
27/05/2015 05:47	1030	0.0	1.9	18.3	0	0	3
27/05/2015 06:47	1030	0.0	1.9	18.3	0	0	3
27/05/2015 07:47	1029	0.0	1.9	18.3	0	0	2
27/05/2015 08:47	1029	0.0	1.9	18.3	0	0	3
27/05/2015 09:47	1029	0.0	1.9	18.3	0	0	2
27/05/2015 10:47	1028	0.0	1.9	18.2	0	0	3
27/05/2015 11:47	1027	0.0	1.9	18.2	0	0	5
27/05/2015 12:47	1026	0.0	1.9	18.2	0	0	4
27/05/2015 13:47	1025	0.0	1.9	18.1	0	0	4
27/05/2015 14:47	1024	0.0	1.9	18.1	0	0	3
27/05/2015 15:47	1022	0.0	1.9	18.1	0	0	4
27/05/2015 16:47	1022	0.0	1.9	18.1	0	0	4
27/05/2015 17:47	1021	0.0	1.9	18.1	0	0	1
27/05/2015 18:47	1020	0.0	1.9	18.1	0	0	3
27/05/2015 19:47	1019	0.0	1.9	18.1	0	0	4
27/05/2015 20:47	1018	0.0	1.9	18.1	0	0	4
27/05/2015 21:47	1017	0.0	1.9	18.1	0	0	3
27/05/2015 22:47	1017	0.0	1.9	18.1	0	0	1
27/05/2015 23:47	1016	0.0	1.9	18.2	0	0	5
28/05/2015 00:47	1016	0.0	1.9	18.2	0	0	5
28/05/2015 01:47	1016	0.0	1.9	18.2	0	0	2
28/05/2015 02:47	1016	0.0	1.9	18.2	0	0	5
28/05/2015 03:47	1016	0.0	1.9	18.2	0	0	2
28/05/2015 04:47	1016	0.0	1.9	18.3	0	0	3
28/05/2015 05:47	1016	0.0	1.9	18.3	0	0	3
28/05/2015 06:47	1016	0.0	1.9	18.3	0	0	2
28/05/2015 07:47	1016	0.0	1.9	18.3	0	0	3
28/05/2015 08:47	1016	0.0	1.9	18.3	0	0	1
28/05/2015 09:47	1017	0.0	1.9	18.3	0	0	3
28/05/2015 10:47	1017	0.0	1.9	18.3	0	0	3
28/05/2015 11:47	1017	0.0	1.9	18.3	0	0	1
28/05/2015 12:47	1017	0.0	1.9	18.4	0	0	3
28/05/2015 13:47	1018	0.0	1.9	18.4	0	0	3
28/05/2015 14:47	1018	0.0	1.9	18.4	0	0	1
28/05/2015 15:47	1017	0.0	1.9	18.4	0	0	3
28/05/2015 16:47	1017	0.0	1.9	18.4	0	0	4
28/05/2015 17:47	1017	0.0	1.9	18.4	0	0	3
28/05/2015 18:47	1016	0.0	1.9	18.4	0	0	3
28/05/2015 19:47	1016	0.0	1.9	18.4	0	0	3
28/05/2015 20:47	1016	0.0	1.9	18.4	0	0	3
28/05/2015 21:47	1016	0.0	1.9	18.4	0	0	3
28/05/2015 22:47	1016	0.0	1.9	18.5	0	0	3
28/05/2015 23:47	1015	0.0	1.9	18.4	0	0	3
29/05/2015 00:47	1015	0.0	1.9	18.5	0	0	2
29/05/2015 01:47	1014	0.0	1.9	18.5	0	0	3
29/05/2015 02:47	1013	0.0	1.9	18.4	0	0	1
29/05/2015 03:47	1012	0.0	1.9	18.4	0	0	3
29/05/2015 04:47	1012	0.0	1.9	18.4	0	0	3
29/05/2015 05:47	1011	0.0	1.9	18.4	0	0	3
29/05/2015 06:47	1010	0.0	1.9	18.4	0	0	3
29/05/2015 07:47	1009	0.0	1.9	18.4	0	0	1
29/05/2015 08:47	1009	0.0	1.9	18.4	0	0	3
29/05/2015 09:47	1008	0.0	1.9	18.3	0	0	4
29/05/2015 10:47	1008	0.0	1.9	18.3	0	0	3
29/05/2015 11:47	1008	0.0	1.9	18.3	0	0	5
29/05/2015 12:47	1008	0.0	1.9	18.3	0	0	0
29/05/2015 13:47	1008	0.0	1.9	18.2	0	0	2
29/05/2015 14:47	1008	0.0	1.9	18.2	0	0	3
29/05/2015 15:47	1009	0.0	1.9	18.2	0	0	0
29/05/2015 16:47	1009	0.0	1.9	18.2	0	0	3
29/05/2015 17:47	1010	0.0	1.9	18.2	0	0	1
29/05/2015 18:47	1010	0.0	1.9	18.3	0	0	2
29/05/2015 19:47	1011	0.0	1.9	18.2	0	0	2
29/05/2015 20:47	1011	0.0	1.9	18.2	0	0	2
29/05/2015 21:47	1012	0.0	1.9	18.3	0	0	3
29/05/2015 22:47	1012	0.0	1.9	18.3	0	0	2
29/05/2015 23:47	1012	0.0	1.9	18.3	0	0	3
30/05/2015 00:47	1013	0.0	1.9	18.3	0	0	3
30/05/2015 01:47	1013	0.0	1.9	18.3	0	0	3
30/05/2015 02:47	1013	0.0	1.9	18.3	0	0	3
30/05/2015 03:47	1014	0.0	1.9	18.3	0	0	1
30/05/2015 04:47	1014	0.0	1.9	18.3	0	0	1
30/05/2015 05:47	1014	0.0	1.9	18.3	0	0	2
30/05/2015 06:47	1015	0.0	1.9	18.3	0	0	3
30/05/2015 07:47	1015	0.0	1.9	18.3	0	0	5

	30/05/2015 08:47	1016	0.0	1.9	18.3	0	0	4
	30/05/2015 09:47	1016	0.0	1.9	18.3	0	0	0
	30/05/2015 10:47	1016	0.0	1.9	18.2	0	0	1
	30/05/2015 11:47	1016	0.0	1.9	18.3	0	0	1
	30/05/2015 12:47	1016	0.0	1.9	18.2	0	0	3
	30/05/2015 13:47	1016	0.0	1.9	18.2	0	0	3
	30/05/2015 14:47	1016	0.0	1.9	18.2	0	0	2
	30/05/2015 15:47	1016	0.0	1.9	18.2	0	0	3
	30/05/2015 16:47	1016	0.0	1.9	18.2	0	0	1
	30/05/2015 17:47	1015	0.0	1.9	18.2	0	0	3
	30/05/2015 18:47	1015	0.0	1.9	18.2	0	0	3
	30/05/2015 19:47	1015	0.0	1.9	18.2	0	0	4
	30/05/2015 20:47	1014	0.0	1.9	18.1	0	0	2
	30/05/2015 21:47	1014	0.0	1.9	18.1	0	0	1
	30/05/2015 22:47	1013	0.0	1.9	18.1	0	0	3
	30/05/2015 23:47	1012	0.0	1.9	18.1	0	0	3
	31/05/2015 00:47	1011	0.0	1.9	18.1	0	0	0
	31/05/2015 01:47	1010	0.0	1.9	18	0	0	4
	31/05/2015 02:47	1008	0.0	1.9	18	0	0	1
	31/05/2015 03:47	1006	0.0	1.9	18	0	0	2
	31/05/2015 04:47	1005	0.0	1.9	18	0	0	3
WS03	31/05/2015 05:47	1004	0.0	1.9	18	0	0	2
	31/05/2015 06:47	1004	0.0	1.9	18	0	0	3
	31/05/2015 07:47	1004	0.0	1.9	18	0	0	3
	31/05/2015 08:47	1004	0.0	1.9	18	0	0	1
	31/05/2015 09:47	1004	0.0	1.9	17.9	0	0	0
	31/05/2015 10:47	1005	0.0	1.9	17.9	0	0	1
	31/05/2015 11:47	1006	0.0	1.9	17.9	0	0	1
	31/05/2015 12:47	1007	0.0	1.9	17.9	0	0	2
	31/05/2015 13:47	1008	0.0	1.9	17.9	0	0	2
	31/05/2015 14:47	1009	0.0	1.9	17.9	0	0	3
	31/05/2015 15:47	1009	0.0	1.9	17.9	0	0	3
	31/05/2015 16:47	1010	0.0	1.9	17.9	0	0	3
	31/05/2015 17:47	1010	0.0	1.9	17.9	0	0	1
	31/05/2015 18:47	1010	0.0	1.9	17.9	0	0	5
	31/05/2015 19:47	1011	0.0	1.9	17.9	0	0	1
	31/05/2015 20:47	1012	0.0	1.9	18	0	0	3
	31/05/2015 21:47	1012	0.0	1.9	17.9	0	0	3
	31/05/2015 22:47	1013	0.0	1.9	17.9	0	0	1
	31/05/2015 23:47	1013	0.0	1.9	18	0	0	1
	01/06/2015 00:47	1013	0.0	1.9	18	0	0	1
	01/06/2015 01:47	1013	0.0	1.9	18	0	0	1
	01/06/2015 02:47	1014	0.0	1.9	18	0	0	0
	01/06/2015 03:47	1014	0.0	1.9	18	0	0	2
	01/06/2015 04:47	1013	0.0	1.9	18	0	0	3
	01/06/2015 05:47	1014	0.0	1.9	18	0	0	2
	01/06/2015 06:47	1014	0.0	1.9	18	0	0	3
	01/06/2015 07:47	1013	0.0	1.9	18	0	0	2
	01/06/2015 08:47	1013	0.0	1.9	18	0	0	3
	01/06/2015 09:47	1013	0.0	1.9	18	0	0	0
	01/06/2015 10:47	1013	0.0	1.9	18	0	0	2
	01/06/2015 11:47	1013	0.0	1.9	18	0	0	3
	01/06/2015 12:47	1012	0.0	1.9	17.9	0	0	1
	01/06/2015 13:47	1011	0.0	1.9	17.9	0	0	3
	01/06/2015 14:47	1010	0.0	1.9	17.9	0	0	1
	01/06/2015 15:47	1010	0.0	1.9	17.9	0	0	1
	01/06/2015 16:47	1008	0.0	1.9	17.8	0	0	3
	01/06/2015 17:47	1006	0.0	1.9	17.9	0	0	2
	01/06/2015 18:47	1004	0.0	1.9	17.8	0	0	3
	01/06/2015 19:47	1002	0.0	1.9	17.8	0	0	3
	01/06/2015 20:47	1000	0.0	1.9	17.8	0	0	4
	01/06/2015 21:47	999	0.0	1.9	17.8	0	0	2
	01/06/2015 22:47	999	0.0	1.9	17.8	0	0	1
	01/06/2015 23:47	999	0.0	1.9	17.5	0	0	5
	02/06/2015 00:47	999	0.0	1.9	17.5	0	0	3
	02/06/2015 01:47	999	0.0	1.9	17.5	0	0	3
	02/06/2015 02:47	999	0.0	1.9	17.5	0	0	3
	02/06/2015 03:47	999	0.0	1.9	17.4	0	0	1
	02/06/2015 04:47	999	0.0	1.9	17.5	0	0	1
	02/06/2015 05:47	999	0.0	1.9	17.5	0	0	1
	02/06/2015 06:47	999	0.0	1.9	17.5	0	0	2
	02/06/2015 07:47	999	0.0	1.9	17.5	0	0	5
	02/06/2015 08:47	999	0.0	1.9	17.5	0	0	4
	02/06/2015 09:47	999	0.0	1.9	17.6	0	0	2
	02/06/2015 10:47	999	0.0	1.9	17.6	0	0	4
	02/06/2015 11:47	999	0.0	1.9	17.6	0	0	3

02/06/2015 12:47	999	0.0	1.9	17.6	0	0	3
02/06/2015 13:47	1000	0.0	1.9	17.7	0	0	2
02/06/2015 14:47	1002	0.0	1.9	17.7	0	0	2
02/06/2015 15:47	1003	0.0	1.9	17.7	0	0	3
02/06/2015 16:47	1003	0.0	1.9	17.7	0	0	1
02/06/2015 17:47	1004	0.0	1.9	17.8	0	0	3
02/06/2015 18:47	1005	0.0	1.9	17.8	0	0	2
02/06/2015 19:47	1006	0.0	1.9	17.8	0	0	1
02/06/2015 20:47	1007	0.0	1.9	17.9	0	0	4
02/06/2015 21:47	1008	0.0	1.9	17.9	0	0	1
02/06/2015 22:47	1009	0.0	1.9	18	0	0	3
02/06/2015 23:47	1010	0.0	1.9	18	0	0	5
03/06/2015 00:47	1011	0.0	1.9	18	0	0	2
03/06/2015 01:47	1012	0.0	1.9	18	0	0	2
03/06/2015 02:47	1012	0.0	1.9	18.1	0	0	2
03/06/2015 03:47	1014	0.0	1.9	18.1	0	0	5
03/06/2015 04:47	1015	0.0	1.9	18.1	0	0	3
03/06/2015 05:47	1015	0.0	1.9	18.2	0	0	2
03/06/2015 06:47	1017	0.0	1.9	18.1	0	0	0
03/06/2015 07:47	1018	0.0	1.9	18.2	0	0	5
03/06/2015 08:47	1020	0.0	1.9	18.2	0	0	3
03/06/2015 09:47	1021	0.0	1.9	18.2	0	0	3
03/06/2015 10:47	1022	0.0	1.9	18.2	0	0	4
03/06/2015 11:47	1023	0.0	1.9	18.2	0	0	3
03/06/2015 12:47	1024	0.0	1.9	18.2	0	0	5
03/06/2015 13:02	1025	0.0	1.9	18.2	0	0	3
03/06/2015 14:02	1025	0.0	1.9	18.3	0	0	2
03/06/2015 15:02	1025	0.0	1.9	18.3	0	0	1
03/06/2015 16:02	1025	0.0	1.9	18.3	0	0	1
03/06/2015 17:02	1026	0.0	1.9	18.3	0	0	2
03/06/2015 18:02	1026	0.0	1.9	18.3	0	0	3
03/06/2015 19:02	1026	0.0	1.9	18.3	0	0	1
03/06/2015 20:02	1027	0.0	1.9	18.3	0	0	5
03/06/2015 21:02	1027	0.0	1.9	18.3	0	0	3
03/06/2015 22:02	1028	0.0	1.9	18.3	0	0	3
03/06/2015 23:02	1028	0.0	1.9	18.3	0	0	1
04/06/2015 00:02	1028	0.0	1.9	18.3	0	0	3
04/06/2015 01:02	1028	0.0	1.9	18.3	0	0	3
04/06/2015 02:02	1028	0.0	1.9	18.3	0	0	3
04/06/2015 03:02	1028	0.0	1.9	18.3	0	0	5
04/06/2015 04:02	1028	0.0	1.9	18.3	0	0	1
04/06/2015 05:02	1028	0.0	1.9	18.2	0	0	5
04/06/2015 06:02	1029	0.0	1.9	18.2	0	0	4
04/06/2015 07:02	1029	0.0	1.9	18.2	0	0	5
04/06/2015 08:02	1028	0.0	1.9	18.2	0	0	3
04/06/2015 09:02	1028	0.0	1.9	18.2	0	0	4
04/06/2015 10:02	1028	0.0	1.9	18.1	0	0	3
04/06/2015 11:02	1028	0.0	1.9	18.1	0	0	0
04/06/2015 12:02	1027	0.0	1.9	18.1	0	0	3
04/06/2015 13:02	1027	0.0	1.9	18.1	0	0	3
04/06/2015 14:02	1026	0.0	1.9	18.1	0	0	1
04/06/2015 15:02	1025	0.0	1.9	18.1	0	0	1
04/06/2015 16:02	1025	0.0	1.9	18	0	0	3
04/06/2015 17:02	1024	0.0	1.9	18	0	0	1
04/06/2015 18:02	1023	0.0	1.9	18	0	0	2
04/06/2015 19:02	1022	0.0	1.9	18	0	0	2
04/06/2015 20:02	1022	0.0	1.9	18	0	0	3
04/06/2015 21:02	1022	0.0	1.9	18	0	0	3
04/06/2015 22:02	1021	0.0	1.9	18	0	0	2
04/06/2015 23:02	1021	0.0	1.9	18	0	0	3
05/06/2015 00:02	1021	0.0	1.9	18	0	0	1
05/06/2015 01:02	1020	0.0	1.9	18	0	0	4
05/06/2015 02:02	1020	0.0	1.9	18	0	0	3
05/06/2015 03:02	1019	0.0	1.9	18	0	0	4
05/06/2015 04:02	1018	0.0	1.9	18	0	0	3
05/06/2015 05:02	1017	0.0	1.9	18	0	0	3
05/06/2015 06:02	1016	0.0	1.9	17.9	0	0	3
05/06/2015 07:02	1016	0.0	1.9	17.9	0	0	3
05/06/2015 08:02	1016	0.0	1.9	18	0	0	3
05/06/2015 09:02	1015	0.0	1.9	17.9	0	0	3
05/06/2015 10:02	1015	0.0	1.9	17.9	0	0	1
05/06/2015 11:02	1015	0.0	1.9	17.9	0	0	4
05/06/2015 12:02	1015	0.0	1.9	17.9	0	0	5
05/06/2015 13:02	1015	0.0	1.9	17.8	0	0	1
05/06/2015 14:02	1016	0.0	1.9	17.9	0	0	4
05/06/2015 15:02	1016	0.0	1.9	17.9	0	0	2

05/06/2015 16:02	1016	0.0	1.9	17.9	0	0	3
05/06/2015 17:02	1017	0.0	1.9	17.9	0	0	3
05/06/2015 18:02	1017	0.0	1.9	17.9	0	0	2
05/06/2015 19:02	1017	0.0	1.9	17.9	0	0	1
05/06/2015 20:02	1018	0.0	1.9	17.9	0	0	4
05/06/2015 21:02	1018	0.0	2.5	18	0	0	3
05/06/2015 22:02	1019	0.0	2.5	18	0	0	3
05/06/2015 23:02	1019	0.0	2.5	18	0	0	1
06/06/2015 00:02	1020	0.0	2.5	18	0	0	1
06/06/2015 01:02	1020	0.0	2.5	18	0	0	2
06/06/2015 02:02	1020	0.0	2.5	18	0	0	1
06/06/2015 03:02	1020	0.0	2.5	18	0	0	2
06/06/2015 04:02	1020	0.0	2.5	18.1	0	0	2
06/06/2015 05:02	1020	0.0	2.5	18	0	0	3
06/06/2015 06:02	1021	0.0	2.5	18	0	0	3
06/06/2015 07:02	1021	0.0	2.5	18.1	0	0	0
06/06/2015 08:02	1021	0.0	2.5	18.1	0	0	2
06/06/2015 09:02	1022	0.0	2.5	18	0	0	3
06/06/2015 10:02	1022	0.0	2.5	18	0	0	5
06/06/2015 11:02	1022	0.0	2.5	18	0	0	3
06/06/2015 12:02	1023	0.0	2.5	18	0	0	3
06/06/2015 13:02	1023	0.0	2.5	18	0	0	2
06/06/2015 14:02	1024	0.0	2.5	18	0	0	2
06/06/2015 15:02	1024	0.0	2.5	18	0	0	3
06/06/2015 16:02	1025	0.0	2.5	18.1	0	0	4
06/06/2015 17:02	1025	0.0	2.5	18.1	0	0	1
06/06/2015 18:02	1025	0.0	2.5	18.1	0	0	1
06/06/2015 19:02	1025	0.0	2.5	18.1	0	0	3
06/06/2015 20:02	1026	0.0	2.5	18.1	0	0	2
06/06/2015 21:02	1027	0.0	2.5	18.1	0	0	1
06/06/2015 22:02	1027	0.0	2.5	18.1	0	0	3
06/06/2015 23:02	1028	0.0	2.5	18.1	0	0	5
07/06/2015 00:02	1029	0.0	2.5	18.1	0	0	2
07/06/2015 01:02	1029	0.0	2.5	18.1	0	0	1
07/06/2015 02:02	1030	0.0	2.5	18.2	0	0	5
07/06/2015 03:02	1030	0.0	2.5	18.2	0	0	2
07/06/2015 04:02	1031	0.0	2.5	18.2	0	0	3
07/06/2015 05:02	1031	0.0	2.5	18.2	0	0	2
07/06/2015 06:02	1032	0.0	2.5	18.2	0	0	3
07/06/2015 07:02	1033	0.0	2.5	18.2	0	0	3
07/06/2015 08:02	1033	0.0	2.5	18.2	0	0	3
07/06/2015 09:02	1034	0.0	2.5	18.1	0	0	5
07/06/2015 10:02	1034	0.0	2.5	18.1	0	0	3
07/06/2015 11:02	1035	0.0	2.5	18.1	0	0	3
07/06/2015 12:02	1035	0.0	2.5	18.1	0	0	4
07/06/2015 13:02	1035	0.0	2.5	18.1	0	0	3
07/06/2015 14:02	1035	0.0	2.5	18.1	0	0	3
07/06/2015 15:02	1035	0.0	2.5	18.1	0	0	3
07/06/2015 16:02	1035	0.0	2.5	18.1	0	0	5
07/06/2015 17:02	1035	0.0	2.5	18.1	0	0	2
07/06/2015 18:02	1035	0.0	2.5	18.1	0	0	3
07/06/2015 19:02	1036	0.0	2.5	18	0	0	3
07/06/2015 20:02	1036	0.0	2.5	18.1	0	0	3
07/06/2015 21:02	1036	0.0	2.5	18.1	0	0	3
07/06/2015 22:02	1037	0.0	2.5	18.1	0	0	1
07/06/2015 23:02	1037	0.0	2.5	18.1	0	0	3
08/06/2015 00:02	1038	0.0	2.5	18.1	0	0	3
08/06/2015 01:02	1038	0.0	2.5	18.1	0	0	3
08/06/2015 02:02	1038	0.0	2.5	18.1	0	0	3
08/06/2015 03:02	1038	0.0	2.5	18.1	0	0	2
08/06/2015 04:02	1038	0.0	2.5	18	0	0	3
08/06/2015 05:02	1038	0.0	2.5	18.1	0	0	3
08/06/2015 06:02	1038	0.0	2.5	18	0	0	2
08/06/2015 07:02	1038	0.0	2.5	18	0	0	3
08/06/2015 08:02	1038	0.0	2.5	18	0	0	1
08/06/2015 09:02	1038	0.0	2.5	18	0	0	1
08/06/2015 10:02	1038	0.0	2.5	17.9	0	0	1
08/06/2015 11:02	1038	0.0	2.5	17.9	0	0	2
08/06/2015 12:02	1038	0.0	2.5	17.8	0	0	5
08/06/2015 13:02	1038	0.0	2.5	17.8	0	0	3
08/06/2015 14:02	1038	0.0	2.5	17.8	0	0	4
08/06/2015 15:02	1037	0.0	2.5	17.8	0	0	4
08/06/2015 16:02	1037	0.0	2.5	17.8	0	0	3
08/06/2015 17:02	1037	0.0	2.5	17.7	0	0	3
08/06/2015 18:02	1037	0.0	2.5	17.8	0	0	2
08/06/2015 19:02	1038	0.0	2.5	17.7	0	0	4

	08/06/2015 20:02	1038	0.0	2.5	17.7	0	0	3
	08/06/2015 21:02	1038	0.0	2.5	17.8	0	0	3
	08/06/2015 22:02	1039	0.0	2.5	17.8	0	0	4
	08/06/2015 23:02	1039	0.0	2.5	17.8	0	0	3
	09/06/2015 00:02	1039	0.0	2.5	17.8	0	0	4
	09/06/2015 01:02	1039	0.0	2.5	17.8	0	0	3
	09/06/2015 02:02	1039	0.0	2.5	17.8	0	0	1
	09/06/2015 03:02	1039	0.0	2.5	17.8	0	0	3
	09/06/2015 04:02	1039	0.0	2.5	17.8	0	0	3
	09/06/2015 05:02	1039	0.0	2.5	17.8	0	0	3
	09/06/2015 06:02	1039	0.0	2.5	17.8	0	0	4
	09/06/2015 07:02	1039	0.0	2.5	17.8	0	0	3
	09/06/2015 08:02	1039	0.0	2.5	17.8	0	0	0
	09/06/2015 09:02	1039	0.0	2.5	17.7	0	0	2
	09/06/2015 10:02	1039	0.0	2.5	17.7	0	0	5
	09/06/2015 11:02	1039	0.0	2.5	17.7	0	0	3
	09/06/2015 12:02	1039	0.0	2.5	17.6	0	0	3
	09/06/2015 13:02	1039	0.0	2.5	17.6	0	0	1
	09/06/2015 14:02	1038	0.0	2.5	17.6	0	0	2
	09/06/2015 15:02	1038	0.0	2.5	17.6	0	0	3
	09/06/2015 16:02	1038	0.0	2.5	17.6	0	0	3
	09/06/2015 17:02	1037	0.0	2.5	17.6	0	0	3
	09/06/2015 18:02	1037	0.0	2.5	17.6	0	0	1
	09/06/2015 19:02	1037	0.0	2.5	17.6	0	0	3
	09/06/2015 20:02	1037	0.0	2.5	17.6	0	0	3
	09/06/2015 21:02	1036	0.0	2.5	17.6	0	0	2
	09/06/2015 22:02	1037	0.0	2.5	17.6	0	0	4
	09/06/2015 23:02	1037	0.0	2.5	17.6	0	0	5
	10/06/2015 00:02	1037	0.0	2.5	17.7	0	0	1
	21/05/2015 10:19	1019	0.0	0.0	19.2	0	0	0
	21/05/2015 11:19	1019	0.0	0.0	19.3	0	0	0
	21/05/2015 12:19	1019	0.0	0.7	19.2	0	0	0
	21/05/2015 13:19	1019	0.0	0.7	19.2	0	0	0
	21/05/2015 14:19	1019	0.0	0.7	19.2	0	0	0
	21/05/2015 15:19	1019	0.0	0.7	19.2	0	0	0
	21/05/2015 16:19	1019	0.0	0.7	19.2	0	0	0
	21/05/2015 17:19	1019	0.0	0.7	19.2	0	0	0
	21/05/2015 18:19	1019	0.0	0.7	19.2	0	0	0
	21/05/2015 19:19	1019	0.0	0.7	19.3	0	0	0
	21/05/2015 20:19	1019	0.0	0.0	19.3	0	0	0
	21/05/2015 21:19	1019	0.0	0.0	19.3	0	0	0
	21/05/2015 22:19	1020	0.0	0.0	19.3	0	0	0
	21/05/2015 23:19	1020	0.0	0.0	19.4	0	0	0
	22/05/2015 00:19	1019	0.0	0.0	19.4	0	0	0
	22/05/2015 01:19	1019	0.0	0.0	19.5	0	0	0
	22/05/2015 02:19	1019	0.0	0.0	19.6	0	0	0
	22/05/2015 03:19	1019	0.0	0.0	19.6	0	0	0
	22/05/2015 04:19	1018	0.0	0.0	19.7	0	0	0
	22/05/2015 05:19	1018	0.0	0.0	19.7	0	0	0
	22/05/2015 06:19	1018	0.0	0.0	19.8	0	0	1
	22/05/2015 07:19	1018	0.0	0.0	19.8	0	0	0
	22/05/2015 08:19	1018	0.0	0.0	19.8	0	0	0
	22/05/2015 09:19	1018	0.0	0.0	19.8	0	0	0
	22/05/2015 10:19	1018	0.0	0.0	19.7	0	0	1
	22/05/2015 11:19	1018	0.0	0.0	19.6	0	0	0
	22/05/2015 12:19	1018	0.0	0.0	19.4	0	0	0
	22/05/2015 13:19	1018	0.0	0.7	19.2	0	0	0
	22/05/2015 14:19	1018	0.0	0.7	19.2	0	0	0
	22/05/2015 15:19	1018	0.0	0.7	19.2	0	0	0
	22/05/2015 16:19	1018	0.0	0.7	19.2	0	0	0
	22/05/2015 17:19	1018	0.0	0.7	19.2	0	0	0
	22/05/2015 18:19	1018	0.0	0.7	19.2	0	0	0
	22/05/2015 19:19	1018	0.0	0.0	19.2	0	0	0
	22/05/2015 20:19	1018	0.0	0.0	19.2	0	0	0
	22/05/2015 21:19	1018	0.0	0.0	19.3	0	0	0
	22/05/2015 22:19	1019	0.0	0.0	19.3	0	0	0
	22/05/2015 23:19	1019	0.0	0.0	19.4	0	0	0
	23/05/2015 00:19	1019	0.0	0.0	19.6	0	0	0
	23/05/2015 01:19	1019	0.0	0.0	19.7	0	0	1
	23/05/2015 02:19	1020	0.0	0.0	19.8	0	0	0
	23/05/2015 03:19	1019	0.0	0.0	19.9	0	0	0
	23/05/2015 04:19	1019	0.0	0.0	20	0	0	0
	23/05/2015 05:19	1019	0.0	0.0	20.1	0	0	2
	23/05/2015 06:19	1020	0.0	0.0	20.1	0	0	0
	23/05/2015 07:19	1020	0.0	0.0	20.1	0	0	0
	23/05/2015 08:19	1020	0.0	0.0	20.2	0	0	2

23/05/2015 09:19	1020	0.0	0.0	20.2	0	0	1
23/05/2015 10:19	1020	0.0	0.0	20.2	0	0	2
23/05/2015 11:19	1020	0.0	0.0	20.2	0	0	1
23/05/2015 12:19	1020	0.0	0.0	20.1	0	0	2
23/05/2015 13:19	1019	0.0	0.0	20	0	0	0
23/05/2015 14:19	1019	0.0	0.0	19.9	0	0	0
23/05/2015 15:19	1018	0.0	0.0	19.9	0	0	0
23/05/2015 16:19	1018	0.0	0.0	19.8	0	0	2
23/05/2015 17:19	1017	0.0	0.0	19.7	0	0	0
23/05/2015 18:19	1017	0.0	0.0	19.6	0	0	0
23/05/2015 19:19	1016	0.0	0.0	19.5	0	0	0
23/05/2015 20:19	1016	0.0	0.0	19.5	0	0	1
23/05/2015 21:19	1016	0.0	0.0	19.5	0	0	2
23/05/2015 22:19	1016	0.0	0.0	19.5	0	0	1
23/05/2015 23:19	1015	0.0	0.0	19.6	0	0	2
24/05/2015 00:19	1015	0.0	0.0	19.7	0	0	0
24/05/2015 01:19	1014	0.0	0.0	19.8	0	0	0
24/05/2015 02:19	1014	0.0	0.0	19.9	0	0	1
24/05/2015 03:19	1013	0.0	0.0	19.9	0	0	1
24/05/2015 04:19	1012	0.0	0.0	20	0	0	2
24/05/2015 05:19	1012	0.0	0.0	20	0	0	1
24/05/2015 06:19	1012	0.0	0.0	20.1	0	0	2
24/05/2015 07:19	1012	0.0	0.0	20.1	0	0	1
24/05/2015 08:19	1012	0.0	0.0	20.2	0	0	1
24/05/2015 09:19	1012	0.0	0.0	20.2	0	0	0
24/05/2015 10:19	1012	0.0	0.0	20.1	0	0	1
24/05/2015 11:19	1012	0.0	0.0	19.8	0	0	2
24/05/2015 12:19	1013	0.0	0.0	19.8	0	0	2
24/05/2015 13:19	1013	0.0	0.0	19.6	0	0	2
24/05/2015 14:19	1013	0.0	0.0	19.4	0	0	2
24/05/2015 15:19	1013	0.0	0.0	19.3	0	0	0
24/05/2015 16:19	1013	0.0	0.0	19.2	0	0	0
24/05/2015 17:19	1013	0.0	0.0	19.2	0	0	3
24/05/2015 18:19	1014	0.0	0.0	19.1	0	0	1
24/05/2015 19:19	1014	0.0	0.0	19.1	0	0	1
24/05/2015 20:19	1014	0.0	0.0	19.1	0	0	0
24/05/2015 21:19	1014	0.0	0.0	19.2	0	0	0
24/05/2015 22:19	1014	0.0	0.0	19.3	0	0	2
24/05/2015 23:19	1014	0.0	0.0	19.4	0	0	2
25/05/2015 00:19	1014	0.0	0.0	19.5	0	0	0
25/05/2015 01:19	1014	0.0	0.0	19.6	0	0	1
25/05/2015 02:19	1014	0.0	0.0	19.8	0	0	0
25/05/2015 03:19	1013	0.0	0.0	19.9	0	0	2
25/05/2015 04:19	1013	0.0	0.0	20	0	0	2
25/05/2015 05:19	1013	0.0	0.0	20	0	0	2
25/05/2015 06:19	1013	0.0	0.0	20.1	0	0	2
25/05/2015 07:19	1013	0.0	0.0	20.1	0	0	2
25/05/2015 08:19	1013	0.0	0.0	20	0	0	2
25/05/2015 09:19	1013	0.0	0.0	19.9	0	0	1
25/05/2015 10:19	1013	0.0	0.0	19.8	0	0	0
25/05/2015 11:19	1013	0.0	0.0	19.7	0	0	0
25/05/2015 12:19	1013	0.0	0.0	19.6	0	0	0
25/05/2015 13:19	1013	0.0	0.0	19.4	0	0	2
25/05/2015 14:19	1013	0.0	0.0	19.3	0	0	2
25/05/2015 15:19	1014	0.0	0.0	19.3	0	0	2
25/05/2015 16:19	1014	0.0	0.0	19.2	0	0	0
25/05/2015 17:19	1014	0.0	0.0	19.2	0	0	0
25/05/2015 18:19	1014	0.0	0.0	19.1	0	0	0
25/05/2015 19:19	1014	0.0	0.0	19.1	0	0	0
25/05/2015 20:19	1014	0.0	0.0	19.1	0	0	2
25/05/2015 21:19	1015	0.0	0.0	19.2	0	0	2
25/05/2015 22:19	1015	0.0	0.0	19.3	1	0	0
25/05/2015 23:19	1016	0.0	0.0	19.4	1	0	2
26/05/2015 00:19	1016	0.0	0.0	19.6	0	0	2
26/05/2015 01:19	1015	0.0	0.0	19.8	0	0	0
26/05/2015 02:19	1015	0.0	0.0	19.9	0	0	2
26/05/2015 03:19	1016	0.0	0.0	19.9	1	0	1
26/05/2015 04:19	1015	0.0	0.0	20	1	0	2
26/05/2015 05:19	1016	0.0	0.0	20	1	0	0
26/05/2015 06:19	1016	0.0	0.0	20.1	1	0	0
26/05/2015 07:19	1017	0.0	0.0	20	1	0	1
26/05/2015 08:19	1017	0.0	0.0	19.8	1	0	1
26/05/2015 09:19	1018	0.0	0.0	19.6	2	0	2
26/05/2015 10:19	1018	0.0	0.0	19.3	1	0	0
26/05/2015 11:19	1018	0.0	0.0	19	2	0	2
26/05/2015 12:19	1019	0.0	0.0	19	2	0	1

26/05/2015 13:19	1019	0.0	0.7	19	2	0	0
26/05/2015 14:19	1019	0.0	0.7	18.9	2	0	0
26/05/2015 15:19	1019	0.0	0.7	18.9	2	0	0
26/05/2015 16:19	1019	0.0	0.7	18.9	2	0	2
26/05/2015 17:19	1019	0.0	0.7	19	2	0	1
26/05/2015 18:19	1020	0.0	0.7	19	2	0	1
26/05/2015 19:19	1020	0.0	0.7	19	2	0	0
26/05/2015 20:19	1020	0.0	0.7	19	2	0	1
26/05/2015 21:19	1020	0.0	0.7	19	2	0	2
26/05/2015 22:19	1021	0.0	0.0	19.1	2	0	0
26/05/2015 23:19	1021	0.0	0.0	19.2	2	0	0
27/05/2015 00:19	1021	0.0	0.0	19.4	2	0	2
27/05/2015 01:19	1020	0.0	0.0	19.6	2	0	1
27/05/2015 02:19	1020	0.0	0.0	19.8	2	0	0
27/05/2015 03:19	1020	0.0	0.0	20	2	0	2
27/05/2015 04:19	1020	0.0	0.0	20.1	2	0	1
27/05/2015 05:19	1019	0.0	0.0	20.1	2	0	0
27/05/2015 06:19	1019	0.0	0.0	20.2	2	0	1
27/05/2015 07:19	1019	0.0	0.0	20.2	2	0	0
27/05/2015 08:19	1018	0.0	0.0	20.1	2	0	1
27/05/2015 09:19	1018	0.0	0.0	20	2	0	0
27/05/2015 10:19	1017	0.0	0.0	19.8	2	0	4
27/05/2015 11:19	1016	0.0	0.0	19.6	2	0	0
27/05/2015 12:19	1015	0.0	0.0	19.3	2	0	2
27/05/2015 13:19	1014	0.0	0.0	19.1	3	0	2
27/05/2015 14:19	1013	0.0	0.0	19	3	0	0
27/05/2015 15:19	1011	0.0	0.7	19	3	0	0
27/05/2015 16:19	1010	0.0	0.7	18.9	3	0	1
27/05/2015 17:19	1010	0.0	0.0	19	3	0	2
27/05/2015 18:19	1009	0.0	0.0	19	3	0	2
27/05/2015 19:19	1007	0.0	0.0	19.1	3	0	0
27/05/2015 20:19	1007	0.0	0.0	19.3	3	0	1
27/05/2015 21:19	1006	0.0	0.0	19.5	3	0	2
27/05/2015 22:19	1006	0.0	0.0	19.6	3	0	0
27/05/2015 23:19	1005	0.0	0.0	19.6	3	0	0
28/05/2015 00:19	1005	0.0	0.0	19.7	3	0	0
28/05/2015 01:19	1005	0.0	0.0	19.7	3	0	0
28/05/2015 02:19	1005	0.0	0.0	19.5	4	0	0
28/05/2015 03:19	1005	0.0	0.0	19.4	4	0	1
28/05/2015 04:19	1005	0.0	0.0	19.3	5	0	0
28/05/2015 05:19	1005	0.0	0.0	19.3	5	0	1
28/05/2015 06:19	1006	0.0	0.0	19.4	5	0	0
28/05/2015 07:19	1006	0.0	0.7	19.1	6	0	1
28/05/2015 08:19	1006	0.0	0.7	18.9	6	0	2
28/05/2015 09:19	1006	0.0	0.7	19	5	0	0
28/05/2015 10:19	1006	0.0	0.7	19	5	0	2
28/05/2015 11:19	1007	0.0	0.7	19.1	6	0	0
28/05/2015 12:19	1007	0.0	0.7	19.1	6	0	2
28/05/2015 13:19	1007	0.0	0.7	19.1	6	0	0
28/05/2015 14:19	1007	0.0	0.7	19.1	6	0	1
28/05/2015 15:19	1007	0.0	0.0	19.7	5	0	0
28/05/2015 16:19	1007	0.0	0.0	19.7	5	0	0
28/05/2015 17:19	1006	0.0	0.0	19.7	5	0	0
28/05/2015 18:19	1006	0.0	0.0	19.6	5	0	0
28/05/2015 19:19	1006	0.0	0.0	19.5	5	0	1
28/05/2015 20:19	1005	0.0	0.0	19.5	5	0	1
28/05/2015 21:19	1005	0.0	0.0	19.5	5	0	0
28/05/2015 22:19	1005	0.0	0.0	19.5	6	0	2
28/05/2015 23:19	1005	0.0	0.0	19.6	6	0	2
29/05/2015 00:19	1004	0.0	0.0	19.6	6	0	0
29/05/2015 01:19	1003	0.0	0.0	19.7	6	0	1
29/05/2015 02:19	1003	0.0	0.0	19.8	6	0	0
29/05/2015 03:19	1002	0.0	0.0	19.8	6	0	1
29/05/2015 04:19	1001	0.0	0.0	19.9	6	0	0
29/05/2015 05:19	1000	0.0	0.0	19.9	6	0	0
29/05/2015 06:19	999	0.0	0.0	20	6	0	0
29/05/2015 07:19	999	0.0	0.0	20	7	0	0
29/05/2015 08:19	998	0.0	0.0	19.9	7	0	2
29/05/2015 09:19	997	0.0	0.0	19.9	7	0	0
29/05/2015 10:19	997	0.0	0.0	19.8	7	0	2
29/05/2015 11:19	997	0.0	0.0	19.6	7	0	0
29/05/2015 12:19	997	0.0	0.0	19.2	7	0	2
29/05/2015 13:19	997	0.0	0.0	19	7	0	0
29/05/2015 14:19	998	0.0	0.7	19	7	0	0
29/05/2015 15:19	999	0.0	0.0	19.2	8	0	0
29/05/2015 16:19	999	0.0	0.0	19.3	8	0	0

WS04	29/05/2015 17:19	1000	0.0	0.0	19.2	8	0	0
	29/05/2015 18:19	1000	0.0	0.0	19.2	8	0	0
	29/05/2015 19:19	1001	0.0	0.0	19.2	8	0	0
	29/05/2015 20:19	1001	0.0	0.0	19.2	8	0	0
	29/05/2015 21:19	1002	0.0	0.0	19.1	8	0	0
	29/05/2015 22:19	1002	0.0	0.0	19.1	9	0	0
	29/05/2015 23:19	1002	0.0	0.0	19.1	9	0	0
	30/05/2015 00:19	1003	0.0	0.0	19.2	9	0	2
	30/05/2015 01:19	1003	0.0	0.0	19.2	9	0	1
	30/05/2015 02:19	1003	0.0	0.0	19.4	9	0	0
	30/05/2015 03:19	1004	0.0	0.0	19.6	9	0	0
	30/05/2015 04:19	1004	0.0	0.0	19.8	10	0	0
	30/05/2015 05:19	1004	0.0	0.0	19.9	10	0	0
	30/05/2015 06:19	1005	0.0	0.0	20	10	0	0
	30/05/2015 07:19	1005	0.0	0.0	20.1	10	0	0
	30/05/2015 08:19	1006	0.0	0.0	20	10	0	0
	30/05/2015 09:19	1006	0.0	0.0	20	10	0	0
	30/05/2015 10:19	1007	0.0	0.0	19.9	10	0	0
	30/05/2015 11:19	1007	0.0	0.0	19.8	10	0	0
	30/05/2015 12:19	1007	0.0	0.0	19.7	10	0	0
	30/05/2015 13:19	1007	0.0	0.0	19.5	11	0	0
	30/05/2015 14:19	1007	0.0	0.0	19.4	11	0	1
	30/05/2015 15:19	1006	0.0	0.0	19.3	11	0	0
	30/05/2015 16:19	1006	0.0	0.0	19.3	11	0	2
	30/05/2015 17:19	1006	0.0	0.0	19.3	12	0	0
	30/05/2015 18:19	1005	0.0	0.0	19.3	12	0	0
	30/05/2015 19:19	1005	0.0	0.0	19.3	12	0	0
	30/05/2015 20:19	1004	0.0	0.0	19.4	12	0	0
	30/05/2015 21:19	1003	0.0	0.0	19.5	12	0	0
	30/05/2015 22:19	1002	0.0	0.0	19.6	12	0	0
	30/05/2015 23:19	1002	0.0	0.0	19.6	12	0	0
	31/05/2015 00:19	1000	0.0	0.0	19.7	12	0	0
	31/05/2015 01:19	999	0.0	0.0	19.8	12	0	1
	31/05/2015 02:19	998	0.0	0.0	19.9	13	0	1
	31/05/2015 03:19	996	0.0	0.0	19.9	13	0	0
	31/05/2015 04:19	995	0.0	0.0	20	13	0	0
	31/05/2015 05:19	993	0.0	0.0	19.9	13	0	0
	31/05/2015 06:19	993	0.0	0.0	19.8	13	0	0
	31/05/2015 07:19	993	0.0	0.0	19.7	13	0	0
	31/05/2015 08:19	994	0.0	0.0	19.6	12	0	0
	31/05/2015 09:19	994	0.0	0.0	19.4	13	0	0
	31/05/2015 10:19	995	0.0	0.0	19.3	13	0	0
	31/05/2015 11:19	996	0.0	0.0	19.2	14	0	0
	31/05/2015 12:19	997	0.0	0.0	19.1	13	0	0
	31/05/2015 13:19	997	0.0	0.0	19	13	0	0
	31/05/2015 14:19	998	0.0	0.0	19	13	0	1
	31/05/2015 15:19	999	0.0	0.7	18.9	13	0	0
	31/05/2015 16:19	999	0.0	0.7	18.9	13	0	0
	31/05/2015 17:19	1000	0.0	0.7	18.9	13	0	0
	31/05/2015 18:19	1000	0.0	0.7	18.9	13	0	0
	31/05/2015 19:19	1001	0.0	0.7	18.9	13	0	0
	31/05/2015 20:19	1001	0.0	0.7	18.9	13	0	1
	31/05/2015 21:19	1002	0.0	0.0	18.9	13	0	1
	31/05/2015 22:19	1003	0.0	0.0	19	13	0	0
	31/05/2015 23:19	1003	0.0	0.0	19.1	13	0	0
	01/06/2015 00:19	1004	0.0	0.0	19.4	13	0	0
	01/06/2015 01:19	1004	0.0	0.0	19.5	13	0	0
	01/06/2015 02:19	1004	0.0	0.0	19.7	13	0	0
	01/06/2015 03:19	1004	0.0	0.0	19.7	13	0	0
	01/06/2015 04:19	1004	0.0	0.0	19.8	13	0	0
	01/06/2015 05:19	1004	0.0	0.0	19.9	13	0	0
	01/06/2015 06:19	1004	0.0	0.0	20	13	0	0
	01/06/2015 07:19	1004	0.0	0.0	20	14	0	0
	01/06/2015 08:19	1004	0.0	0.0	19.8	14	0	0
	01/06/2015 09:19	1004	0.0	0.0	19.6	14	0	1
	01/06/2015 10:19	1003	0.0	0.0	19.2	15	0	2
	01/06/2015 11:19	1003	0.0	0.0	19.1	15	0	0
	01/06/2015 12:19	1002	0.0	0.0	19	15	0	0
	01/06/2015 13:19	1001	0.0	0.0	19	15	0	0
	01/06/2015 14:19	1001	0.0	0.0	19.1	15	0	0
	01/06/2015 15:19	1000	0.0	0.7	19.1	15	0	0
	01/06/2015 16:19	998	0.0	0.0	19.1	16	0	0
	01/06/2015 17:19	997	0.0	0.0	19.1	17	0	0
	01/06/2015 18:19	994	0.0	0.0	19.1	16	0	0
	01/06/2015 19:19	992	0.0	0.0	19.1	16	0	0
	01/06/2015 20:19	990	0.0	0.0	19.1	16	0	0

01/06/2015 21:19	989	0.0	0.0	19.1	17	0	0
01/06/2015 22:19	988	0.0	0.0	19.1	17	0	0
01/06/2015 23:19	989	0.0	0.7	18.8	17	0	0
02/06/2015 00:19	989	0.0	0.0	18.9	18	0	0
02/06/2015 01:19	989	0.0	0.0	18.9	18	0	1
02/06/2015 02:19	989	0.0	0.0	18.9	18	0	0
02/06/2015 03:19	989	0.0	0.0	19	18	0	0
03/06/2015 13:20	1016	0.0	0.0	19.3	7	0	0
03/06/2015 14:20	1016	0.0	0.0	19.4	6	0	0
03/06/2015 15:20	1017	0.0	0.0	19.5	8	0	0
03/06/2015 16:20	1017	0.0	0.0	19.5	8	0	0
03/06/2015 17:20	1018	0.0	0.0	19.4	8	0	0
03/06/2015 18:20	1018	0.0	0.0	19.4	8	0	0
03/06/2015 19:20	1018	0.0	0.0	19.4	8	0	0
03/06/2015 20:20	1018	0.0	0.0	19.4	8	0	0
03/06/2015 21:20	1019	0.0	0.0	19.4	8	0	0
03/06/2015 22:20	1020	0.0	0.0	19.5	9	0	0
03/06/2015 23:20	1020	0.0	0.0	19.6	8	0	0
04/06/2015 00:20	1020	0.0	0.0	19.7	9	0	0
04/06/2015 01:20	1020	0.0	0.0	19.8	9	0	0
04/06/2015 02:20	1020	0.0	0.0	20	9	0	0
04/06/2015 03:20	1020	0.0	0.0	20.1	10	0	0
04/06/2015 04:20	1020	0.0	0.0	20.1	10	0	0
04/06/2015 05:20	1020	0.0	0.0	20.2	10	0	0
04/06/2015 06:20	1020	0.0	0.0	20.2	10	0	0
04/06/2015 07:20	1020	0.0	0.0	20.2	10	0	0
04/06/2015 08:20	1020	0.0	0.0	20.2	11	0	0
04/06/2015 09:20	1019	0.0	0.0	20.2	10	0	0
04/06/2015 10:20	1019	0.0	0.0	20.2	11	0	0
04/06/2015 11:20	1018	0.0	0.0	20.2	11	0	0
04/06/2015 12:20	1018	0.0	0.0	20.1	10	0	0
04/06/2015 13:20	1017	0.0	0.0	20.1	10	0	0
04/06/2015 14:20	1017	0.0	0.0	20.1	11	0	0
04/06/2015 15:20	1016	0.0	0.0	20.2	11	0	0
04/06/2015 16:20	1015	0.0	0.0	20.1	11	0	0
04/06/2015 17:20	1014	0.0	0.0	20.1	11	0	0
04/06/2015 18:20	1013	0.0	0.0	20.1	11	0	0
04/06/2015 19:20	1013	0.0	0.0	20.1	11	0	0
04/06/2015 20:20	1012	0.0	0.0	20.2	11	0	0
04/06/2015 21:20	1012	0.0	0.0	20.2	11	0	1
04/06/2015 22:20	1012	0.0	0.0	20.2	11	0	0
04/06/2015 23:20	1011	0.0	0.0	20.2	11	0	0
05/06/2015 00:20	1011	0.0	0.0	20.3	11	0	0
05/06/2015 01:20	1010	0.0	0.0	20.3	11	0	1
05/06/2015 02:20	1010	0.0	0.0	20.3	11	0	0
05/06/2015 03:20	1009	0.0	0.0	20.3	11	0	0
05/06/2015 04:20	1008	0.0	0.0	20.3	11	0	0
05/06/2015 05:20	1007	0.0	0.0	20.3	11	0	0
05/06/2015 06:20	1006	0.0	0.0	20.3	11	0	0
05/06/2015 07:20	1006	0.0	0.0	20.3	10	0	2
05/06/2015 08:20	1006	0.0	0.0	20.3	11	0	0
05/06/2015 09:20	1006	0.0	0.0	20.2	10	0	1
05/06/2015 10:20	1006	0.0	0.0	20.1	11	0	0
05/06/2015 11:20	1005	0.0	0.0	20	10	0	1
05/06/2015 12:20	1006	0.0	0.0	19.9	10	0	0
05/06/2015 13:20	1006	0.0	0.0	19.8	11	0	0
05/06/2015 14:20	1007	0.0	0.0	19.6	11	0	0
05/06/2015 15:20	1007	0.0	0.0	19.5	11	0	0
05/06/2015 16:20	1007	0.0	0.0	19.5	10	0	2
05/06/2015 17:20	1007	0.0	0.0	19.5	10	0	0
05/06/2015 18:20	1007	0.0	0.0	19.5	10	0	0
05/06/2015 19:20	1008	0.0	0.0	19.5	10	0	0
05/06/2015 20:20	1009	0.0	0.0	19.5	10	0	2
05/06/2015 21:20	1010	0.0	0.0	19.7	10	0	0
05/06/2015 22:20	1010	0.0	0.0	19.8	10	0	0
05/06/2015 23:20	1010	0.0	0.0	20	10	0	1
06/06/2015 00:20	1011	0.0	0.0	20.1	10	0	2
06/06/2015 01:20	1011	0.0	0.0	20.2	10	0	0
06/06/2015 02:20	1011	0.0	0.0	20.3	9	0	0
06/06/2015 03:20	1011	0.0	0.0	20.3	9	0	0
06/06/2015 04:20	1011	0.0	0.0	20.3	9	0	0
06/06/2015 05:20	1011	0.0	0.0	20.3	9	0	0
06/06/2015 06:20	1012	0.0	0.0	20.3	9	0	0
06/06/2015 07:20	1012	0.0	0.0	20.3	9	0	0
06/06/2015 08:20	1013	0.0	0.0	20.3	9	0	0
06/06/2015 09:20	1013	0.0	0.0	20.1	9	0	0

06/06/2015 10:20	1013	0.0	0.0	19.8	10	0	0
06/06/2015 11:20	1014	0.0	0.0	19.7	9	0	0
06/06/2015 12:20	1014	0.0	0.0	19.5	9	0	0
06/06/2015 13:20	1015	0.0	0.0	19.5	9	0	0
06/06/2015 14:20	1015	0.0	0.0	19.5	9	0	0
06/06/2015 15:20	1016	0.0	0.0	19.6	9	0	0
06/06/2015 16:20	1016	0.0	0.0	19.6	9	0	0
06/06/2015 17:20	1016	0.0	0.0	19.6	9	0	0
06/06/2015 18:20	1017	0.0	0.0	19.6	9	0	1
06/06/2015 19:20	1017	0.0	0.0	19.6	8	0	0
06/06/2015 20:20	1018	0.0	0.0	19.6	8	0	0
06/06/2015 21:20	1018	0.0	0.0	19.6	8	0	0
06/06/2015 22:20	1019	0.0	0.0	19.7	8	0	0
06/06/2015 23:20	1020	0.0	0.0	19.8	9	0	0
07/06/2015 00:20	1021	0.0	0.0	19.9	8	0	1
07/06/2015 01:20	1021	0.0	0.0	20.1	8	0	0
07/06/2015 02:20	1022	0.0	0.0	20.2	9	0	0
07/06/2015 03:20	1022	0.0	0.0	20.2	9	0	0
07/06/2015 04:20	1023	0.0	0.0	20.2	9	0	0
07/06/2015 05:20	1023	0.0	0.0	20.3	9	0	0
07/06/2015 06:20	1024	0.0	0.0	20.3	9	0	0
07/06/2015 07:20	1025	0.0	0.0	20.3	8	0	0
07/06/2015 08:20	1025	0.0	0.0	20.3	8	0	0
07/06/2015 09:20	1026	0.0	0.0	20	8	0	0
07/06/2015 10:20	1026	0.0	0.0	19.8	8	0	0
07/06/2015 11:20	1027	0.0	0.0	19.7	8	0	0
07/06/2015 12:20	1027	0.0	0.0	19.6	8	0	0
07/06/2015 13:20	1027	0.0	0.0	19.5	9	0	0
07/06/2015 14:20	1027	0.0	0.0	19.5	9	0	0
07/06/2015 15:20	1027	0.0	0.0	19.5	8	0	0
07/06/2015 16:20	1027	0.0	0.0	19.5	9	0	0
07/06/2015 17:20	1027	0.0	0.0	19.5	8	0	0
07/06/2015 18:20	1028	0.0	0.0	19.5	8	0	0
07/06/2015 19:20	1028	0.0	0.0	19.5	8	0	0
07/06/2015 20:20	1029	0.0	0.0	19.5	8	0	1
07/06/2015 21:20	1029	0.0	0.0	19.5	8	0	0
07/06/2015 22:20	1029	0.0	0.0	19.6	8	0	0
07/06/2015 23:20	1030	0.0	0.0	19.7	9	0	0
08/06/2015 00:20	1030	0.0	0.0	19.8	8	0	0
08/06/2015 01:20	1030	0.0	0.0	20	8	0	0
08/06/2015 02:20	1030	0.0	0.0	20.1	8	0	2
08/06/2015 03:20	1030	0.0	0.0	20.2	8	0	0
08/06/2015 04:20	1030	0.0	0.0	20.3	8	0	0
08/06/2015 05:20	1030	0.0	0.0	20.3	8	0	1
08/06/2015 06:20	1030	0.0	0.0	20.4	8	0	0
08/06/2015 07:20	1030	0.0	0.0	20.4	8	0	0
08/06/2015 08:20	1030	0.0	0.0	20.3	8	0	0
08/06/2015 09:20	1030	0.0	0.0	20.3	8	0	0
08/06/2015 10:20	1030	0.0	0.0	20.2	8	0	0
08/06/2015 11:20	1030	0.0	0.0	20.2	8	0	0
08/06/2015 12:20	1030	0.0	0.0	20.1	8	0	1
08/06/2015 13:20	1029	0.0	0.0	20	8	0	0
08/06/2015 14:20	1029	0.0	0.0	19.8	8	0	1
08/06/2015 15:20	1029	0.0	0.0	19.7	8	0	0
08/06/2015 16:20	1029	0.0	0.0	20	8	0	0
08/06/2015 17:20	1029	0.0	0.0	20.4	8	0	0
08/06/2015 18:20	1029	0.0	0.0	20.5	9	0	0
08/06/2015 19:20	1029	0.0	0.0	20.5	9	0	0
08/06/2015 20:20	1030	0.0	0.0	20.5	9	0	0
08/06/2015 21:20	1030	0.0	0.0	20.5	9	0	0
08/06/2015 22:20	1031	0.0	0.0	20.5	9	0	0
08/06/2015 23:20	1031	0.0	0.0	20.5	9	0	0
09/06/2015 00:20	1031	0.0	0.0	20.5	9	0	0
09/06/2015 01:20	1031	0.0	0.0	20.5	8	0	2
09/06/2015 02:20	1031	0.0	0.0	20.5	8	0	0
09/06/2015 03:20	1031	0.0	0.0	20.5	8	0	0
09/06/2015 04:20	1031	0.0	0.0	20.5	8	0	0
09/06/2015 05:20	1031	0.0	0.0	20.4	8	0	0
09/06/2015 06:20	1031	0.0	0.0	20.5	8	0	0
09/06/2015 07:20	1031	0.0	0.0	20.5	8	0	1
09/06/2015 08:20	1031	0.0	0.0	20.5	8	0	0
09/06/2015 09:20	1031	0.0	0.0	20.5	8	0	0
09/06/2015 10:20	1031	0.0	0.0	20.5	8	0	0
09/06/2015 11:20	1031	0.0	0.0	20.5	8	0	1
09/06/2015 12:20	1031	0.0	0.0	20.5	7	0	0
09/06/2015 13:20	1030	0.0	0.0	20.5	7	0	0

09/06/2015 14:20	1030	0.0	0.0	20.5	8	0	0
09/06/2015 15:20	1029	0.0	0.0	20.5	7	0	0
09/06/2015 16:20	1029	0.0	0.0	20.5	7	0	1
09/06/2015 17:20	1028	0.0	0.0	20.5	7	0	0
09/06/2015 18:20	1028	0.0	0.0	20.5	8	0	0
09/06/2015 19:20	1028	0.0	0.0	20.5	8	0	0
09/06/2015 20:20	1028	0.0	0.0	20.5	8	0	0
09/06/2015 21:20	1028	0.0	0.0	20.5	8	0	0
09/06/2015 22:20	1028	0.0	0.0	20.5	8	0	2
09/06/2015 23:20	1028	0.0	0.0	20.5	7	0	0
10/06/2015 00:20	1028	0.0	0.0	20.5	7	0	0
10/06/2015 01:20	1028	0.0	0.0	20.5	8	0	0
10/06/2015 02:20	1028	0.0	0.0	20.5	7	0	0
10/06/2015 03:20	1028	0.0	0.0	20.5	8	0	0
10/06/2015 04:20	1028	0.0	0.0	20.5	7	0	0
10/06/2015 05:20	1027	0.0	0.0	20.5	8	0	0
10/06/2015 06:20	1027	0.0	0.0	20.5	7	0	0
10/06/2015 07:20	1027	0.0	0.0	20.5	7	0	0
10/06/2015 08:20	1027	0.0	0.0	20.5	8	0	0
10/06/2015 09:20	1026	0.0	0.0	20.5	8	0	0
10/06/2015 10:20	1026	0.0	0.0	20.5	8	0	0
10/06/2015 11:20	1026	0.0	0.0	20.5	7	0	0
10/06/2015 12:20	1025	0.0	0.0	20.5	8	0	0
10/06/2015 13:20	1025	0.0	0.0	20.5	8	0	1
10/06/2015 14:20	1024	0.0	0.0	20.5	8	0	0
10/06/2015 15:20	1023	0.0	0.0	20.5	8	0	0
10/06/2015 16:20	1023	0.0	0.0	20.5	8	0	0
10/06/2015 17:20	1022	0.0	0.0	20.5	9	0	0
10/06/2015 18:20	1022	0.0	0.0	20.5	8	0	0
10/06/2015 19:20	1022	0.0	0.0	20.5	8	0	0
10/06/2015 20:20	1022	0.0	0.0	20.5	8	0	0
10/06/2015 21:20	1022	0.0	0.0	20.5	8	0	0
10/06/2015 22:20	1022	0.0	0.0	20.5	8	0	1
10/06/2015 23:20	1022	0.0	0.0	20.5	8	0	0
11/06/2015 00:20	1022	0.0	0.0	20.5	8	0	0
11/06/2015 01:20	1021	0.0	0.0	20.5	8	0	0
11/06/2015 02:20	1021	0.0	0.0	20.5	8	0	1
11/06/2015 03:20	1020	0.0	0.0	20.5	8	0	0
11/06/2015 04:20	1019	0.0	0.0	20.5	8	0	0
11/06/2015 05:20	1019	0.0	0.0	20.5	8	0	0
11/06/2015 06:20	1018	0.0	0.0	20.5	8	0	0
11/06/2015 07:20	1018	0.0	0.0	20.5	8	0	0
11/06/2015 08:20	1018	0.0	0.0	20.5	8	0	0
11/06/2015 09:20	1017	0.0	0.0	20.5	8	0	0
11/06/2015 10:20	1017	0.0	0.0	20.5	8	0	1
11/06/2015 11:20	1016	0.0	0.0	20.5	8	0	2
11/06/2015 12:20	1015	0.0	0.0	20.5	9	0	0
11/06/2015 13:20	1014	0.0	0.0	20.5	9	0	0
11/06/2015 14:20	1014	0.0	0.0	20.5	9	0	0
11/06/2015 15:20	1013	0.0	0.0	20.5	9	0	0
11/06/2015 16:20	1012	0.0	0.0	20.5	9	0	1
11/06/2015 17:20	1011	0.0	0.0	20.5	9	0	0
11/06/2015 18:20	1010	0.0	0.0	20.5	9	0	0
11/06/2015 19:20	1010	0.0	0.0	20.5	9	0	0
11/06/2015 20:20	1010	0.0	0.0	20.5	9	0	0
11/06/2015 21:20	1010	0.0	0.0	20.5	9	0	0
11/06/2015 22:20	1010	0.0	0.0	20.6	9	0	0
11/06/2015 23:20	1010	0.0	0.0	20.6	9	0	0
12/06/2015 00:20	1010	0.0	0.0	20.5	9	0	0
12/06/2015 01:20	1010	0.0	0.0	20.5	9	0	0
12/06/2015 02:20	1009	0.0	0.0	20.5	8	0	0
12/06/2015 03:20	1008	0.0	0.0	20.5	9	0	0
12/06/2015 04:20	1008	0.0	0.0	20.5	9	0	0
12/06/2015 05:20	1008	0.0	0.0	20.5	8	0	0
12/06/2015 06:20	1008	0.0	0.0	20.5	9	0	0
12/06/2015 07:20	1007	0.0	0.0	20.5	8	0	0
12/06/2015 08:20	1007	0.0	0.0	20.4	7	0	0
12/06/2015 09:20	1007	0.0	0.0	20.4	7	0	0
12/06/2015 10:20	1006	0.0	0.0	20.4	8	0	0
12/06/2015 11:20	1006	0.0	0.0	20.3	8	0	1
12/06/2015 12:20	1005	0.0	0.0	20.3	7	0	2
Additional Information:					18	0	17

Date	Weather	Ground Conditions	Comments

21/05/2015	Clear, sunny	Hardstanding	Gas Clam Installed in WS03 and WS04. Conventional monitoring carried out at WS01 and WS02.
03/06/2015	Clear, sunny	Hardstanding	Gas Clam Installed in WS03 and WS04. Conventional monitoring carried out at WS01 and WS02.
12/06/2015	Cloudy, with some sun	Hardstanding	Gas Clams removed from site. Conventional monitoring carried out at all monitoring locations.

* All monitoring point locations are monitored for a minimum of 60 seconds, and both the peak reading and the steady / rest readings are recorded
* BD = Below the detection limit of the gas analyser (0.1units)
* NR = No reading taken

Gas Monitoring Results Sheet

Site: Moss Lane West, Manchester
Project Number: GSI 0397
National Grid Reference: 383180:395870
Instrument: GA 2000 +

GeoCon Site Investigations Ltd

Monitoring Point Reference	Date	Atmospheric pressure (mb)	Flow Range (l/hr)	Methane (% v/v)		Carbon Dioxide (% v/v)		Oxygen (% v/v)		Methane Gas Screening Value (GSV) (l/hr)	Carbon Dioxide Gas Screening Value (GSV) (l/hr)	Hydrogen Sulphide (ppm)	Carbon Monoxide (ppm)	Standing Water Level (mbgl)	Well Depth (mbgl)
				Peak	Steady	Peak	Steady	Low	Steady						
WS01	21 May 2015	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	03 June 2015	1017	0.0	0.0	0.0	0.0	0.0	19.1	19.1	0.0000	0.0000	0.0	0.0	0.88	1.06
	12 June 2015	1010	0.2	0.0	0.0	0.0	0.0	20.6	20.6	0.0000	0.0000	0.0	0.0	0.94	1.05
	25 June 2015	1017	0.0	0.0	0.0	0.5	0.5	20.6	20.6	0.0000	0.0000	0.0	0.0	Dry	0.97
	10 July 2015	1014	0.0	0.0	0.0	0.1	0.1	20.5	20.5	0.0000	0.0000	0.0	0.0	Dry	0.97
	17 July 2015	1011	0.0	0.0	0.0	0.2	0.2	20.4	20.4	0.0000	0.0000	0.0	0.0	Dry	0.97
WS02	21 May 2015	1022	0.1	0.3	0.3	1.0	1.0	19.4	19.4	0.0003	0.0010	0.0	0.0	0.94	1.03
	03 June 2015	1017	-0.3	0.0	0.0	0.8	0.8	19.8	19.8	0.0000	-0.0024	0.0	0.0	0.92	1.04
	12 June 2015	1010	0.0	0.1	0.1	0.1	0.1	20.3	20.4	0.0000	0.0000	0.0	0.0	0.98	1.01
	25 June 2015	1017	0.0	0.0	0.0	3.8	3.8	17.4	17.4	0.0000	0.0000	0.0	0.0	Dry	0.93
	10 July 2015	1014	0.0	0.0	0.0	3.2	3.2	17.8	17.8	0.0000	0.0000	0.0	0.0	Dry	0.93
	17 July 2015	1011	0.0	0.0	0.0	2.9	2.9	18.1	18.1	0.0000	0.0000	0.0	0.0	Dry	0.93
WS03	21 May 2015	1022	0.0	3.3	3.3	1.2	1.2	18.0	18.0	0.0000	0.0000	0.0	15.0	2.60	2.63
	03 June 2015	1017	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	12 June 2015	1010	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	2.15	2.60
	25 June 2015	1017	-1.6	0.0	0.0	3.6	0.0	17.7	19.9	0.0000	-0.0576	0.0	0.0	Dry	2.52
	10 July 2015	1014	-1.3	0.0	0.0	0.0	0.0	20.3	20.3	0.0000	0.0000	0.0	0.0	Dry	2.52
	17 July 2015	1011	-1.1	0.0	0.0	0.0	0.0	20.6	20.6	0.0000	0.0000	0.0	0.0	Dry	2.52
WS04	21 May 2015	1022	0.0	0.4	0.4	1.0	1.0	19.6	19.6	0.0000	0.0000	0.0	0.0	Dry	2.52
	03 June 2015	1017	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	12 June 2015	1010	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	2.49	2.55
	25 June 2015	1017	-0.9	0.0	0.0	0.9	0.9	18.7	18.7	0.0000	-0.0081	0.0	0.0	Dry	2.45
	10 July 2015	1014	-0.4	0.0	0.0	0.5	0.5	19.7	19.7	0.0000	-0.0020	0.0	0.0	Dry	2.45
	17 July 2015	1011	-0.6	0.0	0.0	0.1	0.1	20.0	20.0	0.0000	-0.0006	0.0	0.0	Dry	2.45
WS05	21 May 2015	1022	-0.1	0.2	0.1	0.0	0.0	20.5	20.6	-0.0002	0.0000	0.0	1.0	Dry	2.13
	03 June 2015	1017	0.0	0.0	0.0	0.0	0.0	21.3	21.3	0.0000	0.0000	0.0	0.0	Dry	2.13
	12 June 2015	1010	0.0	0.1	0.1	1.1	0.7	20.3	21.1	0.0000	0.0000	0.0	0.0	Dry	2.14
	25 June 2015	1017	0.0	0.0	0.0	0.2	0.2	20.4	20.4	0.0000	0.0000	0.0	0.0	Dry	2.04
	10 July 2015	1014	0.0	0.0	0.0	0.0	0.0	20.2	20.2	0.0000	0.0000	0.0	0.0	Dry	2.04
	17 July 2015	1011	0.0	0.0	0.0	0.0	0.0	20.3	20.3	0.0000	0.0000	0.0	0.0	Dry	2.04
WS08	21 May 2015	1022	0.0	0.2	0.2	0.4	0.4	17.5	17.5	0.0000	0.0000	0.0	5.0	Dry	2.09
	03 June 2015	1017	0.0	0.0	0.0	4.1	4.1	15.6	15.6	0.0000	0.0000	0.0	0.0	2.02	2.06
	12 June 2015	1010	0.0	0.0	0.0	2.6	2.6	18.1	18.1	0.0000	0.0000	0.0	1.0	Dry	2.08
	25 June 2015	1017	0.0	0.0	0.0	1.9	1.9	18.5	18.6	0.0000	0.0000	0.0	0.0	Dry	1.97
	10 July 2015	1014	0.0	0.0	0.0	1.4	1.4	18.9	18.9	0.0000	0.0000	0.0	0.0	Dry	1.97
	17 July 2015	1011	0.0	0.0	0.0	0.9	0.9	19.7	19.7	0.0000	0.0000	0.0	0.0	Dry	1.97
WS09	21 May 2015	1022	0.2	0.0	0.0	3.0	3.0	17.4	17.4	0.0000	0.0060	0.0	0.0	Dry	3.00
	03 June 2015	1017	0.0	0.0	0.0	3.4	3.4	15.7	15.7	0.0000	0.0000	0.0	0.0	Dry	2.99
	12 June 2015	1010	0.0	0.0	0.0	2.2	2.2	17.2	17.2	0.0000	0.0000	0.0	0.0	Dry	2.99
	25 June 2015	1017	0.0	0.0	0.0	3.9	3.9	16.6	16.6	0.0000	0.0000	0.0	0.0	Dry	2.90
	10 July 2015	1014	0.0	0.0	0.0	3.7	3.7	15.4	15.4	0.0000	0.0000	0.0	0.0	Dry	2.90
	17 July 2015	1011	0.0	0.0	0.0	3.1	3.1	16.3	16.3	0.0000	0.0000	0.0	0.0	Dry	2.90
	21 May 2015	1022	-0.1	0.1	0.1	1.2	1.2	18.8	18.8	-0.0001	-0.0012	0.0	1.0	Dry	2.11
	03 June 2015	1017	0.0	0.0	0.0	0.9	0.9	19.1	19.1	0.0000	0.0000	0.0	0.0	2.08	2.09

WS13	12 June 2015	1010	0.0	0.1	0.0	1.5	1.1	18.7	19.0	0.0000	0.0000	0.0	0.0	Dry	2.08
	25 June 2015	1017	0.0	0.0	0.0	3.8	1.8	16.9	18.5	0.0000	0.0000	0.0	0.0	Dry	2.99
	10 July 2015	1014	0.0	0.0	0.0	1.2	1.2	19.4	19.4	0.0000	0.0000	0.0	0.0	Dry	2.99
	17 July 2015	1011	0.0	0.0	0.0	0.8	0.8	19.8	19.8	0.0000	0.0000	0.0	0.0	Dry	2.99

Additional Information:

Date	Weather	Air Temperature (°C)	Ground Conditions	Pressure Trend	Comments
21 May 2015	Cloudy, light rain	10.0	Hardstanding	Rising	NA
03 June 2015	Cloudy, light rain	12.0	Hardstanding	Rising	No readings taken from WS03 and WS04 due to gas clam being insitu.
12 June 2015	Cloudy, light rain	17.0	Hardstanding	Falling	NA
25 June 2015	Sunny, clear	18.0	Hardstanding	Steady	NA
10 July 2015	Sunny, clear	20.0	Hardstanding	Falling	NA
17 July 2015	Raining	16.0	Hardstanding	Falling	NA

* All monitoring point locations are monitored for a minimum of 60 seconds, and both the peak reading and the steady / rest readings are recorded
* BD = Below the detection limit of the gas analyser (0.1units)
* NR = No reading taken

CO 0157/8568

MIERS Construction Products Ltd

Miers Construction Products Ltd

Original

Order Confirmation

Document Date: **09.05.17**

Page: **1/1**

Sales Order Number: **2097030**

Customer Account No.: **C0392**

Customer Order Ref:

Confirmation of order for :

Bemus Construction Services Limited

Delivery Address :
C/O Colbre Projects Site
The Barrel Yard, Whalley Range Manchester
City Centre
M15 5PQ
UNITED KINGDOM

Site Contact & Special Instructions :

07399 479377 - Jake O'Neil

Delivery Date : 10.05.17

Currency: **GBP**

Description	Quantity	UoM	Price	Tax %	Total
Visqueen Low-Perm Gas Membrane 12.5 x 4m yellow (RS(	**5**	**Roll**	**81.43**	**20.00**	**407.15**
Top Hats 110mm c/w Jubilee Clip (RS000369)	**50**	**Each**	**13.80**	**20.00**	**690.00**
50mm x 10m Visqueen Double sided tape (RS000343) (12 i	**20**	**Roll**	**6.30**	**20.00**	**126.00**

Order Subtotal:	**GBP 1,223.15**
Total Before Tax:	**GBP 1,223.15**
Total Tax Amount:	**GBP 244.63**
Total Amount:	**GBP 1,467.78**

Miers Construction Products
Telephone : 01480 702 222
E-Mail : sales@miersconstructionproducts.co.uk
VAT Number : 994 1763 75

Website : www.miersconstructionproducts.co.uk
Bank Name : Miers Construction Products
Bank Account Number : 67729002
Sort Code : 60 - 08 - 46

kenny waste management
recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 19/04/2018

Job Number: 810120

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

Drivers Notes

Dave – 07740711043

SIC Code 41202

Order Details

E/R 8 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature

Print Name MJ O'MANNEY

Time On Site 11.15 **Time Off Site** 11.28

Waste Categories	Percentages%		Percentages%
Mixed wood	70	Green waste	
Packaging & polystyrene	10	Furniture/household	
Rigid plastic & films		Metals	10
Non recyclable mixed waste	5	Plasterboard & gypsum products	
Mixed dense material		Canteen/office/adhoc	
Co-mingled fine/granular material		Hazardous waste/haz packaging waste	
Tiles/ceramics & glass	5	WEEE waste	
Carpet/tiles & floor coverings		Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number

CBDU76122

Vehicle Registration

CHAIN LIFT PN57 ASO

Carrier Signature DWARBURTON

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number

EAWML/50155

Receiver Signature

Halving Waste to Landfill wrap

This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.

2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.

CIWM worksafe contractor CHAS Constructionline

kenny waste management

recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 24/04/2018

Job Number: 812217

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

Drivers Notes

Dave – 07740711043

SIC Code 41202

Order Details

E/R 8 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature M Hulme

Print Name M Hulme

Time On Site_____ **Time Off Site**_____

Waste Categories	Percentages%		Percentages%
Mixed wood	20	Green waste	
Packaging & polystyrene	20	Furniture/household	
Rigid plastic & films	10	Metals	10
Non recyclable mixed waste	40	Plasterboard & gypsum products	
Mixed dense material		Canteen/office/adhoc	
Co-mingled fine/granular material		Hazardous waste/haz packaging waste	
Tiles/ceramics & glass		WEEE waste	
Carpet/tiles & floor coverings		Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number

CBDU76122

Vehicle Registration

CHAIN LIFT ABF

Carrier Signature D. Slater

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number

EAWML/50155

Receiver Signature

Halving Waste to Landfill wrap

This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.

2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.

CIWM worksafe contractor CHAS Constructionline

kenny waste management

recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 26/04/2018

Job Number: 813768

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

Drivers Notes

Dave – 07740711043

SIC Code 41202

Order Details

E/R 8 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature

Print Name M S O'Malley

Time On Site_____ **Time Off Site**_____

Waste Categories	Percentages%		Percentages%
Mixed wood	30%	Green waste	
Packaging & polystyrene	5%	Furniture/household	
Rigid plastic & films	5%	Metals	10%
Non recyclable mixed waste	20%	Plasterboard & gypsum products	
Mixed dense material		Canteen/office/adhoc	
Co-mingled fine/granular material	20%	Hazardous waste/haz packaging waste	
Tiles/ceramics & glass		WEEE waste	
Carpet/tiles & floor coverings	10%	Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number

CBDU76122

Vehicle Registration VIST

CHAIN LIFT marley

Carrier Signature

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number

EAWML/50155

Receiver Signature

Halving Waste to Landfill wrap

This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.

2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.

CIWM worksafe contractor CHAS Constructionline

kenny waste management
recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 01/05/2018

Job Number: 816064

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

Drivers Notes

Dave – 07740711043

SIC Code 41202

Order Details

E/R 8 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature

Print Name M S O'MALLEY

Time On Site 3.40 **Time Off Site** 3.50

Waste Categories	**Percentages%**		**Percentages%**
Mixed wood	60	Green waste	
Packaging & polystyrene	10	Furniture/household	
Rigid plastic & films		Metals	
Non recyclable mixed waste	10	Plasterboard & gypsum products	
Mixed dense material		Canteen/office/adhoc	
Co-mingled fine/granular material	20	Hazardous waste/haz packaging waste	
Tiles/ceramics & glass		WEEE waste	
Carpet/tiles & floor coverings		Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number

CBDU76122

Vehicle Registration

LN65VBU

Carrier Signature B OXTOBY

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number

EAWML/50155

Receiver Signature

Halving Waste to Landfill wrap

This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.

2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.

CIWM SMAS worksafe contractor CHAS Constructionline

kenny waste management

recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 03/05/2018

Job Number: 816911

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

Drivers Notes

Dave – 07740711043

SIC Code 41202

Order Details

E/R 8 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature M Hulme

Print Name M HULME

Time On Site 10-05 **Time Off Site** 10-29

Waste Categories	Percentages%		Percentages%
Mixed wood	20%	Green waste	
Packaging & polystyrene		Furniture/household	
Rigid plastic & films	10%	Metals	
Non recyclable mixed waste	15%	Plasterboard & gypsum products	
Mixed dense material		Canteen/office/adhoc	
Co-mingled fine/granular material	10%	Hazardous waste/haz packaging waste	
Tiles/ceramics & glass		WEEE waste	
Carpet/tiles & floor coverings	45%	Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number

CBDU76122

Vehicle Registration PN57 ASO

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number

EAWML/50155

Carrier Signature D WARBURTON

Receiver Signature

Halving Waste to Landfill wrap

This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.

2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.

CIWM Worksafe contractor CHAS Constructionline

kenny waste management

recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 04/05/2018

Job Number: 819593

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

Drivers Notes

Dave – 07740711043

SIC Code 41202

Order Details

E/R 8 (Open)

PO J1462/011

NET VAT GROSS

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature

Print Name MJ O'MAHONEY

Time On Site_____ **Time Off Site**_____

Waste Categories	Percentages%	Waste Categories	Percentages%
Mixed wood	55%	Green waste	
Packaging & polystyrene		Furniture/household	
Rigid plastic & films	10%	Metals	
Non recyclable mixed waste	10%	Plasterboard & gypsum products	
Mixed dense material		Canteen/office/adhoc	
Co-mingled fine/granular material	5%	Hazardous waste/haz packaging waste	
Tiles/ceramics & glass	10%	WEEE waste	
Carpet/tiles & floor coverings	10%	Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number

CBDU76122

Vehicle Registration DOA

CHAIN LIFT

Carrier Signature D. Scanlon

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number

EAWML/50155

Receiver Signature

Halving Waste to Landfill wrap

This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.

2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.

CIWM Safe to work contractor CHAS Constructionline

kenny waste management
recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 08/05/2018

Job Number: 820965

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

Drivers Notes

Dave – 07740711043

SIC Code 41202

Order Details

E/R 8 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature

Print Name MJ O'MALLEY

Time On Site_____ **Time Off Site**_____

Waste Categories

	Percentages%		Percentages%
Mixed wood	20	Green waste	
Packaging & polystyrene	10	Furniture/household	
Rigid plastic & films		Metals	
Non recyclable mixed waste	10	Plasterboard & gypsum products	
Mixed dense material	20	Canteen/office/adhoc	
Co-mingled fine/granular material	10	Hazardous waste/haz packaging waste	
Tiles/ceramics & glass	30	WEEE waste	
Carpet/tiles & floor coverings		Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number

CBDU76122

Vehicle Registration MH65 ONY

CHAIN LIFT

Carrier Signature

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number

EAWML/50155

Receiver Signature

Halving Waste to Landfill wrap

This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.

2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.

CIWM worksafe contractor CHAS Constructionline

kenny waste management
recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 11/05/2018

Job Number: 823047

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

Drivers Notes

Dave – 07740711043

SIC Code 41202

Order Details

E/R 8 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature M Hulme

Print Name M HULME

Time On Site_____ **Time Off Site**_____

Waste Categories	**Percentages%**		**Percentages%**
Mixed wood	10	Green waste	
Packaging & polystyrene	10	Furniture/household	
Rigid plastic & films		Metals	
Non recyclable mixed waste	5	Plasterboard & gypsum products	20
Mixed dense material	20	Canteen/office/adhoc	5
Co-mingled fine/granular material	20	Hazardous waste/haz packaging waste	
Tiles/ceramics & glass	10	WEEE waste	
Carpet/tiles & floor coverings		Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number

CBDU76122

Vehicle Registration

CHAIN LIFT Marley

Carrier Signature

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number

EAWML/50155

Receiver Signature

Halving Waste to Landfill WRAP

This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.

2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.

CIWM SMAS Worksafe Contractor CHAS Constructionline

kenny waste management
recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 16/05/2018

Job Number: 825492

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

Drivers Notes

Dave – 07740711043

SIC Code 41202

Order Details

E/R 8 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature M Hulme

Print Name M Hulme

Time On Site_____ **Time Off Site**_____

Waste Categories	Percentages%		Percentages%
Mixed wood	20%	Green waste	
Packaging & polystyrene		Furniture/household	
Rigid plastic & films	10%	Metals	5%
Non recyclable mixed waste	5%	Plasterboard & gypsum products	
Mixed dense material		Canteen/office/adhoc	
Co-mingled fine/granular material	5%	Hazardous waste/haz packaging waste	
Tiles/ceramics & glass		WEEE waste	
Carpet/tiles & floor coverings		Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number

CBDU76122

Vehicle Registration MH65 DOA

CHAIN LIFT

Carrier Signature D. Szastor

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number

EAWML/50155

Receiver Signature

Halving Waste to Landfill
wrap
This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.
2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.
CIWM worksafe contractor
CHAS Constructionline

kenny waste management
recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 17/05/2018

Job Number: 826420

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

Drivers Notes

Dave – 07740711043

SIC Code 41202

Order Details

E/R 8 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature M Hulme

Print Name M HULME

Time On Site 9.30 **Time Off Site** 9.50

Waste Categories	**Percentages%**		**Percentages%**
Mixed wood	20%	Green waste	
Packaging & polystyrene	5%	Furniture/household	
Rigid plastic & films		Metals	
Non recyclable mixed waste	10%	Plasterboard & gypsum products	
Mixed dense material	50%	Canteen/office/adhoc	
Co-mingled fine/granular material	10%	Hazardous waste/haz packaging waste	
Tiles/ceramics & glass		WEEE waste	
Carpet/tiles & floor coverings	5%	Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number

CBDU76122 YN56 BXV

Vehicle Registration

CHAIN LIFT MARK LEECH

Carrier Signature

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number

EAWML/50155

Receiver Signature

Halving Waste to Landfill wrap

This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.

2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.

CIWM smas worksafe contractor HAS Constructionline

kenny waste management
recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 21/05/2018

Job Number: 828115

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

Drivers Notes

Dave – 07740711043

SIC Code 41202

Order Details

FIN 8 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature

Print Name M GOMARLEY

Time On Site_____ **Time Off Site**_____

Waste Categories	Percentages%		Percentages%
Mixed wood	30%	Green waste	
Packaging & polystyrene	20%	Furniture/household	
Rigid plastic & films	18%	Metals	
Non recyclable mixed waste	33%	Plasterboard & gypsum products	
Mixed dense material		Canteen/office/adhoc	
Co-mingled fine/granular material	5%	Hazardous waste/haz packaging waste	
Tiles/ceramics & glass		WEEE waste	
Carpet/tiles & floor coverings		Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number

CBDU76122

Vehicle Registration MM65 WNY

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number

EAWML/50155

Carrier Signature

Receiver Signature

Halving Waste to Landfill wrap

This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.

2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.

CIWM worksafe contractor HAS Constructionline

kenny waste management
recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 22/05/2018

Job Number: 828178

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

Drivers Notes

Dave – 07740711043

SIC Code 41202

Order Details

NEWSK 8 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature M Hulme

Print Name M HULME

Time On Site_____ **Time Off Site**_____

Waste Categories	**Percentages%**		**Percentages%**
Mixed wood		Green waste	
Packaging & polystyrene		Furniture/household	
Rigid plastic & films		Metals	
Non recyclable mixed waste		Plasterboard & gypsum products	
Mixed dense material		Canteen/office/adhoc	
Co-mingled fine/granular material		Hazardous waste/haz packaging waste	
Tiles/ceramics & glass		WEEE waste	
Carpet/tiles & floor coverings		Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

Waste Receiver Net Weight

EA Registration Number

CBDU76122

Vehicle Registration

CHAIN LIFT VRT marker

EA Registration Number

Carrier Signature

Receiver Signature

Halving Waste to Landfill WRAP

This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.

2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.

CIWM worksafe contractor CHAS Constructionline

kenny waste management

recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 24/05/2018

Job Number: 830168

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

Drivers Notes

Dave – 07740711043

SIC Code 41202

Order Details

E/R 8 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature

Print Name _____

Time On Site_____ **Time Off Site**_____

Waste Categories	**Percentages%**		**Percentages%**
Mixed wood		Green waste	
Packaging & polystyrene		Furniture/household	
Rigid plastic & films		Metals	
Non recyclable mixed waste		Plasterboard & gypsum products	
Mixed dense material		Canteen/office/adhoc	
Co-mingled fine/granular material		Hazardous waste/haz packaging waste	
Tiles/ceramics & glass		WEEE waste	
Carpet/tiles & floor coverings		Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number

CBDU76122

Vehicle Registration

CHAIN LIFT

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number

EAWML/50155

Carrier Signature

Receiver Signature

Halving Waste to Landfill wrap

This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.

2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.

CIWM smas worksafe contractor CHAS Constructionline

kenny waste management
recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 25/05/2018

Job Number: 830625

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester. M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

Drivers Notes

Dave – 07740711043

SIC Code 41202

Order Details

E/R 8 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature

Print Name M S O'MAHONEY

Time On Site_____ **Time Off Site**_____

Waste Categories	**Percentages%**		**Percentages%**
Mixed wood	30%	Green waste	
Packaging & polystyrene	10%	Furniture/household	
Rigid plastic & films	10%	Metals	20%
Non recyclable mixed waste	30%	Plasterboard & gypsum products	
Mixed dense material		Canteen/office/adhoc	
Co-mingled fine/granular material		Hazardous waste/haz packaging waste	
Tiles/ceramics & glass		WEEE waste	
Carpet/tiles & floor coverings		Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number

CBDU76122

Vehicle Registration DOA

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number

EAWML/50155

Carrier Signature D. Szastok

Receiver Signature

Halving Waste to Landfill wrap

This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.

2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.

CIWM Safe worksafe contractor CHAS Constructionline

kenny waste management

recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 25/05/2018

Job Number: 830627

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 ~~8PH~~ 5PS

SIC Code 41202

Grade & EWC

Plasterboard - 17 08 02

Drivers Notes

Dave – 07740711043

Order Details

FIN 4 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature

Print Name NEIL WATKISS

Time On Site_____ **Time Off Site**_____

Waste Categories	**Percentages%**		**Percentages%**
Mixed wood		Green waste	
Packaging & polystyrene		Furniture/household	
Rigid plastic & films		Metals	
Non recyclable mixed waste		Plasterboard & gypsum products	100%
Mixed dense material		Canteen/office/adhoc	
Co-mingled fine/granular material		Hazardous waste/haz packaging waste	
Tiles/ceramics & glass		WEEE waste	
Carpet/tiles & floor coverings		Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number GARY HUGHES
CBDU76122

Vehicle Registration MX 07 VSM

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number
EAWML/50155

Carrier Signature Gary Hughes

Receiver Signature

Halving Waste to Landfill WRAP

This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.

2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.

CIWM worksafe contractor CHAS Constructionline

kenny waste management

recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 29/05/2018

Job Number: 831969

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

Drivers Notes

Dave – 07740711043

SIC Code 41202

Order Details

E/R 8 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Diverted to site No Ticket

Waste Producer Signature

Print Name

Time On Site 1630 **Time Off Site** X

Waste Categories

	Percentages%		Percentages%
Mixed wood	5%	Green waste	
Packaging & polystyrene	5%	Furniture/household	
Rigid plastic & films		Metals	
Non recyclable mixed waste	15%	Plasterboard & gypsum products	
Mixed dense material	50%	Canteen/office/adhoc	
Co-mingled fine/granular material	10%	Hazardous waste/haz packaging waste	
Tiles/ceramics & glass	5%	WEEE waste	
Carpet/tiles & floor coverings	10%	Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number

CBDU76122

Vehicle Registration

MLeech.

Carrier Signature

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number

EAWML/50155

Receiver Signature

Halving Waste to Landfill
wrap
This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.
2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.
CIWM smas worksafe contractor CHAS Constructionline

kenny waste management

recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 31/05/2018

Job Number: 833602

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

Drivers Notes

Dave – 07740711043

SIC Code 41202

Order Details

E/R 8 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature

Print Name MS O'MAHONEY

Time On Site 13.25 **Time Off Site** 13.50

Waste Categories	Percentages%		Percentages%
Mixed wood	20%	Green waste	
Packaging & polystyrene	5%	Furniture/household	
Rigid plastic & films	5%	Metals	
Non recyclable mixed waste	5%	Plasterboard & gypsum products	15%
Mixed dense material	20%	Canteen/office/adhoc	
Co-mingled fine/granular material	20%	Hazardous waste/haz packaging waste	
Tiles/ceramics & glass		WEEE waste	
Carpet/tiles & floor coverings	10%	Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number

CBDU76122

Vehicle Registration

CHAIN LIFT 4WS6 BXV MARK LOCK

Carrier Signature

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number

EAWML/50155

Receiver Signature

Halving Waste to Landfill wrap

This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.

2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.

CIWM SMAS worksafe contractor HAS Constructionline

kenny waste management
recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 04/06/2018

Job Number: 834090

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

Drivers Notes

Dave – 07740711043

SIC Code 41202

Order Details

E/R 8 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature

Print Name MR O'MANNEY

Time On Site_____ **Time Off Site**_____

Waste Categories	**Percentages%**		**Percentages%**
Mixed wood	65%	Green waste	
Packaging & polystyrene	5%	Furniture/household	
Rigid plastic & films	5%	Metals	
Non recyclable mixed waste	10%	Plasterboard & gypsum products	
Mixed dense material		Canteen/office/adhoc	
Co-mingled fine/granular material		Hazardous waste/haz packaging waste	
Tiles/ceramics & glass		WEEE waste	
Carpet/tiles & floor coverings	15%	Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number
CBDU76122

Vehicle Registration DOA
CHAIN LIFT

Carrier Signature D. Slater

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number
EAWML/50155

Receiver Signature

Halving Waste to Landfill wrap

This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.

2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.

CIWM worksafe status contractor CHAS Constructionline

kenny waste management
recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 05/06/2018

Job Number: 837790

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

Drivers Notes

Dave – 07740711043

SIC Code 41202

Order Details

E/R 8 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature

Print Name

Time On Site_____ **Time Off Site**_____

Waste Categories	**Percentages%**		**Percentages%**
Mixed wood	20%	Green waste	
Packaging & polystyrene	5%	Furniture/household	
Rigid plastic & films		Metals	
Non recyclable mixed waste	10%	Plasterboard & gypsum products	
Mixed dense material	5%	Canteen/office/adhoc	
Co-mingled fine/granular material	10%	Hazardous waste/haz packaging waste	
Tiles/ceramics & glass		WEEE waste	
Carpet/tiles & floor coverings	30%	Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number

CBDU76122

Vehicle Registration DOA

CHAIN LIFT

Carrier Signature D. Graston

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number

EAWML/50155

Receiver Signature

Halving Waste to Landfill wrap

This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.

2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.

CIWM worksafe contractor CHAS Constructionline

kenny waste management
recover > divert from landfill > recycle

Kenny Waste Management Ltd
Worsley Trading Estate
Lester Road
Manchester M38 0PT
Office Tel: 0161 790 3737
Transport Tel: 0161 703 8592 / Fax: 0161 799 4292

Date: 12/06/2018

Job Number: 841113

Waste Producer/Customer

COLBRE PROJECTS LTD

(J1462/011), The Barrel Yard, 46 Moss Lane West, Manchester, M15 5PH

Grade & EWC

Mixed Construction & Demolition Waste - 17 09 04

SIC Code 41202

Drivers Notes

Dave – 07740711043

Order Details

FIN 8 (Open)

PO J1462/011

NET **VAT** **GROSS**

I confirm that the company producing the waste has applied the waste hierarchy in priority order - (a) prevention; (b) preparing for re use; (c) recycling; (d) other recovery (e.g. energy recovery, waste reclamation); (e) disposal.

Waste Producer Signature

Print Name

Time On Site_____ **Time Off Site**_____

Waste Categories	**Percentages%**		**Percentages%**
Mixed wood	20	Green waste	
Packaging & polystyrene	10	Furniture/household	
Rigid plastic & films	10	Metals	
Non recyclable mixed waste	10	Plasterboard & gypsum products	5
Mixed dense material	30	Canteen/office/adhoc	5
Co-mingled fine/granular material	10	Hazardous waste/haz packaging waste	
Tiles/ceramics & glass		WEEE waste	
Carpet/tiles & floor coverings		Non compliant waste	

Waste Carrier

KENNY WASTE MANAGEMENT LTD

EA Registration Number

CBDU76122

Vehicle Registration

Waste Receiver Net Weight

KENNY WASTE MANAGEMENT LTD

Worsley Trading Estate, Lester Road, Little Hulton, M38 0PT

EA Registration Number

EAWML/50155

Carrier Signature

Receiver Signature

Halving Waste to Landfill wrap

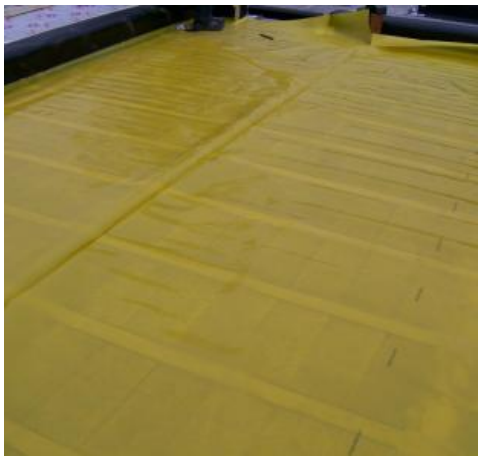
This is a legal Duty of Care Note for the removal of non-hazardous waste which should legally be retained for 2 years. Before you use the skip please see on the reverse what you can and cannot place in the skip. If you are unsure or need further advice contact 0161 703 8592. It is illegal to mix hazardous waste as defined in the Hazardous Waste (England & Wales) Regulations Oct 2005 and within the Waste Pre-Treatment requirements of the EC Landfill Directive, Environmental Protection Act 1990.
2yd, 4yd and 8yd - Level Load Only. Roll On Roll Offs - Legal Road Limit applies (16 tons). Full terms & conditions on the reverse.

CIWM smas worksafe contractor HAS Constructionline

Low Permeability Gas Membrane

CE Mark to EN 13967:2012







- **Approved for use in NHBC Amber 1**
- **High quality robust co-polymer thermoplastic membrane**
- **Supplied in centre folded sheeting which reduces the risk of cracks in screed**
- **A high performance radon membrane**
- **BBA Certificate 13/5069 and CE Mark 13967:2012**

Description

Visqueen Low Permeability Gas Membrane is a robust co-polymer thermoplastic membrane approved for use in NHBC Amber 1 and radon applications. For ease of identification on site the membrane is coloured yellow. The membrane is flexible, easy to install and supplied in a 4m x 12.5m roll.

The membrane is manufactured as a centre folded product to limit creases which aids jointing and welding applications on site. Centre Folded films can also help to reduce cracks found in structural concrete screeds where traditional multi-folded DPMs are used.

Applications

Visqueen Low Permeability Gas Membrane offers a safe solution for the protection of buildings and occupiers against, damp radon and on NHBC amber 1 site conditions. NHBC Technical Extra Document 20 contains further information on their traffic light application criteria and is available on this link.

BS8485:2015

Visqueen Low Permeability Gas Membrane does NOT meet the criteria of BS8485:2015 and should only be used on the above applications. To ensure correct specification Visqueen's new Gas Protection guide is an easy to use tool and contains a product selector - page 9 - and a gas membrane criteria check sheet on page 6.

Please click here to download Visqueen's Ultimate Gas Protection Guide.

Also, the product is not intended for use where there is risk of hydrostatic pressure.

System components

- Visqueen Double Sided Jointing Tape
- Visqueen Gas Resistant (GR) Foil Tape
- Visqueen Top Hat Units
- Visqueen TreadGUARD1500
- Visqueen Detailing Strip

.

.

.

.

.

.

Heanor Gate | Heanor | Derbyshire DE75 7RG
Email: enquiries@visqueenbuilding.co.uk
Tel: +44 (0) 333 202 6800 | Web: www.visqueenbuilding.co.uk

.

Installation
Visqueen Low Permeability Gas Membrane and ancillary components must be installed in accordance with the recommendations of Building Research Establishment BRE 414 “Protective measures for housing on gas contaminated land”, NHBC guidelines and the Chartered Institute of Environmental Health Ground Gas Handbook.

The membrane should be installed on a smooth grouted surface allowing adequate overlap for jointing between the sheets. To avoid slip or shear planes and high compressive loadings it is not recommended to take the membrane through the wall. In order to provide a continuous barrier across the cavity Visqueen Zedex CPT DPC should be taken through the blockwork and incorporated below the damp proof course cavity tray in the outer leaf.

Laps can be joined together by either using the Visqueen Gas Barrier jointing system or welded by our specialist on-site contractors.

Radon areas
The membrane can be used as a robust solution under concrete slabs on a top of a smooth blinding layer.

Jointing and Sealing
Visqueen Low Permeability Gas Membrane should be overlapped by at least 150mm and bonded with Visqueen Double Sided Tape. The joint should then be secured with Visqueen Gas Resistant (GR) Foil Jointing Tape. Ensure that the membrane is clean and dry at the time of jointing. Airtight seals should be formed around all service entry points. Visqueen Pre-formed Top Hat Units must be used for sealing service entry pipes. The base of the top hat should be sealed using Visqueen Double Sided Tape and Visqueen GR Foil Jointing Tape should be used to secure the joint.

NB. In demanding site conditions use Visqueen Gas Lap Tape as a high performance alternative to Visqueen GR Foil Jointing Tape.

Storage and Handling
The membrane should be stored under cover in a dry environment. The material is not recommended for applications where it will be exposed to long periods of outdoor weathering as exposure to ultraviolet light will embrittle the product. Weathering will not occur when the membrane is installed in accordance with CP 102:1973. Care should be taken to avoid accidental damage when handling the membrane on site. When the weather is cold all jointing tapes should be kept in a warm and dry place until needed. Installation is not recommended below 5°C

Technical Data and CE Mark

Visqueen Low Permeability Gas Membrane complies with the requirements and clauses of EN 13967 - Flexible sheets for waterproofing - Plastic and rubber damp proof sheets including plastic rubber basement tanking sheet - Definitions and characteristics.

British Board of Agrement performed initial inspection of the manufacturing plant and of factory production control and continuous surveillance, assessment and evaluation of factory production control, and issued certificate of constancy of conformity of factory production control. 0836–CPD – 13/F029 applies.

DATASHEET

Technical Support: 0333 202 6800
LAST UPDATED: 09.11.2017

VISQUEEN LOW PERMEABILITY GAS MEMBRANE

Low Permeability Gas Membrane

CE Mark to EN 13967:2012

Product Data

Product Data

heading	Characteristic	Test method	Units	Compliance criteria	Value or Statement
	Visible defects	EN 1850 -2	-	Pass/Fail	Pass
	Length	EN 1848-2	m	-0%/+10%	12.5
	Width	EN 1848-2	m	-2.5%/+2.5%	4
	Straightness	EN 1848-2	-	Pass/Fail	Pass
	Thickness	EN 1849-2	mm	-12.5%/+12.5%	0.5
	Mass	EN 1849-2		-12.5%/+12.5%	460
	Tensile Strength - MD	EN EN12311		>MLV	20
	Tensile Strength - CD	EN EN12311		>MLV	20
	Tensile Elongation - MD	EN EN12311	%	>MLV	675
	Tensile Elongation - CD	EN EN12311	%	>MLV	665
	Joint Strength	EN12317-2	N	>MLV	298
	Watertightness 2kPa	EN 1928	-	Pass/Fail	Pass
	Resistance to impact	EN 12691	mm	>MLV	250
	Durability (artificial ageing)	EN 1296 and EN 1928	-	Pass/Fail	Pass
	Durability Chemical Resistance	EN 1847	-	Pass/Fail	Pass
	Resistance to tearing (nail shank) CD	EN 12310-1	N	MDV	333
	Resistance to tearing (nail shank) MD	EN 12310-1	N	MDV	335
	Resistance to static loading	EN 12730	Kg	>MLV	Pass-20kgs
	Water vapour transmission - resistance	EN 1931	MNs/g	MDV	2100
	Water vapour transmission - permeability	EN 1931		MDV	0.08
	Radon Permeability	SP Test Method		MDV	5.477x10-12
	Radon Transmittance	SP Test Method	m/s	MDV	5.477x10-12
	Carbon Dioxide Permeability	IS0 2782	m/s/Pa	MDV	2.8x10-17
	Methane Permeability	IS0 2782	m/s/Pa	MDV	1.13x10-17
	Reaction to Fire	EN 13501-1	Class	MDV	F

Heanor Gate | Heanor | Derbyshire DE75 7RG
Email: enquiries@visqueenbuilding.co.uk
Tel: +44 (0) 333 202 6800 | Web: www.visqueenbuilding.co.uk

DATASHEET

Technical Support: 0333 202 6800
LAST UPDATED: 09.11.2017

VISQUEEN LOW PERMEABILITY GAS MEMBRANE

Low Permeability Gas Membrane

CE Mark to EN 13967:2012

Appendix A

Visqueen Building Products
Visqueen is the market leader in the manufacture and supply of structural waterproofing and gas protection systems. Visqueen offers the complete package - a proven, reliable range backed by a technical support service that goes unmatched in the market - everything you would expect from a reputable and ethical company.

System Accessories
To ensure full waterproofing protection please use the following certified system components:

- Visqueen High Performance (HP) Tanking Primer
- Visqueen TreadGUARD1500
- Visqueen Protect&Drain
- Visqueen Top Hat Unit

Downloads Library
- Technical Datasheet
- Declaration of Performance
- Visqueen's Guide to CE Marking

Find your local stockist
Search our directory of Visqueen specification Stocking Centres to locate your nearest Visqueen Partner.

Distributor Support
Our specification Stocking Centres can access a free library of sales support tools, bespoke catalogues and more, click here.

Technical support throughout your project
We are specialists in our field and can help you specify the correct solutions with the necessary performance levels, in accordance with building regulations.

- Nationwide site support team
- Specification advice
- Installation guidance & project sign off
- System design including CAD details

Heanor Gate | Heanor | Derbyshire DE75 7RG
Email: enquiries@visqueenbuilding.co.uk
Tel: +44 (0) 333 202 6800 | Web: www.visqueenbuilding.co.uk