Land Contamination Assessment

of

St Giles Circus
(Southern side of Denmark Street)

for

Consolidated Developments

LBH4059b Ver. 1.1

October 2017

LBH WEMBLEY

ENGINEERING

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Contents

Foreword-Guidance Notes

GENERAL

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The observations and conclusions described in this report are based solely upon the agreed scope of work. LBH Wembley Engineering has not performed any observations, investigations, studies or testing not specifically set out in the agreed scope of work and cannot accept any liability for the existence of any condition, the discovery of which would require performance of services beyond the agreed scope of work.

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THIRD PARTY INFORMATION

The report may present an opinion based upon information received from third parties. However, no liability can be accepted for any inaccuracies or omissions in that information.

1. Introduction

1.1 Background

It is proposed to redevelop properties at St Giles Circus comprising Denmark Place, Denmark Street, Flitcroft Street, Charing Cross Road, St Giles High Street and Andrew Borde Street.

The proposed redevelopment includes three new buildings and refurbishment and conversion of existing buildings comprising retail, office, food and drink, hotel, leisure and residential uses, open space and related ancillary activities and works. Part of which will include a large basement, with mezzanine level extending to approximately 15m below ground level.

Planning approval was granted for this development by London Borough of Camden Council on 31st March 2015 under reference 2012/6858/P subject to the following contaminated land conditions:

Condition 3 *- At least 28 days before the development hereby permitted commences a written detailed scheme of assessment consisting of site reconnaissance, conceptual model, risk assessment and proposed schedule of investigation must be submitted to the planning authority. The scheme of assessment must be sufficient to assess the scale and nature of potential contamination risks on the site and shall include details of the number of sample points, the sampling methodology and the type and quantity of analyses proposed. The scheme of assessment must be approved by the LPA and the documentation submitted must comply with the standards of the Environment Agency's Model Procedures for the Management of Contamination (CLR11).*

Condition 4 *- Before development commences, a site investigation shall be undertaken in accordance with the approved scheme of assessment and the written results provided to the planning authority for their approval. Laboratory results must be provided as numeric values in a formatted electronic spread sheet. Before development commences a remediation scheme shall be agreed in writing with the planning authority and the scheme as approved shall be implemented before any part of the development hereby permitted is occupied.*

Condition 5 *- Additional significant contamination discovered during development shall be fully assessed and any necessary modifications made to the remediation scheme shall be submitted to the Local Planning Authority for written approval. Before any part of the development hereby permitted is occupied the developer shall provide written confirmation that all works were completed in accordance with the revised remediation scheme.*

A Scheme of Assessment was issued in March 2015 to address Condition 3, which was subsequently discharged in September 2015.

A Land Contamination Assessment was submitted in May 2015 for the northern side of Denmark Street only. Condition 4 was in part, subsequently discharged in September 2015.

Agreement was obtained from the planning authority to discharge the above conditions on an area by area basis in a phased manner, and that a Land Contamination Assessment covering the southern side of Denmark Street would be completed in due course in order to fully discharge Condition 4.

Site plan showing the site areas north and south of Denmark Street

1.2 Brief

LBH WEMBLEY have been appointed to prepare a new Land Contamination Assessment of the southern side of Denmark Street, in order to discharge the outstanding parts to Condition 4.

1.3 Report Structure

This report initially describes the findings of desk study searches and site reconnaissance, following which, the findings of the investigations are reported. Finally a land contamination risk assessment is presented together with a remediation scheme for the mitigation of the identified land contamination risks that could potentially affect the development.

1.4 Previous Reports

The information contained within the following previous reports has been taken into account:

2017 Sept	Site Investigation Report by Concept	(Ref: 17/3014 – FR 00)
2015 May	Land Contamination Assessment of St Giles Circus (Initial Phase – Northern side of Denmark Street) by LBH WEMBLEY Geotechnical & Environmental	(Ref: LBH4059 Ver1.3)

2015 May	Scheme of Assessment of Land Contamination	
	by LBH WEMBLEY Geotechnical & Environmental	(Ref: LBH4059 Ver1.3)
2015 Feb	Site Investigation Report of St Giles Circus	
	by Concept	(Ref 14/2669 FR 01)
2012 Dec	Ground Investigation of 4 Flitcroft Street	
	by GEA	(Ref: J12236)
2012 Oct	Land Contamination Environmental Statement Chapter 16	
	by LBH WEMBLEY Geotechnical & Environmental	(Ref LBH4059)
2012 March	EIA Scoping	
	by Buro Happold	(Ref: 028676)
2008 June	Ground Investigation of Denmark Place	
	by STATS	(Ref: 36237-001)

2. The Site

2.1 Site Location

The site is located across several properties north and south of Denmark Street and may be located by National Grid Reference 529880, 181290.

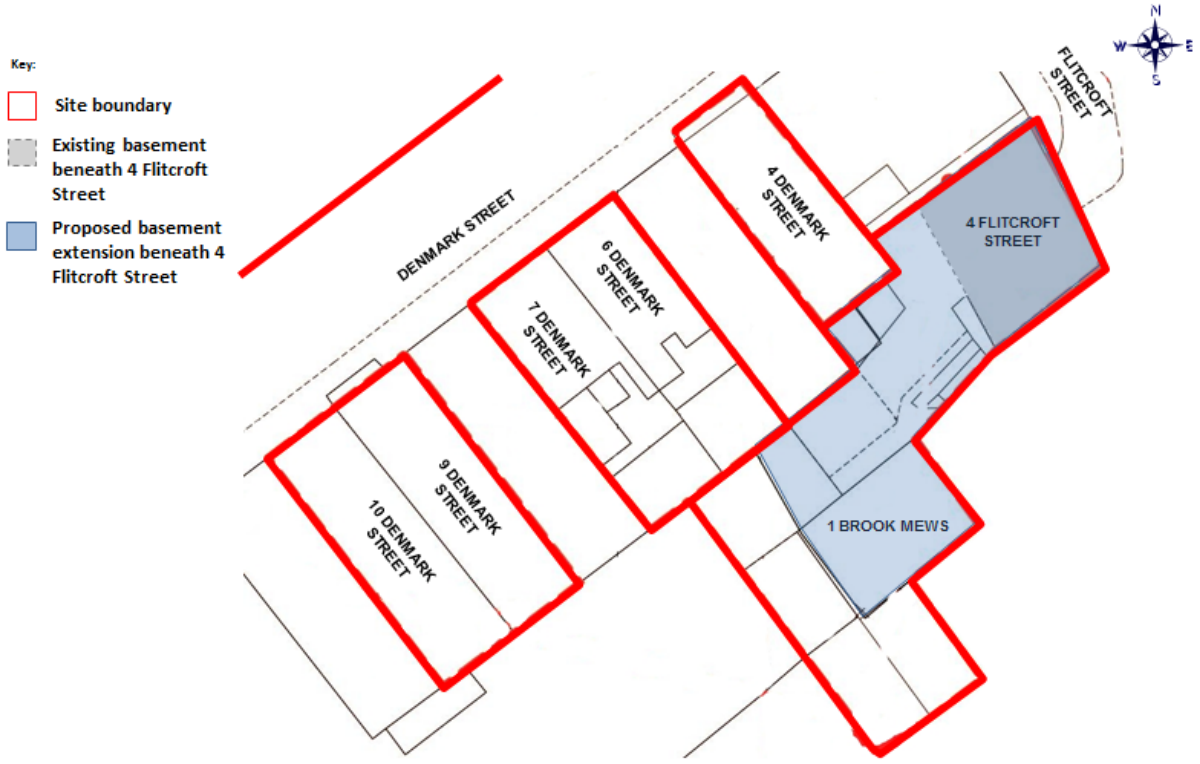
2.2 Topographical Setting

The site falls steadily south from Denmark Street, lying at approximately +25m above Ordnance Datum (OD), to approximately +23.5m OD at the junction of Flitcroft Street and Stacey Street.

2.3 Site Description

The site is situated in the densely urbanised area of St Giles Circus, within the London Borough of Camden. The site comprises various properties to the north and south of Denmark Street.

For the purpose of this assessment, only the South of Denmark Street will be addressed.



Site plan showing the southern side of Denmark Street

South of Denmark Street

This area is currently occupied by four to five storey Victorian buildings, currently comprising a mix of uses including offices, retail, bars/public houses, restaurants and residences.

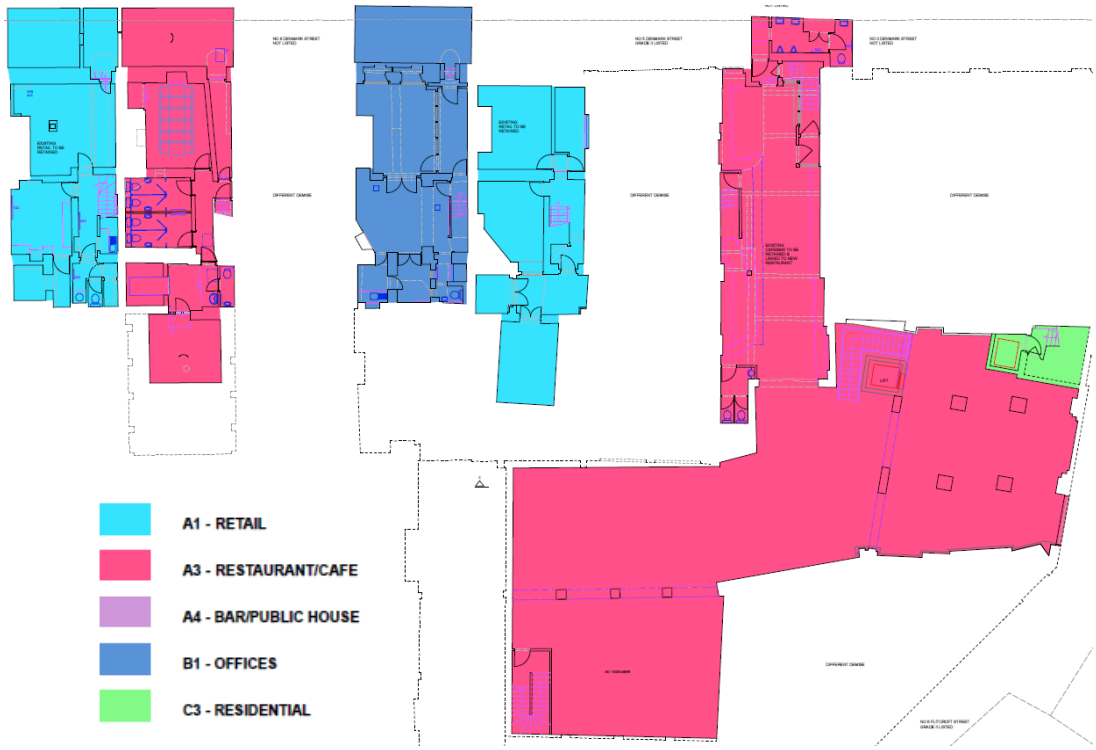
The properties in this area front on to Denmark Street to the north and Flitcroft Street to the east. The site is covered entirely in hard-surfacing.

Between 4 Flitcroft Street and 1 Brook Mews is a street level courtyard aligned with the ground floor of 1 Brook Mews, steps are currently present on the southeast side of the courtyard leading up to the elevated ground floor of 4 Flitcroft Street.

Several of the buildings are listed or are of cultural significance (list of current and historical usage of properties are appended to this report).

Nos. 4, 6-7 and 9-10 Denmark each have a single level basement, while 4 Flitcroft Street also has a single level basement, albeit only beneath the building footprint.

2.4 Proposed Development



Site plan showing the proposed basement floor plans on the southern side of Denmark Street

The proposed development for the southern side of Denmark Street includes the following:

No. 4 Flitcroft Street

The existing basement is set at approximately +23.1m OD and will be deepened to approximately +20m OD and laterally extended to occupy the footprint beneath No. 4 Flitcroft Street, the southwest adjoining courtyard and No. 1 Brook Mews.

As the external ground level at the courtyard and the ground floor level at No. 1 Brook Mews are set at approximately +24.5m OD and +24m OD respectively, the depth of excavation will vary between 3m and 4.5m.

The ground floor level will be reduced from approximately +26.2m OD to approximately +24.5m OD to align with the street level, where the basement and ground floor will be occupied by a restaurant and the upper floors occupied by residential space.

No. 4 Denmark Street

The basement and ground floor of No. 4 Denmark Street will remain in restaurant and retail use respectively, while the first floor and above will be occupied by flats. The existing roof access stairwell will be demolished in order to construct a new storey to create a fifth floor.

Nos. 6 & 7 Denmark Street

The basements to Nos. 6 & 7 Demark Street will remain in retail and office use respectively, and the ground floors remain as a retail space and public house respectively. The first floors and above will be occupied by flats, where new access is proposed to the rear courtyards of the properties.

Nos. 9 & 10 Denmark Street

The basements and ground floors of Nos. 9 & 10 Demark Street will remain in restaurant and retail use respectively, while first floors and above will be occupied by flats. There will be extensions to each property to increase the footprints of the third floor flats.

3. Desk Study

3.1 Site History

It would appear that St Giles developed as a village set in fields to the west of the City walls, centred upon a religious establishment that was destroyed in the Dissolution. Although there are some 18th and 19th Century properties, Denmark Street is understood to be one of the few roads in London to retain some 17th Century terraced facades on both sides and thus several of the buildings are Grade ll listed.

By the late 17th Century, residential development started to occur at Denmark Street which was built around the 1680s. The existing St Giles church adjacent to the site was also built in the early 18th Century.

By the 19th Century, many and varied trades were carried out within and adjacent to the site. Music publishers appear to have first set up businesses around Denmark Street from the late 19th Century and are still widely in use around Denmark Street.

The development of Centre Point in the mid-20th Century led to the demolition of the buildings immediately to the north of Denmark Street and the reconfiguration of the surrounding road system. The site remained largely unchanged until the demolition of 138-148 Charing Cross Road due to Crossrail / Tottenham Court Road station construction works. Other buildings on the site are still in use as restaurants, offices or shops.

A site reconnaissance visit was undertaken on the 24.08.17. Subsequently, a detailed summary of current and historical details associated with the properties on and immediately adjacent to the site is appended to this report.

3.2 Geological Information

British Geological Survey (BGS) records of the area suggest that beneath any made ground, the site is underlain by the Lynch Hill Gravel Member, which comprises sand and gravel. These superficial deposits are anticipated to overlie the London Clay Formation. At depth, the London Clay Formation appears to overlie in descending order; Lambeth Group, Thanet Sand Formation and the White Chalk Subgroup.

3.3 Hydrogeological / Hydrological Information

The site lies midway between the now-culverted Tyburn and the Fleet watercourses that both flow south-eastwards to meet the River Thames some 900m to the southeast of Denmark Street.

The Environment Agency (EA) classifies the Lynch Hill Gravel Member as a ‘Secondary A Aquifer’, while the underlying London Clay Formation is recognised as ‘Unproductive Strata’.

Previous investigations have recorded a high-level groundwater table at the base of the Lynch Hill Gravel Member, at approximately +20m OD. The 2008 investigation noted a maximum groundwater level of +20.4m OD to the north of Denmark Street. Subsequently, the 2012 investigation recorded a groundwater level of approximately +20.2m OD to the South of Denmark Street, consistent with a groundwater flow from north to south.

It should be noted that one borehole during the 2012 investigation encountered groundwater within the made ground at approximately +24.45m OD.

The site is not located within a Groundwater Source Protection Zone.

The site is not located within a groundwater abstraction source protection zone, but there are ten or more registered abstractions within 1km of the site, all apparently from the White Chalk Subgroup. There are four discharge consents also within 1km of the site.

The site does not lie in an area identified by the EA as being liable to flooding from rivers or the sea.

3.4 Other Environmental Information

The searches have indicated that there is one Historical Landfill Site and one Registered Waste Treatment or Disposal Site within approximately 750m of the site.

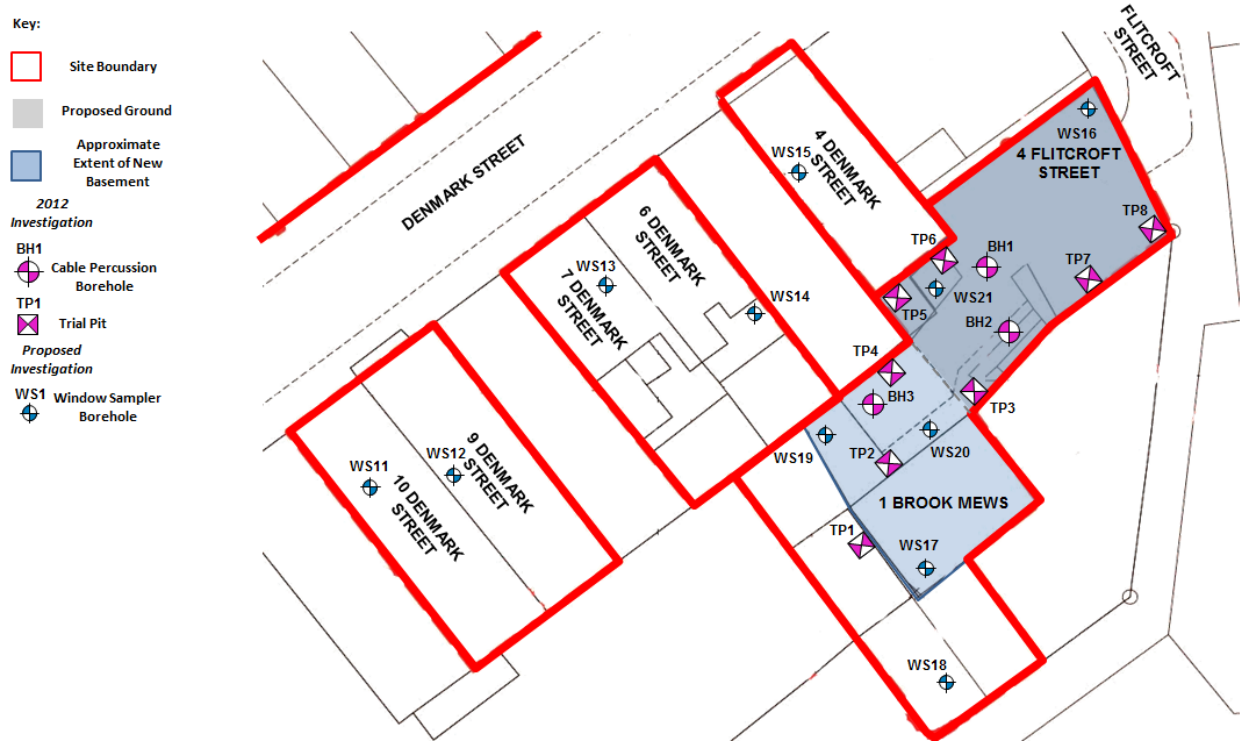
The site has not been the subject of any Local Authority Pollution Prevention / Control permits and two are present within 150m of the site.

Information provided by the British Geological Survey (BGS) and National Geoscience Information Service, indicates that the site is located in a 'lower probability radon area', as less than 1% of homes are above the 'action level'. It is understood that under current government policy, no radon protection measures are required for new dwellings or extensions in these circumstances.

4. Site Investigation

There was a ground investigation undertaken in the area to the south of Denmark Street in 2012 (Ground Investigation Report by GEA - ref: J12236). This included cable percussion boreholes and window sampler boreholes to assess the ground conditions and hand-dug trial pits to investigate the foundations to the perimeter walls.

The scope of additional geoenvironmental required was agreed with Camden Council as shown in the site plan below.



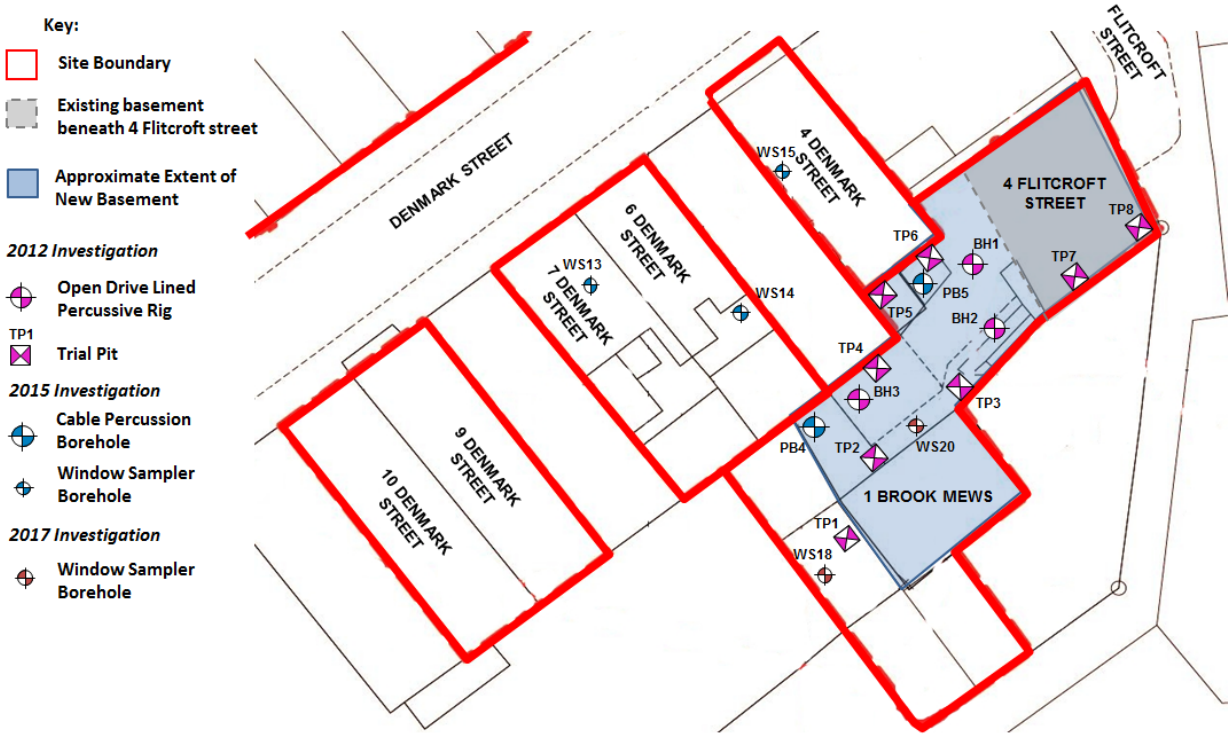
Site plan showing exploratory positions as outlined in the scheme of assessment.

It should be noted that due to access constraints the following widow sampler boreholes have not been completed:

- WS11
- WS12
- WS16
- WS17
- WS19
- WS21

It should be further noted that WS18 was relocated to avoid an existing basement that lies outside of the site.

The exploratory logs together with chemical laboratory test results are appended. A plan of the exploratory positions undertaken to date is shown below.



Site plan showing exploratory positions undertaken as part of the investigation.

4.1 Ground Conditions

The ground investigations have confirmed that beneath a variable thickness of made ground, river terrace deposits are present, which are in turn underlain by the London Clay Formation.

4.1.1 Made Ground

There generally appears be less than 1m of made ground (approx. between +21m OD and +22m OD) present beneath the existing basements to the properties that front onto Denmark Street. The material generally comprises dirty brown clayey sandy flint gravel with extraneous fragments of brick and concrete.

However, up to around 4.5m of made ground (approx. +19.5m OD) appears to be present beneath No. 4 Flitcroft Street and No. 1 Brook Mews, which consists of dirty brown clayey sandy brick fill with extraneous fragments including ash, concrete, clinker, charcoal, plastic and tiles. This material likely corresponds to demolition material from former buildings.

Approximately 0.40m section of the core between 1.2m and 2.0m depth from WS18.

4.1.2 River Terrace Deposits

River terrace deposits lie directly beneath the made ground and appear to typically comprise medium dense orange-brown sand and gravel with some interbedded seams of sand and/or silt.

Approximately 0.35m section of the core between 4.0m-5.0m depth from WS20.

4.1.3 London Clay Formation

The upper surface of the London Clay Formation appears to be present at between approximately +18m OD and +19m OD. The material comprises typical firm becoming stiff grey silty fissured clay, weathered to a brown colouration in the uppermost levels.

The London Clay Formation is proven to a depth of 30m within this investigation.

Approximately 0.3m section of the core between 5.0m-6.0m depth from WS20.

4.2 Groundwater

A groundwater table is presently lying within the lower levels of the river terrace deposits, at approximately +19.5m OD to +20m OD.

5. Land Contamination Risk Assessment

5.1 Hazard Identification

The site and its immediate surroundings have had a history of potentially contaminative usage by virtue of their industrial past.

5.2 Potential Sources of Contamination

Following the findings of the desk study searches and site reconnaissance visits, it is apparent that due to the variety of industrial usages on site, there are potentially a wide range of contaminants associated with this site. The potential contaminative historical businesses identified at the site have been identified:

South of Denmark Street

The manufacture of:

- Iron Bedstead
- Tin Boxes

Metal working including:

- Silver Smithing
- Brass Chasing

Other potentially contaminative uses including:

- Printing Works
- Photo Laboratories
- Film Laboratories
- Ironmongery

A detailed summary relating the historic potentially contaminative usages to individual properties on and immediately adjacent to the site is appended to this report.

The Department of Environment (DoE) have published Industry Profiles providing information on the processes; materials and wastes associated with different industries and the following profiles are considered to be relevant to this site:

- Engineering works: Electrical and electronic equipment manufacturing works including works manufacturing equipment containing PCBs
- Metal manufacturing: Refining and finishing works: electroplating and other metal finishing works
- Metal manufacturing: Refining and finishing works: non-ferrous metals (excluding lead works)
- Miscellaneous Industries: Photographic processing industry
- Miscellaneous Industries: Printing and bookbinding works
- Timber products manufacturing works

In order to access the underlying soils the following testing has been undertaken, in accordance with the LBH Wembley Scheme of Assessment submitted to Camden Borough Council:

Soil Testing

- Alcontrol Soils Midi suite (As, Cd, Cr, Hex. Cr, Cu, Ni, Zn, Pb, Hg, Se, B, Sn, Be, Al, Mg, Total and Free Cyanide, thiocyanate, S, SO4, sulphide, pH, phenol)
- Poly-cyclic Aromatic Hydrocarbons [PAH] Speciation (EPA16 by GC-FID)
- Total Petroleum Hydrocarbons [TPH] Criteria Working Group [CWG] full speciation by GC-FID (including Aliphatics / Aromatics split, BTEX, MTBE, RBCA banding)
- Asbestos 'Screening' (including identification if anything found)
- Waste Acceptance Criteria Testing

Groundwater Testing

- Water "Midi" suite (As, Cd, Cr, Hex. Cr, Cu, Ni, Zn, Pb, Hg, Se, B, Cyanide, SO4, S, pH, phenol)
- Poly-cyclic Aromatic Hydrocarbons [PAH] Speciation (EPA16 by GC-FID)
- Total Petroleum Hydrocarbons [TPH] Criteria Working Group [CWG] full speciation by GC-FID (including Aliphatics / Aromatics split, BTEX, MTBE, RBCA banding)
- VOC by headspace GC-MS list includes BTEX + MTBE + TICs on 10 Prominent peaks
- SVOC by GC-MS list includes PAHs + Phenols + TICs on 10 Prominent peaks
- Poly-Chlorinated Biphenyl (PCB) detection

5.3 Actual Contamination Encountered

The actual contamination that has been identified is as follows:

5.3.1 Soil

The investigations found evidence of ash, clinker and charcoal within the made ground.

A total of sixteen samples of the made ground and underlying river terrace deposits have been analysed for contaminants and screened for asbestos fibres.

The contamination test results from have been compared to C4SL screening levels where these are available, and otherwise to "suitable for use" screening concentrations produced by Land Quality Management Limited (LQM) and the Chartered Institute of Environmental Health (CIEH, LQM/CIEH S4ULs for Human Health Risk Assessment 2015), and Environment Agency (EA) Soil Guideline Values (SGVs). The results have also been compared to a Human Health Risk Site Usage Class of Commercial / Industrial.

The measured concentrations of contaminants are not considered to be a cause of concern. The asbestos screening did not detect any fibres to be present within the samples examined.

5.3.2 Groundwater

Groundwater test results have been compared to Environment Agency Environmental Quality Standards (EQS) for Fresh Water figures and where EQS figures are not available, to Drinking Water Standards (DWS).

As part of the 2015 investigation, two groundwater samples beneath were collected from the groundwater table within the river terrace deposits beneath No. 4 Flitcroft Street and were not found to contain any contaminants that are considered to be a cause for concern.

5.3.3 Soil Gas

A soil gas investigation was undertaken in 2008 on the northern side of Denmark Street, which comprised four rounds of gas monitoring. The gas monitoring did not record any significant flows of harmful gas, suggesting a Gas Characteristic Situation 1.

There are no recorded landfills within the vicinity and landfill gas migration has been discounted as a potential issue at this site.

No volatiles have been measured in the groundwater and the borehole records for PBH4 and PBH5 of the 2015 investigation indicate that site screening for Volatile Organic Compounds (VOCs) was undertaken without any encounter >1ppm. The likelihood of any undetected soil vapour source being present is assessed as very low.

5.4 Sensitive Receptors

A number of potential sensitive receptors can be identified for proposed development and include:

- Construction and ground workers
- General public
- End-users
- Buried services / foundations
- Controlled groundwater

5.5 Potential Pathways

A direct pathway to any near-surface soil contamination would be present for construction workers when the soils are exposed during excavation.

The redevelopment will involve 100% hard-surfacing with no soft landscaping, which will break any potential direct pollutant linkage to end users.

High-level groundwater within the gravel aquifer could potentially be affected by the percolation of any liquid contamination and the leaching of the more mobile constituents of any soil contamination, and by the migration of groundwater contamination from adjacent sites.

Buried services and foundations could be potentially directly affected by the presence of contaminated soils.

5.6 Conceptual Model

A conceptual model of the envisaged possible contamination has been developed in the form of a source-pathway-receptor pollutant linkage concept.

A pollution linkage requires there to be a source of contamination, a sensitive target that can be adversely affected by the contamination and a pathway via which contamination can reach the target.

5.7 Risk Estimation

In order to evaluate the perceived contamination risks at this site the severity of the risk in terms of the magnitude of the potential consequence of the linkage occurring has been compared with the likelihood of the linkage existing.

The likelihood and consequence of a problem involving each particular pollutant linkage has been attributed a risk rating as shown in the table below:

RATING	1	2	3	4	5
LIKELIHOOD	Very unlikely	Unlikely	Evens	Probable	Highly probable
CONSEQUENCE	Negligible	Minor minor injury / minimum cost / minor health risk	Mild / Medium chronic health risk / risk of injury / appreciable costs to meet regulatory standards		Severe Death / major injury / explosion / maximum cost

On the basis of this qualitative rating system the various potential pollutant linkages have been attributed a risk ranking on the basis of the value of the product of the likelihood and consequence ratings, where a value of less than five is low, between five and ten is medium and above ten is high. Tables estimating the risk associated with the envisaged possible pollutant linkages for the site, with regard to the proposed end use, are presented below.

SOURCE	RECEPTOR	PATHWAY	LIKELIHOOD	CONSEQUENCE	RISK RANKING
Possible undetected contamination within the near-surface soils	Construction workers and general public	Oral ingestion of soil or dust, skin contact or inhalation where soil is exposed during groundworks	2	3	6 (MEDIUM)
	High-level groundwater	Leaching and migration of mobile contamination	1	3	3 (LOW)
	Buried services	Direct contact	2	2	4 (LOW)
	Foundation Concrete	Direct contact	2	2	4 (LOW)
Possible undetected harmful gas or vapours beneath the site	End users	Inhalation of vapours	1	3	3 (LOW)
	Buildings	Migration of gases into buildings	1	3	3 (LOW)

5.8 Risk Evaluation

There are inevitable residual uncertainties associated with the above assessment. However, it can be said that normally only pollutant linkages that have been assessed as being of a medium or high risk ranking require some degree of further investigation and assessment. The following section sets out a proposed remediation scheme to deal with these potential pollutant linkages of concern.

6. Remediation Scheme

The investigation has not found any unacceptably elevated concentrations of contamination within the soils beneath the site.

The proposed development to the south of Denmark Street primarily relates to the change of use of the buildings in addition to a proposed basement excavation beneath No. 4 Flitcroft Street and No. 1 Brook Mews. The current basements below Denmark Street are to be retained and used for commercial use.

The entire development will be 100% hard surfaced, with no areas of soft landscaping. Therefore it is envisaged that once the construction has taken place, there will be no potential direct pollutant linkages, and therefore no direct pollutant risk to end users.

There are three main ways to reduce or control unacceptable risks in land contamination applications:

- Remove or treat the (source) of pollutant(s)
- Remove or modify the pathway(s)
- Remove or modify the behaviour of receptor(s)

This section sets out a scheme to address the pollutant linkages of concern at this site. This report must be submitted to the local authority contaminated land team to obtain their approval to the scheme that has been set out.

6.1 Investigation of unexplored areas

It is accepted that several exploratory positions could not be undertaken due to restricted access to some of the properties during the time of investigations.

However, in accordance with CRL11, further targeted investigation conducted on the site can itself be considered as remedial action. Further investigations of those parts of the site that have not yet been explored will thus be undertaken as and when those areas are vacated by existing occupiers / tenants and works are planned in order to verify the applicability of the present assessment. The records of these investigations, together with subsequent assessments and verification of any additional remediation required will need to be presented within the verification report referred to in section 6.5 below.

6.2 Construction Workers and General Public

In the absence of appropriate mitigation and the use of Personal Protective Equipment (PPE), any contamination present in the soil would present a risk to construction workers. However, worker safety will be the subject of the mandatory requirements of the Control of Substances Hazardous to Health (COSHH) Regulations 2003 and the Construction (Design and Management) Regulations 2015 (CDM). These regulations set out the requirements for the protection of the workforce including the importance of appropriate procedures in the event of the workforce encountering any previously undiscovered contamination. Adherence to these regulatory requirements and good site hygiene practices should significantly reduce the health and safety risk posed to construction site workers and result in a negligible effect on health.

Such precautions may include some or all of the following:

- Effective site security
- Personal hygiene, washing and changing procedures

- Dust suppression methods, e.g. water spraying
- Odour control
- Positive collection and disposal of water to avoid any site runoff
- Wheel washing of wagons leaving the site and regular cleaning of the public road adjacent to the site.
- Personal protective equipment, including disposable overalls, gloves and particulate filter masks to be worn

The above measures will be carried out in accordance with the Health and Safety Executive publication 'Protection of workers and the general public during the development of contaminated land', CIRIA Report 132, 'A guide for safe working on contaminated sites' and the Best Practice Guidance 'The control of dust and emissions from construction and demolition' produced in partnership by the London Councils and the Greater London Authority.

6.3 Groundwater Protection

No evidence of significant contamination has been found within the soils or within the high level groundwater and hence no remedial actions are required and a specific Foundation Works Risk Assessment (FWRA) to address the piling methodology is not envisaged.

6.4 Unexpected contamination

Care will need to be taken to identify any unexpected problematic materials that may be revealed during the groundworks phase of the proposed redevelopment. Should any suspicious materials or unexpected contamination be revealed during the course of the redevelopment, then work must be halted and the situation investigated and assessed by a geoenvironmental specialist and notified to the Local Authority environmental health department. To this end a watching brief should be maintained and the soils exposed in all excavations should be inspected for any visible signs of contamination.

6.5 Verification Plan

The assessments of the findings of the investigations reported for the southern side of Denmark Street do not themselves merit any specific remedial measures and hence do not themselves merit the production of a summary verification report upon completion of the groundworks associated with the project.

However, as set out in section 6.1 above the findings of any additional investigations undertaken as well as any excavation inspections undertaken by a geoenvironmental specialist as per section 6.4 above, should be collated into a completion report at the end of the groundworks phase of the development.

APPENDIX

CURRENT & HISTORICAL BUILDING USAGE

2017 CONCEPT FACTUAL SITE INVESTIGATION REPORT

2015 CONCEPT FACTUAL SITE INVESTIGATION INFORMATION (extract only)

2012 GEA FACTURAL GROUND INVESTIGATION INFORMATION (extract only)

Summary of Current & Historical Building Usage

(Bold entries are on-site, remainder are adjacent premises)

Charing Cross Road

116 Chipolte Mexican Restaurant, 2009 Turnkey, 1900 Swan electrical engraving

118 Chipolte Mexican Restaurant, 2009 Turnkey, 1900-1970 Sun Electrical Co. Stores

120 T-K Max, 2014 Offices, 1900-1970 Sun Electrical Co. Stores

120/124 T-K Max, 2009 Borders Book Shop, 1970 Halifax Chambers / PH, 1964 restaurant, 1900 Electrical Engineers, 1888 Vacant

126 Chris Bryant Musical Instruments, 1970 Books/Stationery, 1942 Printers, 1888 Vacant

128 Rock Shop, 1970 Drugs, 1900 Sign Writer, 1888 Vacant

130 Sajway, 2015 NUNU Kebab, 2009 Kiera News Coffee Snacks, 1970 Restaurant, 1900 Chemist, 1888 Vacant

132 Shaldon Mansions, 1900 Estate Office, 1888 Vacant

134 NUNU Café Brasserie, 1970 Music Instruments, 1888 Vacant

136 Bar, Backpacker, 2009 Discount Clothes, 1970 Hosiery, 1888 Vacant

138 Demolished, 2009 Internet Café, 1970 Music publisher & Instruments, 1900 Alderman Johnson invalid carriage, couch & chair & perambulator manufacturers, 1888 Perambulator Factory under construction

140 Demolished, 2009 Internet Lounge, 1970 Music publisher & Instruments, 1900 mica & Talc merchant, 1888 Perambulator Factory under construction

142 Demolished, 2009 Master Fried Chicken, 1970 Offices, 1900 music publisher, 1888 Under Construction

144 Demolished, Sin Club 1970 Printers, 1942 G W Scott Suitcase & Basket Factory, 1900 Scott basket manufacturers,1888 Under Construction

146 Demolished, 2009 Café Laguna Restaurant, 1970 Sound Equipment, 1900 photographic apparatus manufacturer, 1888 Under Construction

148 Demolished, 2009 Mr Toppers Hairdresser, 1970 Offices, 1942 Music Publisher, 1888-1900 Hinks Lamp Manufacturers

Denmark Street

1 Fernandez and Wells, 2014 Vacant, 2009 Springboard Careers Centre, 1970 Labour Exchange, 1900 Grocer, 1888 Shop

2 Fernandez and Wells, 2014 Vacant, 2009 Springboard Careers Centre, 1970 Labour Exchange, 1900 Laundry, 1888 Shop

3 Fernandez and Wells, 2014 Vacant, 2009 Springboard Careers Centre, 1970 Labour Exchange, 1900 Frame Maker / Lock Maker, 1888 Residence

4 Regent Sounds Studio / Alley Cat Bar B1 1970 Photo Lab B1 1900 Builder 1888 Residence

5 Relentless No. 5, 2014 Rockers Guitar & Bass Centre / Black Rock Oil & Gas Plc (inactive) 1970 Musical Instruments, 1942 Vacant, 1900 Military Ornament Maker, 1888 Sword Cutler (house with later shop. c1686-89 as part of an estate development by Samuel Fortrey and Jacques Wiseman)

6 Vintage & Rare Guitars The Lab (Qe6) Ltd photographic/The Lynx Lab.Com/ Devtank photographic labs (inactive) Bresh Printers (Soho)/ L & P J Litho Ltd (inactive), 1970 Books, 1942 Vacant, 1900 church furnisher / tailor, 1888 Silversmith (house with later shop. c1686-9 as part of estate development by Samuel Fortrey and Jacques Wiseman)

7 Smoking Goat, 2014 Tin Pan Alley Bar 1970 Club B1, 1900 brass chaser/founder / tailor / chaise saddler, 1888 (house with later shop. c1686-9 as part of estate development by Samuel Fortrey and Jacques Wiseman)

8 Rose Morris, 1970 Music Publisher, 1900 cabinet maker, 1888 Invalid Chair Factory

9 Flat Iron, 2014 The Giconda Dining Room, 2009 Indian Cowboy restaurant, 1958 Hairdressers Sundries, 1900 billiard table maker, 1888 Portmanteau Factory (house with later shop. c1686-9 as part of estate development by Samuel Fortrey and Jacques Wiseman)

10 Rose Morris, 2009 Rose Morris, 1970 Music publisher, 1888 Gun Stock Factory (house with later shop. c1686-9 as part of estate development by Samuel Fortrey and Jacques Wiseman)

11 Music Room /The Early Music Shop, 2009 Rose Morris, 1970 restaurant, 1942 Vacant, 1900 bell hanger / shirt maker / coach plater,1888 Bell Hanger

17 Chris Bryant Musical Instruments, 1970 Books, 1888 Residence

18 Music Room 2009, Constantinou Brothers Hair Salon, 1970 Chambers Music, 1888 Residence

19 Wunjo Guitars, 1970 Offices, 1942 Music Shop, 1900 credit draper, 1888 Residence

20 Gary O'Toole School of Music, 1970 Music publisher, 1942 Restaurant, 1900 coffee rooms, 1888 Restaurant (Terraced house with later shop, and former warehouse (known as No.16 Denmark Place) attached at ground floor level to rear. c1686-89 as part of an estate development by Samuel Fortrey and Jacques Wiseman, early C19 warehouse)

21 Sax.co.uk, 2009 Rhodes Music, 1970 Music warehouse, 1888 Residence

22 Punja, 2009 The Bass Cellar, 1970 Flats, 1942 Vacant, 1900 gilder / builder, 1888 Residence

23 London Pro Audio Centre, 1970 Toys, 1942 Musical Instruments, 1900 silver caster / brass finisher / coach plater, 1888 Residence

24 Westside Music, 2009 Hanks Guitar, 1970 Film studio cutting room, 1942 Music Publishers, 1900 metal embosser / dressing case maker / book edge gilder, 1888 Residence

25 Macaris (Paint Workshop in Basement), 2009 Music Ground Nightingale Guitars/Vocal Point/ Philipp Dubreuille Guitars manufacturers, 1970 Offices, 1942 Tobacco Office, 1900 engraver, 1888 Residence

26 12 Bar Club (vault underneath Denmark St), 1970 Restaurant, 1888 Residence, Forge (Terraced house with later shop Early C18)

27 Hanks Guitar, 2009 Music Ground, 1964 Dairy, 1900 Beer Retailer, 1888 PH (Terraced house with later shop. Late C17, refronted late C18 and 3rd floor added)

28 Jubilee Hair Salon / Omec Distributions Ltd, 1970 Offices, 1900 Greengrocer

Denmark Place

1 Enterprise Band Rehearsal Studios / A True Love Tattoo Studio/ Earache Records, 1942 Shop, 1888 Residence

2 Enterprise Band Rehearsal Studios / A True Love Tattoo Studio/ Earache Records, 1942 Residence, 1888 Residence

3 Enterprise Band Rehearsal Studios / A True Love Tattoo Studio/ Earache Records, 1942 Residence, 1888 Residence

4 Enterprise Band Rehearsal Studios / A True Love Tattoo Studio/ Earache Records, 1942 Residence, 1888 Residence

5 Enterprise Band Rehearsal Studios / A True Love Tattoo Studio/ Earache Records, 1942 Residence, 1888 Residence

6 Enterprise Band Rehearsal Studios / A True Love Tattoo Studio / Earache Records, 1942 Shop, 1900 Apartments

15 1900 lining frame maker / carpenter

16 1942 Publishers, 1900 bag frame maker(former warehouse attached at ground floor level to 20 Denmark Street. c1686-89 as part of an estate development by Samuel Fortrey and Jacques Wiseman, early C19 warehouse)

17 1888 Goldsmith & Jewellers

18 New York Entertainment Group (Music Management), 1942 Residence

19 1888 Silver Caster

20 1888 Carpenter

21 1900 brass founder

22 12 Bar Club, 1900 coach spring maker

23 12 Bar Club, 1900 coach spring maker

Flitcroft Street (Little Denmark Street)

4 Offices, 1970 Printers, 1942 Despatch Warehouse, 1888-1900 Barrel Shed for Crosse & Blackwell / Italian Warehouse

6 Offices 1970 Printers, 1900 tin box makers / drysalters, 1942 Vacant, 1888 Tin Box Factory (Warehouse. Built c1850)

8 ? 1970 Printers, 1942 Metal Workers Warehouse, 1900 tin box makers / drysalters, 1888 Vacant

10 (Book Mews) 1970 Printers, 1942 Film Laboratories, 1888 Iron Bedstead Factory

12 ? 2009 Media, 1970 Stores, 1950s Crosse and Blackwell warehouse 1942 Film Laboratories,1888 Iron Bedstead Factory (Warehouse, built 1878 for William Addis, wholesale ironmongers.

St Giles High Street

52 Yorimichi 2012 First Out Café Bar, 1970 Restaurant, 1888 Carpenter

53 2009 Assa Restaurant, 1970 Restaurant

54 Clifton Mansions (Residential), 1888 Shop

55 2009 Seoul Bakery/ Azito Hair Salon, 1942 Residence, 1888 Shop

56 Po Chung Ma Cha Restaurant, 2009 The Polo Korean Restaurant, 1970 Restaurant, 1942 Residence, 1888 Shop

57 York Mansions (Residential), 1888 Shop

58 Central Food & News newsagent, 1942 Restaurant, 1888 Shop

59 Woo Jung Korean restaurant, 1970 Restaurant, 1942 Vacant, Early 19th Century house & shop

60 1888 Oil & Colour Store

Endell Street

61 Ventana Court, 1966 Timber Store

63 2009 Da Mario Restaurant, 1966 Restaurant

65 Beauty Treatment, 2009 Sam Walker, 1966 Vacant

67 Hairdressing Salon, 1928 Shop

69 Hairdressing Salon, 2009 The Covent Garden Salon, 1966 Restaurant

71 Zone Models, 1970 Cleaners, 1928 Warehouse

73 Scott Brownrigg Offices, 1966 Offices

Neal Street

68 2009 Filofax

70 2009 Birkenstock

72 2009 Birkenstock

74 office/residential

76 2009 Mr Shoes

SITE INVESTIGATION REPORT

St. Giles Development

ISSUE 00

SITE INVESTIGATION REPORT

St. Giles Development

Prepared for: Cord Contracting Co Ltd

Concept: 17/3014 - FR 00 05/09/2017

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DOCUMENT ISSUE REGISTER			
Project Name:	St. Giles Development		
Project Number:	17/3014		
Document Reference:	17/3014 - FR 00	**Current Issue**	Issue 00
Document Type:	Site Investigation Report		

Development	**Name**	**Signature**	**Date**
Prepared by:	B Milne		05/09/2017
Checked by:	O Savvidou		05/09/2017
Approved by:	D Seeley		05/09/2017

Issued to:	LBH / Cord Contracting

Date	**Issue**	**Amendment Details/ Reason for issue**	**Issued to**
05/09/2017	Issue 00		LBH / Cord

Notes:

CONTENTS

1. PROJECT PARTICULARS

Site Location:	8 Flitcroft Street,
	London, WC2H 8DL
Client:	Cord Contracting Co Ltd
Investigation Supervisor:	LBH Wembley Geotechnical & Environmental
Fieldwork:	24/08/2017
Laboratory Work:	30/08/2017 – 05/09/2017

2. PURPOSE AND SCOPE OF WORKS

The purpose of the investigation was to understand the ground and groundwater conditions at the site, to determine the nature and extent of any ground and groundwater contamination.

The scope of the works comprised the following:

- 2 No. Dynamic Sampling Boreholes to a depth of 6.00m;
- Logging and Photographing;
- Chemical Laboratory Testing.

Table 1 – Exploratory Hole List

Hole ID	Hole Type	Depth (m)
WS18	DS	5.00
WS20	DS	6.00

Key
DS – Dynamic Sampling Borehole

3. DESCRIPTION OF WORKS

The works were carried out as per e-mail instruction by Bernard Higgins from Cord, dated 15/08/2017 and with the Concept Method Statement (17/3014 MS Rev 0, 22/08/2017).

The site is located at 8 Flitcroft Street, London, WC2H 8DL.

The approximate OS grid reference for the site is 529929E, 181233N.

The locations of all exploratory holes are shown in the Exploratory Hole Location Plan presented in Section 7 of this report.

4. INVESTIGATION METHODS

4.1 Inspection Pits

Inspection pits were hand excavated to a maximum depth of 1.20m at all sampling borehole locations prior to boring commencing.

4.2 Dynamic Sampling Boreholes

2 No. Dynamic Sampling Boreholes (WS18 & WS20) were carried out to a maximum depth of 6.00m. The boreholes were drilled using a tracked Geo drive-tube sampling rig.

The liners retrieved from all the borehole locations were split, logged and photographed.

4.2.1 Sampling and Testing during Dynamic Sampling

Environmental samples (tubs, jars and vials) were taken for chemical analysis in the Made Ground or at each change of strata and where visual or olfactory evidence of contamination was noted or as instructed by the Investigation Supervisor . All samples taken for chemical analysis were screened for volatiles using a Phocheck Tiger photoionization detector.

The dynamic sampling borehole logs are presented in Section 9 of this report.

4.3 Logging / Laboratory Testing

Logging of all soil samples was carried out in accordance with BS 5930:2015.

All chemical testing was carried out by i2 Analytical Ltd in accordance with the requirements of UKAS ISO17025 and MCERTS. The results are presented in tabular format in Section 10 of this report.

4.4 Setting Out

The locations of all exploratory holes were agreed with the Investigation Supervisor and set out prior to commencement of the site works.

The locations of the boreholes are shown in the Exploratory Hole Location Plan presented in Section 7 of this report.

5. GEOLOGICAL GROUND PROFILE

The geological strata encountered during the investigation are summarised in the table below. The Top and Bottom of the strata noted in the table indicates the highest and lowest boundaries encountered in all exploratory holes.

Table 2 - Geological Ground Profile

STRATUM	TOP (mbgl)	BASE (mbgl)	DESCRIPTION
MADE GROUND	0.00	3.70	Concrete over loose, yellowish brown and dark grey clayey sandy GRAVEL with high cobble content. Gravel comprises subangular to subrounded fine to coarse flint, brick and concrete fragments. Cobbles are brick and concrete. Sand is fine to coarse. Light brown slightly clayey very gravelly fine to coarse SAND with high cobble content, frequent plastic and tile fragments. Gravel comprises subangular to subrounded fine to coarse flint, brick and concrete fragments.
RIVER TERRACE DEPOSITS	2.10	5.10	Dense, yellowish to reddish brown slightly silty very gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse flint.
LONDON CLAY FORMATION	4.35	EXTENT NOT PROVEN	Firm to stiff, closely to very closely fissured brown to orangish brown slightly gravelly slightly micaceous sandy CLAY with occasional pockets of orangish brown fine sand and rare pockets of dark grey silty sand (<20mm).). Fissures are subhorizontal, planar, smooth, unpolished. Gravel is subangular to subrounded fine to coarse flint.

REFERENCES

British Standards Institution, (2015) Code of practice for ground investigations, British Standard BS5930: 2015, BSI, London

British Standards Institution, (2011) Investigation of potentially contaminated sites, British Standard BS10175: 2011, BSI, London.

UK Specification for Ground Investigation, (2011) Site Investigation Steering Group, Thomas Telford, London

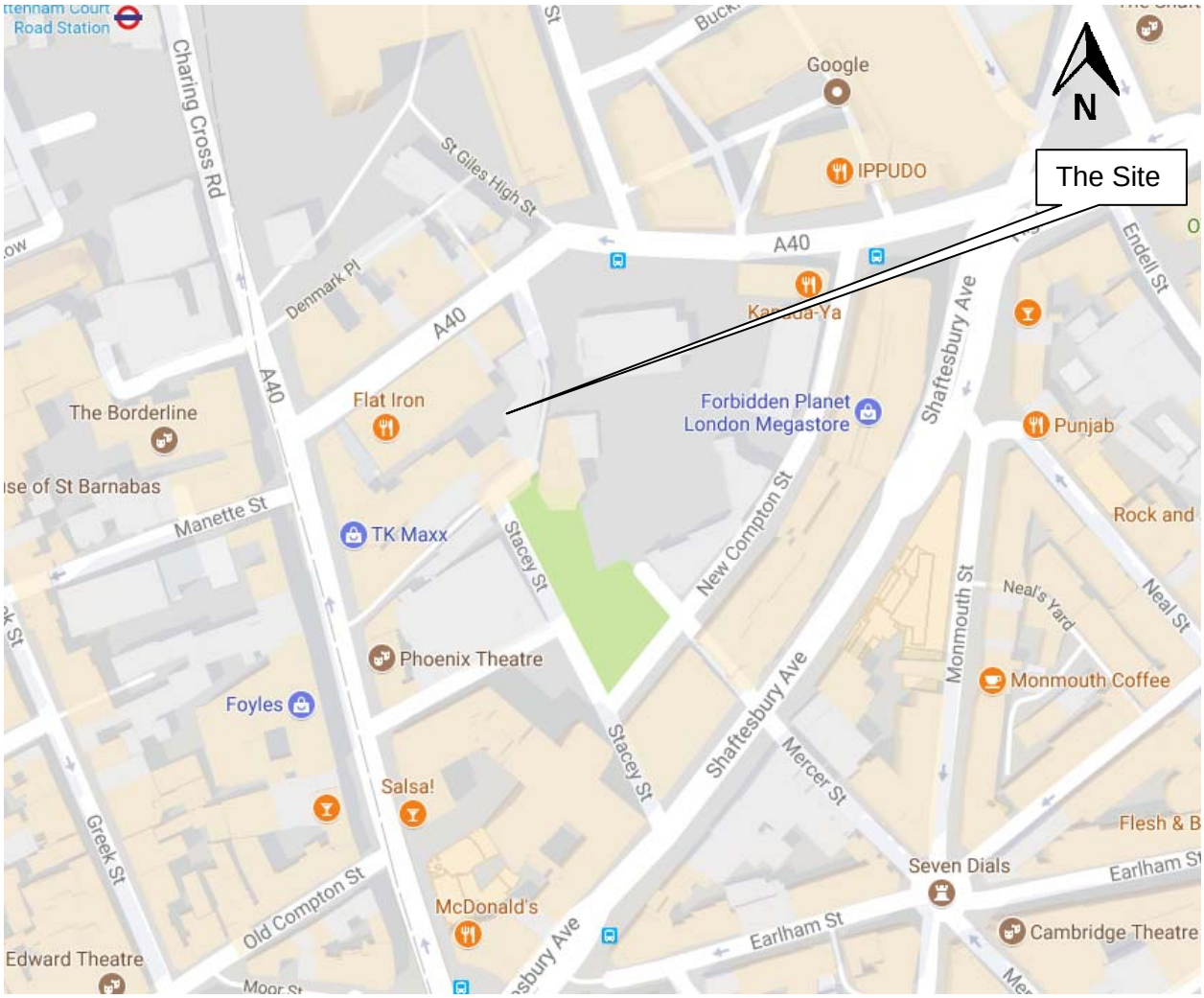
British Geological Survey (1996) London and the Thames Valley 4th Edition, London HMSO.

British Standards Institution BS EN ISO 22475-1, (2006) Geotechnical Investigation and Testing – Sampling Methods and Groundwater Measurements – Part 1: Technical Principles for Execution

British Standards Institution BS EN 1997:1 (2004) EuroCode 7 - Geotechnical Design. Part 1 – General Rules.

British Standards Institution BS EN 1997:2 (2007) EuroCode 7 - Geotechnical Design. Part 2 - Ground Investigation and Testing.

6. SITE LOCATION PLAN

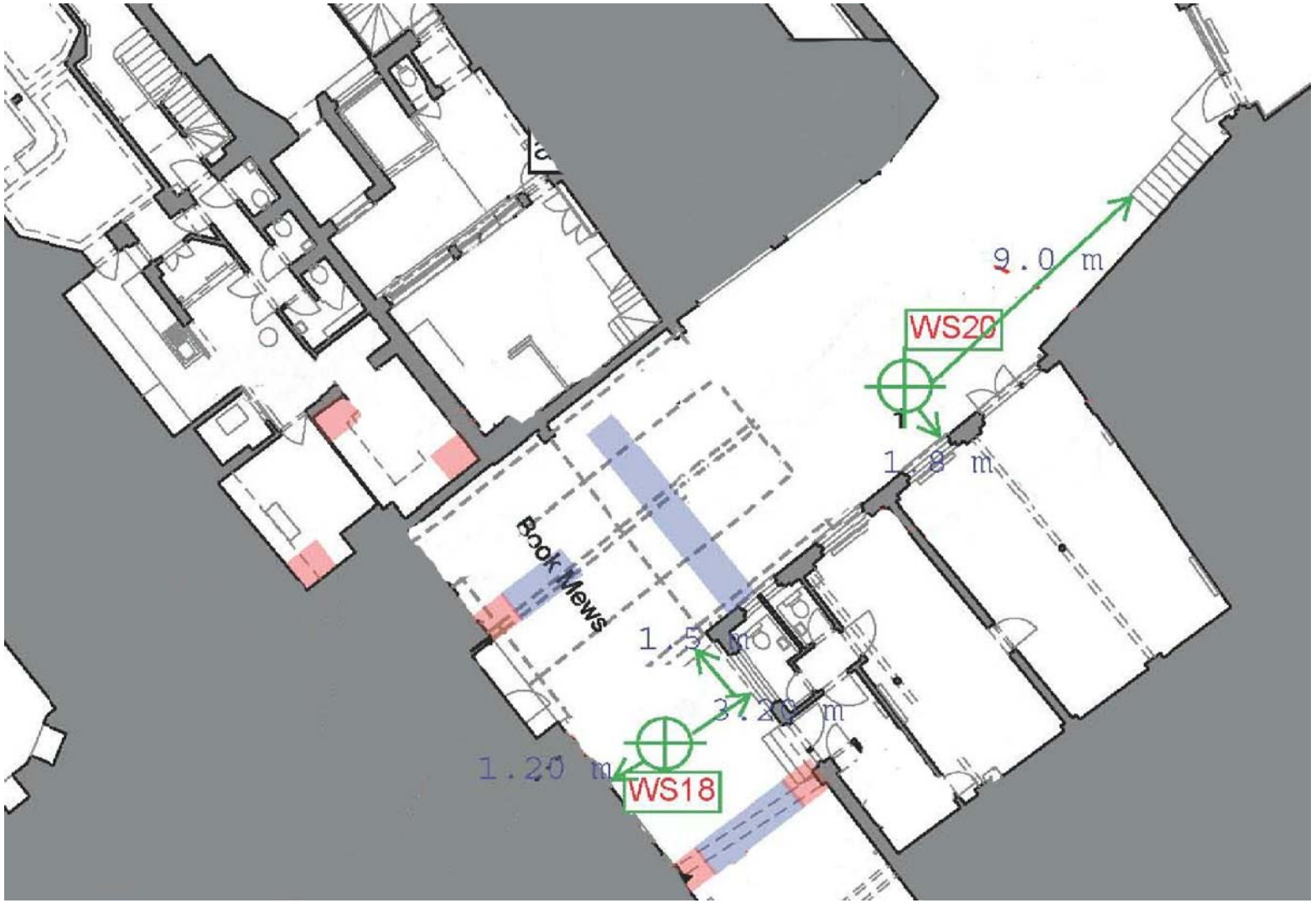


Not to Scale © Crown Copyright reserved

7. EXPLORATORY HOLE LOCATION PLAN

NOTES

1. This drawing should not be scaled.



No	Revision	Drawn	Checked	Passed	Date

CONCEPT SITE INVESTIGATIONS

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Client:	Cord Contracting Co Ltd
Project:	St. Giles Development
Title:	Exploratory Hole Location Plan
Dwg. No:	17/3014
Status:	Issue
Scale:	NTS

Drawn	Checked	Passed	Date
OS	AB	MD	August 2017

8. DYNAMIC SAMPLING BOREHOLE LOGS

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Borehole No

WS18

Project

St. Giles Development

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
17/3014	24/08/17			5.00m
	Date Completed 24/08/17			

Client	Method/ Plant Used	Sheet
Cord Contracting Co Ltd	Dynamic Sampling	1 of 2

PROGRESS			STRATA				SAMPLES & TESTS				
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result	Field Records	Instrument/ Backfill
24/08/17		Dry			(0.20) 0.20	Concrete paving over yellowish brown gravelly coarse SAND. (MADE GROUND)					
					0.30	CONCRETE.	0.30-0.50	B01			
					(0.20) 0.50	Loose, yellowish brown very sandy GRAVEL with high cobble content. Gravel comprises subangular to subrounded fine to coarse flint, brick and concrete fragments. Cobbles are brick and concrete. Sand is fine to coarse. (MADE GROUND)	0.30	ES02		... VOC 0.4ppm	
							0.50-1.00	B03			
							0.80	ES04		... VOC 0.5ppm	
						Loose, brown slightly clayey very gravelly fine to coarse SAND with high cobble content. Gravel comprises subangular to subrounded fine to coarse flint, brick and concrete fragments. (MADE GROUND)	1.00-1.20	B05			
					(1.10)		1.10	ES06		... VOC 0.4ppm	
24/08/17		Dry									
					1.60						
					(0.50)	Loose to medium dense, dark grey and brown sandy very clayey GRAVEL with high cobble content. Gravel comprises subangular to subrounded fine to coarse flint, brick and concrete fragments. Cobbles are brick and concrete. Sand is fine to coarse. (MADE GROUND)					
					2.10						
					(2.25)	Dense, light yellowish brown slightly silty very gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse flint. (RIVER TERRACE DEPOSITS)	2.60	ES07		... VOC 0.6ppm	
24/08/17	4.00	Dry									

DYNAMIC SAMPLING RECOVERY

From	To	Diameter (mm)	Recovery (%)
1.20	2.00	87	100
2.00	3.00	87	100
3.00	4.00	87	100
4.00	5.00	75	100

GENERAL REMARKS

1. An inspection pit was hand excavated to 1.20m depth prior to boring commencing.
2. Ø128mm casing used from ground level to 4.00m depth.
3. Water level at 3.50m depth upon completion.
4. Borehole was backfilled with bentonite pellets between 5.00m and ground level.

Issue No: 00	Drilled By: ST	Logged By: DF	Checked By: OS	Approved By: OS	Log Print Date & Time: 06/09/2017 09:36

CONCEPT
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Borehole No

WS18

Project

St. Giles Development

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
17/3014	24/08/17			5.00m
	Date Completed 24/08/17			

Client	Method/ Plant Used	Sheet
Cord Contracting Co Ltd	Dynamic Sampling	2 of 2

PROGRESS			STRATA				SAMPLES & TESTS				
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result	Field Records	Instrument/ Backfill
					4.35						
					(0.50)	Firm, brown to orangish brown sandy CLAY with occasional pockets of orangish brown fine sand. (THAMES GROUP: WEATHERED LONDON CLAY FORMATION)	4.60	ES08		... VOC 1.4ppm	
					4.85		4.90	ES09		... VOC 2.4ppm	
24/08/17	4.00	3.50			5.00	Stiff, closely to very closely fissured grey slightly micaceous CLAY with rare pockets of dark grey silty sand (<20mm). Fissures are subhorizontal, planar, smooth, unpolished. (THAMES GROUP: LONDON CLAY FORMATION - A3ii)					
						End of Borehole					

DYNAMIC SAMPLING RECOVERY

From	To	Diameter (mm)	Recovery (%)

GENERAL REMARKS

Issue No: 00	Drilled By: ST	Logged By: DF	Checked By: OS	Approved By: OS	Log Print Date & Time: 06/09/2017 09:36

CONCEPT
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Borehole No

WS20

Project

St. Giles Development

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
17/3014	24/08/17			6.00m
	Date Completed 24/08/17			

Client	Method/ Plant Used	Sheet
Cord Contracting Co Ltd	Dynamic Sampling	1 of 2

PROGRESS			STRATA				SAMPLES & TESTS				
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result	Field Records	Instrument/ Backfill
24/08/17		Dry			(0.20) 0.20	Concrete paving over yellowish brown gravelly coarse SAND. (MADE GROUND)					
					0.30	CONCRETE.	0.30-0.50	B01			
					(0.20) 0.50	Loose, light yellowish brown very sandy GRAVEL. Gravel comprises subangular to subrounded fine to coarse flint, brick and concrete fragments. Sand is fine to coarse. (MADE GROUND)	0.30	ES02		... VOC 0.1ppm	
							0.50-0.90	B03			
					(0.40) 0.90	Loose, light brown slightly clayey very gravelly fine to coarse SAND with frequent plastic and tile fragments. Gravel comprises subangular to subrounded fine to coarse flint, brick and concrete fragments. (MADE GROUND)	0.80	ES04		... VOC 0.4ppm	
							0.90-1.20	B05			
24/08/17		Dry			(1.65) 2.55	Loose to medium dense, dark grey and brown sandy very clayey GRAVEL with frequent plastic fragments. Gravel comprises subangular to subrounded fine to coarse flint, brick and concrete fragments. Sand is fine to coarse. (MADE GROUND)	1.10	ES06		... VOC 0.4ppm	
							1.80	ES07		... VOC 0.5ppm	
					(0.90) 3.45	Dense, yellowish brown slightly silty very gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse flint. (REWORKED - MADE GROUND)	3.20	ES08		... VOC 0.6ppm	
					(0.25) 3.70	Light brown and off-white silty sandy GRAVEL. Gravel comprises subangular to subrounded fine to coarse flint and weak off-white chalk fragments. (REWORKED - MADE GROUND)	3.60	ES09		... VOC 0.2ppm	
						Dense, yellowish to reddish brown slightly silty very gravelly fine to coarse					

DYNAMIC SAMPLING RECOVERY

From	To	Diameter (mm)	Recovery (%)

GENERAL REMARKS

1. An inspection pit was hand excavated to 1.20m depth prior to boring commencing.
2. Ø128mm casing used from ground level to 5.00m depth.
3. Water level at 4.50m depth upon completion.
4. Borehole was backfilled with bentonite pellets between 6.00m and ground level.

Issue No: 00	Drilled By: ST	Logged By: DF	Checked By: OS	Approved By: OS	Log Print Date & Time: 06/09/2017 09:36

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Borehole No

WS20

Project

St. Giles Development

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
17/3014	24/08/17			6.00m
	Date Completed 24/08/17			

Client	Method/ Plant Used	Sheet
Cord Contracting Co Ltd	Dynamic Sampling	2 of 2

PROGRESS			STRATA				SAMPLES & TESTS				
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result	Field Records	Instrument/ Backfill
					(1.40)	SAND. Gravel is subangular to subrounded fine to coarse flint. (RIVER TERRACE DEPOSITS)	4.60	ES10		... VOC 0.4ppm	
24/08/17	5.00	Dry			5.10						
					(0.45)	Firm, brown to orangish brown slightly gravelly sandy CLAY with occasional pockets of orangish brown fine sand. Gravel is subangular to subrounded fine to coarse flint. (THAMES GROUP: WEATHERED LONDON CLAY FORMATION)	5.30	ES11		... VOC 1.2ppm	
					5.55						
					(0.45)	Stiff, closely to very closely fissured slightly micaceous CLAY with rare pockets of dark grey silty sand (<20mm). Fissures are subhorizontal, planar, smooth, unpolished. (THAMES GROUP: LONDON CLAY FORMATION - A3ii)	5.80	ES12		... VOC 0.7ppm	
24/08/17	5.00	4.50			6.00						
						End of Borehole					

DYNAMIC SAMPLING RECOVERY

From	To	Diameter (mm)	Recovery (%)

GENERAL REMARKS

Issue No: 00	Drilled By: ST	Logged By: DF	Checked By: OS	Approved By: OS	Log Print Date & Time: 06/09/2017 09:36

9. CHEMICAL TEST RESULTS

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i2 Analytical Ltd.
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Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 17-58888

Project / Site name:	St Giles	**Samples received on:**	30/08/2017
Your job number:	17-3014	**Samples instructed on:**	30/08/2017
Your order number:	CL1180	**Analysis completed by:**	06/09/2017
Report Issue Number:	1	**Report issued on:**	06/09/2017
Samples Analysed:	2 wac multi samples		

Signed:

Rexona Rahman
Reporting Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

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Croxley Green Business Park
Watford, WD18 8YS

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email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Report No:	**17-58888**						
					Client:	**CONCEPT**	
Location	**St Giles**						
Lab Reference (Sample Number)	808268				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	24/08/2017				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS20						
Depth (m)	1.80						
Solid Waste Analysis							
TOC (%)**	1.6				3%	5%	6%
Loss on Ignition (%) **	7.6				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) #	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	7.9				--	>6	--
Acid Neutralisation Capacity (mol / kg)	11				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 3 preparation utilising end over end leaching procedure)	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
	mg/l	mg/l		mg/kg			
Arsenic *	0.029	0.020		0.21	0.5	2	25
Barium *	0.0076	< 0.0050		0.044	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	< 0.0010	< 0.0010		< 0.0050	0.5	10	70
Copper *	0.014	0.0054		0.065	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.011	< 0.0030		0.027	0.5	10	30
Nickel *	0.0020	< 0.0010		0.011	0.4	10	40
Lead *	< 0.0050	< 0.0050		< 0.020	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.0010	< 0.0010		< 0.020	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	4000	25000
Fluoride	< 0.050	0.15		1.4	10	150	500
Sulphate *	9.3	2.1		30	1000	20000	50000
TDS	130	69		770	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	4.7	3.2		34	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.40						
Dry Matter (%)	80						
Moisture (%)	20						
Stage 1							
Volume Eluate L2 (litres)	0.31						
Filtered Eluate VE1 (litres)	0.23						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepencies with current legislation

** = MCERTS accrediited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Waste Acceptance Criteria Analytical Results

Report No:	**17-58888**						
					Client:	**CONCEPT**	
Location	**St Giles**						
Lab Reference (Sample Number)	808269				**Landfill Waste Acceptance Criteria**		
					Limits		
Sampling Date	24/08/2017				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS20						
Depth (m)	3.20						
Solid Waste Analysis							
TOC (%)**	0.1				3%	5%	6%
Loss on Ignition (%) **	2.1				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) #	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	7.9				--	>6	--
Acid Neutralisation Capacity (mol / kg)	3.2				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		0.052	0.5	2	25
Barium *	< 0.0050	< 0.0050		< 0.020	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.0014	< 0.0010		< 0.0050	0.5	10	70
Copper *	0.0083	< 0.0030		< 0.020	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.011	< 0.0030		0.021	0.5	10	30
Nickel *	0.0010	< 0.0010		< 0.0050	0.4	10	40
Lead *	< 0.0050	< 0.0050		< 0.020	0.5	10	50
Antimony *	< 0.0050	< 0.0050		0.021	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	< 0.0010	< 0.0010		< 0.020	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	4000	25000
Fluoride	< 0.050	< 0.050		0.31	10	150	500
Sulphate *	3.8	1.5		19	1000	20000	50000
TDS	52	20		240	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	3.5	4.3		42	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.9						
Dry Matter (%)	92						
Moisture (%)	8.3						
Stage 1							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.25						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.
*= UKAS accredited (liquid eluate analysis only)
Stated limits are for guidance only and i2 cannot be held responsible for any discrepencies with current legislation
** = MCERTS accrediited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Analytical Report Number : 17-58888

Project / Site name: St Giles

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
808268	WS20	None Supplied	1.80	Brown sandy clay with gravel and chalk.
808269	WS20	None Supplied	3.20	Light brown sand with gravel.

Analytical Report Number : 17-58888

Project / Site name: St Giles

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046-PL	W	NONE
BTEX (Sum of BTEX compounds) in soil	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037-PL	W	NONE
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033-PL	W	ISO 17025
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L047-PL	D	MCERTS
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
Mineral Oil in Soil C10 - C40	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
PCB's by GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L031-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 17-58887

Project / Site name:	St Giles	**Samples received on:**	30/08/2017
Your job number:	17-3014	**Samples instructed on:**	30/08/2017
Your order number:	CL1180	**Analysis completed by:**	06/09/2017
Report Issue Number:	1	**Report issued on:**	06/09/2017
Samples Analysed:	4 soil samples		

Signed:

Emma Winter
Assistant Reporting Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Analytical Report Number: 17-58887

Project / Site name: St Giles
Your Order No: CL1180

Lab Sample Number				808262	808263	808264	808265	
Sample Reference				WS18	WS18	WS20	WS20	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				0.30	1.10	0.80	1.80	
Date Sampled				29/08/2017	29/08/2017	29/08/2017	29/08/2017	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	11	15	13	20	
Total mass of sample received	kg	0.001	NONE	2.0	2.0	1.2	0.40	
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	10.8	9.5	9.0	7.9	
Total Cyanide	mg/kg	1	MCERTS	2	5	< 1	< 1	
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	
Total Sulphate as SO_4	mg/kg	50	MCERTS	3400	1500	1200	770	
Sulphide	mg/kg	1	MCERTS	3.3	3.2	1.6	2.4	
Elemental Sulphur	mg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	29	
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.9	
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	
Heavy Metals / Metalloids								
Aluminium (aqua regia extractable)	mg/kg	30	ISO 17025	9300	9000	6500	7600	
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	19	7.1	< 1.0	18	
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.44	0.73	0.50	0.54	
Boron (water soluble)	mg/kg	0.2	MCERTS	1.8	3.0	1.0	1.1	
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	0.2	
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	12	13	12	
Copper (aqua regia extractable)	mg/kg	1	MCERTS	50	68	43	72	
Lead (aqua regia extractable)	mg/kg	1	MCERTS	190	490	140	520	
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2.3	6.3	1.1	3.7	
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	14	17	16	19	
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Tin (aqua regia extractable)	mg/kg	1	MCERTS	12	31	8.3	34	
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	93	68	52	76	
Magnesium (aqua regia extractable)	mg/kg	20	ISO 17025	2700	2100	1600	1500	

Analytical Report Number: 17-58887

Project / Site name: St Giles
Your Order No: CL1180

Lab Sample Number				808262	808263	808264	808265	
Sample Reference				WS18	WS18	WS20	WS20	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				0.30	1.10	0.80	1.80	
Date Sampled				29/08/2017	29/08/2017	29/08/2017	29/08/2017	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	

Analytical Report Number : 17-58887

Project / Site name: St Giles

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
808262	WS18	None Supplied	0.30	Light brown gravelly sand with brick and rubble.
808263	WS18	None Supplied	1.10	Brown gravelly clay with brick and rubble.
808264	WS20	None Supplied	0.80	Brown gravelly clay with brick and rubble.
808265	WS20	None Supplied	1.80	Brown sandy clay with gravel and chalk.

Analytical Report Number : 17-58887

Project / Site name: St Giles

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Cations in soil by ICP-OES	Determination of cations in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	ISO 17025
Elemental sulphur in soil	Determination of elemental sulphur in soil by extraction in acetonitrile followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-PL	D	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Thiocyanate in soil	Determination of thiocyanate in soil by extraction in water followed by acidification followed by addition of ferric nitrate followed by discrete analyser (spectrophotometer).	In-house method	L082-PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS

Analytical Report Number : 17-58887

Project / Site name: St Giles

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

10. PHOTOGRAPHS

Unit 8, Warple Mews
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London W3 0RF

CONCEPT SITE INVESTIGATIONS

Tel: 020 8811 2880
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email: si@conceptconsultants.co.uk

Site Name	St. Giles Development	Job No.	17/3014	HOLE	WS18
Carried out for	Cord Contracting Co Ltd	Date		Photograph	01 & 02

Photograph No 01

Photograph No 02

Unit 8, Warple Mews
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Site Name	St. Giles Development	Job No.	17/3014	HOLE	WS18
Carried out for	Cord Contracting Co Ltd	Date		Photograph	03

Photograph No 03

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Warple Way
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Site Name	St. Giles Development	Job No.	17/3014	HOLE	WS18
Carried out for	Cord Contracting Co Ltd	Date		Photograph	04 & 05

Photograph No 04

Photograph No 05

Unit 8, Warple Mews
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CONCEPT SITE INVESTIGATIONS

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Site Name	St. Giles Development	Job No.	17/3014	HOLE	WS20
Carried out for	Cord Contracting Co Ltd	Date		Photograph	06 & 07

Photograph No 06

Photograph No 07

Unit 8, Warple Mews
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CONCEPT SITE INVESTIGATIONS

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Site Name	St. Giles Development	Job No.	17/3014	HOLE	WS20
Carried out for	Cord Contracting Co Ltd	Date		Photograph	08 & 09

Photograph No 08

Photograph No 09

Unit 8, Warple Mews
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CONCEPT SITE INVESTIGATIONS

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Site Name	St. Giles Development	Job No.	17/3014	HOLE	WS20
Carried out for	Cord Contracting Co Ltd	Date		Photograph	10

Photograph No 10

CONCEPT SITE INVESTIGATIONS
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Borehole No

PB04

Project

St Giles Circus

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
14/2669	18/11/14			30.35m
	Date Completed 20/11/14			

Client

Consolidated Developments Limited

BOREHOLE SUMMARY

Top (m)	Base (m)	Type	Date Started	Date Ended	Crew	Logged By	Core Barrel (mm)	Core Bit	Plant Used/ Method	Shoring / Support
0.00	1.20	IP	18/11/2014	18/11/2014	AR/HB	AN			Hand Excavated	
1.20	30.35	CP	18/11/2014	19/11/2014	AR/HB	AN			Cable Percussion	

WATER STRIKES

Strike at (m)	Rise to (m)	Time to Rise (min)	Casing Depth (m)	Sealed (m)

WATER ADDED

From (m)	To (m)
3.00	5.70

CHISELLING

From (m)	To (m)	Duration (hr)	Remarks

HOLE

Depth (m)	Diameter (mm)
0.00	200
30.35	200

CASING

Depth (m)	Diameter (mm)
0.00	200
6.00	200

ROTARY / DYNAMIC SAMPLING

From (m)	To (m)	Blows	Recovery (%)

ROTARY FLUSH DETAIL

From (m)	To (m)	Flush Type	Flush Return (%)	Flush Colour

INSTALLATION DETAILS

Type	Diameter (mm)	Depth of Installation (m)	Top of Response Zone (m)	Bottom of Response Zone (m)	Date of Installation
SPG/GW	50	6.00	2.00	6.00	20/11/2014

BACKFILL DETAILS

Top (m)	Bottom (m)	Material	Backfill Date
0.00	0.30	Concrete / Flush Cover	20/11/2014
0.30	2.00	Bentonite Pellets	
2.00	6.00	Pea Shingle	
6.00	30.00	Bentonite Pellets	

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Borehole No

PB04

Project

St Giles Circus

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
14/2669	18/11/14			30.35m
	Date Completed 20/11/14			

Client

Consolidated Developments Limited

PROGRESS

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)	Remarks
18/11/14	0.00		Dry	
18/11/14	4.00	4.00	2.00	
18/11/14	5.00	4.50	3.00	
18/11/14	6.00	6.00	Wet	... Slop
18/11/14	7.00	6.00	Dry	
18/11/14	16.60	6.00	Dry	
19/11/14	16.60	6.00	Dry	
19/11/14	17.00	6.00	Wet	... Slop
19/11/14	18.00	6.00	Wet	... Slop
19/11/14	19.00	6.00	Dry	
19/11/14	30.35	6.00	Dry	

SPT DETAILS

Type	Depth (m)	N Value	Blow Count / 75mm	Casing Depth (m)	Water Depth (m)
S	2.00	N0	2, 2 / 0, 0, 0, 0	1.70	Dry
S	3.00	N30	2, 3 / 5, 6, 9, 10	3.00	Dry
C	4.00	N23	2, 3 / 4, 4, 7, 8	4.00	2.00
C	5.00	N24	3, 4 / 6, 6, 7, 5	4.50	3.00
S	6.00	N14	2, 3 / 3, 3, 4, 4	6.00	Wet
S	8.00	N21	3, 3 / 4, 5, 5, 7	6.00	Dry
S	9.00	N25	3, 4 / 5, 6, 7, 7	6.00	Dry
S	11.00	N27	3, 4 / 5, 6, 7, 9	6.00	Dry
S	12.00	N30	4, 6 / 6, 7, 8, 9	6.00	Dry
S	14.00	N33	4, 6 / 7, 7, 10, 9	6.00	Dry
S	15.00	N36	5, 6 / 8, 8, 9, 11	6.00	Dry
S	17.00	N43	6, 7 / 9, 9, 11, 14	6.00	Wet
S	18.00	N35	6, 7 / 7, 8, 9, 11	6.00	Wet
S	20.00	N39	7, 8 / 9, 10, 10, 10	6.00	Dry
S	21.00	N40	7, 9 / 9, 10, 10, 11	6.00	Dry
S	23.00	N44	8, 9 / 9, 10, 12, 13	6.00	Dry
S	24.00	N45	8, 9 / 10, 10, 11, 14	6.00	Dry
S	26.00	N50	8, 9 / 11, 11, 13, 15	6.00	Dry
S	27.00	N50/0.275	9, 9 / 12, 13, 16, 9	6.00	Dry
S	29.00	N50/0.225	9, 11 / 14, 16, 19, 1	6.00	Dry
S	30.00	N50/0.19	10, 14 / 19, 21, 10	6.00	Dry

GENERAL REMARKS

KEY

SAMPLES

ES - Environmental Sample (Tub, Vial, Jar)
U - 100mm Diameter Undisturbed Sample
UT - 100mm Diameter Thin Wall Undisturbed Sample
U38 - 38mm Diameter Undisturbed Sample
D - Disturbed Sample, B-Bulk Sample, BLK-Block Sample
C - Core Sample, W-Water Sample, R-Root Sample

HOLE TYPES

IP -Inspection Pit, TP-Trial Pit
CP -Cable Percussion, RC-Rotary Coring, R/S-Rotary/Sonic
WS -Window Sampling, WSL-Windowless Sampling
DC -Dynamic Coring

INSTALLATION DETAILS

SPIE - Standpipe Piezometer
SPGW - Groundwater Monitor Standpipe
SPG/GW - Gas / Groundwater Monitor Standpipe
VWP - Vibrating Wire Piezometer
INC - Inclinometer

TESTS S/C-SPT / CPT, SV-Shear Vane, PP-Pocket Penetrometer, M-Mackintosh Probe

Note: All depths are in metres, all diameters in millimetres, water strike rise time in minutes. For details of abbreviations see Key

CONCEPT SITE INVESTIGATIONS

8 Warple Way
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Borehole No

PB04

Project

St Giles Circus

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
14/2669	18/11/14			30.35m
	Date Completed 20/11/14			

Client	Method/ Plant Used	Sheet
Consolidated Developments Limited	Cable Percussion	1 of 3

PROGRESS			STRATA				SAMPLES & TESTS				
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result	Field Records	Instrument/ Backfill
18/11/14		Dry			0.20	Grey block paving (0.10m) over grey gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse flint and concrete fragments. (MADE GROUND)	0.40-1.00	B1			
					0.30		0.40-1.00	D2			
					0.40	CONCRETE.	0.50			... VOC 0.2ppm	
							0.50	ES3			
						COBBLES of concrete and brick fragments. (MADE GROUND)	1.00			... VOC 0.1ppm	
					(1.60)		1.00	ES4			
						Brown clayey sandy subangular to subrounded fine to coarse GRAVEL with occasional pockets of soft brown sandy clay (<45mm). Gravel comprises flint, brick, concrete and sandstone fragments. Sand is fine to coarse. (MADE GROUND)	2.00		N0	2, 2 / 0, 0, 0, 0	
					2.00		2.00			... VOC 0.1ppm	
							2.00	ES5			
						... becoming very clayey and very sandy with occasional cobble sized brick fragments and rare pockets of soft brown sandy clay (<20mm) below 1.00m.	2.00-2.45	D6			
					(1.00)		2.00-2.50	B7			
							2.00-2.50	D8			
					3.00		3.00		N30	2, 3 / 5, 6, 9, 10	
						Very loose, brown and reddish brown occasionally mottled grey clayey very sandy subangular to subrounded fine to coarse GRAVEL comprising brick, concrete and sandstone fragments and cobble sized brick fragments. Sand is fine to coarse. (MADE GROUND)	3.00			... VOC 0.0ppm	
							3.00-3.45	D10			
					(1.00)		3.00	ES9			
							3.50-4.00	B11			
							3.50-4.00	D12			
18/11/14	4.00	2.00			4.00		4.00		N23	2, 3 / 4, 4, 7, 8	
						Medium dense, brown very sandy subangular to subrounded fine to coarse flint GRAVEL. Sand is fine to coarse. (RIVER TERRACE DEPOSITS)	4.00-4.50	B13			
18/11/14	4.50	3.00			(1.70)	Medium dense, brown very gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse flint. (RIVER TERRACE DEPOSITS)	5.00		N24	3, 4 / 6, 6, 7, 5	
					5.70		5.70	D14			
18/11/14	6.00	Wet			6.00	Firm, brown mottled orangish brown slightly gravelly CLAY with occasional pockets of orangish brown fine sand (<25mm) and occasional dark grey flecks. Gravel is subangular to subrounded fine to coarse flint. (THAMES GROUP: WEATHERED LONDON CLAY FORMATION)	6.00		N14	2, 3 / 3, 3, 4, 4	
							6.00	D15			
							6.00-6.45	D16			
18/11/14	6.00	Dry				Firm, extremely closely to very closely fissured greyish brown slightly micaceous CLAY with occasional bioturbation and rare off-white fine to medium sand sized shell fragments. Fissures are generally subhorizontal and 20°-45°, planar, smooth, unpolished. (THAMES GROUP: LONDON CLAY FORMATION - A3ii)	7.00-7.45	UT17	20 blows	100% Recovery	
							7.60	D18			
							8.00		N21	3, 3 / 4, 5, 5, 7	
							8.00-8.45	D19			
						... becoming slightly sandy with rare partings and occasional pockets of light brown fine sand (<55mm) and rare pockets of dark grey sandy silt (<35mm) below 7.60m.					
						... becoming stiff with occasional off-white fine to coarse sand sized shell fragments below 8.00m.	9.00		N25	3, 4 / 5, 6, 7, 7	
							9.00-9.45	D20			
							10.00-10.45	UT21	23 blows	100% Recovery	
							10.60	D22			
						... with rare pyrite nodules (<7mm) at 10.60m.	11.00		N27	3, 4 / 5, 6, 7, 9	

Issue No.	Log Print Date & Time
01	01/12/2014 11:41

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Borehole No
PB04

Project
St Giles Circus

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
14/2669	18/11/14			30.35m
	Date Completed 20/11/14			

Client	Method/ Plant Used	Sheet
Consolidated Developments Limited	Cable Percussion	2 of 3

PROGRESS			STRATA				SAMPLES & TESTS				
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result	Field Records	Instrument/ Backfill
					(10.00)		11.00-11.45	D23			
							12.00		N30	4, 6 / 6, 7, 8, 9	
						... becoming very stiff below 12.00m.	12.00-12.45	D24			
							13.00-13.45	UT25	26 blows	100% Recovery	
							13.60	D26			
						... with occasional pockets of dark grey sandy silt (<55mm) at 13.60m.	14.00		N33	4, 6 / 7, 7, 10, 9	
							14.00-14.45	D27			
							15.00		N36	5, 6 / 8, 8, 9, 11	
							15.00-15.45	D28			
					16.00		16.00-16.45	UT29	31 blows	100% Recovery	
18/11/14	6.00	Dry				Very stiff, very closely to closely fissured greyish brown slightly micaceous CLAY with occasional bioturbation and rare off-white fine to coarse sand sized shell fragments. Fissures are generally subhorizontal and 40°-60°, planar, smooth, polished. (THAMES GROUP: LONDON CLAY FORMATION - A3i)	16.60	D30			
19/11/14	6.00	Dry									
19/11/14	6.00	Wet					17.00		N43	6, 7 / 9, 9, 11, 14	
							17.00-17.45	D31			
19/11/14	6.00	Wet			(3.60)	... with rare pockets of light brown fine sand (<25mm) below 18.00m.	18.00		N35	6, 7 / 7, 8, 9, 11	
							18.00-18.45	D32			
19/11/14	6.00	Dry					19.00-19.45	UT33	37 blows	100% Recovery	
					19.60		19.60	D34			
						Very stiff, extremely closely to very closely fissured greyish brown to brownish grey slightly sandy slightly micaceous CLAY with occasional pockets of dark grey sandy silt (<45mm), occasional pockets of light brown fine sand (<15mm), occasional bioturbation and rare foraminifera. Fissures are generally subhorizontal and subvertical, planar, smooth, polished. (THAMES GROUP: LONDON CLAY FORMATION - A2) ... with occasional partings of light brown fine sand at 21.00m. ... with occasional off-white fine to coarse sand sized shell fragments below 21.00m.	20.00		N39	7, 8 / 9, 10, 10, 10	
							20.00-20.45	D35			
							21.00		N40	7, 9 / 9, 10, 10, 11	
							21.00-21.45	D36			
							22.00	UT37	40 blows	No Recovery	

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Borehole No
PB04

Project
St Giles Circus

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
14/2669	18/11/14			30.35m
	Date Completed 20/11/14			

Client	Method/ Plant Used	Sheet
Consolidated Developments Limited	Cable Percussion	3 of 3

PROGRESS			STRATA				SAMPLES & TESTS				
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result	Field Records	Instrument/ Backfill
							22.60	D38			
						... with occasional partings of light brown fine sand at 22.60m.	23.00		N44	8, 9 / 9, 10, 12, 13	
							23.00-23.45	D39			
							24.00		N45	8, 9 / 10, 10, 11, 14	
						... becoming locally sandy with frequent foraminifera below 24.00m.	24.00-24.45	D40			
					(10.75)		25.00-25.40	UT41	45 blows	90% Recovery	
						... with occasional lignite fragments (<35mm) and rare pyrite nodules (<20mm) at 25.00m.	25.60	D42			
							26.00		N50	8, 9 / 11, 11, 13, 15	
							26.00-26.45	D43			
							27.00		N50/ 0.275	9, 9 / 12, 13, 16, 9	
							27.00-27.45	D44			
							28.00-28.45	UT45	50 blows	100% Recovery	
							28.60	D46			
							29.00		N50/ 0.225	9, 11 / 14, 16, 19, 1	
							29.00-29.40	D47			
							30.00		N50/ 0.19	10, 14 / 19, 21, 10	
19/11/14	6.00	Dry			30.35		30.00-30.35	D48			
						End of Borehole					

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Borehole No

PB05

Project

St Giles Circus

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
14/2669	11/11/14			30.00m
	Date Completed 17/11/14			

Client

Consolidated Developments Limited

BOREHOLE SUMMARY

Top (m)	Base (m)	Type	Date Started	Date Ended	Crew	Logged By	Core Barrel (mm)	Core Bit	Plant Used/ Method	Shoring / Support
0.00	1.20	IP	11/11/2014	11/11/2014	AR/HB	RV			Hand Excavated	
1.20	30.00	CP	13/11/2014	14/11/2014	AR/HB	RV			Cable Percussion	

WATER STRIKES

Strike at (m)	Rise to (m)	Time to Rise (min)	Casing Depth (m)	Sealed (m)

WATER ADDED

From (m)	To (m)
2.70	5.50

CHISELLING

From (m)	To (m)	Duration (hr)	Remarks

HOLE

Depth (m)	Diameter (mm)
0.00	200
30.00	200

CASING

Depth (m)	Diameter (mm)
0.00	200
6.00	200

ROTARY / DYNAMIC SAMPLING

From (m)	To (m)	Blows	Recovery (%)

ROTARY FLUSH DETAIL

From (m)	To (m)	Flush Type	Flush Return (%)	Flush Colour

INSTALLATION DETAILS

Type	Diameter (mm)	Depth of Installation (m)	Top of Response Zone (m)	Bottom of Response Zone (m)	Date of Installation
SPG/GW	50	6.00	2.00	6.00	17/11/2014

BACKFILL DETAILS

Top (m)	Bottom (m)	Material	Backfill Date
0.00	0.30	Concrete / Flush Cover	17/11/2014
0.30	2.00	Bentonite Pellets	
2.00	6.00	Pea Shingle	
6.00	30.00	Bentonite Pellets	

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Borehole No

PB05

Project

St Giles Circus

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
14/2669	11/11/14			30.00m
	Date Completed 17/11/14			

Client

Consolidated Developments Limited

PROGRESS

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)	Remarks
11/11/14	0.00		Dry	
11/11/14	1.20		Dry	
13/11/14	1.20		Dry	
13/11/14	2.00	1.70	Dry	
13/11/14	3.00	3.00	2.50	
13/11/14	4.00	4.00	2.00	
13/11/14	5.00	4.50	2.50	
13/11/14	6.00	6.00	Wet	... Slop
13/11/14	7.00	6.00	Dry	
13/11/14	19.00	6.00	Dry	
14/11/14	19.00	6.00	Dry	
14/11/14	30.00	6.00	Dry	

SPT DETAILS

Type	Depth (m)	N Value	Blow Count / 75mm	Casing Depth (m)	Water Depth (m)
S	2.00	N10	3, 2 / 2, 1, 3, 4	1.70	Dry
C	3.00	N22	2, 3 / 3, 4, 7, 8	3.00	2.50
C	4.00	N21	2, 3 / 3, 4, 6, 8	4.00	2.00
C	5.00	N15	4, 4 / 7, 5, 2, 1	4.50	2.50
S	6.00	N15	3, 3 / 3, 3, 4, 5	6.00	Wet
S	7.00	N17	3, 3 / 3, 4, 4, 6	6.00	Dry
S	9.00	N20	3, 3 / 4, 5, 5, 6	6.00	Dry
S	10.00	N25	3, 4 / 5, 6, 6, 8	6.00	Dry
S	12.00	N32	4, 4 / 6, 8, 8, 10	6.00	Dry
S	13.00	N33	4, 5 / 6, 7, 9, 11	6.00	Dry
S	15.00	N37	5, 6 / 7, 9, 10, 11	6.00	Dry
S	16.00	N32	4, 4 / 7, 8, 8, 9	6.00	Dry
S	18.00	N32	4, 6 / 6, 7, 9, 10	6.00	Dry
S	19.00	N38	5, 7 / 7, 9, 10, 12	6.00	Dry
S	21.00	N37	5, 6 / 8, 9, 10, 10	6.00	Dry
S	22.00	N41	4, 6 / 9, 9, 10, 13	6.00	Dry
S	24.00	N47	6, 8 / 10, 10, 13, 14	6.00	Dry
S	25.00	N46	6, 8 / 9, 11, 12, 14	6.00	Dry
S	27.00	N46	7, 8 / 10, 10, 13, 13	6.00	Dry
S	28.00	N47	8, 8 / 9, 11, 13, 14	6.00	Dry

GENERAL REMARKS

KEY

SAMPLES

ES - Environmental Sample (Tub, Vial, Jar)
U - 100mm Diameter Undisturbed Sample
UT - 100mm Diameter Thin Wall Undisturbed Sample
U38 - 38mm Diameter Undisturbed Sample
D - Disturbed Sample, B-Bulk Sample, BLK-Block Sample
C - Core Sample, W-Water Sample, R-Root Sample

HOLE TYPES

IP -Inspection Pit, TP-Trial Pit
CP -Cable Percussion, RC-Rotary Coring, R/S-Rotary/Sonic
WS -Window Sampling, WSL-Windowless Sampling
DC -Dynamic Coring

INSTALLATION DETAILS

SPIE - Standpipe Piezometer
SPGW - Groundwater Monitor Standpipe
SPG/GW - Gas / Groundwater Monitor Standpipe
VWP - Vibrating Wire Piezometer
INC - Inclinometer

TESTS S/C-SPT / CPT, SV-Shear Vane, PP-Pocket Penetrometer, M-Mackintosh Probe

Note: All depths are in metres, all diameters in millimetres, water strike rise time in minutes. For details of abbreviations see Key

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Borehole No
PB05

Project
St Giles Circus

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
14/2669	11/11/14			30.00m
	Date Completed 17/11/14			

Client	Method/ Plant Used	Sheet
Consolidated Developments Limited	Cable Percussion	1 of 3

PROGRESS			STRATA				SAMPLES & TESTS				
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result	Field Records	Instrument/ Backfill
11/11/14		Dry			0.10	Paving slab over fine to coarse SAND.	0.30-0.60	B01			
					0.20	(MADE GROUND)	0.30-0.60	D02			
					0.30	CONCRETE.	0.50			... VOC 0.2ppm	
						Granite COBBLES. (MADE GROUND)	0.50	ES03			
							0.60-1.20	B04			
						Loose, brown sandy subangular to subrounded fine to coarse GRAVEL comprising flint, brick and concrete fragments. Sand is fine to coarse. (MADE GROUND) ... becoming grey and clayey below 0.60m.	0.60-1.20	D05			
11/11/14		Dry			(1.60)		1.00			... VOC 0.2ppm	
13/11/14		Dry					1.00	ES06			
					1.90						
13/11/14	1.70	Dry				Loose to medium dense, reddish brown sandy angular to subrounded fine to coarse GRAVEL and COBBLES of brick fragments. Sand is fine to coarse. (MADE GROUND)	2.00		N10	3, 2 / 2, 1, 3, 4	
							2.00			... VOC 0.0ppm	
							2.00	ES07			
					(0.80)		2.00-2.45	D08			
							2.00-2.50	B09			
					2.70		2.70-3.00	B10			
13/11/14	3.00	2.50				Medium dense, greyish brown slightly sandy subangular to subrounded fine to coarse GRAVEL comprising flint and sandstone fragments. Sand is fine to coarse. (RIVER TERRACE DEPOSITS)	3.00		N22	2, 3 / 3, 4, 7, 8	
							3.00			... VOC 0.0ppm	
							3.00	ES11			
					(1.30)						
13/11/14	4.00	2.00			4.00		4.00		N21	2, 3 / 3, 4, 6, 8	
						Medium dense, brown slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse flint. (RIVER TERRACE DEPOSITS)	4.00-4.50	B12			
							4.00	D13			
					(1.00)						
13/11/14	4.50	2.50			5.00		5.00		N15	4, 4 / 7, 5, 2, 1	
						Medium dense, brown fine to coarse SAND and angular to subrounded fine to coarse GRAVEL comprising flint and sandstone fragments. Sand is fine to coarse. (RIVER TERRACE DEPOSITS)	5.00	B14			
					(0.50)		5.00	D15			
					5.50						
					(0.50)	Firm to stiff, reddish brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to rounded fine to coarse flint. (THAMES GROUP: WEATHERED LONDON CLAY FORMATION)					
13/11/14	6.00	Wet			6.00		6.00		N15	3, 3 / 3, 3, 4, 5	
							6.00	D16			
							6.00-6.45	D17			
						Stiff, very closely to closely fissured grey CLAY. (THAMES GROUP: LONDON CLAY FORMATION)					
13/11/14	6.00	Dry					7.00		N17	3, 3 / 3, 4, 4, 6	
							7.00-7.45	D18			
							8.00-8.45	UT19	24 blows	100% Recovery	
							8.60	D20			
						... with occasional pockets of light brown fine sand at 8.60m.					
							9.00		N20	3, 3 / 4, 5, 5, 6	
							9.00-9.45	D21			
							10.00		N25	3, 4 / 5, 6, 6, 8	
							10.00-10.45	D22			
							11.00-11.45	UT23	27 blows	100% Recovery	

CONCEPT SITE INVESTIGATIONS
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Borehole No
PB05

Project
St Giles Circus

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
14/2669	11/11/14			30.00m
	Date Completed 17/11/14			

Client	Method/ Plant Used	Sheet
Consolidated Developments Limited	Cable Percussion	2 of 3

PROGRESS			STRATA				SAMPLES & TESTS				
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result	Field Records	Instrument/ Backfill
							11.60	D24			
						... with partings of light brown fine sand at 11.60m.	12.00		N32	4, 4 / 6, 8, 8, 10	
						... becoming very stiff below 12.00m.	12.00-12.45	D25			
							13.00		N33	4, 5 / 6, 7, 9, 11	
							13.00-13.45	D26			
							14.00-14.45	UT27	32 blows	100% Recovery	
						... with partings of light brown fine sand below 14.00m.					
							14.60	D28			
							15.00		N37	5, 6 / 7, 9, 10, 11	
							15.00-15.45	D29			
							16.00		N32	4, 4 / 7, 8, 8, 9	
							16.00-16.45	D30			
							17.00-17.40	UT31	34 blows	90% Recovery	
							17.60	D32			
					(24.00)		18.00		N32	4, 6 / 6, 7, 9, 10	
							18.00-18.45	D33			
13/11/14	6.00	Dry					19.00		N38	5, 7 / 7, 9, 10, 12	
14/11/14	6.00	Dry					19.00-19.45	D34			
							20.00-23.15	UT35	37 blows	30% Recovery	
							20.30	D36			
						... with occasional pockets of light brown fine sand between 20.90m and 23.00m.	21.00		N37	5, 6 / 8, 9, 10, 10	
							21.00-21.45	D37			
							22.00		N41	4, 6 / 9, 9, 10, 13	

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Borehole No
PB05

Project
St Giles Circus

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
14/2669	11/11/14			30.00m
	Date Completed 17/11/14			

Client	Method/ Plant Used	Sheet
Consolidated Developments Limited	Cable Percussion	3 of 3

PROGRESS			STRATA				SAMPLES & TESTS				
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result	Field Records	Instrument/ Backfill
							22.00-22.45	D38			
							23.00-23.35	UT39	40 blows	80% Recovery	
							23.50	D40			
							24.00		N47	6, 8 / 10, 10, 13, 14	
							24.00-24.45	D41			
							25.00		N46	6, 8 / 9, 11, 12, 14	
							25.00-25.45	D42			
							26.00-26.40	UT43	44 blows	90% Recovery	
							26.60	D44			
							27.00		N46	7, 8 / 10, 10, 13, 13	
							27.00-27.45	D45			
							28.00		N47	8, 8 / 9, 11, 13, 14	
							28.00-28.45	D46			
							29.00-29.35	UT47	50 blows	80% Recovery	
						... becoming sandy with shell fragments below 29.00m. Sand is fine to medium.					
							29.60	D48			
14/11/14	6.00	Dry			30.00						
						End of Borehole					

Issue No.	Log Print Date & Time
01	01/12/2014 11:16

CONCEPT SITE INVESTIGATIONS

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Borehole No

WS13

Project

St Giles Circus

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
14/2669	**Date Completed** 02/12/14			3.70m

Client	Method/ Plant Used	Sheet
Consolidated Developments Limited	**Dynamic Sampler**	1 of 1

PROGRESS			STRATA				SAMPLES & TESTS				
Date	Casing	Water	Level (mOD)	Legend	Depth *(Thickness)*	Strata Description	Depth (m)	Type No	Test Result	Field Records	Instrument/ Backfill
02/12/14		Dry			0.10	CONCRETE over HDPE membrane.					
					0.20	GRAVEL and COBBLES of concrete and brick fragments. (MADE GROUND)	0.50	ES01			
					(0.40)						
					0.60	Dark brown clayey sandy angular to rounded fine to coarse GRAVEL comprising flint, brick and concrete fragments. Sand is fine to coarse. (MADE GROUND)	1.00	ES02			
					(0.60)						
					1.20	Orangish brown mottled bluish grey slightly gravelly to gravelly silty fine to coarse SAND. Gravel is subrounded fine to coarse flint. (RIVER TERRACE DEPOSITS)	1.20			... 100% Recovery between 1.20m and 2.00m.	
						Very dense, orangish brown silty very gravelly fine to coarse SAND. Gravel is subrounded fine to coarse flint. (RIVER TERRACE DEPOSITS)	2.00				
							2.00	ES03		... 100% Recovery between 2.00m and 3.00m.	
					(2.50)						
							3.00				
							3.00	ES04		... 100% Recovery between 3.00m and 3.70m.	
02/12/14		Dry			3.70		3.70			... Borehole aborted at 3.70m depth. (see Remarks)	
						End of Borehole					

Chiselling (m)			Water Added (m)	
From	To	Hours	From	To

GENERAL REMARKS

1. An inspection pit was hand excavated to 1.20m depth prior to boring commencing.
2. Borehole aborted at 3.70m depth due to refusal.
3. Borehole backfilled with bentonite pellets and made good upon completion.

Issue No.	Driller	Logged By
01	DS	MP

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Borehole No

WS14

Project

St Giles Circus

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
14/2669	**Date Started** 27/11/14 **Date Completed** 27/11/14			6.00m

Client	Method/ Plant Used	Sheet
Consolidated Developments Limited	**Dynamic Sampler**	1 of 1

PROGRESS			STRATA				SAMPLES & TESTS				
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result	Field Records	Instrument/ Backfill
27/11/14		Dry			0.15	Flag stone. (MADE GROUND)					
					(0.45) 0.60	Dark brown very sandy very gravelly CLAY. Gravel is angular to rounded fine to coarse flint and brick fragments. Sand is fine to coarse. (MADE GROUND)	0.50	ES01			
							1.00	ES02			
					(0.90) 1.50	Orangish brown very sandy subrounded fine to medium flint GRAVEL. Sand is fine to coarse. (RIVER TERRACE DEPOSITS)	1.20			... 50% Recovery between 1.20m and 2.00m.	
						Orangish brown gravelly fine to medium SAND. Gravel is subrounded fine to coarse flint. (RIVER TERRACE DEPOSITS)	2.00 2.00	ES03		... 50% Recovery between 2.00m and 3.00m.	
		1			(3.00)		3.00 3.00	ES04		... 70% Recovery between 3.00m and 4.00m.	
27/11/14		3.50 1					4.00 4.00	ES05		... 100% Recovery between 4.00m and 5.00m.	
					4.50						
					(1.50)	Stiff, dark greyish brown silty CLAY. (THAMES GROUP: LONDON CLAY FORMATION)	5.00 5.00	ES06		... 50% Recovery between 5.00m and 6.00m.	
							5.80	ES07			
27/11/14					6.00	End of Borehole					

Chiselling (m)			Water Added (m)	
From	To	Hours	From	To

GENERAL REMARKS

1. An inspection pit was hand excavated to 1.20m depth prior to boring commencing.
2. Water seepage encountered at 3.50m depth, rising to 3.00m (20min).
3. Borehole backfilled with bentonite pellets and made good upon completion.

Issue No.	Driller	Logged By
01	DS	MP

CONCEPT SITE INVESTIGATIONS

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Borehole No

WS15

Project

St Giles Circus

Job No	Date Started	Ground Level (mOD)	Co-Ordinates	Final Depth
14/2669	03/12/14			4.50m
	Date Completed 03/12/14			

Client	Method/ Plant Used	Sheet
Consolidated Developments Limited	Dynamic Sampler	1 of 1

PROGRESS			STRATA				SAMPLES & TESTS				
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result	Field Records	Instrument/ Backfill
03/12/14		Dry			0.20	Wooden floor boards over CONCRETE.					
					(0.60) 0.80	Orangish brown sandy angular to rounded fine to coarse GRAVEL comprising flint and brick fragments. Sand is fine to coarse. (MADE GROUND)	0.50	ES01			
						Orangish brown silty slightly gravelly fine to coarse SAND. Gravel is angular to rounded fine to coarse flint. (RIVER TERRACE DEPOSITS)	1.00	ES02			
							1.20			... 100% Recovery between 1.20m and 2.20m.	
							2.00	ES03			
							2.20			... 100% Recovery between 2.20m and 3.20m.	
		1			(3.35)						
03/12/14		2.80					3.00	ES04			
							3.20			... 100% Recovery between 3.20m and 4.20m.	
							4.00	ES05			
					4.15		4.20			... No Recovery between 4.20m and 4.50m.	
03/12/14					4.50	Dark grey silty CLAY. (THAMES GROUP: LONDON CLAY FORMATION)				... Borehole aborted at 4.50m depth. (see Remarks)	
						End of Borehole					

Chiselling (m)			Water Added (m)	
From	To	Hours	From	To

GENERAL REMARKS

1. An inspection pit was hand excavated to 1.20m depth prior to boring commencing.
2. Water seepage encountered at 2.80m depth, rising to 2.50m (20min).
3. Borehole aborted at 4.50m depth due to refusal.
4. Borehole backfilled with bentonite pellets and made good upon completion.

Issue No.	Driller	Logged By
01	DS	MP

Borehole	Depth of Installation (mbgl)	Date of Installation	Type	Top (mbgl)	Bottom (mbgl)	Date & Time	Water Level (mbgl)	Water Level (mOD)	Remarks
PB02	8.00	02/12/2014	SPGW	2.00	8.00	06/01/2015 13:15:00	5.30		
	8.00	02/12/2014	SPGW	2.00	8.00	22/01/2015 11:40:00	5.27		
	8.00	02/12/2014	SPGW	2.00	8.00	29/01/2015 12:50:00	5.29		
	8.00	02/12/2014	SPGW	2.00	8.00	05/02/2015 13:45:00	4.79		
	8.00	02/12/2014	SPGW	2.00	8.00	19/02/2015 08:55:00	5.46		
PB04	6.00	20/11/2014	SPG/GW	2.00	6.00	06/01/2015 14:55:00	3.90		
	6.00	20/11/2014	SPG/GW	2.00	6.00	22/01/2015 11:15:00	3.86		
	6.00	20/11/2014	SPG/GW	2.00	6.00	29/01/2015 11:44:00	3.86		
	6.00	20/11/2014	SPG/GW	2.00	6.00	05/02/2015 13:50:00	3.92		
	6.00	20/11/2014	SPG/GW	2.00	6.00	19/02/2015 09:00:00	3.91		
PB05	6.00	17/11/2014	SPG/GW	2.00	6.00	06/01/2015 14:30:00	4.35		
	6.00	17/11/2014	SPG/GW	2.00	6.00	22/01/2015 10:55:00	4.32		
	6.00	17/11/2014	SPG/GW	2.00	6.00	29/01/2015 04:33:00	4.33		
	6.00	17/11/2014	SPG/GW	2.00	6.00	05/02/2015 13:55:00	4.35		
	6.00	17/11/2014	SPG/GW	2.00	6.00	19/02/2015 09:15:00	4.42		

KEY

SPIE - Standpipe Piezometer
SPGW - Groundwater Monitor Standpipe
SPG/GW - Gas / Groundwater Monitor Standpipe

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GROUNDWATER MONITORING

Project: St Giles Circus

Client: Consolidated Developments Limited

Job No: 14/2669

CONCEPT

GROUNDWATER - IN SITU ANALYSIS & SAMPLING

Site:	**St Giles Circus**
Job No.:	**14/2669**
Date:	**06/01/2015**
Technician:	**RM**
Sampling method:	*Impeller pump (purging) and disposable bailer sampling*

Borehole Detail				Sampling and Testing							
BH No.	Base of well (mbgl)	Top of slotted response zone (mbgl)	Depth to GW (mbgl)	Purge Volume (l)	Time	Temp (^{0}C)	EC (ms/cm)	Do (mg/l)	pH	Redox Potential (mV)	Sample Detail (Colour/Odour/ Turbidity
PB04	6.00		3.90	4	14:55:00	14.42	1.718	2.63	8.38	305.7	Very turbid / Dark grey
				8		14.31	1.725	1.63	8.46	300.2	Slightly turbid
				12		14.21	1.725	1.46	8.48	298.0	Slightly turbid

CONCEPT

GROUNDWATER - IN SITU ANALYSIS & SAMPLING

Site:	**St Giles Circus**
Job No.:	**14/2669**
Date:	**06/01/2015**
Technician:	**RM**
Sampling method:	*Impeller pump (purging) and disposable bailer sampling*

Borehole Detail				Sampling and Testing							
BH No.	Base of well (mbgl)	Top of slotted response zone (mbgl)	Depth to GW (mbgl)	Purge Volume (l)	Time	Temp (^{0}C)	EC (ms/cm)	Do (mg/l)	pH	Redox Potential (mV)	Sample Detail (Colour/Odour/ Turbidity
PB05	6.00		4.35	3	14:30:00	14.84	0.296	3.44	8.45	303.0	Very turbid / Dark grey
				5		14.69	0.291	2.90	8.52	300.0	Slightly turbid
				8		14.54	0.285	2.65	8.55	298.6	Slightly turbid

CONCEPT

GROUNDWATER - IN SITU ANALYSIS & SAMPLING

Site:	**St Giles Circus**
Job No.:	**14/2669**
Date:	**22/01/2015**
Technician:	**RM**
Sampling method:	*Impeller pump (purging) and disposable bailer sampling*

Borehole Detail				Sampling and Testing							
BH No.	Base of well (mbgl)	Top of slotted response zone (mbgl)	Depth to GW (mbgl)	Purge Volume (l)	Time	Temp (^{0}C)	EC (ms/cm)	Do (mg/l)	pH	Redox Potential (mV)	Sample Detail (Colour/Odour/ Turbidity
PB04	6.00		3.86	4	11:15:00	13.82	1.379	5.72	7.74	3.8	Very turbid / Dark brownish grey
				8		13.52	1.410	4.01	7.77	2.5	Very turbid / Dark brownish grey
				12		13.23	1.432	2.50	7.80	0.5	Slightly turbid

CONCEPT

GROUNDWATER - IN SITU ANALYSIS & SAMPLING

Site:	**St Giles Circus**
Job No.:	**14/2669**
Date:	**22/01/2015**
Technician:	**RM**
Sampling method:	*Impeller pump (purging) and disposable bailer sampling*

Borehole Detail				Sampling and Testing							
BH No.	Base of well (mbgl)	Top of slotted response zone (mbgl)	Depth to GW (mbgl)	Purge Volume (l)	Time	Temp (^{0}C)	EC (ms/cm)	Do (mg/l)	pH	Redox Potential (mV)	Sample Detail (Colour/Odour/ Turbidity
PB05	6.00		4.32	3	10:55:00	13.82	0.597	6.85	7.18	33.5	Very turbid / Dark brown
				5		13.63	0.599	4.56	7.43	20.3	Very turbid / Dark brown
				8		13.43	0.596	2.57	7.75	4.4	Slightly turbid

CONCEPT

GROUNDWATER - IN SITU ANALYSIS & SAMPLING

Site:	**St Giles Circus**
Job No.:	**14/2669**
Date:	**29/01/2015**
Technician:	**RM**
Sampling method:	*Impeller pump (purging) and disposable bailer sampling*

Borehole Detail				Sampling and Testing							
BH No.	Base of well (mbgl)	Top of slotted response zone (mbgl)	Depth to GW (mbgl)	Purge Volume (l)	Time	Temp (^{0}C)	EC (ms/cm)	Do (mg/l)	pH	Redox Potential (mV)	Sample Detail (Colour/Odour/ Turbidity
PB04	6.00		3.86	4	11:44:00	11.87	1.139	4.74	7.72	-19.3	Very turbid / Dark brownish grey
				8		11.82	1.131	2.94	7.72	-20.2	Very turbid / Dark brownish grey
				12		11.78	1.127	2.15	7.71	-23.2	Slightly turbid

CONCEPT

GROUNDWATER - IN SITU ANALYSIS & SAMPLING

Site:	**St Giles Circus**
Job No.:	**14/2669**
Date:	**29/01/2015**
Technician:	**RM**
Sampling method:	*Impeller pump (purging) and disposable bailer sampling*

Borehole Detail				Sampling and Testing							
BH No.	Base of well (mbgl)	Top of slotted response zone (mbgl)	Depth to GW (mbgl)	Purge Volume (l)	Time	Temp (^{0}C)	EC (ms/cm)	Do (mg/l)	pH	Redox Potential (mV)	Sample Detail (Colour/Odour/ Turbidity
PB05	6.00		4.33	3	11:35:00	13.85	0.550	6.23	7.02	18.7	Very turbid / Dark brown
				5		13.48	0.565	4.51	7.24	7.0	Very turbid / Dark brown
				8		12.73	0.558	3.78	7.58	-11.3	Slightly turbid

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Analytical Report Number : 14-63271

Replaces Analytical Report Number : 14-63271, issue no. 1

Project / Site name:	St Giles Circus	**Samples received on:**	19/11/2014
Your job number:	14-2669	**Samples instructed on:**	20/11/2014
Your order number:	CL206	**Analysis completed by:**	28/11/2014
Report Issue Number:	2	**Report issued on:**	28/11/2014
Samples Analysed:	8 soil samples		

Signed:

Thurstan Plummer
Organics Technical Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Neil Donovan
Environmental Forensics Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Analytical Report Number: 14-63271

Project / Site name: St Giles Circus
Your Order No: CL206

Lab Sample Number				393566	393567	393568	393569	393570
Sample Reference				PB05	PB05	PB05	PB05	PB04
Sample Number				ES	ES	ES	ES	ES
Depth (m)				0.50	1.00	2.00	3.00	0.50
Date Sampled				19/11/2014	19/11/2014	19/11/2014	19/11/2014	14/11/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	14	18	22	2.9	11
Total mass of sample received	kg	0.001	NONE	1.4	1.3	1.6	1.6	1.4
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH	pH Units	N/A	MCERTS	8.6	8.7	8.6	8.9	8.6
Total Cyanide	mg/kg	1	MCERTS	1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Sulphate as SO_4	mg/kg	50	ISO 17025	1200	1600	2100	160	830
Sulphide	mg/kg	1	MCERTS	5.0	1.4	2.8	< 1.0	3.9
Elemental Sulphur	mg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Total Organic Carbon (TOC)	%	0.1	MCERTS	< 0.1	0.1	< 0.1	< 0.1	0.7
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.60	< 1.60	< 1.60	< 1.60	< 1.60
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	12	11	5.6	11
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	0.6	0.8	< 0.2	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	15	16	13	14
Copper (aqua regia extractable)	mg/kg	1	MCERTS	72	57	63	9.0	65
Lead (aqua regia extractable)	mg/kg	1	MCERTS	500	390	440	15	320
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.4	1.1	1.4	< 0.3	1.4
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	17	16	11	16
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	130	57	65	13	48

Analytical Report Number: 14-63271

Project / Site name: St Giles Circus
Your Order No: CL206

Lab Sample Number				393566	393567	393568	393569	393570
Sample Reference				PB05	PB05	PB05	PB05	PB04
Sample Number				ES	ES	ES	ES	ES
Depth (m)				0.50	1.00	2.00	3.00	0.50
Date Sampled				19/11/2014	19/11/2014	19/11/2014	19/11/2014	14/11/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH1 (C6 - C12)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

Analytical Report Number: 14-63271

Project / Site name: St Giles Circus

Your Order No: CL206

Lab Sample Number				393571	393572	393573		
Sample Reference				PB04	PB04	PB04		
Sample Number				ES	ES	ES		
Depth (m)				1.00	2.00	3.00		
Date Sampled				14/11/2014	14/11/2014	14/11/2014		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	15	16	12		
Total mass of sample received	kg	0.001	NONE	1.5	1.7	1.6		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		
General Inorganics								
pH	pH Units	N/A	MCERTS	8.5	8.5	8.7		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1		
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0		
Total Sulphate as SO_4	mg/kg	50	ISO 17025	920	870	150		
Sulphide	mg/kg	1	MCERTS	1.4	2.9	4.0		
Elemental Sulphur	mg/kg	20	NONE	< 20	< 20	< 20		
Total Organic Carbon (TOC)	%	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.60	< 1.60	< 1.60		
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	14	14		
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8	0.9	1.2		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	14	16	17		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	72	97	25		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	310	260	98		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	4.0	2.2	< 0.3		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	17	16		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	58	67	39		

Analytical Report Number: 14-63271

Project / Site name: St Giles Circus
Your Order No: CL206

Lab Sample Number				393571	393572	393573		
Sample Reference				PB04	PB04	PB04		
Sample Number				ES	ES	ES		
Depth (m)				1.00	2.00	3.00		
Date Sampled				14/11/2014	14/11/2014	14/11/2014		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		

Petroleum Hydrocarbons

TPH1 (C6 - C12)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0		
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4		
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4		
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10		

Analytical Report Number : 14-63271

Project / Site name: St Giles Circus

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
393566	PB05	ES	0.50	Brown sandy topsoil with gravel and brick.
393567	PB05	ES	1.00	Brown sandy topsoil with gravel and brick.
393568	PB05	ES	2.00	Brown sandy topsoil with gravel and brick.
393569	PB05	ES	3.00	Light brown sandy gravel.
393570	PB04	ES	0.50	Brown sandy topsoil with gravel and brick.
393571	PB04	ES	1.00	Brown sandy topsoil with gravel and brick.
393572	PB04	ES	2.00	Brown sandy topsoil with gravel and brick.
393573	PB04	ES	3.00	Light brown sandy clay with gravel and brick.

Analytical Report Number : 14-63271

Project / Site name: St Giles Circus

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
(Polish) TPH1 (Soil)	In-house method	In-house method based on USEPA8260	L073S-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Elemental sulphur in soil	Determination of elemental sulphur in soil by extraction in dichloromethane followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-PL	D	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Thiocyanate in soil	Determination of thiocyanate in soil by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by spectrophotometer.	In-house method	L049-PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS

Analytical Report Number : 14-63271

Project / Site name: St Giles Circus

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	ISO 17025
TPHCWG (Soil)	Determination of pentane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 14-63841

Project / Site name:	St Giles Circus	**Samples received on:**	28/11/2014
Your job number:	14-2669	**Samples instructed on:**	28/11/2014
Your order number:	CL215	**Analysis completed by:**	09/12/2014
Report Issue Number:	1	**Report issued on:**	09/12/2014
Samples Analysed:	4 soil samples		

Signed: CCStone

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed: TPl

Thurstan Plummer
Organics Technical Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Analytical Report Number: 14-63841

Project / Site name: St Giles Circus

Your Order No: CL215

Lab Sample Number				396831	396832	396833	396834	
Sample Reference				WS02	WS02	WS02	WS02	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				0.50	1.00	2.00	3.00	
Date Sampled				26/11/2014	26/11/2014	26/11/2014	26/11/2014	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	20	9.3	9.6	16	
Total mass of sample received	kg	0.001	NONE	1.2	1.1	1.5	1.2	
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	
General Inorganics								
pH	pH Units	N/A	MCERTS	7.9	8.1	8.1	8.2	
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	
Total Sulphate as SO_4	mg/kg	50	ISO 17025	570	250	59	89	
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Elemental Sulphur	mg/kg	20	NONE	< 20	< 20	< 20	< 20	
Total Organic Carbon (TOC)	%	0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.1	
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.60	< 1.60	< 1.60	< 1.60	

Analytical Report Number: 14-63841

Project / Site name: St Giles Circus

Your Order No: CL215

Lab Sample Number				396831	396832	396833	396834	
Sample Reference				WS02	WS02	WS02	WS02	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				0.50	1.00	2.00	3.00	
Date Sampled				26/11/2014	26/11/2014	26/11/2014	26/11/2014	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	19	6.6	12	14	
Boron (water soluble)	mg/kg	0.2	MCERTS	1.1	0.7	< 0.2	0.9	
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	31	26	6.4	36	
Copper (aqua regia extractable)	mg/kg	1	MCERTS	22	7.5	3.7	28	
Lead (aqua regia extractable)	mg/kg	1	MCERTS	66	7.9	1.9	12	
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	12	13	32	
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	53	21	18	71	
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Petroleum Hydrocarbons								
TPH1 (C6 - C12)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10	

Analytical Report Number : 14-63841

Project / Site name: St Giles Circus

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
396831	WS02	None Supplied	0.50	Light brown clay and sand with brick.
396832	WS02	None Supplied	1.00	Green sandy clay with gravel.
396833	WS02	None Supplied	2.00	Light brown sand.
396834	WS02	None Supplied	3.00	Light brown clay and sand.

Analytical Report Number : 14-63841

Project / Site name: St Giles Circus

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
(Polish) TPH1 (Soil)	In-house method	In-house method based on USEPA8260	L073S-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Elemental sulphur in soil	Determination of elemental sulphur in soil by extraction in dichloromethane followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-PL	D	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Thiocyanate in soil	Determination of thiocyanate in soil by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by spectrophotometer.	In-house method	L049-PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS

Analytical Report Number : 14-63841

Project / Site name: St Giles Circus

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	ISO 17025
TPHCWG (Soil)	Determination of pentane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 14-63842

Project / Site name:	St Giles Circus	**Samples received on:**	28/11/2014
Your job number:	14-2669	**Samples instructed on:**	28/11/2014
Your order number:	CL215	**Analysis completed by:**	10/12/2014
Report Issue Number:	1	**Report issued on:**	10/12/2014
Samples Analysed:	1 wac multi sample		

Signed: CCStone

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed: TPl

Thurstan Plummer
Organics Technical Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Waste Acceptance Criteria Analytical Results

Report No:	**14-63842**						
					Client:	**CONCEPT**	
Location	**St Giles Circus**						
Lab Reference (Sample Number)	396837				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	26/11/2014				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS02						
Depth (m)	1.00						
Solid Waste Analysis							
TOC (%)**	< 0.1				3%	5%	6%
Loss on Ignition (%) **	-				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	-				--	>6	--
Acid Neutralisation Capacity (mol / kg)	-				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 3 preparation utilising end over end leaching procedure)	2:1 mg/l	8:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.010	< 0.010		0.069	0.5	2	25
Barium *	0.019	0.015		0.15	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.017	0.0079		0.090	0.5	10	70
Copper *	0.011	0.0062		0.067	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.0091	0.0033		0.040	0.5	10	30
Nickel *	0.0090	0.0062		0.066	0.4	10	40
Lead *	0.0062	< 0.0050		0.039	0.5	10	50
Antimony *	< 0.0050	< 0.0050		0.046	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.015	0.0082		0.089	4	50	200
Chloride *	5.0	< 4.0		17	800	4000	25000
Fluoride	0.37	0.23		2.4	10	150	500
Sulphate *	8.8	9.4		93	1000	20000	50000
TDS	160	60		720	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	1.8	3.5		33	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.1						
Dry Matter (%)	91						
Moisture (%)	9.3						
Stage 1							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.21						

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and I2 cannot be held responsible for any discrepencies with current legislation

*= UKAS accredited (liquid eluate analysis only)
** = MCERTS accrediited

Analytical Report Number : 14-63842

Project / Site name: St Giles Circus

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
396837	WS02	None Supplied	1.00	Green sandy clay with gravel.

Analytical Report Number : 14-63842

Project / Site name: St Giles Circus

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX (Sum of BTEX compounds) in soil	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of chloride in leachate by Gallery discrete analyser.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L082-PL	W	ISO 17025
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037-PL	W	NONE
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033-PL	W	NONE
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
Mineral Oil in Soil	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
PCB's by GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	NONE
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Seciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L004-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 14-63672

Project / Site name:	St Giles Circus	**Samples received on:**	25/11/2014
Your job number:	14-2669	**Samples instructed on:**	27/11/2014
Your order number:	CL215	**Analysis completed by:**	08/12/2014
Report Issue Number:	1	**Report issued on:**	08/12/2014
Samples Analysed:	5 soil samples		

Signed: CCStone

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed: TPl

Thurstan Plummer
Organics Technical Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Analytical Report Number: 14-63672

Project / Site name: St Giles Circus

Your Order No: CL215

Lab Sample Number				395875	395876	395877	395878	395879
Sample Reference				WS03	WS03	WS03	WS03	WS03
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.00	2.00	3.00	3.80
Date Sampled				21/11/2014	21/11/2014	21/11/2014	21/11/2014	21/11/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	6.3	6.0	5.1	13	19
Total mass of sample received	kg	0.001	NONE	2.0	2.0	2.0	2.0	2.0
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH	pH Units	N/A	MCERTS	6.9	6.9	7.1	7.2	7.2
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Sulphate as SO_4	mg/kg	50	ISO 17025	140	66	770	240	130
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Elemental Sulphur	mg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Total Organic Carbon (TOC)	%	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.3
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.60	< 1.60	< 1.60	< 1.60	< 1.60
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	7.1	8.2	4.8	10
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	0.3	< 0.2	< 0.2	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	4.7	4.6	8.2	5.0	35
Copper (aqua regia extractable)	mg/kg	1	MCERTS	3.8	2.9	3.7	2.0	29
Lead (aqua regia extractable)	mg/kg	1	MCERTS	2.1	< 1.0	2.6	1.1	14
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	6.4	5.6	12	4.4	42
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	13	8.2	14	8.9	68

Analytical Report Number: 14-63672

Project / Site name: St Giles Circus
Your Order No: CL215

Lab Sample Number				395875	395876	395877	395878	395879
Sample Reference				WS03	WS03	WS03	WS03	WS03
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.00	2.00	3.00	3.80
Date Sampled				21/11/2014	21/11/2014	21/11/2014	21/11/2014	21/11/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH1 (C6 - C12)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

Analytical Report Number : 14-63672

Project / Site name: St Giles Circus

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
395875	WS03	None Supplied	0.50	Light brown sand.
395876	WS03	None Supplied	1.00	Light brown sand.
395877	WS03	None Supplied	2.00	Light brown sand with gravel.
395878	WS03	None Supplied	3.00	Light brown clay and sand.
395879	WS03	None Supplied	3.80	Light brown clay.

Analytical Report Number : 14-63672

Project / Site name: St Giles Circus

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
(Polish) TPH1 (Soil)	In-house method	In-house method based on USEPA8260	L073S-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Elemental sulphur in soil	Determination of elemental sulphur in soil by extraction in dichloromethane followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-PL	D	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Thiocyanate in soil	Determination of thiocyanate in soil by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by spectrophotometer.	In-house method	L049-PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS

Analytical Report Number : 14-63672

Project / Site name: St Giles Circus

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	ISO 17025
TPHCWG (Soil)	Determination of pentane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 14-63673

Project / Site name:	St Giles Circus	**Samples received on:**	25/11/2014
Your job number:	14-2669	**Samples instructed on:**	27/11/2014
Your order number:	CL215	**Analysis completed by:**	09/12/2014
Report Issue Number:	1	**Report issued on:**	09/12/2014
Samples Analysed:	1 wac multi sample		

Signed:

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Thurstan Plummer
Organics Technical Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Waste Acceptance Criteria Analytical Results

Report No:	**14-63673**						
					Client:	**CONCEPT**	
Location	**St Giles Circus**						
Lab Reference (Sample Number)	395880				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	21/11/2014				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS03						
Depth (m)	3.80						
Solid Waste Analysis							
TOC (%)**	0.3				3%	5%	6%
Loss on Ignition (%) **	-				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	-				--	>6	--
Acid Neutralisation Capacity (mol / kg)	-				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.048	< 0.0050		0.027	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.023	< 0.0010		0.011	0.5	10	70
Copper *	< 0.0010	< 0.0030		< 0.020	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.011	< 0.0030		< 0.020	0.5	10	30
Nickel *	0.0069	< 0.0010		< 0.0050	0.4	10	40
Lead *	0.0086	< 0.0050		< 0.020	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.015	< 0.0010		< 0.020	4	50	200
Chloride *	12	< 4.0		35	800	4000	25000
Fluoride	1.3	0.53		5.7	10	150	500
Sulphate *	74	0.59		48	1000	20000	50000
TDS	160	30		370	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	6.8	6.1		62	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	2.0						
Dry Matter (%)	81						
Moisture (%)	19						
Stage 1							
Volume Eluate L2 (litres)	0.32						
Filtered Eluate VE1 (litres)	0.10						

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and I2 cannot be held responsible for any discrepencies with current legislation

*= UKAS accredited (liquid eluate analysis only)
** = MCERTS accrediited

Analytical Report Number : 14-63673

Project / Site name: St Giles Circus

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
395880	WS03	None Supplied	3.80	Light brown clay.

Analytical Report Number : 14-63673

Project / Site name: St Giles Circus

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX (Sum of BTEX compounds) in soil	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of chloride in leachate by Gallery discrete analyser.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L082-PL	W	ISO 17025
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037-PL	W	NONE
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033-PL	W	NONE
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
Mineral Oil in Soil	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
PCB's by GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	NONE
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Seciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L004-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 14-63809

Project / Site name:	St Giles Circus	**Samples received on:**	28/11/2014
Your job number:	14-2669	**Samples instructed on:**	01/12/2014
Your order number:	CL223	**Analysis completed by:**	09/12/2014
Report Issue Number:	1	**Report issued on:**	09/12/2014
Samples Analysed:	23 soil samples		

Signed:

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Thurstan Plummer
Organics Technical Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Analytical Report Number: 14-63809

Project / Site name: St Giles Circus

Your Order No: CL223

Lab Sample Number				396666	396667	396668	396669	396670
Sample Reference				WS01	WS01	WS04	WS04	WS04
Sample Number				ES01	ES02	ES01	ES02	ES03
Depth (m)				0.50	1.00	0.50	1.00	2.00
Date Sampled				27/11/2014	27/11/2014	27/11/2014	27/11/2014	27/11/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	12	12	6.7	1.7	11
Total mass of sample received	kg	0.001	NONE	0.45	0.41	0.43	0.45	0.46
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH	pH Units	N/A	MCERTS	7.8	7.9	8.3	8.1	7.9
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Sulphate as SO_4	mg/kg	50	ISO 17025	5400	93	330	180	72
Sulphide	mg/kg	1	MCERTS	8.4	< 1.0	< 1.0	< 1.0	< 1.0
Elemental Sulphur	mg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Total Organic Carbon (TOC)	%	0.1	MCERTS	0.5	< 0.1	< 0.1	< 0.1	< 0.1
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.60	< 1.60	< 1.60	< 1.60	< 1.60
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	21	43	16	14	7.9
Boron (water soluble)	mg/kg	0.2	MCERTS	2.4	1.2	0.9	0.8	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	5.2	12	10	6.4	5.6
Copper (aqua regia extractable)	mg/kg	1	MCERTS	150	15	16	7.3	2.7
Lead (aqua regia extractable)	mg/kg	1	MCERTS	850	16	29	23	< 1.0
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2.5	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	7.9	13	9.5	5.2	6.8
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	150	26	22	15	11

Analytical Report Number: 14-63809

Project / Site name: St Giles Circus

Your Order No: CL223

Lab Sample Number				396666	396667	396668	396669	396670
Sample Reference				WS01	WS01	WS04	WS04	WS04
Sample Number				ES01	ES02	ES01	ES02	ES03
Depth (m)				0.50	1.00	0.50	1.00	2.00
Date Sampled				27/11/2014	27/11/2014	27/11/2014	27/11/2014	27/11/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH1 (C6 - C12)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	24	< 10	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	24	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	24	< 10	< 10	< 10
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
Miscellaneous Organics								
Toluene Extractable Matter	mg/kg	100	NONE	< 100	< 100	< 100	< 100	< 100

Analytical Report Number: 14-63809

Project / Site name: St Giles Circus

Your Order No: CL223

Lab Sample Number				396671	396672	396673	396674	396675
Sample Reference				WS04	WS05	WS05	WS05	WS05
Sample Number				ES04	ES01	ES02	ES03	ES04
Depth (m)				2.80	0.50	1.00	2.00	3.00
Date Sampled				27/11/2014	27/11/2014	27/11/2014	27/11/2014	27/11/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	15	5.8	5.6	12	12
Total mass of sample received	kg	0.001	NONE	0.45	0.42	0.38	0.44	0.47
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH	pH Units	N/A	MCERTS	7.8	7.9	7.8	7.6	7.5
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	8.5	< 5.0	< 5.0	< 5.0
Total Sulphate as SO_4	mg/kg	50	ISO 17025	< 50	260	180	< 50	< 50
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Elemental Sulphur	mg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Total Organic Carbon (TOC)	%	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.60	< 1.60	< 1.60	< 1.60	< 1.60
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.2	12	23	8.9	7.5
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	0.7	0.6	0.6	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	1.3	8.5	8.6	4.6	3.2
Copper (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	11	5.3	4.6	1.2
Lead (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	7.2	1.3	< 1.0	1.6
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	1.9	12	13	10	6.9
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	5.4	18	20	16	13

Analytical Report Number: 14-63809

Project / Site name: St Giles Circus

Your Order No: CL223

Lab Sample Number				396671	396672	396673	396674	396675
Sample Reference				WS04	WS05	WS05	WS05	WS05
Sample Number				ES04	ES01	ES02	ES03	ES04
Depth (m)				2.80	0.50	1.00	2.00	3.00
Date Sampled				27/11/2014	27/11/2014	27/11/2014	27/11/2014	27/11/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH1 (C6 - C12)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
Miscellaneous Organics								
Toluene Extractable Matter	mg/kg	100	NONE	< 100	< 100	< 100	< 100	< 100

Analytical Report Number: 14-63809

Project / Site name: St Giles Circus

Your Order No: CL223

Lab Sample Number				396676	396677	396678	396679	396680
Sample Reference				WS07	WS07	WS07	WS07	WS08
Sample Number				ES01	ES02	ES03	ES04	ES01
Depth (m)				0.50	1.00	2.00	3.00	0.30
Date Sampled				27/11/2014	27/11/2014	27/11/2014	27/11/2014	27/11/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	17	5.9	6.7	12	1.6
Total mass of sample received	kg	0.001	NONE	0.46	0.41	0.46	0.46	0.45
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH	pH Units	N/A	MCERTS	7.8	8.0	7.8	7.7	7.8
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Sulphate as SO_4	mg/kg	50	ISO 17025	1300	< 50	< 50	< 50	1400
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Elemental Sulphur	mg/kg	20	NONE	< 20	< 20	< 20	< 20	240
Total Organic Carbon (TOC)	%	0.1	MCERTS	0.6	< 0.1	< 0.1	< 0.1	0.3
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.60	< 1.60	< 1.60	< 1.60	< 1.60
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	19	12	16	14	14
Boron (water soluble)	mg/kg	0.2	MCERTS	2.0	1.2	0.9	0.5	2.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	10	8.6	9.3	3.3	16
Copper (aqua regia extractable)	mg/kg	1	MCERTS	54	8.7	5.5	4.1	44
Lead (aqua regia extractable)	mg/kg	1	MCERTS	520	3.3	< 1.0	2.2	160
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17	9.8	15	10	14
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	48	17	19	16	55

Analytical Report Number: 14-63809

Project / Site name: St Giles Circus

Your Order No: CL223

Lab Sample Number				396676	396677	396678	396679	396680
Sample Reference				WS07	WS07	WS07	WS07	WS08
Sample Number				ES01	ES02	ES03	ES04	ES01
Depth (m)				0.50	1.00	2.00	3.00	0.30
Date Sampled				27/11/2014	27/11/2014	27/11/2014	27/11/2014	27/11/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH1 (C6 - C12)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
Miscellaneous Organics								
Toluene Extractable Matter	mg/kg	100	NONE	< 100	< 100	< 100	< 100	< 100

Analytical Report Number: 14-63809

Project / Site name: St Giles Circus

Your Order No: CL223

Lab Sample Number				396681	396682	396683	396684	396685
Sample Reference				WS08	WS14	WS14	WS14	WS14
Sample Number				ES02	ES01	ES02	ES03	ES04
Depth (m)				1.00	0.50	1.00	2.00	3.00
Date Sampled				27/11/2014	27/11/2014	27/11/2014	27/11/2014	27/11/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	12	12	5.1	8.9	3.9
Total mass of sample received	kg	0.001	NONE	0.47	0.45	0.45	0.42	0.44
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH	pH Units	N/A	MCERTS	7.8	7.8	7.6	7.3	7.6
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Sulphate as SO_4	mg/kg	50	ISO 17025	< 50	< 50	< 50	< 50	< 50
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Elemental Sulphur	mg/kg	20	NONE	< 20	< 20	< 20	< 20	< 20
Total Organic Carbon (TOC)	%	0.1	MCERTS	0.2	0.5	< 0.1	< 0.1	< 0.1
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.60	< 1.60	< 1.60	< 1.60	< 1.60
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10	9.7	13	15	7.7
Boron (water soluble)	mg/kg	0.2	MCERTS	1.6	1.3	0.5	0.6	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	16	9.9	3.9	11	< 1.0
Copper (aqua regia extractable)	mg/kg	1	MCERTS	16	69	4.9	6.1	< 1.0
Lead (aqua regia extractable)	mg/kg	1	MCERTS	30	130	1.9	< 1.0	< 1.0
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.4	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	11	9.6	5.6	11	3.2
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	43	830	30	22	7.9

Analytical Report Number: 14-63809

Project / Site name: St Giles Circus

Your Order No: CL223

Lab Sample Number				396681	396682	396683	396684	396685
Sample Reference				WS08	WS14	WS14	WS14	WS14
Sample Number				ES02	ES01	ES02	ES03	ES04
Depth (m)				1.00	0.50	1.00	2.00	3.00
Date Sampled				27/11/2014	27/11/2014	27/11/2014	27/11/2014	27/11/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH1 (C6 - C12)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
Miscellaneous Organics								
Toluene Extractable Matter	mg/kg	100	NONE	< 100	< 100	< 100	< 100	< 100

Analytical Report Number: 14-63809

Project / Site name: St Giles Circus

Your Order No: CL223

Lab Sample Number				396686	396687	396688		
Sample Reference				WS14	WS14	WS14		
Sample Number				ES05	ES06	ES07		
Depth (m)				4.00	5.00	5.80		
Date Sampled				27/11/2014	27/11/2014	27/11/2014		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	12	15	13		
Total mass of sample received	kg	0.001	NONE	0.44	0.42	0.38		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		
General Inorganics								
pH	pH Units	N/A	MCERTS	7.7	8.4	8.0		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1		
Thiocyanate as SCN	mg/kg	5	NONE	< 5.0	19	< 5.0		
Total Sulphate as SO_4	mg/kg	50	ISO 17025	< 50	230	< 50		
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Elemental Sulphur	mg/kg	20	NONE	< 20	< 20	< 20		
Total Organic Carbon (TOC)	%	0.1	MCERTS	< 0.1	0.1	0.2		
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.60	< 1.60	< 1.60		
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.4	17	18		
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	5.2	1.4		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	50	46		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	1.8	36	36		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	14	15		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	2.9	43	43		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	8.3	77	94		

Analytical Report Number: 14-63809

Project / Site name: St Giles Circus
Your Order No: CL223

Lab Sample Number				396686	396687	396688		
Sample Reference				WS14	WS14	WS14		
Sample Number				ES05	ES06	ES07		
Depth (m)				4.00	5.00	5.80		
Date Sampled				27/11/2014	27/11/2014	27/11/2014		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Petroleum Hydrocarbons								
TPH1 (C6 - C12)	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0		
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4		
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10		
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4		
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	< 10	< 10		
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007	< 0.007		
Miscellaneous Organics								
Toluene Extractable Matter	mg/kg	100	NONE	< 100	< 100	< 100		

Analytical Report Number : 14-63809

Project / Site name: St Giles Circus

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
396666	WS01	ES01	0.50	Brown sandy topsoil with gravel and rubble.
396667	WS01	ES02	1.00	Brown sandy topsoil.
396668	WS04	ES01	0.50	Light brown sand with gravel.
396669	WS04	ES02	1.00	Light brown sand with gravel.
396670	WS04	ES03	2.00	Light brown sand.
396671	WS04	ES04	2.80	Light brown sand.
396672	WS05	ES01	0.50	Light brown sand.
396673	WS05	ES02	1.00	Brown sand with gravel.
396674	WS05	ES03	2.00	Light brown sand.
396675	WS05	ES04	3.00	Light brown sand.
396676	WS07	ES01	0.50	Brown topsoil and clay with gravel and brick.
396677	WS07	ES02	1.00	Light brown sand.
396678	WS07	ES03	2.00	Light brown sand.
396679	WS07	ES04	3.00	Light brown sand.
396680	WS08	ES01	0.30	Brown topsoil and clay with gravel and vegetation.
396681	WS08	ES02	1.00	Brown topsoil and clay with gravel and vegetation.
396682	WS14	ES01	0.50	Brown clay and topsoil with gravel and vegetation.
396683	WS14	ES02	1.00	Light brown sand.
396684	WS14	ES03	2.00	Light brown sand.
396685	WS14	ES04	3.00	Light brown sand.
396686	WS14	ES05	4.00	Light brown sand.
396687	WS14	ES06	5.00	Brown clay.
396688	WS14	ES07	5.80	Brown clay.

Analytical Report Number : 14-63809

Project / Site name: St Giles Circus

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
(Polish) TPH1 (Soil)	In-house method	In-house method based on USEPA8260	L073S-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Elemental sulphur in soil	Determination of elemental sulphur in soil by extraction in dichloromethane followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-PL	D	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Thiocyanate in soil	Determination of thiocyanate in soil by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by spectrophotometer.	In-house method	L049-PL	D	NONE
Toluene Extractable Matter in soil	Gravimetrically determined through extraction with toluene.	In-house method	L013-UK	D	NONE

Analytical Report Number : 14-63809

Project / Site name: St Giles Circus

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	ISO 17025
TPHCWG (Soil)	Determination of pentane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Analytical Report Number : 14-63810

Project / Site name:	St Giles Circus	**Samples received on:**	28/11/2014
Your job number:	14-2669	**Samples instructed on:**	01/12/2014
Your order number:	CL223	**Analysis completed by:**	10/12/2014
Report Issue Number:	1	**Report issued on:**	10/12/2014
Samples Analysed:	4 wac multi samples		

Signed:

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Thurstan Plummer
Organics Technical Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

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Waste Acceptance Criteria Analytical Results

Report No:	**14-63810**						
					Client:	**CONCEPT**	
Location	**St Giles Circus**						
Lab Reference (Sample Number)	396689				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	27/11/2014				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS01 ES02						
Depth (m)	1.00						
Solid Waste Analysis							
TOC (%)**	< 0.1				3%	5%	6%
Loss on Ignition (%) **	-				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	-				--	>6	--
Acid Neutralisation Capacity (mol / kg)	-				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 3 preparation utilising end over end leaching procedure)	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
	mg/l	mg/l		mg/kg			
Arsenic *	0.014	< 0.010		0.076	0.5	2	25
Barium *	0.033	0.019		0.21	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.0058	0.0021		0.026	0.5	10	70
Copper *	0.0039	< 0.0030		0.024	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.018	0.0078		0.090	0.5	10	30
Nickel *	0.0023	< 0.0010		< 0.0050	0.4	10	40
Lead *	< 0.0050	< 0.0050		< 0.020	0.5	10	50
Antimony *	0.0076	0.0072		0.072	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.0025	< 0.0010		< 0.020	4	50	200
Chloride *	35	< 4.0		71	800	4000	25000
Fluoride	0.14	0.065		0.74	10	150	500
Sulphate *	99	62		670	1000	20000	50000
TDS	400	80		1200	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	4.0	1.9		22	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.41						
Dry Matter (%)	88						
Moisture (%)	12						
Stage 1							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.22						

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and I2 cannot be held responsible for any discrepencies with current legislation

*= UKAS accredited (liquid eluate analysis only)
** = MCERTS accrediited

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Waste Acceptance Criteria Analytical Results

Report No:	**14-63810**						
					Client:	**CONCEPT**	
Location	**St Giles Circus**						
Lab Reference (Sample Number)	396690				**Landfill Waste Acceptance Criteria**		
					Limits		
Sampling Date	27/11/2014				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS07 ES04						
Depth (m)	3.00						
Solid Waste Analysis							
TOC (%)**	< 0.1				3%	5%	6%
Loss on Ignition (%) **	-				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	-				--	>6	--
Acid Neutralisation Capacity (mol / kg)	-				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.015	0.014		0.14	0.5	2	25
Barium *	0.059	0.0082		0.14	20	100	300
Cadmium *	0.0006	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.015	0.0027		0.041	0.5	10	70
Copper *	0.011	< 0.0030		0.038	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.0059	< 0.0030		0.021	0.5	10	30
Nickel *	0.020	0.0017		0.039	0.4	10	40
Lead *	0.0067	< 0.0050		0.028	0.5	10	50
Antimony *	0.0079	< 0.0050		0.030	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.024	0.0020		0.045	4	50	200
Chloride *	7.1	< 4.0		17	800	4000	25000
Fluoride	0.16	0.077		0.87	10	150	500
Sulphate *	11	9.7		98	1000	20000	50000
TDS	80	20		270	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	6.4	2.7		31	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.46						
Dry Matter (%)	88						
Moisture (%)	12						
Stage 1							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.20						

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and I2 cannot be held responsible for any discrepencies with current legislation

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Waste Acceptance Criteria Analytical Results

Report No:	**14-63810**						
					Client:	**CONCEPT**	
Location	**St Giles Circus**						
Lab Reference (Sample Number)	396691				**Landfill Waste Acceptance Criteria**		
					Limits		
Sampling Date	27/11/2014				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS14 ES04						
Depth (m)	3.00						
Solid Waste Analysis							
TOC (%)**	< 0.1				3%	5%	6%
Loss on Ignition (%) **	-				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	-				--	>6	--
Acid Neutralisation Capacity (mol / kg)	-				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.018	0.011		0.12	0.5	2	25
Barium *	0.047	0.033		0.34	20	100	300
Cadmium *	< 0.0005	< 0.0005		0.0047	0.04	1	5
Chromium *	0.014	0.014		0.13	0.5	10	70
Copper *	0.013	0.0071		0.078	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.025	< 0.0030		0.030	0.5	10	30
Nickel *	0.018	0.018		0.18	0.4	10	40
Lead *	0.0051	0.0096		0.091	0.5	10	50
Antimony *	0.0061	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.027	0.0190		0.20	4	50	200
Chloride *	< 4.0	< 4.0		28	800	4000	25000
Fluoride	0.17	0.060		0.73	10	150	500
Sulphate *	15	1.5		31	1000	20000	50000
TDS	100	20		290	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	6.2	4.8		50	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.44						
Dry Matter (%)	96						
Moisture (%)	3.9						
Stage 1							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.20						

Results are expressed on a dry weight basis, after correction for moisture content where applicable
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Waste Acceptance Criteria Analytical Results

Report No:	**14-63810**						
					Client:	**CONCEPT**	
Location	**St Giles Circus**						
Lab Reference (Sample Number)	396692				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	27/11/2014						
Sample ID	WS14 ES06						
Depth (m)	5.00				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Solid Waste Analysis							
TOC (%)**	< 0.1				3%	5%	6%
Loss on Ignition (%) **	-				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg)	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	-				--	>6	--
Acid Neutralisation Capacity (mol / kg)	-				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.030	0.015		0.15	0.5	2	25
Barium *	0.050	0.032		0.33	20	100	300
Cadmium *	0.0005	< 0.0005		0.0046	0.04	1	5
Chromium *	0.035	0.014		0.15	0.5	10	70
Copper *	0.046	0.0087		0.11	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.045	0.0033		0.057	0.5	10	30
Nickel *	0.028	0.015		0.16	0.4	10	40
Lead *	0.013	0.0092		0.094	0.5	10	50
Antimony *	0.011	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.038	0.0237		0.25	4	50	200
Chloride *	30	4.6		61	800	4000	25000
Fluoride	4.0	1.4		15	10	150	500
Sulphate *	48	2.0		47	1000	20000	50000
TDS	380	130		1400	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	23	6.0		70	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.42						
Dry Matter (%)	85						
Moisture (%)	15						
Stage 1							
Volume Eluate L2 (litres)	0.32						
Filtered Eluate VE1 (litres)	0.10						

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and I2 cannot be held responsible for any discrepencies with current legislation

*= UKAS accredited (liquid eluate analysis only)
** = MCERTS accrediited

Analytical Report Number : 14-63810

Project / Site name: St Giles Circus

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
396689	WS01	ES02	1.00	Brown sandy topsoil.
396690	WS07	ES04	3.00	Light brown sand.
396691	WS14	ES04	3.00	Light brown sand.
396692	WS14	ES06	5.00	Brown clay.

Analytical Report Number : 14-63810

Project / Site name: St Giles Circus

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX (Sum of BTEX compounds) in soil	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of chloride in leachate by Gallery discrete analyser.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L082-PL	W	ISO 17025
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037-PL	W	NONE
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033-PL	W	NONE
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
Mineral Oil in Soil	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
PCB's by GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	NONE
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Seciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L004-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.