Remediation Strategy

St Julies Alternative School, Liverpool

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By Curtins Consulting Ltd
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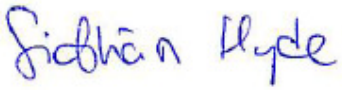
S Hyde BSc (Hons) MSc AIEMA **Project Engineer**		27 May 2015

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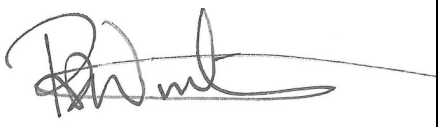
P D Winterburn BSc (Hons) CEng MICE MIStructE MCIWEM C.WEM **Director**		27 My 2015

For and on behalf of **Curtins Consulting Ltd**

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1.0 Introduction, Background and Summary Recommendations

1.1 Introduction

In April 2015 Curtins Consulting Ltd were instructed by Kier Construction Northern to provide a Remediation Statement for a site at St Julies Alternative School, Liverpool.

It is understood that the proposed development is to comprise the demolishment of existing buildings and development of new school buildings with construction of sports pitches.

A Phase 2 intrusive investigation was undertaken by Curtins in October 2014 to provide an assessment of the ground conditions on the subject site with respect to geotechnical properties and any potential contamination in the underlying soils and or groundwater. Report ref: Curtins EB1441A/GL/4264 Phase 2 Intrusive Investigation.

The site work was carried out between 27th and 29th October 2014. The locations of exploratory holes were determined by the Engineer, in general accordance with CLR 4, and the site work carried out on the basis of the practices set out in BS 10175:2011, BS 5930:2010 and ISO 1997:2007.

The locations of the exploratory holes were restricted by existing buildings and services. Site work comprised of three cable percussion boreholes designated BH01 to BH03, fourteen window sample boreholes designated WS01 to WS14 and fourteen hand excavated trial pits designated HP01 to HP14.

The positions of all locations are shown on the site plan in Appendix A.

The depths of boreholes and trial pits, descriptions of strata encountered and comments on groundwater conditions are given in the borehole and trial pit records, Appendix B.

Samples were collected for environmental purposes in amber glass jars and kept in a cool box. Perforated standpipes, surrounded by pea shingle and protected by a stopcock cover were installed in boreholes WS03, WS07, WS09 and WS11, as detailed in the borehole records.

Falling head tests were carried out in BH02 and BH03 in accordance with BS5930:2010. Test records are presented in Appendix C.

The ground levels at the borehole and trial pit locations were not determined.

The sequence of the strata encountered during the investigation generally confirms the anticipated geology as interpreted from the geological map. The sequence may be summarised as made ground, locally overlying sand that in turn overlies sandstone bedrock. Boreholes were located around the existing school. Hand dug trial pits were located on the tree covered area to the southwest.

Made ground was encountered at all borehole locations to depths in the overall range 0.20 to 1.50m. The greatest thickness of made ground was encountered in WS07 and WS08, 1.50 and 1.20m respectively. The base of the made ground at the rest of the positions ranged from 0.20 to 0.80m. Made ground generally comprised surface coverings, predominantly turf and sandy topsoil.

Asphalt was encountered at surface in WS05. The localised thicker made ground comprised gravelly sand including ash and brick. Natural strata comprised sand and sandstone. Sand was locally

encountered to depths up to 1.60m (WS06). This material was generally described as brown, slightly gravelly fine to coarse sand.

Groundwater was not encountered in any of the exploratory holes.

A delineation exercise of this one hotspot, BH02 for Asbestos was carried out in March 2015 and comprised six shallow window sample boreholes to around 0.30m depth located typically 3m to 5m from each of the original borehole locations, but subject to access and location constraints.

The borehole and trial pit logs corresponding to both site investigations can be referred to within Appendix B of this report.

1.2 Background

Elevations of PAH's were encountered on site above the relevant tier 1 thresholds. The observed concentrations of PAH's could present a risk of harm to the proposed end user by risk of direct contact and ingestion. Various PAH's were recorded at elevated concentrations in BH02 at 0.30m bgl, BH03 at 0.30m and 0.50m bgl, and WS04 at 0.30m and 0.50m bgl.

Due to the relatively widespread occurrences of PAH's it is recommended that 300mm of 'clean and inert cover' is provided to soft landscaped areas where elevated concentrations of contamination have been detected, as per drawing no EB1441C/L001 to break the source-pathway-receptor linkage. Building construction and hard standing / car parking will be sufficient to break pathways. The majority of the significantly elevated samples are located around the existing school buildings. This is likely to be associated with tarmac and ash in this area.

Asbestos (Chrysotile) was encountered at detectable limits within the shallow made ground soils at a number location across the holes, located in BH01 0.3m bgl, BH02 0.30m bgl, BH03 0.30m bgl and WS05 0.30m bgl. In two locations within the woods Asbestos (Chrysotile and Amosite) was encountered at detectable limits within the shallow made ground soils in (Chrysotile HP02 0.3m and Amosite HP14 0.10m bgl). These are considered to be localised hotspots and not considered to be a widespread issue.

Quantification of the asbestos has indicated that the only concentration above 0.001% is in BH02 at a concentration of 0.002%. A delineation exercise of this one hotspot, BH02 for Asbestos was carried out in March 2015 and comprised six shallow window sample boreholes to around 0.30m depth located typically 3m to 5m from each of the original borehole location, but subject to access and location constraints.

The analysis results of these delineation samples indicate no further detection of asbestos and there is little likelihood of potentially breathable fibres being generated and soils where fibres were initially detected are not likely to be classed as Hazardous Waste for disposal. It is recommended that the initial hotspot around BH2 is either encapsulated by building construction / hardstanding or excavated and removed from site.

Exploratory hole positions are shown in Appendix B.

1.0 Introduction, Background and Summary Recommendations

Soil samples were collected at the same depth the original sample had been collected and also at a greater depth in order to assess the lateral and vertical extent of the possible contaminant hotspot at each of the six locations. The samples underwent environmental chemical analysis for the contaminant of concern at each of the locations.

Although there would not appear to be a significant risk to future development there is nevertheless asbestos fibres in certain locations. These will need to be adequately managed during construction and the presence recorded in the development Health and Safety File.

We were unable to obtain water samples as all exploratory holes where dry, the only exceedances where in WS04 within the natural strata in area of car parking. It is considered likely that this contamination is localised and may be a result of fragments of tarmac being driven into the natural sample. We do not believe this is significant risk to groundwater. Therefore it is considered that the risk posed to controlled water receptors is **Low.**

The nearest surface water feature is a surface drain 489m west of the site. There are no groundwater, surface water or potable water abstractions located within 1000m of the site. Therefore the risk to groundwater and surface water is considered **Low**.

A programme of six visits has now been completed. Gas monitoring pipe work was installed in all the ten cable percussive boreholes WS03, WS07, WS09 and WS11, gas monitoring visits have been undertaken between 18/11/2014 to 20/02/2015 at barometric pressures varying from 998mb to 1012mb.

Methane was recorded in WS03 at 0.1% during the fifth visit. No hydrogen sulphide was detected during the monitoring visits. Carbon dioxide (CO2) was encountered at a peak concentration of 6.9% v/v in WS03 on the first monitoring visit, with a maximum steady concentration of 6.9% v/v observed on the first visit in WS03.

A peak flow of 0.2l/h was observed in WS07 on the fourth visit. As with CO2, the peak flow will be used to calculate GSV. The observed flow rate and CO2 result in a calculated GSV of 0.0138l/h, indicating a CS1 gassing regime, requiring no gas protection measures.

1.3 Summary Recommendations

The remedial actions described herein are to be undertaken during the construction of the proposed new building.

This Remediation Strategy has been developed with reference to the information provided within the documents as referenced within Appendix E.

Asbestos (Chrysotile) was encountered at detectable limits within the shallow made ground soils at a number location across the holes, located in BH01 0.3m bgl, BH02 0.30m bgl, BH03 0.30m bgl and WS05 0.30m bgl. In two locations within the woods Asbestos (Chrysotile and Amosite) was encountered at detectable limits within the shallow made ground soils in (Chrysotile HP02 0.3m and Amosite HP14 0.10m bgl). These are considered to be localised hotspots and not considered to be a widespread issue.

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The analysis results of these delineation samples indicate no further detection of asbestos and there is little likelihood of potentially breathable fibres being generated and soils where fibres were initially detected are not likely to be classed as Hazardous Waste for disposal. It is recommended that the initial hotspot around BH2 is either encapsulated by building construction / hardstanding or excavated and removed from site.

Although there would not appear to be a significant risk to future development there is nevertheless asbestos fibres in certain locations. These will need to be adequately managed during construction and the presence recorded in the development Health and Safety File. An asbestos specialist to provide a method statement.

PAH contamination encountered could be similarly mitigated by the provision of encapsulation on site by building construction / hard standing or provision of 300mm of clean and inert capping for soft landscaped areas where elevated concentrations of contaminants where detected, as an alternative this material could be removed from site to a suitably licensed disposal facility. This area is indicated on drawing EB1441C/L001 in Appendix A.

Excavated material is likely to be surplus and will require Waste Acceptance Criteria testing to determine its classification for disposal.

In addition to this, construction workers are to be provided with appropriate PPE and sanitary facilities with reference to the contaminants of concern observed in the site soils and are made aware of the contaminants that are present on-site.

This document presents the proposed remediation strategy and in addition includes procedures for the handling of materials, reporting of potentially contaminative incidents and any importation of materials.

This remediation strategy document is to be read in conjunction with the reports referred to in Appendix E.

This document is confidential and is written for the benefit of Kier Construction Ltd. The strategy is based on the understanding that the proposed development will be redeveloped for the proposed end use as described herein.

Additional information, improved practices and legislation may necessitate this document having to be reviewed in whole or in part after its issue date. If necessary, this document should be referred back to Curtins Consulting for re-assessment and, if necessary, re-appraisal.

2.0 The Site

2.1 General

The site is centred on national grid reference 342390, 342390 with an area of 4.48ha. A location plan can be found in Appendix A.

The site is currently occupied by St Julies Catholic High School and associated car parking.

The site boundaries are indicated on Drawing A2, which can be found in Appendix A.

2.2 History

The earliest historical map dated 1849 shows the site to be occupied by open farmland with a pathway running through the site by the late 1800's. The first signs of development occurred in the late 1950's where an over sixties club was constructed in the north east corner of the site. The south of the site is developed around the 1970s, where a school now exists which extends south of the site also. This remains on site to present day, however the smaller building in the north east corner of the site is no longer illustrated by around the 21st century.

The earliest historical map dated 1849 shows the site to be occupied by open farmland with a pathway running through the site by the late 1800's. The first signs of development occurred in the late 1950's where an over sixties club was constructed in the north east corner of the site. The south of the site is developed around the 1970s, where a school now exists which extends south of the site also. This remains on site to present day, however the smaller building in the north east corner of the site is no longer illustrated by around the 21st century.

2.3 Geology, Hydrogeology and Hydrology

A study of the Envirocheck records and British Geological Survey (BGS) 1:50,000 mapping records (Bedrock and Superficial Editions) for Runcorn (Sheet 097) indicates the following geological succession underlying the site.

The geological map indicates that the site is underlain by Chester Pebble Beds, described as Pebbly gravely sandstone. Due to the nature of the historic development at the site, it is anticipated that a thickness of Made Ground will be encountered overlying shallow Sandstone.

There are no fault lines within 1000m of the site.

There are no BGS boreholes located within close proximity to the site. Due to historical evidence of development and redevelopment in and around the site area, it is expected that there will be some variable deposits of made ground across the site.

The Envirocheck Report confirms that there is a low risk to no hazard from the following ground stability hazards on and around the site; running sands, shrinking or swelling clay, compressible ground and ground dissolution. The hazards from collapsible ground and landslides are confirmed to be negligible.

The 1:100,000 Sheet 16 West Cheshire Vulnerability Map indicates that the site, corresponding with the underlying solid geology, the bedrock geology is a Principal Aquifer. There are no superficial deposits

recorded on the site. A Principal Aquifer comprises of layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

Soils of High Leaching Potential (U) - Soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere. A worst case vulnerability classification (H) assumed, until proved otherwise.

The site is not within a Source Protection Zone (SPZ).

The nearest surface water feature is a surface drain 489m west of the site. There are no groundwater, surface water or potable water abstractions located within 1000m of the site.

There are no Pollution incidents, Discharge Consents, Local Authority Pollution Prevention and Controls permits arising from the site. The site lies in Flood Zone 1 and is therefore at no risk from flooding from rivers or sea without defences.

2.4 Landfill

The Envirocheck report confirms that there are no BGS Recorded Landfill sites within 1000m of the site. There are two historical landfill sites located within 1000m of the site. The landfill is located 248m north west of the site, and is operated by Woolton Quarry South, and waste deposited includes inert waste.

There is one recorded Registered Landfill site located within 1000m of the site. This is located 484m north-west of the site, the license holder is Ian Glen Ltd, however the license is now lapsed.

3.0 Site Investigation

3.1 General

In April 2015 Curtins were instructed by KIER Construction- Northern to undertake a Phase 1 Geo-Environmental Detailed Desk Top Study and a Phase 2 Intrusive Site Investigation of a site located at St Julies Alternative School, Liverpool. The site is centred on national grid reference 342390, 386530 with an area of 4.48ha.

The site work was carried out between 27th and 29th October 2014. The locations of exploratory holes were determined by the Engineer, in general accordance with CLR 4, and the site work carried out on the basis of the practices set out in BS 10175:2011, BS 5930:2010 and ISO 1997:2007.

The locations of the exploratory holes were restricted by existing buildings and services. Site work comprised of three Cable percussion boreholes designated BH01 to BH03, fourteen Window Sample Boreholes designated WS01 to WS14 and fourteen hand excavated trial pits designated HP01 to HP14. The positions of all locations are shown on the site plan in Appendix B.

Exploratory hole location plans can be referred to within Appendix A (Drawing A3).

3.2 Land Condition

The following information is summarised from the 2014 Curtins Consulting Intrusive investigation report for the development site, report ref EB1441A/GL/4264.

Made ground was encountered at all borehole locations to depths in the overall range 0.20 to 1.50m. The greatest thickness of made ground was encountered in WS07 and WS08, 1.50 and 1.20m respectively. The base of the made ground at the rest of the positions ranged from 0.20 to 0.80m. Made ground generally comprised surface coverings, predominantly turf and sandy topsoil.

Asphalt was encountered at surface in WS05. The localised thicker made ground comprised gravelly sand including ash and brick. Natural strata comprised sand and sandstone. Sand was locally encountered to depths up to 1.60m (WS06). This material was generally described as brown, slightly gravelly fine to coarse sand.

3.3 Groundwater

Groundwater was not encountered in any of the exploratory holes.

We were unable to obtain water samples as all exploratory holes where dry, the only exceedances where in WS04 within the natural strata in area of car parking.

It is considered likely that this contamination is localised and may be a result of fragments of tarmac being driven into the natural sample. We do not believe this is significant risk to groundwater.

Therefore it is considered that the risk posed to controlled water receptors is **Low.**

3.4 Soil Gases

A programme of six visits has now been completed. Gas monitoring pipe work was installed in all the ten cable percussive boreholes WS03, WS07, WS09 and WS11, gas monitoring visits have been undertaken between 18/11/2014 to 20/02/2015 at barometric pressures varying from 998mb to 1012mb.

Methane was recorded in WS03 at 0.1% during the fifth visit. No hydrogen sulphide was detected during the monitoring visits. Carbon dioxide (CO2) was encountered at a peak concentration of 6.9% v/v in WS03 on the first monitoring visit, with a maximum steady concentration of 6.9% v/v observed on the first visit in WS03.

A peak flow of 0.2l/h was observed in WS07 on the fourth visit. As with CO2, the peak flow will be used to calculate GSV.

The observed flow rate and CO2 result in a calculated GSV of 0.0138l/h, indicating a CS1 gassing regime, requiring no gas protection measures

4.0 Risk Assessment

4.1 General

When assessing the potential affects of land contamination it is necessary to determine whether a viable source-pathway-receptor linkage exists before the significance of any potentially contaminating material can be established.

4.2 Sources

Consideration of the guidance provided in the Department for Environment, Food and Rural Affairs (DEFRA) and Environment Agency document 'R & D Publication CLR 8: Potential Contaminants for the Assessment of Land', Tables 2.3 and 2.4 (Although now withdrawn this document serves as a useful guide) suggests a series of potential contaminants which may be expected to be present within the soils and/or groundwater underlying the site. The contaminants are dependent upon the primary land usage both within the development site boundary and the surrounding area. The following potential contaminants are therefore considered relevant to this particular site as a screening suite:

Metals: Arsenic, Cadmium, Chromium, Lead, Mercury, Nickel and Zinc
Others: pH value, asbestos
Organic chemicals: Polyaromatic Hydrocarbons, Phenol, Total Petroleum Hydrocarbons, sulphates and sulphides

Soils at the site might be contaminated with the substances listed. These are the sources of contamination that may affect the future development.

4.3 Pathways

It is understood that the proposed development is to comprise the demolishment of existing buildings and development of new school buildings with construction of sports pitches.

On this basis, it is considered that the following pathways should be considered as part of any contamination assessment of the site:

- Human Health

  Ingestion of soil directly
  Ingestion of household dust
  Dermal contact with soil
  Dermal contact with household dust
  Outdoor inhalation of fugitive dust
  Indoor inhalation of fugitive dust
  Inhalation of vapours outside
  Inhalation of vapours inside
  Asphyxiation by ground gases
  Proximity to explosion of ground

- Plant/Vegetation Health
  Phytotoxicity

- Surface Water/Groundwater
  Leaching

The pathways provide a potential route for the source of contamination to reach the receptor.

4.4 Receptors

The following receptors will be present on or near the site and will therefore be potentially linked to the identified contamination sources via the indicated pathways:

- Groundwater
- Watercourses
- Plant / Vegetation growth
- Future occupiers
- Construction workers
- Building fabric
- Underground services (water pipes etc)

The 1:100,000 Sheet 16 West Cheshire Vulnerability Map indicates that the site, corresponding with the underlying solid geology, the bedrock geology is a Principal Aquifer. There are no superficial deposits recorded on the site. A Principal Aquifer comprises of layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

The site is not within a Source Protection Zone (SPZ).

The nearest surface water feature is a surface drain 489m west of the site.

There are no groundwater, surface water or potable water abstractions located within 1000m of the site. There are no Pollution incidents, Discharge Consents, Local Authority Pollution Prevention and Controls permits arising from the site. The site lies in Flood Zone 1 and is therefore at no risk from flooding from rivers or sea without defences.

4.5 Soil Contamination

As previously mentioned a number of exploratory holes were undertaken on the site within the vicinity of the site boundary.

The Phase 2 report indicated the generic quantitative risk assessment indicated that potential contaminants of concern had been identified within the Made Ground beneath the site, namely; PAH's, TPH's and Inorganics' (Lead, Arsenic, Sulphate and Asbestos).

Asbestos (Chrysotile) was encountered at detectable limits within the shallow made ground soils at a number location across the holes, located in BH01 0.3m bgl, BH02 0.30m bgl, BH03 0.30m bgl and WS05 0.30m bgl. In two locations within the woods, Asbestos (Chrysotile and Amosite) was encountered

at detectable limits within the shallow made ground soils in (Chrysotile HP02 0.3m and Amosite HP14 0.10m bgl). These are considered to be localised hotspots and not considered to be a widespread issue.

Quantification of the asbestos has indicated that the only concentration above 0.001% is in BH02 at a concentration of 0.002%. A delineation exercise of this one hotspot, BH02 for Asbestos was carried out in March 2015 and comprised six shallow window sample boreholes to around 0.30m depth located typically 3m to 5m from each of the original borehole locations, but subject to access and location constraints.

The analysis results indicate that there is little likelihood of potentially breathable fibres being generated and soils where fibres were initially detected are not likely to be classed as Hazardous Waste for disposal.

Although there would not appear to be a significant risk to future development there is nevertheless asbestos fibres in certain locations. These will need to be adequately managed during construction and the presence recorded in the development Health and Safety File. An asbestos specialist to provide a method statement.

It is recommended that any impacted material should be either encapsulated on site by building construction or hard standing, or removed from site to a suitably licensed disposal facility.

Elevations of PAH's were encountered on site above the relevant tier 1 thresholds. The observed concentrations of PAH's could present a risk of harm to the proposed end user by risk of direct contact and ingestion. Various PAH's were recorded at elevated concentrations in BH02 at 0.30m bgl, BH03 at 0.30m and 0.50m bgl, and WS04 at 0.30m and 0.50m bgl.

Due to the relatively widespread occurrences of PAH's it is recommended that 300mm of 'clean and inert cover' is provided to soft landscaped areas where elevated concentrations of contamination have been detected, as per drawing no EB1441C/L001 to break the source-pathway-receptor linkage. Building construction and hard standing / car parking will be sufficient to break pathways. The majority of the significantly elevated samples are located around the existing school buildings. This is likely to be associated with tarmac and ash in this area.

To mitigate the any remaining risk posed by any residual contaminants it is recommended that a 'clean and inert' cover of 300mm, subject to LPA acceptance, be emplaced in areas of soft landscaping. This 'clean and inert; cover may comprise suitable imported topsoil.

In addition to this, construction workers are to be provided with appropriate PPE and sanitary facilities with reference to the contaminants of concern observed in the site soils and are made aware of the contaminants that are present on-site.

The required specification of this capping layer is provided in Section 9.0.

The environmental chemical soil results are included within Appendix C. A copy of the Tier 1 Thresholds can be referred to in Appendix D.

4.6 Controlled Waters

Groundwater was not recorded in any of the exploratory holes formed during this investigation.

We were unable to obtain water samples as all exploratory holes where dry, the only exceedances where in WS04 within the natural strata in area of car parking. It is considered likely that this contamination is localised and may be a result of fragments of tarmac being driven into the natural sample. We do not believe this is significant risk to groundwater. Therefore it is considered that the risk posed to controlled water receptors is **Low**.

The nearest surface water feature is a surface drain 489m west of the site. There are no groundwater, surface water or potable water abstractions located within 1000m of the site. Therefore the risk to groundwater and surface water is considered **Low**.

4.7 Gas Assessment

A programme of six visits has now been completed. Gas monitoring pipe work was installed in all the ten cable percussive boreholes WS03, WS07, WS09 and WS11, gas monitoring visits have been undertaken between 18/11/2014 to 20/02/2015 at barometric pressures varying from 998mb to 1012mb.

Methane was recorded in WS03 at 0.1% during the fifth visit. No hydrogen sulphide was detected during the monitoring visits. Carbon dioxide (CO2) was encountered at a peak concentration of 6.9% v/v in WS03 on the first monitoring visit, with a maximum steady concentration of 6.9% v/v observed on the first visit in WS03.

A peak flow of 0.2l/h was observed in WS07 on the fourth visit. As with CO2, the peak flow will be used to calculate GSV. The observed flow rate and CO2 result in a calculated GSV of 0.0138l/h, indicating a CS1 gassing regime, requiring no gas protection measures.

5.0 Remediation

5.1 General

In this document the term 'remediation' is used to define specific works required to address potential problems arising from land contamination with due account taken of the known history of the site and the proposed end user.

'Reclamation' is defined as the total works required in order to bring the site up to a standard whereby the proposed re-development is not unduly affected by abnormal construction works resulting from the past use of the site. Reclamation works may include soil remediation, demolition, removal of asbestos from buildings and site re-profiling for example.

This Remediation Strategy is based on the assumption that contaminant levels detected within made-ground and natural samples taken to date are representative of the subject site.

There are a number of items of concern which will be addressed as part of this site remediation, they are:

- Elevated levels of PAH's recorded within the made ground material
- Occurrences of Asbestos recorded within the made ground material

5.2 Remediation Objective

The overall aim of the remediation is to provide a site upon which the proposed property can be safely developed and furthermore ensure that the site will not have a detrimental effect on the future site occupiers and / or other receptors identified by previous assessments.

After review of the data obtained in the site investigation report, a number of measures have been identified and when implemented, will enable the site to be re-developed for educational end use.

These measures are described in Section 6.0.

The Principal Contractor may opt to re-use material currently located on site in order to reduce the volume of materials being removed from site. These soils may be re-used in the cut and fill exercise provided that they are suitable for use and do not present a risk of harm to the end user and wider environment.

If cut and fill operations of site won materials are required on site they must be undertaken in compliance with the CL:AIRE publication The Definition of Waste: Development Industry Code of Practice which requires the compilation of a Materials Management Plan with declaration to the Environment Agency by a 'Qualified Person'.

6.0 Remediation Strategy

6.1 General

Remediation of the site will be undertaken in several stages; the various key stages are outlined below:

During Development

- Disconnection / diversion of live services on the site;
- Site clearance of existing vegetation, and any existing structures or hard-standing that are to be demolished;
- Earthworks;
- Installation of clean and inert cover.

6.2 Definitions

For the purposes of the remediation strategy outlined in this document the 'Environmental Consultant' or 'Engineer' shall be Curtins Consulting or other appointed consultant.

The 'Client' is Kier Construction Ltd.

The 'Principal Contractor' Kier Construction Ltd.

6.3 Disconnection of Live Services and Demolition

Live services are to be either disconnected or diverted on site as required by the development proposals.

These works do not form part of this Remediation Strategy.

6.4 Site Clearance and Excavations

All surface vegetation, including grasses, shrubs and non-TPO trees (where impacting on the development) are to be removed and disposed off site at a suitable disposal facility.

Any concrete hardstanding and tarmacadam surfacing and any associated road-stone that will be impacted by the development is to be excavated, removed and disposed of off-site at a suitable disposal facility.

After disconnection/decommissioning of all services, all underground services (drains, cables pipes) which are excavated as part of the site clearance works should be removed from site to a suitably licensed waste disposal facility.

If during site clearance works and or other excavations unusual visual and or olfactory evidence of previously unrecorded contamination is observed, the Principal Contractor shall inform the Environmental Consultant immediately, so the materials of concern can be assessed.

Following discussions with the Environmental Consultant, these soils shall then be sampled (numbers to be confirmed with the Environmental Consultant) and chemical contamination testing carried out. The Environmental Consultant shall decide upon the chemical-testing suite at the time of sampling having

reviewed the materials in question. If it is considered by the Environmental Consultant that the concentrations are likely to present a risk to receptors the soils affected will be removed or remediated until the contaminants are proved to no longer present a risk to future site users or other receptors.

If such visual and or olfactory evidence of contamination is encountered, excavation at the location shall cease until the results of the analytical testing have been received.

Only in exceptional circumstances, if it is unavoidable that excavation continues, the removed soils shall be placed separately from other materials on an impermeable membrane that is securely covered at the end of each working day to prevent rain entering the soils and leachate migrating from the material in question.

In the event that unexpected below ground structures, which may contain potentially contaminating materials such as tanks and back-filled pits, are encountered, the contractor will inform the Environmental Consultant and work at that location will cease until the structure has been fully inspected. The Principal Contractor shall provide a Method Statement for the removal of the structure, which shall be agreed by the Environmental Consultant prior to its removal. Soil sampling and water sampling (if present) shall be undertaken under/around the structure/tank to the satisfaction of the Environmental Consultant following removal.

Site operatives should keep physical contact with the made-ground soils and perched waters to a minimum and appropriated PPE is to be used, e.g. gloves and overalls, where contact is unavoidable. Specific details of procedures to be applied will be provided by the Principal Contractor in the Health and Safety Plan for the works. Adequate washing and sanitary facilities are also to be provided.

Following the excavation and safe removal of any contaminated soils encountered during the works on site, soils shall be sampled from the sides and base of the excavation on an approximate 5m to 10m grid dependant on excavation size unless otherwise instructed by the Environmental Consultant, in order to confirm adequate removal.

Soil samples will also be taken from the sides of the pit at the depth where the potential contamination was originally determined. In certain circumstances the contamination delineation exercise may be deemed to be ‘self’ validating.

Copies of Consignment Notices for hazardous waste (special waste) and Waste Transfer Notes for non-hazardous waste shall be kept on site for review by Curtins.

After site clearance of surface debris and vegetation, it is proposed that a visual and olfactory inspection be carried out to confirm the site ground conditions; i.e. to ensure that there is no unexpected contamination.

6.5 Earthworks

6.5.1 General

Excavation of site soils will be required to facilitate the construction of foundations and service trenches.

These arisings could be re-used as a general fill if geo-technically suitable, all in accordance with the parameters for re-use described in Section 5.

Asbestos (Chrysotile) was encountered at detectable limits within the shallow made ground soils at a number location across the holes, located in BH01 0.3m bgl, BH02 0.30m bgl, BH03 0.30m bgl and WS05 0.30m bgl. In two locations within the woods Asbestos (Chrysotile and Amosite) was encountered at detectable limits within the shallow made ground soils in (Chrysotile HP02 0.3m and Amosite HP14 0.10m bgl). These are considered to be localised hotspots and not considered to be a widespread issue.

Quantification of the asbestos has indicated that the only concentration above 0.001% is in BH02 at a concentration of 0.002%. A delineation exercise of this one hotspot, BH02 for Asbestos was carried out in March 2015 and comprised six shallow window sample boreholes to around 0.30m depth located typically 3m to 5m from each of the original borehole locations, but subject to access and location constraints.

Although there would not appear to be a significant risk to future development there is nevertheless asbestos fibres in certain locations. These will need to be adequately managed during construction and the presence recorded in the development Health and Safety File. An asbestos specialist to provide a method statement.

6.7 Installation of Clean and Inert Cover

To prevent site end users coming into contact with potentially contaminative material it will be necessary to emplace either a layer of 'clean and inert' capping material in areas of soft landscaping to areas with elevated contamination or encapsulation through hardstanding / Building Construction.

The asbestos hotspot located at BH2 will either need capping with hardstanding / building construction or removing from site.

The required specification of this capping layer is provided in Section 9.0.

6.8 Gas Protection Measures

A programme of six visits has now been completed. Gas monitoring pipe work was installed in all the ten cable percussive boreholes WS03, WS07, WS09 and WS11, gas monitoring visits have been undertaken between 18/11/2014 to 20/02/2015 at barometric pressures varying from 998mb to 1012mb.

Methane was recorded in WS03 at 0.1% during the fifth visit. No hydrogen sulphide was detected during the monitoring visits. Carbon dioxide (CO2) was encountered at a peak concentration of 6.9% v/v in WS03 on the first monitoring visit, with a maximum steady concentration of 6.9% v/v observed on the first visit in WS03.

6.0 Remediation Strategy

A peak flow of 0.2l/h was observed in WS07 on the fourth visit. As with CO2, the peak flow will be used to calculate GSV. The observed flow rate and CO2 result in a calculated GSV of 0.0138l/h, indicating a CS1 gassing regime, requiring no gas protection measures.

7.0 Strategy for Handling Contaminated or Potentially Contaminated Soils on Site

7.1 General

Surplus soils to be removed from site because they have been identified as contaminated should be loaded onto a lorry, covered securely and transported to the landfill immediately. Where stockpiling is unavoidable, the stockpile should be located on an impermeable membrane and also be covered with a low permeability membrane at the end of each working day. Where soils are wet when excavated, measures should be taken to ensure there is no runoff from the soils onto the surrounding soils.

Under his duty of care, the Principal Contractor shall ensure the proper and safe disposal of waste from the site after it has been passed on to another party. In this respect details of the landfill facility to be used and the company disposing of the waste with regard to hazardous (special) and non-hazardous waste shall be provided to the Environmental Consultant. Copies of Consignment Notices for hazardous waste should be kept on site for review by Curtins Consulting.

In the event that material is revealed on site of a nature that does not accord with the previously observed and recorded descriptions, the following procedure is to be complied with.

a) Cease and make safe all excavations in this location and report observations to the Site Manager.
b) The Site Manager is to notify the Engineer.
c) Under guidance of the Engineer take representative samples of the suspect materials and forward to a suitably accredited testing house for analysis.
d) Await Engineers instructions with respect to re-commencement of the works and or removal from site of suspect material to a suitably licensed disposal facility.
e) Local Authority EHO and if relevant the Environment Agency are to be kept fully informed of any such occurrences

8.0 Strategy for Potentially Contaminative Incidents

8.1 General

It is possible, although considered unlikely, that some below ground features and or structures exist that have not been recorded on plans and have not been encountered during the ground investigations.

Although considered unlikely it is possible that unknown/unrecorded substructures exist which if ruptured may release materials that could contaminate the surrounding soils and groundwater (petroleum hydrocarbons, solvents, for example). In the unlikely event that this occurs an outline strategy is detailed below.

8.2 Outline Strategy

Where such a tank/pipework is damaged during excavation and the contents are released into the surrounding soil, the tank/pipework should be immediately pumped dry into another suitable container and a trench with a low permeability base formed around the tank/pipework to prevent seepage laterally and to collect the contaminant. Where groundwater is encountered in the trench, it should be pumped into a suitable container and tested for the contaminant. All soils affected shall then be tested and removed from site as appropriate.

Where the damage is caused to the underside of a tank and seepage is vertical, the contaminants may present a risk of polluting the groundwater. In this instance and subject to the findings of a risk assessment boreholes may be required to prove and intercept the contaminant. The contaminant will then be pumped into suitable containers. The Engineer shall approve all proposals for such remediation.

In the event that material is revealed on site of a nature that does not accord with the previously observed and recorded descriptions the following procedure is to be complied with.

a) Cease and make safe all excavations in this location and report observations to the Site Manager.
b) The Site Manager is to notify the Engineer.
c) Under guidance of the Engineer take representative samples of the suspect materials and forward to a suitably accredited testing house for analysis.

Await Engineers instructions with respect to re-commencement of the works and or removal from site of suspect material to a suitably licensed disposal facility.

9.0 Earthworks Materials

9.1 General

In the event that imported soils are required, then prior to placement on site the Environmental Consultant shall be informed of the source of the imported materials and, where considered necessary, details of the site in terms of past history in order that the Environmental Consultant can assess the potential contaminants in the materials to be imported.

9.2 Imported Soil to Soft Landscaping

Earthworks materials will be required to provide a 'clean and inert' capping layer in soft landscaped areas that have elevated concentrations of contaminants. All earthworks materials are to be from a source/supplier approved by the 'Principal Contractor' and are to be certified by the supplier as suitable for its intended end use.

Imported earthworks materials required for capping are to be sampled and analysed for solid concentrations of critical chemical determinands.

Sampling densities should be justified and based on the findings of a desk study and as an absolute minimum sampling would consist of at least three samples for each source used. One sample per 200m^3 imported from proven 'greenfield' sources and one sample per 50m^3 from 'unknown', 'mixed' or 'brownfield' sources.

The environmental chemistry analysis suite is shown in Table 9.2a below.

Table 9.2a Environmental chemistry analysis suite for imported soils.

Suite Reference	Environmental Chemistry Analysis
S1A	Total metals : Arsenic, cadmium, chromium, chromium VI, lead, mercury, selenium, copper, nickel, zinc, water soluble boron; Total cyanide Total sulphate Elemental sulphur Sulphide Total monohydric phenols pH Soil Organic Matter Asbestos Screening Total Petrol Hydrocarbons (Full TPHCWG analysis – aromatic/aliphatic split, Detection Limit 0.01mg/kg for each banding C5 to C10 and 1mg/kg for bandings above C10) Polyaromatic Hydrocarbons by GC-MS (Detection Limit 0.1mg/kg for each compound)

9.0 Earthworks Materials

Additions to the above suite and frequency of sampling maybe required based on the source of the imported materials.

Concentrations of the above determinands shall not exceed CLEA soil guideline values where available for Residential end use for imported material in the previously described risk assessment. The concentrations shall not exceed the values shown in Table 9.2b and 9.2c below for imported soils.

Where ALL concentrations are less than these values the soils shall be defined as 'clean and inert'.

Review of the thresholds in Tables 9.2b and 9.2c may be made for specific soil sources whereby the Soil Organic Matter is proving to be routinely above 6%.

Table 9.2b Inorganics, PAH's and Phenol

Contaminants	**Threshold Trigger Concentration For Planned End Use**	
	Source (ref. 1)	Value (mg/kg)
Antimony	ATRISK^{soil} Soil Screening Value	97.6
Arsenic	CLEA SGV for residential end use published May 09	32
Beryllium	ATRISK^{soil} Soil Screening Value	60.3
Boron	Recognised threshold to prevent phytotoxic affects	3
Cadmium	CLEA SGV for residential end use published July 09	10
Chromium (VI)	ATRISK^{soil} Soil Screening Value	14.4
Copper	ATRISK^{soil} Soil Screening Value	3970
Cyanide (Free)	ATRISK^{soil} Soil Screening Value	34
Lead	Currently accepted value	450
Mercury	ATRISK^{soil} Soil Screening Value (ref. 2)	0.06 ; 170 ; 6.28
Nickel	CLEA SGV for residential end use published May 09	130
Selenium	CLEA SGV for residential end use published March 09	350
Sulphate	Recognised threshold for protection of sub-surface concrete	2400
Sulphur (Free)	Recognised threshold for all end uses	5000
Sulphide	Recognised threshold for all end uses	250
Vanadium	ATRISK^{soil} Soil Screening Value	113
Zinc	ATRISK^{soil} Soil Screening Value	16900
pH	Typical value in uncontaminated soils	6-8
Phenol	Recognised threshold for protection of services (ref. 3)	5
Acenaphthene	ATRISKsoil Soil Screening Value (ref. 4)	588
Anthracene	ATRISKsoil Soil Screening Value (ref. 4)	8270
Benz(a)anthracene	ATRISKsoil Soil Screening Value (ref. 4)	4.52
Benzo(a)pyrene	ATRISKsoil Soil Screening Value (ref. 4)	0.81
Benzo(b)fluoranthene	ATRISKsoil Soil Screening Value (ref. 4)	7.72
Benzo(ghi)perylene	ATRISKsoil Soil Screening Value (ref. 4)	96.2
Benzo(k)fluoranthene	ATRISKsoil Soil Screening Value (ref. 4)	84.4
Chrysene	ATRISKsoil Soil Screening Value (ref. 4)	585
Dibenz(ah)anthracene	ATRISKsoil Soil Screening Value (ref. 4)	0.83

Contaminants	Threshold Trigger Concentration For Planned End Use	
	Source (ref. 1)	Value (mg/kg)
Fluoranthene	ATRISKsoil Soil Screening Value (ref. 4)	822
Fluorene	ATRISKsoil Soil Screening Value (ref. 4)	615
Indeno(123cd)pyrene	ATRISKsoil Soil Screening Value (ref. 4)	7.31
Naphthalene	ATRISKsoil Soil Screening Value	0.58
Pyrene	ATRISKsoil Soil Screening Value (ref. 4)	563

Table 9.2c TPH's

Carbon Range	Threshold Trigger Concentration For Planned End Use		
	Source	Aromatic	Aliphatic
C5 – C6	ATRISK^{soil} Soil Screening Value (ref. 5)	0.0493 (C5-C7)	30.1
C6 – C8	ATRISK^{soil} Soil Screening Value (ref. 6)	86.9 (C7-C8)	69.8
C8 – C10	ATRISK^{soil} Soil Screening Value	14.8	9.79
C10 – C12	ATRISK^{soil} Soil Screening Value	57.3	1390
C12 – C16	ATRISK^{soil} Soil Screening Value	142	5100 (ref. 4)
C16 – C21	ATRISK^{soil} Soil Screening Value	272	145000
C21 – C35	ATRISK^{soil} Soil Screening Value	888	

1. The tables are for guidance only and must be read in conjunction with relevant source documentation.
2. Three values correspond to: elemental mercury (Hg); inorganic mercury (Hg^{2+}) and methyl mercury (Hg^{+4}).
3. For human health consider using ATRISK^{soil} Soil Screening Value of 162mg/kg.
4. Where free product is not observed, otherwise consider revising.

10.0 Contamination: Soils Testing

10.1 General

Where required by the nature of the remediation works the results of any soils analyses will be required by the Environmental Consultant within three to four days of sample receipt at the laboratory.

Where required, a UKAS and where appropriate a MCERTS accredited laboratory will undertake laboratory testing of the existing made-ground soils, site won material and imported material.

All soil samples shall be correctly sampled in containers appropriate for the contaminant to be tested for and stored under appropriate conditions until analysis at the laboratory. In this respect, should it not be possible to transport samples to the laboratory the same day, provision may be made on site for a fridge to store certain soil samples.

11.0 Reporting

11.1 General

The Environmental Consultant is to issue a Verification Report on completion of the remediation, which will contain an outline of the works undertaken.

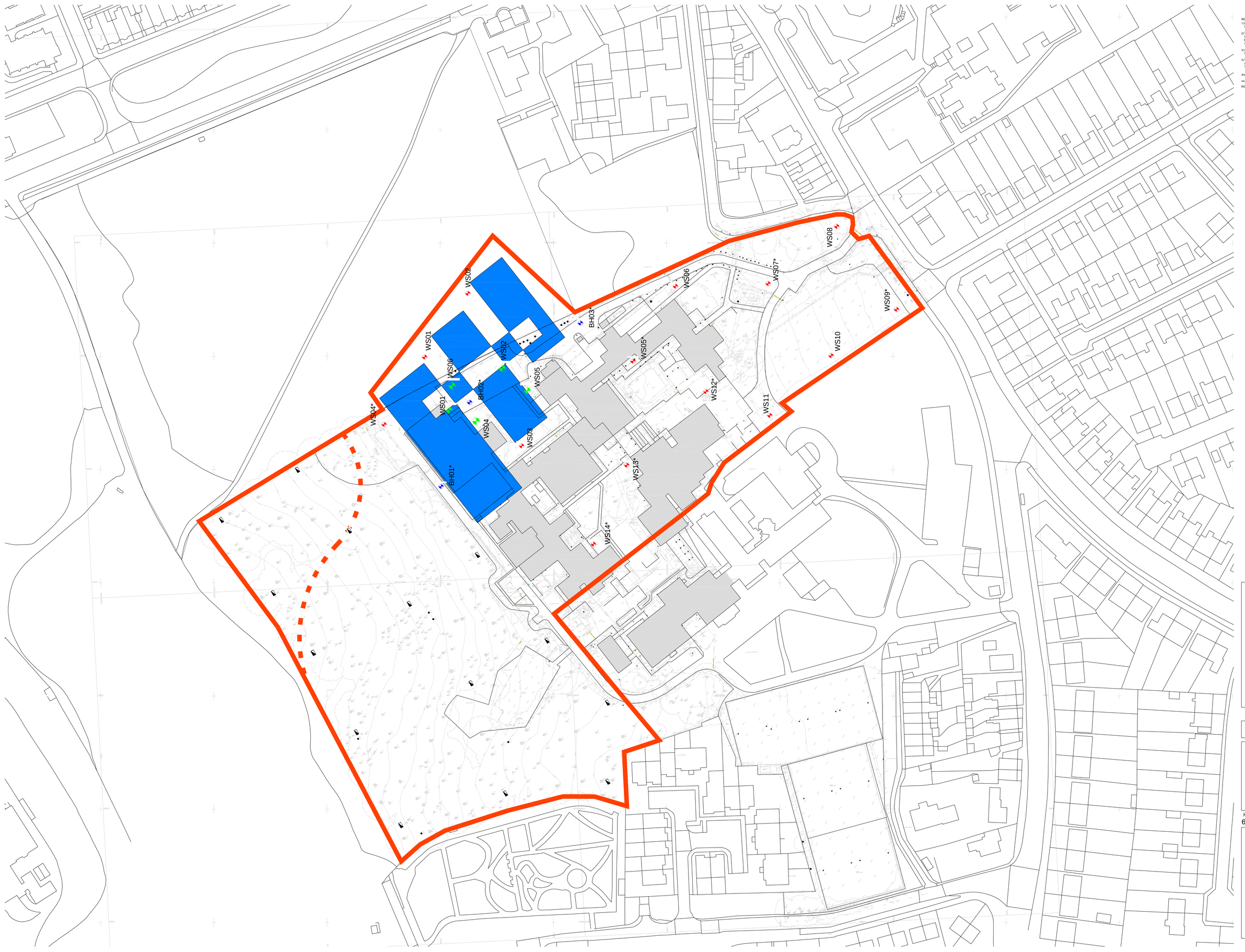
The Verification Report will incorporate,

a) A general description of the works undertaken.
b) A record of imported soils and necessary chemical laboratory analysis certificates.
c) A photographic record and verification certificates emplacement of the clean and inert capping material.
d) A record of materials removed from site.

Appendix

Appendix A -Drawings

A1 – Exploratory Hole Location Plan, Drawing No. EB1441/L001
- Remedial Capping Plan EB1441C/L001



NOTES:

1) UNDER NO CIRCUMSTANCES SHOULD DIMENSIONS BE SCALED FROM THIS DRAWING "IF IN DOUBT ASK"

2) THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS. ANY DISCREPANCIES, ERRORS OR OMISSIONS TO BE BROUGHT TO THE ATTENTION OF IBI TAYLORYOUNG.

3) ALL DIMENSIONS TO BE CHECKED BEFORE COMMENCEMENT

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drawing originated by: CP — date: 31/07/14

revisions	drawn/reviewed	date
REV_	___/___	__/__/__

Delineation window samples circa 0.50m bgl

LCP Boreholes x 3 (15m depth, with 3 installs)

Window Sample Boreholes x 28 (5m depth, with 10 installs)

Key:

Existing Buildings

Proposed Buildings

Existing Site Boundary

Proposed Site Boundary

PRELIMINARY

St.Julie's Catholic High School

Existing Site Constraints Plan

Scale: 1:1000@A1
Reviewed by : NE

job	drawing	rev
6629	SP(90)22	A

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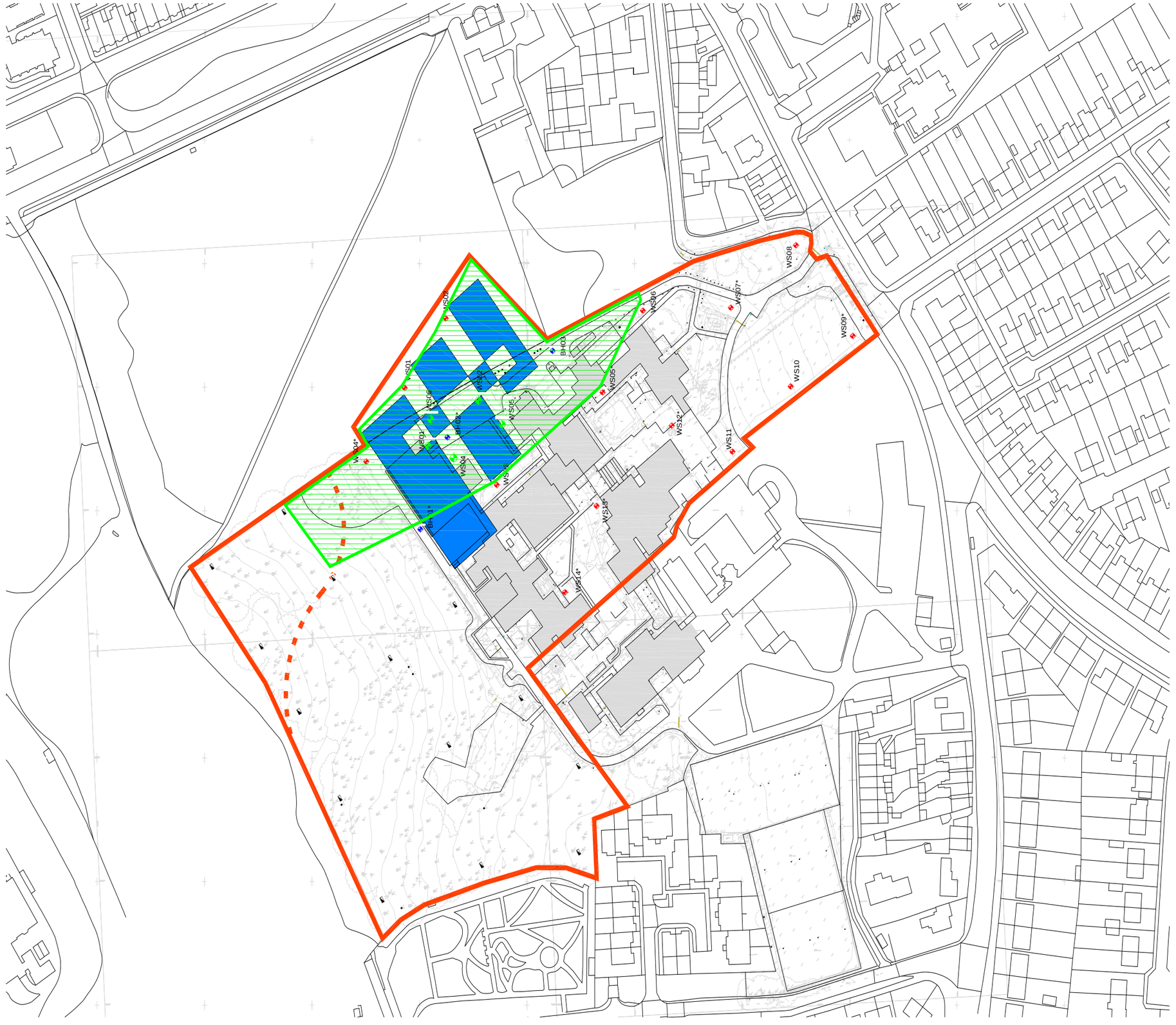

Delineation window samples circa 0.50m bgl

LCP Boreholes x 3 (15m depth, with 3 installs)

Window Sample Boreholes x 28 (5m depth, with 10 installs)

300mm of clean and inert capping for soft landscaped areas

Rev:	Description:	Date:	By:	Chkd:

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Status: INFORMATION

Project: St Julies Alternative Site

Drg Title: Remedial Capping Plan

Scale:	Size:	First Issue:	Drawn:	Checked:
NTS	A3	04/06/2015	GL	DM

Drg No: EB1441C/L001

Rev: /

Appendix

Appendix B - Exploratory Hole Logs

IAN FARMER ASSOCIATES

Site	Number
St. Julies School. Liverpool	WS01

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler			Curtins Consulting	41558
	Location	**Dates** 27/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.50	B6				(0.50)	Grass over, brown, clayey, sandy, slightly gravelly TOPSOIL. Gravel is angular and rounded, fine and coarse including sandstone.		
0.20	D1				0.50			
0.30	D2				(0.40)	Light brown, clayey, slightly gravelly SAND. Gravel is angular to rounded, fine to coarse including sandstone and mudstone. (Weathered sandstone)		
0.30	D4				0.90			
0.30	J3					Red brown, slightly clayey, gravelly, coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone. (Weathered sandstone)		
0.30	J5							
0.50	D7							
0.50	D9							
0.50	J10							
0.50	J8							
0.50-1.20	B16				(1.40)			
0.80	D11							
1.00	D12							
1.00	D14							
1.00	J13							
1.00	J15							
1.20-1.65	D17							
1.30	D18							
1.80	D19							
2.20-3.00	D20				2.30	At 2.30m: Refusal on sandstone.		
						Complete at 2.30m		

Remarks
Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
Excavating from 0.00m to 1.20m for 1.0 hour.

Scale (approx)	Logged By
1:40	JC

Figure No. 41558.WS01

IAN FARMER ASSOCIATES

Site	Number
St. Julies School. Liverpool	WS02

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler			Curtins Consulting	41558
	Location	**Dates** 27/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.50	B6				(0.50)	Grass over, brown, clayey, sandy, slightly gravelly, TOPSOIL. Gravel is angular to rounded, fine to coarse including sandstone.		
0.20	D1				0.50			
0.30	D2				(0.40)	Light brown, clayey, slightly gravelly SAND. Gravel is angular to rounded, fine to coarse including sandstone.		
0.30	D4				0.90			
0.30	J3					Red brown, slightly clayey, gravelly, coarse SAND. Gravel is angular and subrounded, fine and coarse including sandstone. (Weathered sandstone)		
0.30	J5				(0.80)			
0.50	D7							
0.50	D9							
0.50	J10							
0.50	J8							
0.50-1.00	D15				1.70	At 1.70m: Refusal on sandstone.		
0.80	D11					Complete at 1.70m		
1.00	D12							
1.00	D14							
1.00	J13							
1.20-1.65	D16							
1.30	D17							
1.50	D18							
1.60-1.70	D19							

Remarks
Excavating from 0.00m to 1.20m for 1.00 hour.

Scale (approx)	Logged By
1:40	JC

Figure No. 41558.WS02

IAN FARMER ASSOCIATES

Site	Number
St. Julies School. Liverpool	WS03

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler			Curtins Consulting	41558
	Location	**Dates** 27/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.00-0.80	B9				(0.20)	MADE GROUND: Grass over black, slightly clayey, sandy, slightly gravelly TOPSOIL with rootlets. Gravel is angular to subrounded, fine to coarse including ash, brick, wood and plastic.			
0.20	D1				0.20				
0.30	D2				(0.60)	MADE GROUND: Black, slightly clayey, slightly gravelly, coarse SAND. Gravel is angular, fine to coarse.			
0.30	J3				0.80				
0.50	D4				(0.70)	Light brown, slightly clayey, slightly gravelly, coarse SAND. Gravel is angular to rounded, fine to coarse including sandstone.			
0.50	J5				1.50				
0.80	D6				(0.30)	Red brown, gravelly, coarse SAND. Gravel is angular, fine to coarse of sandstone (Weathered sandstone)			
1.00	D7				1.80				
1.00	J8					Complete at 1.80m			
1.20-1.65	D10								
1.30	D11								
1.50	D12								
1.50	J13								
1.70-1.80	D14								

Remarks
Excavating from 0.00m to 1.20m for 1.00 hour.

Scale (approx)	Logged By
1:40	JC

Figure No. 41558.WS03

IAN FARMER ASSOCIATES

Site	Number
St. Julies School. Liverpool	WS04

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
JCB 3CX			Curtins Consulting	41558
	Location	**Dates** 27/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D1				(0.35)	MADE GROUND: Black, slightly clayey, gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including brick, concrete and ash.		
0.30	D2				0.35			
0.30	D4				(0.15)	Red brown, slightly gravelly, coarse SAND. Gravel is angular, fine to coarse including red sandstone (Weathered sandstone).		
0.30	J3				0.50			
0.50	D5					Complete at 0.50m		
0.50	D7							
0.50	J6							

Remarks

Scale (approx)	Logged By
1:40	JC

Figure No. 41558.WS04

IAN FARMER ASSOCIATES

Site	Number
St. Julies School. Liverpool	WS05

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler			Curtins Consulting	41558
	Location	**Dates** 28/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D1				(0.10) 0.10	MADE GROUND: TARMACADAM.		
0.30	D2				(0.20) 0.30	MADE GROUND: Dark brown, clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including brick and sandstone.		
0.30	J3				(0.20) 0.50	Red brown, slightly clayey, slightly gravelly, coarse SAND. Gravel is angular, fine to coarse including sandstone.		
0.40	D4					Complete at 0.50m		
0.50	D5							
0.50	J6							

Remarks
Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
At 0.5m: End of hole.
Excavating from 0.00m to 1.20m for 1.00 hour.

Scale (approx)	Logged By
1:40	JC

Figure No. 41558.WS05

IAN FARMER ASSOCIATES

Site	Number
St. Julies School. Liverpool	WS06

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
JCB 3CX			Curtins Consulting	41558
	Location	**Dates** 28/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.10	B9				(0.20)	MADE GROUND: Grass over brown, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine and coarse including brick, sandstone with roots and rootlets.		
0.20	D1				0.20			
0.30	D2					Light brown, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine and coarse including sandstone.		
0.30	J3							
0.50	D4							
0.50	J5							
0.80	D6				(1.40)			
1.00	D7							
1.00	J8							
1.20-1.65	D10							
1.30	D11							
1.50	D12				1.60			
1.50	J13					Red brown, slightly clayey, slightly gravelly, coarse SAND. Gravel is angular, fine and coarse including sandstone. (Weathered sandstone)		
1.80	D14				(0.70)			
2.00-2.30	D15				2.30	At 2.30m: Refusal on sandstone		
						Complete at 2.30m		

Remarks
Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
Excavating from 0.00m to 1.20m for 1.00 hour.

Scale (approx)	Logged By
1:40	JC

Figure No. 41558.WS06

IAN FARMER ASSOCIATES

Site	Number
St. Julies School. Liverpool	WS07

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler			Curtins Consulting	41558
	Location	**Dates** 29/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.30)	MADE GROUND: Black, slightly clayey, sandy, slightly gravelly TOPSOIL. Gravel is angular o subrounded, fine to coarse including brick and sandstone.			
0.20	D1				0.30				
0.30	D2					MADE GROUND: Brown, slightly clayey, slightly gravelly, coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone, mudstone and birch.			
0.30	J3								
0.30-1.20	B9				(1.20)				
0.50	D4								
0.50	J5								
0.80	D6								
1.00	D7								
1.00	J8								
1.20-1.65	SPT N=8		1,2/2,2,2,2		1.50				
1.30	D10					Red brown, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone.			
1.80	D11				(0.50)				
2.00-2.33	SPT 52/177		2,2/2,2,21,27		2.00				
						Complete at 2.30m			

Remarks
Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
At 2.30m: End of hole.
Excavating from 0.00m to 1.20m for 1.00 hour.

Scale (approx)	Logged By
1:50	JC

Figure No. 41558.WS07

IAN FARMER ASSOCIATES

Site	Number
St. Julies School. Liverpool	WS08

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler			Curtins Consulting	41558
	Location	**Dates** 28/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.20	B9					MADE GROUND: Light brown, slightly clayey, slightly gravelly SAND. Gravel is angular to subrounded, fine to coarse including sandstone and brick.		
0.20	D1							
0.30	D2							
0.30	J3				(1.20)			
0.50	D4							
0.50	J5							
0.80	D6							
1.00	D7							
1.00	J8				1.20			
1.20-1.25	D10				1.25	SANDSTONE recovered as red brown, sandy, gravel. Gravel is angular, fine to coarse, of sandstone.		
						Complete at 1.25m		

Remarks

Scale (approx)	Logged By
1:50	JC

Figure No. 41558.WS08

IAN FARMER ASSOCIATES

Site	Number
St. Julies School. Liverpool	WS09

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler			Curtins Consulting	41558
	Location	**Dates** 29/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.20	D1				(0.30)	MADE GROUND: Grass over, black, slightly clayey, sandy, slightly gravely TOPSOIL. Gravel is angular to subrounded, fine to coarse including brick and rootlets.			
0.30	D2				0.30				
0.30	J3					Light, brown and orange, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone,			
0.50	D4								
0.50	J5								
0.80	D6				(1.20)				
1.00	D7								
1.00	J8								
1.20-1.56	SPT 50/205		1,1/2,21,27		1.50	1.50m: Refusal on sandstone			
						Complete at 1.50m			

Remarks
Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
At 1.50m: Refusal on sandstone.

Scale (approx)	Logged By
1:40	JC

Figure No. 41558.WS09

IAN FARMER ASSOCIATES

Site	Number
St. Julies School. Liverpool	WS10

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler			Curtins Consulting	41558
	Location	**Dates** 29/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D1				(0.50)	MADE GROUND: Grass over, black, slightly clayey, sandy, slightly gravelly TOPSOIL. Gravel is angular to subrounded, fine to coarse including brick.		
0.30	D2							
0.30	J3							
0.50	D4				0.50			
0.50	J5					Red brown, slightly clayey, slightly gravelly, coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone.		
0.50-1.20	B9				(0.70)			
0.80	D6							
1.00	D7							
1.00	J8							
1.20-1.44	SPT 25*/125 50/115		8,17/24,26		1.20	At 1.20m: Refusal on sandstone		
						Complete at 1.20m		

Remarks
Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
Excavating from 0.00m to 1.20m for 1.00 hour.

Scale (approx)	Logged By
1:40	JC

Figure No. 41558.WS10

IAN FARMER ASSOCIATES

Site	Number
St. Julies School. Liverpool	WS11

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
JCB 3CX			Curtins Consulting	41558
	Location	**Dates** 29/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					(0.30)	MADE GROUND: Grass over black, slightly clayey, sandy, slightly gravelly TOPSOIL. Gravel is dense, angular to subrounded, fine to coarse including brick and rootlets.			
0.20	D1				0.30				
0.30	D2				(0.20)				
0.30	J3				0.50	MADE GROUND: Grey SAND and GRAVEL. Sand is coarse. Gravel is angular to subrounded, fine to coarse including concrete and ash.			
0.40	D4								
0.50	D5					Red brown, slightly clayey, slightly gravelly, coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone.			
0.50	J6								
0.80	D7								
1.00	D8								
1.00	J9				(1.30)				
1.20-1.65	SPT N=2		1,0/0,1,0,1						
1.30	D10								
1.50	D11								
1.50	J12								
1.80-1.85	SPT 25*/20 50/25		25/50		1.80	At 1.80m: Refusal on sandstone			
1.80	D13					Complete at 1.80m			

Remarks
Samples marked as D & J comprise of 1 x anber jar and 1 x vial.

Scale (approx)	Logged By
1:40	JC

Figure No. 41558.WS11

IAN FARMER ASSOCIATES

Site	Number
St. Julies School. Liverpool	WS12

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler			Curtins Consulting	41558
	Location	**Dates** 28/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.60	B4				(0.60)	MADE GROUND: Black, slightly clayey, gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including brick, concrete, ash.		
0.20	D1							
0.30	D2							
0.30	J3							
0.60-1.20	B8				0.60			
0.80	D5				(0.75)	Red brown, slightly clayey, slightly gravelly, coarse SAND. Gravel is angular, fine to coarse including sandstone.		
1.00	D6							
1.00	J7							
1.20-1.65	D9							
1.30	D10				1.35			
1.50	D11				(0.40)	Yellow, clayey, slightly gravelly, coarse SAND. Gravel is angular, fine to coarse including sandstone.		
1.50	J12							
1.80	D13				1.75			
2.00-2.20	D14				(0.45)	SANDSTONE recovered as red brown, sandy gravel. Gravel is angular, fine to coarse of sandstone.		
					2.20	At 2.20m: Refusal on sandstone		
						Complete at 2.20m		

Remarks
Samples marked as D & J comprise of 1 x amber jar and 1 x vial.

Scale (approx)	Logged By
1:40	JC

Figure No. 41558.WS12

IAN FARMER ASSOCIATES

Site	Number
St. Julies School. Liverpool	WS13

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler			Curtins Consulting	41558
	Location	**Dates** 27/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.85	B7				(0.10) 0.10	TARMACADAM over red, brown SAND.		
0.20	D1					MADE GROUND: Light brown, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including ash, brick, concrete with cobbles and boulders of concrete.		
0.30	D2							
0.30	J3				(0.75)			
0.50	D4							
0.50	J5							
0.80	D6				0.85	At 0.85: Refusal on concrete.		
						Complete at 0.85m		

Remarks
Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
Spoke to Dan Mason, possibly relocate later in the week.

Scale (approx)	Logged By
1:40	JC

Figure No. 41558.WS13

IAN FARMER ASSOCIATES

Site	Number
St. Julies School. Liverpool	WS14

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler			Curtins Consulting	41558
	Location	**Dates** 28/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D1				(0.40)	Grass over brown, clayey, sandy, slightly gravelly TOPSOIL. Gravel is angular to subrounded, fine to coarse including birch and sandstone.		
0.30	D2				0.40			
0.40-1.20	B8					Red brown slightly clayey, slightly gravelly, coarse SAND. Gravel is angular, fine to coarse of sandstone.		
0.50	D3							
0.50	J4							
0.80	D5				(0.90)			
1.00	D6							
1.00	J7							
1.20-1.30	D9				1.30	At 1.30m: Refusal on sandstone.		
						Complete at 1.30m		

Remarks
Excavating from 0.00m to 1.20m for 1.00 hour.

Scale (approx)	Logged By
1:40	JC

Figure No. 41558.WS14

IAN FARMER ASSOCIATES

Site	Trial Pit Number
St. Julies School. Liverpool	HP01

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Hand excavated			Curtins Consulting	41558
	Location	**Dates** 29/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20 0.30 0.30	D1 D2 J3				(0.50) 0.50	Brown, slightly clayey, slightly gravelly, fine to coarse SAND and rootlets. Gravel is angular to subrunded, fine to coarse including sandstone. Complete at 0.50m		

Plan

Remarks

At 0.50m: Refusal on sandstone.

Scale (approx)	Logged By	Figure No.
1:40	JC	41558.HP01

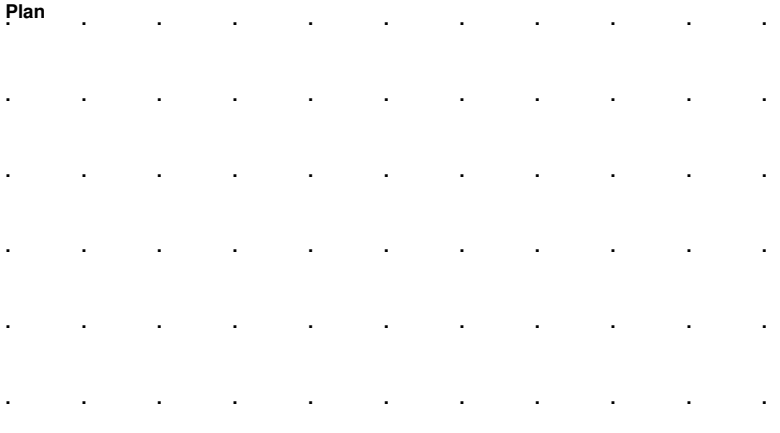
IAN FARMER ASSOCIATES

Site	Trial Pit Number
St. Julies School. Liverpool	HP02

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Hand excavated.			Curtins Consulting	41558
	Location	**Dates** 29/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30 0.30	D1 J2				(0.50) 0.50	Brown, slightly clayey, slightly gravelly, fine to coarse SAND and rootlets. Gravel is angular to subrounded, fine to coarse including sandstone.		
						Complete at 5.00m		

Plan



Remarks

Excavating from 0.00m to 1.20m for 1.00 hour.
Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
At 0.5m: Refusal on rock.

Scale (approx)	Logged By	Figure No.
1:40	JC	41558.HP02

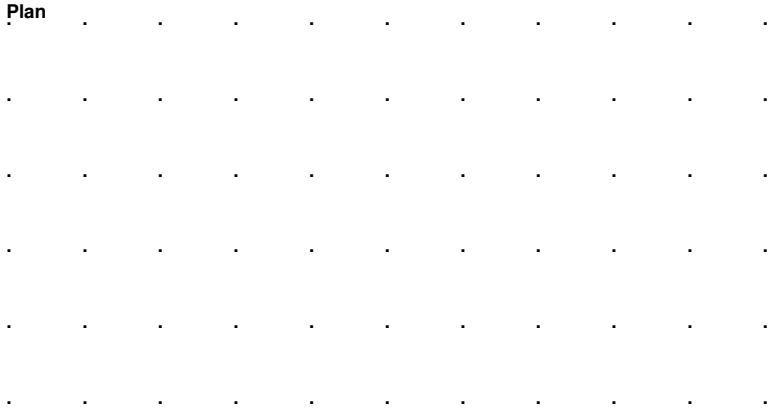
IAN FARMER ASSOCIATES

Site	Trial Pit Number
St. Julies School. Liverpool	HP03

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Hand excavation.			Curtins Consulting	41558
	Location	**Dates** 29/10/2014-29/11/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30 0.30	D1 J2				(0.40) 0.40	Brown, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone and quartz. Complete at 0.40m		

Plan



Remarks

At 0.4m: Refusal on rock.

Scale (approx)	Logged By	Figure No.
1:40	JC	41558.HP03

IAN FARMER ASSOCIATES

Site	Trial Pit Number
St. Julies School. Liverpool	HP04

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Hand excavated.			Curtins Consulting	41558
	Location	**Dates** 29/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	D1				(0.30)	MADE GROUND: Brown, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including sanstone and brick.		
0.30	J2				0.30			
0.50	D3				(0.30)	Light brown, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse includig nsandstone.		
0.50	J4				0.60	Complete at 0.60m		

Plan

Remarks

Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
At 0.60m: Refusal on rock.

Scale (approx)	Logged By	Figure No.
1:40	JC	41558.HP04

IAN FARMER ASSOCIATES

Site	Trial Pit Number
St. Julies School. Liverpool	HP05

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Hand excavation.			Curtins Consulting	41558
	Location	**Dates** 30/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30 0.30	D1 J2				(0.50) 0.50	MADE GROUND: Firm/stiff, brown, sandy, slightly gravelly CLAY. Gravlel is angular to subrounded, fine to coarse including sandstone, mudstone, glass and plastic.		
						Complete at 0.50m		

Plan

Remarks

Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
At 0.5m: End of hole.
At 0.50m: Refusal on rock.

Scale (approx)	Logged By	Figure No.
1:40	JC	41558.HP05

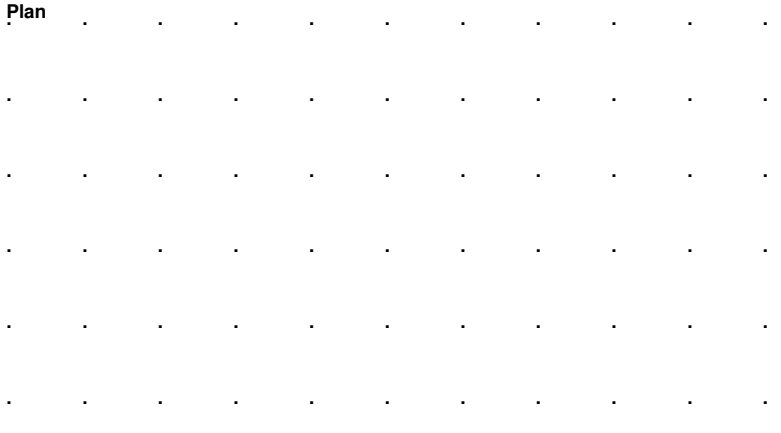
IAN FARMER ASSOCIATES

Site	Trial Pit Number
St. Julies School. Liverpool	HP06

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Hand excavation.			Curtins Consulting	41558
	Location	**Dates** 30/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30 0.30	D1 J2				(0.40) 0.40	Brown, slightly clayey, slightly gravelly, fine to coarse SAND with rootlets. Gravel is angular to subrounded, fine to coarse including sandstone.		
						Complete at 0.40m		

Plan



Remarks

Excavating from 0.00m to 1.20m for 1.00 hour.
samples marked as D & J .comprise of 1 x amber jar and 1 x vial.
At 0.40m: End of hole.
At 0.40m: Refusal on sandstone.

Scale (approx)	Logged By	Figure No.
1:40	JC	41558.HP06

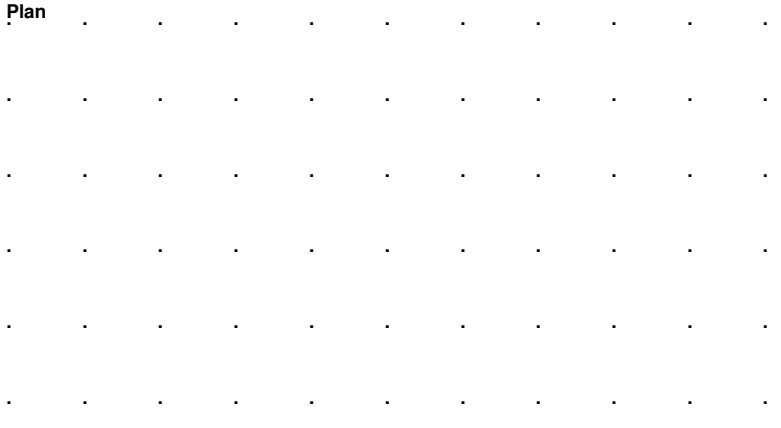
IAN FARMER ASSOCIATES

Site	Trial Pit Number
St. Julies School. Liverpool	HP07

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Hand excacvation.			Curtins Consulting	41558
	Location	**Dates** 30/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20 0.20	D1 J2				(0.30) 0.30	Brown, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone and rootlets. Complete at 0.30m		

Plan



Remarks

Excavating from 0.00m to 1.20m for 1.00 hour.
Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
At 0.30m: End of hole.
At 0.30m: Refusal on sandstone.

Scale (approx)	Logged By	Figure No.
1:40	JC	41558.HP07

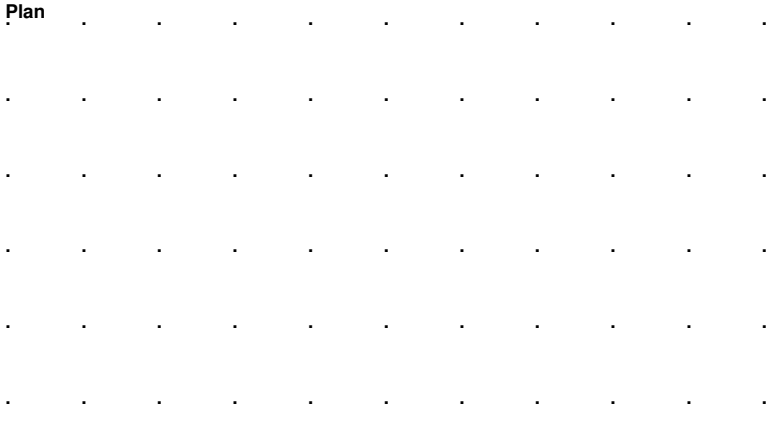
IAN FARMER ASSOCIATES

Site	Trial Pit Number
St. Julies School. Liverpool	HP08

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Hnad excavated.			Curtins Consulting	41558
	Location	**Dates** 30/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D1				(0.30)	Dark brown, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone with rootlets.		
0.20	J2				0.30			
0.40	D3				(0.20)	Orange/light brown, slightly clayey, slightly gravelly, fine to coarse SAND with rootlets. Gravel is angular to subrounded, fine to coarse including sandstone.		
0.40	J4				0.50	Complete at 0.50m		

Plan



Remarks

Excavating from 0.00m to 1.20m for 1.00 hour.
Samples marked as D & J comprise of 1 x amber jar and 1 a vial.
At 0.50m: End of hole.
At 0.50m Refusal on rock.

Scale (approx)	Logged By	Figure No.
1:40	JC	41558.HP08

IAN FARMER ASSOCIATES

Site	Trial Pit Number
St. Julies School. Liverpool	HP09

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Hand excavated.			Curtins Consulting	41558
	Location	**Dates** 30/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D1				(0.20) 0.20	Dark brown, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone.		
0.20	J2							
0.50	D3				(0.60)	Light brown, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone,		
					0.80	Complete at 0.80m		

Plan

Remarks

Excavating from 0.00m to 1.20m for 1.00 hour.
Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
At 0.80m: End of hole.
At 0.80m: Refusal on rock.

Scale (approx)	Logged By	Figure No.
1:40	JC	41558.HP09

IAN FARMER ASSOCIATES

Site	Trial Pit Number
St. Julies School. Liverpool	HP10

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Hand excavation			Curtins Consulting	41558
	Location	**Dates** 30/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10 0.10	D1 J2				(0.20) 0.20	Brown, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone.		
0.50 0.50	D3 J4				(0.40) 0.60	Orange, slightly clayey, slightly gravelly, coarse SAND. Gravel is angular to angular.		
						Complete at 0.60m		

Plan

Remarks

Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
At 0.6m: End of hole.
At 0.60m: Refusal on rock.

Scale (approx)	Logged By	Figure No.
1:40	JC	41558.HP10

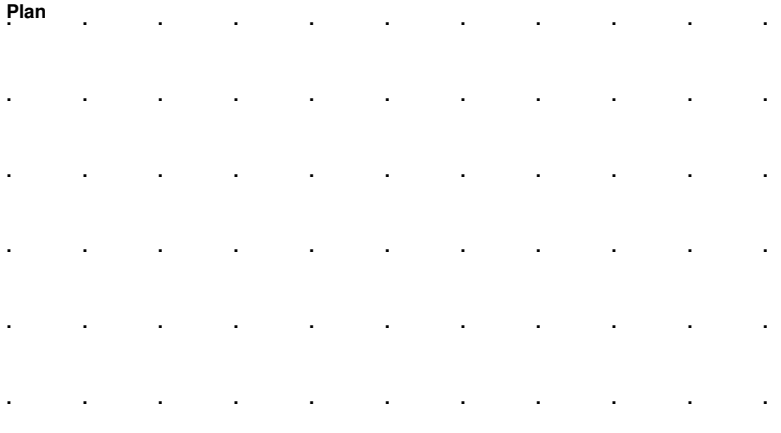
IAN FARMER ASSOCIATES

Site	Trial Pit Number
St. Julies School. Liverpool	HP11

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Hand excavation.			Curtins Consulting	41558
	Location	**Dates** 30/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30) 0.30	Light brown, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone.		
						Complete at 0.40m		

Plan



Remarks

Excavating from 0.00m to 1.20m for 1.00 hour.
Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
At 0.40m: End of hole.
AT 0.40m: Refusal on sandstone.

Scale (approx)	Logged By	Figure No.
1:40	JC	41558.HP11

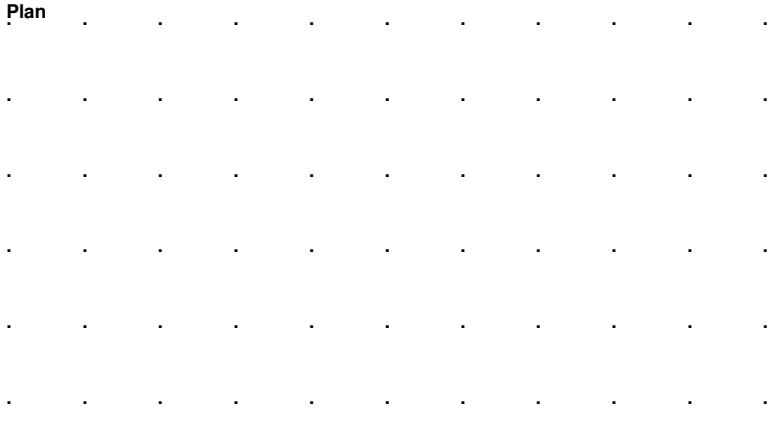
IAN FARMER ASSOCIATES

Site	Trial Pit Number
St. Julies School. Liverpool	HP12

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Hand excavation.			Curtins Consulting	41558
	Location	**Dates** 30/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D1				(0.30)	MADE GROUND: Brown, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone, brick and charcoal.		
0.20	J2				0.30			
0.50	D3				(0.40)	Red, slightly clayey, slightly gravelly, coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone.		
0.50	J4				0.70			
						Complete at 0.70m		

Plan



Remarks

Excavating from 0.00m to 1.20m for 1.00 hour.
Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
At 0.70m: End of hole.
At 0.70m: Refusal on sandstone.

Scale (approx)	Logged By	Figure No.
1:40	JC	41558.HP12

IAN FARMER ASSOCIATES

Site	Trial Pit Number
St. Julies School. Liverpool	HP13

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Hand excavation.			Curtins Consulting	41558
	Location	**Dates** 30/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	D1				(0.30)	MADE GROUND: Brown, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including brick, sandstone, ceramic, slate and brick cobbles.		
0.30	J2				0.30			
0.50	D3				(0.40)	Orange, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse of sandstone.		
0.50	J4				0.70			
						Complete at 0.70m		

Plan

Remarks

Excavating from 0.00m to 1.20m for 1.00 hour.
Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
At 0.70m: End of hole.

Scale (approx)	Logged By	Figure No.
1:40	JC	41558.HP13

IAN FARMER ASSOCIATES

Site	Trial Pit Number
St. Julies School. Liverpool	HP14

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Hand excavation.			Curtins Consulting	41558
	Location	**Dates** 30/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10 0.10 0.40 0.40	D1 J2 D3 J4				(0.20) 0.20 (0.30) 0.50	Brown, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone and rootlets. Light, brown/orange, slightly clayey, slightly gravelly, fine to coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone. Complete at 0.50m		

Plan

Remarks

Excavating from 0.00m to 1.20m for 1.00 hour.
Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
At 0.50m: End of hole.

Scale (approx)	Logged By	Figure No.
1:40	JC	41558.HP14

IAN FARMER ASSOCIATES

Site	Borehole Number
St. Julies School. Liverpool	BH01

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
Cable Percussion			Curtins Consulting	41558
	Location	**Dates** 29/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.30	B5					(0.10) 0.10	MADE GROUND: TARAMCADAM.		
0.20	D1					(0.20) 0.30	MADE GROUND: Grey, SAND and GRAVEL. At 0.30m: Sandstone.		
0.30	D2						Complete at 0.30m		
0.30	D4								
0.30	J3								

Remarks
Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
End of hole at 0.30m: Refusal on sandstone.
Excavating from 0.00m to 1.20m for 1.00 hour.

Scale (approx)	Logged By
1:40	JC

Figure No. 41558.BH01

IAN FARMER ASSOCIATES

Site	Borehole Number
St. Julies School. Liverpool	BH02

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
Cable Percussion			Curtins Consulting	41558
	Location	**Dates** 29/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.40	B4					(0.10) 0.10	MADE GROUND: TARMACADAM.		
0.20	D1					(0.30)	MADE GROUND: Grey, SAND and GRAVEL. Coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone.		
0.30	D2					0.40			
0.30	J3					(0.10) 0.50	Weathered sandstone recovered as very, sandy, slightly gravelly CLAY. Gravel is angular to subrounded, fine to coarse including sandstone.		
0.40	D5					(0.38)			
0.50	D6					0.88	SANDSTONE recovered as sandy gravel. Gravel is angular, fine to coarse of sandstone.		
0.50	J7						Complete at 0.88m		
0.70	D8								

Remarks
Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
Falling heal test.
Excavating from 0.00m to 1.20m for 0.00 hours.

Scale (approx)	Logged By
1:40	JC

Figure No. 41558.BH02

IAN FARMER ASSOCIATES

Site	Borehole Number
St. Julies School. Liverpool	BH03

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
Cable Percussion			Curtins Consulting	41558
	Location	**Dates** 29/10/2014	**Engineer** Curtins Consulting	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D1					(0.10) 0.10	MADE GROUND: TARMACADAM.		
0.30	D2					(0.25)	MADE GROUND: Grey, SAND and GRAVEL. Sand is coarse. Gravel is angular to subrounded, fine to coarse including concrete.		
0.30	J3					0.35 (0.15)			
0.40	D4					0.50 (0.25)	Red brown, slightly clayey, slightly gravelly, coarse SAND. Gravel is angular to subrounded, fine to coarse including sandstone.		
0.50	D5					0.75	SANDSTONE recovered as red brown, slightly sandy gravel. Gravel is angular, fine to coarse including sandstone.		
0.50	J6						Complete at 0.75m		
0.60	D7								

Remarks
Samples marked as D & J comprise of 1 x amber jar and 1 x vial.
Falling heal test.
Excavating from 0.00m to 1.20m for 1.00 hour.

Scale (approx)	Logged By
1:40	JC

Figure No. 41558.BH03

Appendix

Appendix C - Chemical Analysis Results

Hadfield House
Hadfield Street
Cornbrook
Manchester
M16 9FE
Tel : 0161 874 2400
Fax : 0161 874 2468

Scientific Analysis Laboratories Ltd

Certificate of Analysis

Report Number: 435648-1

Date of Report: 21-Nov-2014

Customer: Curtins Consulting Ltd.
10 Oxford Court
Bishopsgate
Manchester
M2 3WQ

Customer Contact: Ms Gemma Lownsbrough

Customer Job Reference: EB1441/GL/4140
Customer Purchase Order: EB1008
Customer Site Reference: St Julies, Liverpool
Date Job Received at SAL: 31-Oct-2014
Date Analysis Started: 12-Nov-2014
Date Analysis Completed: 21-Nov-2014

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with QP22

UKAS TESTING 1549

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Report checked and authorised by :
Mr Ross Walker
Customer Services Manager (Land)

Issued by :
Mr Ross Walker
Customer Services Manager (Land)

SAL Reference: 435648
Project Site: St Julies, Liverpool
Customer Reference: EB1441/GL/4140

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**435648 001**	**435648 002**	**435648 003**	**435648 004**	**435648 005**	**435648 006**	**435648 007**	**435648 008**	**435648 009**	**435648 010**
				Customer Sample Reference	**BH01**	**BH02**	**BH02**	**BH03**	**BH03**	**WS01**	**WS01**	**WS02**	**WS02**	**WS03**
				Date Sampled	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**27-OCT-2014**
				Depth	**0.30**	**0.30**	**0.50**	**0.30**	**0.50**	**0.30**	**0.50**	**0.30**	**0.50**	**0.30**
				Type	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Topsoil**	**Sandy Soil**	**Topsoil**	**Topsoil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Moisture @ 105 C	T162	AR	0.1	%	**2.8**	**7.2**	**12**	**3.9**	**8.9**	**14**	**14**	**18**	**14**	**18**

SAL Reference: 435648
Project Site: St Julies, Liverpool
Customer Reference: EB1441/GL/4140

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**435648 011**	**435648 012**	**435648 013**	**435648 014**	**435648 015**	**435648 016**	**435648 017**	**435648 018**	**435648 019**	**435648 020**
				Customer Sample Reference	**WS03**	**WS04**	**WS04**	**WS05**	**WS05**	**WS06**	**WS06**	**WS07**	**WS07**	**WS08**
				Date Sampled	**27-OCT-2014**	**27-OCT-2014**	**27-OCT-2014**	**28-OCT-2014**	**28-OCT-2014**	**28-OCT-2014**	**28-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**28-OCT-2014**
				Depth	**1.00**	**0.30**	**0.50**	**0.30**	**0.50**	**0.30**	**1.00**	**0.30**	**1.00**	**0.30**
				Type	**Topsoil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Moisture @ 105 C	T162	AR	0.1	%	**14**	**5.4**	**12**	**11**	**9.1**	**12**	**8.8**	**13**	**9.8**	**9.0**

SAL Reference: 435648
Project Site: St Julies, Liverpool
Customer Reference: EB1441/GL/4140

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**435648 021**	**435648 022**	**435648 023**	**435648 024**	**435648 025**	**435648 026**	**435648 027**	**435648 028**	**435648 029**	**435648 030**
				Customer Sample Reference	**WS08**	**WS09**	**WS09**	**WS10**	**WS10**	**WS11**	**WS11**	**WS12**	**WS12**	**WS13**
				Date Sampled	**28-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**28-OCT-2014**	**28-OCT-2014**	**27-OCT-2014**
				Depth	**1.00**	**0.30**	**1.00**	**0.30**	**1.00**	**0.30**	**1.00**	**0.30**	**1.00**	**0.30**
				Type	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Sandy Soil**	**Sandy Soil**	**Topsoil**	**Sandy Soil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Moisture @ 105 C	T162	AR	0.1	%	**9.0**	**17**	**10**	**13**	**6.3**	**20**	**18**	**9.0**	**10**	**13**

SAL Reference: 435648
Project Site: St Julies, Liverpool
Customer Reference: EB1441/GL/4140

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**435648 031**	**435648 032**	**435648 033**	**435648 034**	**435648 035**	**435648 036**	**435648 037**	**435648 038**	**435648 039**	**435648 040**
				Customer Sample Reference	**WS13**	**WS14**	**WS14**	**HP01**	**HP02**	**HP03**	**HP04**	**HP05**	**HP06**	**HP07**
				Date Sampled	**27-OCT-2014**	**28-OCT-2014**	**28-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**
				Depth	**0.50**	**0.50**	**1.00**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.20**
				Type	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Sandy Soil**	**Topsoil**	**Topsoil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Moisture @ 105 C	T162	AR	0.1	%	**14**	**13**	**12**	**7.9**	**14**	**8.3**	**17**	**23**	**26**	**13**

SAL Reference: 435648
Project Site: St Julies, Liverpool
Customer Reference: EB1441/GL/4140

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**435648 041**	**435648 042**	**435648 043**	**435648 044**	**435648 045**	**435648 046**
				Customer Sample Reference	**HP08**	**HP09**	**HP10**	**HP12**	**HP13**	**HP14**
				Date Sampled	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**
				Depth	**0.20**	**0.20**	**0.10**	**0.20**	**0.30**	**0.10**
				Type	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Moisture @ 105 C	T162	AR	0.1	%	**16**	**16**	**25**	**13**	**21**	**16**

SAL Reference: 435648
Project Site: St Julies, Liverpool
Customer Reference: EB1441/GL/4140

Soil Analysed as Soil
Metals

				SAL Reference	**435648 001**	**435648 002**	**435648 003**	**435648 004**	**435648 005**	**435648 006**	**435648 007**	**435648 008**	**435648 009**	**435648 010**
				Customer Sample Reference	**BH01**	**BH02**	**BH02**	**BH03**	**BH03**	**WS01**	**WS01**	**WS02**	**WS02**	**WS03**
				Date Sampled	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**27-OCT-2014**
				Depth	**0.30**	**0.30**	**0.50**	**0.30**	**0.50**	**0.30**	**0.50**	**0.30**	**0.50**	**0.30**
				Type	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Topsoil**	**Sandy Soil**	**Topsoil**	**Topsoil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Arsenic	T6	M40	2	mg/kg	**7**	**6**	**6**	**4**	**5**	**12**	**5**	**10**	**4**	**8**
Boron (water-soluble)	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	T6	M40	1	mg/kg	**11**	**13**	**23**	**9**	**15**	**21**	**22**	**18**	**15**	**15**
Chromium VI	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	T6	M40	1	mg/kg	**29**	**16**	**14**	**12**	**10**	**32**	**12**	**25**	**10**	**25**
Lead	T6	M40	1	mg/kg	**160**	**110**	**25**	**270**	**66**	**86**	**13**	**80**	**18**	**62**
Mercury	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	T6	M40	1	mg/kg	**14**	**14**	**20**	**8**	**20**	**23**	**16**	**18**	**10**	**13**
Selenium	T6	M40	3	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Zinc	T6	M40	1	mg/kg	**95**	**42**	**35**	**47**	**31**	**64**	**34**	**56**	**25**	**55**

SAL Reference: 435648
Project Site: St Julies, Liverpool
Customer Reference: EB1441/GL/4140

Soil Analysed as Soil
Metals

				SAL Reference	**435648 011**	**435648 012**	**435648 013**	**435648 014**	**435648 015**	**435648 016**	**435648 017**	**435648 018**	**435648 019**	**435648 020**
				Customer Sample Reference	**WS03**	**WS04**	**WS04**	**WS05**	**WS05**	**WS06**	**WS06**	**WS07**	**WS07**	**WS08**
				Date Sampled	**27-OCT-2014**	**27-OCT-2014**	**27-OCT-2014**	**28-OCT-2014**	**28-OCT-2014**	**28-OCT-2014**	**28-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**28-OCT-2014**
				Depth	**1.00**	**0.30**	**0.50**	**0.30**	**0.50**	**0.30**	**1.00**	**0.30**	**1.00**	**0.30**
				Type	**Topsoil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Arsenic	T6	M40	2	mg/kg	**6**	**8**	**6**	**9**	**4**	**18**	**6**	**16**	**7**	**5**
Boron (water-soluble)	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	T6	M40	1	mg/kg	**13**	**13**	**11**	**17**	**11**	**19**	**15**	**18**	**13**	**16**
Chromium VI	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	T6	M40	1	mg/kg	**15**	**28**	**13**	**24**	**5**	**80**	**19**	**64**	**28**	**29**
Lead	T6	M40	1	mg/kg	**44**	**50**	**25**	**68**	**12**	**290**	**82**	**140**	**90**	**53**
Mercury	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	T6	M40	1	mg/kg	**9**	**14**	**11**	**16**	**8**	**21**	**13**	**33**	**17**	**10**
Selenium	T6	M40	3	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Zinc	T6	M40	1	mg/kg	**28**	**71**	**34**	**48**	**18**	**130**	**32**	**130**	**64**	**36**

SAL Reference: 435648
Project Site: St Julies, Liverpool
Customer Reference: EB1441/GL/4140

Soil Analysed as Soil
Metals

SAL Reference	435648 021	435648 022	435648 023	435648 024	435648 025	435648 026	435648 027	435648 028	435648 029	435648 030
Customer Sample Reference	WS08	WS09	WS09	WS10	WS10	WS11	WS11	WS12	WS12	WS13
Date Sampled	28-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	28-OCT-2014	28-OCT-2014	27-OCT-2014
Depth	1.00	0.30	1.00	0.30	1.00	0.30	1.00	0.30	1.00	0.30
Type	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Sandy Soil	Sandy Soil	Topsoil	Sandy Soil	Sandy Soil

Determinand	Method	Test Sample	LOD	Units										
Arsenic	T6	M40	2	mg/kg	**4**	**19**	**5**	**13**	**4**	**11**	**5**	**9**	**4**	**6**
Boron (water-soluble)	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	T6	M40	1	mg/kg	**12**	**17**	**16**	**16**	**13**	**13**	**12**	**16**	**12**	**14**
Chromium VI	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	T6	M40	1	mg/kg	**21**	**71**	**18**	**35**	**9**	**32**	**13**	**32**	**13**	**19**
Lead	T6	M40	1	mg/kg	**47**	**170**	**57**	**120**	**27**	**92**	**56**	**150**	**87**	**43**
Mercury	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	T6	M40	1	mg/kg	**8**	**22**	**13**	**17**	**10**	**14**	**11**	**15**	**9**	**13**
Selenium	T6	M40	3	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Zinc	T6	M40	1	mg/kg	**29**	**50**	**38**	**100**	**25**	**60**	**31**	**85**	**37**	**49**

SAL Reference: 435648
Project Site: St Julies, Liverpool
Customer Reference: EB1441/GL/4140

Soil Analysed as Soil
Metals

SAL Reference	435648 031	435648 032	435648 033	435648 034	435648 035	435648 036	435648 037	435648 038	435648 039	435648 040
Customer Sample Reference	WS13	WS14	WS14	HP01	HP02	HP03	HP04	HP05	HP06	HP07
Date Sampled	27-OCT-2014	28-OCT-2014	28-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014
Depth	0.50	0.50	1.00	0.30	0.30	0.30	0.30	0.30	0.30	0.20
Type	Sandy Soil	Sandy Soil	Sandy Soil	Topsoil	Topsoil	Topsoil	Topsoil	Sandy Soil	Topsoil	Topsoil

Determinand	Method	Test Sample	LOD	Units										
Arsenic	T6	M40	2	mg/kg	**5**	**5**	**3**	**6**	**8**	**5**	**23**	**11**	**14**	**9**
Boron (water-soluble)	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	T6	M40	1	mg/kg	**11**	**18**	**13**	**16**	**15**	**8**	**17**	**18**	**16**	**15**
Chromium VI	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	T6	M40	1	mg/kg	**9**	**13**	**7**	**14**	**18**	**11**	**52**	**31**	**40**	**26**
Lead	T6	M40	1	mg/kg	**47**	**21**	**13**	**37**	**81**	**27**	**120**	**78**	**100**	**160**
Mercury	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	T6	M40	1	mg/kg	**9**	**11**	**8**	**9**	**10**	**4**	**11**	**12**	**12**	**9**
Selenium	T6	M40	3	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Zinc	T6	M40	1	mg/kg	**32**	**28**	**19**	**27**	**25**	**10**	**51**	**44**	**34**	**24**

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Soil Analysed as Soil
Metals

				SAL Reference	**435648 041**	**435648 042**	**435648 043**	**435648 044**	**435648 045**	**435648 046**
				Customer Sample Reference	**HP08**	**HP09**	**HP10**	**HP12**	**HP13**	**HP14**
				Date Sampled	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**
				Depth	**0.20**	**0.20**	**0.10**	**0.20**	**0.30**	**0.10**
				Type	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Arsenic	T6	M40	2	mg/kg	**11**	**19**	**15**	**22**	**14**	**31**
Boron (water-soluble)	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1
Cadmium	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1
Chromium	T6	M40	1	mg/kg	**14**	**15**	**14**	**23**	**13**	**19**
Chromium VI	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1
Copper	T6	M40	1	mg/kg	**21**	**26**	**57**	**68**	**83**	**120**
Lead	T6	M40	1	mg/kg	**50**	**73**	**160**	**260**	**410**	**300**
Mercury	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1
Nickel	T6	M40	1	mg/kg	**7**	**6**	**10**	**19**	**18**	**12**
Selenium	T6	M40	3	mg/kg	<3	<3	<3	<3	<3	<3
Zinc	T6	M40	1	mg/kg	**25**	**19**	**56**	**100**	**230**	**53**

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Soil Analysed as Soil
Curtins Suite A

				SAL Reference	**435648 001**	**435648 002**	**435648 003**	**435648 004**	**435648 005**	**435648 006**	**435648 007**	**435648 008**	**435648 009**	**435648 010**
				Customer Sample Reference	**BH01**	**BH02**	**BH02**	**BH03**	**BH03**	**WS01**	**WS01**	**WS02**	**WS02**	**WS03**
				Date Sampled	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**27-OCT-2014**
				Depth	**0.30**	**0.30**	**0.50**	**0.30**	**0.50**	**0.30**	**0.50**	**0.30**	**0.50**	**0.30**
				Type	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Topsoil**	**Sandy Soil**	**Topsoil**	**Topsoil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Asbestos ID	T27	AR			Chrysotile Detected	Chrysotile Detected	-	Chrysotile Detected	-	N.D.	-	N.D.	-	N.D.
Cyanide(Total)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
pH	T7	AR			**8.7**	**8.7**	**8.2**	**8.5**	**8.6**	**5.9**	**6.5**	**5.9**	**6.1**	**7.2**
Phenols(Mono)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Soil Organic Matter	T287	M40	0.1	%	**8.4**	**2.4**	**1.5**	**2.2**	**1.4**	**4.0**	**1.2**	**3.6**	**1.2**	**3.0**
SO4(Total)	T6	M40	0.01	%	**0.08**	**0.03**	**0.02**	**0.03**	**0.02**	**0.06**	**0.02**	**0.06**	**0.02**	**0.07**
Sulphide	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sulphur (total)	T6	M40	0.01	%	**0.06**	**0.03**	<0.01	**0.02**	<0.01	**0.03**	<0.01	**0.02**	<0.01	**0.03**

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Soil Analysed as Soil
Curtins Suite A

SAL Reference	435648 011	435648 012	435648 013	435648 014	435648 015	435648 016	435648 017	435648 018	435648 019	435648 020
Customer Sample Reference	WS03	WS04	WS04	WS05	WS05	WS06	WS06	WS07	WS07	WS08
Date Sampled	27-OCT-2014	27-OCT-2014	27-OCT-2014	28-OCT-2014	28-OCT-2014	28-OCT-2014	28-OCT-2014	29-OCT-2014	29-OCT-2014	28-OCT-2014
Depth	1.00	0.30	0.50	0.30	0.50	0.30	1.00	0.30	1.00	0.30
Type	Topsoil	Sandy Soil	Sandy Soil	Sandy Soil	Sandy Soil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil

Determinand	Method	Test Sample	LOD	Units										
Asbestos ID	T27	AR			-	N.D.	-	Chrysotile Detected	-	N.D.	-	N.D.	-	N.D.
Cyanide(Total)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
pH	T7	AR			**5.6**	**8.6**	**8.4**	**8.3**	**7.6**	**7.6**	**7.9**	**7.2**	**6.5**	**4.6**
Phenols(Mono)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Soil Organic Matter	T287	M40	0.1	%	**1.8**	**4.2**	**1.8**	**2.6**	**0.4**	**4.4**	**1.7**	**6.7**	**3.1**	**3.7**
SO4(Total)	T6	M40	0.01	%	**0.04**	**0.16**	**0.05**	**0.03**	<0.01	**0.09**	**0.03**	**0.08**	**0.03**	**0.06**
Sulphide	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sulphur (total)	T6	M40	0.01	%	**0.02**	**0.08**	**0.03**	**0.02**	<0.01	**0.04**	**0.01**	**0.05**	**0.02**	**0.03**

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Soil Analysed as Soil
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SAL Reference	435648 021	435648 022	435648 023	435648 024	435648 025	435648 026	435648 027	435648 028	435648 029	435648 030
Customer Sample Reference	WS08	WS09	WS09	WS10	WS10	WS11	WS11	WS12	WS12	WS13
Date Sampled	28-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	28-OCT-2014	28-OCT-2014	27-OCT-2014
Depth	1.00	0.30	1.00	0.30	1.00	0.30	1.00	0.30	1.00	0.30
Type	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Sandy Soil	Sandy Soil	Topsoil	Sandy Soil	Sandy Soil

Determinand	Method	Test Sample	LOD	Units										
Asbestos ID	T27	AR			-	N.D.	-	N.D.	-	N.D.	-	N.D.	-	N.D.
Cyanide(Total)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
pH	T7	AR			**4.4**	**4.9**	**5.0**	**6.6**	**7.1**	**7.2**	**7.7**	**7.6**	**8.1**	**8.9**
Phenols(Mono)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Soil Organic Matter	T287	M40	0.1	%	**3.3**	**5.4**	**1.4**	**2.9**	**0.7**	**3.7**	**1.4**	**2.9**	**0.7**	**1.1**
SO4(Total)	T6	M40	0.01	%	**0.05**	**0.09**	**0.03**	**0.06**	**0.01**	**0.06**	**0.01**	**0.06**	**0.02**	**0.04**
Sulphide	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sulphur (total)	T6	M40	0.01	%	**0.02**	**0.04**	**0.01**	**0.03**	<0.01	**0.03**	<0.01	**0.03**	<0.01	**0.03**

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Soil Analysed as Soil
Curtins Suite A

SAL Reference					**435648 031**	**435648 032**	**435648 033**	**435648 034**	**435648 035**	**435648 036**	**435648 037**	**435648 038**	**435648 039**	**435648 040**
Customer Sample Reference					**WS13**	**WS14**	**WS14**	**HP01**	**HP02**	**HP03**	**HP04**	**HP05**	**HP06**	**HP07**
Date Sampled					**27-OCT-2014**	**28-OCT-2014**	**28-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**
Depth					**0.50**	**0.50**	**1.00**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.20**
Type					**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Sandy Soil**	**Topsoil**	**Topsoil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Asbestos ID	T27	AR			-	N.D.	-	N.D.	Chrysotile Detected	N.D.	N.D.	N.D.	N.D.	N.D.
Cyanide(Total)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
pH	T7	AR			**8.8**	**7.8**	**7.7**	**4.0**	**6.6**	**4.2**	**3.8**	**7.0**	**3.7**	**4.1**
Phenols(Mono)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Soil Organic Matter	T287	M40	0.1	%	**0.9**	**0.8**	**0.6**	**3.3**	**3.8**	**12**	**4.8**	**3.6**	**8.1**	**5.3**
SO4(Total)	T6	M40	0.01	%	**0.05**	**0.01**	**0.01**	**0.08**	**0.06**	**0.05**	**0.12**	**0.06**	**0.10**	**0.07**
Sulphide	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sulphur (total)	T6	M40	0.01	%	**0.02**	<0.01	<0.01	**0.03**	**0.03**	**0.03**	**0.06**	**0.03**	**0.05**	**0.04**

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Customer Reference: EB1441/GL/4140

Soil Analysed as Soil
Curtins Suite A

SAL Reference					**435648 041**	**435648 042**	**435648 043**	**435648 044**	**435648 045**	**435648 046**
Customer Sample Reference					**HP08**	**HP09**	**HP10**	**HP12**	**HP13**	**HP14**
Date Sampled					**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**
Depth					**0.20**	**0.20**	**0.10**	**0.20**	**0.30**	**0.10**
Type					**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Asbestos ID	T27	AR			N.D.	N.D.	N.D.	N.D.	N.D.	Amosite Detected
Cyanide(Total)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1
pH	T7	AR			**4.5**	**4.1**	**6.1**	**5.6**	**6.8**	**3.8**
Phenols(Mono)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1
Soil Organic Matter	T287	M40	0.1	%	**3.1**	**3.2**	**14**	**5.2**	**16**	**13**
SO4(Total)	T6	M40	0.01	%	**0.05**	**0.06**	**0.17**	**0.08**	**0.20**	**0.21**
Sulphide	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1
Sulphur (total)	T6	M40	0.01	%	**0.02**	**0.03**	**0.10**	**0.04**	**0.10**	**0.10**

SAL Reference: 435648
Project Site: St Julies, Liverpool
Customer Reference: EB1441/GL/4140

Soil Analysed as Soil
Total and Speciated USEPA16 PAH

				SAL Reference	**435648 001**	**435648 002**	**435648 003**	**435648 004**	**435648 005**	**435648 006**	**435648 007**	**435648 008**	**435648 009**	**435648 010**
				Customer Sample Reference	**BH01**	**BH02**	**BH02**	**BH03**	**BH03**	**WS01**	**WS01**	**WS02**	**WS02**	**WS03**
				Date Sampled	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**27-OCT-2014**
				Depth	**0.30**	**0.30**	**0.50**	**0.30**	**0.50**	**0.30**	**0.50**	**0.30**	**0.50**	**0.30**
				Type	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Topsoil**	**Sandy Soil**	**Topsoil**	**Topsoil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Naphthalene	T207	M105	0.1	mg/kg	<0.1	**0.2**	<0.1	**0.9**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1	**0.1**	<0.1	**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	M105	0.1	mg/kg	<0.1	**2.9**	<0.1	**5.3**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	T207	M105	0.1	mg/kg	<0.1	**1.9**	<0.1	**5.5**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	T207	M105	0.1	mg/kg	**0.4**	**14**	**0.5**	**45**	**0.6**	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	T207	M105	0.1	mg/kg	**0.2**	**5.7**	**0.2**	**17**	**0.3**	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	T207	M105	0.1	mg/kg	**1.2**	**23**	**1.1**	**51**	**2.1**	**0.1**	<0.1	**0.3**	<0.1	**0.2**
Pyrene	T207	M105	0.1	mg/kg	**1.2**	**17**	**0.8**	**37**	**2.0**	**0.1**	<0.1	**0.3**	<0.1	**0.2**
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	**0.9**	**7.4**	**0.4**	**22**	**0.9**	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	T207	M105	0.1	mg/kg	**0.6**	**5.8**	**0.3**	**16**	**0.8**	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b/k)Fluoranthene	T207	M105	0.1	mg/kg	**1.3**	**11**	**0.5**	**37**	**2.3**	**0.1**	<0.1	**0.2**	<0.1	**0.1**
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	**0.7**	**5.7**	**0.3**	**20**	**1.4**	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	**0.3**	**2.6**	**0.1**	**8.7**	**0.7**	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	**0.1**	**0.6**	<0.1	**2.1**	**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	**0.5**	**3.1**	**0.2**	**9.7**	**0.8**	<0.1	<0.1	<0.1	<0.1	<0.1
PAH(total)	T207	M105	0.1	mg/kg	**7.4**	**100**	**4.4**	**280**	**12**	**0.3**	<0.1	**0.8**	<0.1	**0.5**

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Soil Analysed as Soil
Total and Speciated USEPA16 PAH

				SAL Reference	**435648 011**	**435648 012**	**435648 013**	**435648 014**	**435648 015**	**435648 016**	**435648 017**	**435648 018**	**435648 019**	**435648 020**
				Customer Sample Reference	**WS03**	**WS04**	**WS04**	**WS05**	**WS05**	**WS06**	**WS06**	**WS07**	**WS07**	**WS08**
				Date Sampled	**27-OCT-2014**	**27-OCT-2014**	**27-OCT-2014**	**28-OCT-2014**	**28-OCT-2014**	**28-OCT-2014**	**28-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**28-OCT-2014**
				Depth	**1.00**	**0.30**	**0.50**	**0.30**	**0.50**	**0.30**	**1.00**	**0.30**	**1.00**	**0.30**
				Type	**Topsoil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Naphthalene	T207	M105	0.1	mg/kg	<0.1	**0.3**	**0.4**	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	M105	0.1	mg/kg	<0.1	**0.1**	**0.8**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.9**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	T207	M105	0.1	mg/kg	<0.1	**0.9**	**9.1**	<0.1	<0.1	**0.6**	<0.1	<0.1	<0.1	<0.1
Anthracene	T207	M105	0.1	mg/kg	<0.1	**0.4**	**2.9**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	T207	M105	0.1	mg/kg	<0.1	**2.4**	**20**	<0.1	<0.1	**0.8**	<0.1	**0.2**	<0.1	<0.1
Pyrene	T207	M105	0.1	mg/kg	<0.1	**2.3**	**16**	<0.1	<0.1	**0.7**	<0.1	**0.2**	<0.1	<0.1
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	<0.1	**1.2**	**11**	<0.1	<0.1	**0.3**	<0.1	**0.1**	<0.1	<0.1
Chrysene	T207	M105	0.1	mg/kg	<0.1	**1.0**	**7.8**	<0.1	<0.1	**0.4**	<0.1	**0.1**	<0.1	<0.1
Benzo(b/k)Fluoranthene	T207	M105	0.1	mg/kg	<0.1	**2.3**	**16**	<0.1	<0.1	**0.7**	<0.1	**0.2**	<0.1	<0.1
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	<0.1	**1.1**	**7.4**	<0.1	<0.1	**0.4**	<0.1	**0.1**	<0.1	<0.1
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	<0.1	**0.7**	**3.8**	<0.1	<0.1	**0.2**	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	<0.1	**0.3**	**1.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	<0.1	**0.9**	**4.1**	<0.1	<0.1	**0.3**	<0.1	<0.1	<0.1	<0.1
PAH(total)	T207	M105	0.1	mg/kg	<0.1	**14**	**100**	<0.1	<0.1	**4.5**	<0.1	**0.9**	<0.1	<0.1

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Project Site: St Julies, Liverpool
Customer Reference: EB1441/GL/4140

Soil Analysed as Soil
Total and Speciated USEPA16 PAH

				SAL Reference	**435648 021**	**435648 022**	**435648 023**	**435648 024**	**435648 025**	**435648 026**	**435648 027**	**435648 028**	**435648 029**	**435648 030**
				Customer Sample Reference	**WS08**	**WS09**	**WS09**	**WS10**	**WS10**	**WS11**	**WS11**	**WS12**	**WS12**	**WS13**
				Date Sampled	**28-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**28-OCT-2014**	**28-OCT-2014**	**27-OCT-2014**
				Depth	**1.00**	**0.30**	**1.00**	**0.30**	**1.00**	**0.30**	**1.00**	**0.30**	**1.00**	**0.30**
				Type	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Sandy Soil**	**Sandy Soil**	**Topsoil**	**Sandy Soil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Naphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	T207	M105	0.1	mg/kg	<0.1	**0.2**	<0.1	<0.1	<0.1	**0.2**	**0.1**	**0.2**	<0.1	<0.1
Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	T207	M105	0.1	mg/kg	<0.1	**0.4**	<0.1	**0.1**	<0.1	**0.4**	**0.4**	**0.3**	**0.1**	<0.1
Pyrene	T207	M105	0.1	mg/kg	<0.1	**0.4**	<0.1	**0.1**	<0.1	**0.3**	**0.3**	**0.3**	<0.1	<0.1
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	<0.1	**0.2**	<0.1	<0.1	<0.1	**0.1**	**0.1**	**0.1**	<0.1	<0.1
Chrysene	T207	M105	0.1	mg/kg	<0.1	**0.2**	<0.1	<0.1	<0.1	**0.2**	<0.1	**0.2**	<0.1	<0.1
Benzo(b/k)Fluoranthene	T207	M105	0.1	mg/kg	<0.1	**0.4**	<0.1	**0.2**	<0.1	**0.3**	**0.2**	**0.3**	<0.1	<0.1
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	<0.1	**0.2**	<0.1	<0.1	<0.1	**0.1**	**0.1**	**0.1**	<0.1	<0.1
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	<0.1	**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	<0.1	**0.2**	<0.1	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1	<0.1
PAH(total)	T207	M105	0.1	mg/kg	<0.1	**2.3**	<0.1	**0.4**	<0.1	**1.7**	**1.2**	**1.5**	**0.1**	<0.1

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Soil Analysed as Soil
Total and Speciated USEPA16 PAH

				SAL Reference	**435648 031**	**435648 032**	**435648 033**	**435648 034**	**435648 035**	**435648 036**	**435648 037**	**435648 038**	**435648 039**	**435648 040**
				Customer Sample Reference	**WS13**	**WS14**	**WS14**	**HP01**	**HP02**	**HP03**	**HP04**	**HP05**	**HP06**	**HP07**
				Date Sampled	**27-OCT-2014**	**28-OCT-2014**	**28-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**
				Depth	**0.50**	**0.50**	**1.00**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.20**
				Type	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Sandy Soil**	**Topsoil**	**Topsoil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Naphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.3**	<0.1	**0.3**	<0.1
Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.6**	<0.1	**0.4**	<0.1
Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.5**	<0.1	**0.4**	<0.1
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.3**	<0.1	**0.2**	<0.1
Chrysene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.3**	<0.1	**0.2**	<0.1
Benzo(b/k)Fluoranthene	T207	M105	0.1	mg/kg	<0.1	**0.1**	<0.1	<0.1	**0.1**	<0.1	**0.6**	<0.1	**0.4**	**0.1**
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.3**	<0.1	**0.2**	<0.1
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1	<0.1
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	<0.1	**0.2**	<0.1
PAH(total)	T207	M105	0.1	mg/kg	<0.1	**0.1**	<0.1	<0.1	**0.1**	<0.1	**3.3**	<0.1	**2.3**	**0.1**

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Soil Analysed as Soil
Total and Speciated USEPA16 PAH

				SAL Reference	**435648 041**	**435648 042**	**435648 043**	**435648 044**	**435648 045**	**435648 046**
				Customer Sample Reference	**HP08**	**HP09**	**HP10**	**HP12**	**HP13**	**HP14**
				Date Sampled	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**
				Depth	**0.20**	**0.20**	**0.10**	**0.20**	**0.30**	**0.10**
				Type	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Naphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.7**	**0.5**	**0.1**	**0.7**
Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.3**	**0.1**	<0.1	**0.1**
Fluoranthene	T207	M105	0.1	mg/kg	**0.2**	<0.1	**1.5**	**0.9**	**0.2**	**1.3**
Pyrene	T207	M105	0.1	mg/kg	**0.2**	<0.1	**1.4**	**0.8**	**0.2**	**1.1**
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.9**	**0.5**	**0.1**	**0.7**
Chrysene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.8**	**0.4**	**0.2**	**0.8**
Benzo(b/k)Fluoranthene	T207	M105	0.1	mg/kg	**0.2**	<0.1	**1.8**	**0.8**	**0.4**	**1.5**
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.8**	**0.4**	**0.1**	**0.6**
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.5**	**0.3**	<0.1	**0.4**
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.2**	<0.1	<0.1	**0.1**
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.7**	**0.3**	**0.1**	**0.5**
PAH(total)	T207	M105	0.1	mg/kg	**0.6**	<0.1	**9.6**	**5.0**	**1.4**	**7.8**

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Soil Analysed as Soil
TPH (CWG)

				SAL Reference	**435648 001**	**435648 002**	**435648 004**	**435648 006**	**435648 008**	**435648 010**	**435648 012**	**435648 014**	**435648 016**	**435648 018**
				Customer Sample Reference	**BH01**	**BH02**	**BH03**	**WS01**	**WS02**	**WS03**	**WS04**	**WS05**	**WS06**	**WS07**
				Date Sampled	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**27-OCT-2014**	**27-OCT-2014**	**28-OCT-2014**	**28-OCT-2014**	**29-OCT-2014**
				Depth	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**
				Type	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Topsoil**	**Topsoil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Topsoil**	**Topsoil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Benzene	T54	AR	1	µg/kg	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1
Toluene	T54	AR	1	µg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EthylBenzene	T54	AR	1	µg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
M/P Xylene	T54	AR	1	µg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
O Xylene	T54	AR	1	µg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	T54	AR	1	µg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH (C5-C6 aliphatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C6-C8 aliphatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C8-C10 aliphatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C10-C12 aliphatic)	T8	M105	1	mg/kg	(9) <10	(9) <10	(9) <10	<1	<1	<1	(9) <10	(9) <10	<1	<1
TPH (C12-C16 aliphatic)	T8	M105	1	mg/kg	**15**	(9) <10	(9) <10	<1	<1	<1	(9) <10	(9) <10	<1	<1
TPH (C16-C21 aliphatic)	T8	M105	1	mg/kg	(9) <10	**36**	**11**	<1	<1	**1**	(9) <10	(9) <10	<1	<1
TPH (C21-C35 aliphatic)	T8	M105	1	mg/kg	(9) <10	**110**	**54**	<1	<1	**1**	(9) <10	**95**	**1**	**2**
TPH (C6-C7 aromatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C7-C8 aromatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C8-C10 aromatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C10-C12 aromatic)	T8	M105	1	mg/kg	(9) <10	(9) <10	(9) <10	<1	<1	<1	(9) <10	(9) <10	<1	<1
TPH (C12-C16 aromatic)	T8	M105	1	mg/kg	(9) <10	**57**	**43**	<1	<1	<1	(9) <10	(9) <10	**1**	**1**
TPH (C16-C21 aromatic)	T8	M105	1	mg/kg	**19**	**360**	**370**	<1	**2**	**2**	**38**	(9) <10	**4**	**3**
TPH (C21-C35 aromatic)	T8	M105	1	mg/kg	(9) <10	**580**	**720**	**1**	**4**	**2**	**95**	(9) <10	**13**	**11**

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Soil Analysed as Soil
TPH (CWG)

SAL Reference					**435648 020**	**435648 022**	**435648 024**	**435648 026**	**435648 028**	**435648 030**	**435648 032**	**435648 034**	**435648 035**	**435648 036**
Customer Sample Reference					**WS08**	**WS09**	**WS10**	**WS11**	**WS12**	**WS13**	**WS14**	**HP01**	**HP02**	**HP03**
Date Sampled					**28-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**28-OCT-2014**	**27-OCT-2014**	**28-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**
Depth					**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.50**	**0.30**	**0.30**	**0.30**
Type					**Topsoil**	**Topsoil**	**Topsoil**	**Sandy Soil**	**Topsoil**	**Sandy Soil**	**Sandy Soil**	**Topsoil**	**Topsoil**	**Topsoil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Benzene	T54	AR	1	µg/kg	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1
Toluene	T54	AR	1	µg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EthylBenzene	T54	AR	1	µg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
M/P Xylene	T54	AR	1	µg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
O Xylene	T54	AR	1	µg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	T54	AR	1	µg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH (C5-C6 aliphatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C6-C8 aliphatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C8-C10 aliphatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C10-C12 aliphatic)	T8	M105	1	mg/kg	<1	<1	<1	<1	<1	(9) <10	<1	<1	<1	<1
TPH (C12-C16 aliphatic)	T8	M105	1	mg/kg	<1	<1	<1	<1	<1	(9) <10	<1	<1	<1	<1
TPH (C16-C21 aliphatic)	T8	M105	1	mg/kg	<1	<1	<1	<1	<1	(9) <10	<1	<1	<1	<1
TPH (C21-C35 aliphatic)	T8	M105	1	mg/kg	**3**	**2**	<1	**3**	**5**	(9) <10	<1	<1	<1	**5**
TPH (C6-C7 aromatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C7-C8 aromatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C8-C10 aromatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C10-C12 aromatic)	T8	M105	1	mg/kg	<1	<1	<1	<1	<1	(9) <10	<1	<1	<1	<1
TPH (C12-C16 aromatic)	T8	M105	1	mg/kg	<1	<1	<1	**1**	<1	(9) <10	<1	<1	<1	<1
TPH (C16-C21 aromatic)	T8	M105	1	mg/kg	<1	**3**	**1**	**3**	**1**	(9) <10	<1	<1	**2**	<1
TPH (C21-C35 aromatic)	T8	M105	1	mg/kg	<1	**8**	**7**	**8**	**4**	(9) <10	**3**	<1	**6**	<1

SAL Reference: 435648
Project Site: St Julies, Liverpool
Customer Reference: EB1441/GL/4140

Soil Analysed as Soil
TPH (CWG)

SAL Reference	435648 037	435648 038	435648 039	435648 040	435648 041	435648 042	435648 043	435648 044	435648 045	435648 046
Customer Sample Reference	HP04	HP05	HP06	HP07	HP08	HP09	HP10	HP12	HP13	HP14
Date Sampled	29-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014
Depth	0.30	0.30	0.30	0.20	0.20	0.20	0.10	0.20	0.30	0.10
Type	Topsoil	Sandy Soil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Topsoil	Sandy Soil

Determinand	Method	Test Sample	LOD	Units										
Benzene	T54	AR	1	µg/kg	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1
Toluene	T54	AR	1	µg/kg	<1	**2**	**1**	<1	<1	**1**	<1	<1	<1	<1
EthylBenzene	T54	AR	1	µg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
M/P Xylene	T54	AR	1	µg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
O Xylene	T54	AR	1	µg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	T54	AR	1	µg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH (C5-C6 aliphatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C6-C8 aliphatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C8-C10 aliphatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C10-C12 aliphatic)	T8	M105	1	mg/kg	<1	<1	<1	<1	<1	<1	(9) <10	<1	**1**	<1
TPH (C12-C16 aliphatic)	T8	M105	1	mg/kg	<1	<1	**1**	<1	<1	<1	(9) <10	<1	**2**	<1
TPH (C16-C21 aliphatic)	T8	M105	1	mg/kg	**1**	<1	**2**	**1**	<1	<1	(9) <10	<1	**2**	**2**
TPH (C21-C35 aliphatic)	T8	M105	1	mg/kg	**9**	<1	**24**	**16**	**1**	**9**	**33**	**5**	**17**	**60**
TPH (C6-C7 aromatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C7-C8 aromatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C8-C10 aromatic)	T54	AR	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
TPH (C10-C12 aromatic)	T8	M105	1	mg/kg	<1	<1	<1	<1	<1	<1	(9) <10	<1	<1	<1
TPH (C12-C16 aromatic)	T8	M105	1	mg/kg	<1	<1	**1**	<1	<1	<1	(9) <10	<1	**3**	**2**
TPH (C16-C21 aromatic)	T8	M105	1	mg/kg	**4**	<1	**3**	**2**	**2**	**1**	**17**	**4**	**9**	**7**
TPH (C21-C35 aromatic)	T8	M105	1	mg/kg	**13**	<1	**4**	**4**	**4**	**2**	**29**	**12**	**19**	**9**

SAL Reference: 435648
Project Site: St Julies, Liverpool
Customer Reference: EB1441/GL/4140

Soil Analysed as Soil
TPH

SAL Reference	435648 003	435648 005	435648 007	435648 009	435648 011	435648 013	435648 015	435648 017	435648 019	435648 021
Customer Sample Reference	BH02	BH03	WS01	WS02	WS03	WS04	WS05	WS06	WS07	WS08
Date Sampled	29-OCT-2014	29-OCT-2014	29-OCT-2014	29-OCT-2014	27-OCT-2014	27-OCT-2014	28-OCT-2014	28-OCT-2014	29-OCT-2014	28-OCT-2014
Depth	0.50	0.50	0.50	0.50	1.00	0.50	0.50	1.00	1.00	1.00
Type	Sandy Soil	Sandy Soil	Sandy Soil	Topsoil	Topsoil	Sandy Soil	Sandy Soil	Topsoil	Topsoil	Topsoil

Determinand	Method	Test Sample	LOD	Units										
TPH (C8-C10)	T8	M105	1	mg/kg	<1	<1	<1	<1	(35) <15	(9) <10	<1	<1	<1	(9) <50
TPH (C10-C12)	T206	M105	1	mg/kg	<1	<1	<1	<1	(35) <15	(9) <10	<1	<1	<1	(9) <50
TPH (C12-C16)	T206	M105	1	mg/kg	<1	<1	<1	<1	(35) <15	(9) <10	<1	<1	**3**	(9) <50
TPH (C16-C21)	T206	M105	1	mg/kg	<1	**4**	<1	<1	(35) <15	**28**	**7**	**1**	**6**	(9) <50
TPH (C21-C35)	T206	M105	1	mg/kg	<1	**23**	<1	<1	(35) <15	**240**	**120**	**20**	**24**	(9) <50

SAL Reference: 435648
Project Site: St Julies, Liverpool
Customer Reference: EB1441/GL/4140

Soil Analysed as Soil
TPH

SAL Reference	435648 023	435648 025	435648 027	435648 029	435648 031	435648 033
Customer Sample Reference	WS09	WS10	WS11	WS12	WS13	WS14
Date Sampled	29-OCT-2014	29-OCT-2014	29-OCT-2014	28-OCT-2014	27-OCT-2014	28-OCT-2014
Depth	1.00	1.00	1.00	1.00	0.50	1.00
Type	Topsoil	Topsoil	Sandy Soil	Sandy Soil	Sandy Soil	Sandy Soil

Determinand	Method	Test Sample	LOD	Units						
TPH (C8-C10)	T8	M105	1	mg/kg	<1	<1	<1	<1	<1	<1
TPH (C10-C12)	T206	M105	1	mg/kg	<1	<1	<1	<1	<1	<1
TPH (C12-C16)	T206	M105	1	mg/kg	**1**	<1	<1	<1	<1	<1
TPH (C16-C21)	T206	M105	1	mg/kg	**2**	<1	**4**	<1	**6**	<1
TPH (C21-C35)	T206	M105	1	mg/kg	**13**	<1	**30**	<1	**79**	<1

Index to symbols used in 435648-1

Value	Description
M105	Analysis conducted on an "as received" aliquot. Results are reported on a dry weight basis where moisture content was determined by assisted drying of sample at 105C
M40	Analysis conducted on sample assisted dried at no more than 40C. Results are reported on a dry weight basis.
AR	As Received
N.D.	Not Detected
13	Results have been blank corrected.
35	LOD raised due to interference from non-hydrocarbon compounds.
9	LOD raised due to dilution of sample
S	Analysis was subcontracted
M	Analysis is MCERTS accredited
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Notes

Asbestos was subcontracted to REC Asbestos

Method Index

Value	Description
T8	GC/FID
T287	Calc TOC/0.58
T6	ICP/OES
T27	PLM
T7	Probe
T54	GC/MS (Headspace)
T206	GC/FID (MCERTS)
T546	Colorimetry (CF)
T207	GC/MS (MCERTS)
T162	Grav (1 Dec) (105 C)

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Asbestos ID	T27	AR			SU	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
Cyanide(Total)	T546	AR	1	mg/kg	M	001-046
pH	T7	AR			M	001-046
Phenols(Mono)	T546	AR	1	mg/kg	M	001-046
Soil Organic Matter	T287	M40	0.1	%	N	001-046
SO4(Total)	T6	M40	0.01	%	N	001-046
Sulphide	T546	AR	1	mg/kg	N	001-046
Sulphur (total)	T6	M40	0.01	%	N	001-046

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Arsenic	T6	M40	2	mg/kg	M	001-046
Boron (water-soluble)	T6	AR	1	mg/kg	N	001-046
Cadmium	T6	M40	1	mg/kg	M	001-046
Chromium	T6	M40	1	mg/kg	M	001-046
Chromium VI	T6	AR	1	mg/kg	N	001-046
Copper	T6	M40	1	mg/kg	M	001-046
Lead	T6	M40	1	mg/kg	M	001-046
Mercury	T6	M40	1	mg/kg	M	001-046
Nickel	T6	M40	1	mg/kg	M	001-046
Selenium	T6	M40	3	mg/kg	M	001-046
Zinc	T6	M40	1	mg/kg	M	001-046
Naphthalene	T207	M105	0.1	mg/kg	M	001-046
Acenaphthylene	T207	M105	0.1	mg/kg	U	001-046
Acenaphthene	T207	M105	0.1	mg/kg	M	001-046
Fluorene	T207	M105	0.1	mg/kg	M	001-046
Phenanthrene	T207	M105	0.1	mg/kg	M	001-046
Anthracene	T207	M105	0.1	mg/kg	U	001-046
Fluoranthene	T207	M105	0.1	mg/kg	M	001-046
Pyrene	T207	M105	0.1	mg/kg	M	001-046
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	M	001-046
Chrysene	T207	M105	0.1	mg/kg	M	001-046
Benzo(b/k)Fluoranthene	T207	M105	0.1	mg/kg	M	001-046
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	M	001-046
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	M	001-046
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	M	001-046
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	M	001-046
PAH(total)	T207	M105	0.1	mg/kg	U	001-046
Benzene	T54	AR	1	µg/kg	U	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
Toluene	T54	AR	1	µg/kg	U	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
EthylBenzene	T54	AR	1	µg/kg	U	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
M/P Xylene	T54	AR	1	µg/kg	U	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
O Xylene	T54	AR	1	µg/kg	U	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
Methyl tert-Butyl Ether	T54	AR	1	µg/kg	U	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
TPH (C5-C6 aliphatic)	T54	AR	0.010	mg/kg	N	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
TPH (C6-C8 aliphatic)	T54	AR	0.010	mg/kg	N	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
TPH (C8-C10 aliphatic)	T54	AR	0.010	mg/kg	N	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
TPH (C10-C12 aliphatic)	T8	M105	1	mg/kg	N	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
TPH (C12-C16 aliphatic)	T8	M105	1	mg/kg	N	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
TPH (C16-C21 aliphatic)	T8	M105	1	mg/kg	N	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
TPH (C21-C35 aliphatic)	T8	M105	1	mg/kg	N	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
TPH (C6-C7 aromatic)	T54	AR	0.010	mg/kg	N	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
TPH (C7-C8 aromatic)	T54	AR	0.010	mg/kg	N	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
TPH (C8-C10 aromatic)	T54	AR	0.010	mg/kg	N	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
TPH (C10-C12 aromatic)	T8	M105	1	mg/kg	N	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
TPH (C12-C16 aromatic)	T8	M105	1	mg/kg	N	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
TPH (C16-C21 aromatic)	T8	M105	1	mg/kg	N	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
TPH (C21-C35 aromatic)	T8	M105	1	mg/kg	N	001-002,004,006,008,010,012,014,016,018,020,022,024,026,028,030,032,034-046
Moisture @ 105 C	T162	AR	0.1	%	N	001-046
TPH (C8-C10)	T8	M105	1	mg/kg	U	003,005,007,009,011,013,015,017,019,021,023,025,027,029,031,033
TPH (C10-C12)	T206	M105	1	mg/kg	M	003,005,007,009,011,013,015,017,019,021,023,025,027,029,031,033
TPH (C12-C16)	T206	M105	1	mg/kg	M	003,005,007,009,011,013,015,017,019,021,023,025,027,029,031,033
TPH (C16-C21)	T206	M105	1	mg/kg	M	003,005,007,009,011,013,015,017,019,021,023,025,027,029,031,033
TPH (C21-C35)	T206	M105	1	mg/kg	M	003,005,007,009,011,013,015,017,019,021,023,025,027,029,031,033

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Scientific Analysis Laboratories Ltd

Certificate of Analysis

Report Number: 442989-1

Date of Report: 23-Dec-2014

Customer: Curtins Consulting Ltd.
17-19 Whitworth Street West
Manchester
M1 5WG

Customer Contact: Ms Gemma Lownsbrough

Customer Job Reference: EB1441/GL/4140
Customer Purchase Order: EB1008
Customer Site Reference: St Julies, Liverpool
Date Job Received at SAL: 31-Oct-2014
Date Analysis Started: 15-Dec-2014
Date Analysis Completed: 23-Dec-2014

The results reported relate to samples received in the laboratory
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with QP22

Report checked
and authorised by :
Mr Ross Walker
Customer Services Manager
(Land)

Issued by :
Mr Ross Walker
Customer Services Manager
(Land)

SAL Reference: 442989
Project Site: St Julies, Liverpool
Customer Reference: EB1441/GL/4140

Soil Analysed as Soil
Miscellaneous

SAL Reference	**442989 001**	**442989 002**	**442989 003**
Customer Sample Reference	**BH01 (435648/001)**	**BH02 (435648/002)**	**BH03 (435648/004)**
Date Sampled	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**

Determinand	Method	Test Sample	LOD	Units			
Asbestos Quantification	T27	AR	0.001	%	Chrysotile Detected **0.002**	Chrysotile Detected **0.001**	Chrysotile Detected <0.001

SAL Reference: 442989
Project Site: St Julies, Liverpool
Customer Reference: EB1441/GL/4140

Soil Analysed as Soil
Miscellaneous

SAL Reference	**442989 004**	**442989 005**	**442989 006**
Customer Sample Reference	**WS05 (435648/014)**	**HP02 (435648/035)**	**HP14 (435648/046)**
Date Sampled	**29-OCT-2014**	**29-OCT-2014**	**29-OCT-2014**

Determinand	Method	Test Sample	LOD	Units			
Asbestos Quantification	T27	AR	0.001	%	Chrysotile Detected <0.001	Chrysotile Detected **0.001**	Amosite Detected <0.001

Index to symbols used in 442989-1

Value	Description
AR	As Received
S	Analysis was subcontracted
U	Analysis is UKAS accredited

Method Index

Value	Description
T27	PLM

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Asbestos Quantification	T27	AR	0.001	%	SU	001-006

Appendix

Appendix D - Tier 1 Thresholds

Tier 1 Thresholds

Soil Contaminants: Initial Assessment of Risk

curtins

The following tables can be used for the initial assessment with regard to the potential for the identified contaminants within a sandy loam matrix with an average Soil Organic Matter (SOM) content of 6% to present a risk of significant harm to the **'Residential with the Consumption of Produce'** end user.

The list of determinands is non-industry specific and it should be recognised that additional site specific determinands may need to be accounted for.

Table 1.0 Inorganic Species and Phenols

Contaminants	Threshold Trigger Concentration For Planned End Use	
	Source (ref. 1)	Value (mg/kg)
Antimony	ATRISK^{soil} Soil Screening Value	99.7
Arsenic	CLEA SGV for residential end use published May 09	32
Beryllium	ATRISK^{soil} Soil Screening Value	60.9
Boron	Recognised threshold to prevent phytotoxic affects	3
Cadmium	CLEA SGV for residential end use published July 09	10
Chromium (VI)	ATRISK^{soil} Soil Screening Value	14.7
Copper	ATRISK^{soil} Soil Screening Value	4020
Cyanide (Free)	ATRISK^{soil} Soil Screening Value	34
Lead	Currently accepted value	450
Mercury	CLEA SGV for residential end use (ref. 2)	1.0 ; 170 ; 11
Nickel	CLEA SGV for residential end use published May 09	130
Selenium	CLEA SGV for residential end use published March 09	350
Sulphate	Recognised threshold for protection of sub-surface concrete	2400
Sulphur (Free)	Recognised threshold for all end uses	5000
Sulphide	Recognised threshold for all end uses	250
Vanadium	ATRISK^{soil} Soil Screening Value	115
Zinc	ATRISK^{soil} Soil Screening Value	17200
pH	Typical value in uncontaminated soils	6-8
Phenol	Recognised threshold for protection of services (ref. 3)	5

1. The tables are for guidance only and must be read in conjunction with relevant source documentation.
2. Three values correspond to: elemental mercury (Hg); inorganic mercury (Hg^{2+}) and methyl mercury (Hg^{+4}).
3. For human health consider using CLEA SGV for residential end use of 420mg/kg.

Table 1.1 BTEX Species

Contaminants	Threshold Trigger Concentration For Planned End Use	
	Source	Value (mg/kg)
Benzene	CLEA SGV for residential end use published March 09	0.33
Toluene	CLEA SGV for residential end use published March 09	610
Ethylbenzene	CLEA SGV for residential end use published March 09	350
m-Xylene	CLEA SGV for residential end use published March 09	240
o-Xylene	CLEA SGV for residential end use published March 09	250
p-Xylene	CLEA SGV for residential end use published March 09	230

Tier 1 Thresholds

Soil Contaminants: Initial Assessment of Risk

curtins

Table 1.2 PAH Species

Contaminants	Threshold Trigger Concentration For Planned End Use	
	Source	Value (mg/kg)
Acenaphthene	ATRISK^{soil} Soil Screening Value (ref. 4)	2130
Anthracene	ATRISK^{soil} Soil Screening Value (ref. 4)	18300
Benz(a)anthracene	ATRISK^{soil} Soil Screening Value	8.54
Benzo(a)pyrene	ATRISK^{soil} Soil Screening Value	0.998
Benzo(b)fluoranthene	ATRISK^{soil} Soil Screening Value (ref. 4)	9.86
Benzo(ghi)perylene	ATRISK^{soil} Soil Screening Value (ref. 4)	103
Benzo(k)fluoranthene	ATRISK^{soil} Soil Screening Value (ref. 4)	100
Chrysene	ATRISK^{soil} Soil Screening Value (ref. 4)	927
Dibenz(ah)anthracene	ATRISK^{soil} Soil Screening Value (ref. 4)	1.0
Fluoranthene	ATRISK^{soil} Soil Screening Value (ref. 4)	2160
Fluorene	ATRISK^{soil} Soil Screening Value (ref. 4)	1930
Indeno(123cd)pyrene	ATRISK^{soil} Soil Screening Value (ref. 4)	9.75
Naphthalene	ATRISK^{soil} Soil Screening Value (ref. 4)	8.71
Pyrene	ATRISK^{soil} Soil Screening Value (ref. 4)	1550

4. Where free product is not observed, otherwise consider revising.

Table 1.3 Total Petroleum Hydrocarbon (TPH) Bandings (All values in mg/kg)

Carbon Range	Threshold Trigger Concentration For Planned End Use		
	Source	Aromatic	Aliphatic
C5 – C6	ATRISK^{soil} Soil Screening Value (ref. 5)	0.33 (C5-C7)	259
C6 – C8	ATRISK^{soil} Soil Screening Value (ref. 4 & 6)	610 (C7-C8)	14700
C8 – C10	ATRISK^{soil} Soil Screening Value	177	144
C10 – C12	ATRISK^{soil} Soil Screening Value	389	4140 (ref.4)
C12 – C16	ATRISK^{soil} Soil Screening Value	687	5260 (ref. 4)
C16 – C21	ATRISK^{soil} Soil Screening Value	804	145000
C21 – C35	ATRISK^{soil} Soil Screening Value	1220	

5. Based on total benzene concentration in the soil.
6. Based on total toluene concentration in the soil.

ATRISK^{soil} Soil Screening Values are published by Atkins Limited

Appendix E - References

E1 – Curtins Consulting – Phase 1 Detailed Desk Top Study (ref: EB1441/AW/3853) dated July 2014.
E2 – Curtins Consulting – Phase 2 Intrusive Investigation Report (ref: EB1441A/GL/4264) dated December 2014.

It is envisaged that the recipients of the Remediation Strategy report will have been issued with these documents separately and therefore further copies are not incorporated herein.