Report No:	Date:
YB01279/R10/REV3	**May 2010**

Project:

Preferred Option 8 Phase 2b Geo-Environmental Site Assessment Shelton Mental Health Hospital, Shrewsbury

Client:

South Staffordshire and Shropshire Healthcare NHS Foundation Trust

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NHS Foundation Trust

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EXECUTIVE SUMMARY

Clarke Bond was commissioned by South Staffordshire and Shropshire Healthcare NHS Foundation Trust (SSSFT) to undertake both Phase 1 and Phase 2 geo-environmental site assessments of a redevelopment site, initially comprising Shelton Hospital and its grounds to the south, located off Welshpool Road, Shrewsbury. Prior to the exact nature and location of the development being known, a Preliminary Phase 2a site assessment was undertaken across the site as a whole in February 2009. Since this time 'Option 8' has been chosen as the preferred development option, and forms the site on which this main Phase 2b geo-environmental assessment has been carried out.

The conclusions of this assessment are:

Fieldworks	Four of the window sample boreholes (WS10, 11, 13 and 14) undertaken during the previous Phase 2a preliminary investigation (across the larger SSSFT site) lie within the boundaries of the site. Thirty-one further window sample boreholes (WS21 to WS51) were undertaken across the site as part of this Phase 2b investigation, between the 8th and 15th September 2009 to depths of up to 5m bgl. In addition, as part of the ongoing 'Foot and Mouth' investigation, reported under separate cover, five more WS boreholes (WS52 to WS56) were undertaken on 28th October 2009 to depths of up to 5.45m bgl. Six cable percussive boreholes (BH) were drilled between the 8th and 15th September 2009 to depths of up to 10m bgl. Furthermore, a total of eleven JCB excavated trial pits (TP) together with seven trial trenches (TT), and two soakaway pits (SA) have been excavated on site, to depths of up to 3m bgl.
Ground Conditions	The site is underlain by topsoil comprising gravelly sandy clayey silt, typically extending to depths in the region of 0.3m to 0.4m bgl. Made Ground of varying composition was present in a number of localities (typically to the north) and extended to a maximum depth of 1.7m bgl. Two trial trenches (TT3 and TT4) were excavated across the run of a buried sewer to determine the nature and compaction of the overlying strata. The overlying strata was found to comprise reworked superficial deposits, incorporating occasional bricks in TT4, and as such, has been determined to be backfilled material. Within TT4 the strata encountered was noted to be softer than that surrounding it, however within TT3 no difference was noted. Encountered to directly underlie the Topsoil/Made Ground stratum, in all localities were superficial deposits of varying composition. Across the majority of the site, and within the uppermost 7m (on average), material of a cohesive nature (typified by firm to stiff gravelly sandy clay/silt) was prevalent, with the exception of the northern/north-eastern portion of the site, within which granular material (silty sand) dominated. At greater depth, within the cable percussive boreholes (BH1-6), medium-dense to dense red silty sand (possible weathered bedrock) was encountered to extend to the full depths of the exploratory locations (10.05m bgl).

Foundations	The Made Ground on-site is not considered to be a suitable founding stratum due to its potential lateral and horizontal variability. It is considered likely that foundations could be in the form of trench fill or traditional spread footings bearing upon the competent natural strata at shallow depths. Where structures are proposed in areas of deeper made ground, foundations should be extended to bear upon the competent natural strata. Information from this assessment suggests this could result in foundation depths in the region of 1.5m below existing ground level. At this depth, assuming 0.6m wide footings or 1m² pads, an allowable bearing pressure of 150kPa may be employed for the proposed development. Total settlements of less than 25mm may be anticipated. It is understood that a sewer crossing the site is to be decommissioned and grouted. Where practicable constructions of structures spanning the deep sewer should be avoided. If this is unavoidable alternative foundation solutions will need to be considered for the portion of the structure that spans the sewer run. Such solutions include a stiffened raft or reinforced spread footing (grillage) transferring the load to more competent strata. A number of mature trees, both broad leaf and conifers exist in the north-western part of the site and impact on both the low secure block and the organic block. Foundation depths will need to be increased in certain areas to allow for the effect of future tree growth or potential heave due to tree removal. Three small areas of the low secure block will require foundations with depths of 1.8m and 2.0m begl. Two areas of the organic block, both above the, to be decommissioned, sewer will require foundation depths of 2.25m begl. Groundwater was encountered at various levels across the site and considered to represent localised perched ground water. During the preliminary Phase 2a assessment localised perched ground water was also found to exist at depths of less than 1.0m bgl. In such areas ground water ingress may occur during construction of the foundations. As a result shoring and pumping may be required to stabilise the foundation excavations.
Buried Concrete	With respect to buried concrete, laboratory testing indicates that the design sulphate for the site is DS-1 and the ACEC class for the site is AC-3z.
Pavements	Nine remoulded CBR tests were undertaken on samples from depths of up to 1.4m bgl. The results of which ranged from 10.4% and 44%, giving a mean CBR of 24%. As such, it is considered that a maximum CBR of 10% may be utilised within the superficial deposits for the proposed development on site. In any area where pavement construction is proposed on a made ground strata, it is considered prudent to assume a minimum CBR value of 2% for any proposed development, due to its potential variability. Proof rolling of the subgrade should be undertaken with any soft areas removed and replaced prior to construction of the subbase.
Floor Slab	Due to the variable nature of the near surface soils including areas where deeper made ground is present, structures are proposed spanning the sewer, or where buildings are constructed over re-compacted clay fills, the use of suspended floor slabs is recommended.

Drainage	In-situ permeability tests were undertaken in two JCB excavated trial pits (SA1 and SA2) in different areas of the site. Based on the results, soakaways are not considered to be a viable option for surface water drainage on-site due to the underlying ground conditions being predominantly comprised of low permeability clay/silt.
Contamination	The values for all determinands, with the exception of a number of PAHs, fell below their respective critical concentrations for a residential without plant uptake end use (as a conservative initial screen), and as such the risk to the proposed development from these determinands is considered to be negligible. A number of PAH's were found to be elevated above the LQM/CIEH GAC for a residential without plant uptake end use as a conservative initial screen. All of these elevated values were identified by the Grubbs test, to be statistical outliers. As such, they are considered to represent localised contaminant 'hotspots' within the Made Ground, and are not representative of the true population across the site. Two of the three identified contaminant hotspots were within WS25 and WS26, which are located within an area proposed as car parking for the development. As a result, the source – pathway – receptor pollutant linkages will be broken by the presence of hardstanding. Consequently the elevated levels identified within these boreholes are no longer considered to represent a risk to the proposed development. The third contaminant hotspot, WS27, is located in an area currently proposed as general landscaping and although considered unlikely, could present a possible risk to future site users.
Ground Gas	Three combined ground gas and groundwater monitoring standpipes were installed to depths of 10.05m bgl during this investigation. Four post fieldworks monitoring visits have been undertaken in line with current best practice guidelines. Slightly elevated levels of CO_2, and in one instance CH_4, were detected and the site has been classified as characteristic gas situation 2 (low hazard potential). As such, in any area where structures, creating enclosed spaces are proposed, gas protection measures as outlined in Table 2 of BS 8485: 2007, for a characteristic gas situation 2 (low hazard potential) will be required.
Recommendations	Elevated outlying levels of PAH's (as detailed above) were found to exist within WS27, located in an area currently proposed as general landscaping. Although considered unlikely, it is possible that these concentrations could present a risk to future site users, and as such it is recommended that one of the following be undertaken in the area of WS27: Excavation and disposal of contaminated material to a depth of 1m below existing ground level in an area of 5m surrounding the borehole location, dependant upon the location of trees which are to remain as part of the proposed development. Provision of capillary break layer and 600mm of clean imported topsoil in landscaped areas within a 5m radius of the borehole location.

1 INTRODUCTION

1.1 Instruction

Clarke Bond (CB) was commissioned by South Staffordshire and Shropshire Healthcare NHS Foundation Trust (SSSFT), to undertake a Phase 2b geo-environmental assessment of the Option 8 redevelopment site comprising the grounds to the south of Shelton Hospital, incorporating farmland and non SSSFT owned land.

1.2 Background

CB have previously undertaken a number of assessments and prepared the following reports on the larger proposed redevelopment site, which comprises Shelton Hospital and its grounds, together with farmland and non SSSFT owned land to the south of the hospital:

- 'Phase 1 Geo-Environmental Assessment, Shelton Mental Health Hospital, Shrewsbury', August 2008 (Ref: YB00437/R1)
- 'Preliminary Geo-Environmental Site Assessment (Phase 2a), Shelton Mental Health Hospital, Shrewsbury', March 2009 (YB00437/R2)

At the time of writing the above reports, a number of potential development options had been proposed across the larger development site.

Subsequently, SSSFT proposed a preferred development option (Option 8), which comprises a small portion of the Shelton Hospital grounds and for the majority, the farmland to the south of the existing hospital site. As such, CB produced a further report, summarising information from within the previous Phase 1 and 2a reports, which was specifically of relevance to this preferred development option:

- 'Preferred Option 8 Summary Report, Shelton Mental Health Hospital, Shrewsbury', May 2009 (Ref: YB00437/R4)

Similarly, the scope of this (the following) report is limited to the preferred Option 8 development site (from hereonin noted as 'the site'), the boundaries of which have altered slightly since the time of writing R4, so as to no longer incorporate the former boating pond to the south east.

The above mentioned previous reports should be read in conjunction with this Phase 2b geo-environmental site assessment.

The following pertinent information has been extracted from the above mentioned reports (R1, R2 and R4):

For the majority of its history, the site has been occupied by Firtree Farm and its associated grounds (at one time incorporating a pump and an orchard). The site of a roman road is also shown to run east to west at the northern boundary of the site.

The preliminary conceptual site model within the Phase 1 site assessment identified potentially significant on-site to on-site, on-site to off-site and off-site to on-site source-pathway-receptor pollutant linkages. As such, non-targeted screening was undertaken during the Preliminary Phase 2a site assessment. These tests found contaminant levels on site to be negligible, however more sampling and testing was recommended as part of the main Phase 2b investigation when exact development details were known.

1.3 Scope of Works

The scope of works comprises a Phase 2b geo-environmental and geo-technical assessment of the site based on the location of proposed structures.

The brief required an assessment of the following issues:

- Geotechnical assessment of the site to determine the likely possible foundation conditions for the proposed development and for areas of hardstanding.

- Environmental assessment of the site to further address the contaminative nature of the ground/groundwater beneath the site within the context of the development and preliminary conceptual site model.

1.4 Report Layout

Section 2 of this report provides a record of the site, including site location, site description, together with the geological and hydrological setting.

Section 3 details the intrusive investigation undertaken.

Section 4 details the investigation findings.

Section 5 provides a geotechnical assessment of the site.

Section 6 provides a geo-environmental assessment of the site including the further development of the conceptual site model.

Section 7 provides the conclusions and recommendations.

1.5 Limitations

A portion of the site itself is an operational hospital and as such the location and number of the exploratory positions of previous investigations were limited by the presence of existing buildings, associated services and the operational nature of the car parking areas.

Subsoils are inherently variable and by their very nature are hidden from view such that no investigation can be exhaustive to the extent that all soil conditions are revealed. Conditions may therefore be present beneath the site that were not apparent during this investigation.

Additionally, this assessment has been based to a large extent on third party data acquired from GroundSure. This information has been taken at face value and has not been subjected to any third party validation.

Unless specifically noted to the contrary, it should be assumed that this report has not been submitted to any regulatory authorities for approval. Redevelopment sites in particular may have planning conditions attached in respect of contaminated land assessment. Where we are made aware of such conditions in advance of scoping the works, we can tailor the report to the regulatory authority requirements. Where we are not made aware of any such requirements there can be no certainty that our investigation will meet any or all of the regulatory authority requirements.

2 THE SITE

2.1 Site Location

Shelton Hospital itself is located approximately 1.15km east of the A5 and lies immediately south of Welshpool Road (A458) and west of Somerby Drive, Bicton Heath, in Shrewsbury, Shropshire.

The site is located directly to the south of the Shelton Hospital grounds, between Somerby Drive in the east and Racecourse Lane in the west. The centre of the site is situated at approximate National Grid Reference E 346173 N 312725.

A site location plan is included as Figure 1.

2.2 Site Description

The site covers a roughly triangular area of approximately 40,000m^2 (4Ha), located at the centre of the larger development site. The boundaries of the site are as shown on Figure 2.

The majority of the site comprises rough pasture/farmland, associated with Firtree Farm to the west. The site incorporates farm outbuildings in its north western corner but does not extend to include the farm house, which is present at the site's north western corner. Towards the centre of the site lies a small brick building, close to which is a large earth mound, black in colour and approximately 3-4m high.

Two small areas of the site are not located within farmland and are located in the northern and eastern corners. The northern corner of the site is located within Shelton Hospital grounds and is comprised of a roughly tarmaced area to the south of a former social club and bowling green.

2.3 Anticipated Geology

The following information is an extract from the Option 8 Summary Report (YB00437/R4).

The geology of the site is shown on the 1:50,000 scale British Geological Survey Sheet 152, for Shrewsbury [1], extracts of which are presented as Figure 3. The GroundSure report also provides additional information (derived from BGS Sheet 152) relating to the geology of the site and the surrounding area.

The geological plan does not indicate the site to have a cover of made ground, but is shown to be underlain by Pleistocene boulder clay (an outdated term, which is synonymous with glacial till).

The GroundSure report indicates the majority of the site to be underlain by diamicton till of Devensian (Late Pleistocene) age. Additionally, an area in the south western corner of the site, surrounding Firtree Farm, is noted to be underlain by Devensian aged glaciofluvial sand and gravel deposits.

The solid geology underlying the superficial deposits on-site is noted to belong to the Kinnerton Sandstone Formation of the Sherwood Sandstone Group, described as red sandstone with breccia.

The GroundSure geology and ground stability report indicates a number of historic surface workings on-site, relating to 'ponds', 'other water bodies' and 'unspecified heaps'.

2.4 Hydrology

The GroundSure report indicates Bow Brook to lie 168m south of the site, for which no information relating to River Quality is provided.

There are two licensed groundwater abstraction points within 1km of the site; one is noted to relate to 'Shelton, borehole 1' located approximately 491m NE of the site, and the other to a borehole at Udlington Farm, Bicton, lying 775m N of the site.

Information from the Environment Agency [2] indicates that the site is not at risk from flooding from the sea or rivers in areas without defences.

2.5 Hydrogeology

The GroundSure report indicates the site to be underlain by a major aquifer.

The NRA (now the Environment Agency) [3] indicates the soils underlying the site to be of low leaching potential.

Guidance from the Environment Agency indicates that the site is located within Groundwater Source Protection Zone 2 (Outer Zone).

As a result of the above information, the site sensitivity is regarded as moderate.

2.6 Brief Site History

For the majority of the site's history it has been occupied by Firtree Farm and its associated grounds (at one time incorporating a pump and an orchard). Additionally, the plans show a boating lake to have existed almost immediately to the south east of the site until approximately the late 1970's. The site of a roman road is also shown to run east to west at the northern boundary of the site.

The GroundSure report and historic mapping indicate that during the site's early history, the local area was predominantly open, presumed agricultural land and has become residentially developed in parts since the latter half of the 20th Century. A number of ponds/lakes and pits have existed within the boundaries of the larger Shelton Hospital site and within the surrounding area.

The historic mapping shows very little industrial development within the surrounding area, however the GroundSure report revealed a number of current industrial land uses to be present including tanks associated with the Royal Shrewsbury Hospital to the east of the site, electricity sub-stations, construction related activities and motoring activities.

Anecdotal evidence, pertaining to the possible burial of foot and mouth carcass's on the site during the 1960's, has been provided to Clarkebond by SCC Contaminated Land Department. A separate site investigation in regard to the possibility of buried carcass's on site is currently in hand and is ongoing; as such, the conclusions will be presented within a separate 'Foot and Mouth' report.

However, relevant information pertaining to the ground conditions on site, gained from the additional 'foot and mouth' intrusive investigations that have been undertaken to date, will be included within this current report.

3 INTRUSIVE INVESTIGATION

3.1 Introduction

During this Phase 2b assessment, a targeted intrusive investigation utilising window sample boreholes, cable percussive boreholes, trial pits and hand excavated inspection pits was undertaken to determine the ground profile at discrete locations across the site.

The exploratory hole locations are indicated on Figure 4 of this report.

Reference should also be made to Section 3 of the Phase 2a (YB00437/R2) report, during which nineteen window sample boreholes and a hand pit were undertaken across the larger development site, a number of which lie within the boundaries of the site.

3.2 Window Sampling Boreholes and Hand Pits

During the previously undertaken Preliminary Investigation (Phase 2a) across the larger SSSFT site, window sample boreholes (WS) 1 to 19 and hand pit (HP) 20 were undertaken between the 23rd and 26th February 2009 to depths of up to 5.45m bgl. Of these WS10, 11, 13 and 14 lie within the boundaries of the site.

Thirty-one window sample boreholes (WS21 to WS51) were undertaken across the site as part of this current (Phase 2b) investigation, between the 8th and 15th September 2009 to depths of up to 5m bgl.

In addition, as part of the ongoing 'Foot and Mouth' investigation, reported under separate cover, five further WS boreholes (WS52 to WS56) were undertaken on 28th October 2009 to depths of up to 5.45m bgl.

Detailed soil descriptions were recorded in accordance with BS5930:1999 nomenclature [4]. In all boreholes, Standard Penetration Tests by split spoon sampler (SPT) or cone sampler (SPTc) were carried out at varying depths to provide information on the relative density of the ground and to allow the determination of in-situ strength. Soil samples, of appropriate size for the proposed testing and analysis, were obtained from the borehole arisings.

Records of the window sample boreholes are presented in Appendix A.

3.3 Cable Percussive Boreholes and Hand Pits

Six cable percussive boreholes (BH) were drilled between the 8th and 15th September 2009 to depths of up to 10m bgl.

Detailed soil descriptions were recorded in accordance with BS5930:1999 nomenclature [4]. In all boreholes, Standard Penetration Tests by split spoon sampler (SPT) or cone sampler (SPTc) were carried out at varying depths to provide information on the relative density of the ground and to allow the determination of in-situ strength. Soil samples, of appropriate size for the proposed testing and analysis, were obtained from the borehole arisings.

Records of the cable percussive boreholes are presented in Appendix A.

3.4 Trial Pits

Inclusive of all intrusive investigations undertaken by Clarkebond to date (the Preliminary Phase 2a, this Phase 2b, and the ongoing Foot and Mouth investigation), eleven JCB excavated trial pits (TP) together with seven trial trenches (TT), and two soakaway pits (SA) have been excavated within the boundaries of the site, to depths of up to 3m bgl.

Detailed soil descriptions were recorded in accordance with BS5930:1999 nomenclature [4].

The two soakaway tests were undertaken in accordance with BRE365:2007 Soakaway Design[5].

Records of the trial pits/trenches and soakaway pits are presented in Appendix A.

3.5 Installations and Gas Monitoring

Three combined ground gas and groundwater monitoring standpipes were installed, during this investigation. Post fieldworks monitoring of the installations has been undertaken in line with current best practice guidelines, the results of which are presented within section 6.12.

3.6 Sampling and Analysis

Representative samples were taken from the top of each stratum and thereafter at suitable depth intervals within the boreholes.

All soil samples were collected using either clean stainless steel utensils or clean disposable gloves and placed directly into clean containers provided by the laboratory.

Soil samples were placed in appropriate containers supplied by the laboratories.

- plastic tubs and bulk bags were used for samples which were to undergo geotechnical testing.
- amber glass jars and various other appropriate containers were used for samples which were to undergo chemical testing.

3.7 Geotechnical Laboratory Analysis

Soil samples were selected and sent under chain of custody to Geo-Laboratory Services Limited for the following geotechnical testing:

- 100 No. Moisture contents
- 100 No. 4 point liquid and plastic limits
- 10 No. Particle size analysis
- 10 No. Quick Undrained Triaxials (single stage)
- 9 No. CBR Remoulded
- 9 No. 2.5Kg Compaction tests
- 6 No. Consolidation tests

The Geotechnical Laboratory Analysis is presented as Appendix B.

3.8 Chemical Laboratory Analysis

Samples were sent under chain of custody to Alcontrol Laboratories where the following chemical screening analysis was undertaken:

Soil:

- 31 No. TPH-6 (C_6 – C_{40}) (Total Petroleum Hydrocarbons)
- 33 No. SVOC (Semi-Volatile Organic Compounds) Including PAH
- 33 No. VOC (Volatile Organic Compounds)
- 31 No. FOC (Fraction of Organic Carbon)
- 32 No. PAH (Polyaromatic Hydrocarbon)
- 29 No. Dutch Metals 6-1 elements, including beryllium, vanadium, molybdenum, antimony, boron and barium
- 29 No. Maxi-S metal suites comprising arsenic, cadmium. chromium, copper, nickel, zinc, lead, mercury, selenium, water soluble boron, hexavalent chromium, total cyanide, free cyanide, total sulphate, sulphide, total sulphur, pH, total PAH, phenols and thiocyanate.

- 10 No. BRE SD-1 Sulphate Suites comprising pH, sol sulphate, acid sol sulphate, total sulphur, Mg, amm N2, nitrate and chloride, PH Determination.
- 10 No. Asbestos Screening tests

The Chemical Laboratory Analysis is presented as Appendix C.

4 INVESTIGATION FINDINGS

4.1 Ground Conditions

The following tables provide a summary of the strata encountered, within the WS and BH boreholes, and the depth to the base of each stratum in metres below ground level (bgl).

Table 4.1a – Ground Conditions (Relevant Phase 2a WS boreholes: WS10, 11, 13 & 14)

STRATUM	WS10	WS11	WS13	WS14
TOP/SUB-SOIL	-	0.7	0.5	0.25
MADE GROUND	1.5	-	-	-
COHESIVE SUPERFICIAL DEPOSITS	-	-	-	-
GRANULAR SUPARFICIAL DEPOSITS	-	-	-	-
COHESIVE SUPERFICIAL DEPOSITS	5.45	5.45	5.45	5.45

Table 4.1b – Ground Conditions (Phase 2b WS boreholes: WS21 – 51)

STRATUM	WS21	WS22	WS23	WS24	WS25	WS26	WS27
TOP/SUB-SOIL	-	-	-	-	-	-	0.2
MADE GROUND	0.6	0.4	1.1	0.5	1.5	1.1	-
COHESIVE SUPERFICIAL DEPOSITS	-	-	-	2.9	-	2	2
GRANULAR SUPARFICIAL DEPOSITS	4.45	-	5.45	5.45	-	5.45	5.45
COHESIVE SUPERFICIAL DEPOSITS	-	5.45	-	-	5.45	-	-

STRATUM	WS28	WS29	WS30	WS31	WS32	WS33
TOP/SUB-SOIL	0.4	0.35	-	-	0.35	0.3
MADE GROUND	-	-	1.1	1.2	-	-
COHESIVE SUPERFICIAL DEPOSITS	2.5	-	2	4.8	3	-
GRANULAR SUPARFICIAL DEPOSITS	5.45	-	-	5.45	5.45	-
COHESIVE SUPERFICIAL DEPOSITS	-	5.45	-	-	-	5.45

STRATUM	WS34	WS35	WS36	WS37	WS38	WS39
TOP/SUB-SOIL	-	-	-	-	0.3	-
MADE GROUND	0.3	0.4	0.5	0.3	-	0.5
COHESIVE SUPERFICIAL DEPOSITS	-	-	-	-	1.5	1.6
GRANULAR SUPARFICIAL DEPOSITS	2.5	-	-	-	2.35	2.25
COHESIVE SUPERFICIAL DEPOSITS	4	5.45	5.45	5.4	5.45	5.35

STRATUM	WS40	WS41	WS42	WS43	WS44	WS45
TOP/SUB-SOIL	0.4	0.4	0.4	0.4	0.4	0.4
MADE GROUND	-	-	-	-	-	-
COHESIVE SUPERFICIAL DEPOSITS	-	-	-	3.7	-	-
GRANULAR SUPARFICIAL DEPOSITS	1.9	-	2.4	4.6	-	2
COHESIVE SUPERFICIAL DEPOSITS	5.45	4.2	5.3	5.45	4.9	5.45

STRATUM	WS46	WS47	WS48	WS49	WS50	WS51
TOP/SUB-SOIL	0.3	0.2	0.4	0.4	-	-
MADE GROUND	-	-	-	-	0.3	0.4
COHESIVE SUPERFICIAL DEPOSITS	-	-	1.5	-	-	-
GRANULAR SUPARFICIAL DEPOSITS	-	2.5	1.9	-	-	-
COHESIVE SUPERFICIAL DEPOSITS	5.45	5.45	3.4	5.4	5.45	4.15

Table 4.1c – Ground Conditions (Foot & Mouth Investigation WS boreholes: WS52 – 56)

STRATUM	WS52	WS53	WS54	WS55	WS56
TOP/SUB-SOIL	0.4	-	-	-	-
MADE GROUND	-	1.1	1.1	1.4	1.7
COHESIVE SUPERFICIAL DEPOSITS	-	-	-	-	-
GRANULAR SUPARFICIAL DEPOSITS	-	-	-	-	-
COHESIVE SUPERFICIAL DEPOSITS	5.45	4.45	4	4.45	4

Table 4.1d – Ground Conditions (Phase 2b BH boreholes: BH1 – 6)

STRATUM	BH1	BH2	BH3	BH4	BH5	BH6
TOP/SUB-SOIL	0.1	0.1	0.4	0.3	0.1	0.1
MADE GROUND	-	-	-	-	-	-
COHESIVE SUPERFICIAL DEPOSITS	2.2	-	1.4	8.3	7.1	5.7
GRANULAR SUPARFICIAL DEPOSITS	4.9	1.7	4.3	-	-	-
COHESIVE SUPERFICIAL DEPOSITS	8.4	5.5	9.3	-	-	-
GRANULAR SUPERFICIAL DEPOSITS/POSSIBLE WEATHERED BEDROCK	10.05	10.05	10.05	10.05	10.05	10.05

Key:

Topsoil/Subsoil
Made Ground
Predominantly cohesive superficial deposits
Predominantly granular superficial deposits

The above tables provide an indication of the soil types based on visual observation of soil from the boreholes of this investigation. The observations from the trial pits have not been detailed here due to the higher degree of inaccuracy with respect to depth profiles. For more detailed information of the strata encountered reference should be made to the appended WS, BH and TP/TT logs; however, brief summaries of the findings are provided as follows:

TOPSOIL

Topsoil, where present, was encountered to extend to depths in the region of 0.3m to 0.4m bgl, and typically comprised brown friable sandy gravelly clayey silt.

MADE GROUND

Made Ground of varying composition was encountered in a number of localities as indicated within tables 4.1a to 4.1d above, predominantly to the north and east of the site, and extended to a maximum depth of 1.7m bgl within WS56.

As part of the 'foot and mouth' investigation, a geophysical survey was undertaken across the site, which identified two anomalies; one around a supposed manure mound in the farmers field, and the other towards the north of the site, adjacent to the southernmost hospital access road off Somerby Drive. Further investigation in the vicinity of these anomalies has identified a pocket of deeper Made Ground, as noted within WS54 to WS56, to exist adjacent to the access road.

SUPERFICIAL DEPOSITS

Encountered to directly underlie the Topsoil/Made Ground stratum, in all localities were superficial deposits of varying composition. These superficial deposits generally varied from firm to stiff gravelly sandy clay or silt, to medium-dense/dense silty sand, sometimes having gravel. However, for the most part the superficial deposits encountered within the WS boreholes, and within the uppermost 7m (on average) of the cable percussive boreholes, were of a cohesive nature, having sand lenses. Granular deposits were more prevalent across the northern/north-eastern portion of the site.

SUPERFICIAL DEPOSITS / POSSIBLE WEATHERED BEDROCK

Within the cable percussive boreholes (BH1-6), red/brown medium-dense to dense fine-grained silty sand was encountered beneath the cohesive superficial strata, and extended to the full depths of these localities (10.05m bgl). It is possible that this sandy stratum represents the weathered bedrock (of the Kinnerton Sandstone Formation), or reworked bedrock due to glacial activity.

4.2 In-situ Testing

Standard Penetration Tests utilising split spoon sampler (SPT) or cone sampler (SPTc) were undertaken at varying depths within the window sample and cable percussive boreholes. Tables 4.2a to d below provide a summary of the CPT/SPT 'N' value results:

Table 4.2a – SPT 'N' Value Results (Phase 2a WS boreholes: WS10, 11, 13 & 14)

Depth (mbgl)	WS10	WS11	WS13	WS14
1.0 – 1.45	14	14	13	9
2.0 – 2.45	14	18	15	15
3.0 – 3.45	20	37	19	12
4.0 – 4.45	53	44	30	29
5.0 – 5.45	39	33	5	35

Table 4.2b – CPT 'N' Value Results (Phase 2b WS boreholes: WS21 – WS51)

Depth (mbgl)	WS21	WS22	WS23	WS24	WS25	WS26	WS27	WS28	WS29	WS30	WS31
1.0 – 1.45	25	17*	18	28	30	17	32	26*	38	23	25
2.0 – 2.45	36	15	33	42	33	37	30	30	47	-	30
3.0 – 3.45	8	18	31	42	44	29	45	20	25	-	49
4.0 – 4.45	21	16	33	30	21	29	31	16	17	-	17
5.0 – 5.45	-	18	40	42	29	-	21	28	24	-	36

Depth (mbgl)	WS32	WS33	WS34	WS35	WS36	WS37	WS38	WS39	WS40	WS41
1.0 – 1.45	25*	47	22	40	15	26*	44	26	23*	38
2.0 – 2.45	35	42	37	47	27	30*	47	27	28	34
3.0 – 3.45	33	32	30	28*	33	23*	17	34	26	30
4.0 – 4.45	18	21	-	40	50	49	42	36	21*	37*
5.0 – 5.45	36	22	-	28	35	45*	40	30*	34	-

Depth (mbgl)	WS42	WS43	WS44	WS45	WS46	WS47	WS48	WS49	WS50	WS51
1.0 – 1.45	35	16	23	42	15*	15*	20*	18*	50	18*
2.0 – 2.45	25	31	13	28	21	38	-	26	33	41
3.0 – 3.45	35	27	19	9*	15*	27	-	34	75*	43
4.0 – 4.45	42	22	20	28	52	*	-	25*	30*	30*
5.0 – 5.45	37*	16	25*	22	55	33	-	30*	36	-

Table 4.2c – CPT 'N' Value Results (Foot & Mouth Investigation WS boreholes: WS21 – WS51)

Depth (mbgl)	WS52	WS53	WS54	WS55	WS56
1.0 – 1.45	40	-	8	-	16
2.0 – 2.45	-	40	-	21	-
3.0 – 3.45	24	-	35*	-	21
4.0 – 4.45	-	75*	-	24	-
5.0 – 5.45	51	-	-	-	-

Table 4.2d – SPT 'N' Value Results (Phase 2b BH boreholes: BH1 – BH6)

Depth (mbgl)	BH1	BH2	BH3	BH4	BH5	BH6
1.2 – 1.65	10	14	15	15	12	16
2.0 – 2.45	-	-	17	-	-	-
3.0 – 3.45	11	14	13	16	14	8
4.0 – 4.45	7	-	17	16	35	-
5.0 – 5.45	7	10	-	-	-	16
6.0 – 6.45	10	13	12	18	12	-
7.0 – 7.45	-	17	-	-	-	21
8.0 – 8.45	15	14	18	29	14	-
9.0 – 9.45	38	20	-	20	-	17
9.6 – 10.05	39	21	18	21	22	10

**asterisk indicates extrapolated 'N' values.*

Two in situ permeability tests were undertaken to assess the suitability, or otherwise, for the use of soakaways for surface water drainage on site. The results of the soakaway tests are discussed in detail in section 5.7 below.

4.3 Groundwater

Groundwater was encountered within a number of the boreholes during the fieldworks for both the preliminary and full site investigation. Of the relevant WS undertaken during the preliminary Phase 2a investigation, a groundwater strike was noted within WS14 only.

Table 4.3 – Groundwater Encountered During Fieldworks

Borehole	Date	GW Strike (m bgl)	Flow
WS14	25-02-09	3.3	Moderate
WS28	11-09-09	3.5	Light
WS29	11-09-09	4.5	Moderate
WS33	11-09-09	4	Light
WS35	11-09-09	4	Moderate
WS40	10-09-09	3	Moderate
WS42	09-09-09	2.2 & 3	Moderate
WS43	09-09-09	3.7	Moderate
WS44	09-09-09	3	Light
WS45	09-09-09	4	Moderate

Due to the varied levels at which groundwater was detected across the site, it is not considered to represent the true groundwater level. It is believed to represent localised perched groundwater within more granular lenses in the superficial deposits.

The post fieldworks monitoring within BH1, BH4 and BH6 found the boreholes to be dry.

4.4 Ex-situ Testing

93 Moisture content (MC) and Index Property tests were undertaken on samples from varying depths taken from within the WS and BH boreholes during this Phase 2b investigation.

Additionally, MC and Index Property tests were carried out on samples from WS10, 11 and 13 undertaken as part of the Preliminary Phase 2a investigation.

Tables 4.4a, b and c below provide a summary of the MC and plasticity index (PI) results:

Table 4.4a – Moisture Content and Plasticity Index Test Results (Relevant Phase 2a WS boreholes)

Depth	WS10		WS11		WS13	
	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)
1.0 – 1.5	-	-	-	-	-	-
1.5 – 2.0	-	-	14	17	-	-
2.5 – 3.0	16	11	-	-	13	17

Table 4.4b – Moisture Content and Plasticity Index Test Results (Phase 2b WS boreholes)

Depth (m bgl)	WS21		WS22		WS23		WS24		WS25	
	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)
0.5 – 1.0	-	-	14	17	-	-	13	11	-	-
1.0 – 2.0	11	12	14	14	-	-	15	12	15	16
2.0 - 3.0	-	-	14	12	14	13	15	12	14	7
3.0 – 4.0	-	-	-	-	10	16	18	13	-	-
4.0 – 5.0	-	-	-	-	-	-	-	-	-	-

Depth	WS26		WS27		WS28		WS29		WS30	
	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)
0.5 – 1.0	-	-	15	18	-	-	11	6	-	-
1.0 – 2.0	18.5*	8*	12	18	25	8	9	13	19	3
2.0 - 3.0	-	-	11	16	19	8	18	6	-	-
3.0 – 4.0	13	12	-	-	24	5	14	10	-	-
4.0 – 5.0	-	-	-	-	-	-	-	-	-	-

Depth	WS31		WS32		WS33		WS34		WS35	
	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)
0.5 – 1.0	-	-	-	-	-	-	-	-	-	-
1.0 – 2.0	12	13	15	15	13	12	14	10	13.5*	6.5*
2.0 - 3.0	13	15	13	13	15.5*	12.5*	-	-	16	16
3.0 – 4.0	11	15	-	-	-	-	-	-	-	-
4.0 – 5.0	-	-	-	-	-	-	-	-	-	-

Depth	WS36		WS37		WS38		WS39		WS40	
	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)
0.5 – 1.0	13	14	-	-	-	-	-	-	-	-
1.0 – 2.0	14	14	13	11	7.1	13	12*	8.5*	16	14
2.0 - 3.0	12	13	12	10	12	9	20	10	11	13
3.0 – 4.0	-	-	12	10	13	8	18	12	13	9
4.0 – 5.0	-	-	-	-	-	-	-	-	12	14

Depth	WS41		WS42		WS43		WS44		WS45	
	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)
0.5 – 1.0	-	-	-	-	-	-	-	-	-	-
1.0 – 2.0	9.2	12	-	-	16	13	-	-	11	11
2.0 - 3.0	12	9	15	15	13	13	-	-	12	11
3.0 – 4.0	13	10	15	10	12	11	12*	11*	-	-
4.0 – 5.0	-	-	-	-	-	-	-	-	16	18

Depth	WS47		WS48		WS49		WS40		WS41	
	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)
0.5 – 1.0	-	-	-	-	-	-	11	9	-	-
1.0 – 2.0	-	-	-	-	8.5*	7.5*	11	8	10	7
2.0 - 3.0	13	15	11.5*	13*	15	11	11	10	9	11
3.0 – 4.0	-	-	8.6	8	-	-	-	-	-	-
4.0 – 5.0	-	-	-	-	-	-	-	-	-	-

* indicates that a mean average result has been given; in instances where more than one result is available for a given depth range for the given location.

Table 4.4c – Moisture Content and Plasticity Index Test Results (Phase 2b BH boreholes)

Depth	BH1		BH2		BH3	
	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)
0.5 – 1.0	-	-	-	-	-	-
1.0 – 2.0	17	13	18	10	9.2	17
2.0 - 3.0	10	12	17	11	-	-
3.0 – 4.0	-	-	16	12	19	16
4.0 – 5.0	15	14	16	10	-	-

Depth	BH4		BH5		BH6	
	MC (%)	PI (%)	MC (%)	PI (%)	MC (%)	PI (%)
0.5 – 1.0	-	-	20	13	-	-
1.0 – 2.0	16	19	18	11	16	8
2.0 - 3.0	19	17	15	12	17	14
3.0 – 4.0	10	12	-	-	17	14
4.0 – 5.0	15	11	15	11	-	-

10 quick undrained triaxial tests (QU) were undertaken in samples from varying depths from within the BH of this investigation. Table 4.5 below provides a summary of these results.

Table 4.5 –Quick Undrained Triaxial Test Results (Phase 2b BH boreholes)

Depth	BH1		BH2		BH2		BH3		BH4	
	MC (%)	Cohesion (kPa)	MC (%)	Cohesion (kPa)	MC (%)	Cohesion (kPa)	MC (%)	Cohesion (kPa)	MC (%)	Cohesion (kPa)
2 – 3	19	16	11	45	-	-	-	-	11	225
4 - 5	-	-	-	-	11	139	-	-	-	-
5 - 6	-	-	-	-	-	-	15	145	-	-

Depth	BH4		BH5		BH5		BH6		BH6	
	MC (%)	Cohesion (kPa)	MC (%)	Cohesion (kPa)	MC (%)	Cohesion (kPa)	MC (%)	Cohesion (kPa)	MC (%)	Cohesion (kPa)
2 – 3	-	-	19	56	-	-	16	80	-	-
4 - 5	-	-	-	-	-	-	-	-	13	224
5 - 6	12	49	-	-	46	54	-	-	-	-

6 one dimensional consolidation (oedometer) tests were undertaken on samples from varying depths from within the BH of this investigation. Table 4.6 below provides a summary of these results.

Table 4.6 – OedometerTest Results (Phase 2b BH boreholes)

Depth (mbgl)	BH1			BH2			BH3		
	MC (%)	Mv (m^2/MN)	Cv (m^2/yr)	MC (%)	Mv (m^2/MN)	Cv (m^2/yr)	MC (%)	Mv (m^2/MN)	Cv (m^2/yr)
2 – 3	21	0.128	4.316	13	0.135	4.503	-	-	-
4 - 5	-	-	-	-	-	-	-	-	-
5 - 6	-	-	-	-	-	-	12	0.068	6.055

Depth (mbgl)	BH4			BH5			BH6		
	MC (%)	Mv (m^2/MN)	Cv (m^2/yr)	MC (%)	Mv (m^2/MN)	Cv (m^2/yr)	MC (%)	Mv (m^2/MN)	Cv (m^2/yr)
2 – 3	14	0.149	2.682	14	0.093	3.322	-	-	-
4 – 5	-	-	-	-	-	-	15	0.098	3.381

*Mv and Cv values shown above are those from a pressure range of 100kPa to 200kPa.

9 remoulded California bearing ratio (CBR) tests were undertaken on samples from varying depths from within the BH of this investigation. Table 4.7 below provides a summary of these results.

Table 4.7 – Remoulded CBR Test Results (Phase 2b BH boreholes)

Borehole No.	Depth (m bgl)	MC (%)	CBR (%)
BH2	0 – 1.0	8	24.2
BH6	0.1 – 1.2	8	34.7
WS21	0.6 – 1.4	11	26.2
WS22	0.7 – 1.2	14	10.4
WS23	1.0 – 2.0	11	25.2
WS25	0.5 – 1.3	14	10.8
WS26	0.6 – 1.2	14	44
WS30	0.6 – 1.2	10	26.6
WS34	0.8 – 1.2	12	24.2

9 2.5kg compaction tests were undertaken on samples from varying depths from within the BH, WS and TP of this investigation. Table 4.8 below provides a summary of these results.

Table 4.8 – Compaction Test Result s (Phase 2b BH boreholes)

BH/TP No.	Depth (m bgl)	Optimum MC (%)	Density at Optimum MC (mg/m^3)
BH1	0.1 – 1.2	10	1.78
BH2	0 - 0.1	12	1.93
BH3	1.2 – 1.65	13	1.98
BH6	0.1 – 1.2	8	1.96
TP3	0.5	14	1.89
TP4	0.5	15	1.67
TP5	0.5	11	1.92
WS22	0.7 – 1.2	10	1.92
WS25	0.5 – 1.3	11	1.9

5 GEOTECHNICAL ASSESSMENT

5.1 Proposed Development

It is understood that the development scheme will comprise the construction of one to two storey new build structures, together with areas of hardstanding access roads and car parking and nominal areas of associated landscaping. These structures include a main entrance building at the north eastern corner of the site, a low secure block to the west of this structure, an organic block on the western side of the site and an acute block in the south eastern corner.

5.2 Design Parameters

The design parameters are based upon all the site investigation data presented in Section 6.

SUPERFICIAL DEPOSITS (0.5 – 1m)

Plasticity: PI 6 to 17 mean 13 (low volume change potential) (n=7)

SUPERFICIAL DEPOSITS (1 – 2m)

Plasticity: PI 3 to 19 mean 11 (low volume change potential) (n=35)

Shear strength: 67 to 335kN/m^2 mean 180kN/m^2 (from SPT N values *f1=6.7 after Stroud) (n=19)

Compressibility: 0.14 to 0.03m^2/MN mean 0.05m^2/MN (mv=1/f2*N f2 = 0.74 after Stroud) (n=19)

SUPERFICIAL DEPOSITS (2 – 3m)

Plasticity: PI 6 to 17 mean 12 (low volume change potential) (n=32)

Shear strength: 87 to 314kN/m^2 mean 207kN/m^2 (from SPT N values *f1=6.7 after Stroud) (n=19)

16 to 225kN/m^2 mean 84kN/m^2 (from QU triaxial tests) (n=5)

Overall mean 145kN/m^2

Compressibility: 0.10 to 0.03m^2/MN mean 0.04m^2/MN (mv=1/f2*N f2 = 0.74 after Stroud) (n=19)

0.093 to 0.149m^2/MN mean 0.13m^2/MN (from oedometer tests) (n=4)

Overall mean 0.085m^2/MN

SUPERFICIAL DEPOSITS (3 – 4m)

Plasticity: PI 5 to 16 mean 11 (low volume change potential) (n=20)

Shear strength: 53 to 328kN/m^2 mean 180kN/m^2 (from SPT N values *f1=6.7 after Stroud) (n=21)

Compressibility: 0.17 to 0.03m^2/MN mean 0.05m^2/MN (mv=1/f2*N f2 = 0.74 after Stroud) (n=21)

SUPERFICIAL DEPOSITS (4 – 5m)

Plasticity: PI 10 to 18 mean 13 (low volume change potential) (n=6)

Shear strength: 107 to 348kN/m^2 mean 194kN/m^2 (from SPT N values *f1=6.7 after Stroud) (n=16)

139 and 224kN/m^2 mean 181kN/m^2 (from QU triaxial tests) (n=2)

Overall mean 187kN/m^2

Compressibility: 0.84 to 0.03m^2/MN mean 0.05m^2/MN (mv=1/f2*N f2 = 0.74 after Stroud) (n=16)

0.098m^2/MN (from oedometer tests) (n=1)

Overall mean 0.07m^2/MN

*The geotechnical testing results showed the cohesive superficial strata to be of low plasticity. As such the f1 value of 6.7(used in the above calculations) is the maximum value given by Stroud, and is therefore conservative.

5.3 Ground Conditions

The site is underlain by topsoil comprising gravelly sandy clayey silt, typically extending to depths in the region of 0.3m to 0.4m bgl. Made Ground of varying composition was present in a number of localities (typically to the north) and extended to a maximum depth of 1.7m bgl.

Two trial trenches (TT3 and TT4) were excavated across the run of a buried sewer to determine the nature and compaction of the overlying strata. The overlying strata was found to comprise reworked superficial deposits, incorporating rare bricks in TT4, and as such, has been determined to be backfilled material. Within TT4 the strata encountered was noted to be softer than that surrounding it, however within TT3 no difference was noted.

Encountered to directly underlie the Topsoil/Made Ground stratum, in all localities were superficial deposits of varying composition. Across the majority of the site, and within the uppermost 7m (on average), material of a cohesive nature (typified by firm to stiff gravelly sandy clay/silt) was prevalent, with the exception of the northern/north-eastern portion of the site, within which granular material (silty sand) dominated.

At greater depth, within the cable percussive boreholes (BH1-6), medium-dense to dense red silty sand was encountered to extend to the full depths of the exploratory locations (10.05m bgl).

5.4 Foundation Design

The Made Ground on-site is not considered to be a suitable founding stratum due to its potential lateral and horizontal variability.

Based on the design parameters presented in Section 5.2, and assuming the proposed development as described in Section 5.1, it is considered likely that foundations could be in the form of trench fill or traditional spread footings bearing upon the competent natural strata at shallow depths. Where structures are proposed in areas of deeper made ground, foundations should be extended to bear upon the competent natural strata. Information from this assessment suggests this could result in foundation depths in the region of 1.5m below existing ground level. At this depth, assuming 0.6m wide footings or 1m² pads, an allowable bearing pressure of 150kPa may be employed for the proposed development. Total settlements of less than 25mm may be anticipated.

It is understood that the sewer crossing the site is to be decommissioned and grouted. Where practicable constructions of structures spanning the deep sewer should be avoided. If this is unavoidable alternative foundation solutions will need to be considered for the portion of the structure that spans the sewer run. Such solutions include a stiffened raft or reinforced spread footing (grillage) transferring the load to more competent strata.

A number of mature trees, both broad leaf and conifers exist in the north-western part of the site and impact on both the low secure block and the organic block. \some of these trees are to be removed and others are to remain. The tallest trees are estimated at heights of some 12m. Assuming that all the trees are of high water demand and given that the site soils are of low shrinkage potential then, using NHBC Standards (2010) foundation depths will need to be

increased in certain areas to allow for the effect of future tree growth or potential heave due to tree removal. Three small areas of the low secure block will require foundations with depths of 1.8m and 2.0m begl. Two areas of the organic block, both above the, to be decommissioned, sewer will require foundation depths of 2.25m begl. These depths make allowance for the climatic zone within which the site falls.

Groundwater was encountered at various levels across the site and considered to represent localised perched ground water. During the preliminary Phase 2a assessment localised perched ground water was also found to exist at depths of less than 1.0m bgl. In such areas ground water ingress may occur during construction of the foundations. As a result shoring and pumping may be required to stabilise the foundation excavations.

5.5 Floor Slab

Due to the variable nature of the near surface soils including areas where deeper made ground is present, structures are proposed spanning the sewer, or where buildings are constructed over re-compacted clay fills, the use of suspended floor slabs is recommended.

5.6 Access Routes and Car Parking

Nine remoulded CBR tests were undertaken on samples from depths of up to 1.4m bgl. The results of which ranged from 10.4% and 44%, giving a mean CBR of 24%. As such, it is considered that a maximum CBR of 10% may be utilised within the superficial deposits for the proposed development on site.

In any area where pavement construction is proposed on a made ground strata, it is considered prudent to assume a minimum CBR value of 2% for any proposed development, due to its potential variability.

5.7 Drainage

On 25th September two JCB excavated trial pits were undertaken on site, in which in-situ permeability (soakaway) tests (SA1 and SA2) were undertaken.

The trial pit for SA1 measured 0.6m by 1.3m and extended to 1.5m below existing ground level. The strata encountered briefly comprised topsoil (clayey silt) to 0.3m bgl underlain by clayey silt (superficial deposits) to the base of the pit. The pit sides were squared off, and the pit filled with water to a depth of 0.7m bgl, from which time the water depth was monitored for 330 minutes. During this time the water level fell by only 2.5cm.

The trial pit for SA2 measured 0.6m by 1.25m and extended to 1.6m below existing ground level. The strata encountered briefly comprised topsoil (clayey silt) to 0.2m bgl, underlain by clay to 1.3m bgl, beneath which slightly sandy silt was noted to extend to the base of the pit. The pit sides were squared off, and the pit filled with water to a depth of 0.59m bgl, from which time the water depth was monitored for 330 minutes. During this time the water level fell by only 5.5 cm.

Current best practice guidelines, as outlined within BRE 365 recommend that the test is repeated three times in each pit. However, in circumstances such as these where soil infiltration rates are very slow, this is not always practical.

Based on the results of SA1 and SA2, soakaways are not considered to be a viable option for surface water drainage on-site due to the underlying ground conditions being predominantly comprised of low permeability clay/silt. The locations of the soakaway tests are shown on Figure 4, and the results of the in-situ permeability tests are presented within Appendix D.

5.8 Earthworks

The topsoil on site is not considered suitable for re-use on site due to its potential variability. It is considered viable to re-use the competent superficial deposits as fill across the proposed development site. Compaction testing was undertaken on a limited number of samples taken as part of this investigation from a mound at the eastern boundary of the site. These provide an indicative optimum moisture content for compaction of the site won material should it be considered for re-use. It may be possible to utilise the made ground strata for earthworks across the site however consideration may need to be given to the use of soil stabilisation techniques.

6 CONTAMINATION ASSESSMENT

6.1 Introduction

The preliminary conceptual site mode (PCSM) identified that the potential for the existence of contamination beneath the site was low. During the Phase 2a preliminary site assessment (YB00437/R2), a limited number of screening tests were undertaken across the whole, larger site, and the contaminant levels were found to be negligible. However, at this time the exact nature and location of the proposed development was not known. As such, it was recommended that further sampling and testing be undertaken during the Phase 2b site assessment once the preferred development option was known, to verify the earlier conclusions.

The following contamination assessment sub-sections will discuss the identified risks associated with individual contaminant groups based on contamination testing results, undertaken on samples from this intrusive investigation and those relevant samples from the Phase 2a investigation located within the boundaries of the site.

6.2 Rationale

In May of 2008, Contaminated Land: Application in Real Environments (CLAIRE) in conjunction with the Chartered Institute of Environmental Health (CIEH), with support from the Soil and Groundwater Technology Association (SAGTA), released a document entitled 'Guidance on Comparing Soil Contamination Data with a Critical Concentration' [6].

The document provides advice on the use of statistical techniques in the assessment of soil contamination data. It forms part of a package of improved UK guidance highlighted in the Defra discussion paper 'Assessing risks from land contamination – a proportionate approach. Soil Guideline Values: the Way Forward (CLAN 06/2006). The overall aim is to increase understanding of the role statistics can play in quantifying the uncertainty attached to estimates of the mean concentration of contaminants thereby creating a more informed basis for regulatory decision-making.

The guidance presents a structured approach that can be followed when employing statistical techniques for data assessment.

The key question under Planning will usually be "can it confidently be said that the level of contamination on this land is low relative to some appropriate measure of risk?" [6]. In a statistical basis this question is dealt with through the use of formal hypothesis; the null and the alternative, the null being the starting position against which the key question (the alternative hypothesis) can be tested.

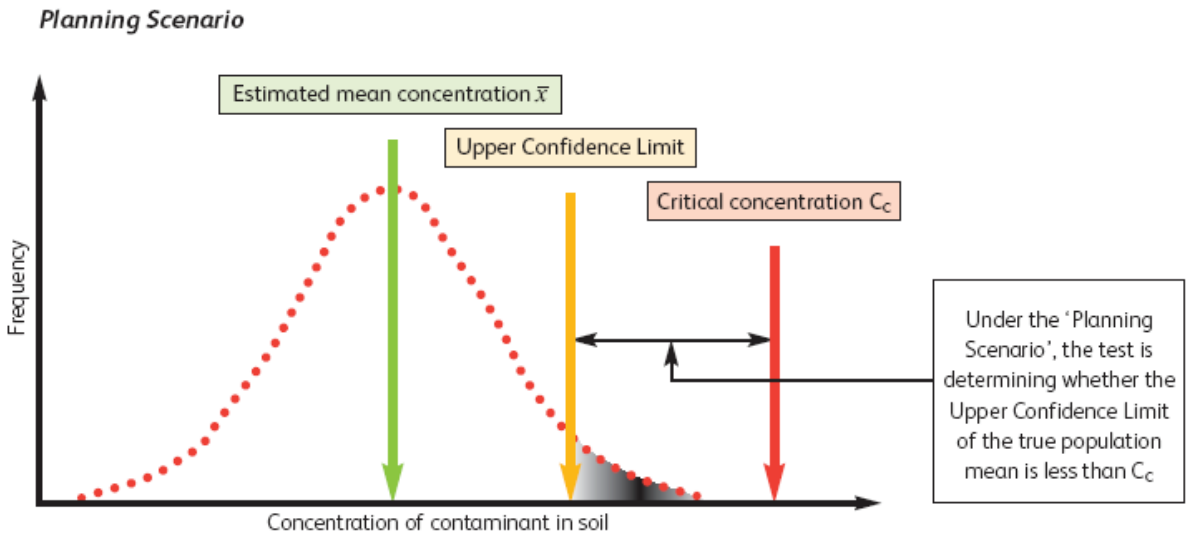
Under Planning, the Null hypothesis (H_0) is:

- "that the level of contamination [in the land of interest] is the same as or higher than the critical concentration".

Whilst the alternative hypothesis (H_1) is:

- "that the level of contamination in the land is lower than the critical concentration".

Under the planning process the statistical test must be designed to show that there is a 95% probability that the true population mean falls below the critical concentration and as such the statistical test must involve the comparison of the 95th Upper Confidence Limit (UCL) of the true population mean with the critical concentration as shown in the figure below.



Application of significance tests for the Planning process where data are normally distributed [6]

A guide to the application of the statistical testing of a dataset for planning purposes, after the CLAIRE and CIEH guidance [6], as used for the purposes of this assessment, is presented for reference within Appendix E, however in general terms the following steps should be followed when applying the statistical test to a dataset under the Planning scenario:

- Calculate sample mean (x) and sample standard deviation (s).
- Investigate the normality of the data distribution using tests as outlined in Appendix C of the CLAIRE/CIEH guidance.
- Investigate statistical outliers and anomalous concentrations as outlined in Appendix B of the CLAIRE/CIEH guidance.
- If x > Cc (SGV or LQM/CIEH GAC) conclude that the Null Hypothesis (H_0) cannot be rejected. The Developer may then have options on how to proceed including collecting further data and re-running the significance test at the same confidence level, or undertaking remediation on a precautionary basis.
- If x < Cc apply the one sample t-test if the dataset does NOT deviate significantly from normality (i.e. dataset is normally distributed). The one sample t-test is the same as the mean and maximum value test as outlined in CLR7 [6]. If the dataset distribution deviates significantly from normality (i.e. dataset is not normally distributed), apply the one-sided Chebychev Theorem.

The 95th UCL values for the one sample t-test and the one-sided Chebychev theorem are calculated using the following formulae [6]:

$$UCL = \bar{x} + (t_{(n-1,0.95)} \times \frac{s}{\sqrt{n}})$$

LCL for one sample t-test

$$UCL = \bar{x} + (k_{(0.05)} \times \frac{s}{\sqrt{n}})$$

LCL for one-sided Chebychev Theorem

$$t_0 = \frac{\bar{x} - Cc}{\frac{s}{\sqrt{n}}}$$

Alternative method by calculating t_0 value for comparison with tabulated $t_{(n-1,0.95)}$ values

$$k_0 = \frac{\bar{x} - Cc}{\frac{s}{\sqrt{n}}}$$

Alternative method by calculating k_0 value for comparison with tabulated $k_{(0.05)}$ or $k_{(crit)}$ values

Where:
$\bar{x}$ = sample mean
$t_{(n-1,0.95)}$ = Value from Table A.1, Appendix A in CLAIRE/CIEH guidance [6] and CLR7 [7]
$k_{(0.05)}$ = Value from Table A.2, Appendix A in CLAIRE/CIEH guidance [6]
s = sample standard deviation
n = sample population

When applying either the one sample t-test or the one-sided Chebychev theorem to the dataset of a determinand where the sample mean is less than the Cc, two alternative techniques are possible for each, as shown by the formulae above and described below:

The 95th UCL value can be calculated for the determinand by inputting values into the formulae above for the separate tests and inputting the $t_{(n-1,0.95)}$ or $k_{(0.05)}$ values for the one sample t-test and the one-sided Chebychev theorem respectively. These values are tabulated within Appendix A of the CLAIRE/CIEH guidance. The calculated 95th UCL values can then be compared to the Cc and if the 95th UCL < Cc it can be concluded that the Null Hypothesis (H_0) can be rejected.

Alternatively the t_0 (one sample t-test) and the k_0 (one-sided Chebychev theorem) values can be calculated for a determinand where the mean is less than the Cc, using the formulae shown above. The calculated values for t_0 and k_0 are then compared to values for $t_{(n-1,0.95)}$ and $k_{(0.05)}$ respectively. If the t_0 and k_0 values are less then the respective $t_{(n-1,0.95)}$ and $k_{(0.05)}$ values then it can be concluded that the Null Hypothesis (H_0) can be rejected.

Within this assessment the 95th UCL values will be used for comparison against critical concentrations (Cc). The Cc with which the sample mean and the 95th UCL will be compared, will be published Soil Guideline Values (SGVs) or, in the absence of published SGVs, LQM/CIEH Generic Assessment Criteria (GAC) [8] for a residential without plant uptake end use.

The statistical analysis undertaken for each determinand population across the site is presented as Appendix F.

6.3 Soil Guideline values

The Environment Agency's position on CLEA guidance is as follows:

"The CLEA guidance is non-statutory. It does not purport to interpret the policies or procedures of the Environment Agency and shall not operate as a statutory license, waiver, consent or approval from the Environment Agency"[9].

"The CLEA guidance describes the soil concentrations above which, in the opinion of the Environment Agency, there may be concern that warrants further investigation and risk evaluation for both threshold and non-threshold substances. These levels are a guide to help assessors estimate risk. It does not provide a definitive test for telling when risks are significant"[9].

The soil guideline value (SGV) is derived by estimating the concentration of a substance in soil, which will result in an amount of the contaminant entering the human body that is equal to the relevant Health Criteria Value(s).

Revised guidance and software has been published for calculation of generic assessment criteria, which will lead to the publication of SGVs based on the new approach. New TOX and SGV reports for priority substances were published in March 2009. The 'old' ten SGV reports have therefore been withdrawn.

The Environment Agency and DEFRA have produced two new reports - "Human health toxicological assessment of contaminants in soil" and "Updated technical background to the CLEA model". This has lead to the withdrawal of CLR7-10, which no longer reflects the current approach and formed the basis of the existing SGVs, as a result all the existing SGV reports have been withdrawn.

The publication of new substance specific TOX reports has lead to the withdrawal of the existing reports. Practitioners are expected to produce their own generic assessment criteria using the CLEA software and handbook.

The following table provides values for comparison on the old CLEA and approach and the new CLEA approach with details of the TOX report status:

Table 6.1 - Soil Guideline Values

Substance	**Old CLEA SGV** **Res. With plant** **Res. Without plant** **Allotment** **Commercial**	**New CLEA SGV published** **Res. With plant** **Allotment** **Commercial**	**LQM/CIEH 2nd Edition GACs** **Res. With plant** **Allotment** **Commercial**
Arsenic	20 20 20 500	32 43 640	
Beryllium			51 55 420
Cadmium	1(ph6),2(pH7),8(ph8) 30 1(ph6),2(pH7),8(ph8) 1400	10 1.5 230	3 0.53 348
Chromium	130 200 130 5000		CrIII 3000,CrIV 4.3 CrIII 34600 CrIV 2.1 CRIII 30400 CrIV 35
Copper			2330 524 71700
Lead	450 450 450 750		
Mercury Inorganic	8 15 8 480	170 80 3600	
Nickel	50 75 50 5000	130 230 1800	
Vanadium			75 18 3160

Selenium	35 260 35 8000	350 120 13000	
Zinc			3750 618 665000

Residential SGV/GAC for TPH & PAHs

The following table presents the published SGV and the newly published LQM/CIEH 2nd Edition 2009 GAC values calculated assuming 1%, 2.5% and 6% Soil Organic Matter (SOM) for a sandy loam soil. This provides a basis for correlation with the output from the new CLEA model Software Version 1.04 2009.

Table 6.2 –Residential LQM/CIEH 2nd Edition 2009 TPH GAC values

TPH Fractions	New CLEA SGV	CIEH/ LQM GAC	CLEA 2009 Version 1.04	CIEH/ LQM GAC	CLEA 2009 Version 1.04	CIEH/ LQM GAC	CLEA 2009 Version 1.04
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	6% SOM	1% SOM	1% SOM	2.5% SOM	2.5% SOM	6% SOM	6% SOM
Benzene	0.33		0.079		0.157		0.334
Toluene	610		119		271		618
Ethylbenzene	350		65.4		155		358
m-Xylene	240		43.6		103		241
TPH Aliphatic C5-6		30	29.7	55	54.6	110	113
TPH Aliphatic C6-8		73	72.6	160	162	370	371
TPH Aliphatic C8-10		19	18.8	46	45.8	110	108
TPH Aliphatic C10-12		93	93	230	229	540	537
TPH Aliphatic C12-16		740	744	1700	1690	3000	3030
TPH Aliphatic C16-21		45000	45100	64000	63800	76000	76100
TPH Aliphatic C21-35		45000	45100	64000	63800	76000	76100
TPH Aromatic C6-7*		65	0.047	130	0.0948	280	0.2
TPH Aromatic C7-8		120	119	270	270	611	611
TPH Aromatic C8-10		27	27	65	65.5	151	151
TPH Aromatic C10-12		69	69	160	162	346	346
TPH Aromatic C12-16		140	138	310	308	593	593
TPH Aromatic C16-21		250	247	480	482	770	766
TPH Aromatic C21-35		890	888	1101	1110	1230	1220

*CIEH/LQM assessed Aromatic C6-7 (Benzene) as a threshold substance, which it is not.

The following New CLEA GAC values for Polycyclic Aromatic Hydrocarbons assume a soil of sandy clay loam, with 1% and 6% SOM for a residential end use.

Table 6.3 –Residential LQM/CIEH 2nd Edition 2009 PAH GAC values

PAH	LQM/CIEH 2009	CLEA software 2009	LQM/CIEH 2009	CLEA software 2009
Units	mg/kg	mg/kg	mg/kg	mg/kg
Soil Organic Matter (SOM)	1% SOM	1% SOM	6%SOM	6%SOM
Naphthalene	1.5	1.54	8.7	8.71
Acenaphthylene	170	168	850	851
Acenaphthene	210	205	1000	1010
Fluorene	160	163	780	776
Phenanthrene	92	91.8	380	376
Anthracene	2300	2260	9200	9190
Fluoranthene	260	257	670	674
Pyrene	560	563	1600	1560
Chrysene	6	6.0	9.3	9.27
Benzo(a)anthracene	3.1	3.1	5.9	5.88
Benzo(b)fluoranthene	5.6	5.56	7.0	7.02
Benzo(k)fluoranthene	8.5	8.51	10	10
Benzo(a)pyrene	0.83	0.826	1.0	0.998
Indeno(123cd)pyrene	3.2	3.18	4.2	4.19
Benzo(ghi)perylene	44	40.4	47	46.8
Dibenzo(ah)anthracene	0.76	0.762	0.9	0.903

The above table provide confidence in the output of the CLEA software which will allow site-specific assessment where required.

6.4 Metals

6.4.1 Human Health

Twenty nine soil samples were taken from depths of 0.2m and 3.0m below ground level (bgl) and were sent under chain of custody to undergo laboratory analysis for metals.

The following table provides the sample mean (x), the 95th UCL values together with CLEA SGVs and LQM/CIEH GACs for a residential without plant uptake end use.

Table 6.4 – SGVs/GACs and 95th UCL data for Metals

Compound	Number of Samples	Sample mean (x) (mg/kg)	95th UCL (mg/kg)	Old SGV (mg/kg)	New SGV or (mg/kg)	LQM/CIEH GAC (mg/kg)
Arsenic	29	8.3	8.9	-	32	-
Cadmium	29	0.5	1.2	-	10	-
Chromium	29	21.6	22.5	-	-	3000
Copper	29	22.6	25.6	-	-	2330
Lead	29	66.6	140.0	450	-	-
Mercury	29	0.1	0.2	-	170	-
Nickel	29	27.2	29.2	-	130	-
Selenium	29	0.5	0.6	-	350	-
Zinc	29	141.1	268.8	-	-	3750

The mean concentration of all the determinands fell below their respective SGVs or GACs for a residential without plant uptake end use as a conservative preliminary assessment. The dataset displays both normal and non-normal distribution and as such it is therefore necessary to undertake the one-sample t-test or Chebychev theorem test respectively.

The above table shows that the calculated 95th UCL values, using the one-sample t-test or the Chebychev Theorem test, for all metals / metalloids are below the published SGVs or GACs for a residential without plant uptake end use, which indicates that the Null Hypothesis "that the level of contamination [in the land of interest] is the same as or higher than the critical concentration" can be rejected and they are therefore not considered to be a risk with respect to site users of the proposed development.

6.4.2 Groundwater

The measured soil concentrations on samples taken as part of this assessment are not considered to pose a risk of dissolved contaminants leaching from the soil as a result of rainwater infiltration. The risk to groundwater is therefore perceived to be negligible.

6.5 Fraction of Organic Carbon

Thirty one soil samples were taken from varying depths and analysed for FOC. The FOC results were converted to give a representative Soil Organic Matter (SOM) (%).

The test results identify a range of SOM of between 0.38% and 10.16%, as such, due to the presence of such low results as 0.38% it is considered appropriate to assume a conservative value of 1% across the whole site.

6.6 Total Petroleum Hydrocarbons

6.6.1 Human Health

Thirty one soil samples were taken from depths of between 0.1m and 2.0m bgl and analysed for a TPH banded suite.

The majority of values fell either on or below the laboratory detection limit of 10mg/kg, and all those values above the laboratory detection limit fell below the individual banding fractions of the LQM/CIEH GACs for a residential development without plant uptake end use, and as such the risk from TPHs to the proposed development is considered negligible

6.6.2 Groundwater

The measured soil concentrations are not considered to pose a risk of dissolved contaminants leaching from the soil as a result of rainwater infiltration. The risk to groundwater is therefore perceived to be negligible.

6.7 Semi-Volatile Organic Compounds

6.7.1 Human Health

Twenty nine soil samples were taken from depths between 0.1m and 2m bgl and analysed for Semi-Volatile Organic Compounds (SVOCs).

The majority of values fell either on or below the laboratory detection limit, and all those values above the laboratory detection limit fell below the individual banding fractions of the LQM/CIEH GACs for a residential development without plant uptake end use, and as such the risk from SVOCs to the proposed development is considered negligible

6.7.2 Groundwater

The measured soil concentrations are not considered to pose a risk of dissolved contaminants leaching from the soil as a result of rainwater infiltration. The risk to groundwater is therefore perceived to be negligible.

6.8 Poly-cyclic Aromatic Hydrocarbons

6.8.1 Human Health

Twenty eight soil samples were taken from depths of between 0.1m and 2m below ground level (bgl) and analysed for speciated PAH. In addition, as part of the SVOC tests priority PAHs were also analysed and are included within this section.

The following table provides the sample mean (x), the 95th UCL values together with LQM/CIEH GACs for a residential without plant uptake end use and a 1% SOM as a conservative assessment.

Table 6.5 – GACs and 95th UCL data for PAH

Compound	No. of samples	Sample Mean (x)	95th UCL (mg/kg)	LQM/CIEH GACs (mg/kg)	No. Samples ≥ GAC
Naphthalene	56	0.12	0.31	1.5	1
Acenaphthylene	56	0.19	0.64	170	0
Acenaphthene	56	0.13	0.33	210	0
Fluorene	56	0.13	0.33	160	0
Phenanthrene	56	1.47	6.46	92	0
Anthracene	56	0.57	2.31	2300	0
Fluoranthene	56	2.01	6.82	260	0
Pyrene	56	1.33	4.89	560	0
Benzo(a)anthracene	56	0.98	3.71	3.1	3
Chrysene	56	0.88	3.33	6	2
Benzo(b)fluoranthene	56	0.87	3.00	5.6	2
Benzo(k)fluoranthene	56	0.33	1.01	8.5	0
Benzo(a)pyrene	56	0.70	2.36	0.83	4
Indeno(123cd)pyrene	56	0.40	1.22	3.2	2
Dibenzo(ah)anthracene	56	0.14	0.35	0.76	2
Benzo(ghi)perylene	56	0.38	1.15	44	0

The following values were elevated above the LQM/CIEH GAC for a residential without plant uptake end use as a conservative initial screen.

- 1 value of napthalene:
  WS27 at 0.1m bgl
- 4 values of benzo(a)pyrene:
  WS26 at 1.1m bgl
  WS25 at 0.4m bgl
  WS25 at 1.3m bgl
  WS27 at 0.1m bgl
- 3 values of benzo(a)anthracene:
  WS25at 0.4m bgl
  WS25 at 1.3m bgl
  WS27 at 0.1m bgl
- 2 values of chrysene:
  WS25 at 0.4m bgl
  WS27 at 0.1m bgl
- 2 values of benzo(b)fluoranthene:
  WS25 at 0.4m bgl
  WS27 at 0.1m bgl

- 2 values of indeno(123)pyrene:
  WS25 at 0.4m bgl
  WS27 at 0.1m bgl
- 2 values of dibenzo(ah)anthracene:
  WS25 at 0.4m bgl
  WS27 at 0.1m bgl

Despite these elevated levels, the mean concentration (x) of all values fell below their respective GACs for a residential development without plant uptake end use.

The above table shows that the calculated 95th UCL values, using the Chebychev Theorem test or One sample t-test, for all PAH fractions are below their respective GACs for a residential without plant uptake end use, with the exception of Benzo (a) pyrene and Benzo(a)anthracene. This indicates that based on the testing undertaken as part of this assessment, the Null Hypothesis "that the level of contamination [in the land of interest] is the same as or higher than the critical concentration" can be rejected for all determinands, with the exception of Benzo (a) pyrene and Benzo(a)anthracene, and they are therefore not considered to be a risk with respect to site users of the proposed development on site.

All values for determinands that were found to be elevated above their respective critical concentrations (including benzo(a)pyrene), were identified by the Grubbs test, to be outliers. As such, they are considered to represent localised contaminant 'hotspots' within the Made Ground, and are not representative of the true population across the site.

When the outlying levels of benzo(a)pyrene and benzo(a)anthracene removed from the remainder of the population, the resultant sample mean and 95th UCL level are shown to be below the critical concentration and they are therefore not considered to be a risk across the remainder of the site.

WS25 and WS26 are located within an area proposed as car parking for the development. As a result the source – pathway – receptor pollutant linkages will be broken by the presence of hardstanding. Consequently the elevated levels identified within these boreholes are no longer considered to represent a risk to the proposed development.

WS27 is located in an area currently proposed as general landscaping ad although considered unlikely , could present a possible risk to future site users, As a result it is recommended that one of the following be undertaken in the areas of WS27:

- Excavation and disposal of contaminated material to a depth of 1m below existing ground level in an area of 5m surrounding the borehole location, dependant upon the location of trees which are to remain as part of the proposed development.

- Provision of capillary break layer and 600mm of clean imported topsoil in landscaped areas within a 5m radius of the borehole location.

6.8.2 Groundwater

Although elevated levels of certain PAH fractions have been identified, the presence of cohesive strata is such that any migration pathway to the underlying aquifer should be broken.

6.9 Volatile Organic Compounds

6.9.1 Human Health

Thirty three soil samples were taken from depths of 0.2m and 3m bgl and analysed for Volatile Organic Compounds (VOCs).

As per section 6.3 above, in-house derived GAC values have been calculated, for a residential development without plant uptake end use, for a limited number of VOC compounds namely:

- Benzene (0.05mg/kg for a 1% SOM)
- Toluene (1130mg/kg for a 1% SOM)
- Ethylbenzene (31.2mg/kg for a 1% SOM)
- Xylene (10.4mg/kg for a 1% SOM)

All of values fell either on or below the laboratory detection limit and therefore the risk from VOCs to the proposed development, is considered to be negligible.

6.9.2 Groundwater

The measured soil concentrations are not considered to pose a risk of dissolved contaminants leaching from the soil as a result of rainwater infiltration. The risk to groundwater is therefore perceived to be negligible.

6.10 Asbestos

Ten asbestos screening tests were undertaken on samples from depths of between 0.2m and 1.8m bgl, and no fibres were detected, therefore based on the results obtained the risk from asbestos on site is considered to be negligible.

6.11 Sulphate and pH

Ten soil samples from depths of between 1.0m and 2.7m bgl were analysed for sulphate and pH. The following table provides results of these tests.

Table 6.6 – BRE sulphate suite analysis results

BRE Suite	Units	WS28	WS32	WS33	WS35	WS36
Total Sulphur	%	0.19	0.04	0.013	0.05	0.013
Magnesium	g/l	<10	<10	<10	<10	<10
Nitrate	mg/l	<10	<10	<10	<10	<10
Aqueous Extract Sulphate as SO_4	g/l	<0.01	<0.01	<0.01	<0.01	<0.01
pH	pH units	6.23	4.53	5.93	6.71	5.46

BRE Suite	Units	WS39	WS41	WS43	WS47	WS48
Total Sulphur	%	0.08	0.08	0.29	0.06	0.07
Magnesium	g/l	<10	<10	<10	<10	<10
Nitrate	mg/l	<10	<10	<10	<10	<10
Aqueous Extract Sulphate as SO_4	g/l	<0.01	<0.01	0.03	<0.01	0.02
pH	pH units	6.27	6.13	6.42	6.04	6.64

In accordance with BRE Special Digest 1 [10], the concentrations of soluble sulphate, from tests undertaken as part of this preliminary assessment, indicate a representative design Sulphate class for the site is DS-1. The total potential Sulphate results indicate a design Sulphate class for the site of DS-1. The concrete class for the site is AC-3z.

6.12 Ground Gas Assessment

In line with current best practice guidance, four post fieldworks gas monitoring visits have been undertaken at the site, within the monitoring installations in BH1, BH4, and BH6. The results of which are summarised in table 6.8 below.

Table 6.7 – Gas monitoring results post fieldworks

Borehole	Date	Pressure (mbar)	O_2 (%)	CH_4 (%)	CO_2 (%)	Flow (l/hr)
BH1	25-09-09	1015	20.1	0	0	0
	23-10-09	996	19.2	0	1.5	6.6
	28-10-09	1006	20.0	0	0	0
	11-11-09	995	19.2	0.1	0.6	18.8
BH4	25-09-09	1015	19.7	0	0	-0.7
	23-10-09	996	18.9	0	1.6	0.3
	28-10-09	1006	20	0	0.1	-5.4*
	11-11-09	995	19.6	0	0	0
BH6	25-09-09	1015	0	0	0	0
	23-10-09	996	12	0	0.4	0
	28-10-09	1006	20.1	0	0.1	-1.3 to -0.4*
	11-11-09	995	19.7	0	0.1	0

*negative flow rates recorded, therefore zero l/hr assumed for the purposes of calculating CHGFR and SCHGFR.

During the second and fourth monitoring visits, readings were taken when the atmospheric pressure was below 1000mb, and for the remainder pressure was above 1000mb.

The monitoring data has been assessed using the methodology described in BS8485:2007 [11].

Table 6.8 – Calculated Hazardous Gas Flow Rate (CHGFR) after BS8485:2007

Borehole	Date	CH_4 (%)	CO_2 (%)	Flow (l/hr)	CHGFR CH_4	CHGFR CO_2
BH1	25-09-09	0	0	0	0	0
	23-10-09	0	1.5	6.6	0	0.099
	28-10-09	0	0	0	0	0
	11-11-09	0.1	0.6	18.8	0.0188	0.1128
BH4	25-09-09	0	0	-0.7	0	0
	23-10-09	0	1.6	0.3	0	0.0048
	28-10-09	0	0.1	0	0	0
	11-11-09	0	0	0	0	0
BH6	25-09-09	0	0	0	0	0
	23-10-09	0	0.4	0	0	0
	28-10-09	0	0.1	0	0	0
	11-11-09	0	0.1	0	0	0

Table 6.9 –Site Characteristic Hazardous Gas Flow Rate (SCHGFR) after BS8485 :2007

SCHGFR	CH_4 (%)	CO_2 (%)	Flow (l/hr)	Characteristic Gas Situation
	0.1	1.6	18.8	2

Table 6.9 above outlines the calculated hazardous gas flow rate (CHGFR) for both CH_4 and CO_2 for each monitoring event undertaken at the site. From these CHGFR values, and considering the site's gas source, pathway and target variables as described in BS8485 Annex B, site gas characteristics have been adopted.

Table 6.10 above presents these values as the site characteristic hazardous gas flow rate (SCHGFR). Based upon these values, this area of the site may be classified as characteristic gas situation 2 (low hazard potential).

In areas where no enclosed spaces are anticipated, such as car parking areas, no specific gas protection measures are considered necessary.

In any area where structures, creating enclosed spaces are proposed, gas protection measures as outlined in Table 2 of BS 8485: 2007, for a characteristic gas situation 2 (low hazard potential) will be required.

BS8485:2007 provides recommendations as to gas protection measures required for various characteristic gas situations. Given the site characteristic gas situation (SCGS2 – low risk), and the anticipated development (public building), two or more of the following protective measures may be considered:

i) Passive sub floor ventilation (venting can be a clear void or formed using gravel, geocomposites, polystyrene void formers etc). (Very good performance = 2.5 points) (Good performance = 1 point).
ii) Proprietary gas resistant membrane installed to reasonable levels of workmanship/in line with current good practice under CQA with integrity testing and independent validation. (2 points)
iii) Reinforced concrete ground bearing floor slab. (0.5 points)
iv) Taped and sealed membrane to reasonable levels of workmanship/in line with current good practice with validation. (0.5 points)

Using measures i) (very good performance) and iii) or iv) will provide adequate protection, or measures i) (good performance) and ii).

6.13 Refined Conceptual Site Model

The preliminary conceptual site Model (CSM), presented within the Phase 1 report undertaken by CBm (YB00437/R1), is used to identify potential previous and existing sources of contamination on and off-site and link the identified sources via potential pathways to critical receptors in order to identify potential significant pollutant linkages, which demonstrate significant possibility of significant harm.

A number of potential pollution linkages were identified within the preliminary CSM, and were deemed to present a potentially significant risk to the proposed end users. As such, a programme of chemical testing was undertaken on samples collected during both the preliminary intrusive investigation (Phase 2a), and this full investigation (Phase 2b). An assessment of the results of this testing has been presented in this section (Section 6).

The results of the chemical testing programme may be used to better evaluate the potential significance of the pollutant linkages identified within the preliminary CSM. Based on this evaluation, a refined CSM may be formulated to determine the current risk posed by those contaminants identified or to identify further areas, which require additional data collection.

During the Phase 2a preliminary site assessment (YB00437/R2), an initially refined conceptual model was produced based on the limited number of screening tests that were undertaken on samples obtained from across the whole, larger SSSFT site. Contaminant levels were found to be negligible, however it was recommended that further sampling and testing be undertaken to verify the low risk nature of the site, during the full Phase 2b assessment, once the exact nature and location of the preferred development option was known.

The following tables present a refined CSM listing the pollutant linkages identified within the preliminary CSM together with the identified contaminants of concern, their assessed risk (following this full phase 2b assessment) to the proposed development, together with any mitigation or remediation measures deemed necessary and a residual risk based on these mitigation or remediation measures.

Table 6.10 – Refined On-Site to On-Site Source - Pathway – Receptor Model

Source 1.	Source 2.	Receptor	Prelim. Risk	Chemical test results	Current Risk	Measures Required	Residual Risk
Possible Made Ground Soils (former site uses including backfilled ponds)	Heavy metals, free cyanide, sulphate, sulphide, MTBE, TPH aliphatic and aromatic fractions, chlorinated solvents and PCB	Construction workers, future site occupiers, groundwater and eco-systems	6	A number of contaminant 'hotspots' were identified	6	Removal of contaminant 'hotspots' as identified as part of this investigation, or importation of 'clean' topsoil	3
	Possible Ground Gas	Construction workers, future site occupiers and building fabric	6	Slightly elevated CO2 and depleted O2 detected	6	Gas protection measures	3

Table 6.11 – Off-Site to On-Site Source - Pathway – Receptor Model

Source 1.	Source 2.	Receptor	Prelim. Risk	Chemical test results	Current Risk	Measures Required	Residual Risk
Possible backfilled pits/ponds within surrounding area	Heavy metals, free cyanide, sulphate, sulphide, MTBE, TPH aliphatic and aromatic fractions, chlorinated solvents and PCB	Construction workers, future site occupiers, groundwater and eco-systems	6	A number of contaminant 'hotspots' were identified	6	Removal of contaminant 'hotspots' as identified as part of this investigation.	3
	Possible Ground Gas	Construction workers, future site occupiers and building fabric	6	Slightly elevated CO2 and depleted O2 detected on site.	6	Gas protection measures	3
Possible Made Ground Soils – Former and existing industrial land uses, tanks to the east of the site, and electrical sub-stations	Heavy metals, free cyanide, sulphate, sulphide, MTBE, TPH aliphatic and aromatic fractions, chlorinated solvents and PCB	Construction workers, future site occupiers, groundwater and eco-systems	6	A number of contaminant 'hotspots' were identified	6	Removal of contaminant 'hotspots' as identified as part of this investigation.	3

7 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

7.1.1 Ground Conditions

- The site is underlain by topsoil comprising gravelly sandy clayey silt, typically extending to depths in the region of 0.3m to 0.4m bgl. Made Ground of varying composition was present in a number of localities (typically to the north) and extended to a maximum depth of 1.7m bgl.

- Two trial trenches (TT3 and TT4) were excavated across the run of a buried sewer to determine the nature and compaction of the overlying strata. The overlying strata was found to comprise reworked superficial deposits, incorporating occasional bricks in TT4, and as such, has been determined to be backfilled material. Within TT4 the strata encountered was noted to be softer than that surrounding it, however within TT3 no difference was noted.

- Encountered to directly underlie the Topsoil/Made Ground stratum, in all localities were superficial deposits of varying composition. Across the majority of the site, and within the uppermost 7m (on average), material of a cohesive nature (typified by firm to stiff gravelly sandy clay/silt) was prevalent, with the exception of the northern/north-eastern portion of the site, within which granular material (silty sand) dominated.

- At greater depth, within the cable percussive boreholes (BH1-6), medium-dense to dense red silty sand was encountered to extend to the full depths of the exploratory locations (10.05m bgl).

7.1.2 Building Foundations

- The Made Ground on-site is not considered to be a suitable founding stratum due to its potential lateral and horizontal variability.

- Based on the design parameters presented in Section 5.2, and assuming the proposed development as described in Section 5.1, it is considered likely that foundations could be in the form of trench fill or traditional spread footings bearing upon the competent natural strata at shallow depths.

- Where structures are proposed in areas of deeper made ground, foundations should be extended to bear upon the competent natural strata. Information from this assessment suggests this could result in foundation depths in the region of 1.5m below existing ground level. At this depth, assuming 0.6m wide footings or 1m² pads, an allowable bearing pressure of 150kPa may be employed for the proposed development. Total settlements of less than 25mm may be anticipated.

- It is understood that the sewer crossing the site is to be decommissioned and grouted. Where practicable constructions of structures spanning the deep sewer should be avoided. If this is unavoidable alternative foundation solutions will need to be considered for the portion of the structure that spans the sewer run. Such solutions include a stiffened raft or reinforced spread footing (grillage) transferring the load to more competent strata.

- A number of mature trees, both broad leaf and conifers exist in the north-western part of the site and impact on both the low secure block and the organic block. \some of these trees are to be removed and others are to remain. The tallest trees are estimated at heights of some 12m. Assuming that all the trees are of high water demand and given that the site soils are of low shrinkage potential then, using NHBC Standards (2010) foundation depths will need to be increased in certain areas to allow for the effect of future tree growth or potential heave due to tree removal. Three small areas of the low secure block will require foundations with depths of 1.8m and 2.0m begl. Two areas of the organic block,

both above the, to be decommissioned, sewer will require foundation depths of 2.25m begl. These depths make allowance for the climatic zone within which the site falls.

- Groundwater was encountered at various levels across the site and considered to represent localised perched ground water. During the preliminary Phase 2a assessment localised perched ground water was also found to exist at depths of less than 1.0m bgl. In such areas ground water ingress may occur during construction of the foundations. As a result shoring and pumping may be required to stabilise the foundation excavations.

7.1.3 Floor Slab

.

- Due to the variable nature of the near surface soils including areas where deeper made ground is present, structures are proposed spanning the sewer, or where buildings are constructed over re-compacted clay fills, the use of suspended floor slabs is recommended.

7.1.4 Pavements

- Nine remoulded CBR tests were undertaken on samples from depths of up to 1.4m bgl. The results of which ranged from 10.4% and 44%, giving a mean CBR of 24%. As such, it is considered that a maximum CBR of 10% may be utilised within the superficial deposits for the proposed development on site.

- In any area where pavement construction is proposed on a made ground strata, it is considered prudent to assume a minimum CBR value of 2% for any proposed development, due to its potential variability.

- Proof rolling of the subgrade should be undertaken with any soft areas removed and replaced prior to construction of the subbase.

7.1.5 Drainage

- In-situ permeability tests were undertaken in two JCB excavated trial pits (SA1 and SA2) in different areas of the site. Based on the results, soakaways are not considered to be a viable option for surface water drainage on-site due to the underlying ground conditions being predominantly comprised of low permeability clay.

7.1.6 Contamination and Ground Gas

- The values for all determinands, with the exception of a number of PAHs, fell below their respective critical concentrations for a residential without plant uptake end use (as a conservative initial screen), and as such the risk to the proposed development from these determinands is considered to be negligible.

- A number of PAH's were found to be elevated above the LQM/CIEH GAC for a residential without plant uptake end use as a conservative initial screen. Despite these elevated levels, the mean concentration (x) of all values fell below their respective GACs for a residential development without plant uptake end use.

- The calculated 95th UCL values, using the Chebychev Theorem test or One sample t-test, for all PAH fractions are below their respective GACs for a residential without plant uptake end use, with the exception of Benzo (a) pyrene and Benzo(a)anthracene. This indicates that based on the testing undertaken as part of this assessment, the Null Hypothesis "that the level of contamination [in the land of interest] is the same as or higher than the critical concentration" can be rejected for all determinands, with the exception of Benzo (a) pyrene and Benzo(a)anthracene, and they are therefore not considered to be a risk with respect to site users of the proposed development on site.

- All values for determinands that were found to be elevated above their respective critical concentrations (including benzo(a)pyrene), were identified by the Grubbs test, to be

outliers. As such, they are considered to represent localised contaminant 'hotspots' within the Made Ground, and are not representative of the true population across the site.

- When the outlying levels of benzo(a)pyrene and benzo(a)anthracene were removed from the remainder of the population, the resultant sample mean and 95th UCL level are shown to be below the critical concentration and they are therefore not considered to be a risk across the remainder of the site.

- WS25 and WS26 are located within an area proposed as car parking for the development. As a result the source – pathway – receptor pollutant linkages will be broken by the presence of hardstanding. Consequently the elevated levels identified within these boreholes are no longer considered to represent a risk to the proposed development.

- WS27 is located in an area currently proposed as general landscaping and although considered unlikely, could present a possible risk to future site users.

- Slightly elevated levels of CO_2, and in one instance CH_4, were detected and the site has been classified as characteristic gas situation 2 (low hazard potential). As such, in any area where structures, creating enclosed spaces are proposed, gas protection measures as outlined in Table 2 of BS 8485: 2007, for a characteristic gas situation 2 (low hazard potential) will be required.

7.1.7 Buried Concrete

- With respect to buried concrete, laboratory testing indicates that the design sulphate for the site is DS-1 and the ACEC class for the site is AC-3z.

7.2 Recommendations

- Elevated outlying levels of PAH's were found to exist within WS27, located in an area currently proposed as general landscaping. Although considered unlikely, it is possible that these concentrations could present a risk to future site users, and as such it is recommended that one of the following be undertaken in the area of WS27:

    - Excavation and disposal of contaminated material to a depth of 1m below existing ground level in an area of 5m surrounding the borehole location, dependant upon the location of trees which are to remain as part of the proposed development.

    - Provision of capillary break layer and 600mm of clean imported topsoil in landscaped areas within a 5m radius of the borehole location.

REFERENCES

1 **British Geological Survey,** *Sheet 152, Shrewsbury*, Solid & Drift, 1:50,000

2 **Environment Agency**, *Flooding Areas*. http://www.environment-agency.gov.uk/subjects/flood

3 **Environment Agency**, *Drinking Water Source Protection Zones*. http://maps.environment-agency.gov.uk

4 **BS 5930 (1999)**: *Code of Practice for Site Investigations,* British Standards Institution (BSI), 1999

5 **NHBC Standards (2010)**: Part 4 Foundations

6 **BRE Digest 365:** Soakaway Design, 2007

7 **CLAIRE & CIEH,** *Guidance on Comparing Soil Contamination Data with a Critical Concentration,* May 2008

8 **DEFRA & Environment Agency**, *Assessment of Risks to Human Health from Land Contamination: An Overview of the Development of Soil Guideline Values*, Environment Agency, R&D Publication CLR 7, March 2002, Bristol

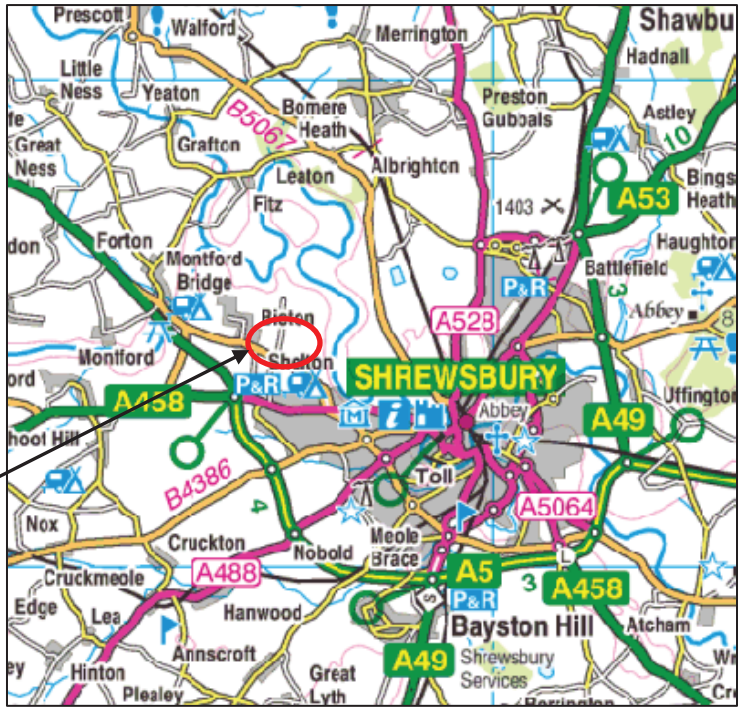
9 **LQM/CIEH**, *Generic Assessment Criteria for Human Health Risk Assessment*, Land Quality Management Limited (LQM) & Chartered Institute of Environmental Health (CIEH), 2007, Nottingham

10 **CLEA model Software Version 1.04 2009.**

11 **BRE Special Digest 1 (2005)**: *Concrete in Aggressive Ground*, British Research Establishment (BRE), 2005

12 **BS8485:2007,** *Code of Practice for the Characterisation and Remediation from Ground Gas in Affected Developments,* British Standards Institute

FIGURES



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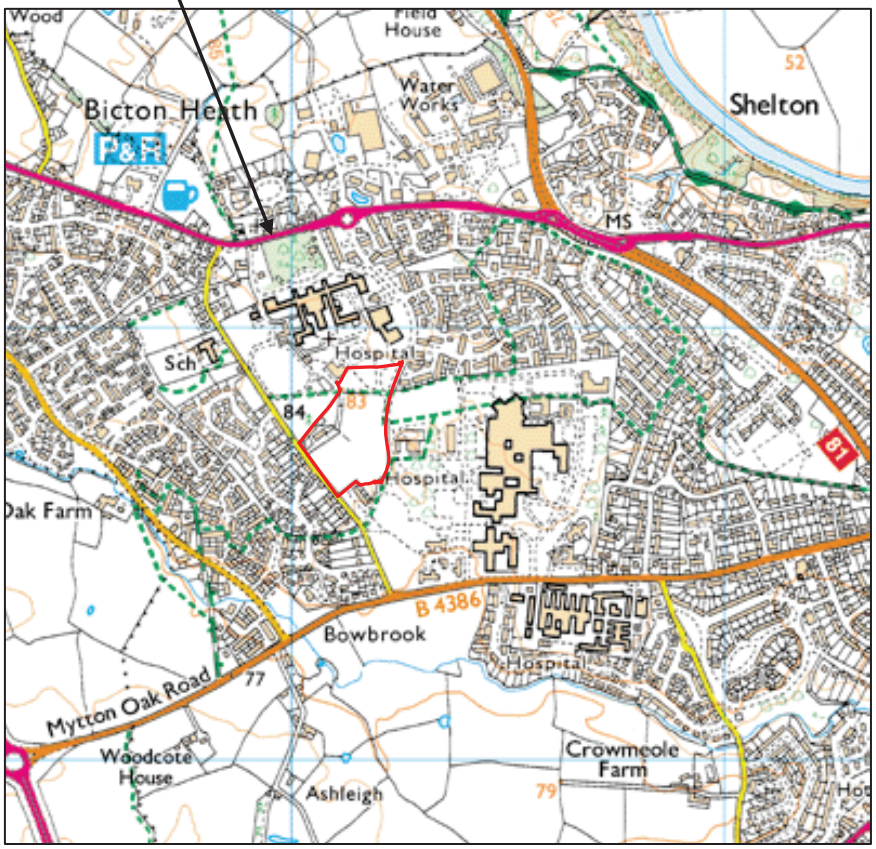

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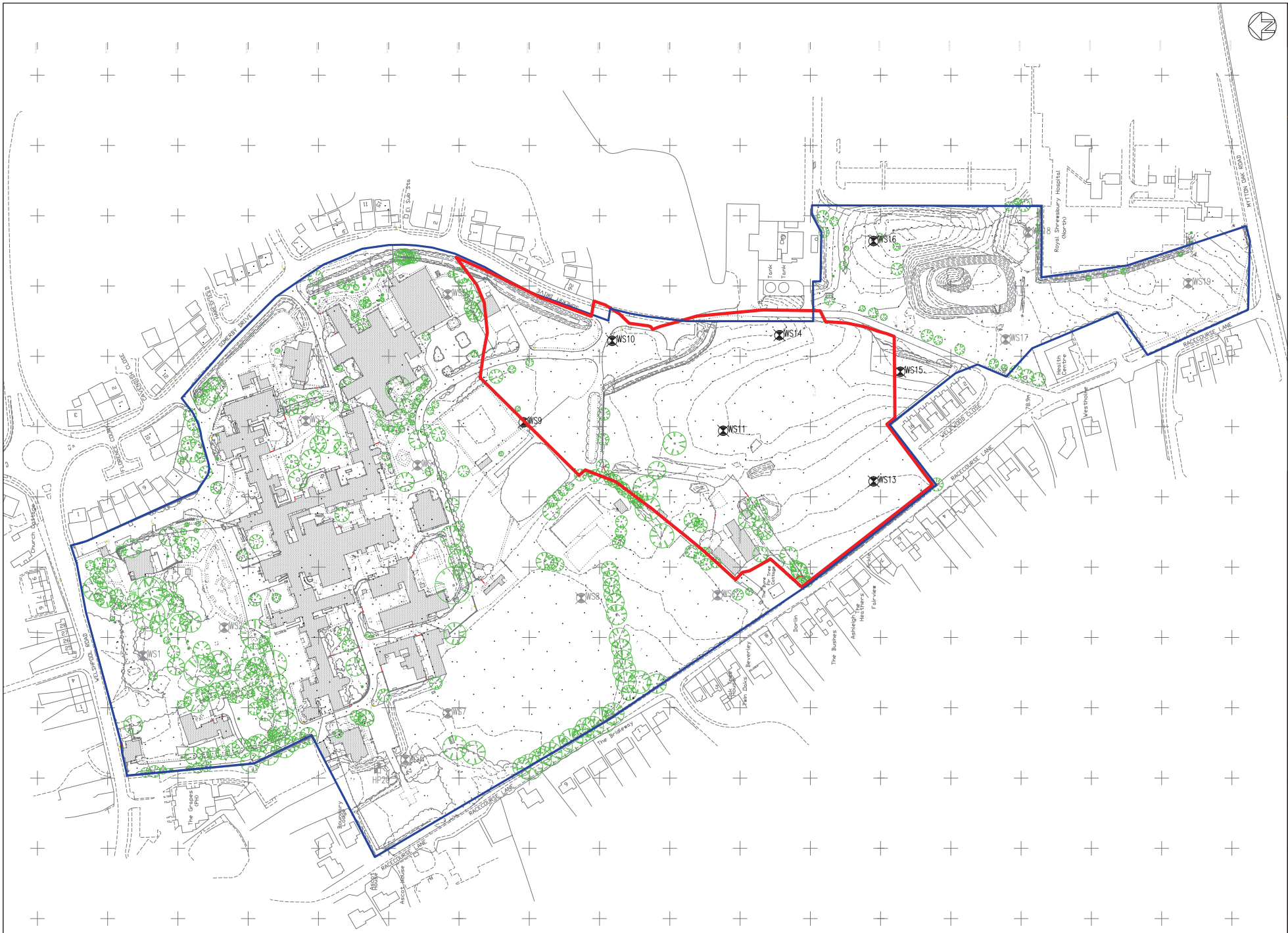
Project: **SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY FULL PHASE 2b SITE ASSESSMENT**		Drawn: JEC	Scale: NTS
		Checked: TAB/CFS	Date: 25.11.09
Title: **SITE LOCATION PLAN**		Status: **FINAL ISSUE**	
		Drawing No: **YB00437/GR10_FIGURE 1**	Rev: *



CONTRACTOR TO CHECK ALL DIMENSIONS AND REPORT ALL ERRORS AND OMISSIONS TO THE ENGINEER

KEY:

- PHASE 2a WINDOW SAMPLE LOCATION
- HAND PIT LOCATION
- PREFERRED OPTION 8 BOUNDARY
- SHELTON HOSPITAL DEVELOPMENT SITE BOUNDARY

Rev.	Detail	By	Date	Chk

Revisions

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Client: Shropshire County NHS Primary Care Trust

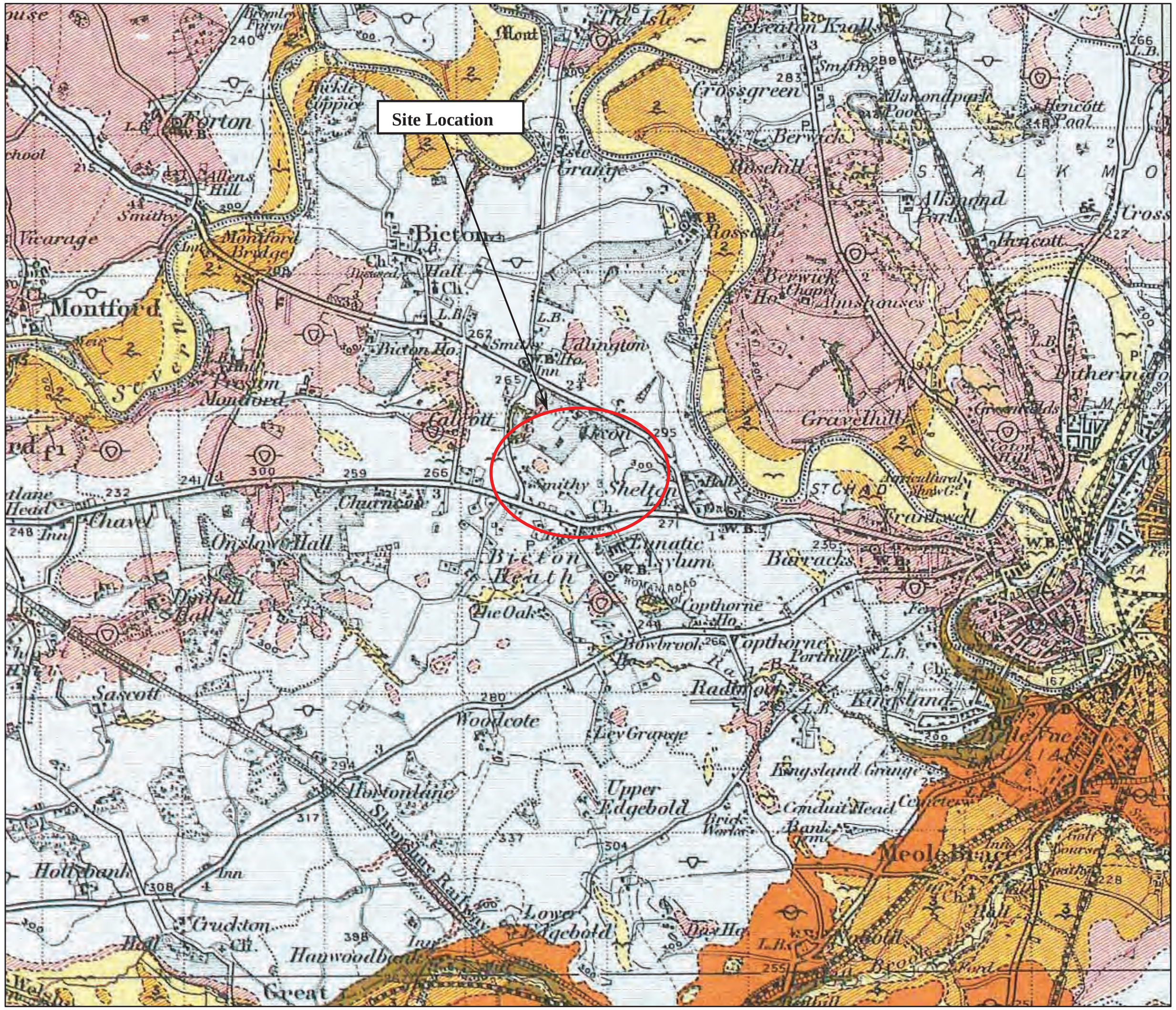
Project: SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY FULL PHASE 2b SITE ASSESSMENT

Drawing Title: PREFERRED OPTION 8 SITE BOUNDARIES

FINAL ISSUE

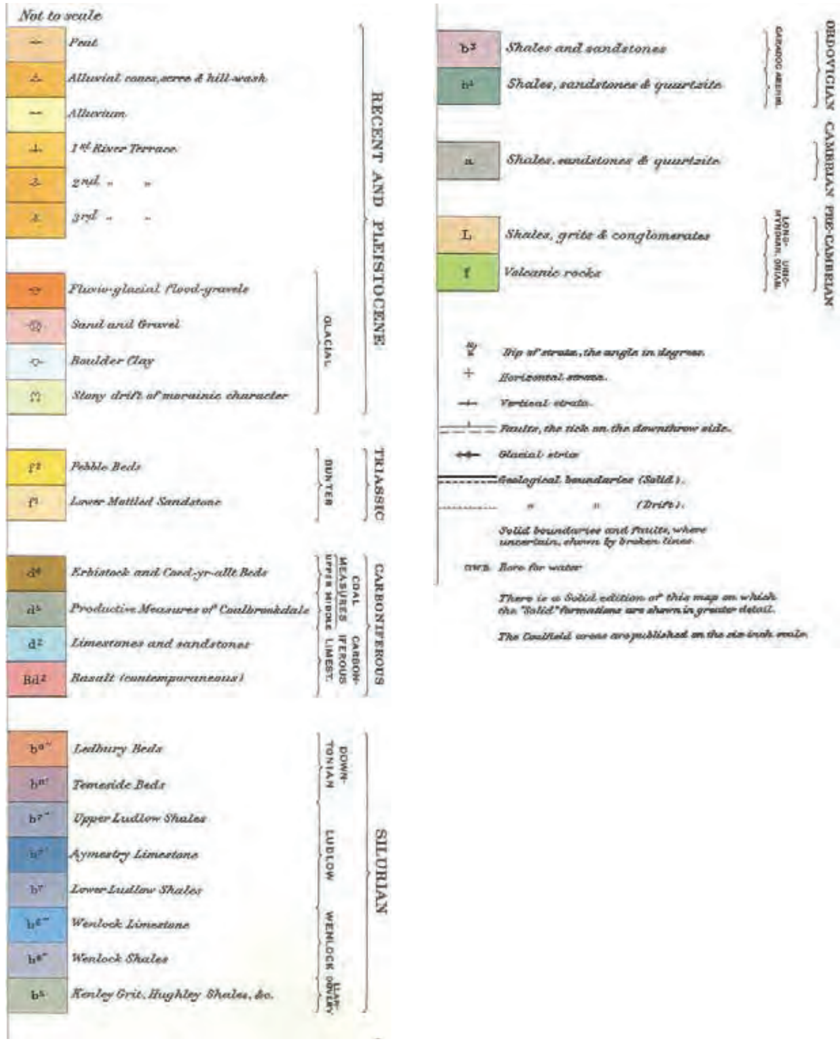
Project No.	Drawing No.	
YB00437	R10_FIGURE 2	
Scales 1:2500	Date 25.11.09	Revision *
Drawn JC / Checked JC/TAB / Approved CFS	Sheet Size A3	

Drawing Path



Note: Extracts from British Geological Survey Sheet 152 (Drift) for Shrewsbury

KEY TO GEOLOGICAL COLOURS & SYMBOLS



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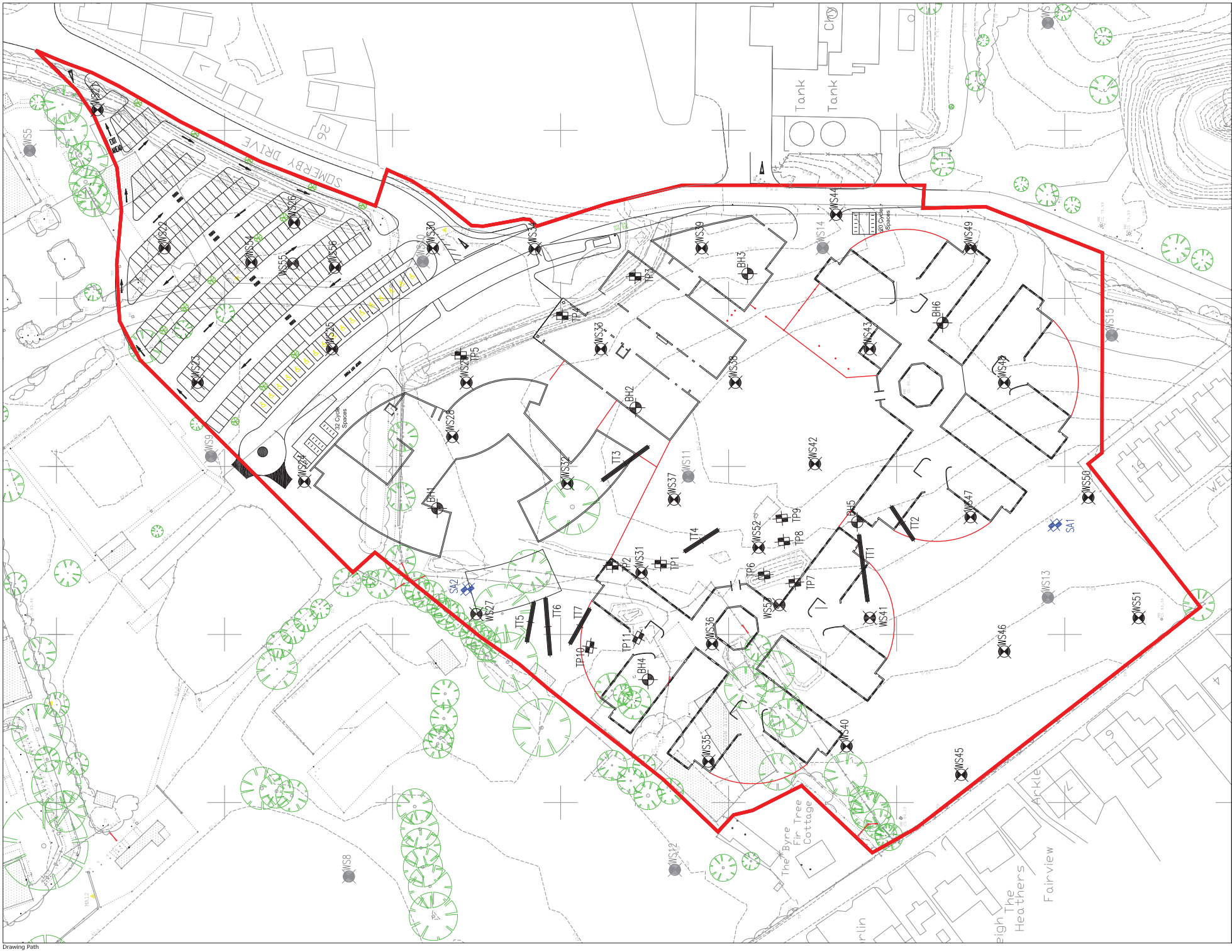
		Checked: TAB/CFS	Date: 25.11.09
	Title: SITE GEOLOGICAL EXTRACT	Status: FINAL ISSUE	
		Drawing No: YB00437/GR10_FIGURE 3	Rev: *



CONTRACTOR TO CHECK ALL DIMENSIONS AND REPORT ALL ERRORS AND OMISSIONS TO THE ENGINEER

KEY:

- PREFERRED OPTION 8 SITE BOUNDARY
- CABLE PERCUSSIVE BOREHOLE LOCATION
- WINDOW SAMPLE LOCATION
- TRIAL PIT LOCATION
- TRIAL TRENCH LOCATION
- SOAKAWAY TEST LOCATION
- GR2 WINDOW SAMPLE (CB FEB 09)

Rev.	Detail	By	Date	Chk

Revisions

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Client: Shropshire County NHS Primary Care Trust

Project: SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY FULL PHASE 2b SITE ASSESSMENT

Drawing Title: EXPLORATORY HOLE & SOAKAWAY LOCATION PLAN

FINAL ISSUE

Project No.	Drawing No.
YB00437	GR10_FIGURE 4

Scales	Date	Revision
1:1000	25.11.09	*

Drawn	Checked	Approved	Sheet Size
AG/JC	TAB	CFS	A3

Drawing Path

APPENDICES

Appendix A – Borehole and Trial Pit Records
Appendix B – Geotechnical Laboratory Analysis
Appendix C – Chemical Laboratory Analysis
Appendix D – Soakaway Results
Appendix E – Guide to CLAIRE Statistical Analysis for Planning
Appendix E – Statistical Analysis (95th UCL/MVT)
Appendix F – Contaminated Land Legislative Background
Appendix G – PDF copy (on CD)

Appendix A – Borehole and Trial Pit Records

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS10
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	25-02-09	82.90	E 346,211.0 N 312,841.0	
Contractor				Sheet
H.B. BORING AND COMPANY LIMITED				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(1.00)	SUBSOIL/MADE GROUND: Comprising soft, dark brown/black, slightly silty, slightly gravelly, sandy clay. Gravel is fine to coarse, sub-angular of brick, tile, ash, clinker and sub-rounded of sandstone. ...From 0.50m having cobbles / small boulders of iron-rich sandstone.		
				81.90		1.00			
1.00-1.45	SPT	N14				(0.50)	Possible MADE GROUND: Comprising soft, dark brown, slightly silty, slightly gravelly, sandy clay. Gravel is sub-rounded of sandstone and possibly ash.		
				81.40		1.50			
						(0.50)	Pale orangish brown/grey, slightly silty, clayey SAND with fine to medium, sub-rounded to sub-angular gravel of sandstone. [POSSIBLE GLACIAL TILL]		
				80.90		2.00			
2.00-2.45	SPT	N14					Firm to stiff, orangish brown, slightly silty, sandy (fine sand) CLAY with occasional fine to coarse, sub-angular to sub-rounded gravel of sandstone and occasional small pockets of sand. [POSSIBLE GLACIAL TILL]		
2.50-2.70	T								
3.00-3.45	SPT	N20					...From 3.00m becoming very stiff.		
						(3.45)			
4.00-4.45	SPT	N53					...From 4.00m, becoming hard/very hard.		
5.00-5.45	SPT	N39							
				77.45		5.45			
							End of Hole at 5.45m BGL.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

SAMPLES & TEST
E = Environmental Sample
T = Geotechnical Sample

GENERAL REMARKS

1. Hand excavated service inspection pit to 1.20mbgl - metal pipe uncovered @ 0.40mbgl so pit extended to the side.
2. Groundwater not encountered.
3. Borehole backfilled with arisings.

All dimensions in metres Scale 1:50	Client SSSFT	Method/ Plant Used DANDO TERRIER	Logged By JEC

Log *08F CBGE WINDOW SAMPLE LOG O:\CB MIDLANDS\BIRMINGHAM PROJECTS\YB00437 - SHELTON MENTAL HEALTH HOSPITAL SHREWSBURY\PRODUCTION\DATA - GEO ENV\CB DATA\GINT\YB00437 - WS LOGS.GPJ CLARKE BOND.GDT 11/03/2009 10:15:48

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS11
Job No	Date	Ground Level (m)	Co-Ordinates ()	
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Contractor				Sheet
H.B. BORING AND COMPANY LIMITED				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.70)	SUBSOIL: Comprising soft, dark brown, silty, sandy clay.		
				83.30		0.70			
				83.00		1.00	Orangish brown, silty, very clayey SAND & GRAVEL with cobbles and frequent pockets of silty clay. Gravel and cobbles are rounded to well-rounded of sandstone. Gravel is fine to coarse. [POSSIBLE GLACIAL TILL]		
1.00-1.45	SPT	N14					Firm to stiff, orangish brown, slightly sandy, gravelly, very clayey SILT. Gravel is fine to coarse, sub-rounded to sub-angular of sandstone. Also occasional small cobbles and pockets of clay. [POSSIBLE GLACIAL TILL]		
1.70-1.90	T								
1.70	E								
2.00-2.45	SPT	N18					...From 2.00m becoming stiff to very stiff and having fine to medium gravel to 3.00mbgl.		
3.00-3.45	SPT	N37				(4.45)	...From 3.00m becoming sandy and very stiff to hard.		
4.00-4.45	SPT	N44							
5.00-5.45	SPT	N33							
				78.55		5.45	End of Hole at 5.45m BGL.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

GAS READINGS
CH_4 - 0.3%
CO_2 - 0.1%
O_2 - 20.4%
BAL - 79.2%
Pressure - 1017mb

SAMPLES & TEST
E = Environmental Sample
T = Geotechnical Sample

GENERAL REMARKS

1. Hand excavated service inspection pit to 1.20mbgl.
2. Groundwater not encountered.
3. Borehole backfilled with arisings.

All dimensions in metres Scale 1:50	Client SSSFT	Method/ Plant Used DANDO TERRIER	Logged By JEC

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
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Contractor				Sheet
H.B. BORING AND COMPANY LIMITED				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
				82.50		(0.50) 0.50	SUBSOIL: Comprising soft, friable, dark brown, slightly silty, clayey SAND with gravel.		
1.00-1.45	SPT	N13		81.00		(1.50) 2.00	Soft, pale orangish brown/grey, slightly gravelly, clayey, very sandy SILT with small pockets of sand and clay. Gravel is fine to coarse, sub-angular to sub-rounded of sandstone and siltstone. [POSSIBLE GLACIAL TILL]		
2.00-2.45	SPT	N15		80.00		(1.00) 3.00	Medium dense, orangish brown, silty, very clayey SAND with pockets of clay and gravel. Gravel is fine to coarse, sub-angular to sub-rounded of sandstone and siltstone. [POSSIBLE GLACIAL TILL]		
3.00-3.45 3.00-3.30	SPT T	N19		78.60		(1.40) 4.40	Stiff to very stiff, brown, silty, sandy CLAY with frequent fine to coarse, sub-angular gravel of sandstone and siltstone. [POSSIBLE GLACIAL TILL]		
4.00-4.45	SPT	N30							
5.00-5.45	SPT	N5		77.55		(1.05) 5.45	Loose, red, silty, very clayey, very fine SAND.		
							End of Hole at 5.45m BGL.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

SAMPLES & TEST
E = Environmental Sample
T = Geotechnical Sample

GENERAL REMARKS

1. Hand excavated service inspection pit to 1.20mbgl.
2. Groundwater not encountered.
3. Borehole backfilled with arisings.

All dimensions in metres Scale 1:50	Client SSSFT	Method/ Plant Used DANDO TERRIER	Logged By JEC

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CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS14
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	25-02-09	82.40	E 346,215.0 N 312,722.0	
Contractor				Sheet
H.B. BORING AND COMPANY LIMITED				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
				82.15		0.25	SUBSOIL/MADE GROUND: Comprising soft, dark brown, silty, sandy clay with occasional fine to coarse, sub-angular to sub-rounded gravel of sandstone, siltstone and brick.		
1.00-1.45	SPT	N9				(1.35)	Soft, slightly friable, orangish brown, very sandy, clayey SILT with occasional/rare fine to coarse gravel of sandstone and siltstone and with frequent large pockets of clay. [POSSIBLE GLACIAL TILL]		
1.30-1.50	T			80.80		1.60			
2.00-2.45	SPT	N15				(2.00)	Medium dense, orangish brown, medium SAND with occasional pockets of clay. [POSSIBLE GLACIAL TILL] ...Pockets of clay noted from 2.00 to 2.20m bgl.		
3.00-3.45	SPT	N12	1	78.80		3.60	...From 3.00m bgl becoming silty, very clayey SAND with frequent fine to medium, sub-rounded to sub-angular gravel of sandstone.		
4.00-4.45	SPT	N29				(1.85)	Firm, reddish brown, slightly silty CLAY with occasional fine to medium gravel of sandstone and siltstone and frequent pockets of medium sand. [POSSIBLE GLACIAL TILL] ...From 4.30m becoming very stiff/stiff with rare coarse gravel of siltstone.		
5.00-5.45	SPT	N35		76.95		5.45	End of Hole at 5.45m BGL.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

SAMPLES & TEST
E = Environmental Sample
T = Geotechnical Sample

GENERAL REMARKS

1. Hand excavated service inspection pit to 1.20mbgl.
2. Water strike at 3.30mbgl.
3. Borehole backfilled with arisings.

All dimensions in metres Scale 1:50	Client SSSFT	Method/ Plant Used DANDO TERRIER	Logged By JEC

Log *08F CBGE WINDOW SAMPLE LOG O:\CB MIDLANDS\BIRMINGHAM PROJECTS\YB00437 - SHELTON MENTAL HEALTH HOSPITAL SHREWSBURY\PRODUCTION\DATA - GEO ENV\CB DATA\GINT\YB00437 - WS LOGS.GPJ CLARKE BOND.GDT 11/03/2009 10:15:56

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**WS21**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	15-09-09	84.50*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
0.20	E					(0.60) 0.60	MADE GROUND: Dark brown silty slightly gravelly sand with occasional rootlets. Gravel is fine to coarse subangular of brick and sandstone.		
0.60-1.40	B						Brown/orange clayey, silty, slightly gravelly SAND. Gravel is medium to coarse, subangular to angular of sandstone and silstone. [SUPERFICIAL DEPOSITS].		
1.00	CPT	N25				(1.30)	....medium-dense from 1m bgl.		
1.50	T								
1.60	E					1.90			
2.00	CPT	N36					Dense red brown very silty fine SAND. [SUPERFICIAL DEPOSITS].		
3.00	CPT	N8				(2.55)	....loose from 3m bgl.		
4.00	CPT	N21					....medium-dense from 4m bgl.		
						4.45	End of hole at 4.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 4.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS22
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	15-09-09	84.3*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						0.10	MADE GROUND: Tarmac		
						(0.30)	MADE GROUND: Hardcore		
						0.40			
0.50	E						Stiff friable orange/brown slightly silty very sandy slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded of sandstone. [SUPERFICIAL DEPOSITS].		
0.70	T								
1.00	CPT	N50/ 0.26				(1.60)			
1.30	T								
						2.00			
2.00	CPT	N15					Firm to stiff very sandy SILT with rare gravel of sandstone. [SUPERFICIAL DEPOSITS].		
2.50	T								
3.00	CPT	N18				(3.45)			
3.25	T								
4.00	CPT	N16							
5.00	CPT	N18							
						5.45	End of hole at 5.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS23
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	14-09-09	84.3*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
0.60	E					(1.10)	MADE GROUND: Firm dark brown slightly silty, sandy, gravelly clay. Gravel is fine to coarse of siltstone and brick.		
1.00	E					1.10			
1.00	B						Stiff to very stiff brown mottled grey slightly gravelly, silty CLAY. Gravel is fine to coarse of sandstone and siltstone. [SUPERFICIAL DEPOSITS].		
1.00	CPT	N18							
2.00	T					(1.60)			
2.00	CPT	N33							
3.00	CPT	N31				2.70	Firm to stiff red brown very sandy SILT with occasional lenses of sand and gravel of quartz. [SUPERFICIAL DEPOSITS].		
3.75	T								
4.00	CPT	N33				(2.75)			
4.50	T								
5.00	CPT	N40				5.45	End of hole at 5.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**WS24**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	14-09-09	83.3*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						0.10	MADE GROUND: Tarmac		
							MADE GROUND: Hardcore		
						(0.40)			
						0.50			
							Very stiff orange brown silty, slightly sandy, slightly gravelly CLAY with occasional cobbles and lenses of fine sand. Gravel is fine to coarse subangular sandstone and siltstone. [SUPERFICIAL DEPOSITS].		
0.80-0.90	T								
0.90	E								
1.00	CPT	N28							
1.50-1.60	T								
						(2.40)			
1.80	E						....from 1.75m to 1.9m bgl sand pocket encountered.		
2.00	CPT	N42					....from 2m bgl becoming very silty and sandy.		
2.25-2.30	T								
						2.90			
							Medium-dense to dense, red/brown very silty SAND / stiff very sandy SILT. [SUPERFICIAL DEPOSITS].		
3.00	CPT	N42							
3.60-3.70	T								
4.00	CPT	N30				(2.55)			
5.00	CPT	N42							
						5.45			
							End of hole at 5.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS25
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	15-09-09	83.2*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
0.40	E					(1.50)	MADE GROUND: Firm brown/black very sandy, silty, gravelly clay with occasional cobbles. Gravel is fine to coarse of brick, ash, sandstone, siltstone. Cobbles of sandstone.		
0.50	B								
1.00	CPT	N30							
1.30	E					1.50			
1.60	T					(1.80)	Stiff brown mottled grey slightly gravelly, silty CLAY. Gravel is fine to coarse of sandstone and siltstone. [SUPERFICIAL DEPOSITS].		
2.00	CPT	N33							
2.25	T								
3.00	CPT	N44				3.30			
3.30	T					(2.15)	Firm to stiff red brown very sandy SILT with occasional lenses of sand and gravel of quartz. [SUPERFICIAL DEPOSITS].		
4.00	CPT	N21							
4.25	T								
5.00	CPT	N29				5.45	End of hole at 5.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**WS26**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	15-09-09	84.0*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
0.30	E					(1.10)	MADE GROUND: Brown silty gravelly sand. Gravel is fine to coarse subangular of brick, sandstone, ash and glass.		
0.60-1.20	B								
1.00	CPT	N17				1.10			
1.10	E					(0.90)	Stiff red brown very sandy slightly silty CLAY with some fine gravel of sandstone. [SUPERFICIAL DEPOSITS].		
1.50	T								
1.90	T					2.00			
2.00	CPT	N37				(1.70)	Dense light brown very silty fine SAND. [SUPERFICIAL DEPOSITS].		
3.00	CPT	N29				3.70	....medium-dense from 3m bgl.		
3.80	T					(0.30)	Stiff grey sandy SILT. [SUPERFICIAL DEPOSITS].		
4.00	CPT	N29				4.00	Medium-dense grey/brown very silty fine SAND. [SUPERFICIAL DEPOSITS].		
						(1.45)			
						5.45	End of hole at 5.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS26
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	14-09-09	82.0*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
0.10-0.20	E					0.20	Soft dark brown sandy CLAY (Topsoil)		
0.30-0.40	E						Firm friable orange brown slightly silty, slightly sandy CLAY with occasional cobbles of siltstone. Gravel of fine to coarse subangular to subrounded sandstone and mudstone. [SUPERFICIAL DEPOSITS].		
0.70-0.80	T								
1.00	CPT	N32				(1.80)			
1.30-1.40	T								
						2.00			
2.00	CPT	N30				(0.50)	Medium-dense/dense, orange fine SAND. [SUPERFICIAL DEPOSITS].		
						2.50			
2.70-2.80	T					(0.50)	Firm orange/red brown very sandy SILT with occasional sand lenses. [SUPERFICIAL DEPOSITS].		
						3.00			
3.00	CPT	N45					Dense orange fine SAND. [SUPERFICIAL DEPOSITS].		
4.00	CPT	N31				(2.45)			
5.00	CPT	N21					....medium-dense from 5m bgl.		
						5.45	End of hole at 5.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

Log *08F CBGE WINDOW SAMPLE LOG O:\CB MIDLANDS\BIRMINGHAM PROJECTS\YB00437 - SHELTON MENTAL HEALTH HOSPITAL SHREWSBURY\PRODUCTION\DATA - GEO ENVCB DATA\GINT\PHASE 2B - SEPT-OCT 09\YB00437 PH 2B - TT 090909.GPJ CLARKE BOND.GDT 06/11/2009 10:14:44

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS28
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	11-09-09	82.5*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.40) 0.40	Brown very dry/friable sandy gravelly SILT with rootlets. Gravel is fine to coarse, subrounded to subangular of siltstone and sandstone. [TOPSOIL].		
0.60-0.70	E					(1.60) 2.00	Hard and friable brown sandy gravelly SILT. [SUPERFICIAL DEPOSITS].		
1.00	CPT	N50/ 0.19							
1.30-1.50	T								
1.80-1.90	E								
2.00-2.20	T					(0.50) 2.50	Very stiff, red very sandy SILT. [SUPERFICIAL DEPOSITS].		
2.00	CPT	N30							
						(1.00) 3.50	Medium-dense from 3m bgl, red very fine-grained silty SAND with some gravel. [SUPERFICIAL DEPOSITS].		
3.00	CPT	N20	1						
3.70-3.90	T					(1.95) 5.45	Medium-dense very silty SAND / firm very sandy SILT with rare gravel. [SUPERFICIAL DEPOSITS].		
4.00	CPT	N16					....dry from 4.5m bgl.		
4.75-4.95	T								
5.00	CPT	N28							
							End of hole at 5m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. Recovered as damp/wet from 3.5m bgl.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**WS29**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	11-09-09	82.4*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.35) 0.35	Brown very dry/friable sandy gravelly SILT with rootlets. Gravel is fine to coarse, subrounded to subangular of siltstone and sandstone. [TOPSOIL].		
0.50-0.60	E						Very stiff/hard, friable, pale orange/brown gravelly, very sandy SILT. Gravel is fine to coarse, subangular of mudstone, subrounded of sandstone and quartz. [SUPERFICIAL DEPOSITS].		
0.80-0.90	T								
1.00	CPT	N38				(1.85)			
1.50-1.65	T								
1.70-1.80	E								
2.00-2.15	T					2.20	....slightly damp fom 2m bgl.		
2.00	CPT	N47					Firm to stiff red/brown slightly sandy slightly gravelly clayey SILT / silty CLAY. [SUPERFICIAL DEPOSITS].		
3.00	CPT	N25				(2.00)			
3.50-3.70	T								
4.00	CPT	N17				4.20			
4.30-4.50	T		▼1				Soft to firm red/brown slightly clayey, very sandy SILT (almost slightly clayey, very silty SAND). [SUPERFICIAL DEPOSITS].		
5.00	CPT	N24				(1.25) 5.45	End of hole at 5.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. Recovered as slightly damp from 2m bgl, and GW strike recorded at 4.5m bgl.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS30
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	15-09-09	83.1*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
0.40	E					(1.10)	MADE GROUND: Brown slightly silty, gravelly sand. Gravel is fine to coarse, subangular of brick, sandstone and limestone.		
0.60-1.20	B								
1.00	CPT	N23				1.10			
1.40	E					(0.90)	Firm to stiff grey/brown slightly silty, sandy CLAY. [SUPERFICIAL DEPOSITS].		
1.50	T								
1.70	CPT	N72/ 0.065				2.00			
							End of hole at 2m bgl.		

Boring Progress and Water Observations					
Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 2m bgl. Refussal on a cobble/boulder.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS31
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	14-09-09	82.0*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.40) 0.40	Brick fill. [MADE GROUND].		
0.40-0.50	E					(0.80) 1.20	Pale brown silty gravelly sand. Gravel is fine to coarse, subangular of sandstone and brick. [MADE GROUND].		
1.00	CPT	N25							
1.50-1.65	T					(2.80) 4.00	Stiff friable orange, mottled grey/black in parts, slightly gravelly, slightly clayey sandy SILT (almost sandy silty CLAY) with pockets of sand. Gravel is fine to coarse, subangular to rounded of mudstone/siltstone and sandstone. [SUPERFICIAL DEPOSITS].		
1.60-1.70	E								
2.00	CPT	N30							
2.65-2.80	T								
3.00	CPT	N49							
3.70-3.90	T								
4.00	CPT	N17				(0.80) 4.80	Soft red/brown very sandy SILT with small sandy pockets. [SUPERFICIAL DEPOSITS].		
5.00	CPT	N36				(0.65) 5.45	Dense from 5m bgl, fine-grained orange/red silty SAND. [SUPERFICIAL DEPOSITS].		
							End of hole at 5.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS32
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	14-09-09	31.8*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.35) 0.35	Orange/brown very dry/friable sandy gravelly SILT with tree roots. Gravel is fine to coarse, subrounded to subangular of siltstone and sandstone. [TOPSOIL].		
0.70-0.80	E						Hard dry/dessicated and friable, orange/brown sandy SILT with gravel and tree roots. Gravel is fine to coarse, subangular of mudstone. [SUPERFICIAL DEPOSITS].		
1.00-1.15	T								
1.00	CPT	N50/ 0.165							
						(2.65)	....from 1.6m bgl becoming sandy (v. fine sand) SILT, and having no/rare gravel.		
2.00	CPT	N35							
2.50-2.70	T					3.00			
3.00	CPT	N33					Dense red very silty very fine SAND (with pockets of silt) / stiff very sandy SILT (with pockets of very fine sand). [SUPERFICIAL DEPOSITS].		
3.70-3.90	T					(1.30)			
4.00	CPT	N18					....from 4m bgl medium-dense.		
						4.30			
4.40-4.60	T					(0.50)	Generally firm to stiff red sandy SILT. [SUPERFICIAL DEPOSITS].		
						4.80			
5.00	CPT	N36				(0.65)	Dense red fine-grained SAND. [SUPERFICIAL DEPOSITS].		
						5.45	End of hole at 5.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered - ground dessicated.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS33
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	11-09-09	32.0*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.30) 0.30	Brown very dry/friable sandy gravelly clayey SILT with rootlets. Gravel is fine to coarse, subrounded to subangular of siltstone and sandstone. [TOPSOIL].		
1.00-1.10	E					(2.30)	Very dry and friable, pale orange/brown very sandy gravelly SILT with occasional cobbles of quartz and mudstone. Gravel is fine to coarse of quartz and mudstone/siltstone. [SUPERFICIAL DEPOSITS]. ....sand lenses observed throughout, and occasional bands of gravel noted.		
1.00	CPT	N47							
1.60-1.70	T						....band of gravel from 1.8m to 2.1m bgl.		
2.00-2.10	E								
2.00	CPT	N42							
2.30-2.45	T					2.60			
						(0.60) 3.20	Stiff orange/brown very silty CLAY with fine to coarse gravel of mudstone and siltstone. [SUPERFICIAL DEPOSITS].		
2.80-3.00	T								
3.00	CPT	N32							
3.30-3.50	T		1			(0.80) 4.00	Very stiff green/brown SILT with occasional predominantly fine gravel and cobbles. [SUPERFICIAL DEPOSITS].		
4.00	CPT	N21					Firm red/brown sandy SILT. [SUPERFICIAL DEPOSITS].		
4.20-4.40	T					(1.45)			
5.00	CPT	N22				5.45			
							End of hole at 5.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. Light GW strike at 4m bgl.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS34
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	15-09-09	82.8*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.30) 0.30	MADE GROUND: Brown sandy gravelly clay. Gravel is fine to coarse subangular of brick and quartz with rare re-bar.		
0.80-1.20	B					(1.00) 1.30	Orange/brown silty gravelly SAND. [SUPERFICIAL DEPOSITS].		
0.90	E								
1.00	CPT	N22							
1.70	T					(0.60) 1.90	Stiff to very stiff orange/grey sandy, silty, gravelly CLAY with occasional cobbles of sandstone and pockets of fine sand. Gravel is fine to coarse of siltstone and sandstone. [SUPERFICIAL DEPOSITS].		
1.80	E								
2.00	CPT	N37				(0.60) 2.50	Dense brown slightly silty, gravelly fine SAND with occasional cobbles of siltstone. Gravel is fine to coarse subangular to subrounded of siltstone and sandstone. [SUPERFICIAL DEPOSITS].		
3.00	CPT	N30				(1.50) 4.00	Stiff orange brown sandy, slightly gravelly SILT with occasional sand and gravel pockets. Gravel is fine to coarse of siltstone and sandstone. [SUPERFICIAL DEPOSITS].		
							End of hole at 4m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 4m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS35
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	11-09-09	82.8*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.40) 0.40	Brown sandy silty slightly gravelly CLAY with sandy pockets. Gravel is fine to coarse, subrounded to subangular of sandstone, siltstone and brick. [MADE GROUND: TOPSOIL].		
0.80-0.90	E						Firm brown slightly gravelly sandy silty CLAY with sandy pockets in parts. Gravel is fine to coarse, subrounded to subangular of sandstone and siltstone. [SUPERFICIAL DEPOSITS].		
1.00-1.15	T								
1.00	CPT	N40					....from 1m to 2m bgl noted to be sandy.		
1.50-1.70	T								
1.50-1.60	E								
2.00	CPT	N47					....stiff and slightly friable in parts from 2m bgl.		
2.25-2.40	T					(3.60)			
3.00	CPT	N50/ 0.19							
3.50-3.70	T								
			▼1			4.00			
4.00	CPT	N40					Firm to stiff, wet orange slightly clayey slightly sandy SILT. [SUPERFICIAL DEPOSITS].		
						(1.45)			
5.00	CPT	N28							
						5.45	End of hole at 5.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW strike at 4m bgl.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS36
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	11-09-09	82.4*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
0.30-0.40	E					(0.50) 0.50	Dark brown sandy gravelly silt with occasional cobbles. Gravel and cobbles are subangular to angular of concrete, tarmac and limestone. [MADE GROUND: HARDCORE].		
0.80-0.95	T						Firm to stiff orange/brown very sandy clayey SILT / silty CLAY, with frequent sand lenses and rare gravel of mudstone. [SUPERFICIAL DEPOSITS].		
1.00	CPT	N15					....friable in parts.		
1.20-1.30	E								
1.50-1.70	T					(2.50)	....damp in sand pockets.		
2.00	CPT	N27							
2.50-2.70	T					3.00	....cobbles encountered at 2.9m bgl.		
3.00	CPT	N33					Very stiff green/brown slightly clayey, slightly gravelly SILT. Gravel is predominantly fine, occasionally medium to coarse, subangular of mudstone. [SUPERFICIAL DEPOSITS].		
3.50-3.70	T								
4.00	CPT	N50				(2.45)			
4.50-4.70	T								
5.00	CPT	N35				5.45	End of hole at 5.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. No GW strikes but sandy arisings noted as damp.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS36
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	14-09-09	81.3*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.30) 0.30	MADE GROUND: Brown silty gravelly sand with occasional cobbles. Gravel is fine to coarse of brick, concrete and sandstone. Cobbles of brick and concrete also noted.		
0.50-0.60	E						Firm friable orange brown mottled grey sandy gravelly SILT/CLAY with occasional cobbles of siltstone. Gravel of fine to coarse subangular to subrounded quartz and sandstone. [SUPERFICIAL DEPOSITS].		
1.00	CPT	N47/ 0.265							
1.10-1.20	T					(2.70)			
2.00	CPT	N50/ 0.255							
2.10-2.20	T					3.00			
3.00	CPT	N50/ 0.21					Firm to stiff, orange brown very sandy clayey SILT/ silty CLAY with pockets of fine sand. [SUPERFICIAL DEPOSITS].		
3.50-3.60	T					(1.00) 4.00			
4.00	CPT	N49					Stiff to very stiff brown SILT/CLAY. [SUPERFICIAL DEPOSITS].		
						(1.40) 5.40			
5.00	CPT	N50/ 0.23					End of hole at 5.4m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 5.4m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS38
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	11-09-09	81.0*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
0.20-0.30	E					(0.30) 0.30	Brown very dry/friable sandy gravelly clayey SILT with rootlets. Gravel is fine to coarse, subrounded to subangular of siltstone and sandstone. [TOPSOIL].		
1.00	CPT	N44				(1.20)	Stiff and friable, pale orange/brown mottled grey sandy gravelly SILT. [SUPERFICIAL DEPOSITS].		
1.30-1.40	T								
1.40-1.50	E					1.50			
2.00	CPT	N47				(0.85) 2.35	Dense from 2m bgl, red/brown slightly silty slightly clayey SAND. [SUPERFICIAL DEPOSITS].		
2.40-2.50	T					(0.65) 3.00	Very firm to stiff, brown very silty CLAY with rare fine gravel and sand lenses. [SUPERFICIAL DEPOSITS].		
3.00-3.20	T								
3.00	CPT	N17					Stiff to very stiff, green/grey/brown slightly clayey SILT with occasional medium to coarse gravel if quartz and siltstone/mudstone. [SUPERFICIAL DEPOSITS].		
4.00-4.20	T								
4.00	CPT	N42				(2.45)			
5.00	CPT	N40				5.45	End of hole at 5.45m bgl.		

Boring Progress and Water Observations					
Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**WS25**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	11-09-09	82.7*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.50) 0.50	Brown very dry/friable sandy gravelly SILT with rootlets. Gravel is fine to coarse, subrounded to subangular of siltstone, sandstone and brick. [MADE GROUND: TOPSOIL].		
0.60-0.70	E					(1.10) 1.60	Stiff friable, pale orange/brown, mottled grey slightly sandy slightly gravelly SILT with sand lenses. [SUPERFICIAL DEPOSITS].		
1.00-1.15	T								
1.00	CPT	N26							
1.30-1.40	E								
1.50-1.65	T								
						(0.65) 2.25	Medium-dense from 2m bgl, red/brown slightly clayey very silty medium-grained SAND. [SUPERFICIAL DEPOSITS].		
2.00	CPT	N27							
2.50-2.70	T					(3.10) 5.35	Very stiff/hard slightly sandy clayey SILT with occasional fine to coarse gravel of mudstone/siltstone and quartz. [SUPERFICIAL DEPOSITS].		
3.00	CPT	N34							
3.30-3.50	T								
4.00	CPT	N36							
5.00	CPT	N50/ 0.18							
							End of hole at approximately 5.35m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 5.35m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**WS40**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	10-09-09	83.4*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.40) 0.40	Brown very dry/friable sandy gravelly clayey SILT with rootlets. Gravel is fine to coarse, subrounded to subangular of siltstone and sandstone. [TOPSOIL].		
1.00-1.10 1.00	E CPT	N50/ 0.215				(1.50) 1.90	Very dense from 1m bgl, orange/brown slightly gravelly, very silty fine-grained SAND. Gravel is fine to medium, subangular of mudstone. [SUPERFICIAL DEPOSITS].		
1.90-2.00 2.00	T CPT	N28					Stiff, orange/brown slightly clayey, very sandy SILT with fine gravel of mudstone, and having sandy lenses throughout. [SUPERFICIAL DEPOSITS].		
2.30-2.50	T								
3.00-3.10 3.00	E CPT	N26	▼			(2.10) 4.00			
3.30-3.50	T								
4.00	CPT	N50/ 0.26				(0.50) 4.50	Very dense, fine-grained silty clayey SAND. [SUPERFICIAL DEPOSITS].		
4.60-4.80	T						Stiff silty CLAY. [SUPERFICIAL DEPOSITS].		
5.00	CPT	N34				(0.95) 5.45			
							End of hole at 5.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW strike at approximately 3m bgl.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS41
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	09-09-09	82.5*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
0.00-1.00	E					(0.40) 0.40	Brown very dry/friable sandy gravelly clayey SILT with rootlets. Gravel is fine to coarse, subrounded to subangular of siltstone and sandstone. [TOPSOIL].		
							Stiff orange/brown sandy gravelly SILT. Noted to be clayey in parts and occasionally friable. [SUPERFICIAL DEPOSITS].		
1.00-1.20	T								
1.00	CPT	N38							
1.40-1.50	E								
1.75-1.90	T								
2.00	CPT	N34				(3.80)			
2.50-2.70	T						....from 2.5m bgl becoming increasingly clayey.		
3.00	CPT	N30							
3.50-3.70	T								
3.90	CPT	N50/ 0.105				4.20	End of hole at approximately 4.2m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 4.2m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**WS42**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	09-09-09	81.0*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
0.00-1.00	E					(0.40) 0.40	Brown very dry/friable sandy gravelly clayey SILT with rootlets. Gravel is fine to coarse, subrounded to subangular of siltstone and sandstone. [TOPSOIL].		
1.00	CPT	N35				(2.00)	Dense from 1m bgl, orange/brown slightly clayey, very silty fine-grained SAND. [SUPERFICIAL DEPOSITS].		
1.50-1.60	E								
2.00	CPT	N25	1			2.40	....from 2m bgl medium-dense.		
2.60-2.80	T						Firm, orange/brown slightly clayey, very sandy SILT with frequent lenses of sand. [SUPERFICIAL DEPOSITS].		
3.00	CPT	N35	2						
3.50-3.70	T					(2.90)	....from 3.5m bgl very stiff.		
4.00	CPT	N42							
5.00	CPT	N50/ 0.16				5.30	End of hole at 5.3m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW strikes at 2.2m & 3m bgl.
3. End of hole at 5.3m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS43
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	09-09-09	80.8*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
0.00-1.00	E					(0.40) 0.40	Brown very dry/friable sandy gravelly clayey SILT with rootlets. Gravel is fine to coarse, subrounded to subangular of siltstone and sandstone. [TOPSOIL].		
							Orange/brown slightly gravelly slightly sandy clayey SILT. Generally soft to firm/firm to 1.7m bgl. [SUPERFICIAL DEPOSITS].		
1.00	CPT	N16							
1.30-1.40	E								
1.50-1.70	T						....from 1.7m to 2.3m bgl becoming very friable, and having frequent gravel of angular siltstone/mudstone.		
2.00	CPT	N31				(3.30)			
2.30-2.50	T						....from 2.3m bg recovered as damp.		
3.00-3.20	T						....from 3m bgl becoming firm to stiff.		
3.00	CPT	N27	▼			3.70			
							Medium-dense from 4m bgl, gravel in very silty clayey matrix. [SUPERFICIAL DEPOSITS].		
4.00	CPT	N22				(0.90) 4.60			
							Firm SILT. [SUPERFICIAL DEPOSITS].		
5.00	CPT	N16				(0.85) 5.45			
							End of hole at 5.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW strike at 3.7m bgl.
3. Dipmeter detected GW at 2.6m bgl.
4. End of hole at 5.45m bgl.
5. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**WS44**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	09-09-09	82.4*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
0.00-1.00	E					(0.40) 0.40	Brown very dry/friable sandy gravelly clayey SILT with rootlets. Gravel is fine to coarse, subrounded to subangular of siltstone and sandstone. [TOPSOIL].		
							Stiff orange/brown sandy, very silty CLAY with frequent bands of dense fine silty SAND. [SUPERFICIAL DEPOSITS].		
1.00	CPT	N23							
1.50-1.60	E					(2.60)			
2.00	CPT	N13							
			▼			3.00	....from 2.9m to 3m bgl a cobble of mudstone was recovered.		
3.00-3.20	T						Generally soft to firm, damp, slightly gravelly, very sandy CLAY with frequent sandy lenses. [SUPERFICIAL DEPOSITS].		
3.00	CPT	N19							
3.80-4.00	T					(1.90)			
4.00	CPT	N20							
4.40-4.60	T								
4.60	CPT	N50/ 0.14				4.90	End of hole at 4.9m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. Light GW strike at 3m bgl.
3. End of hole at 4.9m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS45
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	09-09-09	83.7*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.40) 0.40	Brown very dry/friable sandy gravelly clayey SILT with rootlets. Gravel is fine to coarse, subrounded to subangular of siltstone and sandstone. [TOPSOIL].		
0.80-0.90	E						Dense from 1m bgl, orange/brown very silty fine-grained SAND. [SUPERFICIAL DEPOSITS].		
1.00	CPT	N42							
1.10-1.30	T					(1.60)			
1.50-1.60	E								
						2.00			
2.00	CPT	N28					Stiff, friable in parts, orange/brown slightly clayey, sandy SILT with pockets of sand and pockets of gravel. Gravel is fine to coarse of quartz and mudstone. [SUPERFICIAL DEPOSITS].		
2.50-2.70	T								
3.00	CPT	N50/ 0.29					....from 2m to 3.5m bgl becoming very sandy.		
						(3.45)			
4.00-4.20	T		1						
4.00	CPT	N28					....from 4.4m bgl becoming dark grey/brown in colour and firm.		
5.00	CPT	N22							
						5.45	End of hole at 5.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW strike at approximately 4m bgl.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS46
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	10-09-09	83.1*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.30) 0.30	Topsoil (Drillers Description)		
1.00	CPT	N50/ 0.25				(5.15)	Firm to stiff brown very sandy, silty CLAY/clayey SILT with occasional fine to coarse gravel of sandstone and siltstone and occasional pockets of sand. (Drillers Description). [SUPERFICIAL DEPOSITS].		
2.00	CPT	N21							
3.00	CPT	N50/ 0.26							
4.00	CPT	N52							
5.00	CPT	N55				5.45	End of hole at 5.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS46
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	10-09-09	82.0*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						0.20	Brown very dry/friable sandy gravelly clayey SILT with rootlets. Gravel is fine to coarse, subrounded to subangular of siltstone and sandstone. [TOPSOIL].		
0.50	E						Very dense from 1m bgl, pale silty very fine-grained SAND, with bands of gravel. Gravel is fine to medium, subangular to angular of siltstone, and subrounded of quartz. [SUPERFICIAL DEPOSITS].		
1.00	CPT	N50/ 0.26				(2.20)			
1.70	E						....at 1.8m bgl a band of gravel in a sandy silty matrix was recovered.		
2.00	CPT	N38				2.50			
2.70	T						Stiff brown, slightly sandy, very silty CLAY with occasional medium to coarse gravel and pockets of medium-grained sand. Gravel is subrounded of siltstone ans sandstone. [SUPERFICIAL DEPOSITS].		
3.00	CPT	N27							
3.50	T					(2.95)			
4.00	T								
4.00	CPT	N50/ 0.27							
5.00	CPT	N33				5.45	End of hole at 5.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS48
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	09-09-09	80.7*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
0.00-1.00	E					(0.40) 0.40	Brown very dry/friable sandy gravelly clayey SILT with rootlets. Gravel is fine to coarse, subrounded to subangular of siltstone and sandstone. [TOPSOIL].		
1.00	CPT	N50/ 0.24				(1.10) 1.50	Stiff/hard friable orange/brown, mottled grey sandy very gravelly SILT with fine to coarse subangular gravel of mudstone. [SUPERFICIAL DEPOSITS].		
						(0.40) 1.90	Orange slightly gravelly slightly clayey silty medium-grained SAND. [SUPERFICIAL DEPOSITS].		
2.00-2.20 2.00-2.10	T E					(1.50) 3.40	Stiff, friable in parts, orange/brown sandy clayey gravelly SILT. Gravel is fine to coarse, subangular of mudstone. [SUPERFICIAL DEPOSITS].		
2.50-2.70	T								
3.00-3.20	T								
							End of hole at 3.4m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2.GW not encountered.
3. End of hole at 3.4m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS49
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	09-09-09	81.0*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
0.00-1.00	E					(0.40) 0.40	Brown very dry/friable sandy gravelly clayey SILT with rootlets. Gravel is fine to coarse, subrounded to subangular of siltstone and sandstone. [TOPSOIL].		
							Stiff to hard, brown friable, very sandy gravelly SILT with some pockets of sand and gravel of siltstone and mudstone. [SUPERFICIAL DEPOSITS].		
1.00-1.20	T								
1.00	CPT	N50/ 0.245							
1.50-1.70	T								
1.75-1.85	E								
2.00	CPT	N26							
							....from 2.2m bgl recovered as slightly damp, and becoming silty clay.		
2.30-2.50	T								
						(5.00)			
3.00	CPT	N34					....poor recovery from 3m to 3.5m bgl, and becoming very gravelly: gravel in a clayey silt matrix.		
4.00	CPT	N50/ 0.215					....from 4m bgl becoming stiff/hard.		
5.00	CPT	N50/ 0.255				5.40			
							End of hole at 5.4m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 5.4m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By JC

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS50
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	08-09-09	82.5*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.30) 0.30	MADE GROUND: Comprising firm, brown, slightly sandy, gravelly silt/clay. Gravel is fine to medium, sub-rounded to sub-angular siltstone and sandstone.		
0.40-0.60	T						Firm to stiff, orangey brown (mottled grey between 0.3 and 2.00mbgl) sandy, gravelly CLAY with occasional small (<5mm diameter) pockets of soft, black silt. Gravel is fine to medium, sub-angular to rounded mudstone and sandstone. [SUPERFICIAL DEPOSITS].		
1.00	CPT	N50							
1.20-1.40	T								
1.40-1.60	T								
2.00	CPT	N33							
2.40-2.60	T					(4.50)			
3.00	CPT	N50/ 0.23							
3.40-3.60	T								
4.00	CPT	N50/ 0.23							
4.40-4.60	T								
						4.80			
4.80-5.00	T						Firm, reddish brown CLAY. [SUPERFICIAL DEPOSITS].		
5.00	CPT	N36				(0.65)			
						5.45	End of Hole at 5.45m BGL.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By PD

CONSULTING ENGINEERS

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WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS51
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	08-09-09	83.3*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
0.20-0.40	T					(0.40) 0.40	MADE GROUND: Comprising firm, brown, slightly sandy, gravelly silt/clay. Gravel is fine to medium, sub-rounded to sub-angular siltstone and sandstone.		
1.00-1.20	T						Firm, becoming stiff, brown, slightly sandy, gravelly CLAY. Gravel is fine to coarse, sub-rounded to sub-angular, sandstone, siltstone, mudstone and rare limestone and fine coal. [SUPERFICIAL DEPOSITS].		
1.00	CPT	N50/ 0.265							
1.20-1.40	T								
2.00	CPT	N41							
2.20-2.40	T					(3.75)			
3.00	CPT	N43							
3.20-3.40	T								
3.80	CPT	N50/ 0.2				4.15	End of Hole at 4.15m BGL.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 4.15m bgl (refusal).
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used COMPETITOR	Logged By PD

WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS52
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	28-10-09	81.5*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.40) 0.40	Dark brown/black slightly sandy silty CLAY/clayey SILT. [TOPSOIL].		
1.00	CPT	N40				(3.60) 4.00	Stiff to very stiff, orange, mottled grey slightly sandy, slightly silty, slightly gravelly CLAY. Gravel is fine, subangular to subrounded of sandstone and mudstone. [SUPERFICIAL DEPOSITS]. ....from approximately 1m bgl, having sand lenses.		
3.00	CPT	N24					....from approximately 3m bgl slightly damp and sandier.		
5.00	CPT	N51				(1.45) 5.45	Firm brown slightly sandy, slightly clayey SILT with medium to coarse gravel of mudstone and siltstone. [SUPERFICIAL DEPOSITS].		
							End of hole at 5.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand excavated service inspection pit to 1.2m bgl.
2. Groundwater not encountered.
3. End of hole at 5.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used MINI RIG	Logged By JC

WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**WS53**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	28-10-09	82.2*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.30) 0.30	Dark brown/black slightly sandy, slightly silty clay with gravel and cobbles of brick and concrete. [MADE GROUND: DEMOLITION RUBBLE].		
						(0.80) 1.10	Very stiff, friable grey/brown slightly sandy SILT with fine to coarse gravel of mudstone and sandstone. [POSSIBLE MADE GROUND].		
2.00	CPT	N40				(3.35) 4.45	Very stiff, orange, mottled grey, slightly friable, slightly clayey, very sandy SILT with frequent pockets/lenses of sand. [SUPERFICIAL DEPOSITS].		
4.00	CPT	N58/ 0.17							
							End of hole at 4.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand excavated service inspection pit to 1.2m bgl.
2. Groundwater not encountered.
3. End of hole at 4.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used MINI RIG	Logged By JC

WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS54
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	28-10-09	83.5*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.30) 0.30	Brown gravelly sandy silt. Gravel is fine to coarse, subangular, of brick, ash, tile and slate. [TPOSOIL/MADE GROUND].		
						(0.80) 1.10	Stiff, dark brown, friable, slightly gravelly, sandy silt/clay. Gravel is fine to coarse, subangular of brick, ash, sandstone, tile and slate. [MADE GROUND].		
1.00	CPT	N8				(1.10) 2.20	Very stiff pale orange, mottled grey, slightly clayey, sandy SILT with occasional coarse gravel of siltstone, and occasional damp sand lenses. [SUPERFICIAL DEPOSITS].		
3.00	CPT	N50/ 0.14				(1.80) 4.00	Very stiff, brown gravelly CLAY with occasional sand lenses. [SUPERFICIAL DEPOSITS]. ....form 3m bgl becoming very stiff to hard.		
							End of hole at 4m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand excavated service inspection pit to 1.2m bgl.
2. Groundwater not encountered.
3. End of hole at 4m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used MINI RIG	Logged By JC

WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				WS55
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	28-10-09	83.4*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.30) 0.30	Brown gravelly sandy silt. Gravel is fine to coarse, subangular, of brick, ash, tile and slate. [TPOSOIL/MADE GROUND].		
						(1.10) 1.40	Stiff, dark brown, friable, slightly gravelly, sandy silt/clay. Gravel is fine to coarse, subangular of brick, ash, sandstone, tile and slate. [MADE GROUND].		
						(0.60) 2.00	NO RECOVERY. N.B. Made ground may continue to depths in excess of 1.4m bgl.		
2.00	CPT	N21				(2.45) 4.45	Soft to firm/firm orange/red, mottled grey sandy CLAY/SILT with occasional fine to medium gravel of sandstone and siltstone. [SUPERFICIAL DEPOSITS]. ....NO RECOVERY from 3.1 to 4m bgl.		
4.00	CPT	N24					End of hole at 4.45m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand excavated service inspection pit to 1.2m bgl.
2. Groundwater not encountered.
3. End of hole at 4.45m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used MINI RIG	Logged By JC

WINDOW SAMPLE LOG

Project				WINDOW SAMPLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**WS56**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	28-10-09	83.3*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.30) 0.30	Brown gravelly sandy silt. Gravel is fine to coarse, subangular, of brick, ash, tile and slate. [TPOSOIL/MADE GROUND].		
						(1.40) 1.70	Stiff, dark brown, friable, slightly gravelly, sandy silt/clay. Gravel is fine to coarse, subangular of brick, ash, sandstone, tile and slate. [MADE GROUND].		
1.00	CPT	N16				(0.50) 2.20	Soft to firm/firm, red slightly gravelly CLAY. [SUPERFICIAL DEPOSITS].		
3.00	CPT	N21				(1.80) 4.00	Firm grey silty CLAY/clayey SILT with fine to medium subangular gravel of sandstone. [SUPERFICIAL DEPOSITS].		
							End of hole at 4m bgl.		

Boring Progress and Water Observations

Date	Time	Depth	Tube Depth	Tube Dia. mm	Water Dpt

*Taken from M&A Survey Ltd Dwg No 08/104-03, 08/104-04, 08/104-05

GENERAL REMARKS

1. Hand excavated service inspection pit to 1.2m bgl.
2. Groundwater not encountered.
3. End of hole at 4m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:37.5	Client SSSFT	Method/ Plant Used MINI RIG	Logged By JC

CONSULTING ENGINEERS

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PERCUSSIVE BOREHOLE LOG

Project				PERCUSSIVE BOREHOLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**BH1**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	10-09-09	82.5*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
0.10-1.20	B					0.10	TOPSOIL.		
							Brown dessicated SILT with cobbles. [SUPERFICIAL DEPOSITS].		
						(1.30)			
1.20-2.00	B					1.40			
1.20-1.65	D						Firm brown sandy SILT. [SUPERFICIAL DEPOSITS].		
1.20-1.65	SPT	N10				(0.80)			
2.00-2.45	U	27 blows				2.20			
							Medium-dense red/brown SAND. [SUPERFICIAL DEPOSITS].		
2.45-2.60	D								
2.80	D								
3.00-3.45	D								
3.00-4.00	B								
3.00-3.45	SPT	N11				(2.70)			
4.00-4.45	D						....from 4m bgl becoming loose.		
4.00-4.45	SPT	N7							
						4.90			
4.90	D						Firm red/brown SILT. [SUPERFICIAL DEPOSITS].		
5.00-6.00	B								
5.00-5.45	D								
5.00-5.45	SPT	N7							
6.00-6.45	D								
6.00-6.45	SPT	N10				(3.50)			
6.80	D								
7.00-7.45	U	37 blows							
7.45-7.60	D								
7.80	D								
8.00-9.00	B								
8.00-8.45	D					8.40			
8.00-8.45	SPT	N15					Medium dense/dense red/brown SAND with some gravel. [SUPERFICIAL DEPOSITS].		
9.00-9.45	CPT	N38				(1.65)			
9.50	D								
9.60-10.05	D								
9.60-10.05	SPT	N39				10.05			
							End of hole at 10.05m bgl.		

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

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 10.05m bgl.
4. Combined gas & GW monitoring well installed to 9.7m bgl.

All dimensions in metres Scale 1:65.625	Client SSSFT	Method/ Plant Used CP RIG	Logged By DRILLERS LOGS

CONSULTING ENGINEERS

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PERCUSSIVE BOREHOLE LOG

Project				PERCUSSIVE BOREHOLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**BH2**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	08-09-09	81.4*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
0.10-1.00	B					0.10	TOPSOIL.		
						(1.60)	Medium-dense from 1.2m bgl, light brown dessicated silty SAND AND GRAVEL. Gravel is of sandstone. [SUPERFICIAL DEPOSITS].		
1.20-1.65	D								
1.20-1.65	SPT	N14				1.70			
1.80	D						Stiff brown silty, slightly sandy, slightly gravelly CLAY. [SUPERFICIAL DEPOSITS].		
2.00-2.45	U	37 blows							
2.45-2.60	D								
2.60-3.00	B								
3.00-3.45	D								
3.00-3.45	SPT	N14				(3.80)			
3.80	D								
4.00-4.45	U	48 blows							
4.45-4.60	D								
4.80	D								
5.00-5.45	D								
5.00-5.45	SPT	N10				5.50			
5.60	D						Red silty SAND. [SUPERFICIAL DEPOSITS].		
6.00-7.00	B					(0.80)			
6.00-6.45	D					6.30			
6.00-6.45	SPT	N13				6.50	Red SAND with some gravel. [SUPERFICIAL DEPOSITS].		
7.00-7.45	D						Medium dense red/brown silty SAND with some bands of silt. [SUPERFICIAL DEPOSITS].		
7.00-7.45	SPT	N17				(2.30)			
7.80	D								
8.00-8.45	D								
8.00-8.45	SPT	N14				8.80			
8.90	D						Medium dense red SAND with bands of red sandstone. [SUPERFICIAL DEPOSITS].		
9.00-9.45	D								
9.00-9.45	SPT	N20				(1.25)			
9.60	D								
9.60-10.05	D					10.05			
9.60-10.05	SPT	N21					End of hole at 10.05m bgl.		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	1. Hand dug service inspection pit excavated to approximately 1.2m bgl. 2. GW not encountered. 3. End of hole at 10.05m bgl. 4. Hole backfilled with arisings.

All dimensions in metres Scale 1:65.625	Client SSSFT	Method/ Plant Used CP RIG	Logged By DRILLERS LOGS

CONSULTING ENGINEERS

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PERCUSSIVE BOREHOLE LOG

Project				PERCUSSIVE BOREHOLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**BH3**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	09-09-09	82.2*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						0.40	Stiff brown TOPSOIL.		
0.80	D					(1.00)	Very stiff light brown dessicated SILT/SAND. [SUPERFICIAL DEPOSITS].		
1.20-1.65	D					1.40			
1.20-2.00	B						Medium dense brown SAND with some gravel. [SUPERFICIAL DEPOSITS].		
1.20-1.65	SPT	N15							
2.00-2.45	D								
2.00-3.00	B								
2.00-2.45	SPT	N17				(2.90)			
3.00-3.45	D								
3.00-4.00	B								
3.00-3.45	SPT	N13							
4.00-4.45	D					4.30			
4.00-4.45	SPT	N17				4.70	Firm brown sandy CLAY. [SUPERFICIAL DEPOSITS].		
4.80	D						Stiff/very stiff brown slightly silty, slightly gravelly sandy CLAY / silty CLAY. [SUPERFICIAL DEPOSITS].		
5.00-5.45	U	45 blows							
5.45-5.60	D								
5.80	D								
6.00-6.45	D								
6.00-7.00	B								
6.00-6.45	SPT	N12				(4.60)			
7.00-7.45	U	36 blows							
7.45-7.60	D								
7.80	D								
8.00-8.45									
8.00-8.50	B								
8.00-8.45	SPT	N18							
9.00-9.45	U	35 blows				9.30			
9.45-9.60	D						Medium dense red/brown fine SAND. [SUPERFICIAL DEPOSITS].		
9.60-10.05	D					(0.75)			
9.60-10.05	SPT	N18				10.05			
							End of hole at 10.05m bgl.		

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

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 10.05m bgl.
4. Hole backfilled with arisings.

All dimensions in metres Scale 1:65.625	Client SSSFT	Method/ Plant Used CP RIG	Logged By DRILLERS LOGS

CONSULTING ENGINEERS

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PERCUSSIVE BOREHOLE LOG

Project				PERCUSSIVE BOREHOLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**BH4**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	10-09-09	82.2*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						0.30	Black silty sand onto brick floor. [MADE GROUND].		
0.60	D						Stiff brown slightly sandy, slightly gravelly, silty CLAY. [SUPERFICIAL DEPOSITS].		
1.20-1.65	D								
1.20-1.65	SPT	N15							
1.80	D					(3.10)			
2.00-2.45	U	45 blows							
2.45-2.60	D								
2.80	D								
3.00-3.45	D								
3.00-3.45	SPT	N16				3.40			
3.50-4.00	B						Firm to stiff red SILT. [SUPERFICIAL DEPOSITS].		
4.00-4.45	D								
4.00-4.45	SPT	N16							
4.80	D								
5.00-5.45	U	20 blows							
5.45-5.60	D								
5.60-6.00	B					(4.90)			
6.00-6.45	D								
6.00-6.45	SPT	N18							
6.80	D								
7.00-7.45	D								
7.00-7.45	U	47 blows							
7.80	D								
8.00-8.45	D								
8.00-9.00	B					8.30			
8.00-8.45	SPT	N29					Medium-dense red SAND with fine gravel. [SUPERFICIAL DEPOSITS].		
9.00-9.45									
9.00-9.45	SPT	N20				(1.75)			
9.60	D								
9.60-10.05	D								
9.60-10.05	SPT	N21				10.05	End of hole at 10.05m bgl.		

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

Chiselling			Water Added	
From	To	Hours	From	To

GENERAL REMARKS

1. Hand dug service inspection pit excavated to approximately 1.2m bgl.
2. GW not encountered.
3. End of hole at 10.05m bgl.
4. Combined gas & GW monitoring well installed to 9.8m bgl.

All dimensions in metres Scale 1:65.625	Client SSSFT	Method/ Plant Used CP RIG	Logged By DRILLERS LOGS

CONSULTING ENGINEERS

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PERCUSSIVE BOREHOLE LOG

Project				PERCUSSIVE BOREHOLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**BH5**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	08-09-09	81.5*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						0.10	TOPSOIL.		
0.50	D					(1.20)	Very stiff brown sandy dessicated SILT. [SUPERFICIAL DEPOSITS].		
1.20-1.65	D					1.30			
1.20-1.65	SPT	N12					Firm to stiff, brown sandy SILT. [SUPERFICIAL DEPOSITS].		
1.80	D								
2.00-2.45	U	28 blows							
2.45-2.60	D					(2.50)			
2.80	D								
3.00-3.45	D								
3.00-3.45	SPT	N14				3.80			
3.80	D						Boulder encountered, onto stiff grey/brown slightly silty, slightly sandy, slightly gravelly CLAY with pockets/lenses of red SILT/SAND. [SUPERFICIAL DEPOSITS].		
4.00-4.45	D								
4.00-4.45	SPT	N35							
4.80	D								
5.00-5.45	U	45 blows							
5.45-5.60	D					(3.30)			
5.80	D								
6.00-6.45									
6.00-6.45	SPT	N12							
6.80	D					7.10			
7.00-7.45	U	27 blows					Medium-dense red/brown silty SAND with bands of red clay. [SUPERFICIAL DEPOSITS].		
7.80	D					(1.30)			
8.00-8.45	D								
8.00-8.45	SPT	N14				8.40			
8.80	D						Firm grey/red SILT/SAND. [SUPERFICIAL DEPOSITS].		
9.00-9.45	U	17 blows							
9.45-9.60	D					(1.65)			
9.60-10.05	D								
9.60-10.05	SPT	N22				10.05			
							End of hole at 10.05m bgl.		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	1. Hand dug service inspection pit excavated to approximately 1.2m bgl. 2. GW not encountered. 3. End of hole at 10.05m bgl. 4. Hole backfilled wih arisings.

All dimensions in metres Scale 1:65.625	Client SSSFT	Method/ Plant Used CP RIG	Logged By DRILLERS LOGS

CONSULTING ENGINEERS

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PERCUSSIVE BOREHOLE LOG

Project				PERCUSSIVE BOREHOLE No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**BH6**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	09-09-09	80.7*		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
0.10-1.20	B					0.10	TOPSOIL.		
							Vey stiff light brown dessicated SILT with some gravel. [SUPERFICIAL DEPOSITS].		
						(1.50)			
1.20-1.65	D								
1.20-1.65	SPT	N16				1.60			
1.70	D						Firm/stiff brown slightly sandy, slightly gravelly silty CLAY. [SUPERFICIAL DEPOSITS].		
2.00-2.45	U	17 blows							
2.45-2.60	D								
2.80	D								
3.00-3.45	D								
3.00-4.00	B								
3.00-3.45	SPT	N8				(4.10)			
4.00-4.30	U	50 blows							
4.30-4.45	D								
4.80	D								
5.00-5.45	D								
5.00-5.45	SPT	N16				5.70			
5.80	D						Firm red SILT/SILTY SAND. [SUPERFICIAL DEPOSITS].		
6.00-6.45	U	27 blows							
6.45-6.60	D								
6.60-7.00	B								
7.00-7.45	D								
7.00-7.45	SPT	N21							
7.80	D					(4.35)			
8.00-8.45	U	27 blows							
8.45-8.60	D								
8.60-9.00	B								
9.00-9.45	D								
9.00-9.45	SPT	N17							
9.60-10.05	D								
9.60	D					10.05			
9.60-10.05	SPT	N10					End of hole at 10.05m bgl.		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	1. Hand dug service inspection pit excavated to approximately 1.2m bgl. 2. GW not encountered. 3. End of hole at 10.05m bgl. 4. Combined gas & GW monitoring well installed to 9.7m bgl.

All dimensions in metres Scale 1:65.625	Client SSSFT	Method/ Plant Used CP RIG	Logged By DRILLERS LOGS

CONSULTING ENGINEERS

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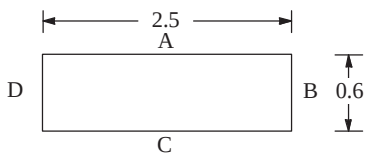
TRIAL PIT LOG

Project				TRIAL PIT No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**TP1**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	09-09-09	82.0		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.40) 0.40	MADE GROUND: Comprising firm, brown, sandy gravelly silt/clay with rootlets. Gravel is fine to coarse, sub-rounded to angular sandstone and siltstone (Topsoil).		
						(2.00) 2.40	Firm, orange/brown, very sandy, gravelly CLAY. Gravel is fine to coarse, sub-rounded to sub-angular siltstone and sandstone.		
							End of Hole at 2.40m BGL.		

Shoring/Support:
Stability:



GENERAL REMARKS

1. No Groundwater encountered.

2. Soil strength and density visually assessed.

All dimensions in metres Scale 1:21.875	Client SSSFT	Method/ Plant Used JCB 3CX	Logged By PD

CONSULTING ENGINEERS

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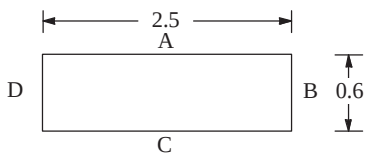
TRIAL PIT LOG

Project				TRIAL PIT No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				TP2
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	09-09-09	82.0		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.40) 0.40	MADE GROUND: Comprising brick, cobbles in a coarse sand matrix.		
						(0.30) 0.70	MADE GROUND: Comprising firm, brown, sandy gravelly silt/clay with sand pockets. Gravel is fine to coarse, sub-rounded to angular siltstone and sandstone (Buried Topsoil).		
						(1.40) 2.10	Firm, orange/brown, very sandy, gravelly CLAY. Gravel is fine to coarse, sub-rounded to sub-angular siltstone, mudstone and sandstone.		
							End of Hole at 2.10m BGL.		

Shoring/Support:
Stability:



GENERAL REMARKS

1. No Groundwater encountered.

2. Soil strength and density visually assessed.

All dimensions in metres Scale 1:21.875	Client SSSFT	Method/ Plant Used JCB 3CX	Logged By PD

CONSULTING ENGINEERS

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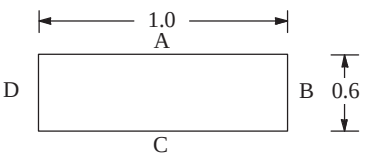
TRIAL PIT LOG

Project				TRIAL PIT No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				TP3
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	09-09-09	84.0		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.50)	MADE GROUND: Comprising stiff, light brown, very sandy, gravelly clay/ dense very clayey, sandy gravel. Gravel is fine to coarse, sub-rounded to angular siltstone, sandstone and brick.		
0.50	B					0.50	End of Hole at 0.50m BGL.		

Shoring/Support:
Stability:



GENERAL REMARKS

1. No Groundwater encountered.

2. Soil strength and density visually assessed.

All dimensions in metres Scale 1:21.875	Client SSSFT	Method/ Plant Used JCB 3CX	Logged By PD

CONSULTING ENGINEERS

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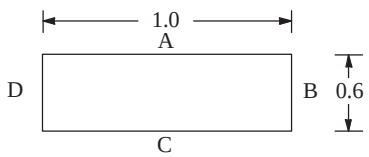
TRIAL PIT LOG

Project				TRIAL PIT No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**TP4**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	09-09-09	84.0		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.50)	MADE GROUND: Comprising stiff, light brown, sandy, gravelly silt with brick cobbles and cable. Gravel is fine to coarse, sub-rounded to angular, siltstone, sandstone and brick.		
0.50	B					0.50	End of Hole at 0.50m BGL.		

Shoring/Support:
Stability:



GENERAL REMARKS

1. No Groundwater encountered.

2. Soil strength and density visually assessed.

All dimensions in metres Scale 1:21.875	Client SSSFT	Method/ Plant Used JCB 3CX	Logged By PD

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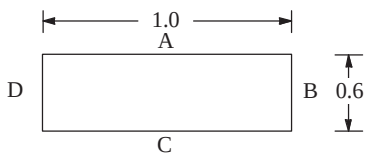
TRIAL PIT LOG

Project				TRIAL PIT No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				TP5
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	09-09-09	84.0		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.50)	MADE GROUND: Comprising stiff, light brown, sandy, gravelly silt/clay with brick cobbles. Gravel is fine to coarse, sub-rounded to angular siltstone, sandstone and brick.		
0.50	B					0.50	End of Hole at 0.50m BGL.		

Shoring/Support:
Stability:



GENERAL REMARKS

1. No Groundwater encountered.

2. Soil strength and density visually assessed.

All dimensions in metres Scale 1:21.875	Client SSSFT	Method/ Plant Used JCB 3CX	Logged By PD

CONSULTING ENGINEERS

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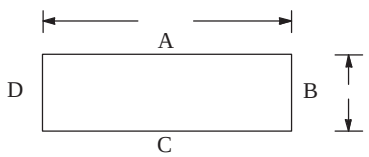
TRIAL PIT LOG

Project				TRIAL PIT No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**TP6**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	25-09-09	83.0		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.20) 0.20	Construction debris comprising brick, hardcore, ash and tarmac gravcel/cobbles. [MADE GROUND],		
						(1.30) 1.50	Grey CLAY/SILT. [SUPERFICIAL DEPOSITS].		
						(1.20) 2.70	Orange CLAY. [SUPERFICIAL DEPOSITS].		
							End of hole at 2.7m bgl [approximately 3.7m below peak of manure mound].		

Shoring/Support:
Stability:



GENERAL REMARKS

1. N.B. Stockpiled manure removed prior to pit excavation. True ground level taken as base of manure stockpile.

2. No Groundwater encountered.

All dimensions in metres Scale 1:21.875	Client SSSFT	Method/ Plant Used JCB 3CX	Logged By JC

CONSULTING ENGINEERS

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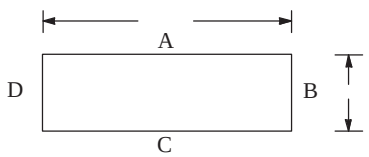
TRIAL PIT LOG

Project				TRIAL PIT No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				TP6
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	25-09-09	82.0		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.30) 0.30	Brown friable sandy gravelly clayey SILT. Gravel is fine to coarse, subrounded to subangular of siltstone and sandstone. [TOPSOIL].		
						(0.40) 0.70	Grey SILT. [SUPERFICIAL DEPOSITS].		
						(1.60) 2.30	Orange CLAY. [SUPERFICIAL DEPOSITS].		
						(0.40) 2.70	Very silty SAND / 'running' sand. [SUPERFICIAL DEPOSITS]. ....noted to be wet.		
							End of hole at 2.7m bgl.		

Shoring/Support:
Stability:



GENERAL REMARKS

1. Wet 'running' sand encountered from approximately 2.3m bgl.

All dimensions in metres Scale 1:21.875	Client SSSFT	Method/ Plant Used JCB 3CX	Logged By JC

CONSULTING ENGINEERS

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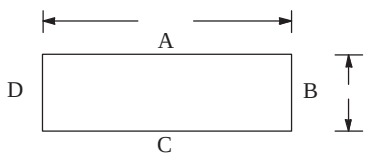
TRIAL PIT LOG

Project				TRIAL PIT No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**TP8**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	25-09-09	81.5		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.30) 0.30	Brown friable sandy gravelly clayey SILT. Gravel is fine to coarse, subrounded to subangular of siltstone and sandstone. [TOPSOIL].		
						(0.40) 0.70	Grey SILT. [SUPERFICIAL DEPOSITS].		
						(1.60) 2.30	Orange CLAY. [SUPERFICIAL DEPOSITS].		
						(0.40) 2.70	Very silty SAND / running sand. [SUPERFICIAL DEPOSITS].		
							End of hole at 2.8m bgl.		

Shoring/Support:
Stability:



GENERAL REMARKS

1. Groundwater not encountered.

All dimensions in metres Scale 1:21.875	Client SSSFT	Method/ Plant Used JCB 3CX	Logged By JC

CONSULTING ENGINEERS

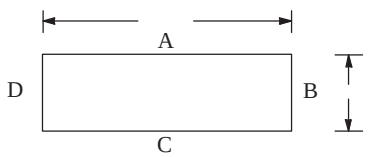
clarkebond

TRIAL PIT LOG

Project				TRIAL PIT No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**TP9**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	25-09-09	81.2		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.20) 0.20	Brown friable sandy gravelly SILT. [TOPSOIL].		
						(0.30) 0.50	Grey SILT/CLAY. [SUPERFICIAL DEPOSITS].		
						(1.60) 2.10	Orange slightly sandy silty CLAY. [SUPERFICIAL DEPOSITS].		
							End of hole at 2.1m bgl.		

Shoring/Support:
Stability:



GENERAL REMARKS

1. Groundwater not encountered.

All dimensions in metres Scale 1:21.875	Client SSSFT	Method/ Plant Used JCB 3CX	Logged By JC

CONSULTING ENGINEERS

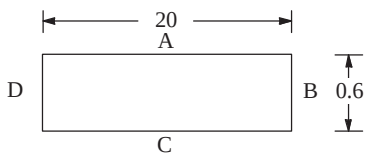
clarkebond

TRIAL PIT LOG

Project				TRIAL PIT No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**TT1**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	09-09-09	81.6 - 82.3		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.40) 0.40	MADE GROUND: Comprising firm, brown, gravelly silt/clay with rootlets. Gravel is fine to coarse, sub-rounded to angular siltstone and sandstone (Topsoil).		
						(2.00) 2.40	Firm, orangey brown, sandy, slightly gravelly CLAY and medium dense, clayey, slightly gravelly SAND. Gravel is fine to medium, sub-rounded siltstone and sandstone.		
							End of Hole at 2.40m BGL.		

Shoring/Support:
Stability:



GENERAL REMARKS

1. No Groundwater encountered.

2. Soil strength and density visually assessed.

All dimensions in metres Scale 1:21.875	Client SSSFT	Method/ Plant Used JCB 3CX	Logged By PD

CONSULTING ENGINEERS

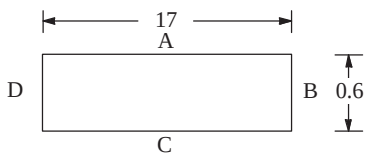
clarkebond

TRIAL PIT LOG

Project				TRIAL PIT No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				TT2
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	09-09-09	81.5 - 81.9		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.40)	MADE GROUND: Comprising firm, brown, gravelly silt/clay with rootlets. Gravel is fine to coarse, sub-rounded to angular siltstone and sandstone (Topsoil).		
						0.40			
						(2.60)	Firm, orangey brown, sandy, slightly gravelly CLAY and medium dense, orange, slightly gravelly SAND with (<300mm) pockets of stiff orange mottled grey clay. Gravel is fine to medium rounded sandstone.		
							...very slow water ingress at 2.80m bgl within sand pockets.		
						3.00	End of Hole at 3.00m BGL.		

Shoring/Support:
Stability:



GENERAL REMARKS

1. Very slow GW water ingress noted at approximately 2.8m bgl within sand pockets.

2. Soil strength and density visually assessed.

All dimensions in metres Scale 1:21.875	Client SSSFT	Method/ Plant Used JCB 3CX	Logged By PD

CONSULTING ENGINEERS

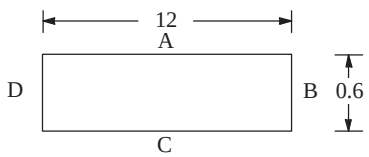
clarkebond

TRIAL PIT LOG

Project				TRIAL PIT No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				TT3
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	09-09-09	81.3 - 81.5		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.40) 0.40	MADE GROUND: Comprising, firm, light brown, sandy, gravelly silt/clay with rootlets. Gravel is fine to coarse, sub-rounded to angular, sandstone and siltstone (Topsoil).		
0.80	HV	200kPa 151kPa 195kPa 224kPa 224kPa				(1.10) 1.50	Very stiff, brown, sandy, gravelly SILT/CLAY. Gravel is fine to coarse, sub-rounded to sub-angular siltstone and sandstone.		
							End of Hole at 1.50m BGL.		

Shoring/Support:
Stability:



GENERAL REMARKS

1. Trench excavated across the line of a buried foul sewer to assess the nature of the fill material.
2. HV test undertaken at 2.0m intervals along trench.
3. Soil strength and density visually assessed.
4. No Groundwater encountered.

All dimensions in metres Scale 1:21.875	Client SSSFT	Method/ Plant Used JCB 3CX	Logged By PD

CONSULTING ENGINEERS

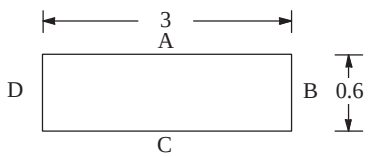
clarkebond

TRIAL PIT LOG

Project				TRIAL PIT No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**TT4**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	02-11-09	81.5 - 81.7		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.40) 0.40	Dark brown slightly gravelly sandy silt/clay. [MADE GROUND / TOPSOIL].		
						(1.40) 1.80	Soft to firm, orange, mottled grey, slightly gravelly sandy silty CLAY with rare cobbles of brick. [MADE GROUND / REWORKED SUPERFICIAL DEPOSITS]. *Strength of soil notably softer over line of service than surrounding natural strata.		
							End of hole at 1.8m bgl.		

Shoring/Support:
Stability:



GENERAL REMARKS

1. Trench excavated across the line of a buried foul sewer to assess the nature of the fill material.
2. Soil strength and density visually assessed.
3. No Groundwater encountered.

All dimensions in metres Scale 1:21.875	Client SSSFT	Method/ Plant Used JCB 3CX	Logged By JC

CONSULTING ENGINEERS

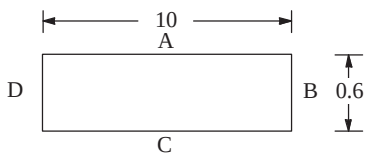
clarkebond

TRIAL PIT LOG

Project				TRIAL PIT No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				TT5
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	02-11-09	82.0		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.30) 0.30	Soft dark brown slightly gravelly sandy silty clay. [TOPSOIL].		
						(1.50) 1.80	Firm to stiff, orange, mottled grey, slightly sandy, slightly gravelly SILT/CLAY with occasional subounded to rounded cobbles of sandstone, and sand lenses. [SUPERFICIAL DEPOSITS].		
						(0.20) 2.00	Soft to firm/firm, red very sandy SILT. [SUPERFICIAL DEPOSITS].		
							End of hole at 2m bgl.		

Shoring/Support:
Stability:



GENERAL REMARKS

1. No Groundwater encountered.

2. Soil strength and density visually assessed.

All dimensions in metres Scale 1:21.875	Client SSSFT	Method/ Plant Used JCB 3CX	Logged By JC

CONSULTING ENGINEERS

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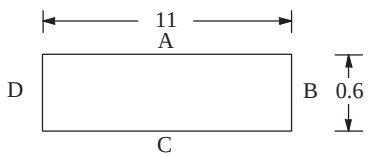
TRIAL PIT LOG

Project				TRIAL PIT No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**TT6**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	02-11-09	82.0		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.30) 0.30	Soft dark brown slightly gravelly sandy silty clay. [TOPSOIL].		
						(1.60) 1.90	Firm to stiff, orange, mottled grey, slightly sandy, slightly gravelly SILT/CLAY with occasional subounded to rounded cobbles of sandstone, and sand lenses. [SUPERFICIAL DEPOSITS].		
							End of hole at 1.9m bgl.		

Shoring/Support:
Stability:



GENERAL REMARKS

1. No Groundwater encountered.

2. Soil strength and density visually assessed.

All dimensions in metres Scale 1:21.875	Client SSSFT	Method/ Plant Used JCB 3CX	Logged By JC

CONSULTING ENGINEERS

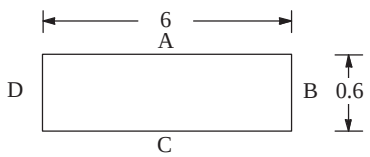
clarkebond

TRIAL PIT LOG

Project				TRIAL PIT No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				**TT6**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	02-11-09	82.0		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.30) 0.30	Soft dark brown slightly gravelly sandy silty clay. [TOPSOIL].		
						(1.60) 1.90	Firm to stiff, orange, mottled grey, slightly sandy, slightly gravelly SILT/CLAY with occasional subounded to rounded cobbles of sandstone, and sand lenses. [SUPERFICIAL DEPOSITS].		
							End of hole at 1.9m bgl.		

Shoring/Support:
Stability:



GENERAL REMARKS

1. No Groundwater encountered.

2. Soil strength and density visually assessed.

All dimensions in metres Scale 1:21.875	Client SSSFT	Method/ Plant Used JCB 3CX	Logged By JC

CONSULTING ENGINEERS

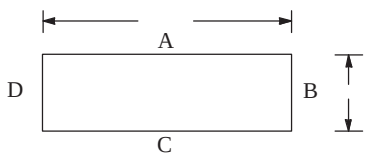
clarkebond

TRIAL PIT LOG

Project				TRIAL PIT No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				SA1
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	25-09-09	82.4		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.30) 0.30	Brown friable sandy gravelly clayey SILT with rootlets. [TOPSOIL].		
						(1.20) 1.50	Orange/brown clayey SILT. [SUPERFICIAL DEPOSITS].		
							End of hole at 1.5m bgl.		

Shoring/Support:
Stability:



GENERAL REMARKS

1. In-situ soakaway test undertaken.

All dimensions in metres Scale 1:21.875	Client SSSFT	Method/ Plant Used JCB 3CX	Logged By JC

CONSULTING ENGINEERS

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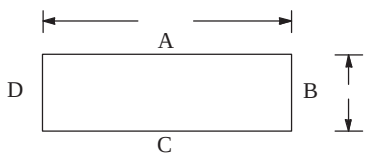
TRIAL PIT LOG

Project				TRIAL PIT No
SHELTON MENTAL HEALTH HOSPITAL, SHREWSBURY				SA2
Job No	Date	Ground Level (m)	Co-Ordinates ()	
YB00437	25-09-09	82.4		
Contractor				Sheet
GROUND INVESTIGATION SPECIALISTS				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION		
						(0.20) 0.20	Brown friable sandy gravelly clayey SILT with rootlets. [TOPSOIL].		
						(1.10) 1.30	Orange CLAY. [SUPERFICIAL DEPOSITS].		
						(0.30) 1.60	Red slightly sandy SILT. [SUPERFICIAL DEPOSITS].		
							End of hole at 1.6m bgl.		

Shoring/Support:
Stability:



GENERAL REMARKS

1. In-situ soakaway test undertaken.

All dimensions in metres Scale 1:21.875	Client SSSFT	Method/ Plant Used JCB 3CX	Logged By JC

Appendix B – Geotechnical Laboratory Analysis

Summary of Soil Classification Tests

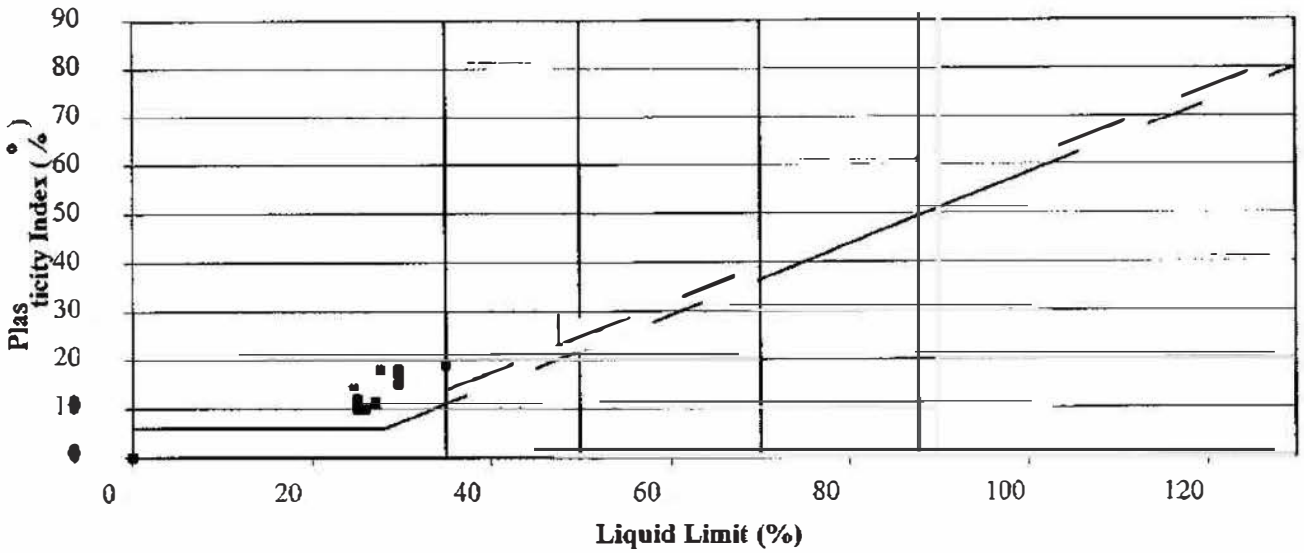
BS 1377:Part 2:1990

Hole/ Sample Number	Sample Type	Depth m	Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
BH1/2	D	1.20 - 1.65	17	27	14	13	95	CL Low Plasticity
BH1/5	D	2.45 - 2.60	10	25	13	12	90	CL Low Plasticity
BH1/9	D	4.00 - 4.45	15	32	18	14	90	CL Low Plasticity
BH2/2	D	1.20 - 1.65	18	25	15	10	100	CL Low Plasticity
BH2/5	D	2.45 - 2.60	17	25	14	11	90	CL Low Plasticity
BH2/8	D	3.80	16	27	15	12	100	CL Low Plasticity
BH2/10	D	4.45 - 4.60	16	26	16	10	100	CL Low Plasticity
BH3/2	D	1.20 - 1.65	9.2	30	13	17	90	CL Low Plasticity
BH3/6	D	3.00 - 3.45	19	32	16	16	90	CL Low Plasticity
BH4/2	D	1.20 - 1.65	16	35	16	19	90	CL/I Low/Inter. Plasticity
BH4/5	D	2.45 - 2.60	19	32	15	17	90	CL Low Plasticity
BH4/7	D	3.00 - 3.45	10	25	13	12	100	CL Low Plasticity
BH4/9	D	4.00 - 4.45	15	27	16	11	90	CL Low Plasticity

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999



Date

Contract No.: 8743/09

Client Ref No: 940

Shelton Mental Health Hospital, Shrewsbury- Main S.I (Phase 2b)

Summary of Soil Classification Tests

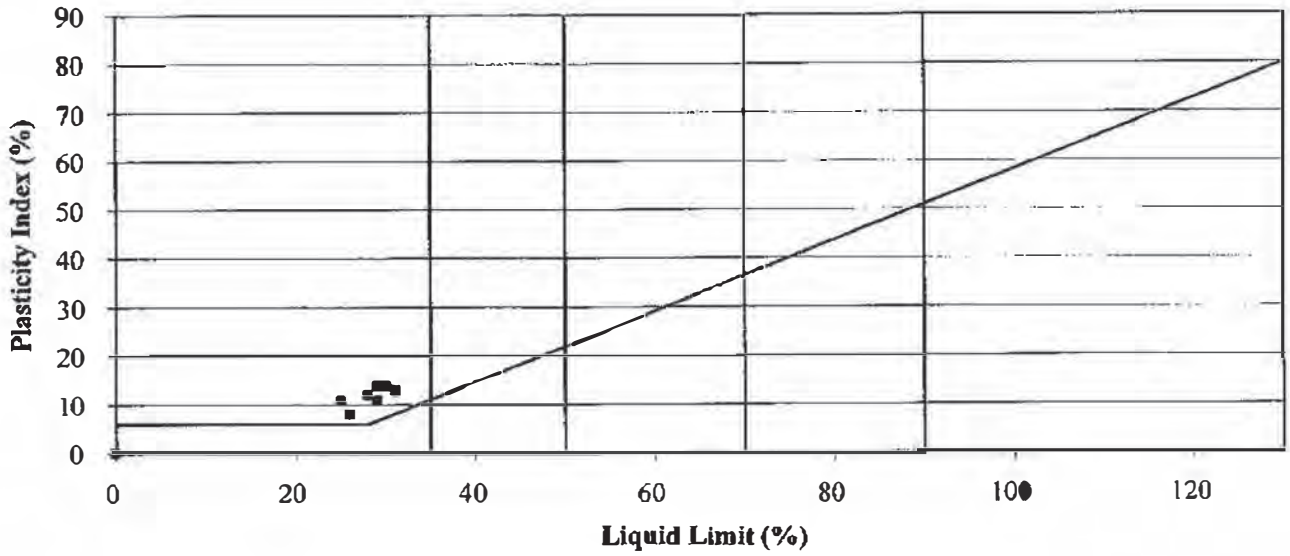
BS 1377:Part 2:1990

Hole/ Sample Number	Sample Type	Depth m	Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
BH5/1	D	0.50	20	31	18	13	99	CL Low Plasticity
BH5/3	D	1.80	18	29	18	11	100	CL Low Plasticity
BH5/6	D	2.80	15	28	16	12	100	CL Low Plasticity
BH5/9	D	4.00 - 4.45	15	25	14	11	100	CL Low Plasticity
BH6/3	D	1.70	16	26	18	8	90	CL Low Plasticity
BH6/5	D	2.45 - 2.60	17	30	16	14	90	CL Low Plasticity
BH6/7	D	3.00 - 3.45	17	29	15	14	100	CL Low Plasticity

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999



Approved by Date

Shelton Mental Health Hospital, Shrewsbury- Main S.I (Phase 2b)

Contract No.: 8743/09

Client Ref No: 940

2788

Summary of Soil Classification Tests

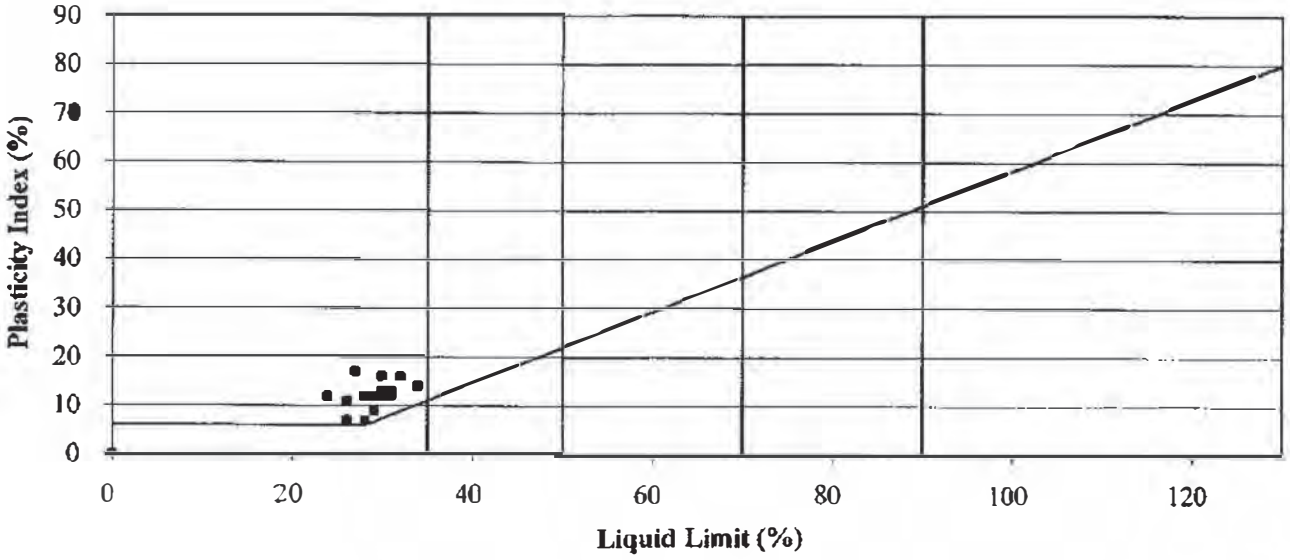
BS 1377:Part 2:1990

Hole/ Sample Number	Sample Type	Depth m	Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
WS21	T	1.50	11	28	16	12	90	CL Low Plasticity
WS22	T	0.70	14	27	10	17	90	CL Low Plasticity
WS22	T	1.30	14	34	20	14	95	CL Low Plasticity
WS22	T	2.50	14	31	19	12	99	CL Low Plasticity
WS23	T	2.00	14	31	18	13	90	CL Low Plasticity
WS23	T	3.75	10	30	14	16	100	CL Low Plasticity
WS24	T	0.80	13	26	15	11	98	CL Low Plasticity
WS24	T	1.50	15	29	17	12	95	CL Low Plasticity
WS24	T	2.25	15	30	18	12	90	CL Low Plasticity
WS24	T	3.60	18	30	17	13	90	CL Low Plasticity
WS25	T	1.60	15	32	16	16	90	CL Low Plasticity
WS25	T	2.25	14	26	19	7	90	CL Low Plasticity
WS26	T	1.50	18	28	21	7	90	CL Low Plasticity
WS26	T	1.90	19	29	20	9	90	CL Low Plasticity
WS26	T	3.80	13	24	12	12	90	CL Low Plasticity

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999



Date

Contract No.: 8743/09

Client Ref No: 940

Shelton Mental Health Hospital, Shrewsbury- Main S.I (Phase 2b)

UKAS TESTING 2788

Summary of Soil Classification Tests

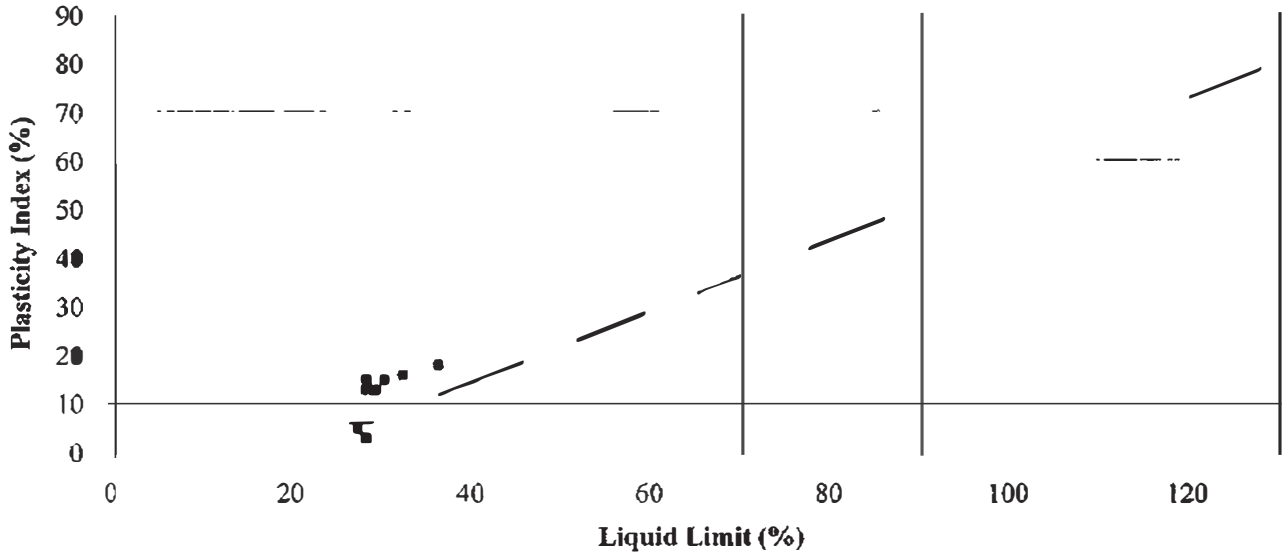
BS 1377:Part 2:1990

Hole/ Sample Number	Sampl Type	Depth m	Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
WS27	T	0.70	15	36	18	18	80	CI Intermediate Plasticity
WS27	T	1.30	12	36	18	18	95	CI Intermediate Plasticity
WS27	T	2.70	11	32	16	16	90	CL Low Plasticity
WS28	T	1.30 - 1.50	25	30	22	8	90	CL Low Plasticity
WS28	T	2.00	19	28	20	8	95	CL Low Plasticity
WS28	T	3.70	24	27	22	5	95	ML Low Plasticity
WS29	T	0.80	11	22	16	6	90	M/CL Low Plasticity
WS29	T	1.50	9	28	15	13	95	CL Low Plasticity
WS29	T	2.00	18	21	15	6	90	M/CL Low Plasticity
WS29	T	3.50	14	27	17	10	100	CL Low Plasticity
WS30	T	1.50	19	28	25	3	90	ML Low Plasticity
WS31	T	1.50	12	29	16	13	99	CL Low Plasticity
WS31	T	2.65	13	30	15	15	90	CL Low Plasticity
WS31	T	3.70	11	28	13	15	90	CL Low Plasticity

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999



Date

Contract No.: 8743/09

Shelton Mental Health Hospital, Shrewsbury- Main S.I (Phase 2b)

Client Ref No: 940

2788

Summary of Soil Classification Tests

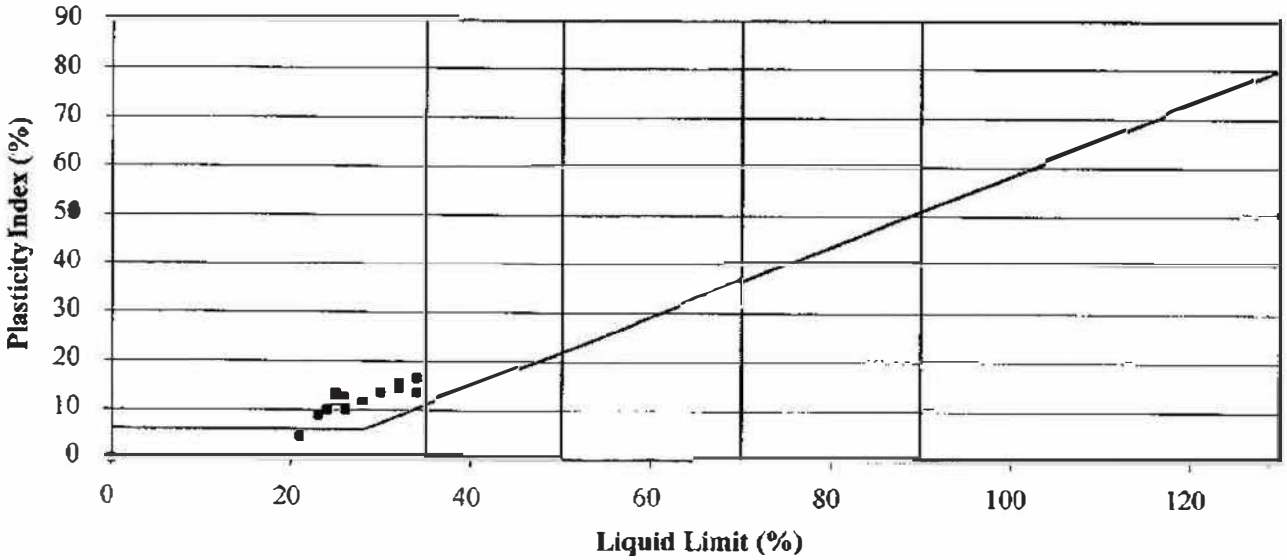
BS 1377:Part 2:1990

Hole/ Sample Number	Sample Type	Depth m	Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
WS32	T	1.00	15	32	17	15	90	CL Low Plasticity
WS32	T	2.50	13	34	21	13	100	CL Low Plasticity
WS33	T	1.60	13	26	14	12	90	CL Low Plasticity
WS33	T	2.30	19	30	17	13	90	CL Low Plasticity
WS33	T	2.80 - 3.00	12	25	13	12	90	CL Low Plasticity
WS34	T	1.70	14	26	16	10	90	CL Low Plasticity
WS35	T	1.00	13	23	14	9	100	CL Low Plasticity
WS35	T	1.50	14	21	17	4	95	ML Low Plasticity
WS35	T	2.25	16	34	18	16	90	CL Low Plasticity
WS36	T	0.80	13	32	18	14	90	CL Low Plasticity
WS36	T	1.50	14	32	18	14	100	CL Low Plasticity
WS36	T	2.50	12	25	12	13	100	CL Low Plasticity
WS37	T	1.10	13	28	17	11	100	CL Low Plasticity
WS37	T	2.10	12	24	14	10	100	CL Low Plasticity
WS37	T	3.50	12	24	14	10	99	CL Low Plasticity

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999



Approved by

Date

Shelton Mental Health Hospital, Shrewsbury- Main S.I (Phase 2b)

Contract No.: 8743/09

Client Ref No: 940

Summary of Soil Classification Tests

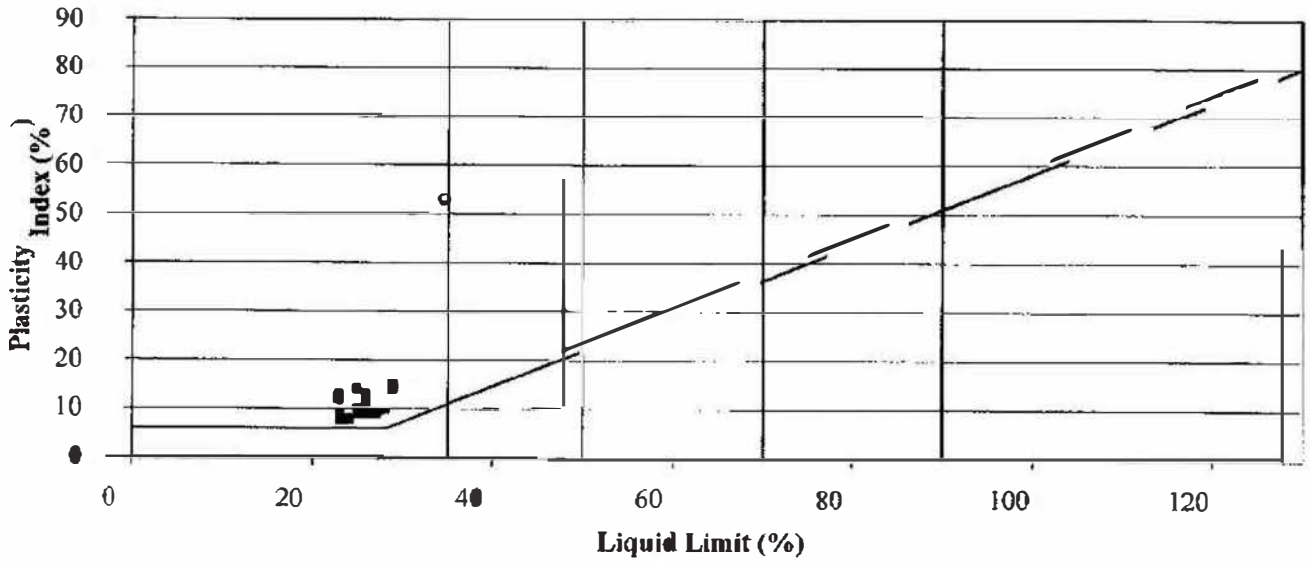
BS 1377:Part 2:1990

Hole/ Sample Number	Sample Type	Depth m	Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
WS38	T	1.30	7.1	25	12	13	90	CL Low Plasticity
WS38	T	2.40	12	25	16	9	90	CL Low Plasticity
WS38	T	3.00	13	24	16	8	100	CL Low Plasticity
WS39	T	1.00	10	23	15	8	90	CL Low Plasticity
WS39	T	1.50	14	27	18	9	90	CL Low Plasticity
WS39	T	2.50	20	28	18	10	100	CL Low Plasticity
WS39	T	3.30	18	28	16	12	100	CL Low Plasticity
WS40	T	1.90	16	31	17	14	90	CL Low Plasticity
WS40	T	2.30	11	28	15	13	80	CL Low Plasticity
WS40	T	3.30	13	23	14	9	95	CL Low Plasticity
WS40	T	4.60	12	27	13	14	95	CL Low Plasticity
WS41	T	1.00	9.2	25	13	12	95	CL Low Plasticity
WS41	T	2.50	12	26	17	9	95	CL Low Plasticity
WS41	T	3.50	13	27	17	10	95	CL Low Plasticity
WS42	T	2.60	15	31	16	15	100	CL Low Plasticity
WS42	T	3.50	15	28	18	10	97	CL Low Plasticity

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999



Checked by Date 4/11/09

Date 4/11/09

Shelton Mental Health Hospital, Shrewsbury- Main S.I (Phase 2b)

Contract No.: 8743/09

Client Ref No: 940

UKAS TESTING 2788

Summary of Soil Classification Tests

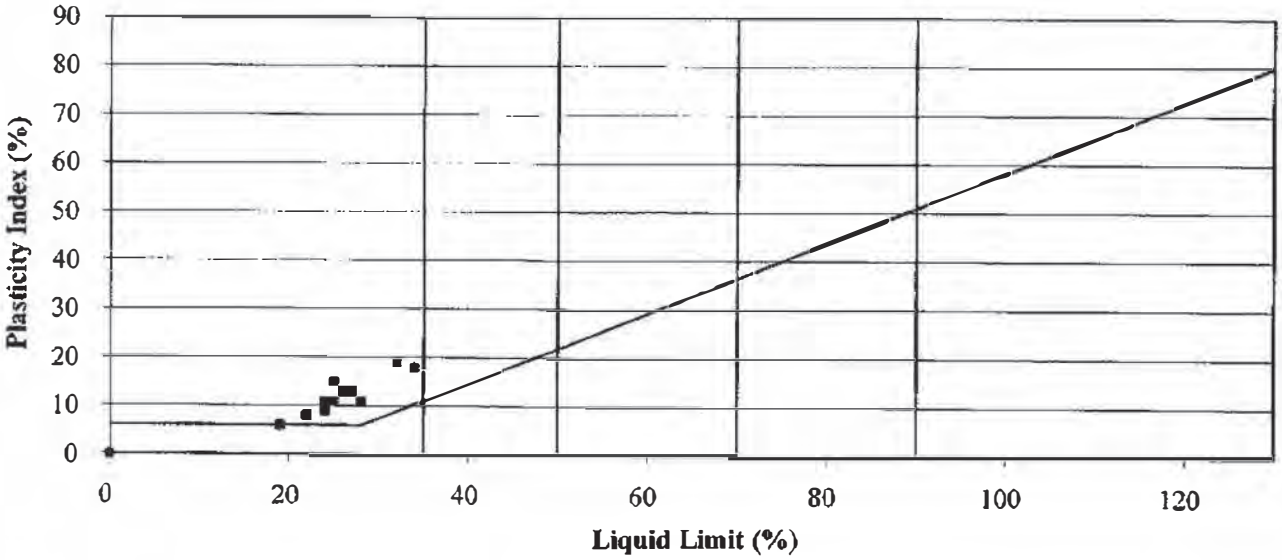
BS 1377:Part 2:1990

Hole/ Sample Number	Sample Type	Depth m	Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
WS43	T	1.50	16	27	14	13	95	CL Low Plasticity
WS43	T	2.30	13	27	14	13	97	CL Low Plasticity
WS43	T	3.00	12	24	13	11	75	CL Low Plasticity
WS44	T	3.00 - 3.20	12	25	14	11	100	CL Low Plasticity
WS44	T	3.80 - 4.00	12	25	14	11	96	CL Low Plasticity
WS45	T	1.10	11	28	17	11	95	CL Low Plasticity
WS45	T	2.50	12	25	14	11	90	CL Low Plasticity
WS45	T	4.00	16	34	16	18	95	CL Low Plasticity
WS47	T	2.70	13	25	10	15	90	CL Low Plasticity
WS48	T	2.00	12	26	13	13	90	CL Low Plasticity
WS48	T	2.50	11	32	13	19	95	CL Low Plasticity
WS48	T	3.00	8.6	22	14	8	95	CL Low Plasticity
WS49	T	1.00	6.9	19	13	6	95	M/CL Low Plasticity
WS49	T	1.50	10	24	15	9	90	CL Low Plasticity
WS49	T	2.30	15	25	14	11	90	CL Low Plasticity

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999



4/11/09
Date

Approved by

4/11/09
Date

Shelton Mental Health Hospital, Shrewsbury- Main S.I (Phase 2b)

Contract No.: 8743/09

Client Ref No: 940

UKAS TESTING 2788

Summary of Soil Classification Tests

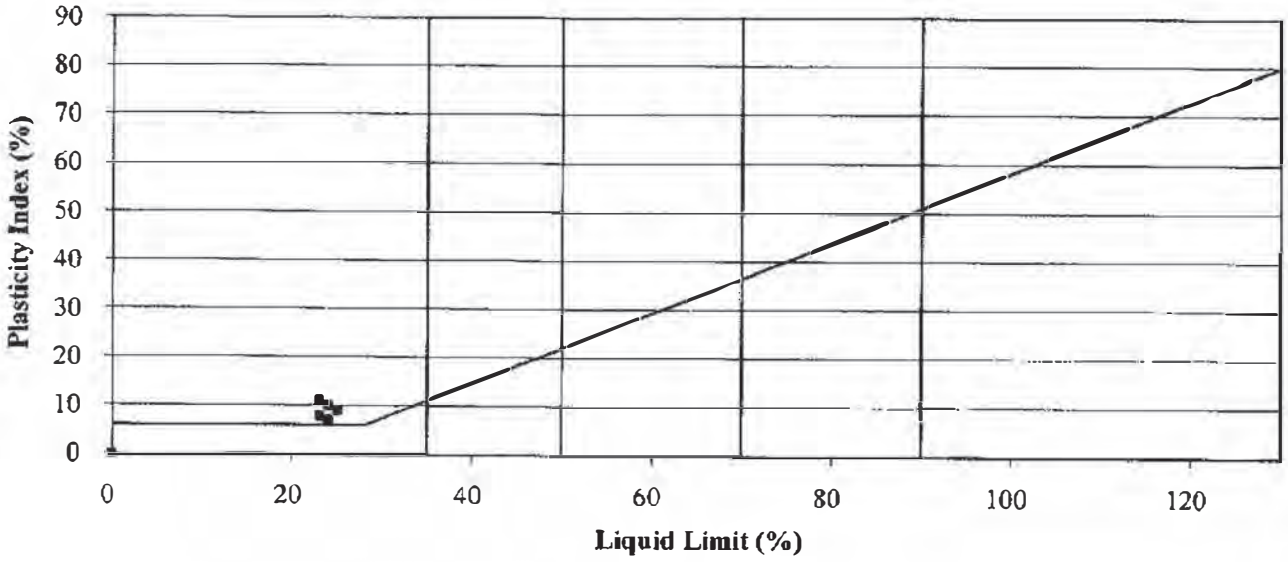
BS 1377:Part 2:1990

Hole/ Sample Number	Sample Type	Depth m	Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
WS50	T	0.40 - 0.60	11	25	16	9	95	CL Low Plasticity
WS50	T	1.40 - 1.60	11	23	15	8	95	CL Low Plasticity
WS50	T	2.40 - 2.60	11	24	14	10	95	CL Low Plasticity
WS51	T	1.20 - 1.40	10	24	17	7	90	CL Low Plasticity
WS51	T	2.20 - 2.40	9.0	23	12	11	97	CL Low Plasticity

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999



Date

Date

Shelton Mental Health Hospital, Shrewsbury- Main S.I (Phase 2b)

Contract No.: 8743/09

Client Ref No: 940

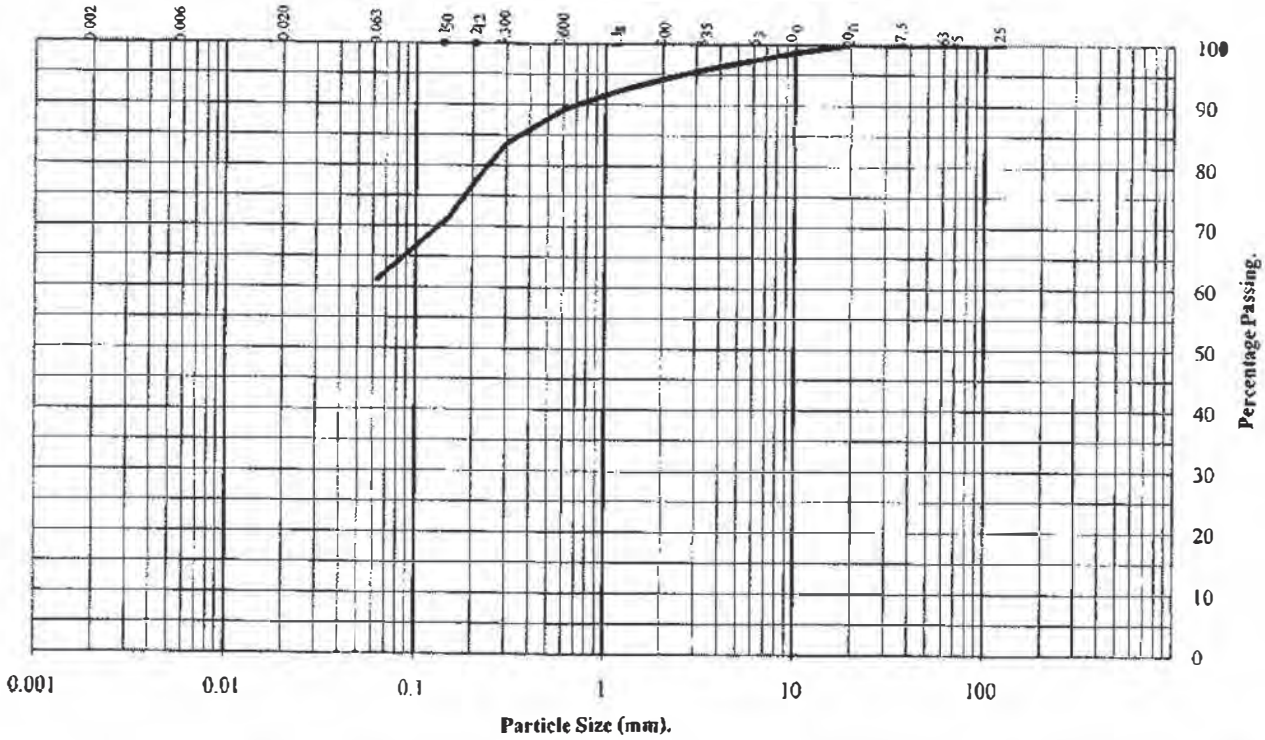
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH1/1** Type: **B** Depth (m): **0.10** to **1.20**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	99
6.3	97
3.35	96
2.00	94
1.18	92
0.60	89
0.30	84
0.21	78
0.15	71
0.06	61

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	6
Sand	33
Silt and Clay	61

Remarks:

#- not determined

12/10/09
Date

Approved by 12/10/09
Date

LABORATORY TESTING SERVICES LIMITED

GEO/104-2 Dec 05

Shelton Mental Health Hospital
Shrewsbury-Main S.I (Phase 2b)

Contract No.:
8743/09
Client Ref No:
940

UKAS TESTING 2788

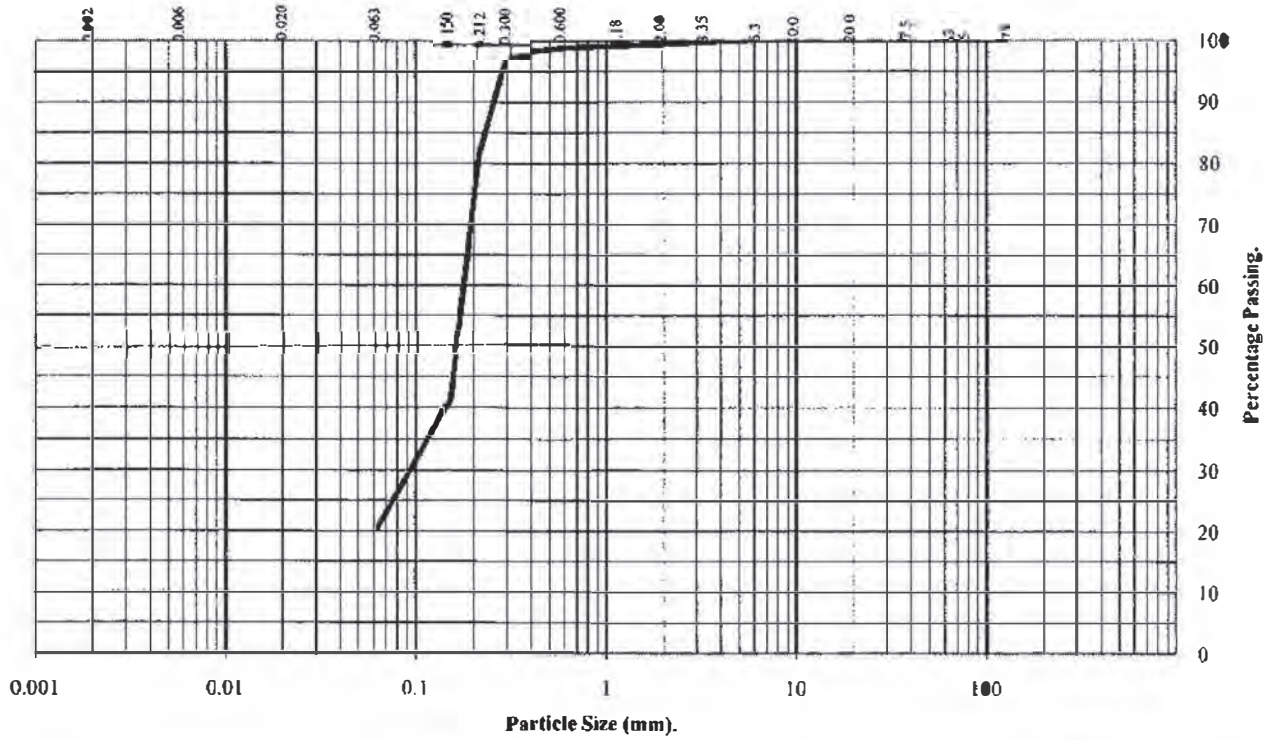
Issue No 1.2

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH1/8** Type: **B** Depth (m): **3.00** to **3.45**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	100
6.3	100
3.35	100
2.00	99
1.18	99
0.60	99
0.30	98
0.21	81
0.15	41
0.06	21

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	1
Sand	78
Silt and Clay	21

Remarks:

#- not determined

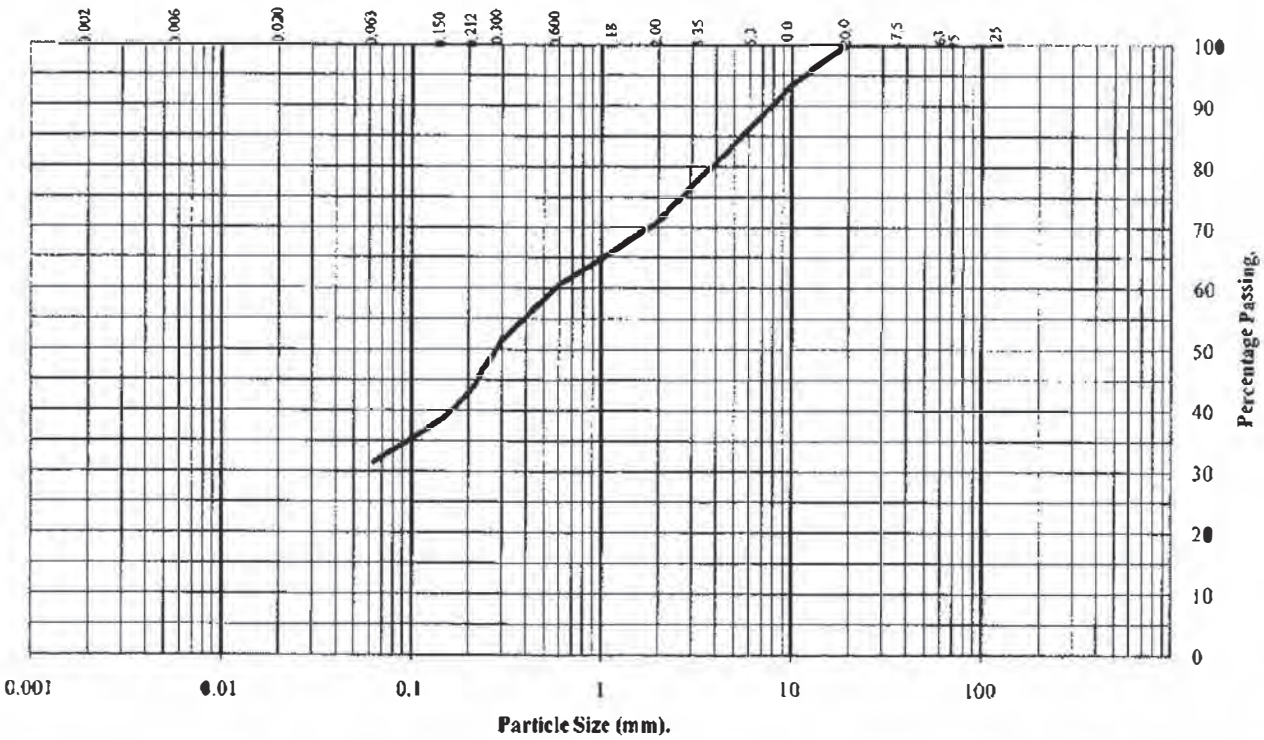
Approved by **Date**

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH2/1** Type: **B** Depth (m): **0.00** to **1.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	93
6.3	87
3.35	78
2.00	71
1.18	66
0.60	61
0.30	52
0.21	44
0.15	39
0.06	32

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	29
Sand	39
Silt and Clay	32

Remarks:

#- not determined

Date 6/10/09 **Approved by** **Date**

LABORATORY TESTING SERVICES LIMITED

GEO/104-2 Dec 05

Shelton Mental Health Hospital
Shrewsbury-Main S.I (Phase 2b)

Contract No.: 8743/09

Client Ref No: 940

UKAS TESTING 2788

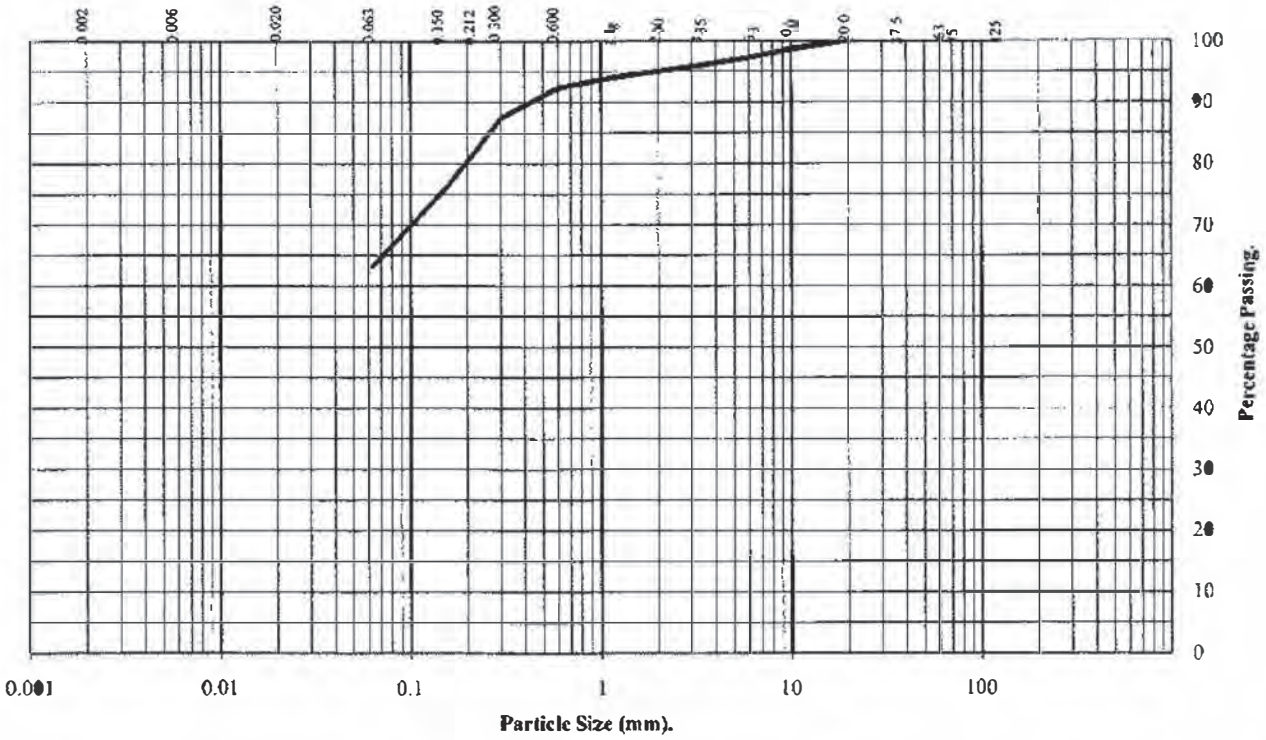
Issue No 1.2

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH2/6** Type: **B** Depth (m): **2.30** to **3.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	99
6.3	97
3.35	96
2.00	95
1.18	94
0.60	92
0.30	87
0.21	81
0.15	76
0.06	63

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	5
Sand	32
Silt and Clay	63

Remarks:

#- not determined

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

GEO/104-2 Dec 05

Shelton Mental Health Hospital
Shrewsbury-Main S.I (Phase 2b)

Contract No.: **8743/09**

Client Ref No: **940**

UKAS TESTING 2788

Issue No 1 2

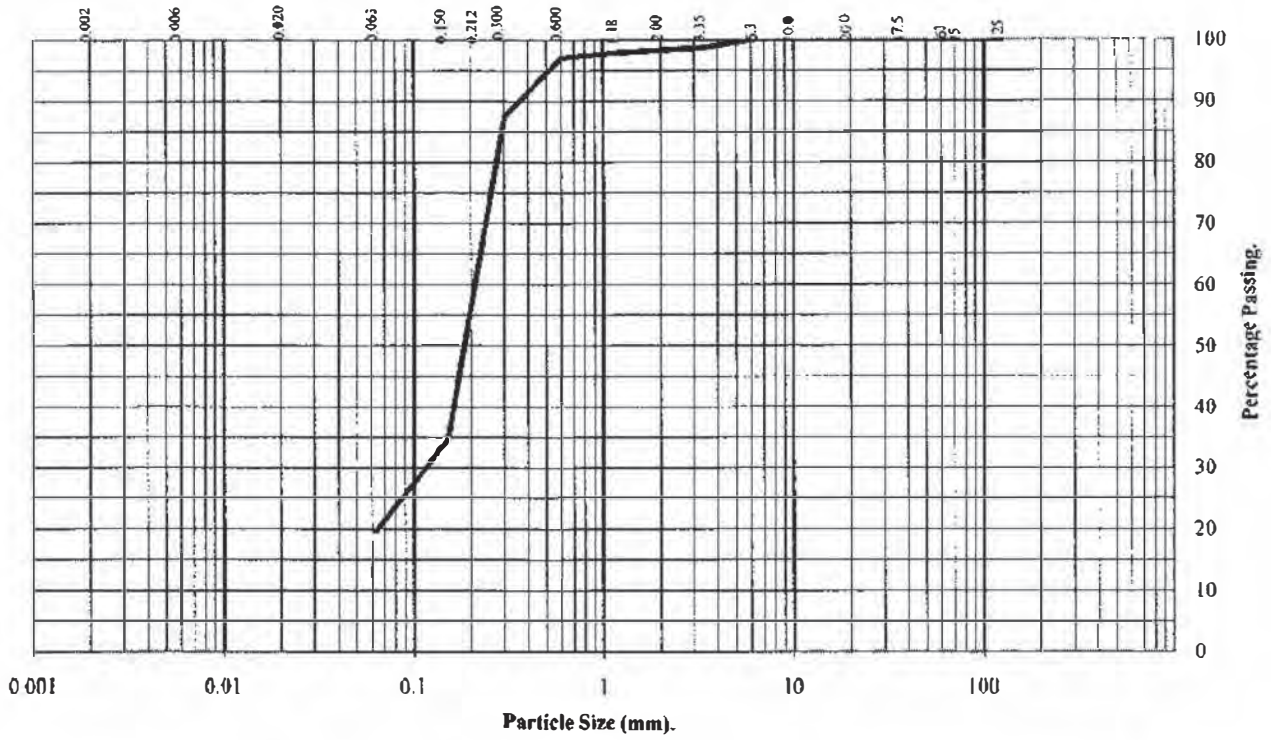
Page of

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH3/3** Type: **B** Depth (m): **1.20** to **2.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	100
6.3	100
3.35	99
2.00	98
1.18	98
0.60	97
0.30	87
0.21	61
0.15	34
0.06	20

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	2
Sand	78
Silt and Clay	20

Remarks:

#- not determined

Checked by **Approved by** **Date**

Shelton Mental Health Hospital
Shrewsbury-Main S.I (Phase 2b)

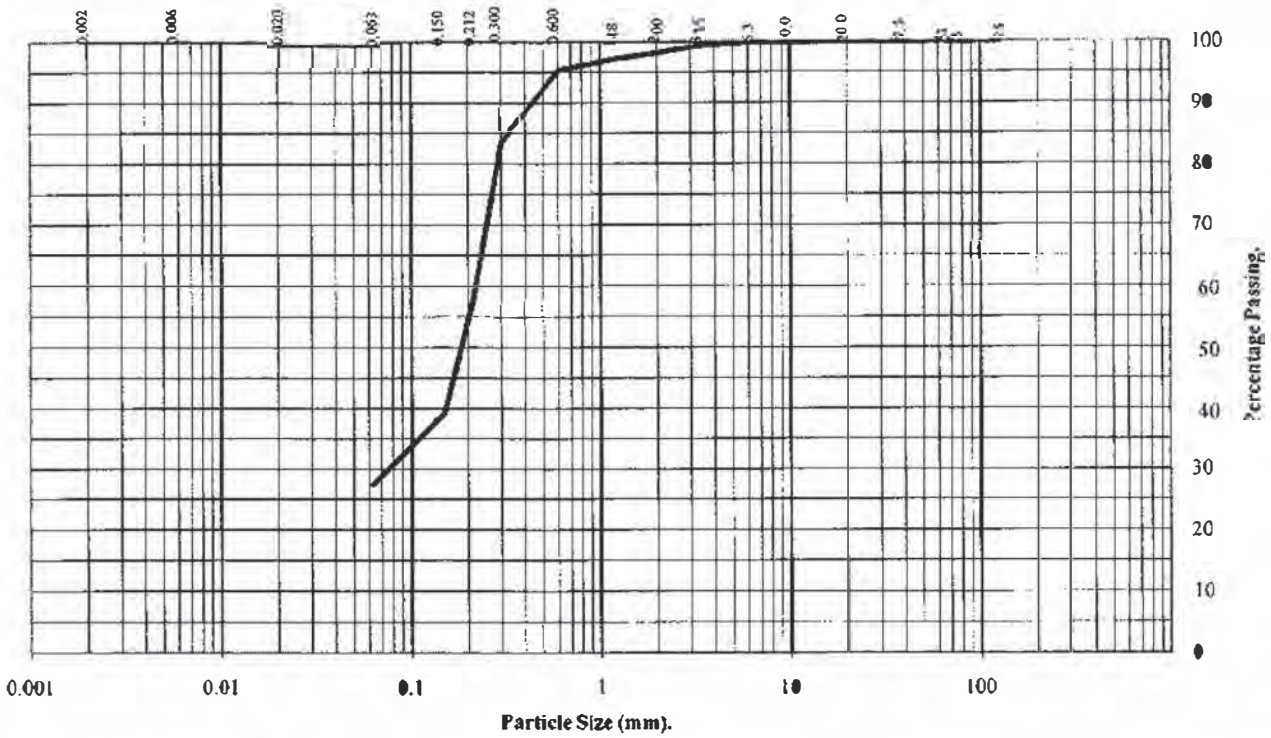
Contract No.: **8743/09**
Client Ref No: **940**

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH3/7** Type: **B** Depth (m): **3.00** to **4.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	100
6.3	100
3.35	99
2.00	98
1.18	97
0.60	95
0.30	84
0.21	58
0.15	39
0.06	27

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	2
Sand	71
Silt and Clay	27

Remarks:

#- not determined

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

Shelton Mental Health Hospital
Shrewsbury-Main S.I (Phase 2b)

Contract No.: 8743/09

Client Ref No: 940

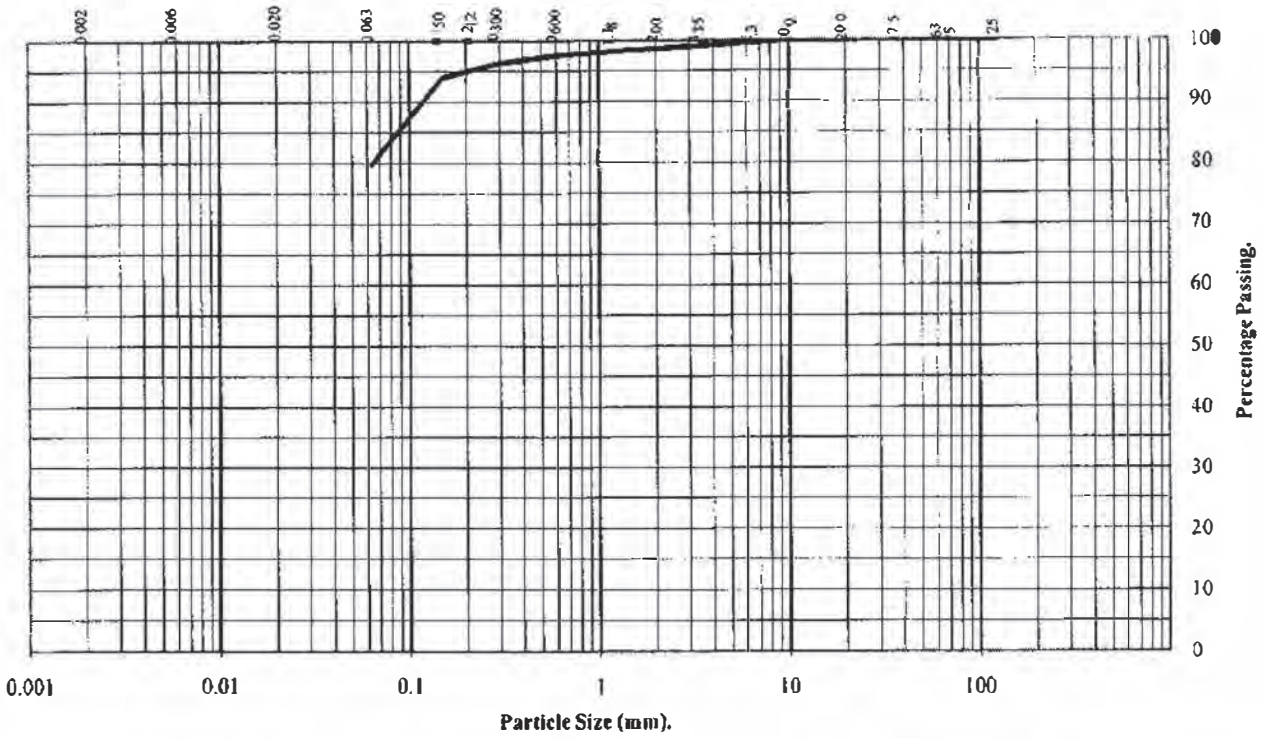
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH4/8** Type: **B** Depth (m): **3.50** to **4.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	100
6.3	100
3.35	99
2.00	99
1.18	98
0.60	98
0.30	96
0.21	95
0.15	94
0.06	80

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	1
Sand	19
Silt and Clay	80

Remarks:

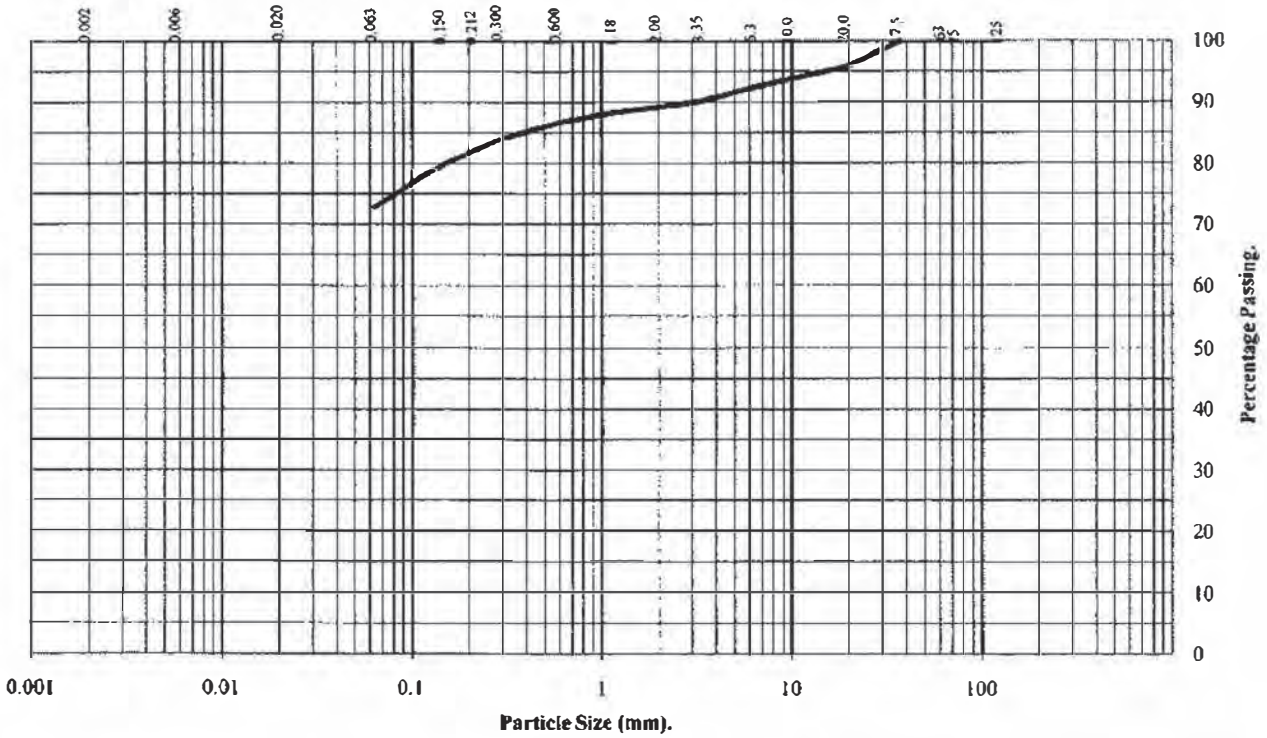
#- not determined

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH4/13** Type: **B** Depth (m): **5.60** to **6.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	96
10	94
6.3	92
3.35	90
2.00	89
1.18	88
0.60	87
0.30	84
0.21	82
0.15	80
0.06	73

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	11
Sand	16
Silt and Clay	73

Remarks:

#- not determined

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

GEO/104-2 Dec 05

Shelton Mental Health Hospital
Shrewsbury-Main S.I (Phase 2b)

Contract No.: **8743/09**

Client Ref No: **940**

UKAS TESTING 2788

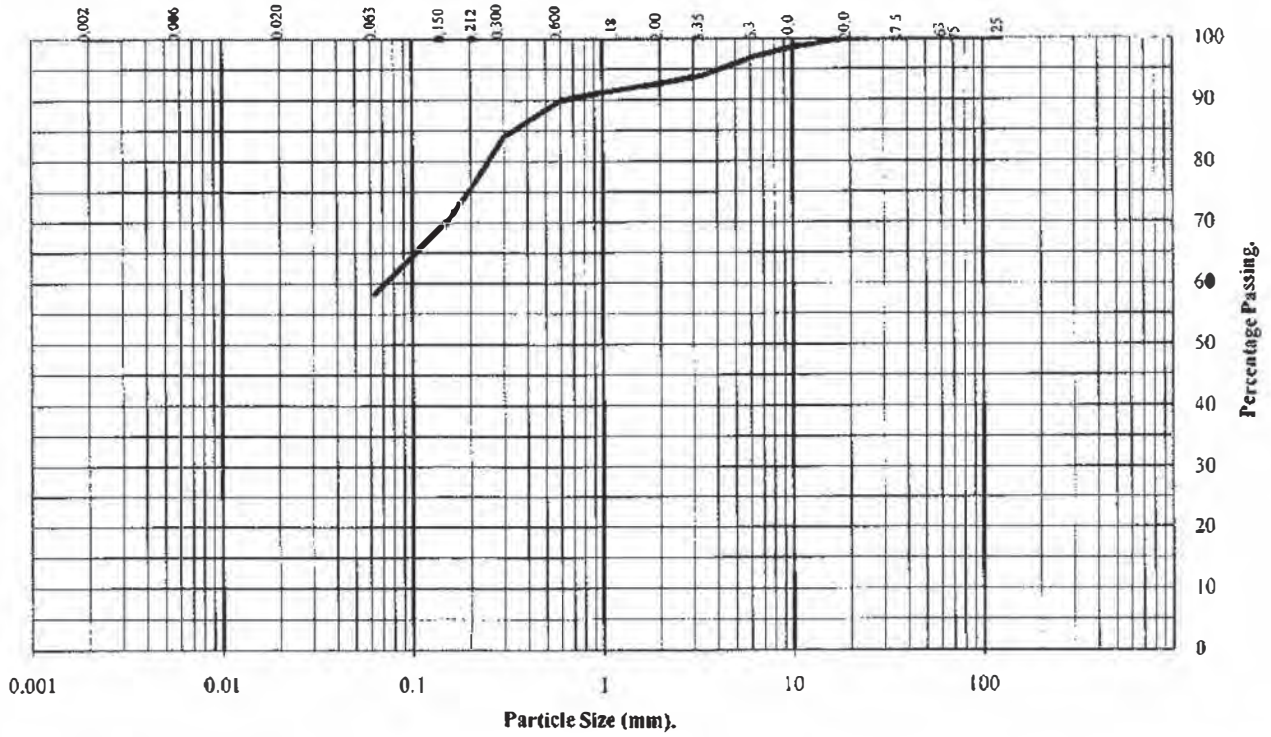
Issue No 1.2

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH6/8** Type: **B** Depth (m): **3.00** to **4.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	99
6.3	97
3.35	94
2.00	93
1.18	92
0.60	90
0.30	84
0.21	77
0.15	70
0.06	58

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	7
Sand	35
Silt and Clay	58

Remarks:

#- not determined

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

Shelton Mental Health Hospital
Shrewsbury-Main S.I (Phase 2b)

Contract No.: **8743/09**

Client Ref No: **940**

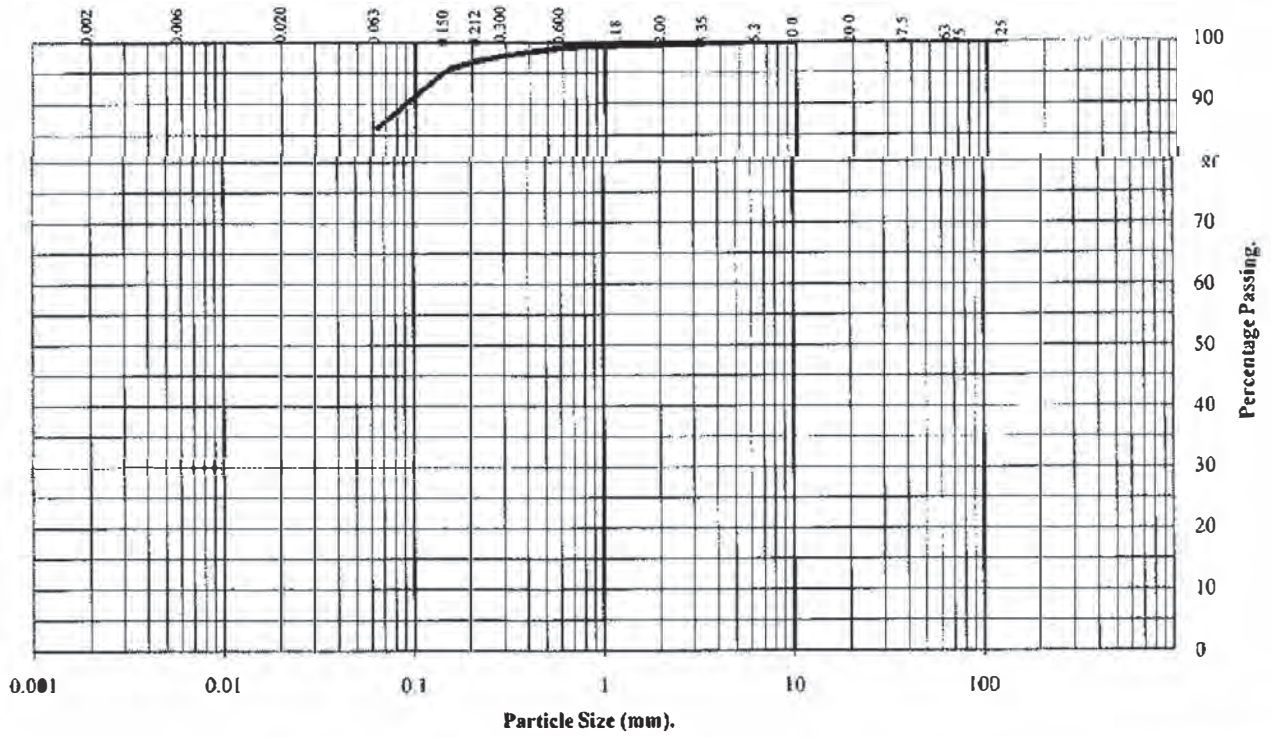
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377 Part 2:1990.

Wet Sieve, Clause 9.2

Hole/Sample Number: **BH6/16** Type: **B** Depth (m): **6.60** to **7.00**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
38	100
20	100
10	100
6.3	100
3.35	100
2.00	100
1.18	99
0.60	99
0.30	98
0.21	97
0.15	96
0.06	86

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#

Soil Fraction	Total Percentage
Cobbles	0
Gravel	0
Sand	14
Silt and Clay	86

Remarks:

#- not determined

Approved by **Date**

LABORATORY TESTING SERVICES LIMITED

Shelton Mental Health Hospital
Shrewsbury-Main S.I (Phase 2b)

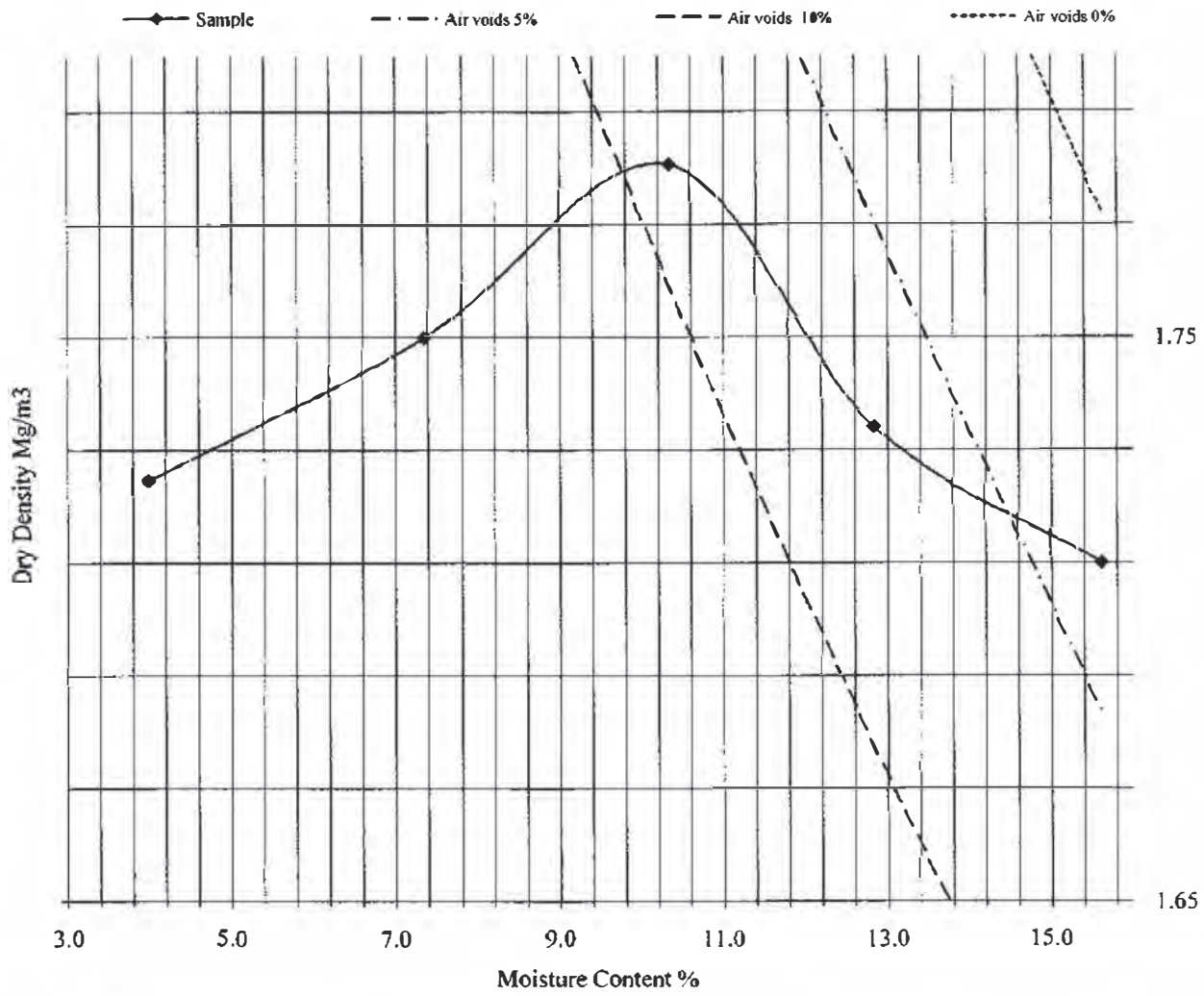
Contract No.: **8743/09**
Client Ref No: **940**

UKAS TESTING 2788

Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole/Sample Number: BH1/1 **Type :** B **Depth (m):** 0.10-1.20



Initial Moisture Content:		13	Method of Compaction	2.5Kg Rammer / Single Sample	
Particle Density (Mg/m3):	2.45 Assumed		Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (mg/m3):		1.78	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		10	Sample Preparation Clause :		3.2.4.1

Remarks

12/10/09

Approved by **Date**

Shelton Mental Health Hospital Shrewsbury Main S.I (Phase 2b)

Contract No.: 8743/09

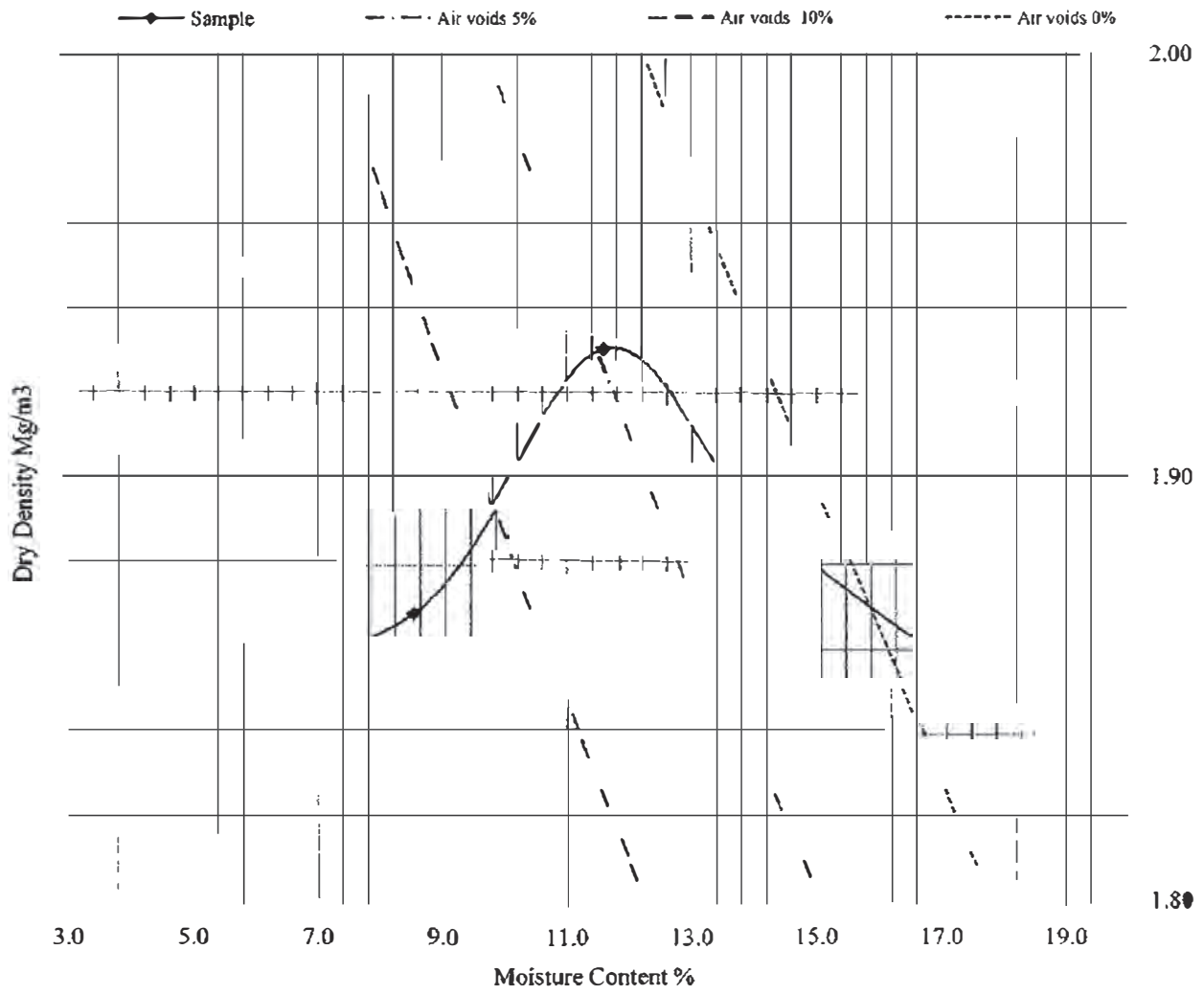
Client Ref No: 940

UKAS TESTING 2788

Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole/Sample Number: BH2/1 **Type :** B **Depth (m):** 0.00-0.10



Initial Moisture Content:	8.5	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m3):	2.65 Assumed	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m3):	1.93	Material Retained on 20.0 mm Test Sieve (%):	0
Optimum Moisture Content (%):	12	Sample Preparation Clause	3.2.4.1

Remarks

12/10/09
Date

Approved by

12/10/09
Date

LABORATORY TESTING SERVICES LIMITED

Shelton Mental Health Hospital Shrewsbury Main S.I (Phase 2b)

Contract No.: 8743/09

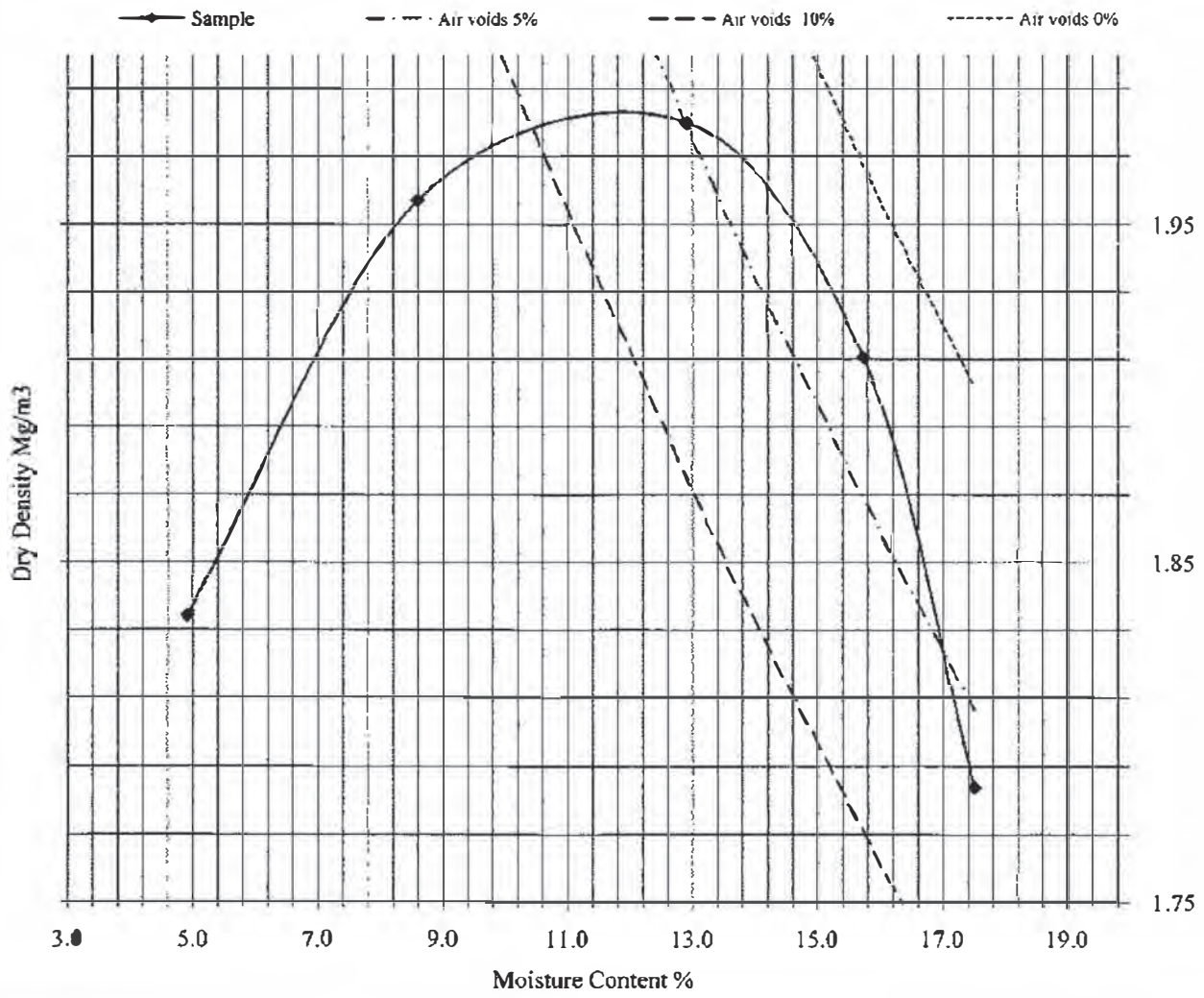
Client Ref No: 940

2788

Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole/Sample Number: BH3/3 **Type :** B **Depth (m):** 1.20-1.65



Initial Moisture Content:	17	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m3):	2.85 Assumed	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m3):	1.98	Material Retained on 20.0 mm Test Sieve (%):	0
Optimum Moisture Content (%):	13	Sample Preparation Clause :	3.2.4.1

Remarks

17/10/09

Approved by **Date**

Shelton Mental Health Hospital Shrewsbury Main S.I (Phase 2b)

Contract No.: 8743/09

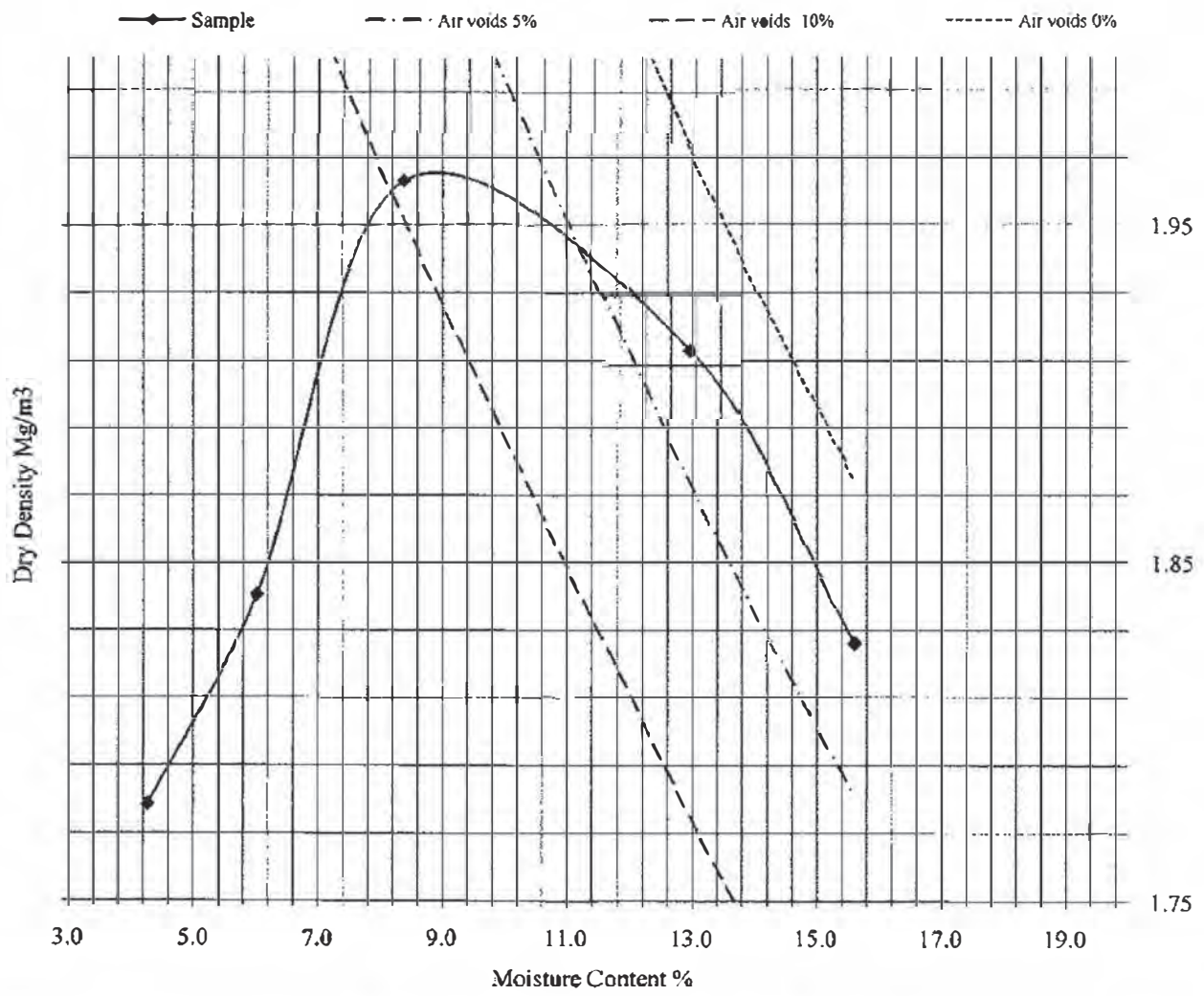
Client Ref No: 940

UKAS TESTING 2788

Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole/Sample Number: BH6/1 **Type :** B **Depth (m):** 0.10-1.20



Initial Moisture Content:	8.4	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m3): 2.65 Assumed		Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m3):	1.96	Material Retained on 20.0 mm Test Sieve (%):	0
Optimum Moisture Content (%):	8	Sample Preparation Clause :	3.2.4.1

Remarks

12/10/09
Date

Approved by

12/10/09
Date

Shelton Mental Health Hospital Shrewsbury Main S.I (Phase 2b)

Contract No.: 8743/09

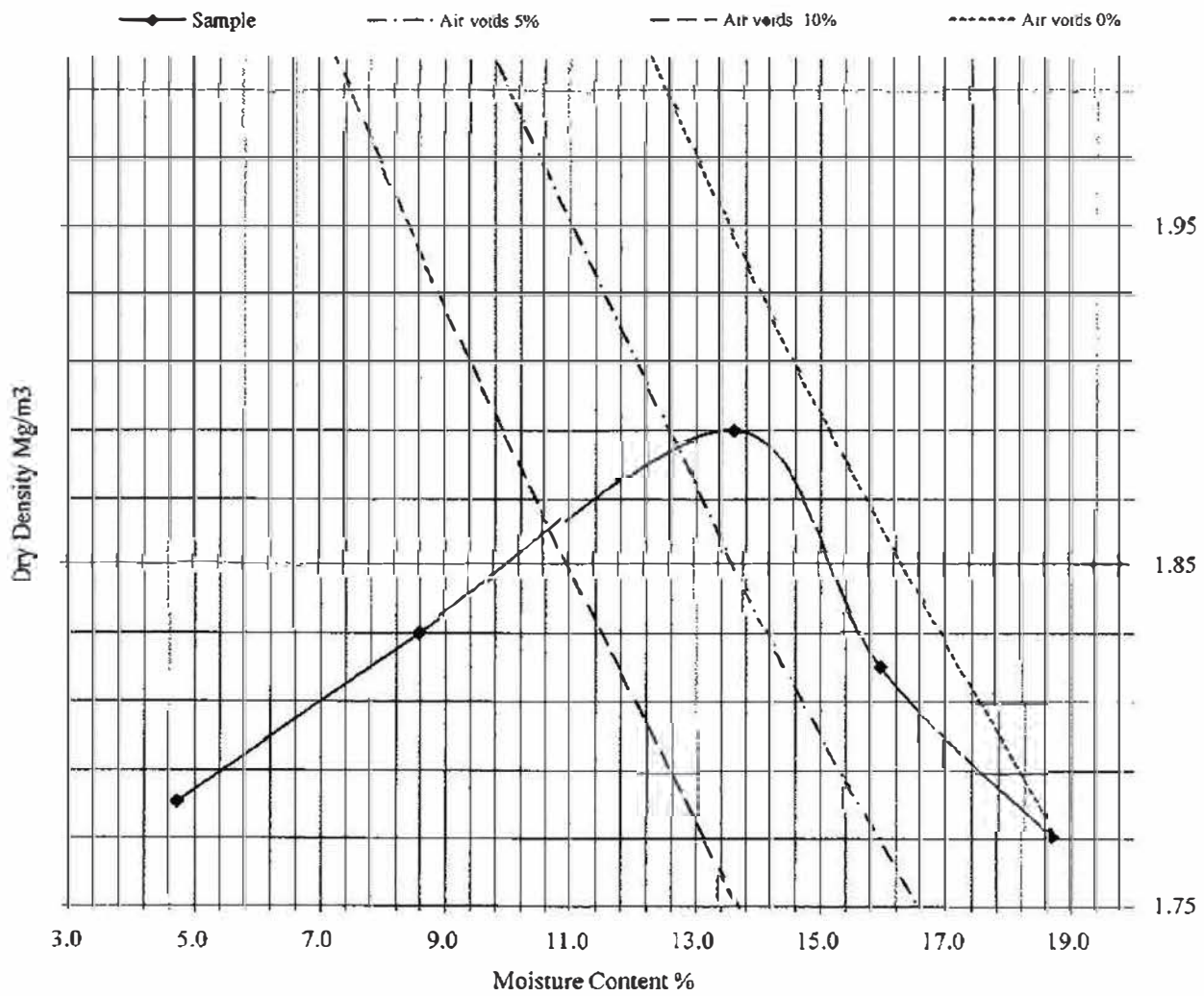
Client Ref No: 940

UKAS TESTING 2788

Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: TP3 **Type :** B **Depth (m):** 0.50



Initial Moisture Content:	13.6	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m3):	2.65 Assumed	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m3):	1.89	Material Retained on 20.0 mm Test Sieve (%):	0
Optimum Moisture Content (%):	14	Sample Preparation Clause :	3.2.4.1

Remarks

Checed by Date 12/10/05 Approved by Date

LABORATORY TESTING SERVICES LIMITED

Shelton Mental Health Hospital Shrewsbury Main S.I (Phase 2b)

Contract No.: 8743/09

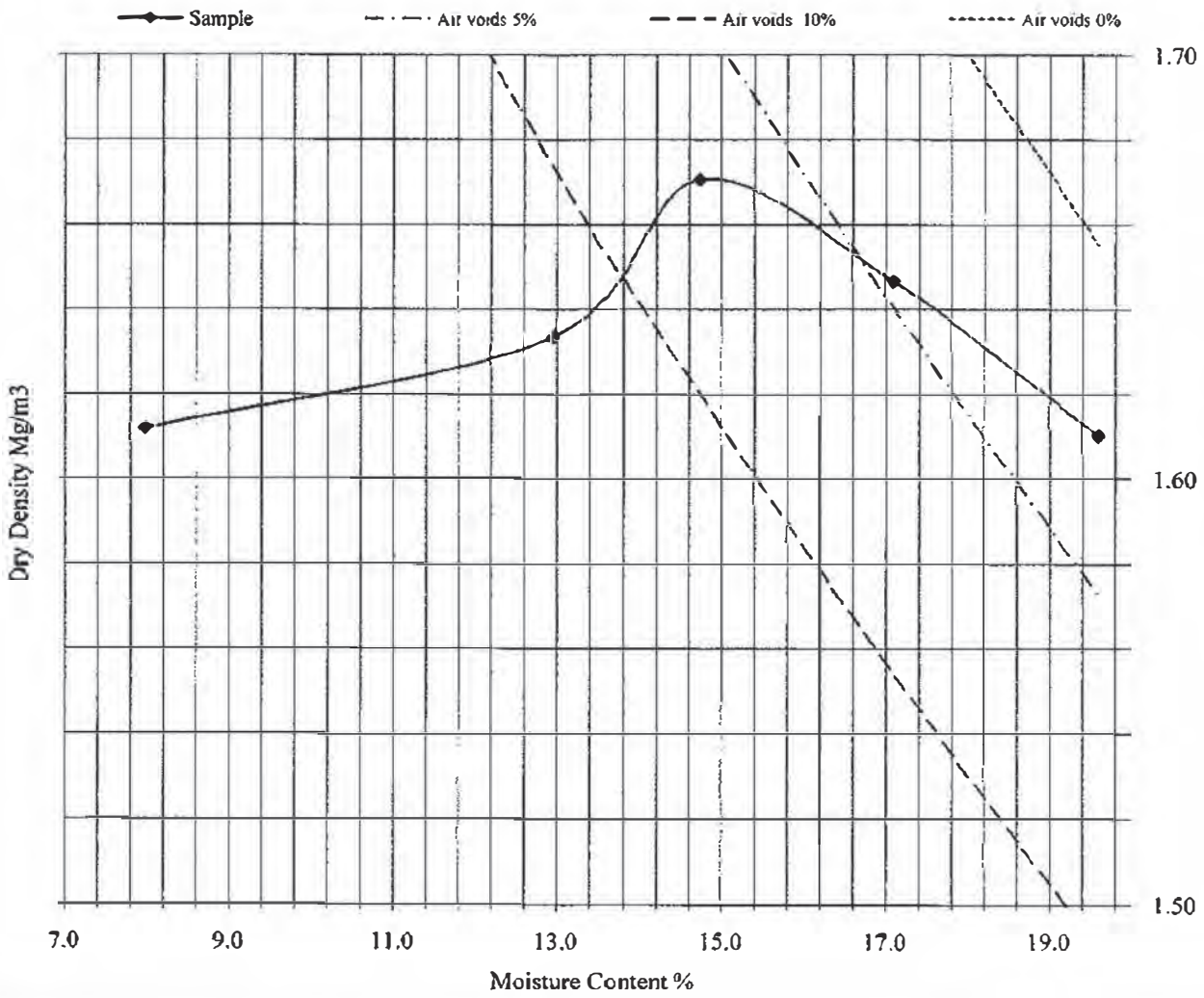
Client Ref No: 940

UKAS TESTING 2788

Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: TP4 **Type :** B **Depth (m):** 0.50



Initial Moisture Content:	17	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m3): 2.45 Assumed		Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m3):	1.67	Material Retained on 20.0 mm Test Sieve (%):	0
Optimum Moisture Content (%):	15	Sample Preparation Clause :	3.2.4.1

Remarks

12/10/09
Date

Approved by

12/10/07
Date

Shelton Mental Health Hospital Shrewsbury Main S.1 (Phase 2b)

Contract No.: 8743/09

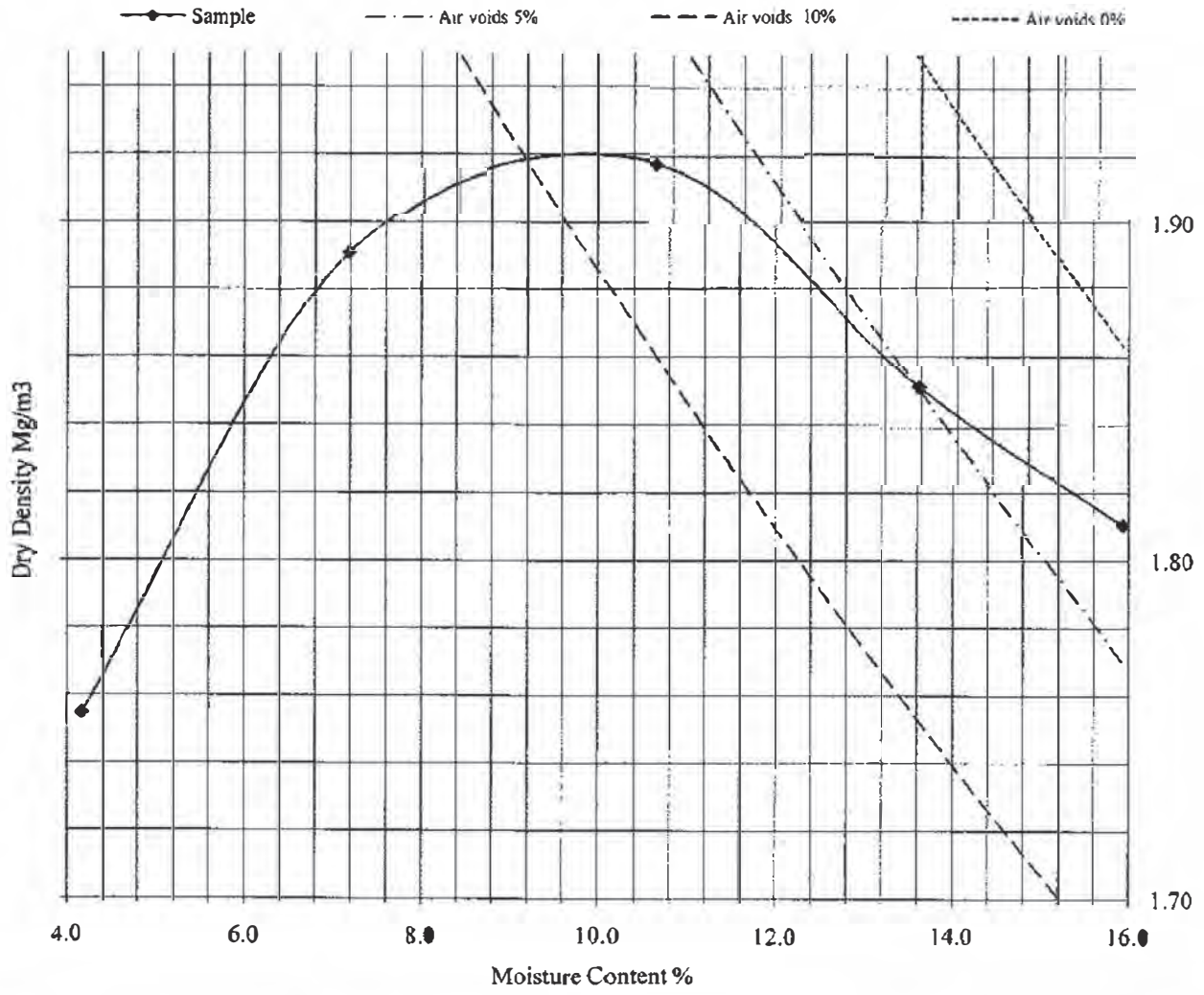
Client Ref No: 940

UKAS TESTING 2788

Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: TP5 **Type :** B **Depth (m):** 0.50



Initial Moisture Content:	14	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m3):	2.65 Assumed	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (mg/m3):	1.92	Material Retained on 20.0 mm Test Sieve (%):	0
Optimum Moisture Content (%):	11	Sample Preparation Clause :	3.2.4.1

Remarks

12/10/09

Approved by **Date**

Shelton Mental Health Hospital Shrewsbury Main S.I (Phase 2b)

Contract No.: 8743/09

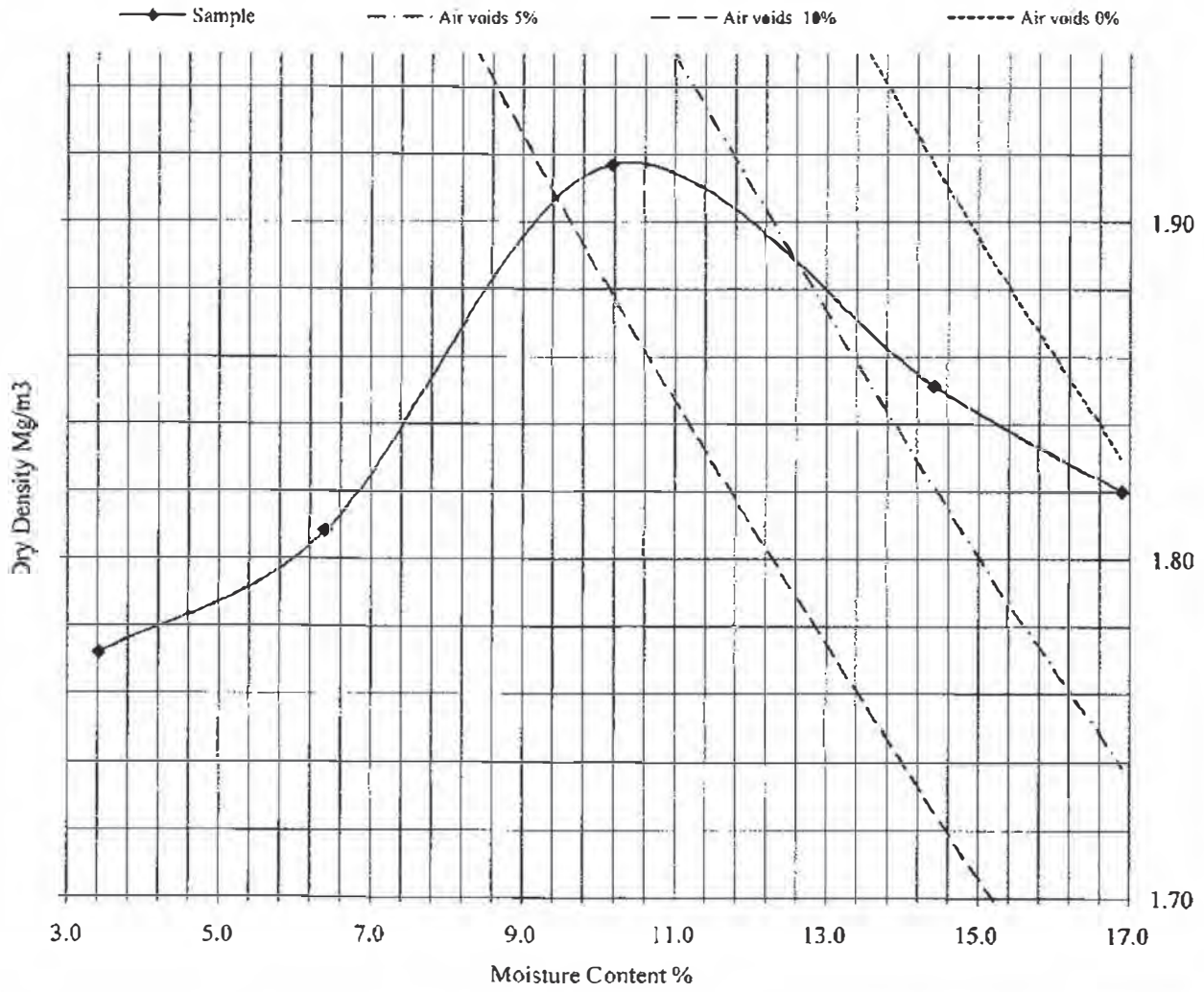
Client Ref No: 940

2788

Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: WS22 **Type :** B **Depth (m):** 0.70-1.20



Initial Moisture Content:		14	Method of Compaction	2.5Kg Rammer / Single Sample	
Particle Density (Mg/m3):	2.65 Assumed		Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (mg/m3):		1.92	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		10	Sample Preparation Clause :		3.2.4.1

Remarks

4/11/09
Date

Shelton Mental Health Hospital Shrewsbury Main S.I (Phase 2b)

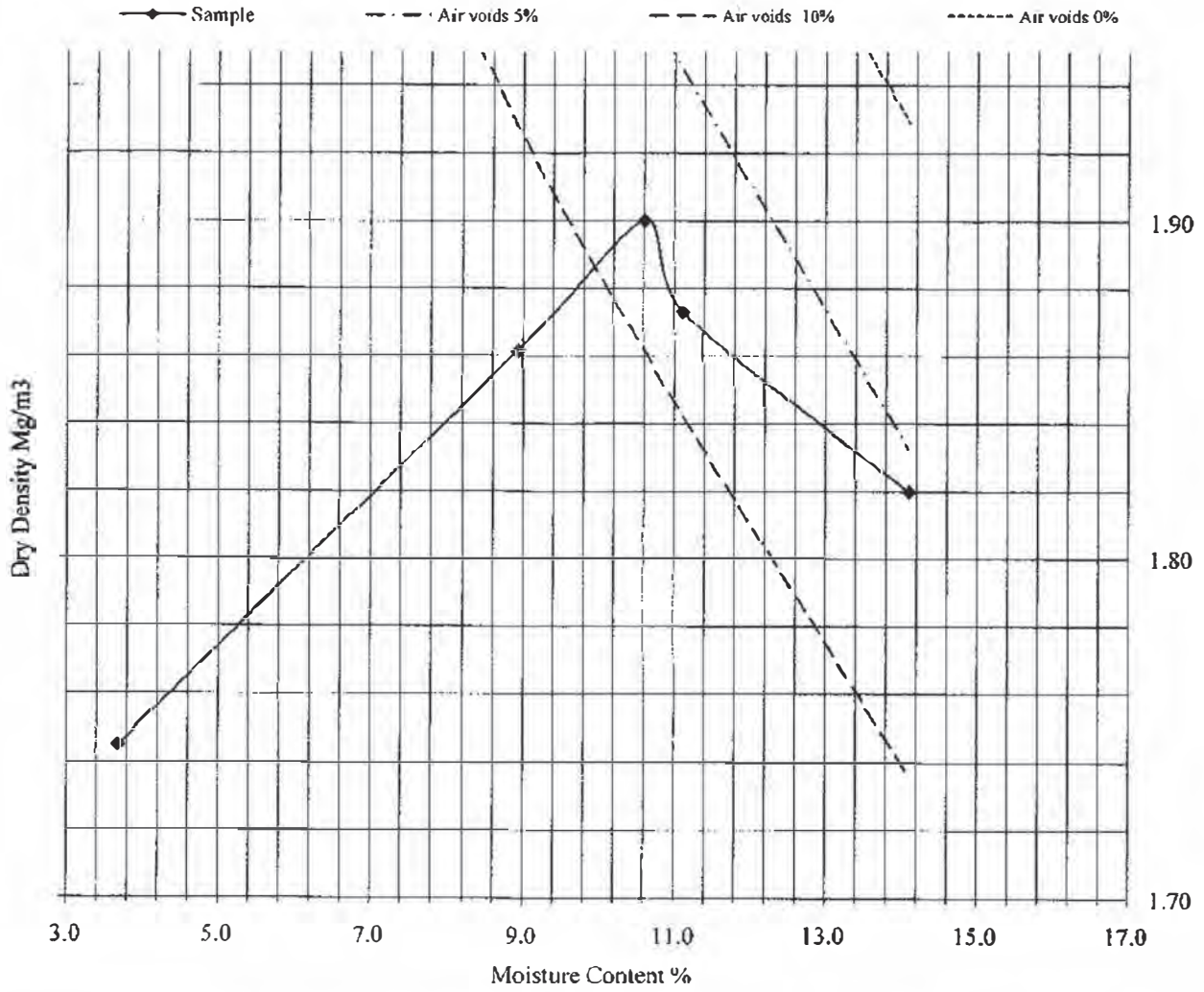
Contract No.: 8743/09

Client Ref No: 940

Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: WS25 **Type :** B **Depth (m):** 0.50-1.30



Initial Moisture Content:		14	Method of Compaction	2.5Kg Rammer / Single Sample	
Particle Density (Mg/m3):	2.65 Assumed		Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (mg/m3):		1.90	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		11	Sample Preparation Clause :		3.2.4.1

Remarks

4/11/09
Date

Shelton Mental Health Hospital Shrewsbury Main S.I (Phase 2b)

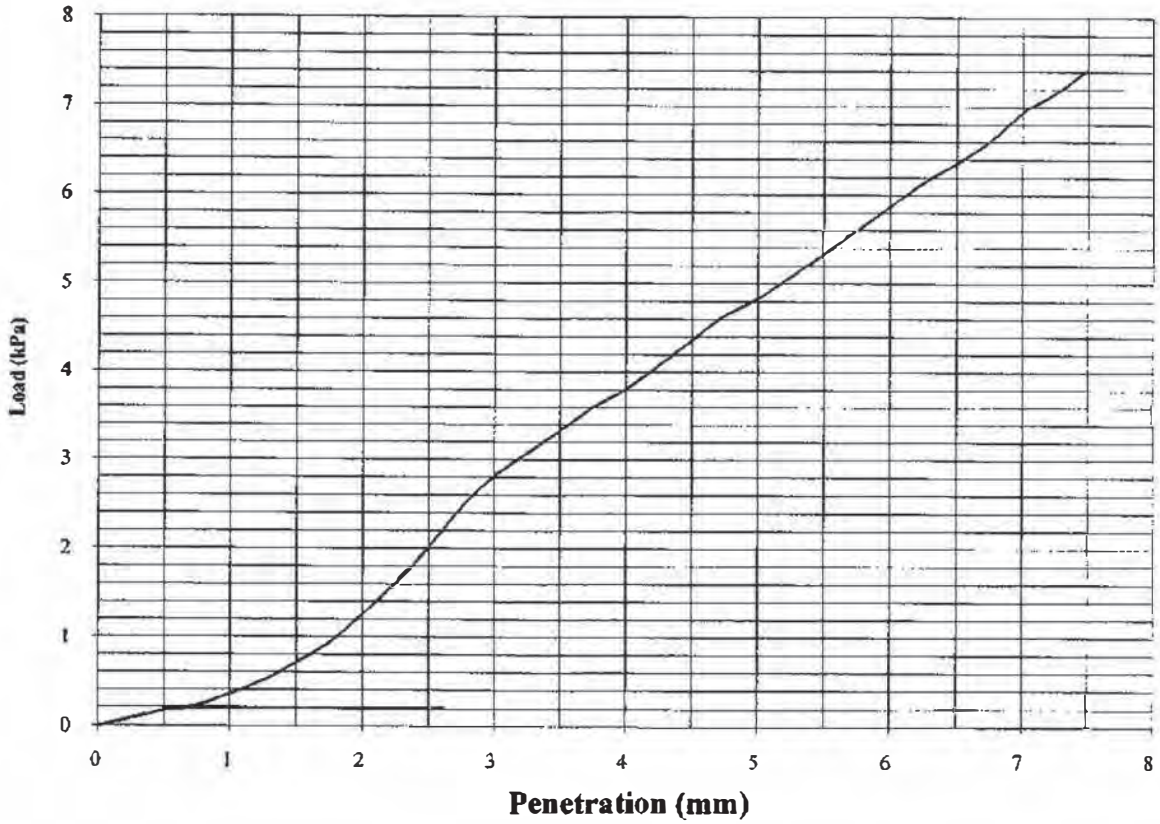
Contract No.: 8743/09
Client Ref No: 940

UKAS TESTING 2788

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: BH2 **Sample Number:** 1 **Depth (m)** 0.00-1.00



Initial Sample Conditions		Test Conditions		Method of compaction : 2.5 Kg Rammer	
Moisture Content:	8	Surcharge Kg:	2.0	Final Moisture Content %	
Bulk Density Mg/m3:	2.05	Soaking Time hrs	n/a	Sample Top	8.5
Dry Density Mg/m3:	1.89	Swelling mm:	n/a	Sample Bottom	N/A
C.B.R. Value %	Sample Top	24.2		Sample Bottom	N/A
Percentage retained on 20mm BS test sieve:		0	Remarks:		

Approved by 12/10/09 Date

Shelton Mental Health Hospital Shrewsbury Main S.I (Phase 2b)

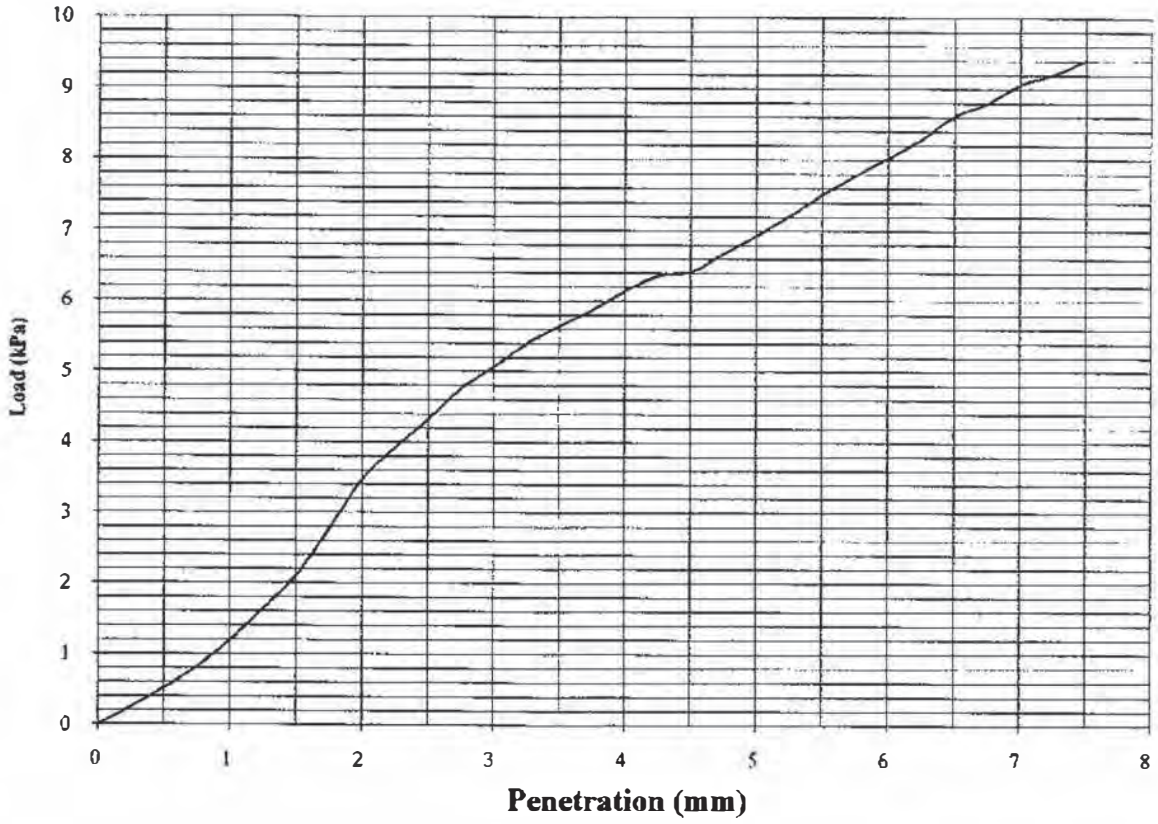
Contract No.: 8743/09

Client Ref No: 940

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: BH6 **Sample Number:** 1 **Depth (m)** 0.10-1.20



Initial Sample Conditions		Test Conditions		Method of compaction : 2.5 Kg Rammer	
Moisture Content:	8	Surcharge Kg:	2.0	Final Moisture Content %	
Bulk Density Mg/m3:	2.05	Soaking Time hrs	n/a	Sample Top	8.4
Dry Density Mg/m3:	1.89	Swelling mm:	n/a	Sample Bottom	N/A
C.B.R. Value % Sample Top		34.7		Sample Bottom	N/A
Percentage retained on 20mm BS test sieve:		0	Remarks:		

12/10/09
Date

Approved by

12/10/09
Date

LABORATORY TESTING SERVICES LIMITED

Shelton Mental Health Hospital Shrewsbury Main S.I (Phase 2b)

Contract No.: 8743/09

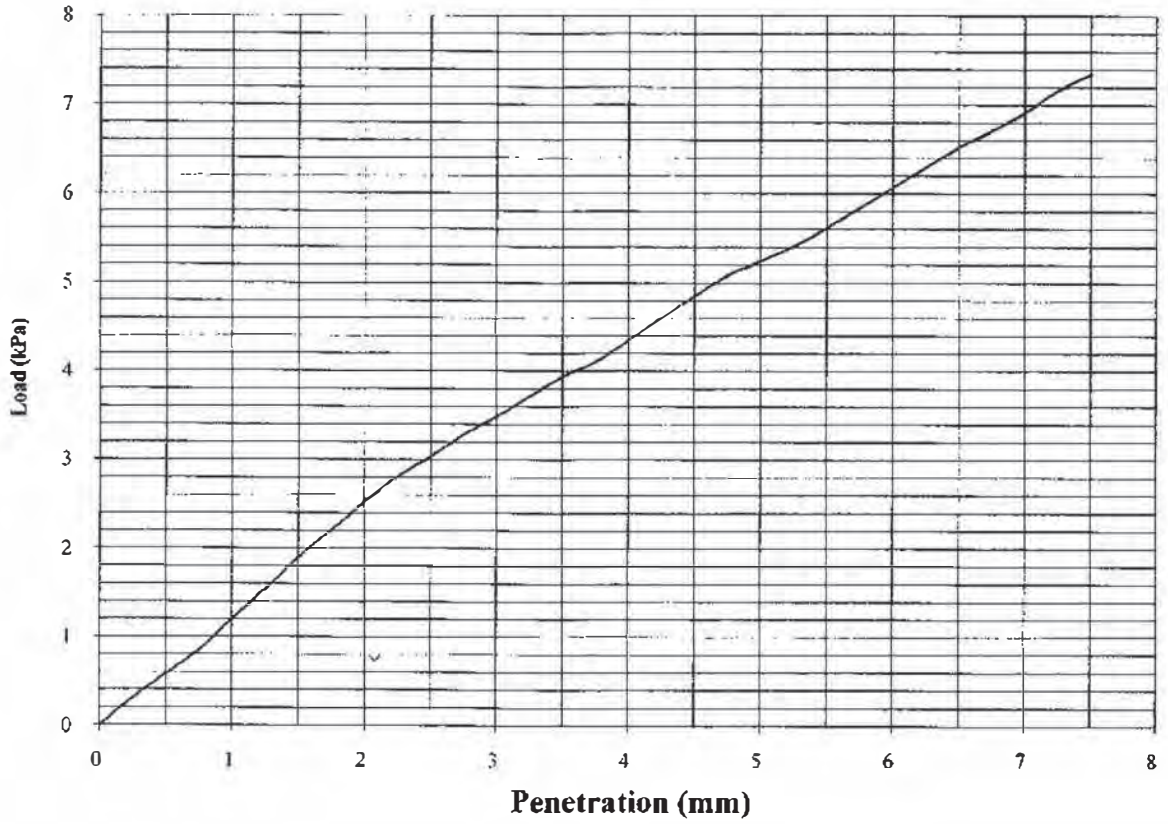
Client Ref No: 940

UKAS TESTING 2788

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: WS21 **Depth (m)** 0.60-1.40

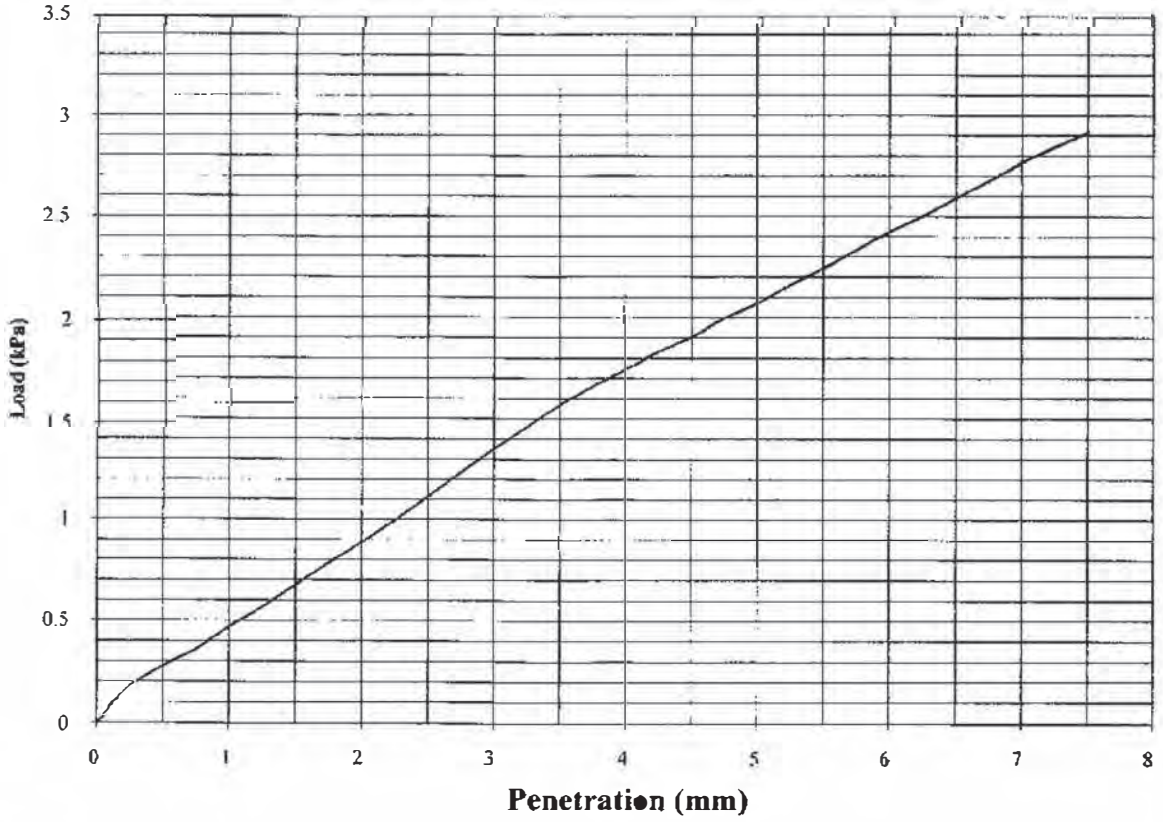


Initial Sample Conditions		Test Conditions		Method of compaction : 2.5 Kg Rammer	
Moisture Content:	11	Surcharge Kg:	2.0	Final Moisture Content %	
Bulk Density Mg/m3:	2.00	Soaking Time hrs	n/a	Sample Top	11.4
Dry Density Mg/m3:	1.80	Swelling mm:	n/a	Sample Bottom	N/A
C.B.R. Value %	Sample Top	26.2		Sample Bottom	N/A
Percentage retained on 20mm BS test sieve:		0	Remarks:		

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: WS22 **Depth (m)** 0.70-1.20



Initial Sample Conditions		Test Conditions		Method of compaction : 2.5 Kg Rammer	
Moisture Content:	14	Surcharge Kg:	2.0	Final Moisture Content %	
Bulk Density Mg/m3:	2.13	Soaking Time hrs	n/a	Sample Top	14.4
Dry Density Mg/m3:	1.86	Swelling mm:	n/a	Sample Bottom	N/A
C.B.R. Value %	Sample Top	10.4		Sample Bottom	N/A
Percentage retained on 20mm BS test sieve:		0	Remarks:		

4/11/09

Checked by Date

Approved by 4/11/09 Date

LABORATORY TESTING SERVICES LIMITED

Shelton Mental Health Hospital Shrewsbury Main S.I (Phase 2b)

Contract No.: 8743/09

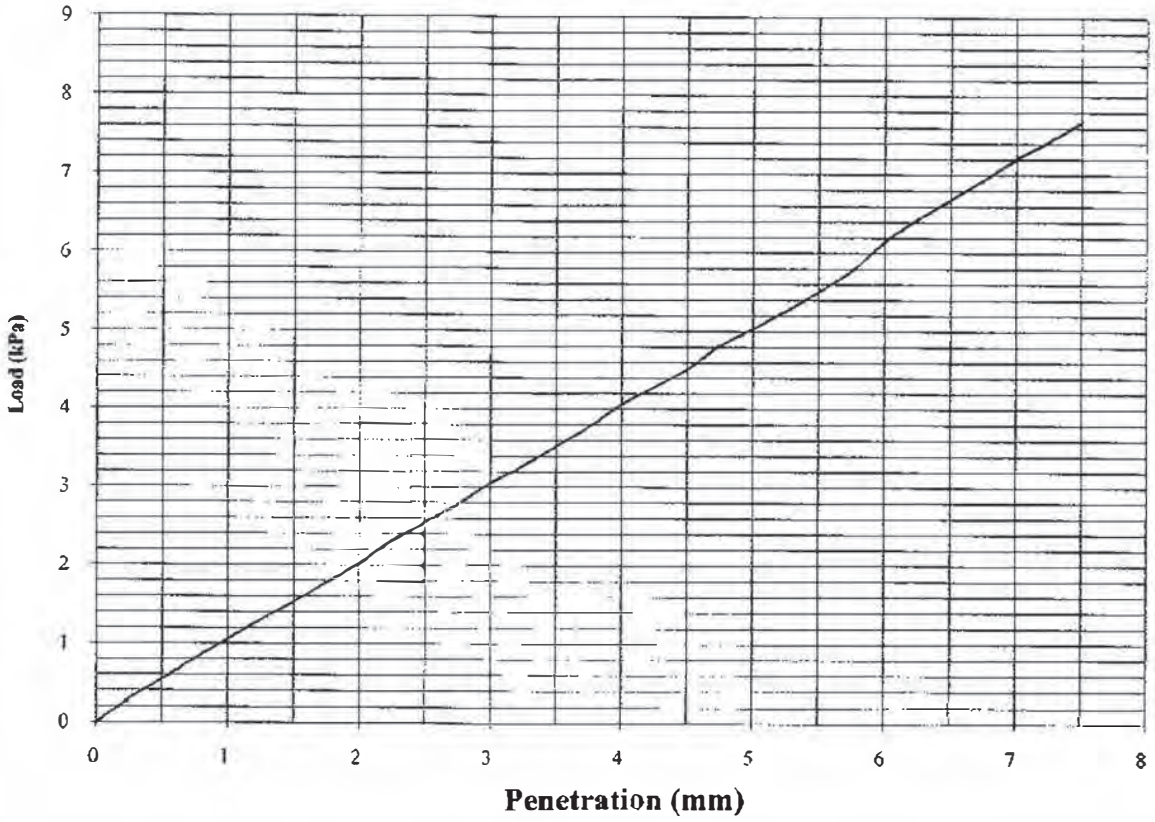
Client Ref No: 940

UKAS TESTING 2788

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: WS23 **Depth (m)** 1.00-2.00



Initial Sample Conditions		Test Conditions		Method of compaction : 2.5 Kg Rammer	
Moisture Content:	11	Surcharge Kg:	2.0	Final Moisture Content %	
Bulk Density Mg/m3:	2.00	Soaking Time hrs	n/a	Sample Top	10.6
Dry Density Mg/m3:	1.81	Swelling mm:	n/a	Sample Bottom	N/A
C.B.R. Value %	Sample Top	25.2		Sample Bottom	N/A
Percentage retained on 20mm BS test sieve:		0	Remarks:		

LABORATORY TESTING SERVICES LIMITED

Shelton Mental Health Hospital Shrewsbury Main S.I (Phase 2b)

Contract No.: 8743/09

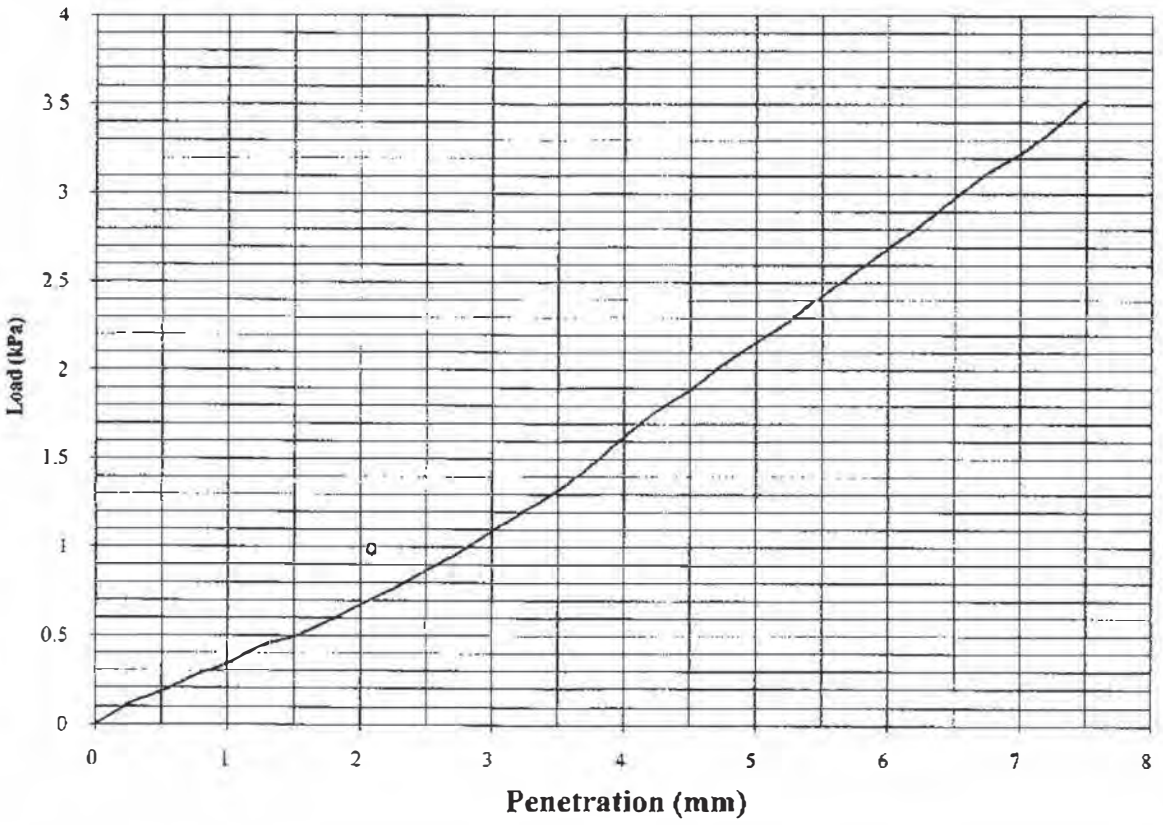
Client Ref No: 940

UKAS TESTING 2788

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: WS25 **Depth (m)** 0.50-1.30



Initial Sample Conditions		Test Conditions		Method of compaction : 2.5 Kg Rammer	
Moisture Content:	14	Surcharge Kg:	2.0	Final Moisture Content %	
Bulk Density Mg/m3:	2.11	Soaking Time hrs	n/a	Sample Top	-64.3
Dry Density Mg/m3:	1.85	Swelling mm:	n/a	Sample Bottom	N/A
C.B.R. Value %	Sample Top	10.8		Sample Bottom	N/A
Percentage retained on 20mm BS test sieve:		0	Remarks:		

Checked by Date Date

LABORATORY TESTING SERVICES LIMITED

Shelton Mental Health Hospital Shrewsbury Main S.I (Phase 2b)

Contract No.: 8743/09

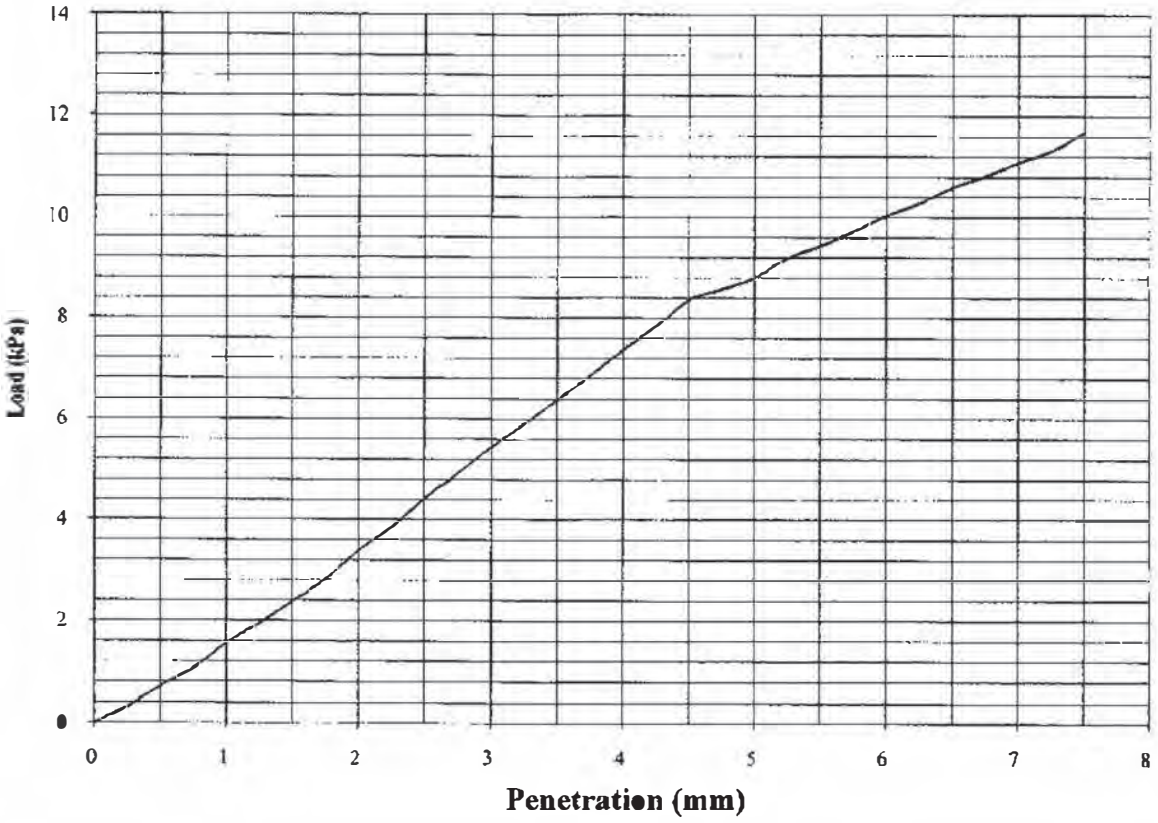
Client Ref No: 940

UKAS TESTING 2788

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: WS26 **Depth (m)** 0.60-1.20



Initial Sample Conditions		Test Conditions		Method of compaction : 2.5 Kg Rammer	
Moisture Content:	14	Surcharge Kg:	2.0	Final Moisture Content %	
Bulk Density Mg/m3:	2.05	Soaking Time hrs	n/a	Sample Top	13.7
Dry Density Mg/m3:	1.80	Swelling mm:	n/a	Sample Bottom	N/A
C.B.R. Value %	Sample Top	44.0		Sample Bottom	N/A
Percentage retained on 20mm BS test sieve.		0	Remarks:		

Date

LABORATORY TESTING SERVICES LIMITED

Shelton Mental Health Hospital Shrewsbury Main S.I (Phase 2b)

Contract No.: 8743/09

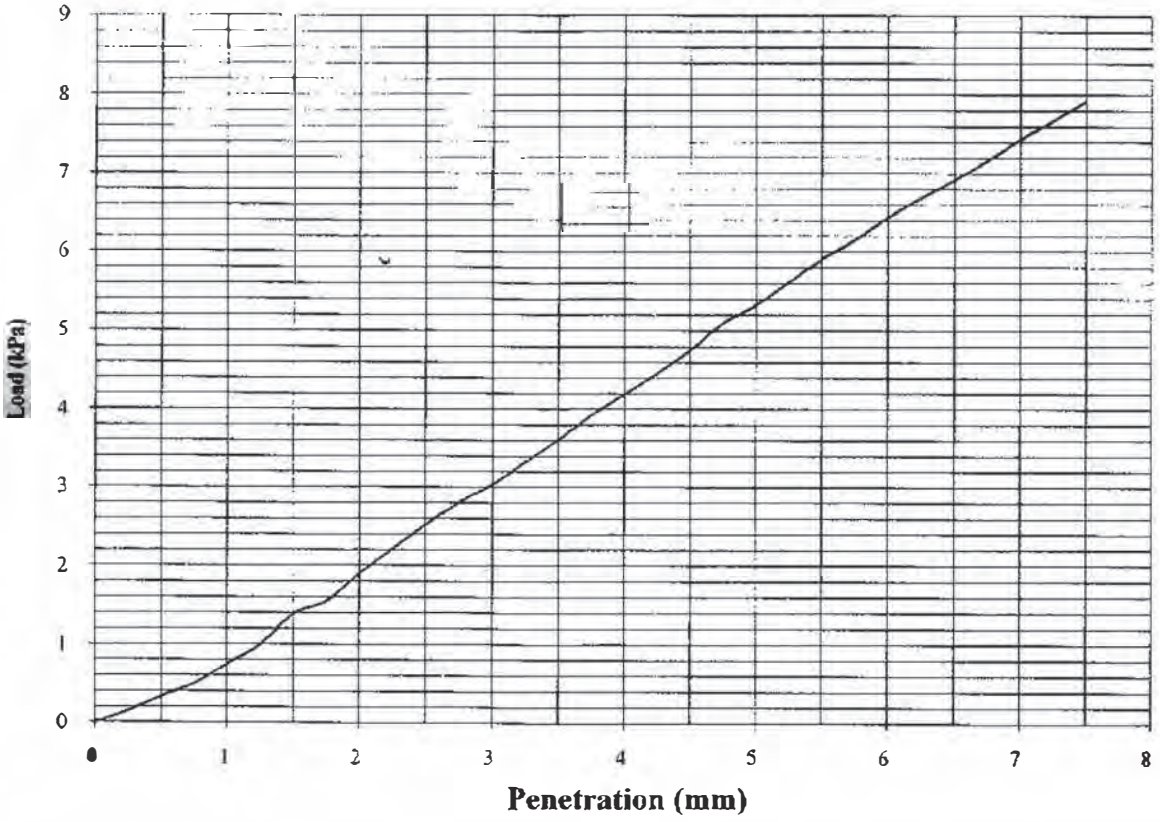
Client Ref No: 940

UKAS TESTING 2788

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: WS30 **Depth (m)** 0.60-1.20



Initial Sample Conditions		Test Conditions		Method of compaction : 2.5 Kg Rammer	
Moisture Content:	10	Surcharge Kg:	2.0	Final Moisture Content %	
Bulk Density Mg/m3:	2.07	Soaking Time hrs	n/a	Sample Top	9.7
Dry Density Mg/m3:	1.89	Swelling mm:	n/a	Sample Bottom	N/A
C.B.R. Value %	Sample Top	26.6		Sample Bottom	N/A
Percentage retained on 20mm BS test sieve:			Remarks:		

LABORATORY TESTING SERVICES LIMITED

Shelton Mental Health Hospital Shrewsbury Main S.I (Phase 2b)

Contract No.: 8743/09

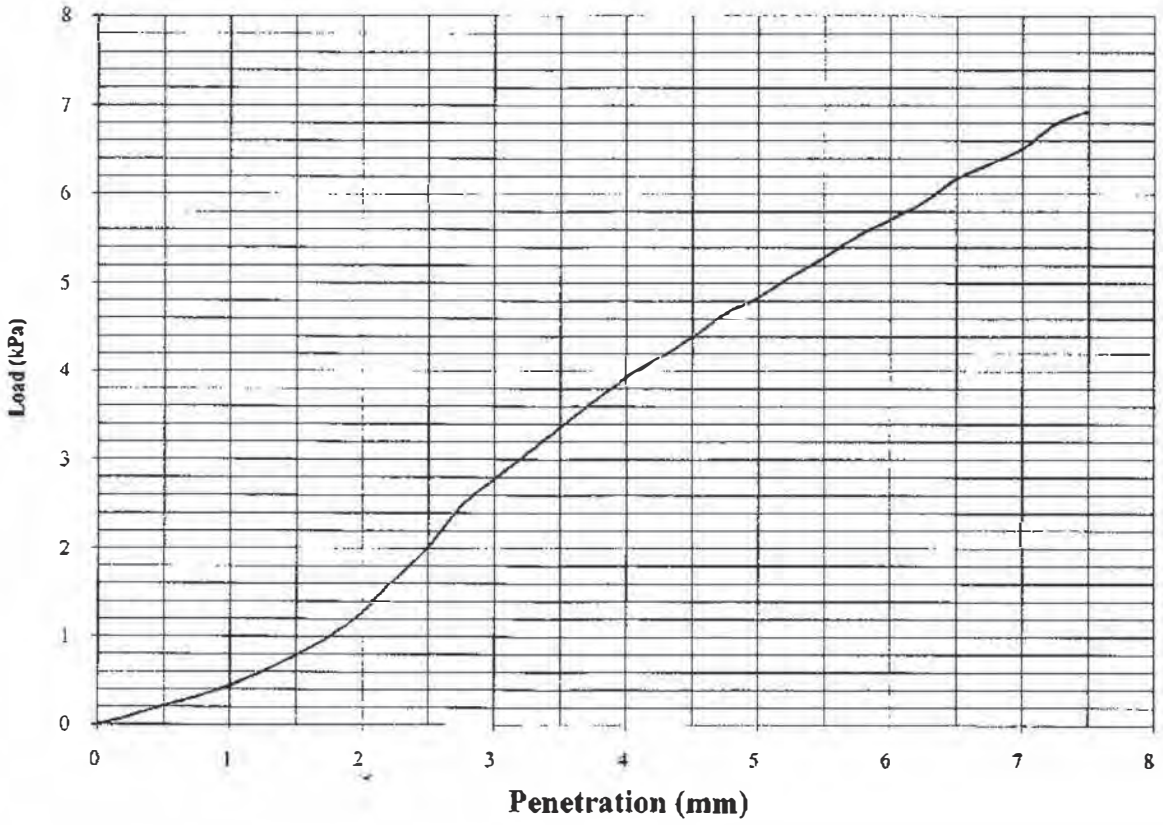
Client Ref No: 940

UKAS TESTING 2788

California Bearing Ratio Test.

BS 1377:Part 4:1990

Hole Number: WS34 **Depth (m)** 0.80-1.20



Initial Sample Conditions		Test Conditions		Method of compaction : 2.5 Kg Rammer	
Moisture Content:	12	Surcharge Kg:	2.0	Final Moisture Content %	
Bulk Density Mg/m3:	1.93	Soaking Time hrs	n/a	Sample Top	11.7
Dry Density Mg/m3:	1.73	Swelling mm:	n/a	Sample Bottom	N/A
C.B.R. Value %	Sample Top	24.2		Sample Bottom	N/A
Percentage retained on 20mm BS test sieve:		0	Remarks:		

Date

LABORATORY TESTING SERVICES LIMITED

Shelton Mental Health Hospital Shrewsbury Main S.I (Phase 2b)

Contract No.: 8743/09

Client Ref No: 940

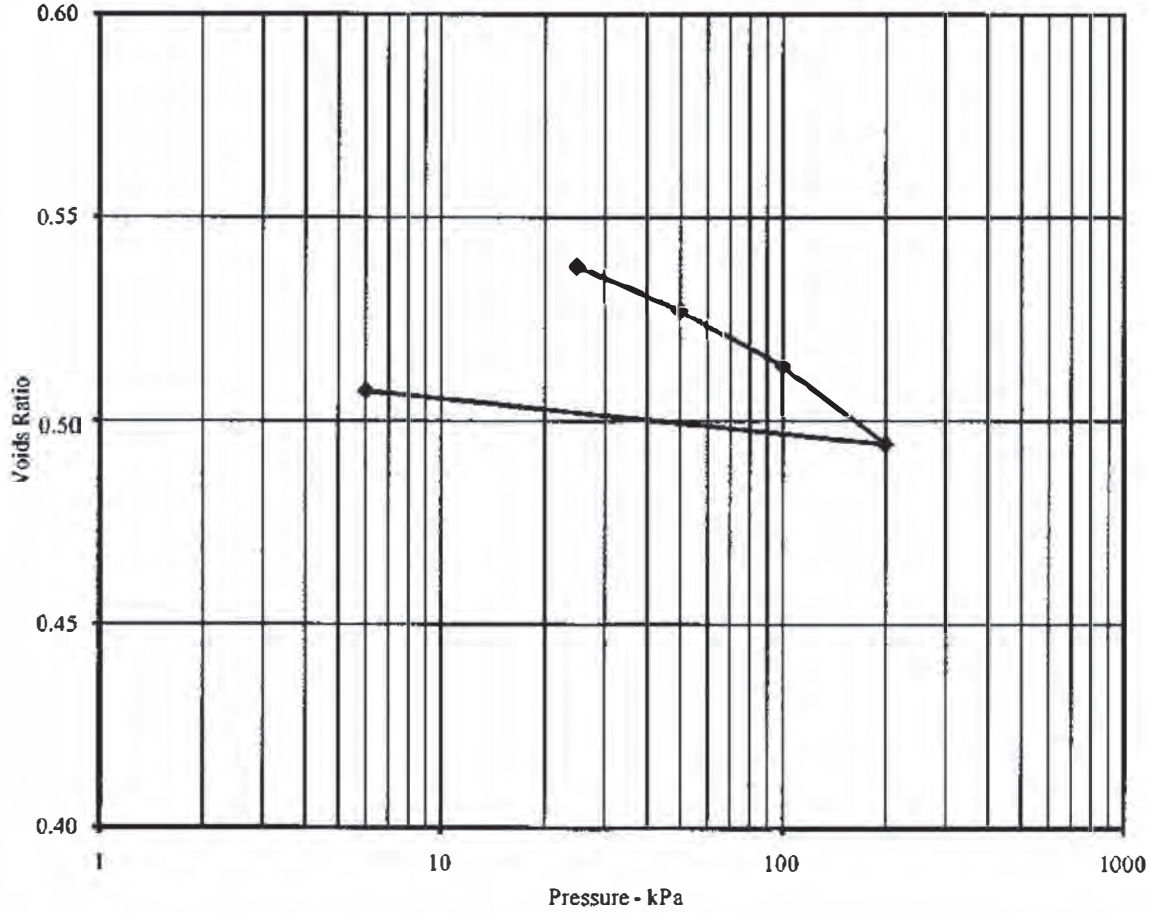
UKAS TESTING 2788

ONE DIMENSIONAL CONSOLIDATION

BS1377: Part 5: 1990

Hole Number: **BH1** Sample Number: 4 Depth (m): **2.00-2.45**

Initial Conditions		Pressure Range kPa			Mv m2/MN	Cv m2/yr	Method of time fitting used Cv Calculated using t90
Moisture Content (%):	21						
Bulk Density (Mg/m3):	2.04	0	-	25	0.634	2.773	Nominal Laboratory Temperature 20'C
Dry Density (Mg/m3):	1.70	25	-	50	0.283	2.433	
Voids Ratio:	0.5629	50	-	100	0.178	2.666	Location of specimen with sample Top
Degree of saturation:	96.9	100	-	200	0.128	4.316	
Height (mm):	19.93	200	-	6	0.045	4.391	Remarks:
Diameter (mm)	75						
Particle Density (Mg/m3):	2.65						
Assumed							



Approved By 12/10/09 **Date**

Shelton Mental Health Hospital, Shrewsbury - Main S.I (Phase 2b)

Contract No. 8743/09
Client Ref No. 940

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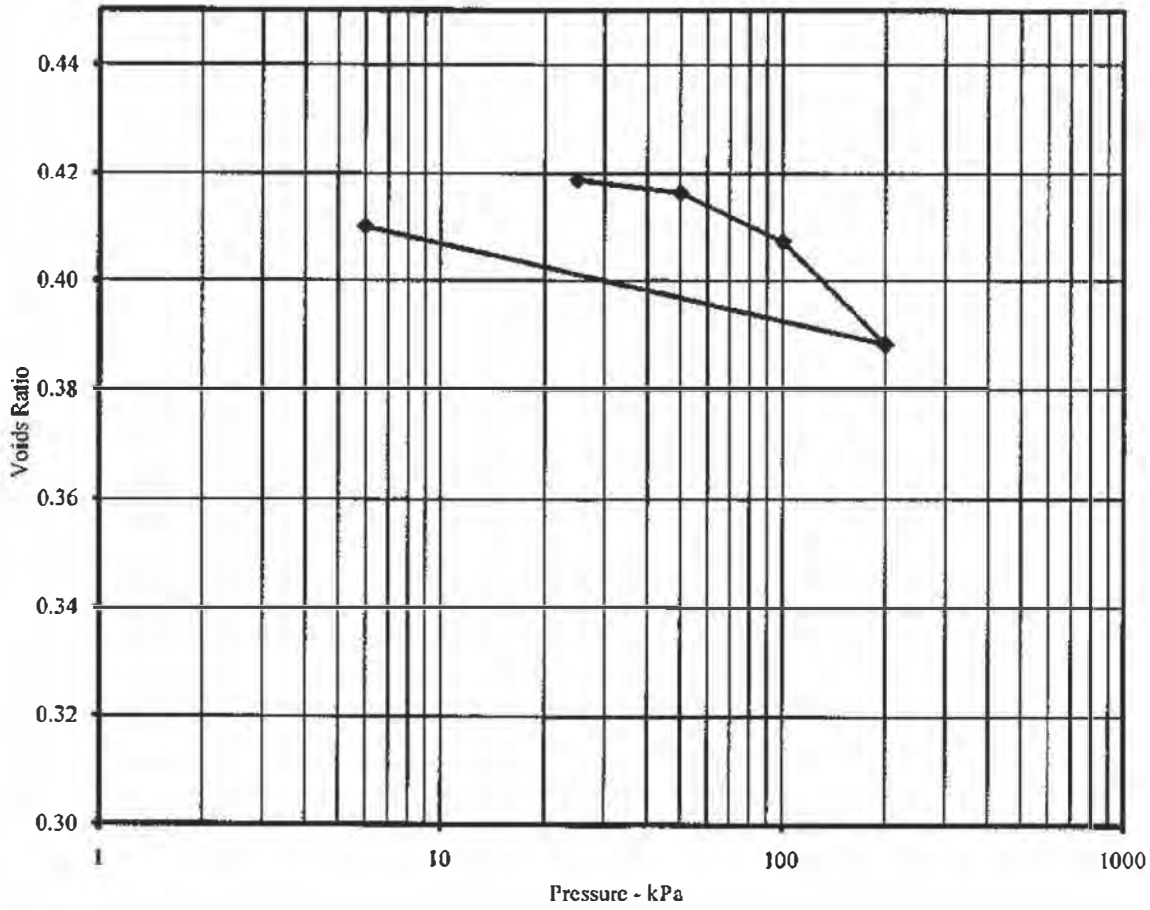
ONE DIMENSIONAL CONSOLIDATION

BS1377: Part 5: 1990

Hole Number: **BH2** Sample Number: 4 Depth (m): **2.00-2.45**

Initial Conditions		Pressure Range kPa			Mv m2/MN	Cv m2/yr	Method of time fitting used Cv Calculated using t90
Moisture Content (%):	13						
Bulk Density (Mg/m3):	2.12	0	-	25	Swelling	Stage	Nominal Laboratory Temperature
Dry Density (Mg/m3):	1.87	25	-	50	0.068	4.782	20'C
Voids Ratio:	0.4143	50	-	100	0.127	3.115	Location of specimen with sample
Degree of saturation:	83.3	100	-	200	0.135	4.503	Top
Height (mm):	19.82	200	-	6	0.081	2.475	Remarks:
Diameter (mm)	75.15						
Particle Density (Mg/m3): Assumed	2.65						



Approved By rdiolo) **Date**

LABORATORY TESTING SERVICES LIMITED

Shelton Mental Health Hospital, Shrewsbury - Main S.I (Phase 2b)

Contract No. 8743/09
Client Ref No. 940

UKAS TESTING 2788

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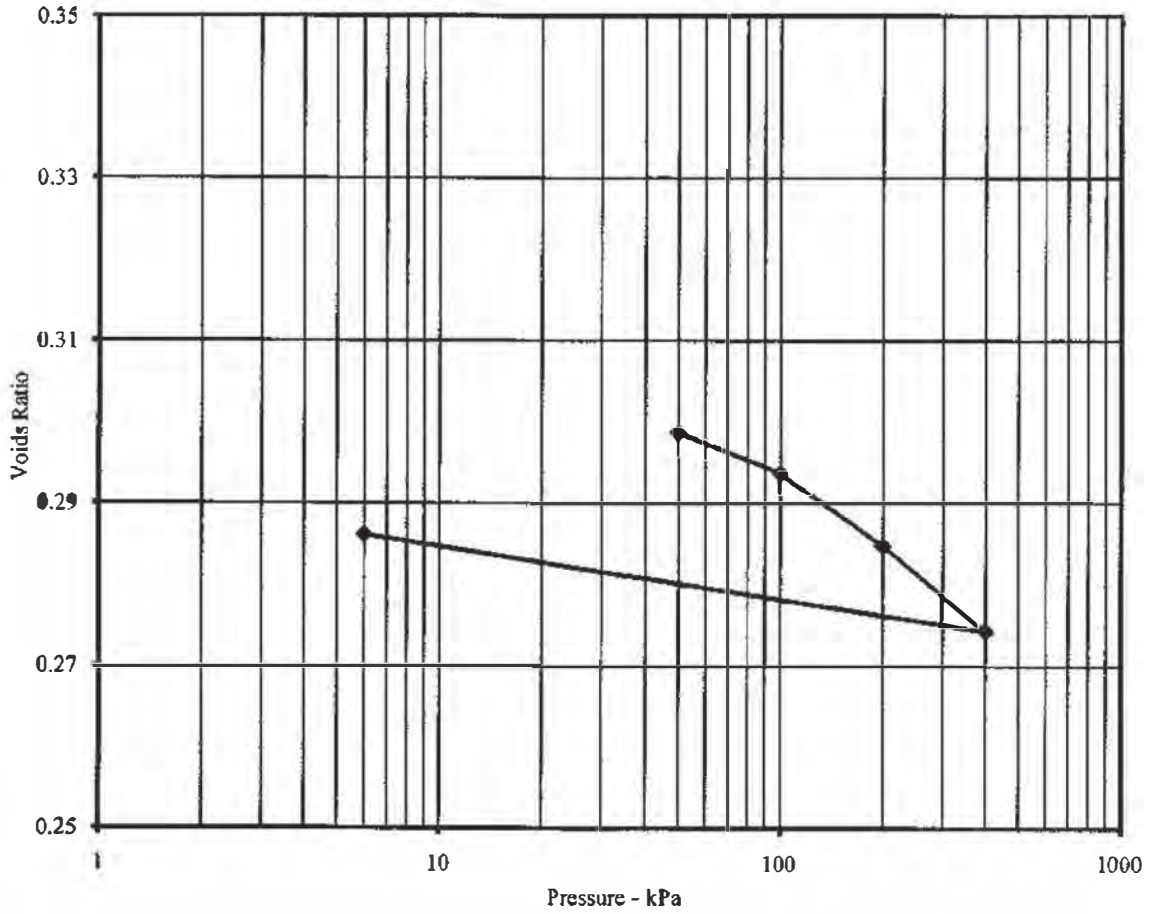
ONE DIMENSIONAL CONSOLIDATION

BS1377: Part 5: 1990

Hole Number: **BH3** Sample Number: 10 Depth (m): **5.00-5.45**

Initial Conditions		Pressure Range kPa			Mv m2/MN	Cv m2/yr	Method of time fitting used Cv Calculated using t90
Moisture Content (%):	12						
Bulk Density (Mg/m3):	2.26	0	-	50	0.187	6.203	Nominal Laboratory Temperature
Dry Density (Mg/m3):	2.02	50	-	100	0.079	2.718	20'C
Voids Ratio:	0.3110	100	-	200	0.068	6.055	Location of specimen with sample
Degree of saturation:	99.9	200	-	400	0.041	5.965	Top
Height (mm):	19.8	400	-	6	0.024	4.481	Remarks:
Diameter (mm)	75.14						
Particle Density (Mg/m3):	2.65						
Assumed							



Approved By 12/10/09 Date

Shelton Mental Health Hospital, Shrewsbury - Main S.1 (Phase 2b)

Contract No. 8743/09

Client Ref No. 940

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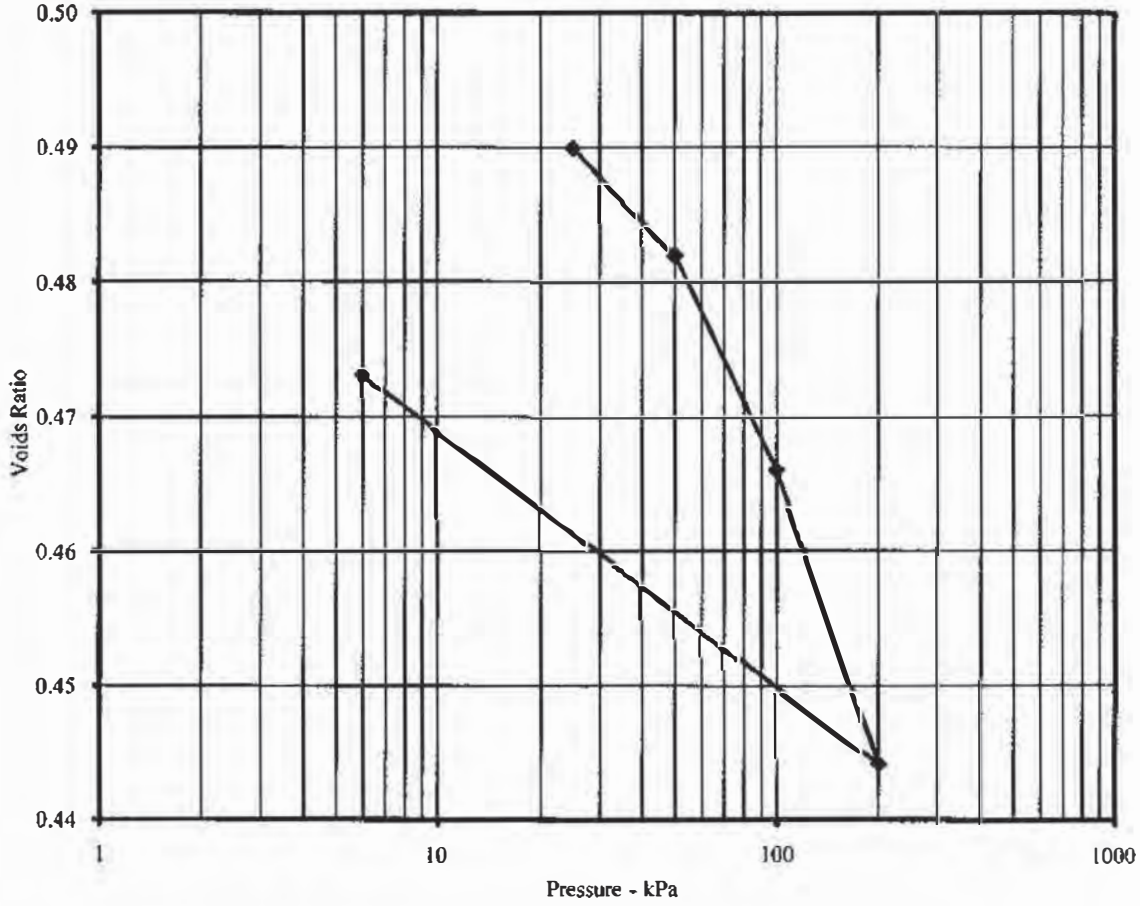
ONE DIMENSIONAL CONSOLIDATION

BS1377: Part 5: 1990

Hole Number: **BH4** Sample Number: 4 Depth (m): **2.00-2.45**

Initial Conditions		Pressure Range kPa			Mv m2/MN	Cv m2/yr	Method of time fitting used Cv Calculated using t90
Moisture Content (%):	14						
Bulk Density (Mg/m3):	2.05	0	-	25	Swelling	Stage	Nominal Laboratory Temperature
Dry Density (Mg/m3):	1.79	25	-	50	0.216	3.539	20°C
Voids Ratio:	0.4812	50	-	100	0.215	3.482	Location of specimen with sample
Degree of saturation:	79.3	100	-	200	0.149	2.682	Top
Height (mm):	19.9	200	-	6	0.103	2.446	Remarks:
Diameter (mm)	75.1						
Particle Density (Mg/m3): Assumed	2.65						



12/10/09
Date

Shelton Mental Health Hospital, Shrewsbury - Main S.I (Phase 2b)

Contract No. 8743/09
Client Ref No. 940

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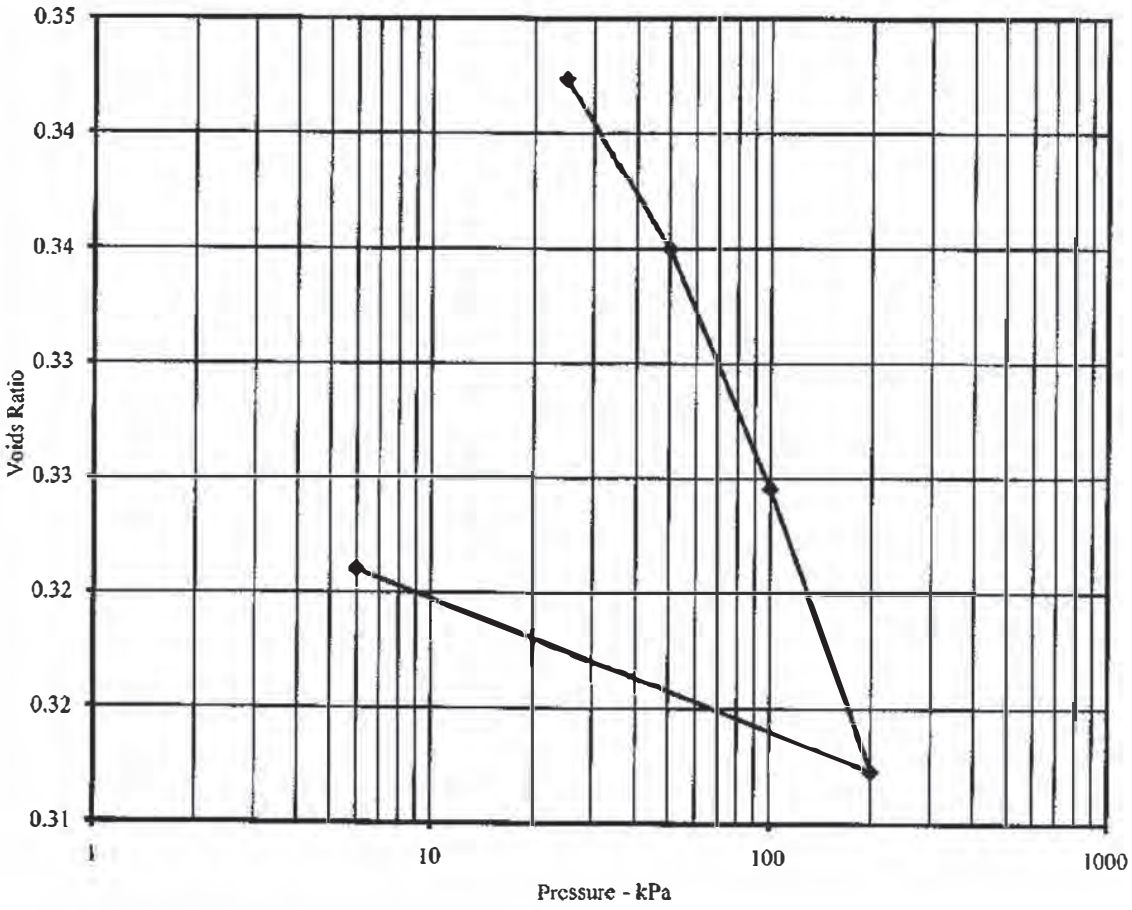
ONE DIMENSIONAL CONSOLIDATION

BS1377: Part 5: 1990

Hole Number: **BH5** Sample Number: **4** Depth (m): **2.00-2.45**

Initial Conditions		Pressure Range kPa			Mv m2/MN	Cv m2/yr	Method of time fitting used Cv Calculated using t90
Moisture Content (%):	14						
Bulk Density (Mg/m3):	2.22	0	-	25	0.598	2.761	Nominal Laboratory Temperature 20'C
Dry Density (Mg/m3):	1.94	25	-	50	0.221	1.657	
Voids Ratio:	0.3628	50	-	100	0.156	3.380	Location of specimen with sample Top
Degree of saturation:	102.0	100	-	200	0.093	3.322	
Height (mm):	19.88	200	-	6	0.034	4.422	Remarks:
Diameter (mm)	75.2						
Particle Density (Mg/m3): Assumed	2.65						



17/10/09

Approved By **Date**

Shelton Mental Health Hospital, Shrewsbury - Main S.I (Phase 2b)

Contract No. 8743/09

Client Ref No. 940

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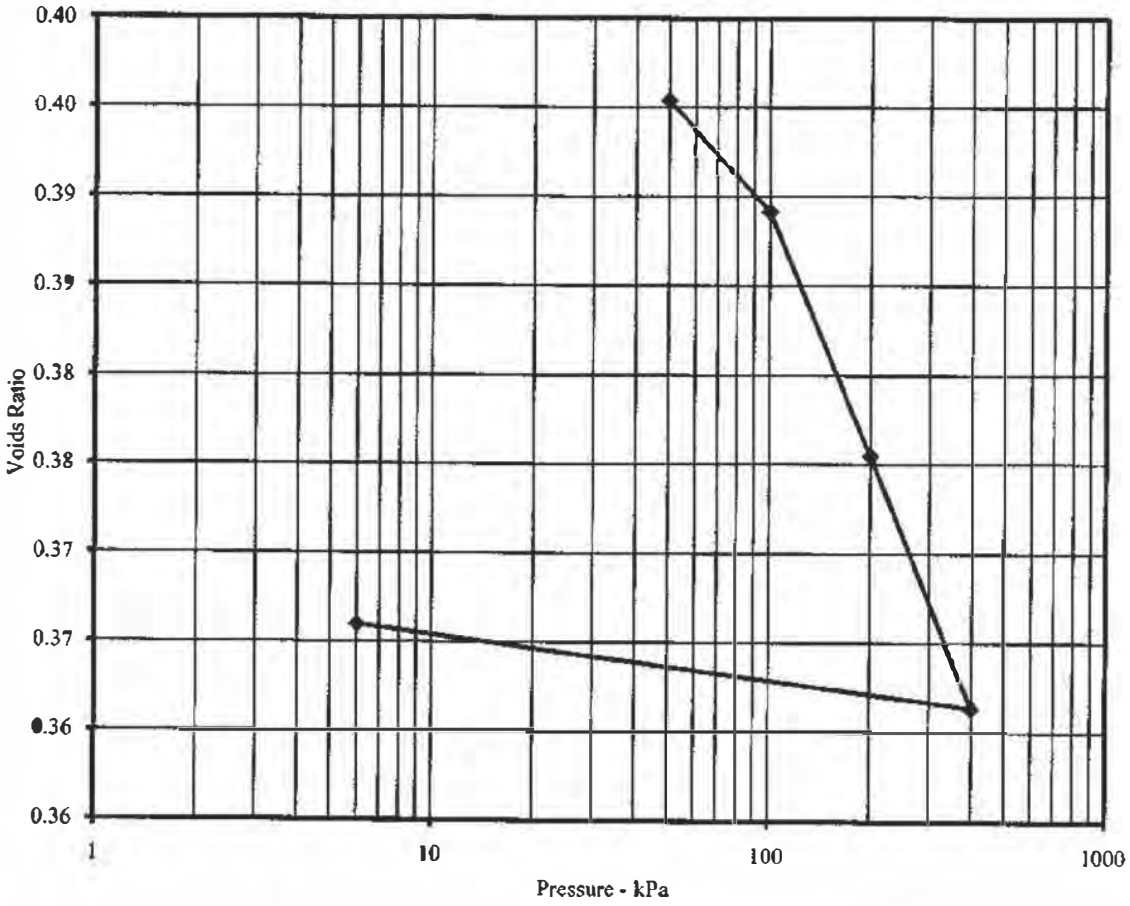
ONE DIMENSIONAL CONSOLIDATION

BS1377: Part 5: 1990

Hole Number: **BH6** Sample Number: 9 Depth (m): **4.00-4.30**

Initial Conditions		Pressure Range kPa			Mv m2/MN	Cv m2/yr	Method of time fitting used Cv Calculated using t90
Moisture Content (%):	15						Nominal Laboratory Temperature 20'C
Bulk Density (Mg/m3):	2.17	0	-	50	0.166	2.744	
Dry Density (Mg/m3):	1.88	50	-	100	0.090	2.709	Location of specimen with sample Top
Voids Ratio:	0.4071	100	-	200	0.098	3.381	
Degree of saturation:	98.4	200	-	400	0.051	4.279	
Height (mm):	19.75	400	-	6	0.009	2.384	Remarks:
Diameter (mm)	75.12						
Particle Density (Mg/m3): Assumed	2.65						



12/10/09 Date **Approved By** 12/10/09 **Date**

Shelton Mental Health Hospital, Shrewsbury - Main S.I (Phase 2b)

Contract No. 8743/09
Client Ref No. 940

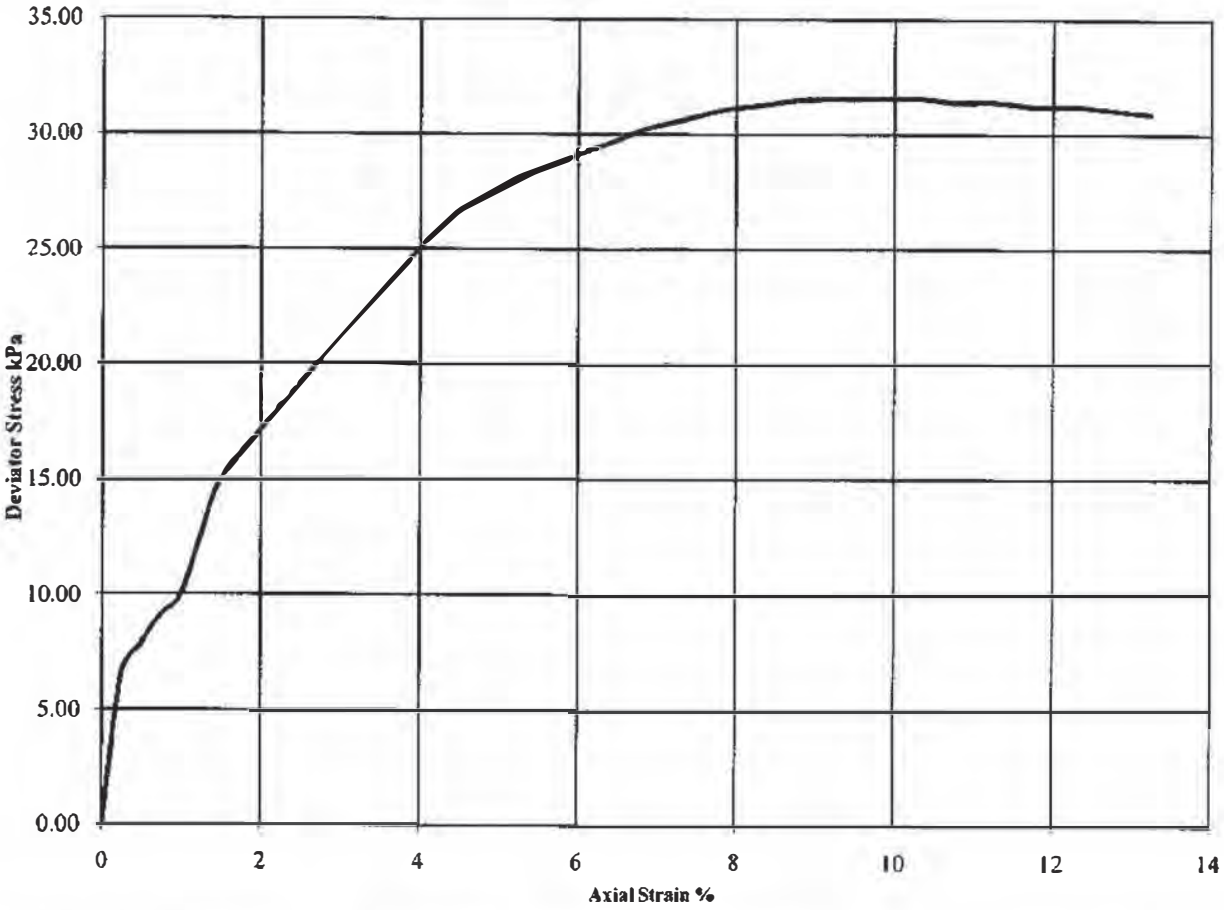
page of

Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure (Definative Method)

B.S. 1377 : Part7 : Clause 8 : 1991

Hole Number **BH1** Sample Number: **4** Depth(m): **2.00-2.45**



Diameter (mm):		102	Height (mm):		204	Test:	undisturbed 102 mm Single Stage.		
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks
A	19	1.94	1.63	50	32	16	10.3	Compound	Sample taken from top of tube Rate of strain = 0.9 %/min Latex Membrane used 0.2 mm thickness

8/10/09
Date

12/10/09
Date

Shelton Mental Health Hospital
Shrewsbury - Main S.I (Phase 2b)

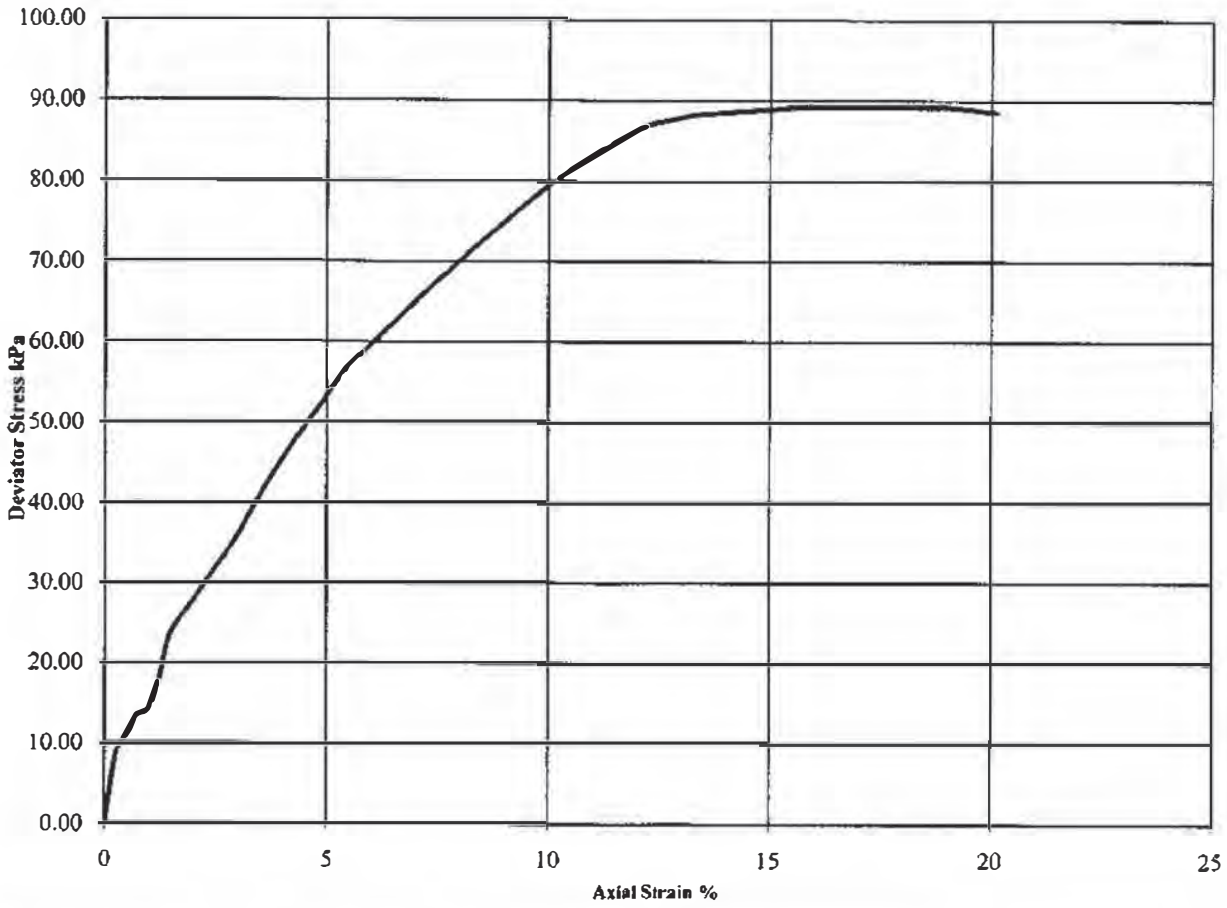
Contract No.
8743/09

Client Ref No.
940

Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure (Definative Method)
B.S. 1377 : Part7 : Clause 8 : 1991

Hole Number **BH2** Sample Number: **4** Depth(m): **2.00-2.45**



Diameter (mm):		102	Height (mm):		204	Test:	undisturbed 102 mm Single Stage.		
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks
A	11	2.04	1.83	50	89	45	16.7	Compound	Sample taken from top of tube Rate of strain = 0.9 %/min Latex Membrane used 0.2 mm thickness

Date 12/10/09
Approved by Date

Shelton Mental Health Hospital
Shrewsbury - Main S.I (Phase 2b)

Contract No.
8743/09

Client Ref No.
940

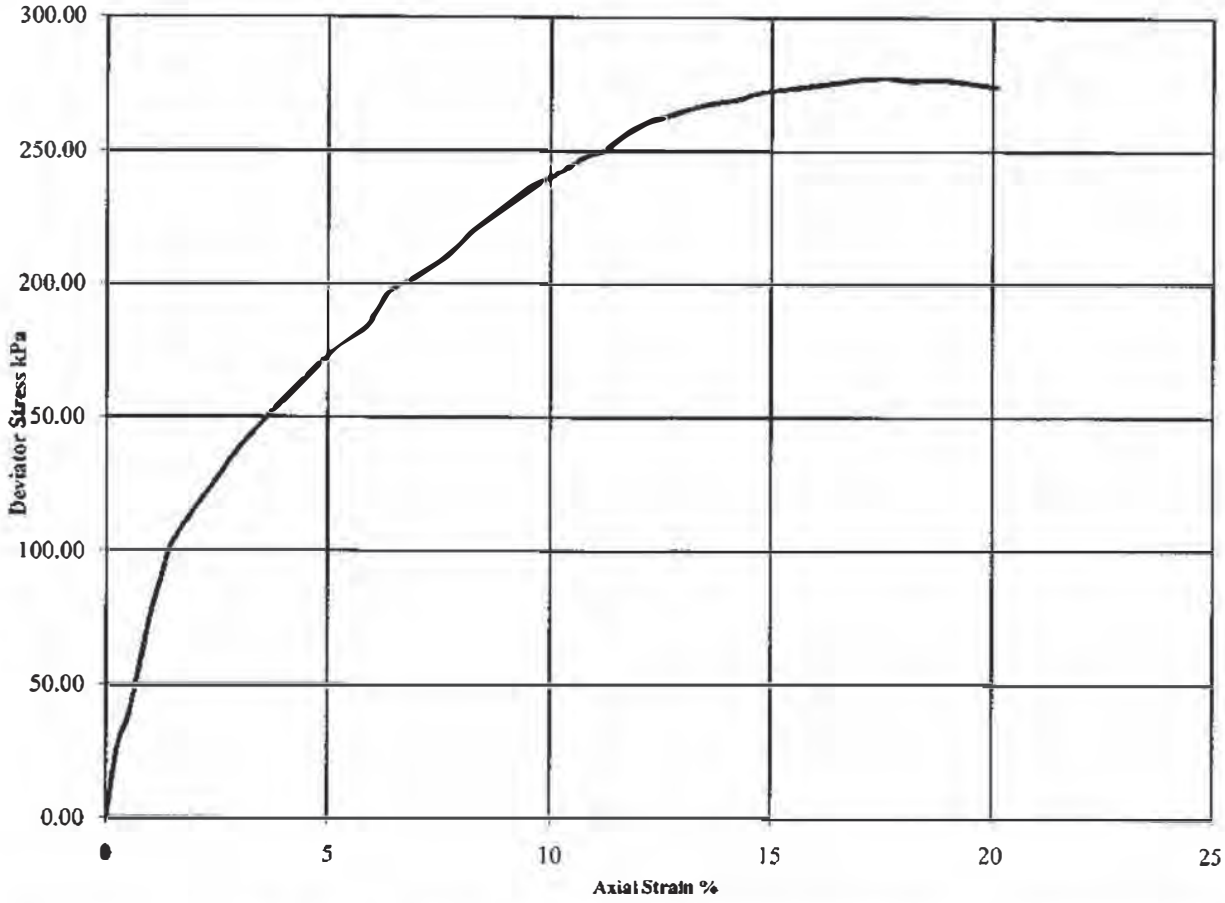
LABORATORY TESTING SERVICES LIMITED

Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure (Definative Method)

B.S. 1377 : Part7 : Clause 8 : 1991

Hole Number **BH2** Sample Number: **9** Depth(m): **4.00-4.45**



Diameter (mm):		102	Height (mm):		204	Test:	undisturbed 102 mm Single Stage.		
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks
A	11	2.16	1.95	100	277	139	17.6	Compound	Sample taken from top of tube Rate of strain = 0.9 %/min Latex Membrane used 0.2 mm thickness

Date

Approved by Date

Shelton Mental Health Hospital
Shrewsbury - Main S.I (Phase 2b)

Contract No.
8743/09

Client Ref No.
940

Contract No: GEO/8743/09
Client Ref: YB00473
Location: Shelton Hospital
Date: 04/11/2009

LABORATORY TESTING SERVICES LIMITED

SUMMARY OF CHEMICAL ANALYSES

(B.S. 1377 : PART 3 : 1990 AND BRE CP2/79)

Hole Number	Sample Number	Depth m	Sulphate Content SO3 (as SO_4)			Chloride Content		pH Value @ 25°C	Total Sulphur %	Magnesium g/l	Calcium g/l	Nitrate mg/l
			Acid Soluble Sulphate as % SO_4	Aqueous Extract Sulphate as g/l SO_4	Ground-water g/l	Soluble Chloride as % equiv. NaCl	Ground-water g/l					
			Clause 5.5.	Clause 5.5.	Clause 5.4.	Clause 7.3	Clause 7.2	Clause 9.				
WS43		1.50	0.10 (0.12)	0.03 (0.03)		NCP		6.42	0.29	<10		<10
WS48		2.00	0.03 (0.04)	0.01 (0.02)		NCP		6.64	0.07	<10		<10
WS41		1.75	0.03 (0.04)	<.01 (<.01)		NCP		6.13	0.08	<10		<10
WS47		2.70	0.02 (0.02)	<.01 (<.01)		NCP		6.04	0.06	<10		<10
WS35		1.50	0.02 (0.02)	<.01 (<.01)		NCP		6.71	0.05	<10		<10
WS36		1.50	0.05 (0.06)	<.01 (<.01)		NCP		5.46	0.13	<10		<10
WS33		2.30	0.05 (0.06)	<.01 (<.01)		NCP		5.93	0.13	<10		<10
WS39		1.00	0.03 (0.04)	<.01 (<.01)		NCP		6.27	0.08	<10		<10
WS28		1.30	0.07 (0.08)	<.01 (<.01)		NCP		6.23	0.19	<10		<10
WS32		1.00	0.02 (0.02)	<.01 (<.01)		NCP		4.53	0.04	<10		<10

NCP - No Chloride present

dets
Derwentside Environmental Testing Services

UKAS TESTING
2139

Certificate of Analysis

Date: 19/10/2009

Certificate Number: 09-31799

Client:
Geo Laboratory Testing Services Ltd
Unit 23,25,26
The Avenue
Delta Lakes
Llanelli
Carmarthenshire
SA15 2DS

Our Reference: 09-31799

Client Reference: GEO/8743/09

Contract Title: Shelton Hospital (YB00437)

Description: 10 soil samples

Date Received: 12/10/2009

Date Started: 13/10/2009

Date Completed: 19/10/2009

Test Procedures: Identified by prefix DETSn, details available upon request.

Notes:
Observations and interpretations are outside the scope of UKAS accreditation
* denotes test not included in laboratory scope of accreditation
# denotes test that holds MCERT accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
$ denotes tests completed by an approved subcontractor
I/S denotes insufficient sample to carry out test
U/S denotes that the sample is not suitable for testing
DETSM denotes tests carried out by DETS Midlands laboratory
Solid samples will be disposed 1 month and liquids 2 weeks after the date of issue of this test certificate
Asbestos subsamples will be kept for 6 months

Approved By:

Authorised Signatories:
Rob Brown
Business Manager

Derwentside Environmental Testing Services Limited
Unit 2, Park Road Industrial Estate South, Consett, Co Durham, DH8 5PY
Tel: 01207 582333 • Fax 01207 582444 • email: info@dets.co.uk • www.dets.co.uk

Summary of Chemical Analysis
Soil Samples

Our Ref: 09-31799
Client Ref: GEO/8743/09
Contract Title: Shelton Hospital (YB00437)

		Lab No.	218994	218995	218996	218997	218998	218999
		Sample Ref	WS43	WS48	WS41	WS47	WS35	WS36
		Depth	1.50	2.00	1.75	2.70	1.50	1.50
		Other Ref						
		Sample Type						
Test	Units	DETSxx						
Ammoniacal Nitrogen as N	mg/kg		< 1.0	< 1.0	1.0	2.1	7.5	< 1.0

Summary of Chemical Analysis
Soil Samples

Our Ref: 09-31799
Client Ref: GEO/8743/09
Contract Title: Shelton Hospital (YB00437)

		Lab No.	219000	219001	219002	219003
		Sample Ref	WS33	WS39	WS28	WS32
		Depth	2.30	1.00	1.30-1.50	1.00
		Other Ref				
		Sample Type				
Test	Units	DETSxx				
Ammoniacal Nitrogen as N	mg/kg		< 1.0	< 1.0	< 1.0	3.8

Appendix C – Chemical Laboratory Analysis

Our Ref: EFS/095215 (Ver. 3)
Your Ref: YB00473

November 10, 2009

Scientifics Ltd
Bretby Business Park
Ashby Road
Burton-on-Trent
Staffordshire
DE15 0YZ

Telephone: 01283 554400
Facsimile: 01283 554422

Mr H Lister
Ground Investigation
Specialists Ltd
18 Waterloo Road
Wolverhampton
West Mids
WV1 4BL

For the attention of Mr H Lister

Dear Mr Lister

SOIL Sample Analysis - Shelton Hospital

Samples from the above site have been analysed in accordance with the schedule supplied.
The sample details and the results of analyses for these samples are given in the appended report.

An invoice for this work will follow under a separate cover.

Where appropriate the samples will be kept until 06/11/09 when they will be discarded. Please call 01283 554458 for an extension of this date.
Please be aware that from 1 January 2003 our policy for the retention of paper based laboratory records and analysis reports will be 6 years.

The work was carried out in accordance with Scientifics Ltd Standard Terms and Conditions of Contract.

If I can be of any further assistance please do not hesitate to contact me.

Yours sincerely

for Scientifics

D Simpson
Project Co-ordinator
01283 554458

TEST REPORT
SOIL SAMPLE ANALYSIS

1252

Report No. EFS/095215 (Ver. 3)

Ground Investigation
Specialists Ltd
18 Waterloo Road
Wolverhampton
West Mids
WV1 4BL

Site: Shelton Hospital

The 11 samples described in this report were logged for analysis by Scientifics on 25-Sep-2009.
The analysis was completed by: 10-Nov-2009

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS accredited
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics Ltd.

The following tables are contained in this report:

On behalf of
Scientifics :
Dave Simpson Project Co-ordinator

Date of Issue: 10-Nov-2009

Tests marked '^' have been subcontracted to another laboratory.

Scientifics Ltd accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Units :		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Method Codes :		ICPACIDS	ICPBOR	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	PAHMSUS	SFAPI
Method Reporting Limits :		20	0.5	0.1	0.5	0.1	0.5	0.5	0.5	0.10	0.5	0.5	0.5	2.0	3.0	0.08	0.5
UKAS Accredited :		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Laboratory ID Number CL/	**Client Sample Description**	**SO4-- (acid sol)**	**Boron (H20 Soluble)**	**Antimony (MS)**	**Arsenic (MS)**	**Cadmium (MS)**	**Chromium (MS)**	**Copper (MS)**	**Lead (MS)**	**Mercury (MS)**	**Molybdenum (MS)**	**Nickel (MS)**	**Selenium (MS)**	**Vanadium (MS)**	**Zinc (MS)**	**PAH by MS.16(0.08)**	**Cyanide(Free) (AR)**
0923171	WS21 0.2	428	1.5	1.6	12.3	3.04	20.2	47.7	241.8	0.51	1.4	32.8	0.9	31	568.4	Req	<0.5
0923172	WS21 1.6															Req	
0923173	WS22 0.5	260	1.4	0.9	9.1	1.33	20.1	31.6	241.1	0.19	1.3	26.4	0.6	31.5	300.6	Req	<0.5
0923174	WS23 0.6																
0923175	WS23 1.0	262	1.4	1.4	10.6	1.18	21.1	29.4	166.7	0.24	1.4	29.6	0.7	24.8	264.5	Req	<0.5
0923176	WS24 0.9															Req	
0923177	WS24 1.6	63	1.1	0.3	9.1	<0.1	23.6	26.3	17.1	<0.1	0.5	37.4	<0.5	21.3	77.8	Req	<0.5
0923178	WS25 0.4															Req	
0923179	WS25 1.3	369	2.3	1.3	11.6	2.56	19.7	36.2	302.6	0.26	1.5	30.9	0.8	29.8	498.9		<0.5
0923180	WS26 0.3	228	1.1	0.6	9.1	0.73	22.5	27.6	114.2	0.13	0.9	31.4	<0.5	26.6	188.7		<0.5
0923181	WS26 1.1	467	1.9	5.1	13.3	2.47	20.6	44.1	264.8	0.41	2.0	36.8	0.8	32.9	591.2	Req	<0.5

scientifics

Bretby Business Park, Ashby Road

Burton-on-Trent, Staffordshire, DE15 0YZ

Tel +44 (0) 1283 554400

Fax +44 (0) 1283 554422

Client Name **Ground Investigation Sp Ltd**

Contact Mr H Lister

Shelton Hospital

Soils Sample Analysis

Date Printed	10-Nov-09
Report Number	**EFS/095215**
Table Number	**1**

Where individual results are flagged see report notes for status.

Units :		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/kg	pH Units	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	%	% M/M
Method Codes :		SFAPI	SFAPI	SFAPI	TPHFIDUS	TPHFIDUS	VOCSW8100	WSLM3	GROHSA	ICPSOIL	ICPSOIL	KONECR	SEN9	SFAS	SVOCMSUS	TSBRE1	WSLM59
Method Reporting Limits :		0.5	0.5	2	10.0	10.0	5		0.2	1	1	0.1		0.5	0.2-10.0	0.005	0.01
UKAS Accredited :		yes	yes	yes	yes	yes	yes	yes	no	no	no	no	no	no	no	no	no
Laboratory ID Number CL/	**Client Sample Description**	**Cyanide(Total) (AR)**	**Phenol Index.(AR)**	**Thiocyanate(SCN)(AR)**	**TPH by GCFID (AR)**	**TPH Carbon Banding.**	**VOC by GCMS (8100)**	**pH units**	**GRO**	**Barium.**	**Beryllium.**	**Chromium vi:**	**Asbestos (screening)**	**Sulphide as S (AR)**	**SVOC (AR)**	**Total Sulphur.**	**Total Organic Carbon**
0923171	WS21 0.2	<0.5	<0.5	<2.0			Req	7.4		134	2	<0.1		1.2	Req	0.108	
0923172	WS21 1.6				23	Req	Req		0.26				NBFO		Req		0.75
0923173	WS22 0.5	<0.5	<0.5	<2.0	24	Req	Req	7.8	<0.2	87	1	<0.1		<0.5		0.053	2.63
0923174	WS23 0.6				112	Req	Req		<0.2						Req		3.09
0923175	WS23 1.0	<0.5	<0.5	<2.0				7.6		92	1	<0.1		<0.5	Req	0.054	
0923176	WS24 0.9				<10.0	Req	Req		<0.2						Req		0.34
0923177	WS24 1.6	<0.5	0.5	<2.0			Req	7.5		124	<1	<0.1		<0.5	Req	0.036	
0923178	WS25 0.4				2830	Req	Req		<0.2				NBFO		Req		2.22
0923179	WS25 1.3	<0.5	1.0	<2.0			Req	7.4		107	2	<0.1		1.7	Req	0.077	
0923180	WS26 0.3	<0.5	<0.5	<2.0	168	Req		8.1	<0.2	103	<1	<0.1		<0.5	Req	0.05	1.60
0923181	WS26 1.1	<0.5	<0.5	<2.0	259	Req	Req	7.6	<0.2	123	2	<0.1		13.0		0.096	5.89

scientifics

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Burton-on-Trent, Staffordshire, DE15 0YZ

Tel +44 (0) 1283 554400

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Client Name **Ground Investigation Sp Ltd**

Contact Mr H Lister

Shelton Hospital

Soils Sample Analysis

Date Printed	10-Nov-09
Report Number	**EFS/095215**
Table Number	**1**

Where individual results are flagged see report notes for status.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS21 0.2	**Job Number:**	S09_5215
LIMS ID Number:	CL0923171	**Date Booked in:**	25-Sep-09
QC Batch Number:	3064	**Date Extracted:**	02-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	05-Oct-09
Directory:	1005PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	5.91	0.29	98
Anthracene	120-12-7	5.96	0.12	92
Fluoranthene	206-44-0	7.29	0.70	100
Pyrene	129-00-0	7.59	0.61	97
Benzo[a]anthracene	56-55-3	9.30	0.47	96
Chrysene	218-01-9	9.35	0.46	98
Benzo[b]fluoranthene	205-99-2	10.85	0.56	98
Benzo[k]fluoranthene	207-08-9	10.89	0.20	94
Benzo[a]pyrene	50-32-8	11.28	0.45	98
Indeno[1,2,3-cd]pyrene	193-39-5	12.68	0.31	80
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	13.01	0.31	96
Total (USEPA16) PAHs	-	-	< 4.88	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	102
Acenaphthene-d10	106
Phenanthrene-d10	106
Chrysene-d12	112
Perylene-d12	117

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	92
Terphenyl-d14	91

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS21 1.6	**Job Number:**	S09_5215
LIMS ID Number:	CL0923172	**Date Booked in:**	25-Sep-09
QC Batch Number:	3064	**Date Extracted:**	02-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	05-Oct-09
Directory:	1005PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	101
Acenaphthene-d10	104
Phenanthrene-d10	104
Chrysene-d12	109
Perylene-d12	112

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	91
Terphenyl-d14	90

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS22 0.5	**Job Number:**	S09_5215
LIMS ID Number:	CL0923173	**Date Booked in:**	25-Sep-09
QC Batch Number:	3064	**Date Extracted:**	02-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	05-Oct-09
Directory:	1005PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	101
Acenaphthene-d10	105
Phenanthrene-d10	105
Chrysene-d12	109
Perylene-d12	110

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	94
Terphenyl-d14	92

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS23 1.0	**Job Number:**	S09_5215
LIMS ID Number:	CL0923175	**Date Booked in:**	25-Sep-09
QC Batch Number:	3064	**Date Extracted:**	02-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	05-Oct-09
Directory:	1005PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	5.91	0.08	96
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	7.29	0.25	99
Pyrene	129-00-0	7.59	0.22	97
Benzo[a]anthracene	56-55-3	9.30	0.24	94
Chrysene	218-01-9	9.35	0.21	98
Benzo[b]fluoranthene	205-99-2	10.85	0.28	97
Benzo[k]fluoranthene	207-08-9	10.88	0.11	93
Benzo[a]pyrene	50-32-8	11.28	0.23	98
Indeno[1,2,3-cd]pyrene	193-39-5	12.68	0.16	96
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	13.02	0.17	98
Total (USEPA16) PAHs	-	-	< 2.43	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	101
Acenaphthene-d10	104
Phenanthrene-d10	103
Chrysene-d12	109
Perylene-d12	111

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	94
Terphenyl-d14	93

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS24 0.9	**Job Number:**	S09_5215
LIMS ID Number:	CL0923176	**Date Booked in:**	25-Sep-09
QC Batch Number:	3064	**Date Extracted:**	02-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	05-Oct-09
Directory:	1005PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	102
Acenaphthene-d10	105
Phenanthrene-d10	105
Chrysene-d12	109
Perylene-d12	107

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	81
Terphenyl-d14	81

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS24 1.6	**Job Number:**	S09_5215
LIMS ID Number:	CL0923177	**Date Booked in:**	25-Sep-09
QC Batch Number:	3064	**Date Extracted:**	02-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	05-Oct-09
Directory:	1005PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	103
Acenaphthene-d10	106
Phenanthrene-d10	105
Chrysene-d12	110
Perylene-d12	109

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	95
Terphenyl-d14	94

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS25 0.4	**Job Number:**	S09_5215
LIMS ID Number:	CL0923178	**Date Booked in:**	25-Sep-09
QC Batch Number:	3064	**Date Extracted:**	02-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	05-Oct-09
Directory:	1005PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	3.44	0.11	99
Acenaphthylene	208-96-8	4.50	0.18	96
Acenaphthene	83-32-9	4.62	0.71	99
Fluorene	86-73-7	5.02	0.57	94
Phenanthrene	85-01-8	5.91	5.72	99
Anthracene	120-12-7	5.96	3.48	95
Fluoranthene	206-44-0	7.29	14.70	99
Pyrene	129-00-0	7.59	12.50	97
Benzo[a]anthracene	56-55-3	9.30	7.23	96
Chrysene	218-01-9	9.36	6.75	98
Benzo[b]fluoranthene	205-99-2	10.85	9.38	99
Benzo[k]fluoranthene	207-08-9	10.89	2.94	95
Benzo[a]pyrene	50-32-8	11.29	8.31	99
Indeno[1,2,3-cd]pyrene	193-39-5	12.69	6.15	91
Dibenzo[a,h]anthracene	53-70-3	12.72	1.00	95
Benzo[g,h,i]perylene	191-24-2	13.02	5.43	96
Total (USEPA16) PAHs	-	-	85.16	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	99
Acenaphthene-d10	104
Phenanthrene-d10	106
Chrysene-d12	115
Perylene-d12	122

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	93
Terphenyl-d14	91

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS26 1.1	**Job Number:**	S09_5215
LIMS ID Number:	CL0923181	**Date Booked in:**	25-Sep-09
QC Batch Number:	3064	**Date Extracted:**	02-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	05-Oct-09
Directory:	1005PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	4.50	0.26	99
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	5.91	0.45	99
Anthracene	120-12-7	5.96	0.32	95
Fluoranthene	206-44-0	7.29	1.63	99
Pyrene	129-00-0	7.59	1.63	98
Benzo[a]anthracene	56-55-3	9.30	1.34	95
Chrysene	218-01-9	9.35	1.23	99
Benzo[b]fluoranthene	205-99-2	10.85	1.55	98
Benzo[k]fluoranthene	207-08-9	10.89	0.63	94
Benzo[a]pyrene	50-32-8	11.28	1.31	96
Indeno[1,2,3-cd]pyrene	193-39-5	12.69	0.78	89
Dibenzo[a,h]anthracene	53-70-3	12.72	0.19	92
Benzo[g,h,i]perylene	191-24-2	13.02	0.71	92
Total (USEPA16) PAHs	-	-	< 12.27	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	103
Acenaphthene-d10	107
Phenanthrene-d10	106
Chrysene-d12	114
Perylene-d12	115

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	93
Terphenyl-d14	92

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3023
Sample Details:	WS21 0.2	**Date Booked in:**	25-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923171	**Date Extracted:**	30-Sep-09	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S09_5215	**Date Analysed:**	30-Sep-09	**Directory/Quant File:**	930SVOC_MS9\ 0930_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	10.94	0.3	98
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	12.77	0.8	94
Pyrene	129-00-0	13.11	0.7	99
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	15.03	0.5	88
Chrysene	218-01-9	15.09	0.4	M
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	16.65	0.6	99
Benzo[k]fluoranthene	207-08-9	16.68	0.2	94
Benzo[a]pyrene	50-32-8	17.09	0.5	91
Indeno[1,2,3-cd]pyrene	193-39-5	18.52	0.3	75
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	18.85	0.3	94

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	57
Naphthalene-d8	61
Acenaphthene-d10	62
Phenanthrene-d10	66
Chrysene-d12	70
Perylene-d12	77

Surrogates	% Rec
2-Fluorophenol	96
Phenol-d5	96
Nitrobenzene-d5	83
2-Fluorobiphenyl	92
2,4,6-Tribromophenol	88
Terphenyl-d14	89

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.
"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3023
Sample Details:	WS21 1.6	**Date Booked in:**	25-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923172	**Date Extracted:**	30-Sep-09	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S09_5215	**Date Analysed:**	30-Sep-09	**Directory/Quant File:**	930SVOC_MS9\ 0930_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	73
Naphthalene-d8	77
Acenaphthene-d10	79
Phenanthrene-d10	84
Chrysene-d12	89
Perylene-d12	97

Surrogates	% Rec
2-Fluorophenol	101
Phenol-d5	92
Nitrobenzene-d5	85
2-Fluorobiphenyl	92
2,4,6-Tribromophenol	85
Terphenyl-d14	91

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3023
Sample Details:	WS23 0.6	**Date Booked in:**	25-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923174	**Date Extracted:**	30-Sep-09	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S09_5215	**Date Analysed:**	30-Sep-09	**Directory/Quant File:**	930SVOC_MS9\ 0930_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	10.94	0.2	98
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	12.77	0.7	94
Pyrene	129-00-0	13.11	0.6	98
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	15.03	0.5	81
Chrysene	218-01-9	15.09	0.4	89
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	16.65	0.7	98
Benzo[k]fluoranthene	207-08-9	16.69	0.3	95
Benzo[a]pyrene	50-32-8	17.09	0.5	92
Indeno[1,2,3-cd]pyrene	193-39-5	18.52	0.3	86
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	18.85	0.3	97

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	53
Naphthalene-d8	54
Acenaphthene-d10	56
Phenanthrene-d10	58
Chrysene-d12	64
Perylene-d12	72

Surrogates	% Rec
2-Fluorophenol	87
Phenol-d5	72
Nitrobenzene-d5	78
2-Fluorobiphenyl	90
2,4,6-Tribromophenol	86
Terphenyl-d14	88

Compounds marked with a * are reported not UKAS.
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"M" denotes that % fit has been manually interpreted

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Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3023
Sample Details:	WS23 1.0	**Date Booked in:**	25-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923175	**Date Extracted:**	30-Sep-09	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S09_5215	**Date Analysed:**	30-Sep-09	**Directory/Quant File:**	930SVOC_MS9\ 0930_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	16.65	0.2	98
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	17.09	0.2	95
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	65
Naphthalene-d8	69
Acenaphthene-d10	71
Phenanthrene-d10	75
Chrysene-d12	84
Perylene-d12	94

Surrogates	% Rec
2-Fluorophenol	91
Phenol-d5	98
Nitrobenzene-d5	84
2-Fluorobiphenyl	95
2,4,6-Tribromophenol	91
Terphenyl-d14	92

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Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3023
Sample Details:	WS24 0.9	**Date Booked in:**	25-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923176	**Date Extracted:**	30-Sep-09	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S09_5215	**Date Analysed:**	30-Sep-09	**Directory/Quant File:**	930SVOC_MS9\ 0930_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	67
Naphthalene-d8	70
Acenaphthene-d10	71
Phenanthrene-d10	76
Chrysene-d12	77
Perylene-d12	83

Surrogates	% Rec
2-Fluorophenol	95
Phenol-d5	87
Nitrobenzene-d5	80
2-Fluorobiphenyl	89
2,4,6-Tribromophenol	82
Terphenyl-d14	91

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Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

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Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3023
Sample Details:	WS24 1.6	**Date Booked in:**	25-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923177	**Date Extracted:**	30-Sep-09	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S09_5215	**Date Analysed:**	30-Sep-09	**Directory/Quant File:**	930SVOC_MS9\ 0930_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	57
Naphthalene-d8	60
Acenaphthene-d10	61
Phenanthrene-d10	66
Chrysene-d12	68
Perylene-d12	74

Surrogates	% Rec
2-Fluorophenol	91
Phenol-d5	88
Nitrobenzene-d5	84
2-Fluorobiphenyl	94
2,4,6-Tribromophenol	84
Terphenyl-d14	93

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3023
Sample Details:	WS25 0.4	**Date Booked in:**	25-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	20
LIMS ID Number:	CL0923178	**Date Extracted:**	30-Sep-09	**Operator:**	AB	**Dilution Factor:**	100
Job Number:	S09_5215	**Date Analysed:**	30-Sep-09	**Directory/Quant File:**	930SVOC_MS9\ 0930_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 200.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 50.0	-
2-Chlorophenol	95-57-8	-	< 200.0	-
1,3-Dichlorobenzene	541-73-1	-	< 50.0	-
1,4-Dichlorobenzene	106-46-7	-	< 50.0	-
Benzyl alcohol	100-51-6	-	< 50.0	-
1,2-Dichlorobenzene	95-50-1	-	< 50.0	-
2-Methylphenol	95-48-7	-	< 50.0	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 50.0	-
Hexachloroethane	67-72-1	-	< 50.0	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 50.0	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 200.0	-
Nitrobenzene	98-95-3	-	< 50.0	-
Isophorone	78-59-1	-	< 50.0	-
2-Nitrophenol	88-75-5	-	< 200.0	-
2,4-Dimethylphenol	105-67-9	-	< 200.0	-
Benzoic Acid	65-85-0 *	-	< 1000.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 50.0	-
2,4-Dichlorophenol	120-83-2	-	< 200.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 50.0	-
Naphthalene	91-20-3	-	< 20.0	-
4-Chlorophenol	106-48-9	-	< 200.0	-
4-Chloroaniline	106-47-8 *	-	< 50.0	-
Hexachlorobutadiene	87-68-3	-	< 50.0	-
4-Chloro-3-methylphenol	59-50-7	-	< 50.0	-
2-Methylnaphthalene	91-57-6	-	< 20.0	-
1-Methylnaphthalene	90-12-0	-	< 20.0	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 50.0	-
2,4,6-Trichlorophenol	88-06-2	-	< 200.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 200.0	-
2-Chloronaphthalene	91-58-7	-	< 20.0	-
Biphenyl	92-52-4	-	< 20.0	-
Diphenyl ether	101-84-8	-	< 20.0	-
2-Nitroaniline	88-74-4	-	< 50.0	-
Acenaphthylene	208-96-8	-	< 20.0	-
Dimethylphthalate	131-11-3	-	< 50.0	-
2,6-Dinitrotoluene	606-20-2	-	< 50.0	-
Acenaphthene	83-32-9	-	< 20.0	-
3-Nitroaniline	99-09-2	-	< 50.0	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 100.0	-
Dibenzofuran	132-64-9	-	< 50.0	-
4-Nitrophenol	100-02-7	-	< 500.0	-
2,4-Dinitrotoluene	121-14-2	-	< 50.0	-
Fluorene	86-73-7	-	< 20.0	-
Diethylphthalate	84-66-2	-	< 50.0	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 50.0	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 500.0	-
4-Nitroaniline	100-01-6	-	< 50.0	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 50.0	-
4-Bromophenyl-phenylether	101-55-3	-	< 50.0	-
Hexachlorobenzene	118-74-1	-	< 50.0	-
Pentachlorophenol	87-86-5	-	< 500.0	-
Phenanthrene	85-01-8	-	< 20.0	-
Anthracene	120-12-7	-	< 20.0	-
Di-n-butylphthalate	84-74-2	-	< 50.0	-
Fluoranthene	206-44-0	12.77	21.2	95
Pyrene	129-00-0	-	< 20.0	-
Butylbenzylphthalate	85-68-7	-	< 50.0	-
Benzo[a]anthracene	56-55-3	-	< 20.0	-
Chrysene	218-01-9	-	< 20.0	-
3,3'-Dichlorobenzidine	91-94-1	-	< 200.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 50.0	-
Di-n-octylphthalate	117-84-0	-	< 20.0	-
Benzo[b]fluoranthene	205-99-2	-	< 20.0	-
Benzo[k]fluoranthene	207-08-9	-	< 20.0	-
Benzo[a]pyrene	50-32-8	-	< 20.0	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 20.0	-
Dibenzo[a,h]anthracene	53-70-3	-	< 20.0	-
Benzo[g,h,i]perylene	191-24-2	-	< 20.0	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	60
Naphthalene-d8	64
Acenaphthene-d10	66
Phenanthrene-d10	69
Chrysene-d12	73
Perylene-d12	83

Surrogates	% Rec
2-Fluorophenol	116
Phenol-d5	137
Nitrobenzene-d5	D
2-Fluorobiphenyl	94
2,4,6-Tribromophenol	D
Terphenyl-d14	121

Compounds marked with a * are reported not UKAS.

Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3023
Sample Details:	WS25 1.3	**Date Booked in:**	25-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	1
LIMS ID Number:	CL0923179	**Date Extracted:**	30-Sep-09	**Operator:**	AB	**Dilution Factor:**	5
Job Number:	S09_5215	**Date Analysed:**	30-Sep-09	**Directory/Quant File:**	930SVOC_MS9\ 0930_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 10.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 2.5	-
2-Chlorophenol	95-57-8	-	< 10.0	-
1,3-Dichlorobenzene	541-73-1	-	< 2.5	-
1,4-Dichlorobenzene	106-46-7	-	< 2.5	-
Benzyl alcohol	100-51-6	-	< 2.5	-
1,2-Dichlorobenzene	95-50-1	-	< 2.5	-
2-Methylphenol	95-48-7	-	< 2.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 2.5	-
Hexachloroethane	67-72-1	-	< 2.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 2.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 10.0	-
Nitrobenzene	98-95-3	-	< 2.5	-
Isophorone	78-59-1	-	< 2.5	-
2-Nitrophenol	88-75-5	-	< 10.0	-
2,4-Dimethylphenol	105-67-9	-	< 10.0	-
Benzoic Acid	65-85-0 *	-	< 50.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 2.5	-
2,4-Dichlorophenol	120-83-2	-	< 10.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 2.5	-
Naphthalene	91-20-3	-	< 1.0	-
4-Chlorophenol	106-48-9	-	< 10.0	-
4-Chloroaniline	106-47-8 *	-	< 2.5	-
Hexachlorobutadiene	87-68-3	-	< 2.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 2.5	-
2-Methylnaphthalene	91-57-6	-	< 1.0	-
1-Methylnaphthalene	90-12-0	-	< 1.0	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 2.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 10.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 10.0	-
2-Chloronaphthalene	91-58-7	-	< 1.0	-
Biphenyl	92-52-4	-	< 1.0	-
Diphenyl ether	101-84-8	-	< 1.0	-
2-Nitroaniline	88-74-4	-	< 2.5	-
Acenaphthylene	208-96-8	-	< 1.0	-
Dimethylphthalate	131-11-3	-	< 2.5	-
2,6-Dinitrotoluene	606-20-2	-	< 2.5	-
Acenaphthene	83-32-9	-	< 1.0	-
3-Nitroaniline	99-09-2	-	< 2.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 5.0	-
Dibenzofuran	132-64-9	-	< 2.5	-
4-Nitrophenol	100-02-7	-	< 25.0	-
2,4-Dinitrotoluene	121-14-2	-	< 2.5	-
Fluorene	86-73-7	-	< 1.0	-
Diethylphthalate	84-66-2	-	< 2.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 2.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 25.0	-
4-Nitroaniline	100-01-6	-	< 2.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 2.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 2.5	-
Hexachlorobenzene	118-74-1	-	< 2.5	-
Pentachlorophenol	87-86-5	-	< 25.0	-
Phenanthrene	85-01-8	10.94	4.6	95
Anthracene	120-12-7	11.02	1.1	92
Di-n-butylphthalate	84-74-2	-	< 2.5	-
Fluoranthene	206-44-0	12.77	8.8	94
Pyrene	129-00-0	13.11	7.2	99
Butylbenzylphthalate	85-68-7	-	< 2.5	-
Benzo[a]anthracene	56-55-3	15.03	3.7	88
Chrysene	218-01-9	15.09	3.2	76
3,3'-Dichlorobenzidine	91-94-1	-	< 10.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 2.5	-
Di-n-octylphthalate	117-84-0	-	< 1.0	-
Benzo[b]fluoranthene	205-99-2	16.64	4.0	98
Benzo[k]fluoranthene	207-08-9	16.68	1.4	95
Benzo[a]pyrene	50-32-8	17.09	3.2	94
Indeno[1,2,3-cd]pyrene	193-39-5	18.51	1.8	80
Dibenzo[a,h]anthracene	53-70-3	-	< 1.0	-
Benzo[g,h,i]perylene	191-24-2	18.84	1.8	97

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	59
Naphthalene-d8	63
Acenaphthene-d10	65
Phenanthrene-d10	69
Chrysene-d12	74
Perylene-d12	80

Surrogates	% Rec
2-Fluorophenol	94
Phenol-d5	85
Nitrobenzene-d5	86
2-Fluorobiphenyl	93
2,4,6-Tribromophenol	85
Terphenyl-d14	92

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3023
Sample Details:	WS26 0.3	**Date Booked in:**	25-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923180	**Date Extracted:**	30-Sep-09	**Operator:**	AB	**Dilution Factor:**	1
Job Number:	S09_5215	**Date Analysed:**	30-Sep-09	**Directory/Quant File:**	930SVOC_MS9\ 0930_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	10.94	0.3	97
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	12.77	0.8	94
Pyrene	129-00-0	13.11	0.7	99
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	15.03	0.4	91
Chrysene	218-01-9	15.09	0.4	96
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	16.65	0.5	98
Benzo[k]fluoranthene	207-08-9	16.68	0.2	94
Benzo[a]pyrene	50-32-8	17.09	0.4	91
Indeno[1,2,3-cd]pyrene	193-39-5	18.51	0.3	87
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	18.85	0.3	96

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	54
Naphthalene-d8	57
Acenaphthene-d10	60
Phenanthrene-d10	63
Chrysene-d12	68
Perylene-d12	77

Surrogates	% Rec
2-Fluorophenol	93
Phenol-d5	91
Nitrobenzene-d5	83
2-Fluorobiphenyl	93
2,4,6-Tribromophenol	86
Terphenyl-d14	89

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.
"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Total Petroleum Hydrocarbons (TPH) Carbon Ranges

Customer and Site Details: Ground Investigation Sp Ltd : Shelton Hospital
Job Number: S09_5215
QC Batch Number: 93064
Directory: D:\TES\DATA\Y2009\1002TPH_GC14\100209 2009-10-02 08-18-46\017F7101.D
Method: Ultra Sonic

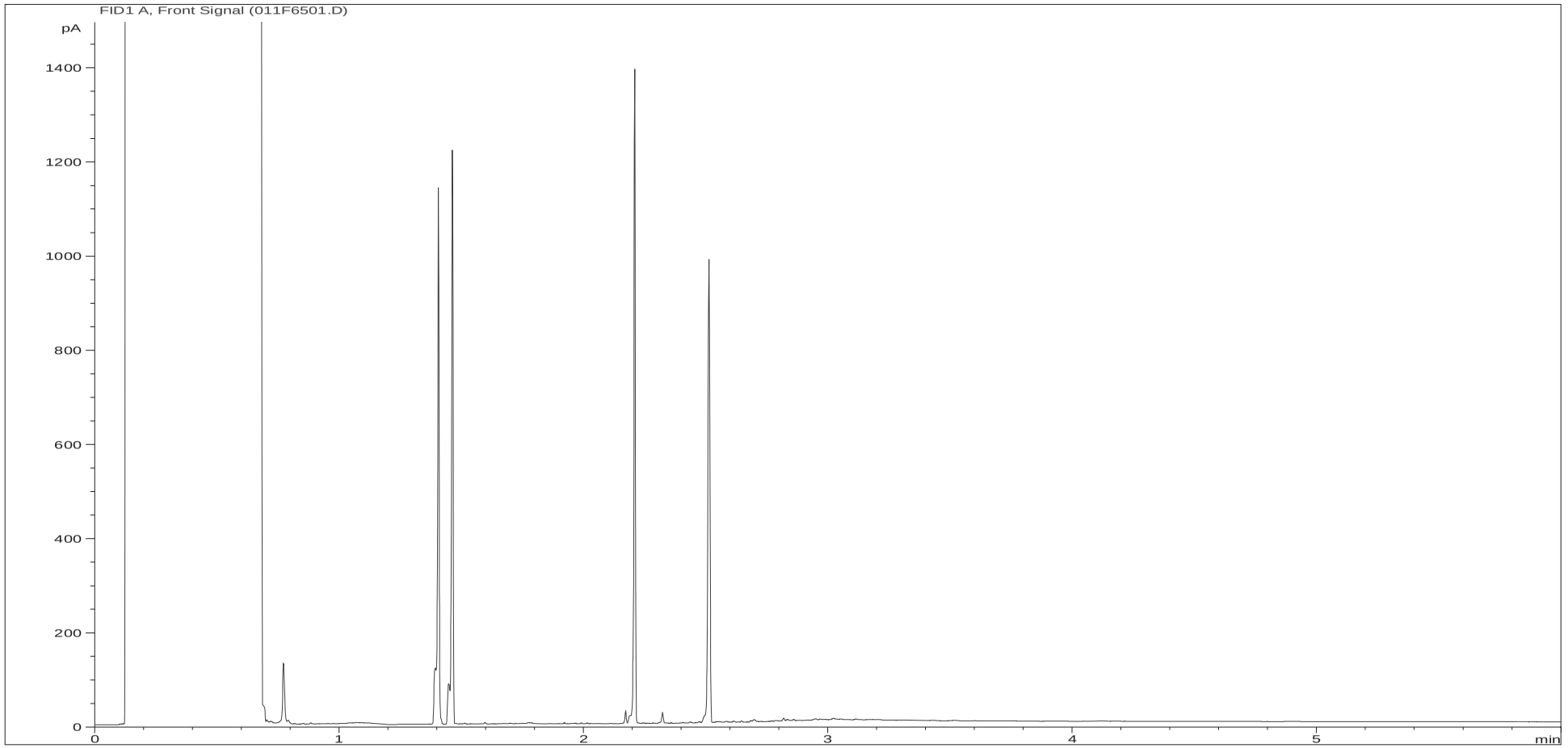
Matrix: Soil
Date Booked in: 25-Sep-09
Date Extracted: 02-Oct-09
Date Analysed: 02-Oct-09, 22:18:08

*** Sample data with an asterisk are not UKAS accredited.**

		Concentration, (mg/kg) - as wet weight				
Sample ID	**Client ID**	**>C8 - C10**	**>C10 - C12**	**>C12 - C16**	**>C16 - C21**	**>C21 - C35**
CL0923172	WS1 1.6	<2	<2	<2	<2	13.6
CL0923173	WS22 0.5	<2	<2	<2	2.66	15.9
CL0923174	WS23 0.6	<2	<2	2.44	10.7	82.1
CL0923176	WS24 0.9	<2	<2	<2	<2	4.61
CL0923178	WS25 0.4	<2	<2	21.4	185	1970
CL0923180	WS26 0.3	<2	<2	2.42	10.3	126
CL0923181	WS26 1.1	<2	2.24	6.3	25.2	188

Where individual results are flagged see report notes for status.

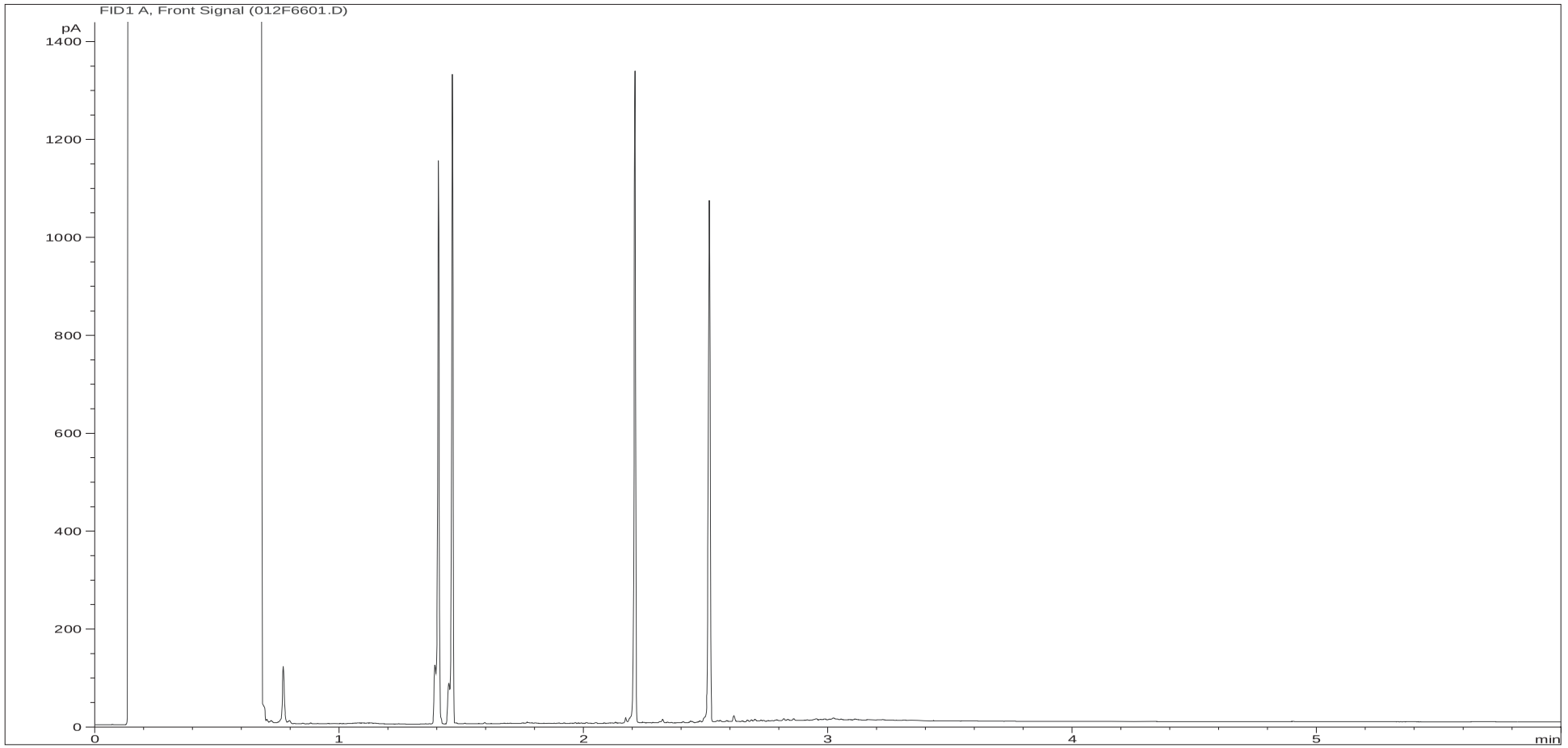
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923172	**Job Number:**	S09_5215
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS1 1.6
Acquisition Date/Time:	02-Oct-09, 21:07:07		
Datafile:	D:\TES\DATA\Y2009\1002TPH_GC14\100209 2009-10-02 08-18-46\011F6501.D		

Where individual results are flagged see report notes for status.

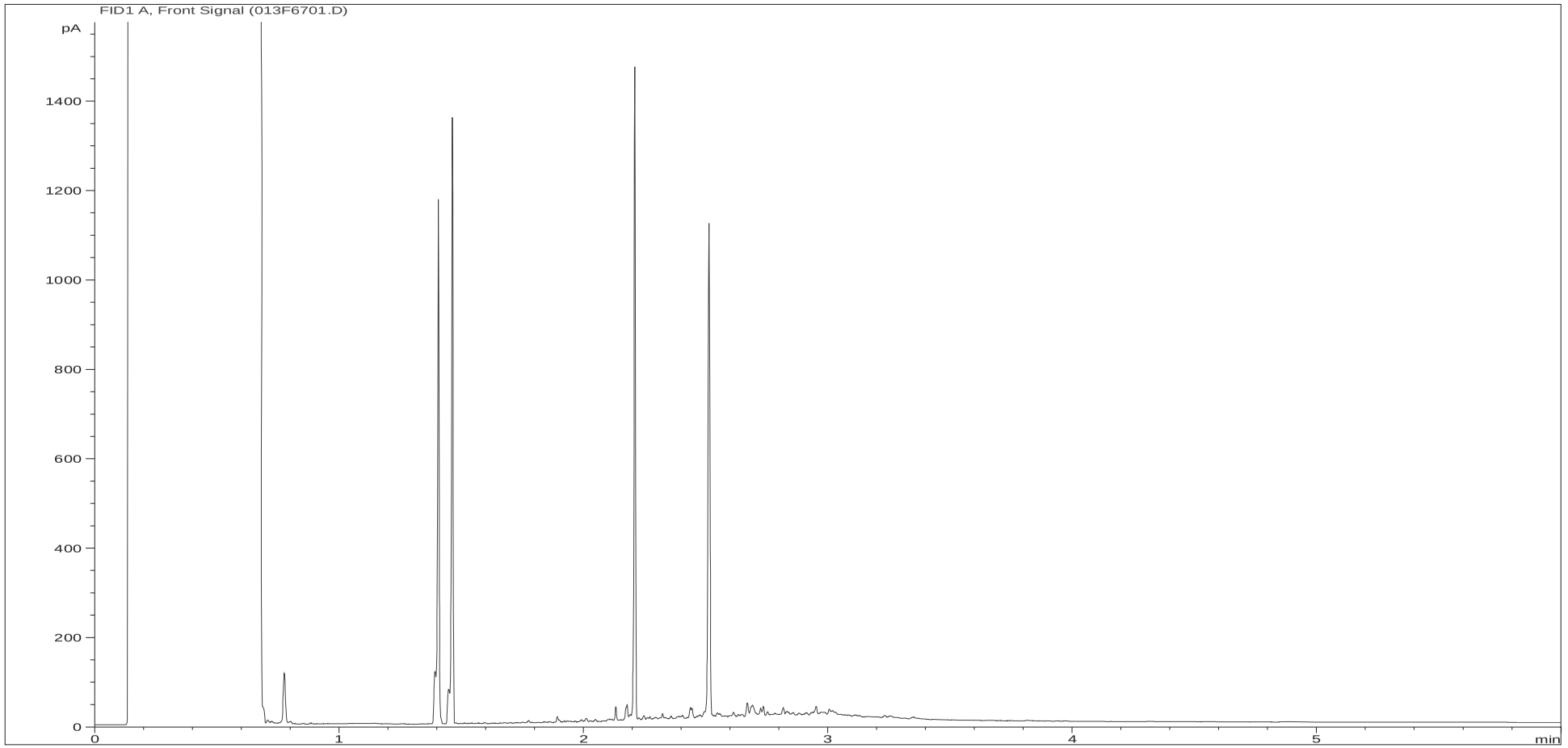
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923173	**Job Number:**	S09_5215
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS2 0.5
Acquisition Date/Time:	02-Oct-09, 21:18:56		
Datafile:	D:\TES\DATA\Y2009\1002TPH_GC14\100209 2009-10-02 08-18-46\012F6601.D		

Where individual results are flagged see report notes for status.

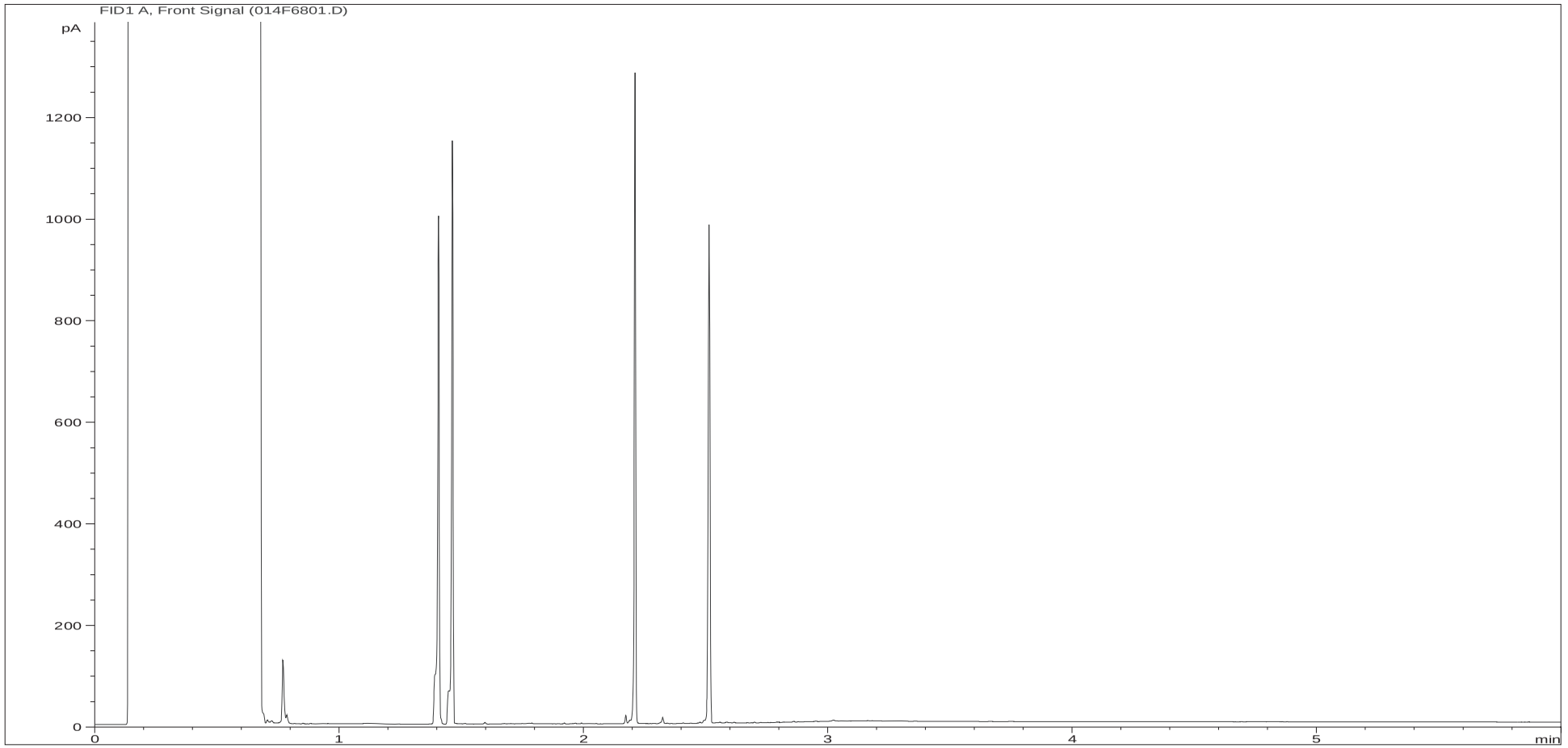
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923174	**Job Number:**	S09_5215
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS3 0.6
Acquisition Date/Time:	02-Oct-09, 21:30:47		
Datafile:	D:\TES\DATA\Y2009\1002TPH_GC14\100209 2009-10-02 08-18-46\013F6701.D		

Where individual results are flagged see report notes for status.

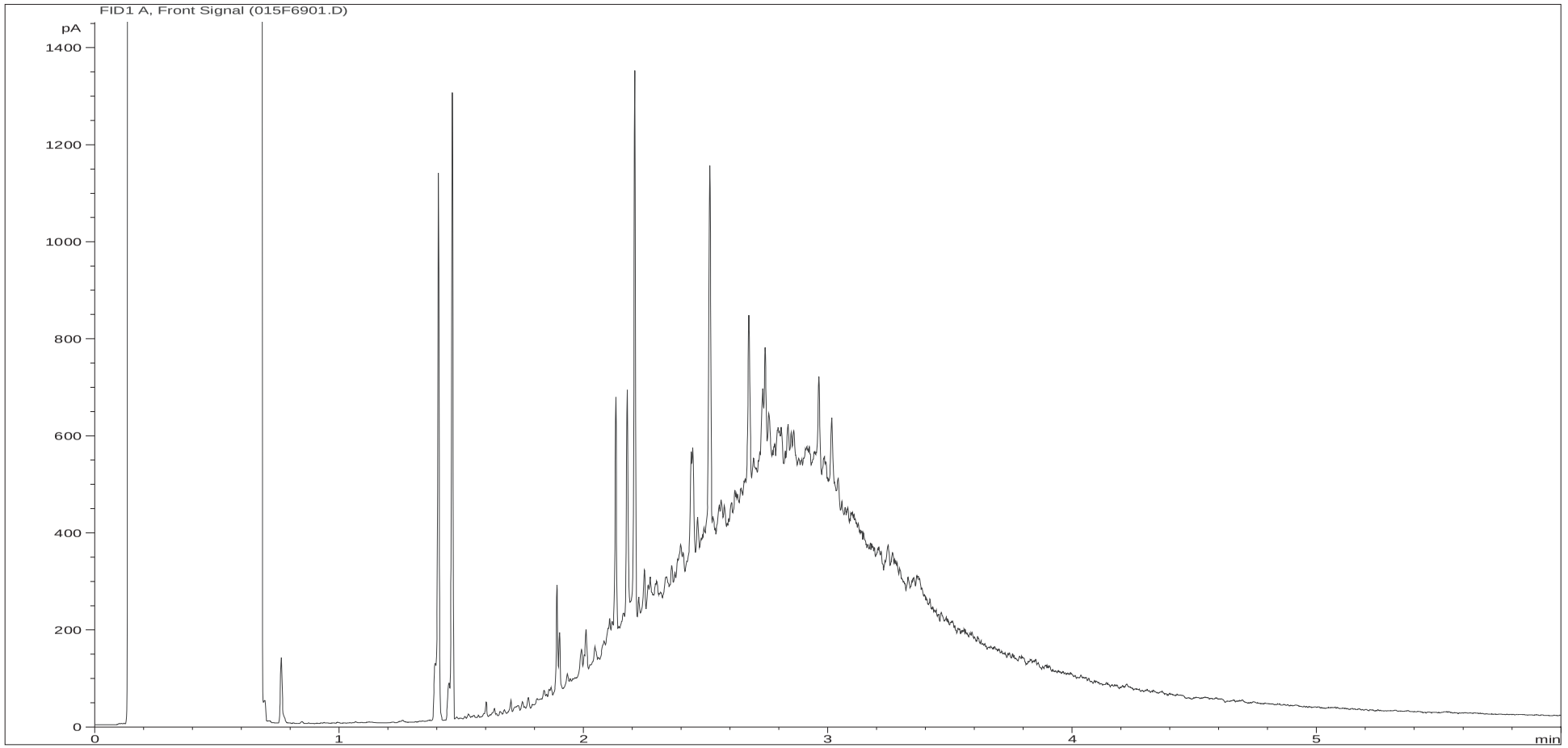
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923176	**Job Number:**	S09_5215
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS4 0.9
Acquisition Date/Time:	02-Oct-09, 21:42:37		
Datafile:	D:\TES\DATA\Y2009\1002TPH_GC14\100209 2009-10-02 08-18-46\014F6801.D		

Where individual results are flagged see report notes for status.

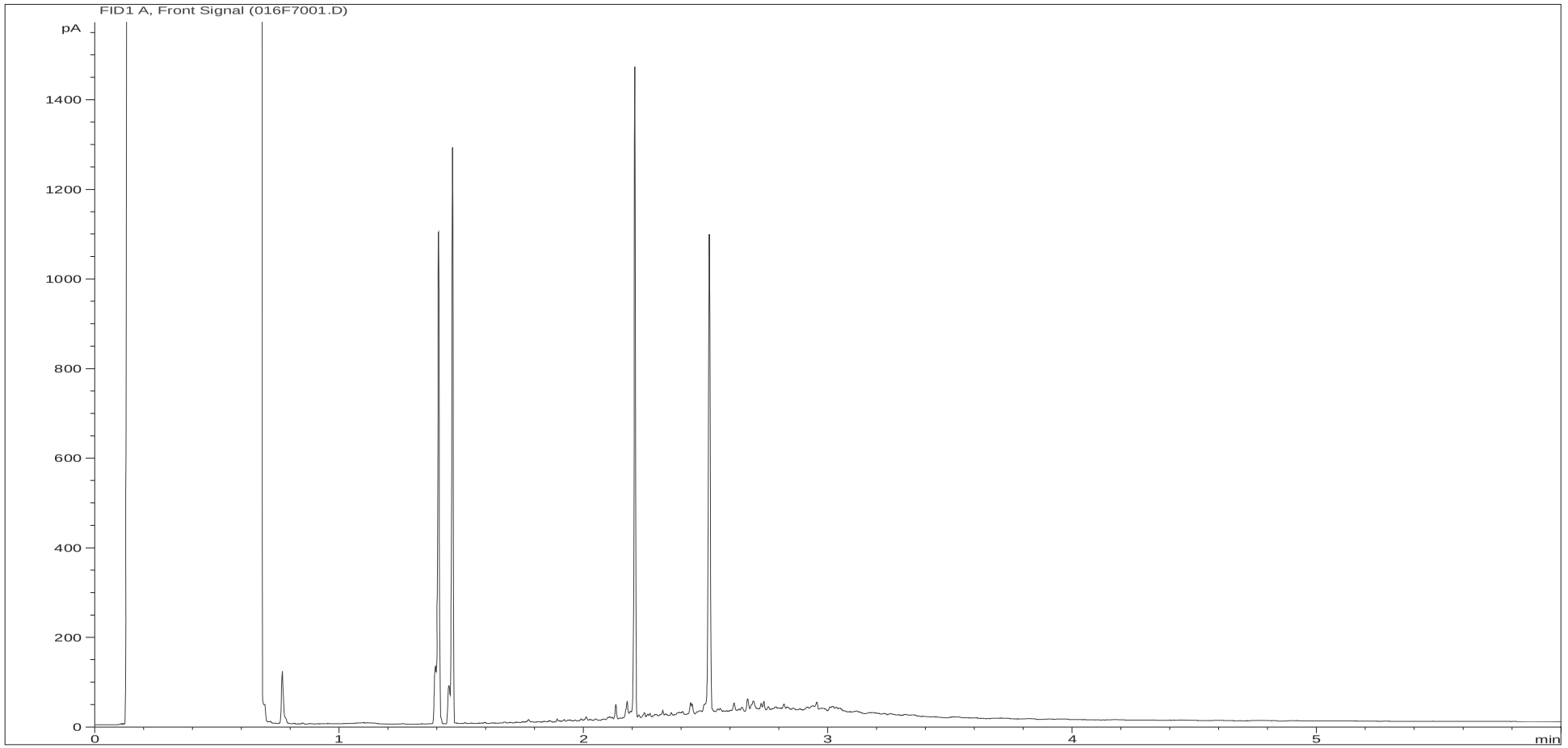
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923178	**Job Number:**	S09_5215
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS5 0.4
Acquisition Date/Time:	02-Oct-09, 21:54:26		
Datafile:	D:\TES\DATA\Y2009\1002TPH_GC14\100209 2009-10-02 08-18-46\015F6901.D		

Where individual results are flagged see report notes for status.

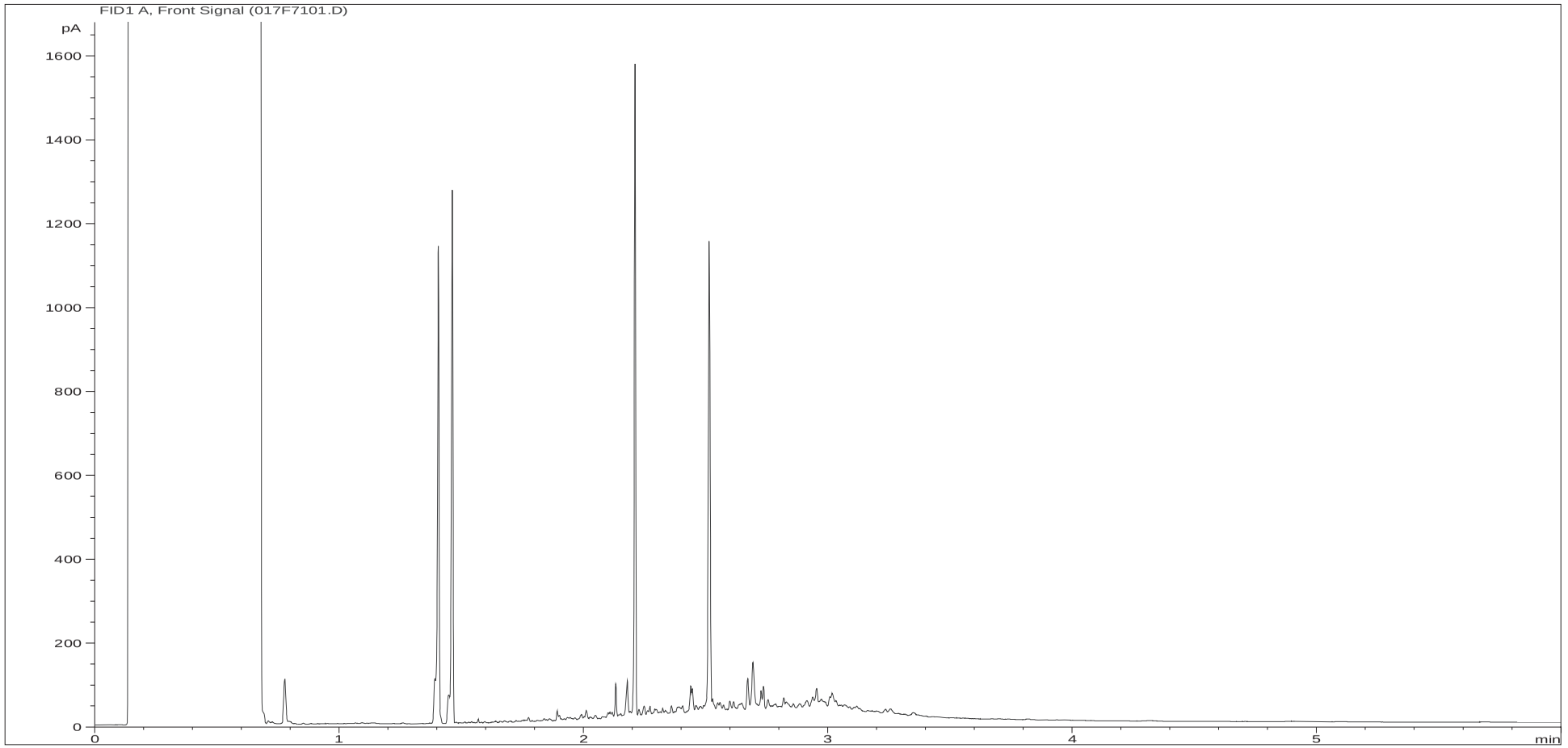
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923180	**Job Number:**	S09_5215
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS6 0.3
Acquisition Date/Time:	02-Oct-09, 22:06:16		
Datafile:	D:\TES\DATA\Y2009\1002TPH_GC14\100209 2009-10-02 08-18-46\016F7001.D		

Where individual results are flagged see report notes for status.

Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923181	**Job Number:**	S09_5215
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS6 1.1
Acquisition Date/Time:	02-Oct-09, 22:18:08		
Datafile:	D:\TES\DATA\Y2009\1002TPH_GC14\100209 2009-10-02 08-18-46\017F7101.D		

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1005VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS21 0.2	**Date Booked in:**	25-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923171	**Date Analysed:**	06-Oct-09	**Multiplier:**	5
Job Number:	s09_5215	**Operator:**	PS	**Position:**	36

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3 *	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5 *	-	< 5	-
Tetrachloroethene	127-18-4 *	-	< 25	-
1,3-Dichloropropane	142-28-9 *	-	< 5	-
Dibromochloromethane	124-48-1 *	-	< 5	-
1,2-Dibromoethane	106-93-4 *	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8 **	-	< 10	-
1,3,5-Trimethylbenzene	108-67-8 **	-	< 10	-
4-Chlorotoluene	106-43-4 **	-	< 10	-
tert-Butylbenzene	98-06-6 **	-	< 10	-
1,2,4-Trimethylbenzene	95-63-6 **	-	< 10	-
sec-Butylbenzene	135-98-8 **	-	< 10	-
p-Isopropyltoluene	99-87-6 **	-	< 10	-
1,3-Dichlorobenzene	541-73-1 **	-	< 10	-
1,4-Dichlorobenzene	106-46-7 **	-	< 10	-
n-Butylbenzene	104-51-8 **	-	< 10	-
1,2-Dichlorobenzene	95-50-1 **	-	< 10	-
1,2-Dibromo-3-chloropropane	96-12-8 **	-	< 50	-
1,2,4-Trichlorobenzene	120-82-1 **	-	< 50	-
Hexachlorobutadiene	87-68-3 **	-	< 50	-
Naphthalene	91-20-3 **	-	< 50	-
1,2,3-Trichlorobenzene	87-61-6 **	-	< 50	-

Compounds marked * are not UKAS accredited.

** Last internal standard low due to sample matrix effect. Detection limits for all compounds quantified by this ISD raised accordingly. These compounds are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	84	Dibromofluoromethane	110
1,4-Difluorobenzene	3.07	63	Toluene-d8	107
Chlorobenzene-d5	4.08	70	Bromofluorobenzene	73
1,4-Dichlorobenzene-d4	4.84	38		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1005VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS21 1.6	**Date Booked in:**	25-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923172	**Date Analysed:**	06-Oct-09	**Multiplier:**	5
Job Number:	s09_5215	**Operator:**	PS	**Position:**	37

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3 *	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5 *	-	< 5	-
Tetrachloroethene	127-18-4 *	-	< 25	-
1,3-Dichloropropane	142-28-9 *	-	< 5	-
Dibromochloromethane	124-48-1 *	-	< 5	-
1,2-Dibromoethane	106-93-4 *	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3 *	-	< 25	-
Naphthalene	91-20-3 *	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Compounds marked * are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	90	Dibromofluoromethane	108
1,4-Difluorobenzene	3.07	78	Toluene-d8	101
Chlorobenzene-d5	4.08	89	Bromofluorobenzene	77
1,4-Dichlorobenzene-d4	4.84	59		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1005VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS22 0.5	**Date Booked in:**	25-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923173	**Date Analysed:**	06-Oct-09	**Multiplier:**	5
Job Number:	s09_5215	**Operator:**	PS	**Position:**	38

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3 *	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5 *	-	< 5	-
Tetrachloroethene	127-18-4 *	-	< 25	-
1,3-Dichloropropane	142-28-9 *	-	< 5	-
Dibromochloromethane	124-48-1 *	-	< 5	-
1,2-Dibromoethane	106-93-4 *	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3 *	-	< 25	-
Naphthalene	91-20-3 *	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Compounds marked * are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	90	Dibromofluoromethane	109
1,4-Difluorobenzene	3.07	84	Toluene-d8	94
Chlorobenzene-d5	4.08	85	Bromofluorobenzene	77
1,4-Dichlorobenzene-d4	4.84	54		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1005VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS23 0.6	**Date Booked in:**	25-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923174	**Date Analysed:**	06-Oct-09	**Multiplier:**	5
Job Number:	s09_5215	**Operator:**	PS	**Position:**	39

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4	-	< 5	-
Bromomethane	74-83-9	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3	-	< 25	-
Naphthalene	91-20-3	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	81	Dibromofluoromethane	110
1,4-Difluorobenzene	3.07	79	Toluene-d8	111
Chlorobenzene-d5	4.08	66	Bromofluorobenzene	69
1,4-Dichlorobenzene-d4	4.84	39		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1005VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS24 0.9	**Date Booked in:**	25-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923176	**Date Analysed:**	06-Oct-09	**Multiplier:**	5
Job Number:	s09_5215	**Operator:**	PS	**Position:**	40

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3 *	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5 *	-	< 5	-
Tetrachloroethene	127-18-4 *	-	< 25	-
1,3-Dichloropropane	142-28-9 *	-	< 5	-
Dibromochloromethane	124-48-1 *	-	< 5	-
1,2-Dibromoethane	106-93-4 *	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3 *	-	< 25	-
Naphthalene	91-20-3 *	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Compounds marked * are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	79	Dibromofluoromethane	106
1,4-Difluorobenzene	3.07	75	Toluene-d8	106
Chlorobenzene-d5	4.08	93	Bromofluorobenzene	81
1,4-Dichlorobenzene-d4	4.84	67		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1005VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS24 1.6	**Date Booked in:**	25-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923177	**Date Analysed:**	06-Oct-09	**Multiplier:**	5
Job Number:	s09_5215	**Operator:**	PS	**Position:**	41

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3 *	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5 *	-	< 5	-
Tetrachloroethene	127-18-4 *	-	< 25	-
1,3-Dichloropropane	142-28-9 *	-	< 5	-
Dibromochloromethane	124-48-1 *	-	< 5	-
1,2-Dibromoethane	106-93-4 *	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3 *	-	< 25	-
Naphthalene	91-20-3 *	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Compounds marked * are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	75	Dibromofluoromethane	108
1,4-Difluorobenzene	3.07	73	Toluene-d8	106
Chlorobenzene-d5	4.08	88	Bromofluorobenzene	79
1,4-Dichlorobenzene-d4	4.84	61		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1005VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS25 0.4	**Date Booked in:**	25-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923178	**Date Analysed:**	06-Oct-09	**Multiplier:**	5
Job Number:	s09_5215	**Operator:**	PS	**Position:**	42

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4	-	< 5	-
Bromomethane	74-83-9	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3	-	< 25	-
Naphthalene	91-20-3	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	57	Dibromofluoromethane	109
1,4-Difluorobenzene	3.07	58	Toluene-d8	107
Chlorobenzene-d5	4.08	64	Bromofluorobenzene	68
1,4-Dichlorobenzene-d4	4.84	32		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1005VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS25 1.3	**Date Booked in:**	25-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923179	**Date Analysed:**	06-Oct-09	**Multiplier:**	5
Job Number:	s09_5215	**Operator:**	PS	**Position:**	43

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4	-	< 5	-
Bromomethane	74-83-9	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3	-	< 25	-
Naphthalene	91-20-3	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	79	Dibromofluoromethane	111
1,4-Difluorobenzene	3.07	80	Toluene-d8	110
Chlorobenzene-d5	4.08	65	Bromofluorobenzene	67
1,4-Dichlorobenzene-d4	4.84	35		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1005VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS26 1.1	**Date Booked in:**	25-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923181	**Date Analysed:**	06-Oct-09	**Multiplier:**	5
Job Number:	s09_5215	**Operator:**	PS	**Position:**	44

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4	-	< 5	-
Bromomethane	74-83-9	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3	-	< 25	-
Naphthalene	91-20-3	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	56	Dibromofluoromethane	106
1,4-Difluorobenzene	3.07	55	Toluene-d8	112
Chlorobenzene-d5	4.08	62	Bromofluorobenzene	68
1,4-Dichlorobenzene-d4	4.84	34		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Report Notes

Soil/Solid analysis specific:
Results expressed as mg/kg on an air dried basis unless stated otherwise
S04 analysis not conducted in accordance with BS1377 unless otherwise stated
Water Soluble Sulphate on 2:1 water:soil extract
AR denotes analysis conducted on the As Received sample

Water analysis specific:
Results expressed as mg/l unless stated otherwise

Oil analysis specific:
Results expressed as mg/kg unless stated otherwise
S.G. expressed as g/cm^3@ 15^{o}C

Filter analysis specific:
Results expressed as mg on filter unless stated otherwise

VOC analysis specific:
Explanatory notes for data flagging
U = undetected above reporting limit
J = concentration at instrument was below lowest calibration standard
E = concentration at instrument was above top calibration standard
B = compound was detected in method blank

Gas (Tedlar bag) analysis specific:
Results expressed as ug/l unless stated otherwise

Air (Carbon tube) analysis specific:
Results expressed as ug on tube unless stated otherwise

Asbestos analysis specific:
CH denotes Chrysotile
CR denotes Crocidolite
AM denotes Amosite
NADIS denotes No Asbestos Detected in Sample
NBFO denotes No Bulk fibres Observed

General notes:
^ this analysis was subcontracted to another laboratory
$ Within laboratory tolerances
$$ unable to analyse due to nature of sample
¥ Results for guidance only, possible interference
& Blank corrected
I.S insufficient sample for analysis
Intf Unable to analyse due to interferences
N.D Not determined
N.R Not recorded
N.Det Not detected
Req Analysis Requested, see attached sheets for results
Þ Raised detection limit due to nature of sample
***** denotes that all accreditation has been removed by the laboratory for this result.
‡ denotes that Mcerts accreditation has been removed by the laboratory for this result.
Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected.

If you require further details of the circumstances leading to the removal of the accreditation from any data item please do not hesitate to contact the laboratory

END OF REPORT

Where individual results are flagged see report notes for status.

Our Ref: EFS/095297 (Ver. 3)
Your Ref: YB00437

November 10, 2009

Scientifics Ltd
Bretby Business Park
Ashby Road
Burton-on-Trent
Staffordshire
DE15 0YZ

Telephone: 01283 554400
Facsimile: 01283 554422

Mr H Lister
Ground Investigation
Specialists Ltd
18 Waterloo Road
Wolverhampton
West Mids
WV1 4BL

For the attention of Mr H Lister

Dear Mr Lister

SOIL Sample Analysis - Shelton Hospital

Samples from the above site have been analysed in accordance with the schedule supplied.
The sample details and the results of analyses for these samples are given in the appended report.

An invoice for this work will follow under a separate cover.

Where appropriate the samples will be kept until 10/11/09 when they will be discarded. Please call 01283 554458 for an extension of this date.
Please be aware that from 1 January 2003 our policy for the retention of paper based laboratory records and analysis reports will be 6 years.

The work was carried out in accordance with Scientifics Ltd Standard Terms and Conditions of Contract.

If I can be of any further assistance please do not hesitate to contact me.

Yours sincerely

for Scientifics

D Simpson
Project Co-ordinator
01283 554458

TEST REPORT
SOIL SAMPLE ANALYSIS

UKAS TESTING
1252

Report No. EFS/095297 (Ver. 3)

Ground Investigation
Specialists Ltd
18 Waterloo Road
Wolverhampton
West Mids
WV1 4BL

Site: Shelton Hospital

The 4 samples described in this report were logged for analysis by Scientifics on 29-Sep-2009.
The analysis was completed by: 10-Nov-2009

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS accredited
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics Ltd.

The following tables are contained in this report:

On behalf of
Scientifics :
Dave Simpson Project Co-ordinator

Date of Issue: 10-Nov-2009

Tests marked '^' have been subcontracted to another laboratory.

Scientifics Ltd accepts no responsibility for any sampling not carried out by our personnel.

Units :		mg/kg	mg/kg	mg/kg	ug/kg	mg/kg	mg/kg	% M/M										
Method Codes :		PAHMSUS	TPHFIDUS	TPHFIDUS	VOCSW8100	GROHSA	SVOCMSUS	WSLM59										
Method Reporting Limits :		0.08	10.0	10.0	5	0.2	0.2-10.0	0.01										
UKAS Accredited :		yes	yes	yes	yes	no	no	no										
Laboratory ID Number CL/	**Client Sample Description**	**PAH by MS.16(0.08)**	**TPH by GCFID (AR)**	**TPH Carbon Banding.**	**VOC by GCMS (8100)**	**GRO**	**SVOC (AR)**	**Total Organic Carbon**										
0923618	WS36 0.3	Req	3440	Req	Req	<0.2	Req	2.75										
0923619	WS37 0.5	Req	80	Req	Req	<0.2	Req	1.86										
0923620	WS38 1.4	Req	10.0	Req	Req	<0.2	Req	0.26										
0923639	WS39 0.6	Req	94	Req	Req	<0.2	Req	1.18										

scientifics

Bretby Business Park, Ashby Road

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Client Name **Ground Investigation Sp Ltd**

Contact Mr H Lister

Shelton Hospital

Soils Sample Analysis

Date Printed	10-Nov-09
Report Number	**EFS/095297**
Table Number	**1**

Where individual results are flagged see report notes for status.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS36 0.3	**Job Number:**	S09_5297
LIMS ID Number:	CL0923618	**Date Booked in:**	29-Sep-09
QC Batch Number:	3101	**Date Extracted:**	07-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	09-Oct-09
Directory:	009PAH_MS14\	**Matrix:**	Soil
Dilution:	5.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.40	-
Acenaphthylene	208-96-8	4.07	0.62	96
Acenaphthene	83-32-9	4.18	2.19	93
Fluorene	86-73-7	4.54	2.61	89
Phenanthrene	85-01-8	5.33	76.50	100
Anthracene	120-12-7	5.38	24.60	94
Fluoranthene	206-44-0	6.60	140.00	90
Pyrene	129-00-0	6.88	115.00	87
Benzo[a]anthracene	56-55-3	8.52	57.20	94
Chrysene	218-01-9	8.57	45.50	96
Benzo[b]fluoranthene	205-99-2	10.02	44.60	97
Benzo[k]fluoranthene	207-08-9	10.06	15.40	95
Benzo[a]pyrene	50-32-8	10.44	34.70	92
Indeno[1,2,3-cd]pyrene	193-39-5	11.80	19.00	93
Dibenzo[a,h]anthracene	53-70-3	11.84	4.38	94
Benzo[g,h,i]perylene	191-24-2	12.09	16.10	89
Total (USEPA16) PAHs	-	-	< 598.80	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	81
Acenaphthene-d10	77
Phenanthrene-d10	85
Chrysene-d12	91
Perylene-d12	91

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	92
Terphenyl-d14	87

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS37 0.5	**Job Number:**	S09_5297
LIMS ID Number:	CL0923619	**Date Booked in:**	29-Sep-09
QC Batch Number:	3101	**Date Extracted:**	07-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	07-Oct-09
Directory:	1007PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	5.91	0.15	98
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	7.29	0.24	99
Pyrene	129-00-0	7.59	0.19	99
Benzo[a]anthracene	56-55-3	9.31	0.17	93
Chrysene	218-01-9	9.36	0.15	98
Benzo[b]fluoranthene	205-99-2	10.86	0.14	94
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	11.29	0.11	97
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	13.03	0.08	100
Total (USEPA16) PAHs	-	-	< 1.87	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	101
Acenaphthene-d10	99
Phenanthrene-d10	101
Chrysene-d12	113
Perylene-d12	114

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	95
Terphenyl-d14	90

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS38 1.4	**Job Number:**	S09_5297
LIMS ID Number:	CL0923620	**Date Booked in:**	29-Sep-09
QC Batch Number:	3101	**Date Extracted:**	07-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	08-Oct-09
Directory:	1007PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	102
Acenaphthene-d10	100
Phenanthrene-d10	101
Chrysene-d12	109
Perylene-d12	103

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	96
Terphenyl-d14	91

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS39 0.6	**Job Number:**	S09_5297
LIMS ID Number:	CL0923639	**Date Booked in:**	29-Sep-09
QC Batch Number:	3101	**Date Extracted:**	07-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	08-Oct-09
Directory:	1007PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	3.44	0.31	99
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	4.62	0.12	99
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	5.91	0.59	97
Anthracene	120-12-7	5.96	0.12	96
Fluoranthene	206-44-0	7.30	0.50	99
Pyrene	129-00-0	7.59	0.41	99
Benzo[a]anthracene	56-55-3	9.31	0.24	94
Chrysene	218-01-9	9.36	0.29	98
Benzo[b]fluoranthene	205-99-2	10.86	0.25	93
Benzo[k]fluoranthene	207-08-9	10.89	0.09	92
Benzo[a]pyrene	50-32-8	11.29	0.20	98
Indeno[1,2,3-cd]pyrene	193-39-5	12.70	0.11	76
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	13.03	0.13	91
Total (USEPA16) PAHs	-	-	< 3.60	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	101
Acenaphthene-d10	99
Phenanthrene-d10	101
Chrysene-d12	112
Perylene-d12	111

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	97
Terphenyl-d14	93

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3090
Sample Details:	WS36 0.3	**Date Booked in:**	29-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	20
LIMS ID Number:	CL0923618	**Date Extracted:**	06-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	100
Job Number:	S09_5297	**Date Analysed:**	06-Oct-09	**Directory/Quant File:**	06SVOC.MS16\ 1006_CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 200.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 50.0	-
2-Chlorophenol	95-57-8	-	< 200.0	-
1,3-Dichlorobenzene	541-73-1	-	< 50.0	-
1,4-Dichlorobenzene	106-46-7	-	< 50.0	-
Benzyl alcohol	100-51-6	-	< 50.0	-
1,2-Dichlorobenzene	95-50-1	-	< 50.0	-
2-Methylphenol	95-48-7	-	< 50.0	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 50.0	-
Hexachloroethane	67-72-1	-	< 50.0	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 50.0	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 200.0	-
Nitrobenzene	98-95-3	-	< 50.0	-
Isophorone	78-59-1	-	< 50.0	-
2-Nitrophenol	88-75-5	-	< 200.0	-
2,4-Dimethylphenol	105-67-9	-	< 200.0	-
Benzoic Acid	65-85-0 *	-	< 1000.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 50.0	-
2,4-Dichlorophenol	120-83-2	-	< 200.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 50.0	-
Naphthalene	91-20-3	-	< 20.0	-
4-Chlorophenol	106-48-9	-	< 200.0	-
4-Chloroaniline	106-47-8 *	-	< 50.0	-
Hexachlorobutadiene	87-68-3	-	< 50.0	-
4-Chloro-3-methylphenol	59-50-7	-	< 50.0	-
2-Methylnaphthalene	91-57-6	-	< 20.0	-
1-Methylnaphthalene	90-12-0	-	< 20.0	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 50.0	-
2,4,6-Trichlorophenol	88-06-2	-	< 200.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 200.0	-
2-Chloronaphthalene	91-58-7	-	< 20.0	-
Biphenyl	92-52-4	-	< 20.0	-
Diphenyl ether	101-84-8	-	< 20.0	-
2-Nitroaniline	88-74-4	-	< 50.0	-
Acenaphthylene	208-96-8	-	< 20.0	-
Dimethylphthalate	131-11-3	-	< 50.0	-
2,6-Dinitrotoluene	606-20-2	-	< 50.0	-
Acenaphthene	83-32-9	-	< 20.0	-
3-Nitroaniline	99-09-2	-	< 50.0	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 100.0	-
Dibenzofuran	132-64-9	-	< 50.0	-
4-Nitrophenol	100-02-7	-	< 500.0	-
2,4-Dinitrotoluene	121-14-2	-	< 50.0	-
Fluorene	86-73-7	-	< 20.0	-
Diethylphthalate	84-66-2	-	< 50.0	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 50.0	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 500.0	-
4-Nitroaniline	100-01-6	-	< 50.0	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 50.0	-
4-Bromophenyl-phenylether	101-55-3	-	< 50.0	-
Hexachlorobenzene	118-74-1	-	< 50.0	-
Pentachlorophenol	87-86-5	-	< 500.0	-
Phenanthrene	85-01-8	10.92	75.0	99
Anthracene	120-12-7	10.99	23.0	97
Di-n-butylphthalate	84-74-2	-	< 50.0	-
Fluoranthene	206-44-0	12.74	150.0	100
Pyrene	129-00-0	13.08	124.0	82
Butylbenzylphthalate	85-68-7	-	< 50.0	-
Benzo[a]anthracene	56-55-3	14.99	60.0	100
Chrysene	218-01-9	15.04	51.9	100
3,3'-Dichlorobenzidine	91-94-1	-	< 200.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 50.0	-
Di-n-octylphthalate	117-84-0	-	< 20.0	-
Benzo[b]fluoranthene	205-99-2	16.59	51.6	100
Benzo[k]fluoranthene	207-08-9	-	< 20.0	-
Benzo[a]pyrene	50-32-8	17.03	40.1	100
Indeno[1,2,3-cd]pyrene	193-39-5	18.43	23.8	100
Dibenzo[a,h]anthracene	53-70-3	-	< 20.0	-
Benzo[g,h,i]perylene	191-24-2	18.75	23.2	91

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	89
Naphthalene-d8	91
Acenaphthene-d10	98
Phenanthrene-d10	107
Chrysene-d12	107
Perylene-d12	107

Surrogates	% Rec
2-Fluorophenol	114
Phenol-d5	101
Nitrobenzene-d5	121
2-Fluorobiphenyl	103
2,4,6-Tribromophenol	93
Terphenyl-d14	120

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3090
Sample Details:	WS37 0.5	**Date Booked in:**	29-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923619	**Date Extracted:**	10-Jun-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5297	**Date Analysed:**	06-Oct-09	**Directory/Quant File:**	06SVOC.MS16\ 1006_CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	111
Naphthalene-d8	114
Acenaphthene-d10	121
Phenanthrene-d10	136
Chrysene-d12	150
Perylene-d12	151

Surrogates	% Rec
2-Fluorophenol	94
Phenol-d5	96
Nitrobenzene-d5	92
2-Fluorobiphenyl	90
2,4,6-Tribromophenol	86
Terphenyl-d14	90

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3090
Sample Details:	WS38 1.4	**Date Booked in:**	29-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923620	**Date Extracted:**	06-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5297	**Date Analysed:**	06-Oct-09	**Directory/Quant File:**	06SVOC.MS16\ 1006_CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	97
Naphthalene-d8	100
Acenaphthene-d10	105
Phenanthrene-d10	113
Chrysene-d12	114
Perylene-d12	112

Surrogates	% Rec
2-Fluorophenol	94
Phenol-d5	96
Nitrobenzene-d5	90
2-Fluorobiphenyl	90
2,4,6-Tribromophenol	85
Terphenyl-d14	92

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.
"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3090
Sample Details:	WS9 0.6	**Date Booked in:**	29-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923639	**Date Extracted:**	06-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5297	**Date Analysed:**	06-Oct-09	**Directory/Quant File:**	06SVOC.MS16\ 1006_CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	97
Naphthalene-d8	100
Acenaphthene-d10	107
Phenanthrene-d10	123
Chrysene-d12	139
Perylene-d12	140

Surrogates	% Rec
2-Fluorophenol	94
Phenol-d5	95
Nitrobenzene-d5	89
2-Fluorobiphenyl	90
2,4,6-Tribromophenol	82
Terphenyl-d14	89

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Total Petroleum Hydrocarbons (TPH) Carbon Ranges

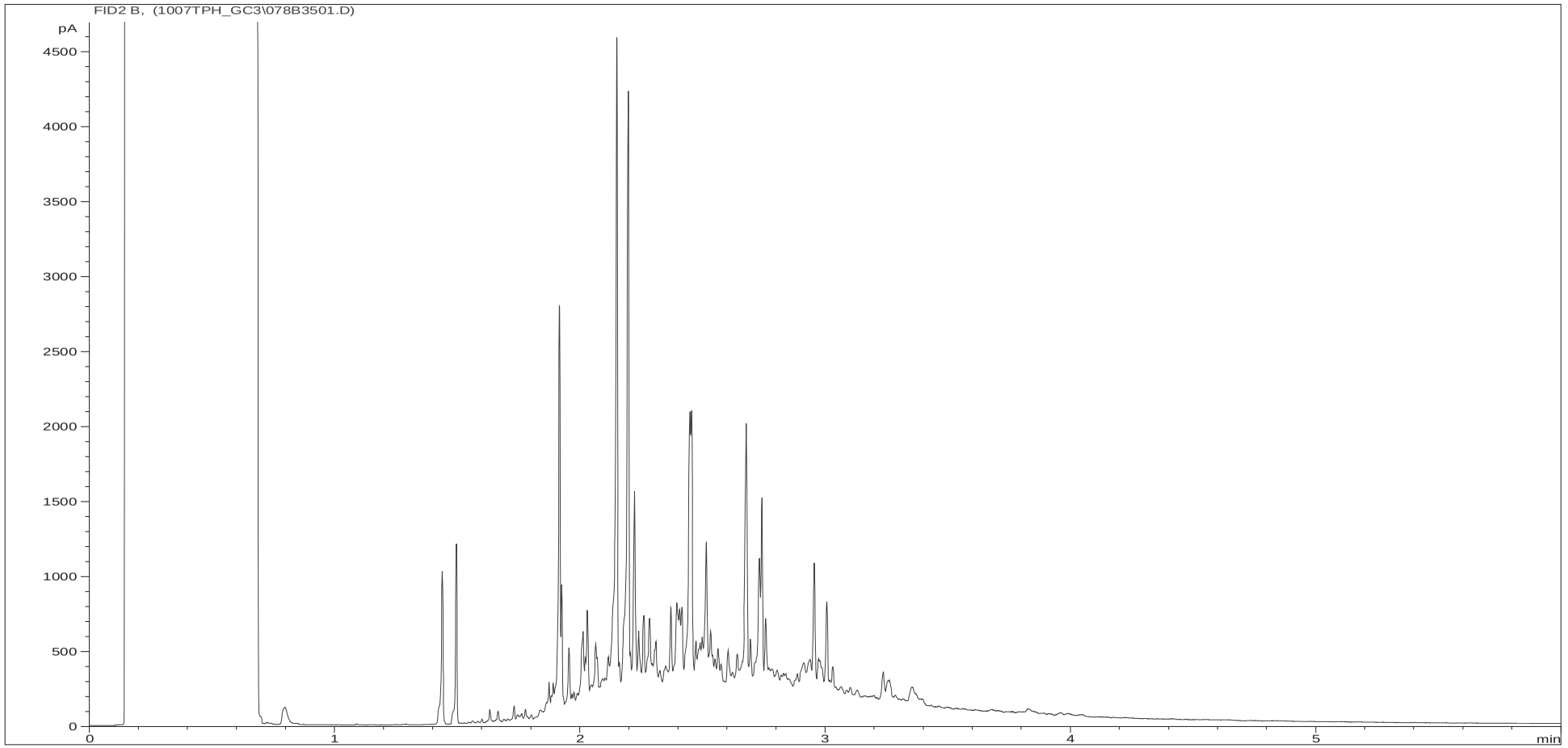
Customer and Site Details:	Ground Investigation Sp Ltd : Shelton Hospital	**Matrix:**	Soil
Job Number:	S09_5297	**Date Booked in:**	29-Sep-09
QC Batch Number:	93101	**Date Extracted:**	07-Oct-09
Directory:	D:\TES\DATA\Y2009\1007TPH_GC3\081B3801.D	**Date Analysed:**	07-Oct-09
Method:	Ultra Sonic		

*** Sample data with an asterisk are not UKAS accredited.**

		Concentration, (mg/kg) - as wet weight				
Sample ID	**Client ID**	**>C8 - C10**	**>C10 - C12**	**>C12 - C16**	**>C16 - C21**	**>C21 - C35**
CL0923618	WS36 0.3	<2	<2	31.1	564	2440
CL0923619	WS37 0.5	<2	<2	<2	5.31	57.6
CL0923620	WS38 1.4	<2	<2	<2	<2	7.25
CL0923639	WS39 0.6	<2	<2	3.59	11.4	63.2

Where individual results are flagged see report notes for status.

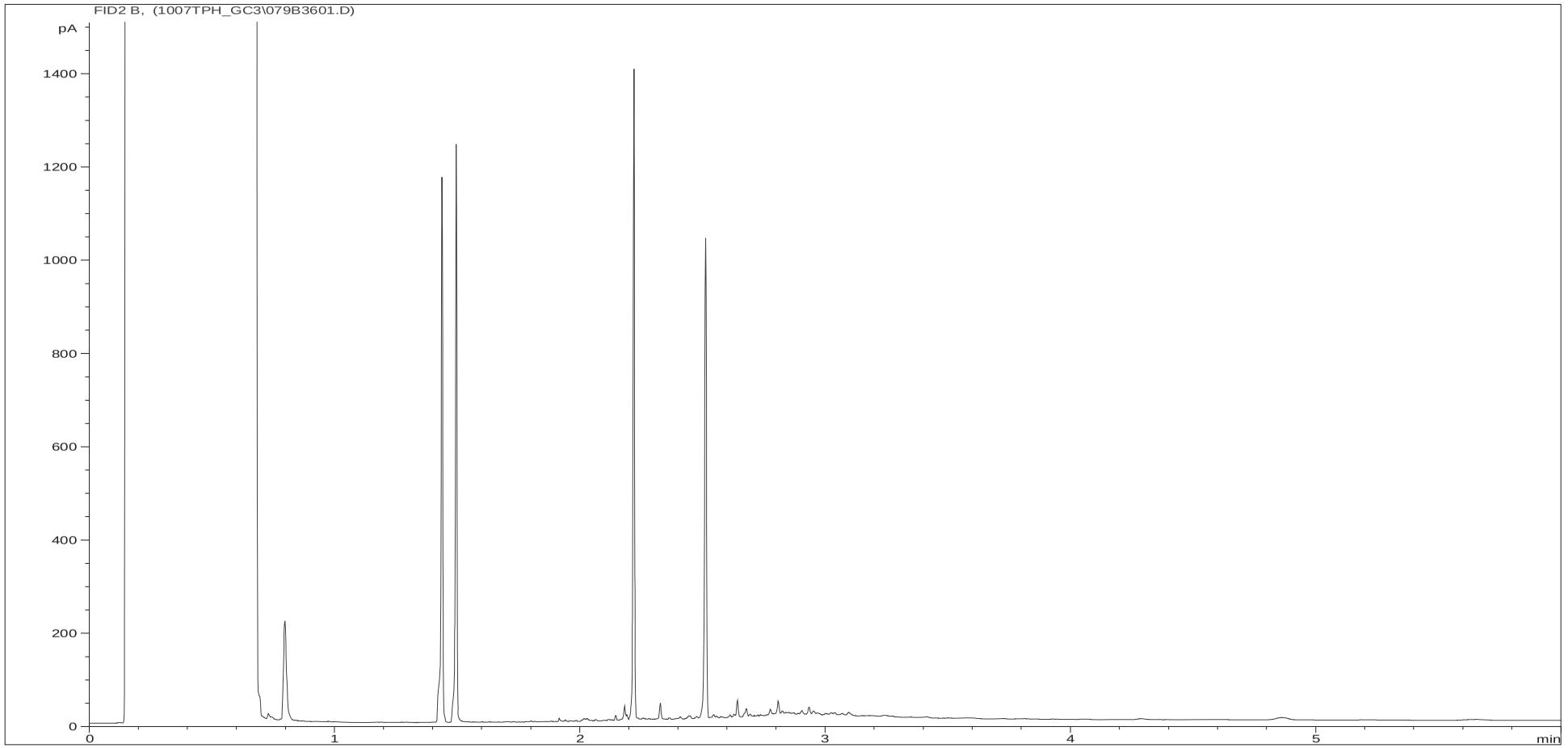
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923618	**Job Number:**	S09_5297
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS36 0.3
Acquisition Date/Time:	07-Oct-09		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC3\078B3501.D		

Where individual results are flagged see report notes for status.

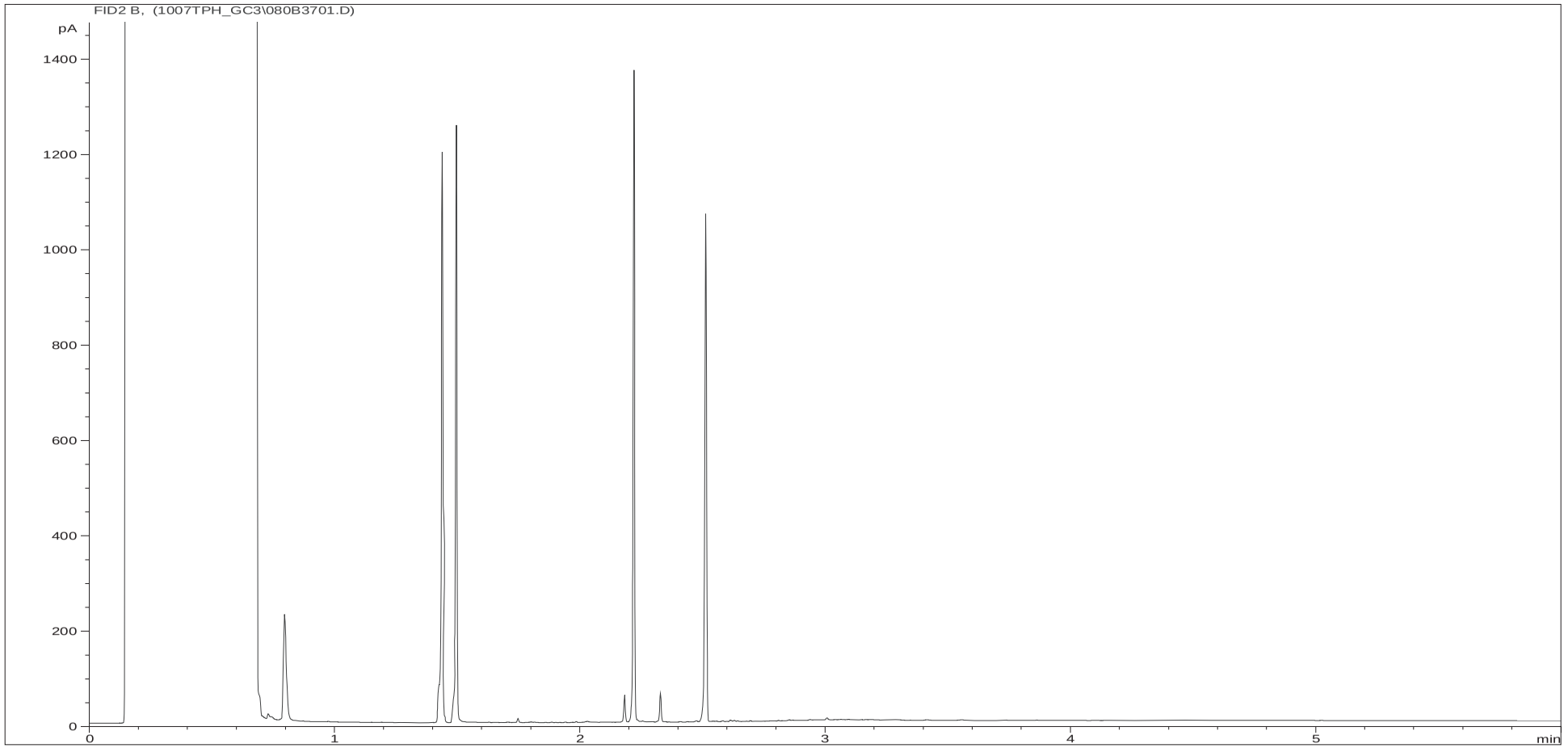
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923619	**Job Number:**	S09_5297
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS37 0.5
Acquisition Date/Time:	07-Oct-09		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC3\079B3601.D		

Where individual results are flagged see report notes for status.

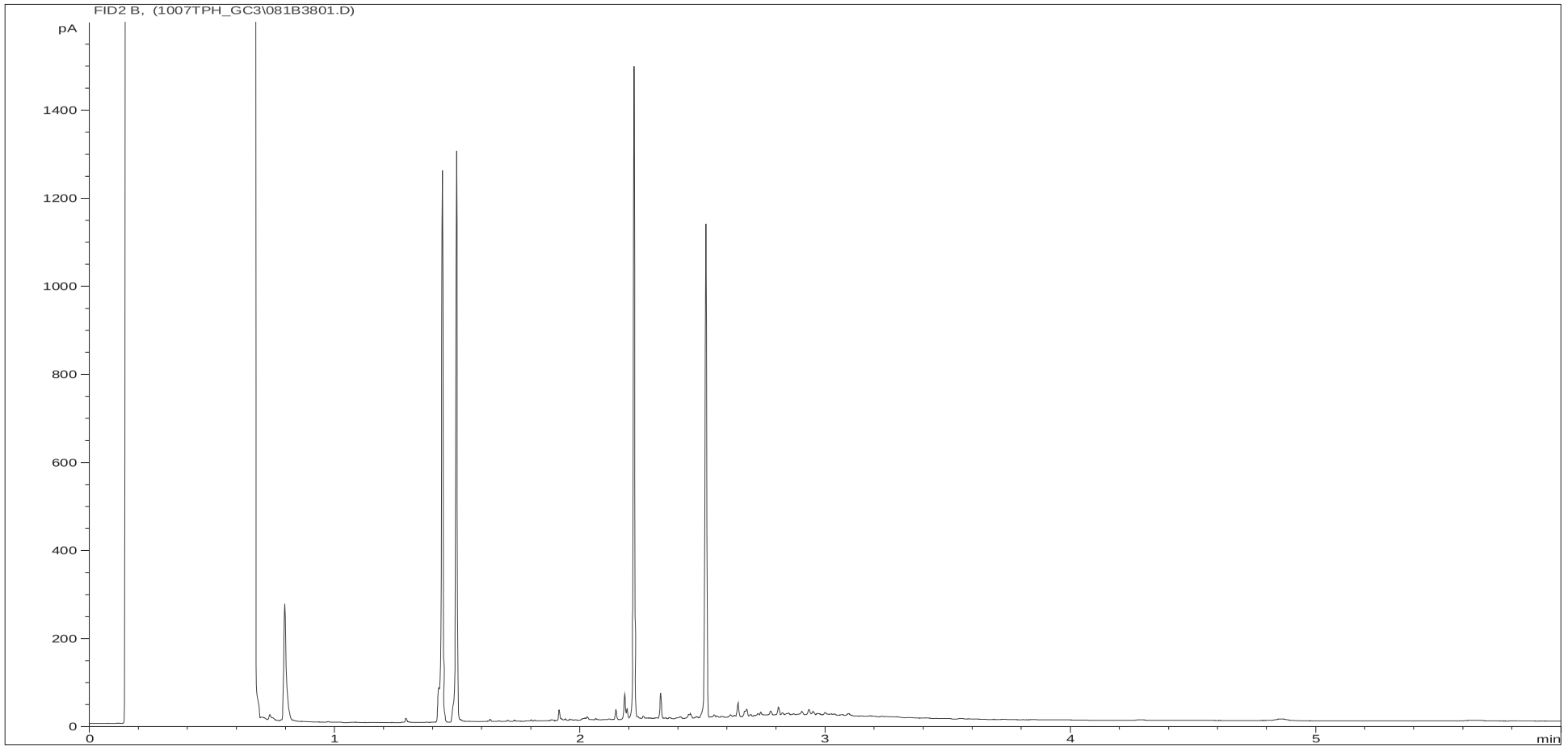
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923620	**Job Number:**	S09_5297
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS38 1.4
Acquisition Date/Time:	07-Oct-09		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC3\080B3701.D		

Where individual results are flagged see report notes for status.

Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923639	**Job Number:**	S09_5297
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	WS39 0.6
Acquisition Date/Time:	07-Oct-09		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC3\081B3801.D		

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	009\1008VOC\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS36 0.3	**Date Booked in:**	29-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923618	**Date Analysed:**	08-Oct-09	**Multiplier:**	5
Job Number:	S09_5297	**Operator:**	PW/KZ	**Position:**	20

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4	-	< 5	-
Bromomethane	74-83-9	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3	-	< 25	-
Naphthalene	91-20-3	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.99	98	Dibromofluoromethane	103
1,4-Difluorobenzene	3.27	97	Toluene-d8	80
Chlorobenzene-d5	4.29	74	Bromofluorobenzene	83
1,4-Dichlorobenzene-d4	5.07	44		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	009\1008VOC\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS37 0.5	**Date Booked in:**	29-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923619	**Date Analysed:**	08-Oct-09	**Multiplier:**	5
Job Number:	S09_5297	**Operator:**	PW/KZ	**Position:**	21

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4	-	< 5	-
Bromomethane	74-83-9	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3	-	< 25	-
Naphthalene	91-20-3	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Compounds marked * are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.99	103	Dibromofluoromethane	100
1,4-Difluorobenzene	3.27	99	Toluene-d8	83
Chlorobenzene-d5	4.29	86	Bromofluorobenzene	88
1,4-Dichlorobenzene-d4	5.07	59		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	009\1008VOC\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS38 1.4	**Date Booked in:**	29-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923620	**Date Analysed:**	09-Oct-09	**Multiplier:**	5
Job Number:	S09_5297	**Operator:**	PW/KZ	**Position:**	22

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4	-	< 5	-
Bromomethane	74-83-9	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3	-	< 25	-
Naphthalene	91-20-3	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Compounds marked * are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.99	107	Dibromofluoromethane	99
1,4-Difluorobenzene	3.27	105	Toluene-d8	99
Chlorobenzene-d5	4.29	105	Bromofluorobenzene	96
1,4-Dichlorobenzene-d4	5.07	91		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	009\1008VOC\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS39 0.6	**Date Booked in:**	29-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923639	**Date Analysed:**	09-Oct-09	**Multiplier:**	5
Job Number:	S09_5297	**Operator:**	PW/KZ	**Position:**	23

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4	-	< 5	-
Bromomethane	74-83-9	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3	-	< 25	-
Naphthalene	91-20-3	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Compounds marked * are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.99	101	Dibromofluoromethane	99
1,4-Difluorobenzene	3.27	99	Toluene-d8	92
Chlorobenzene-d5	4.29	89	Bromofluorobenzene	89
1,4-Dichlorobenzene-d4	5.07	60		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Report Notes

Soil/Solid analysis specific:
Results expressed as mg/kg on an air dried basis unless stated otherwise
S04 analysis not conducted in accordance with BS1377 unless otherwise stated
Water Soluble Sulphate on 2:1 water:soil extract
AR denotes analysis conducted on the As Received sample

Water analysis specific:
Results expressed as mg/l unless stated otherwise

Oil analysis specific:
Results expressed as mg/kg unless stated otherwise
S.G. expressed as g/cm^3@ 15^{o}C

Filter analysis specific:
Results expressed as mg on filter unless stated otherwise

VOC analysis specific:
Explanatory notes for data flagging
U = undetected above reporting limit
J = concentration at instrument was below lowest calibration standard
E = concentration at instrument was above top calibration standard
B = compound was detected in method blank

Gas (Tedlar bag) analysis specific:
Results expressed as ug/l unless stated otherwise

Air (Carbon tube) analysis specific:
Results expressed as ug on tube unless stated otherwise

Asbestos analysis specific:
CH denotes Chrysotile
CR denotes Crocidolite
AM denotes Amosite
NADIS denotes No Asbestos Detected in Sample
NBFO denotes No Bulk fibres Observed

General notes:
^ this analysis was subcontracted to another laboratory
$ Within laboratory tolerances
$$ unable to analyse due to nature of sample
¥ Results for guidance only, possible interference
& Blank corrected
I.S insufficient sample for analysis
Intf Unable to analyse due to interferences
N.D Not determined
N.R Not recorded
N.Det Not detected
Req Analysis Requested, see attached sheets for results
Þ Raised detection limit due to nature of sample
***** denotes that all accreditation has been removed by the laboratory for this result.
‡ denotes that Mcerts accreditation has been removed by the laboratory for this result.
Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected.

If you require further details of the circumstances leading to the removal of the accreditation from any data item please do not hesitate to contact the laboratory

END OF REPORT

Where individual results are flagged see report notes for status.

Our Ref: EFS/095298 (Ver. 3)
Your Ref: YB00437

November 5, 2009

Scientifics Ltd
Bretby Business Park
Ashby Road
Burton-on-Trent
Staffordshire
DE15 0YZ

Telephone: 01283 554400
Facsimile: 01283 554422

Mr H Lister
Ground Investigation
Specialists Ltd
18 Waterloo Road
Wolverhampton
West Mids
WV1 4BL

For the attention of Mr H Lister

Dear Mr Lister

SOIL Sample Analysis - Shelton Hospital

Samples from the above site have been analysed in accordance with the schedule supplied.
The sample details and the results of analyses for these samples are given in the appended report.

An invoice for this work will follow under a separate cover.

Where appropriate the samples will be kept until 10/11/09 when they will be discarded. Please call 01283 554458 for an extension of this date.
Please be aware that from 1 January 2003 our policy for the retention of paper based laboratory records and analysis reports will be 6 years.

The work was carried out in accordance with Scientifics Ltd Standard Terms and Conditions of Contract.

If I can be of any further assistance please do not hesitate to contact me.

Yours sincerely

for Scientifics

D Simpson
Project Co-ordinator
01283 554458

TEST REPORT
SOIL SAMPLE ANALYSIS

1252

Report No. EFS/095298 (Ver. 3)

Ground Investigation
Specialists Ltd
18 Waterloo Road
Wolverhampton
West Mids
WV1 4BL

Site: Shelton Hospital

The 2 samples described in this report were logged for analysis by Scientifics on 29-Sep-2009.
The analysis was completed by: 05-Nov-2009

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS accredited
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics Ltd.

The following tables are contained in this report:

On behalf of
Scientifics :
Dave Simpson Project Co-ordinator

Date of Issue: 05-Nov-2009

Tests marked '^' have been subcontracted to another laboratory.

Scientifics Ltd accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Units :		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Method Codes :		ICPACIDS	ICPBOR	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	SFAPI	SFAPI
Method Reporting Limits :		20	0.5	0.1	0.5	0.1	0.5	0.5	0.5	0.10	0.5	0.5	0.5	2.0	3.0	0.5	0.5
UKAS Accredited :		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Laboratory ID Number CL/	**Client Sample Description**	**SO4-- (acid sol)**	**Boron (H20 Soluble)**	**Antimony (MS)**	**Arsenic (MS)**	**Cadmium (MS)**	**Chromium (MS)**	**Copper (MS)**	**Lead (MS)**	**Mercury (MS)**	**Molybdenum (MS)**	**Nickel (MS)**	**Selenium (MS)**	**Vanadium (MS)**	**Zinc (MS)**	**Cyanide(Free) (AR)**	**Cyanide(Total) (AR)**
0923621	WS38 0.2	158	<0.5	0.2	7.2	0.11	20.2	16.1	19	<0.1	<0.5	23.1	<0.5	20.6	65.7	<0.5	<0.5
0923622	WS39 1.3	48	<0.5	0.2	7.3	<0.1	17.4	16.9	15.5	<0.1	<0.5	20.6	<0.5	17.3	53.4	<0.5	<0.5

scientifics
Bretby Business Park, Ashby Road
Burton-on-Trent, Staffordshire, DE15 0YZ
Tel +44 (0) 1283 554400
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Client Name **Ground Investigation Sp Ltd**

Contact Mr H Lister

Shelton Hospital

Soils Sample Analysis

Date Printed	05-Nov-09
Report Number	**EFS/095298**
Table Number	**1**

Where individual results are flagged see report notes for status.

Units :		mg/kg	mg/kg	pH Units	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	%						
Method Codes :		SFAPI	SFAPI	WSLM3	ICPSOIL	ICPSOIL	KONECR	PAHSCUV	SEN9	SFAS	TSBRE1						
Method Reporting Limits :		0.5	2		1	1	0.1	10		0.5	0.005						
UKAS Accredited :		yes	yes	yes	no	no	no	no	no	no	no						
Laboratory ID Number CL/	**Client Sample Description**	**Phenol Index.(AR)**	**Thiocyanate(SCN)(AR)**	**pH units**	**Barium.**	**Beryllium.**	**Chromium vi:**	**PAH (screening)**	**Asbestos (screening)**	**Sulphide as S (AR)**	**Total Sulphur.**						
0923621	WS38 0.2	<0.5	<2.0	7.7	39	<1	<0.1	<10	NBFO	<0.5	0.047						
0923622	WS39 1.3	<0.5	<2.0	8.1	103	<1	<0.1	<10		<0.5	0.046						

scientifics

Bretby Business Park, Ashby Road

Burton-on-Trent, Staffordshire, DE15 0YZ

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Client Name **Ground Investigation Sp Ltd**

Contact Mr H Lister

Shelton Hospital

Soils Sample Analysis

Date Printed	05-Nov-09
Report Number	**EFS/095298**
Table Number	**1**

Where individual results are flagged see report notes for status.

Report Notes

Soil/Solid analysis specific:
Results expressed as mg/kg on an air dried basis unless stated otherwise
S04 analysis not conducted in accordance with BS1377 unless otherwise stated
Water Soluble Sulphate on 2:1 water:soil extract
AR denotes analysis conducted on the As Received sample

Water analysis specific:
Results expressed as mg/l unless stated otherwise

Oil analysis specific:
Results expressed as mg/kg unless stated otherwise
S.G. expressed as g/cm^3 @ 15^oC

Filter analysis specific:
Results expressed as mg on filter unless stated otherwise

VOC analysis specific:
Explanatory notes for data flagging
U = undetected above reporting limit
J = concentration at instrument was below lowest calibration standard
E = concentration at instrument was above top calibration standard
B = compound was detected in method blank

Gas (Tedlar bag) analysis specific:
Results expressed as ug/l unless stated otherwise

Air (Carbon tube) analysis specific:
Results expressed as ug on tube unless stated otherwise

Asbestos analysis specific:
CH denotes Chrysotile
CR denotes Crocidolite
AM denotes Amosite
NADIS denotes No Asbestos Detected in Sample
NBFO denotes No Bulk fibres Observed

General notes:
^ this analysis was subcontracted to another laboratory
$ Within laboratory tolerances
$$ unable to analyse due to nature of sample
¥ Results for guidance only, possible interference
& Blank corrected
I.S insufficient sample for analysis
Intf Unable to analyse due to interferences
N.D Not determined
N.R Not recorded
N.Det Not detected
Req Analysis Requested, see attached sheets for results
Þ Raised detection limit due to nature of sample
***** denotes that all accreditation has been removed by the laboratory for this result.
‡ denotes that Mcerts accreditation has been removed by the laboratory for this result.
Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected.

If you require further details of the circumstances leading to the removal of the accreditation from any data item please do not hesitate to contact the laboratory

END OF REPORT

Where individual results are flagged see report notes for status.

Our Ref: EFS/095310 (Ver. 4)
Your Ref: YB00437

November 10, 2009

Scientifics Ltd
Bretby Business Park
Ashby Road
Burton-on-Trent
Staffordshire
DE15 0YZ

Telephone: 01283 554400
Facsimile: 01283 554422

Mr H Lister
Ground Investigation
Specialists Ltd
18 Waterloo Road
Wolverhampton
West Mids
WV1 4BL

For the attention of Mr H Lister

Dear Mr Lister

SOIL Sample Analysis - Shelton Hospital

Samples from the above site have been analysed in accordance with the schedule supplied.
The sample details and the results of analyses for these samples are given in the appended report.

An invoice for this work will follow under a separate cover.

Where appropriate the samples will be kept until 11/11/09 when they will be discarded. Please call 01283 554458 for an extension of this date.
Please be aware that from 1 January 2003 our policy for the retention of paper based laboratory records and analysis reports will be 6 years.

The work was carried out in accordance with Scientifics Ltd Standard Terms and Conditions of Contract.

If I can be of any further assistance please do not hesitate to contact me.

Yours sincerely

for Scientifics

D Simpson
Project Co-ordinator
01283 554458

TEST REPORT
SOIL SAMPLE ANALYSIS

UKAS TESTING
1252

Report No. EFS/095310 (Ver. 4)

Ground Investigation
Specialists Ltd
18 Waterloo Road
Wolverhampton
West Mids
WV1 4BL

Site: Shelton Hospital

The 20 samples described in this report were logged for analysis by Scientifics on 30-Sep-2009.
The analysis was completed by: 10-Nov-2009

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS accredited
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics Ltd.

The following tables are contained in this report:

On behalf of
Scientifics :
Dave Simpson Project Co-ordinator

Date of Issue: 10-Nov-2009

Tests marked '^' have been subcontracted to another laboratory.

Scientifics Ltd accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Units :		mg/kg	mg/kg	mg/kg	ug/kg	mg/kg	mg/kg	% M/M									
Method Codes :		PAHMSUS	TPHFIDUS	TPHFIDUS	VOCSW8100	GROHSA	SVOCMSUS	WSLM59									
Method Reporting Limits :		0.08	10.0	10.0	5	0.2	0.2-10.0	0.01									
UKAS Accredited :		yes	yes	yes	yes	no	no	no									
Laboratory ID Number CL/	**Client Sample Description**	**PAH by MS.16(0.08)**	**TPH by GCFID (AR)**	**TPH Carbon Banding.**	**VOC by GCMS (8100)**	**GRO**	**SVOC (AR)**	**Total Organic Carbon**									
0923665	WS27 0.1	Req	500	Req	Req	<0.2	Req	2.98									
0923666	WS28 0.6	Req	<10.0	Req	Req	<0.2	Req	0.44									
0923667	WS29 1.5	Req	32	Req	Req	<0.2	Req	1.49									
0923668	WS30 0.4	Req	70	Req	Req	<0.2	Req	1.26									
0923669	WS31 1.6	Req	<10.0	Req	Req	<0.2	Req	0.32									
0923670	WS32 0.7	Req	<10.0	Req	Req	<0.2	Req	0.62									
0923671	WS33 2.0	Req	<10.0	Req	Req	<0.2	Req	0.22									
0923672	WS34 0.9	Req	<10.0	Req	Req	<0.2	Req	0.55									
0923673	WS35 1.5	Req	<10.0	Req	Req	<0.2	Req	0.39									
0923654	WS40 1.0	Req	<10.0	Req	Req	<0.2	Req	0.37									
0923655	WS41 0.0-1.0	Req	27	Req	Req	<0.2	Req	1.06									
0923656	WS42 1.5	Req	<10.0	Req	Req	<0.2	Req	0.29									
0923657	WS43 0.0-1.0	Req	15.0	Req	Req	<0.2	Req	0.87									
0923658	WS44 1.5	Req	<10.0	Req	Req	<0.2	Req	0.30									
0923659	WS45 0.8	Req	12.0	Req	Req	<0.2	Req	0.54									
0923660	WS47 1.7	Req	<10.0	Req	Req	<0.2	Req	0.32									
0923661	WS48 0.0-1.0	Req	<10.0	Req	Req	<0.2	Req	0.77									
0923662	WS49 1.75	Req	<10.0	Req	Req	<0.2	Req	0.22									
0923663	WS50 0.4-0.6	Req	<10.0	Req	Req	<0.2	Req	0.45									
0923664	WS51 0.2-0.4	Req	40	Req	Req	<0.2	Req	1.30									

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Tel +44 (0) 1283 554400
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Client Name **Ground Investigation Sp Ltd**

Contact Mr H Lister

Shelton Hospital

Soils Sample Analysis

Date Printed	10-Nov-09
Report Number	**EFS/095310**
Table Number	**1**

Where individual results are flagged see report notes for status.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS40 1.0	**Job Number:**	S09_5310
LIMS ID Number:	CL0923654	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	09-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	103
Acenaphthene-d10	118
Phenanthrene-d10	131
Chrysene-d12	127
Perylene-d12	121

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	99
Terphenyl-d14	107

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS41 0.0-1.0	**Job Number:**	S09_5310
LIMS ID Number:	CL0923655	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	09-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	130
Acenaphthene-d10	131
Phenanthrene-d10	117
Chrysene-d12	80
Perylene-d12	75

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	104
Terphenyl-d14	84

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS42 1.5	**Job Number:**	S09_5310
LIMS ID Number:	CL0923656	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	09-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	97
Acenaphthene-d10	96
Phenanthrene-d10	76
Chrysene-d12	54
Perylene-d12	48

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	108
Terphenyl-d14	82

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS43 0.0-1.0	**Job Number:**	S09_5310
LIMS ID Number:	CL0923657	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	09-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	103
Acenaphthene-d10	99
Phenanthrene-d10	77
Chrysene-d12	57
Perylene-d12	50

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	110
Terphenyl-d14	84

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS44 1.5	**Job Number:**	S09_5310
LIMS ID Number:	CL0923658	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	09-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	134
Acenaphthene-d10	133
Phenanthrene-d10	116
Chrysene-d12	84
Perylene-d12	78

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	107
Terphenyl-d14	88

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS45 0.8	**Job Number:**	S09_5310
LIMS ID Number:	CL0923659	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	09-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	153
Acenaphthene-d10	153
Phenanthrene-d10	139
Chrysene-d12	101
Perylene-d12	91

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	103
Terphenyl-d14	86

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS47 1.7	**Job Number:**	S09_5310
LIMS ID Number:	CL0923660	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	09-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	104
Acenaphthene-d10	103
Phenanthrene-d10	85
Chrysene-d12	59
Perylene-d12	53

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	104
Terphenyl-d14	81

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS48 0.0-1.0	**Job Number:**	S09_5310
LIMS ID Number:	CL0923661	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	09-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	118
Acenaphthene-d10	118
Phenanthrene-d10	102
Chrysene-d12	69
Perylene-d12	63

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	104
Terphenyl-d14	85

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS49 1.75	**Job Number:**	S09_5310
LIMS ID Number:	CL0923662	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	09-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	125
Acenaphthene-d10	123
Phenanthrene-d10	102
Chrysene-d12	63
Perylene-d12	54

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	102
Terphenyl-d14	80

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS50 0.4-0.6	**Job Number:**	S09_5310
LIMS ID Number:	CL0923663	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	09-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	137
Acenaphthene-d10	138
Phenanthrene-d10	121
Chrysene-d12	78
Perylene-d12	67

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	106
Terphenyl-d14	84

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS51 0.2-0.4	**Job Number:**	S09_5310
LIMS ID Number:	CL0923664	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	09-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	172
Acenaphthene-d10	171
Phenanthrene-d10	157
Chrysene-d12	110
Perylene-d12	100

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	104
Terphenyl-d14	85

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS27 0.1	**Job Number:**	S09_5310
LIMS ID Number:	CL0923665	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	09-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	3.42	0.11	85
Acenaphthylene	208-96-8	4.48	0.19	96
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	5.00	0.14	94
Phenanthrene	85-01-8	5.88	3.30	99
Anthracene	120-12-7	5.93	1.44	95
Fluoranthene	206-44-0	7.26	4.00	98
Pyrene	129-00-0	7.56	2.80	100
Benzo[a]anthracene	56-55-3	9.27	2.39	94
Chrysene	218-01-9	9.32	2.13	98
Benzo[b]fluoranthene	205-99-2	10.82	1.88	94
Benzo[k]fluoranthene	207-08-9	10.85	0.62	92
Benzo[a]pyrene	50-32-8	11.25	1.41	98
Indeno[1,2,3-cd]pyrene	193-39-5	12.64	0.56	94
Dibenzo[a,h]anthracene	53-70-3	12.67	0.19	69
Benzo[g,h,i]perylene	191-24-2	12.97	0.54	57
Total (USEPA16) PAHs	-	-	< 21.78	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	99
Acenaphthene-d10	98
Phenanthrene-d10	82
Chrysene-d12	62
Perylene-d12	58

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	105
Terphenyl-d14	82

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS28 0.6	**Job Number:**	S09_5310
LIMS ID Number:	CL0923666	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	09-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	91
Acenaphthene-d10	86
Phenanthrene-d10	66
Chrysene-d12	54
Perylene-d12	53

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	108
Terphenyl-d14	85

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS29 1.5	**Job Number:**	S09_5310
LIMS ID Number:	CL0923667	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	09-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	145
Acenaphthene-d10	145
Phenanthrene-d10	128
Chrysene-d12	86
Perylene-d12	78

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	106
Terphenyl-d14	86

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS30 0.4	**Job Number:**	S09_5310
LIMS ID Number:	CL0923668	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	09-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	7.27	0.17	93
Pyrene	129-00-0	7.56	0.13	78
Benzo[a]anthracene	56-55-3	9.28	0.09	73
Chrysene	218-01-9	9.32	0.11	M
Benzo[b]fluoranthene	205-99-2	10.82	0.16	78
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	11.26	0.10	80
Indeno[1,2,3-cd]pyrene	193-39-5	12.65	0.08	70
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	12.98	0.09	76
Total (USEPA16) PAHs	-	-	< 1.57	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	103
Acenaphthene-d10	100
Phenanthrene-d10	80
Chrysene-d12	56
Perylene-d12	50

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	105
Terphenyl-d14	82

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS31 1.6	**Job Number:**	S09_5310
LIMS ID Number:	CL0923669	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	09-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	111
Acenaphthene-d10	112
Phenanthrene-d10	100
Chrysene-d12	73
Perylene-d12	66

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	113
Terphenyl-d14	97

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS32 0.7	**Job Number:**	S09_5310
LIMS ID Number:	CL0923670	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	10-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	128
Acenaphthene-d10	128
Phenanthrene-d10	108
Chrysene-d12	73
Perylene-d12	65

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	103
Terphenyl-d14	85

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS33 2.0	**Job Number:**	S09_5310
LIMS ID Number:	CL0923671	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	10-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	96
Acenaphthene-d10	95
Phenanthrene-d10	74
Chrysene-d12	50
Perylene-d12	47

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	103
Terphenyl-d14	78

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS34 0.9	**Job Number:**	S09_5310
LIMS ID Number:	CL0923672	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	10-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	118
Acenaphthene-d10	117
Phenanthrene-d10	97
Chrysene-d12	70
Perylene-d12	62

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	105
Terphenyl-d14	89

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Polycyclic Aromatic Hydrocarbons
GC/MS (SIM)

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital		
Sample Details:	WS35 1.5	**Job Number:**	S09_5310
LIMS ID Number:	CL0923673	**Date Booked in:**	30-Sep-09
QC Batch Number:	3133	**Date Extracted:**	09-Oct-09
Quantitation File:	Initial Calibration	**Date Analysed:**	10-Oct-09
Directory:	1009PAH.GC5\	**Matrix:**	Soil
Dilution:	1.0	**Ext Method:**	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	144
Acenaphthene-d10	143
Phenanthrene-d10	125
Chrysene-d12	85
Perylene-d12	74

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	104
Terphenyl-d14	85

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS40 1.0	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923654	**Date Extracted:**	07-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	07-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	99
Naphthalene-d8	98
Acenaphthene-d10	98
Phenanthrene-d10	104
Chrysene-d12	127
Perylene-d12	133

Surrogates	% Rec
2-Fluorophenol	93
Phenol-d5	94
Nitrobenzene-d5	94
2-Fluorobiphenyl	93
2,4,6-Tribromophenol	91
Terphenyl-d14	86

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.
"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS41 0.0-1.0	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923655	**Date Extracted:**	07-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	07-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	93
Naphthalene-d8	93
Acenaphthene-d10	91
Phenanthrene-d10	97
Chrysene-d12	110
Perylene-d12	112

Surrogates	% Rec
2-Fluorophenol	93
Phenol-d5	94
Nitrobenzene-d5	93
2-Fluorobiphenyl	95
2,4,6-Tribromophenol	93
Terphenyl-d14	89

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS42 1.5	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923656	**Date Extracted:**	07-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	07-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	98
Naphthalene-d8	100
Acenaphthene-d10	98
Phenanthrene-d10	104
Chrysene-d12	116
Perylene-d12	118

Surrogates	% Rec
2-Fluorophenol	89
Phenol-d5	91
Nitrobenzene-d5	89
2-Fluorobiphenyl	89
2,4,6-Tribromophenol	85
Terphenyl-d14	85

Compounds marked with a * are reported not UKAS.

Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS43 0.0-1.0	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923657	**Date Extracted:**	07-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	07-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	98
Naphthalene-d8	99
Acenaphthene-d10	97
Phenanthrene-d10	102
Chrysene-d12	122
Perylene-d12	128

Surrogates	% Rec
2-Fluorophenol	83
Phenol-d5	87
Nitrobenzene-d5	85
2-Fluorobiphenyl	87
2,4,6-Tribromophenol	85
Terphenyl-d14	80

Compounds marked with a * are reported not UKAS.
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"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS44 1.5	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923658	**Date Extracted:**	07-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	07-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	101
Naphthalene-d8	101
Acenaphthene-d10	100
Phenanthrene-d10	107
Chrysene-d12	129
Perylene-d12	136

Surrogates	% Rec
2-Fluorophenol	90
Phenol-d5	91
Nitrobenzene-d5	90
2-Fluorobiphenyl	91
2,4,6-Tribromophenol	83
Terphenyl-d14	83

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.

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Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS45 0.8	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923659	**Date Extracted:**	07-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	07-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	88
Naphthalene-d8	89
Acenaphthene-d10	89
Phenanthrene-d10	93
Chrysene-d12	102
Perylene-d12	104

Surrogates	% Rec
2-Fluorophenol	91
Phenol-d5	93
Nitrobenzene-d5	90
2-Fluorobiphenyl	93
2,4,6-Tribromophenol	90
Terphenyl-d14	90

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.
"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS47 1.7	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923660	**Date Extracted:**	07-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	07-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	89
Naphthalene-d8	90
Acenaphthene-d10	89
Phenanthrene-d10	93
Chrysene-d12	102
Perylene-d12	102

Surrogates	% Rec
2-Fluorophenol	88
Phenol-d5	89
Nitrobenzene-d5	87
2-Fluorobiphenyl	90
2,4,6-Tribromophenol	86
Terphenyl-d14	88

Compounds marked with a * are reported not UKAS.

Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS48 0.0-1.0	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923661	**Date Extracted:**	07-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	07-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	94
Naphthalene-d8	95
Acenaphthene-d10	94
Phenanthrene-d10	98
Chrysene-d12	105
Perylene-d12	106

Surrogates	% Rec
2-Fluorophenol	92
Phenol-d5	91
Nitrobenzene-d5	89
2-Fluorobiphenyl	91
2,4,6-Tribromophenol	91
Terphenyl-d14	90

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"M" denotes that % fit has been manually interpreted

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Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS49 1.75	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923662	**Date Extracted:**	07-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	07-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	98
Naphthalene-d8	99
Acenaphthene-d10	97
Phenanthrene-d10	101
Chrysene-d12	108
Perylene-d12	106

Surrogates	% Rec
2-Fluorophenol	89
Phenol-d5	90
Nitrobenzene-d5	87
2-Fluorobiphenyl	91
2,4,6-Tribromophenol	83
Terphenyl-d14	88

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Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS50 0.4-0.6	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923663	**Date Extracted:**	07-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	07-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	97
Naphthalene-d8	97
Acenaphthene-d10	96
Phenanthrene-d10	101
Chrysene-d12	113
Perylene-d12	117

Surrogates	% Rec
2-Fluorophenol	89
Phenol-d5	90
Nitrobenzene-d5	88
2-Fluorobiphenyl	91
2,4,6-Tribromophenol	85
Terphenyl-d14	87

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Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS51 0.2-0.4	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923664	**Date Extracted:**	07-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	07-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	99
Naphthalene-d8	99
Acenaphthene-d10	98
Phenanthrene-d10	103
Chrysene-d12	124
Perylene-d12	130

Surrogates	% Rec
2-Fluorophenol	83
Phenol-d5	84
Nitrobenzene-d5	83
2-Fluorobiphenyl	87
2,4,6-Tribromophenol	80
Terphenyl-d14	79

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.
"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS27 0.1	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	5
LIMS ID Number:	CL0923665	**Date Extracted:**	07-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	25
Job Number:	S09_5310	**Date Analysed:**	07-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 50.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 12.5	-
2-Chlorophenol	95-57-8	-	< 50.0	-
1,3-Dichlorobenzene	541-73-1	-	< 12.5	-
1,4-Dichlorobenzene	106-46-7	-	< 12.5	-
Benzyl alcohol	100-51-6	-	< 12.5	-
1,2-Dichlorobenzene	95-50-1	-	< 12.5	-
2-Methylphenol	95-48-7	-	< 12.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 12.5	-
Hexachloroethane	67-72-1	-	< 12.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 12.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 50.0	-
Nitrobenzene	98-95-3	-	< 12.5	-
Isophorone	78-59-1	-	< 12.5	-
2-Nitrophenol	88-75-5	-	< 50.0	-
2,4-Dimethylphenol	105-67-9	-	< 50.0	-
Benzoic Acid	65-85-0 *	-	< 250.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 12.5	-
2,4-Dichlorophenol	120-83-2	-	< 50.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 12.5	-
Naphthalene	91-20-3	-	< 5.0	-
4-Chlorophenol	106-48-9	-	< 50.0	-
4-Chloroaniline	106-47-8 *	-	< 12.5	-
Hexachlorobutadiene	87-68-3	-	< 12.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 12.5	-
2-Methylnaphthalene	91-57-6	-	< 5.0	-
1-Methylnaphthalene	90-12-0	-	< 5.0	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 12.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 50.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 50.0	-
2-Chloronaphthalene	91-58-7	-	< 5.0	-
Biphenyl	92-52-4	-	< 5.0	-
Diphenyl ether	101-84-8	-	< 5.0	-
2-Nitroaniline	88-74-4	-	< 12.5	-
Acenaphthylene	208-96-8	8.60	5.9	100
Dimethylphthalate	131-11-3	-	< 12.5	-
2,6-Dinitrotoluene	606-20-2	-	< 12.5	-
Acenaphthene	83-32-9	-	< 5.0	-
3-Nitroaniline	99-09-2	-	< 12.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 25.0	-
Dibenzofuran	132-64-9	-	< 12.5	-
4-Nitrophenol	100-02-7	-	< 125.0	-
2,4-Dinitrotoluene	121-14-2	-	< 12.5	-
Fluorene	86-73-7	-	< 5.0	-
Diethylphthalate	84-66-2	-	< 12.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 12.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 125.0	-
4-Nitroaniline	100-01-6	-	< 12.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 12.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 12.5	-
Hexachlorobenzene	118-74-1	-	< 12.5	-
Pentachlorophenol	87-86-5	-	< 125.0	-
Phenanthrene	85-01-8	10.86	64.0	99
Anthracene	120-12-7	10.93	22.2	94
Di-n-butylphthalate	84-74-2	-	< 12.5	-
Fluoranthene	206-44-0	12.68	57.9	100
Pyrene	129-00-0	13.02	44.0	82
Butylbenzylphthalate	85-68-7	-	< 12.5	-
Benzo[a]anthracene	56-55-3	14.93	34.6	100
Chrysene	218-01-9	14.98	30.9	100
3,3'-Dichlorobenzidine	91-94-1	-	< 50.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 12.5	-
Di-n-octylphthalate	117-84-0	-	< 5.0	-
Benzo[b]fluoranthene	205-99-2	16.53	25.8	100
Benzo[k]fluoranthene	207-08-9	16.55	8.4	100
Benzo[a]pyrene	50-32-8	16.97	19.7	100
Indeno[1,2,3-cd]pyrene	193-39-5	18.36	8.6	100
Dibenzo[a,h]anthracene	53-70-3	-	< 5.0	-
Benzo[g,h,i]perylene	191-24-2	18.68	8.3	94

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	98
Naphthalene-d8	99
Acenaphthene-d10	100
Phenanthrene-d10	106
Chrysene-d12	121
Perylene-d12	127

Surrogates	% Rec
2-Fluorophenol	85
Phenol-d5	86
Nitrobenzene-d5	87
2-Fluorobiphenyl	100
2,4,6-Tribromophenol	90
Terphenyl-d14	97

Compounds marked with a * are reported not UKAS.

Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS28 0.6	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923666	**Date Extracted:**	07-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	07-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	98
Naphthalene-d8	98
Acenaphthene-d10	96
Phenanthrene-d10	102
Chrysene-d12	123
Perylene-d12	128

Surrogates	% Rec
2-Fluorophenol	87
Phenol-d5	88
Nitrobenzene-d5	88
2-Fluorobiphenyl	90
2,4,6-Tribromophenol	80
Terphenyl-d14	82

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Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS29 1.5	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923667	**Date Extracted:**	07-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	07-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC1A.	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	95
Naphthalene-d8	95
Acenaphthene-d10	94
Phenanthrene-d10	99
Chrysene-d12	109
Perylene-d12	110

Surrogates	% Rec
2-Fluorophenol	87
Phenol-d5	89
Nitrobenzene-d5	87
2-Fluorobiphenyl	92
2,4,6-Tribromophenol	88
Terphenyl-d14	87

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.
"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS30 0.4	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923668	**Date Extracted:**	07-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	07-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	111
Naphthalene-d8	109
Acenaphthene-d10	107
Phenanthrene-d10	105
Chrysene-d12	103
Perylene-d12	100

Surrogates	% Rec
2-Fluorophenol	88
Phenol-d5	87
Nitrobenzene-d5	88
2-Fluorobiphenyl	91
2,4,6-Tribromophenol	87
Terphenyl-d14	89

Compounds marked with a * are reported not UKAS.
Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS31 1.6	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923669	**Date Extracted:**	08-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	08-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	103
Naphthalene-d8	101
Acenaphthene-d10	99
Phenanthrene-d10	98
Chrysene-d12	97
Perylene-d12	93

Surrogates	% Rec
2-Fluorophenol	91
Phenol-d5	89
Nitrobenzene-d5	91
2-Fluorobiphenyl	92
2,4,6-Tribromophenol	91
Terphenyl-d14	91

Compounds marked with a * are reported not UKAS.
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"M" denotes that % fit has been manually interpreted

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Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS32 0.7	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923670	**Date Extracted:**	08-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	08-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	100
Naphthalene-d8	98
Acenaphthene-d10	97
Phenanthrene-d10	96
Chrysene-d12	104
Perylene-d12	106

Surrogates	% Rec
2-Fluorophenol	89
Phenol-d5	87
Nitrobenzene-d5	89
2-Fluorobiphenyl	91
2,4,6-Tribromophenol	92
Terphenyl-d14	86

Compounds marked with a * are reported not UKAS.

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"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS33 2.0	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923671	**Date Extracted:**	07-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	08-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	107
Naphthalene-d8	104
Acenaphthene-d10	103
Phenanthrene-d10	101
Chrysene-d12	100
Perylene-d12	97

Surrogates	% Rec
2-Fluorophenol	89
Phenol-d5	88
Nitrobenzene-d5	89
2-Fluorobiphenyl	91
2,4,6-Tribromophenol	91
Terphenyl-d14	91

Compounds marked with a * are reported not UKAS.

Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS34 0.9	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923672	**Date Extracted:**	08-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	08-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	103
Naphthalene-d8	102
Acenaphthene-d10	101
Phenanthrene-d10	99
Chrysene-d12	98
Perylene-d12	94

Surrogates	% Rec
2-Fluorophenol	90
Phenol-d5	90
Nitrobenzene-d5	90
2-Fluorobiphenyl	92
2,4,6-Tribromophenol	94
Terphenyl-d14	93

Compounds marked with a * are reported not UKAS.

Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Semi-Volatile Organic Compounds

UKAS accredited?: No

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital			**Matrix:**	Soil	**QC Batch Number:**	3104
Sample Details:	WS35 1.5	**Date Booked in:**	30-Sep-09	**Ext Method:**	Ultrasonic	**Multiplier:**	0.2
LIMS ID Number:	CL0923673	**Date Extracted:**	08-Oct-09	**Operator:**	NL/AK	**Dilution Factor:**	1
Job Number:	S09_5310	**Date Analysed:**	08-Oct-09	**Directory/Quant File:**	07SVOC.MS16\ 1007_CCC2.D	**GPC (Y/N)**	N

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Phenol	108-95-2	-	< 2.0	-
bis(2-Chloroethyl)ether	111-44-4	-	< 0.5	-
2-Chlorophenol	95-57-8	-	< 2.0	-
1,3-Dichlorobenzene	541-73-1	-	< 0.5	-
1,4-Dichlorobenzene	106-46-7	-	< 0.5	-
Benzyl alcohol	100-51-6	-	< 0.5	-
1,2-Dichlorobenzene	95-50-1	-	< 0.5	-
2-Methylphenol	95-48-7	-	< 0.5	-
bis(2-Chloroisopropyl)ether	108-60-1	-	< 0.5	-
Hexachloroethane	67-72-1	-	< 0.5	-
N-Nitroso-di-n-propylamine	621-64-7	-	< 0.5	-
3- & 4-Methylphenol	108-39-4/106-44-5	-	< 2.0	-
Nitrobenzene	98-95-3	-	< 0.5	-
Isophorone	78-59-1	-	< 0.5	-
2-Nitrophenol	88-75-5	-	< 2.0	-
2,4-Dimethylphenol	105-67-9	-	< 2.0	-
Benzoic Acid	65-85-0 *	-	< 10.0	-
bis(2-Chloroethoxy)methane	111-91-1	-	< 0.5	-
2,4-Dichlorophenol	120-83-2	-	< 2.0	-
1,2,4-Trichlorobenzene	120-82-1	-	< 0.5	-
Naphthalene	91-20-3	-	< 0.2	-
4-Chlorophenol	106-48-9	-	< 2.0	-
4-Chloroaniline	106-47-8 *	-	< 0.5	-
Hexachlorobutadiene	87-68-3	-	< 0.5	-
4-Chloro-3-methylphenol	59-50-7	-	< 0.5	-
2-Methylnaphthalene	91-57-6	-	< 0.2	-
1-Methylnaphthalene	90-12-0	-	< 0.2	-
Hexachlorocyclopentadiene	77-47-4 *	-	< 0.5	-
2,4,6-Trichlorophenol	88-06-2	-	< 2.0	-
2,4,5-Trichlorophenol	95-95-4	-	< 2.0	-
2-Chloronaphthalene	91-58-7	-	< 0.2	-
Biphenyl	92-52-4	-	< 0.2	-
Diphenyl ether	101-84-8	-	< 0.2	-
2-Nitroaniline	88-74-4	-	< 0.5	-
Acenaphthylene	208-96-8	-	< 0.2	-
Dimethylphthalate	131-11-3	-	< 0.5	-
2,6-Dinitrotoluene	606-20-2	-	< 0.5	-
Acenaphthene	83-32-9	-	< 0.2	-
3-Nitroaniline	99-09-2	-	< 0.5	-

Target Compounds	CAS #	R.T.	Concentration mg/kg	% Fit
2,4-Dinitrophenol	51-28-5 *	-	< 1.0	-
Dibenzofuran	132-64-9	-	< 0.5	-
4-Nitrophenol	100-02-7	-	< 5.0	-
2,4-Dinitrotoluene	121-14-2	-	< 0.5	-
Fluorene	86-73-7	-	< 0.2	-
Diethylphthalate	84-66-2	-	< 0.5	-
4-Chlorophenyl-phenylether	7005-72-3	-	< 0.5	-
4,6-Dinitro-2-methylphenol	534-52-1	-	< 5.0	-
4-Nitroaniline	100-01-6	-	< 0.5	-
N-Nitrosodiphenylamine	86-30-6 *	-	< 0.5	-
4-Bromophenyl-phenylether	101-55-3	-	< 0.5	-
Hexachlorobenzene	118-74-1	-	< 0.5	-
Pentachlorophenol	87-86-5	-	< 5.0	-
Phenanthrene	85-01-8	-	< 0.2	-
Anthracene	120-12-7	-	< 0.2	-
Di-n-butylphthalate	84-74-2	-	< 0.5	-
Fluoranthene	206-44-0	-	< 0.2	-
Pyrene	129-00-0	-	< 0.2	-
Butylbenzylphthalate	85-68-7	-	< 0.5	-
Benzo[a]anthracene	56-55-3	-	< 0.2	-
Chrysene	218-01-9	-	< 0.2	-
3,3'-Dichlorobenzidine	91-94-1	-	< 2.0	-
bis(2-Ethylhexyl)phthalate	117-81-7	-	< 0.5	-
Di-n-octylphthalate	117-84-0	-	< 0.2	-
Benzo[b]fluoranthene	205-99-2	-	< 0.2	-
Benzo[k]fluoranthene	207-08-9	-	< 0.2	-
Benzo[a]pyrene	50-32-8	-	< 0.2	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.2	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.2	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.2	-

"M" denotes that % fit has been manually interpreted

Internal Standards	% Area
1,4-Dichlorobenzene-d4	88
Naphthalene-d8	87
Acenaphthene-d10	86
Phenanthrene-d10	84
Chrysene-d12	85
Perylene-d12	82

Surrogates	% Rec
2-Fluorophenol	85
Phenol-d5	82
Nitrobenzene-d5	84
2-Fluorobiphenyl	87
2,4,6-Tribromophenol	84
Terphenyl-d14	85

Compounds marked with a * are reported not UKAS.

Concentrations are reported on a wet weight basis.

"M" denotes that % fit has been manually interpreted

Where individual results are flagged see report notes for status.

Total Petroleum Hydrocarbons (TPH) Carbon Ranges

Customer and Site Details: Ground Investigation Sp Ltd : Shelton Hospital
Job Number: S09_5310
QC Batch Number: 93100
Directory: D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\092B5301.D
Method: Ultra Sonic

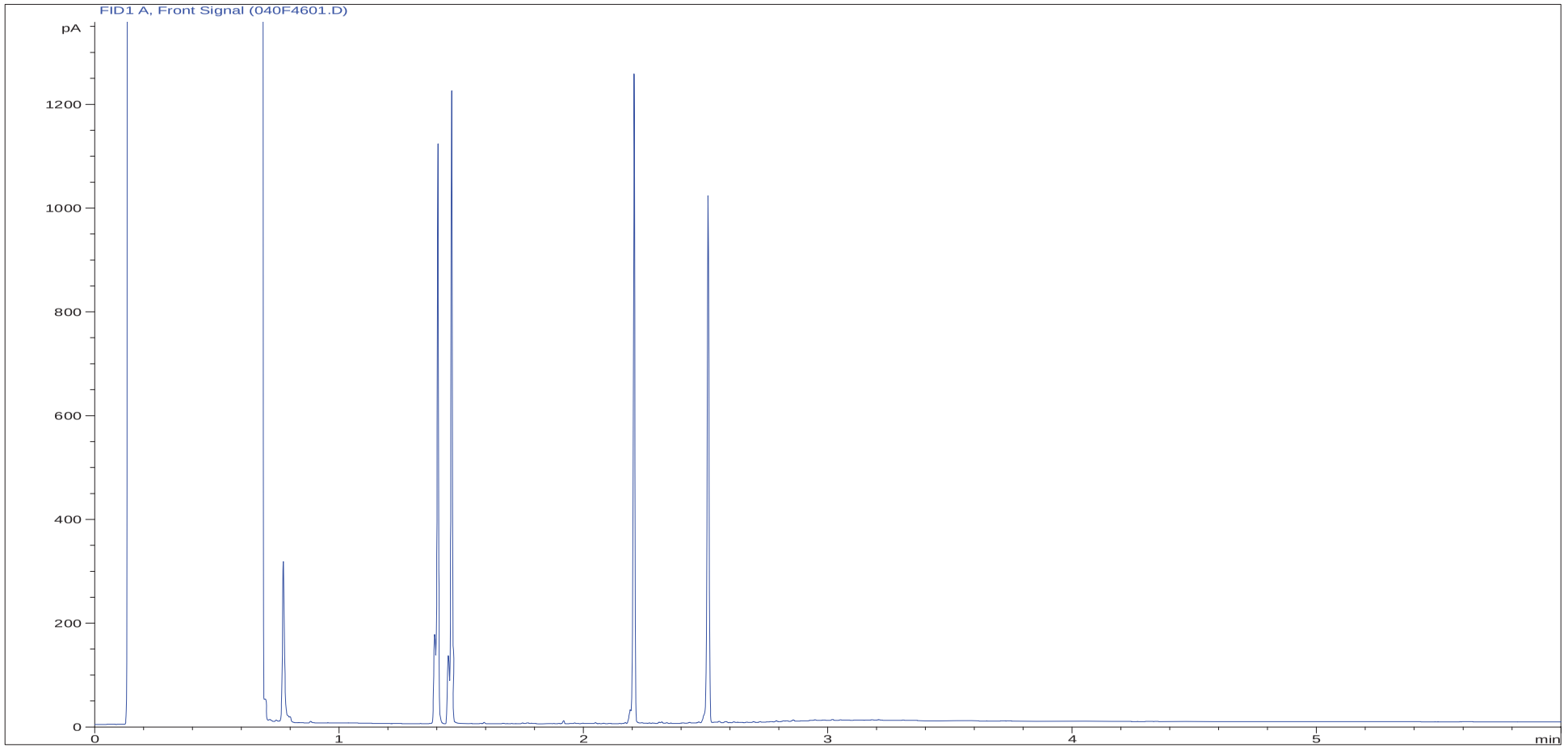
Matrix: Soil
Date Booked in: 30-Sep-09
Date Extracted: 07-Oct-09
Date Analysed: 07-Oct-09, 19:34:59

*** Sample data with an asterisk are not UKAS accredited.**

		Concentration, (mg/kg) - as wet weight				
Sample ID	**Client ID**	**>C8 - C10**	**>C10 - C12**	**>C12 - C16**	**>C16 - C21**	**>C21 - C35**
CL0923654	WS40 1.0	<2	<2	<2	<2	<4.38
CL0923655	WS41 0.0-1.0	<2	<2	<2	<2	21
CL0923656	WS42 1.5	<2	<2	<2	<2	4.53
CL0923657	WS43 0.0-1.0	<2	<2	<2	<2	11.4
CL0923658	WS44 1.5	<2	<2	<2	<2	<4.38
CL0923659	WS45 0.8	<2	<2	<2	<2	9.2
CL0923660	WS47 1.7	<2	<2	<2	<2	<4.38
CL0923661	WS48 0.0-1.0	<2	<2	<2	<2	7.82
CL0923662	WS49 1.75	<2	<2	<2	<2	<4.38
CL0923663	WS50 0.4-0.6	<2	<2	<2	<2	<4.38
CL0923664	WS51 0.2-0.4	<2	<2	<2	<2	28.2
CL0923665	WS27 0.1	<2	<2	7.15	81	354
CL0923666	WS28 0.6	<2	<2	<2	<2	<4.38
CL0923667	WS29 1.5	<2	<2	<2	<2	25.1
CL0923668	WS30 0.4	<2	<2	<2	2.9	50.2
CL0923669	WS31 1.6	<2	<2	<2	<2	<4.38
CL0923670	WS32 0.7	<2	<2	<2	<2	4.47
CL0923671	WS33 2.0	<2	<2	<2	<2	<4.38
CL0923672	WS34 0.9	<2	<2	<2	<2	<4.38
CL0923673	WS35 1.5	<2	<2	<2	<2	<4.38

Where individual results are flagged see report notes for status.

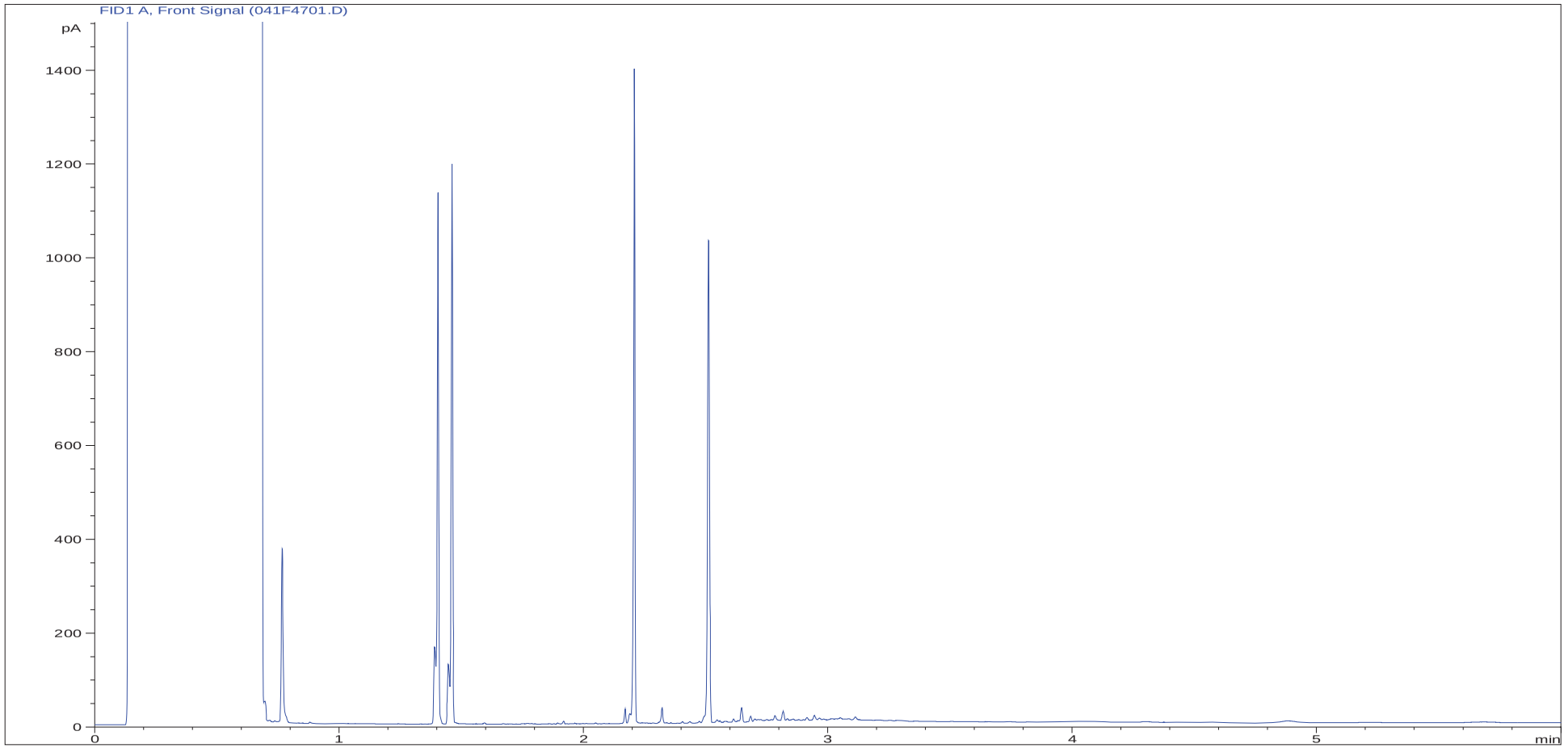
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923654	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS40 1.0
Acquisition Date/Time:	07-Oct-09, 18:12:03		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\040F4601.D		

Where individual results are flagged see report notes for status.

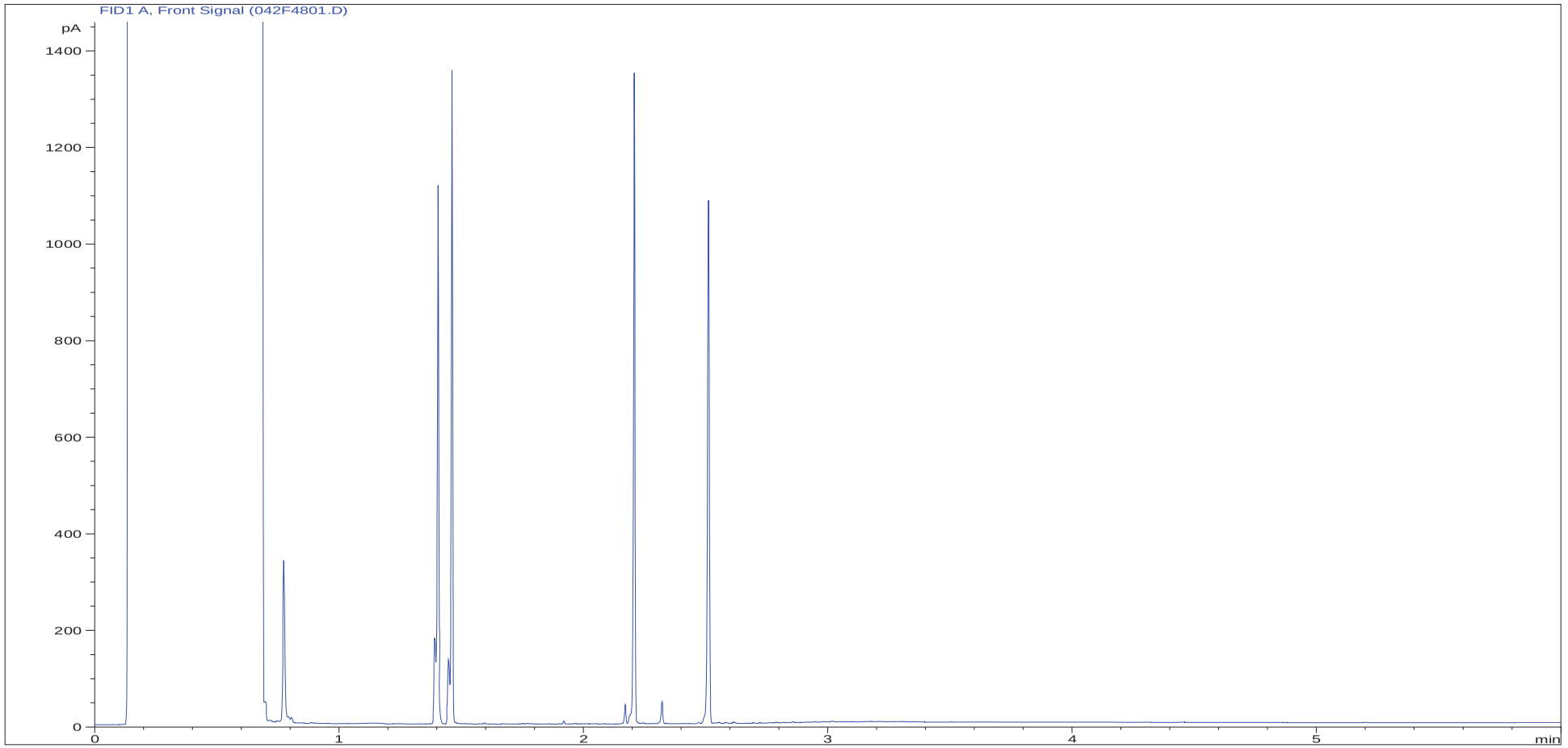
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923655	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS41 0.0-1.0
Acquisition Date/Time:	07-Oct-09, 18:23:50		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\041F4701.D		

Where individual results are flagged see report notes for status.

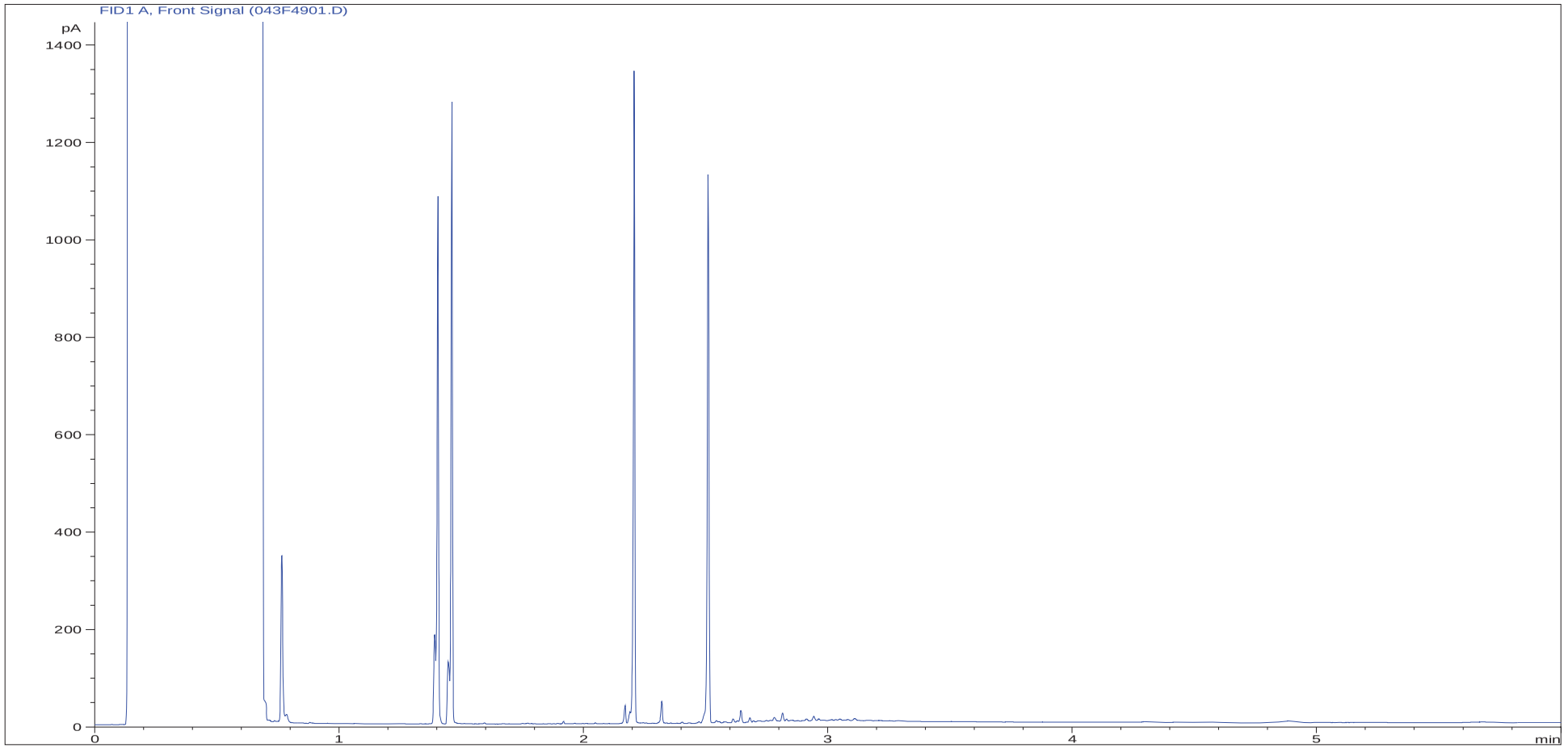
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923656	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS42 1.5
Acquisition Date/Time:	07-Oct-09, 18:35:40		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\042F4801.D		

Where individual results are flagged see report notes for status.

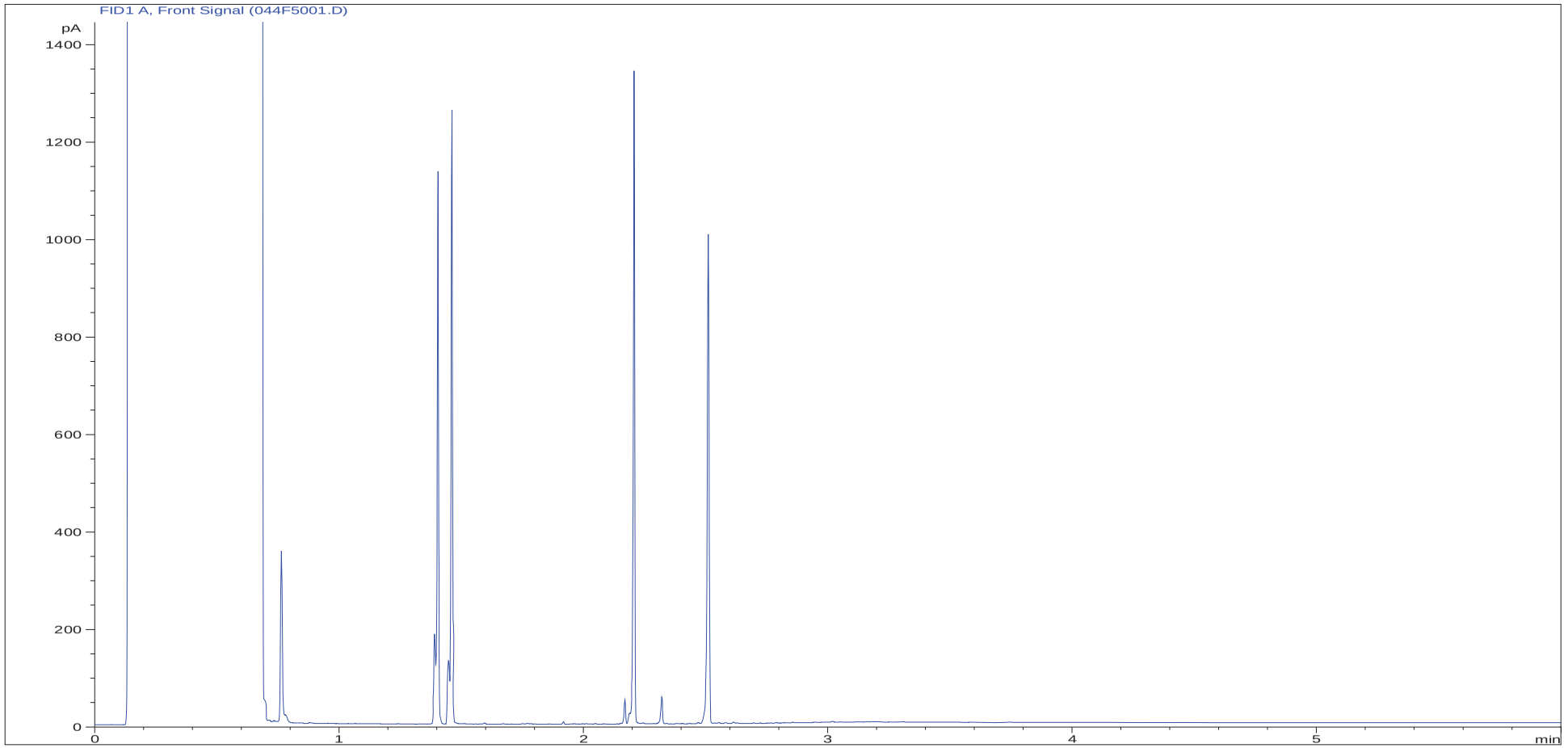
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923657	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS43 0.0-1.0
Acquisition Date/Time:	07-Oct-09, 18:47:31		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\043F4901.D		

Where individual results are flagged see report notes for status.

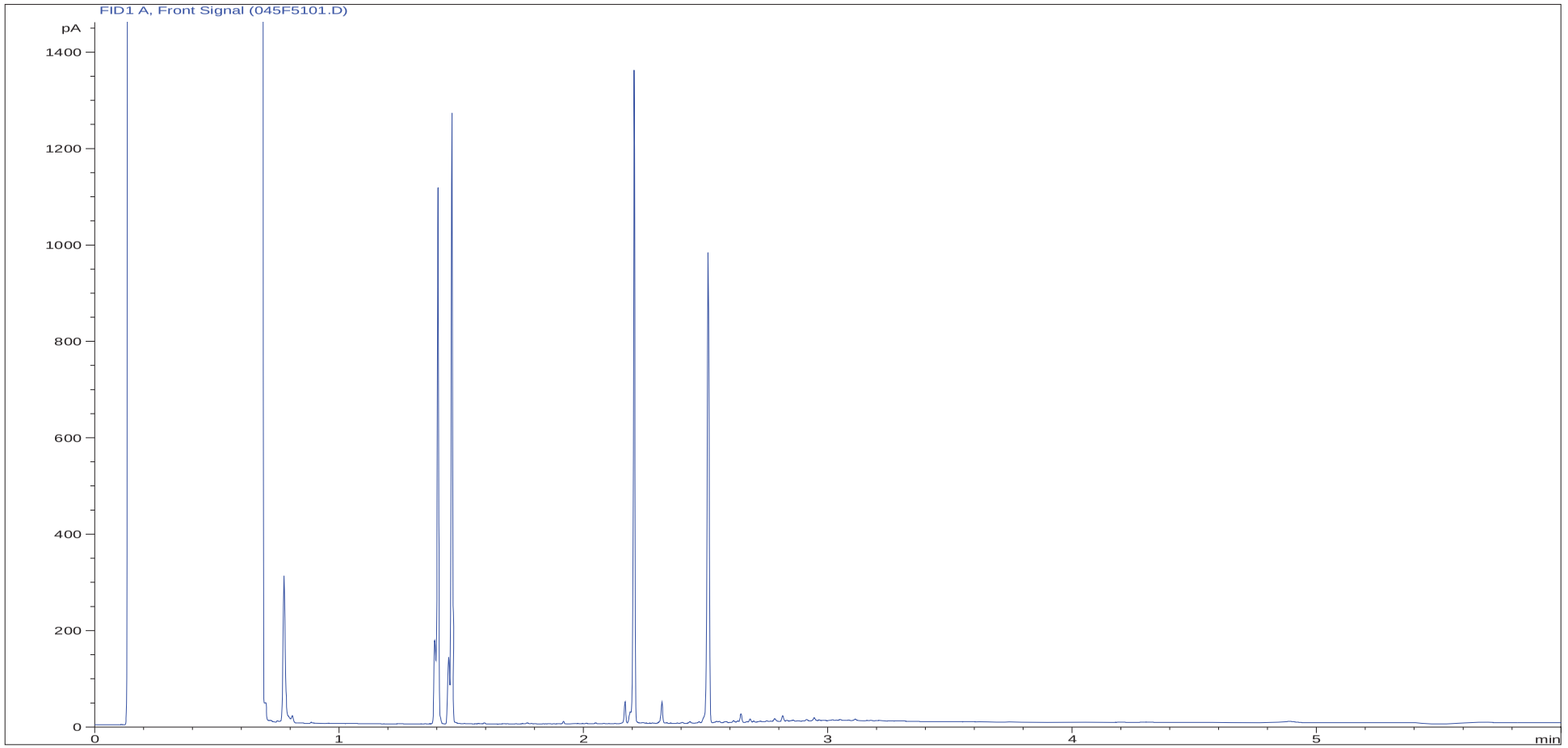
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923658	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS44 1.5
Acquisition Date/Time:	07-Oct-09, 18:59:33		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\044F5001.D		

Where individual results are flagged see report notes for status.

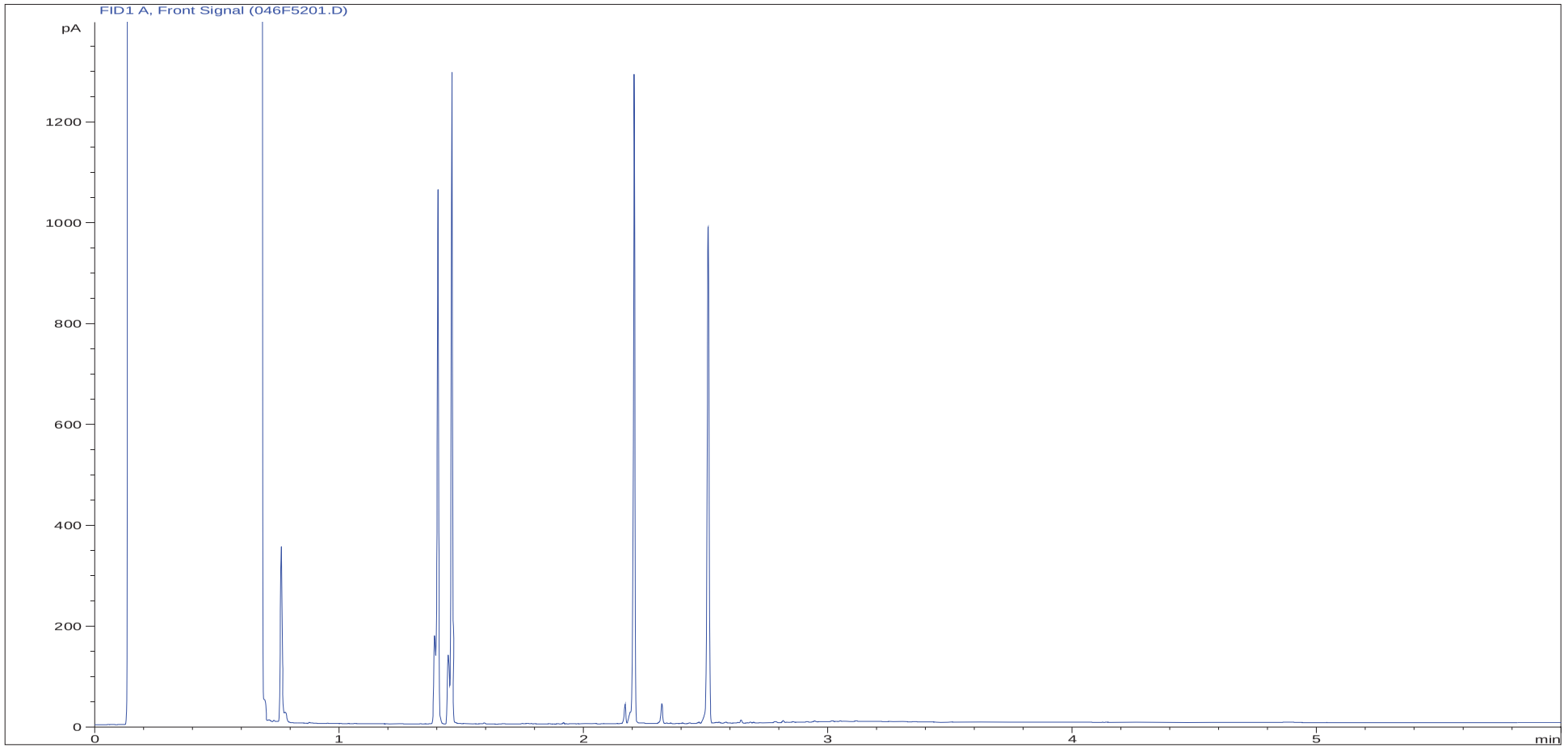
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923659	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS45 0.8
Acquisition Date/Time:	07-Oct-09, 19:11:24		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\045F5101.D		

Where individual results are flagged see report notes for status.

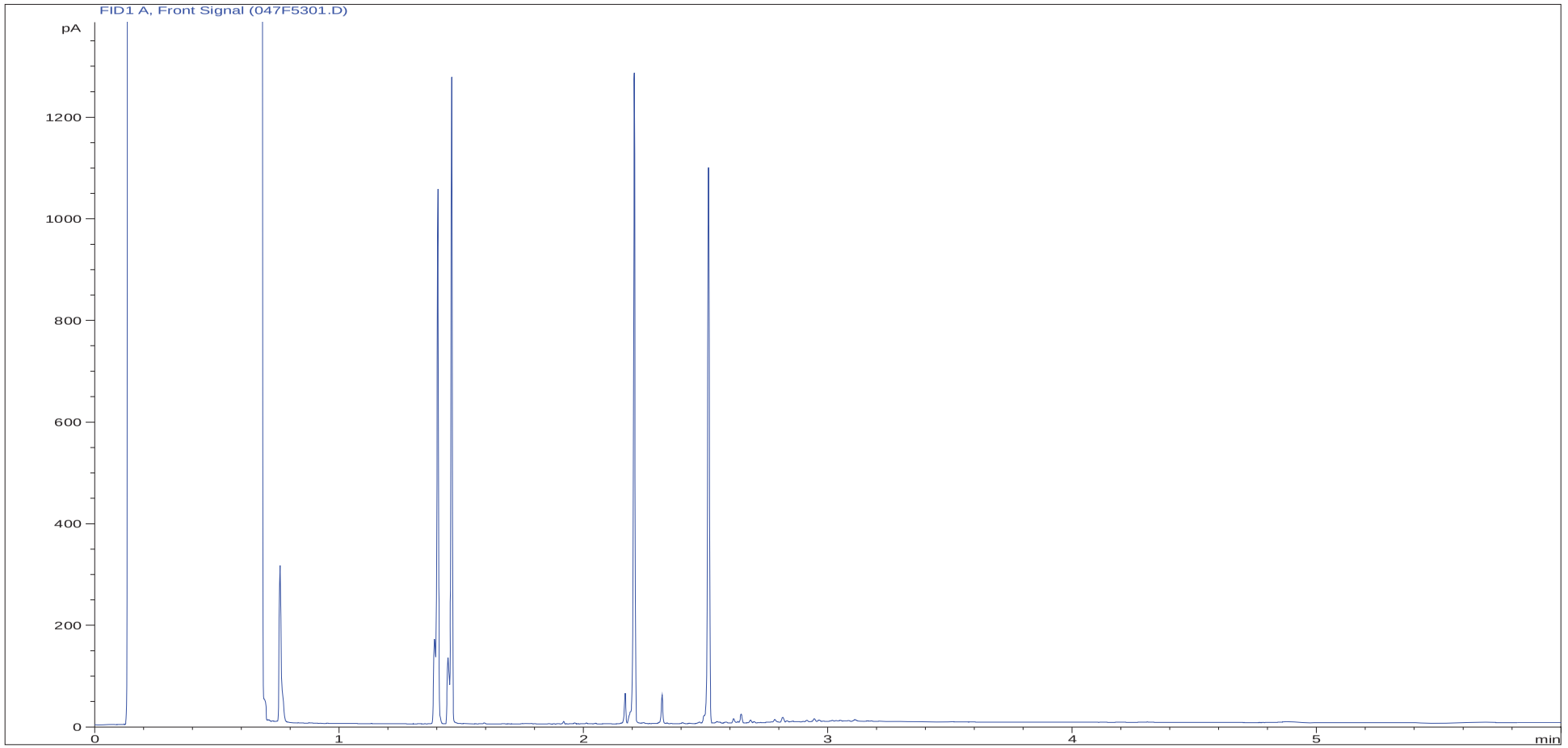
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923660	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS47 1.7
Acquisition Date/Time:	07-Oct-09, 19:23:11		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\046F5201.D		

Where individual results are flagged see report notes for status.

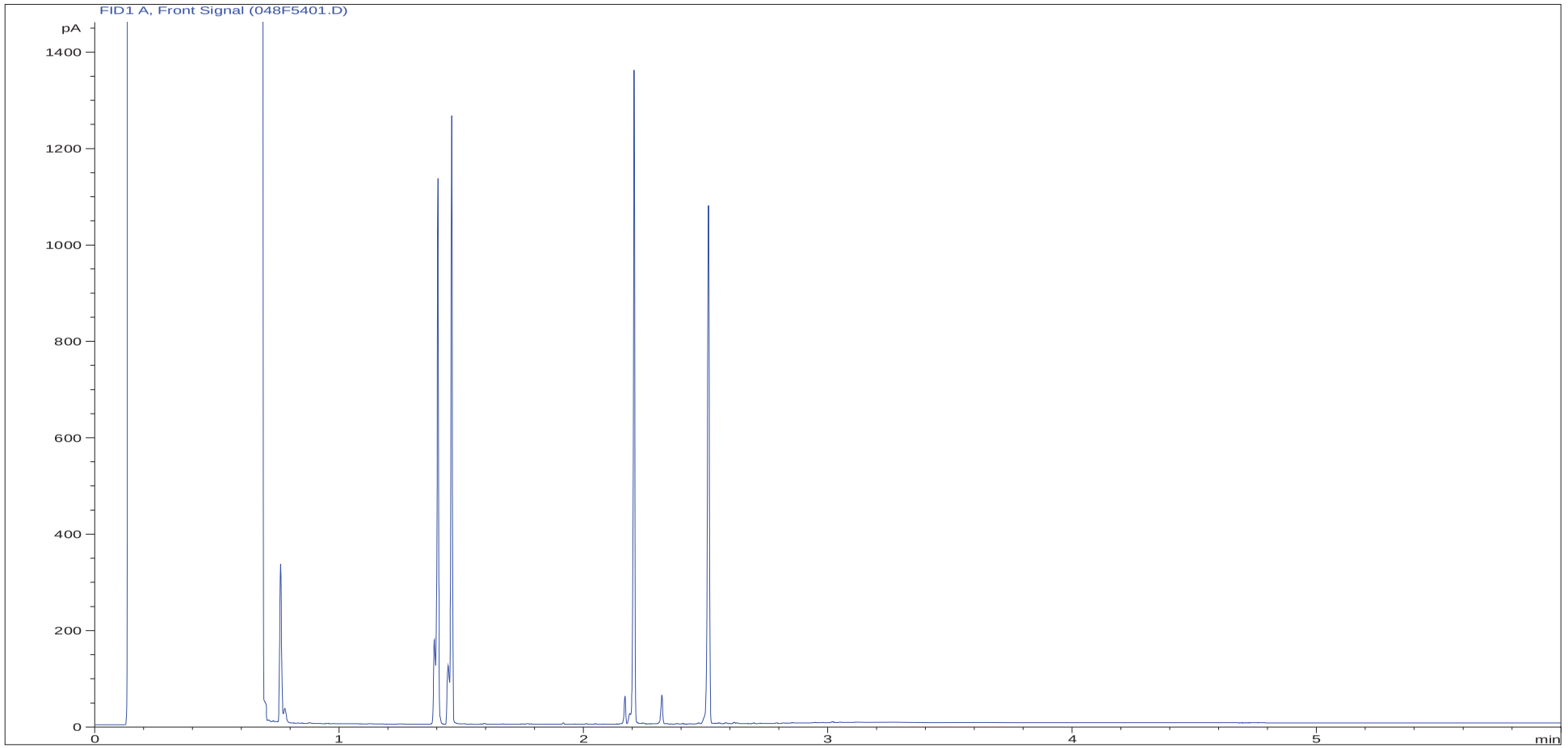
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923661	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS48 0.0-1.0
Acquisition Date/Time:	07-Oct-09, 19:34:59		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\047F5301.D		

Where individual results are flagged see report notes for status.

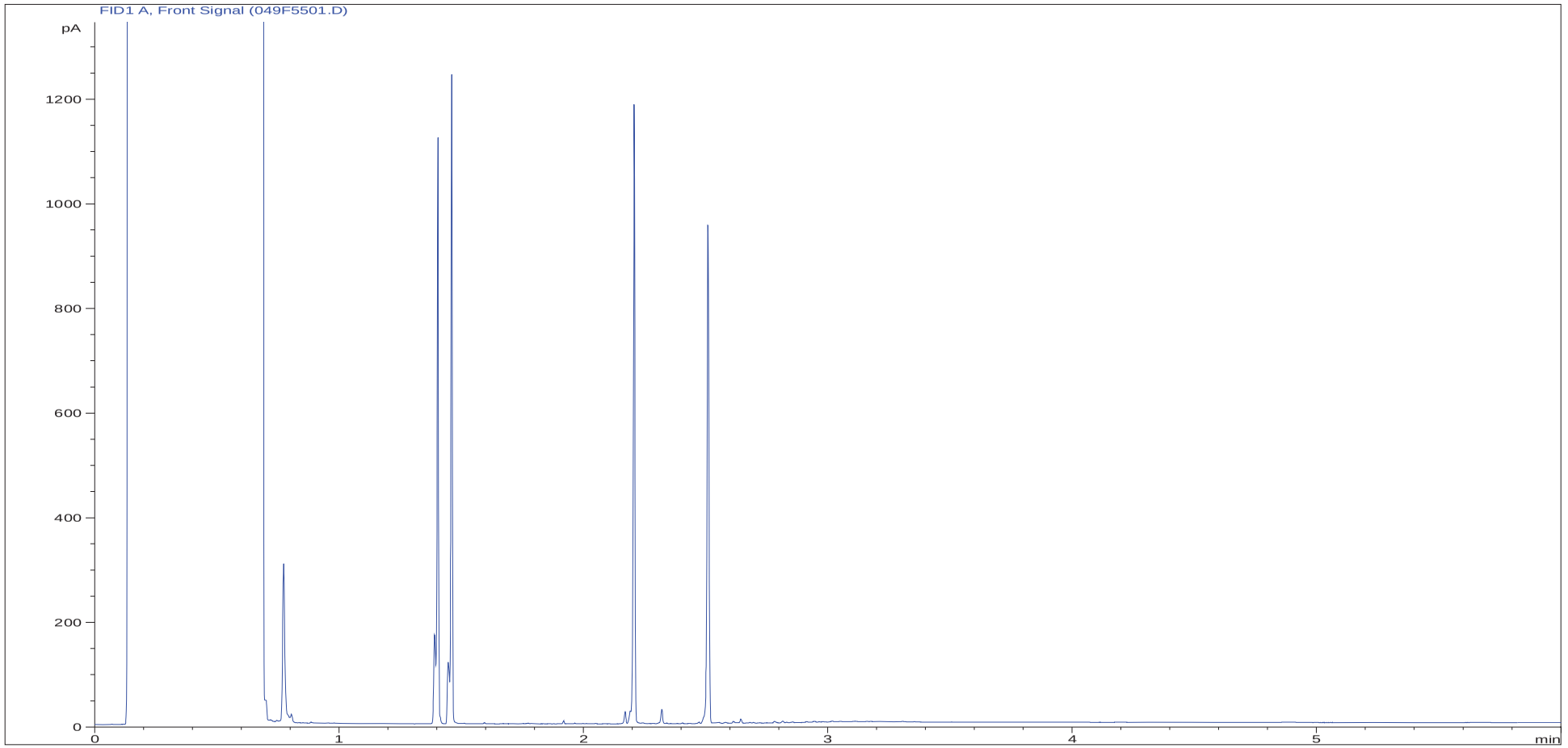
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923662	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS49 1.75
Acquisition Date/Time:	07-Oct-09, 19:46:46		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\048F5401.D		

Where individual results are flagged see report notes for status.

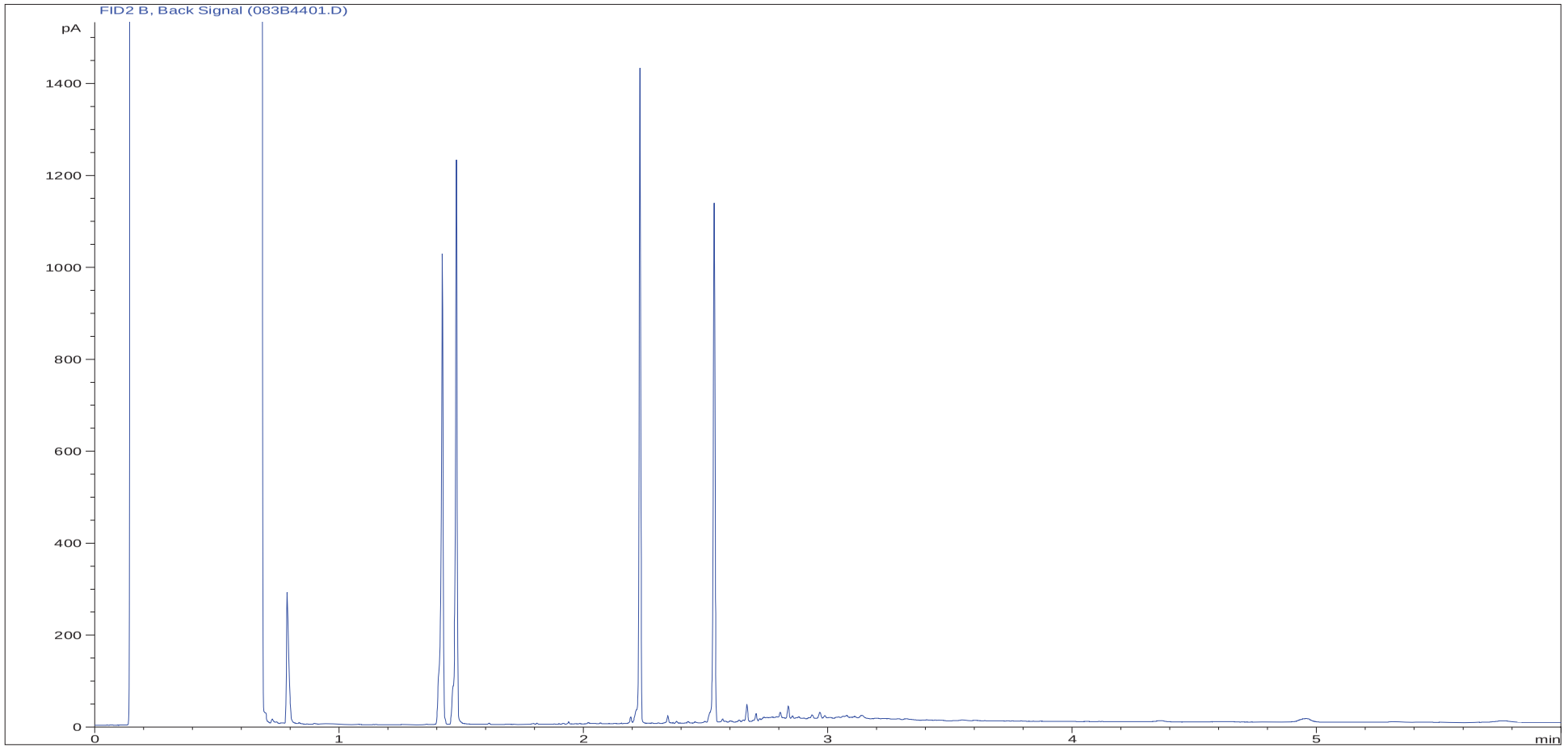
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923663	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS50 0.4-0.6
Acquisition Date/Time:	07-Oct-09, 19:58:42		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\049F5501.D		

Where individual results are flagged see report notes for status.

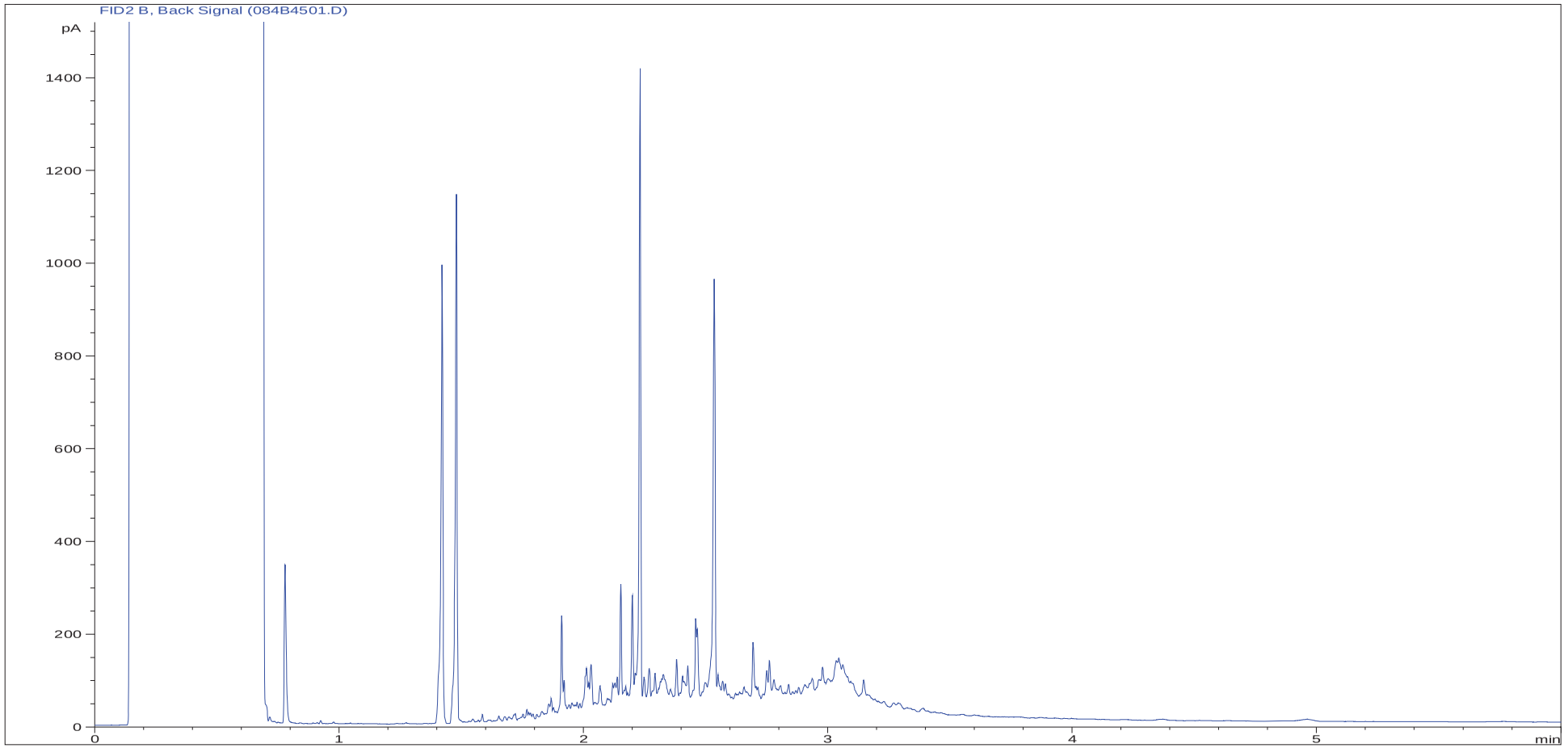
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923664	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS51 0.2-0.4
Acquisition Date/Time:	07-Oct-09, 17:48:24		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\083B4401.D		

Where individual results are flagged see report notes for status.

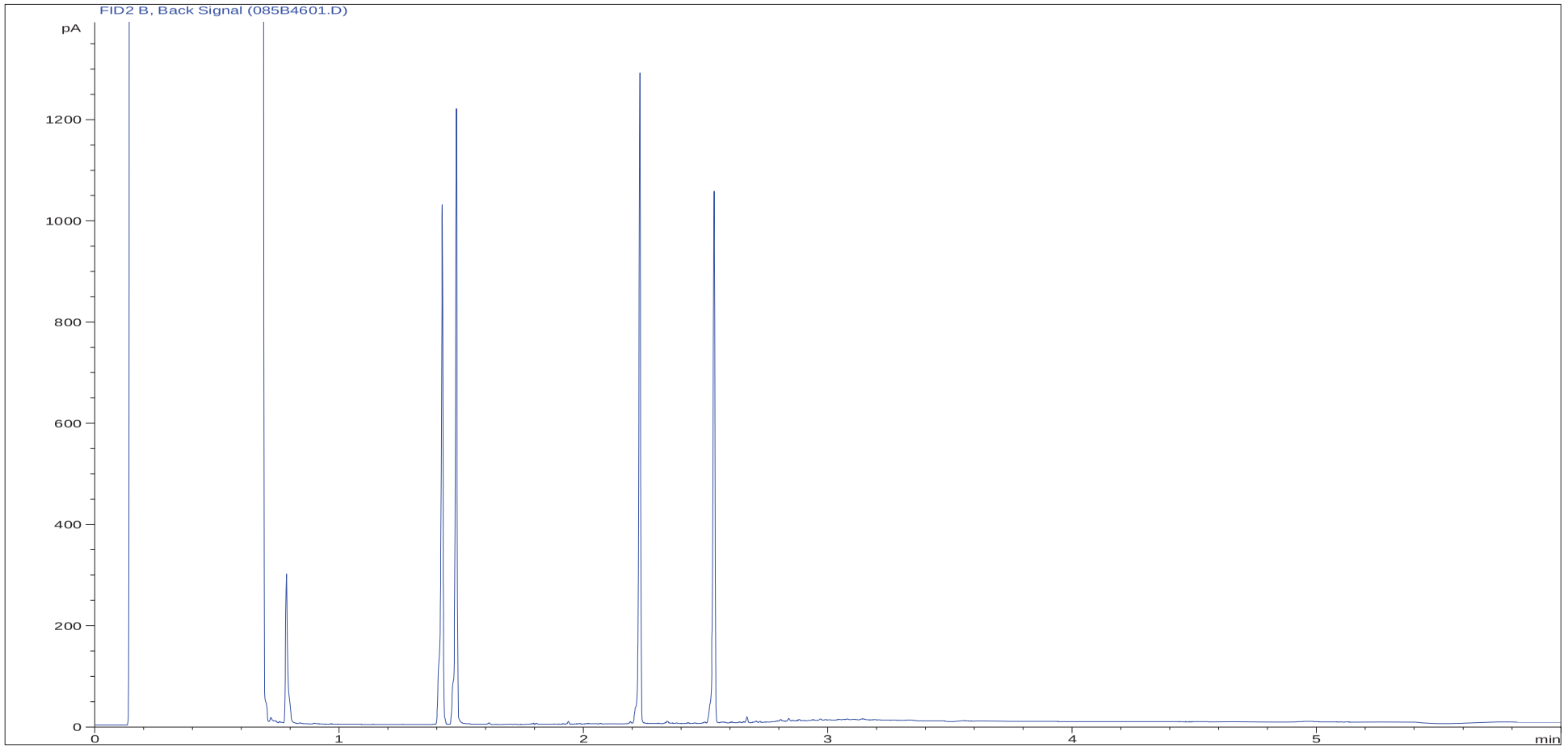
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923665	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS27 0.1
Acquisition Date/Time:	07-Oct-09, 18:00:15		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\084B4501.D		

Where individual results are flagged see report notes for status.

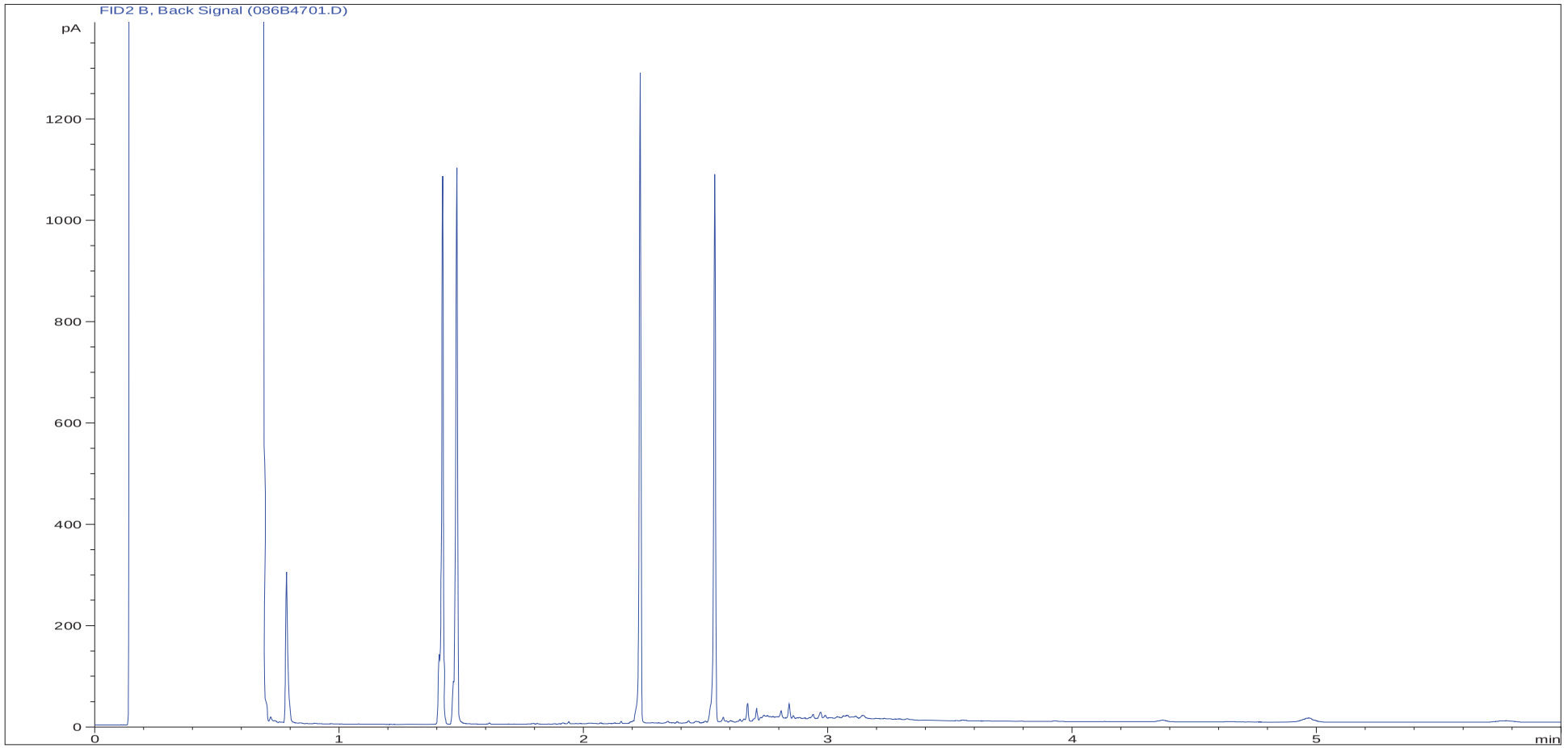
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923666	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS28 0.6
Acquisition Date/Time:	07-Oct-09, 18:12:03		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\085B4601.D		

Where individual results are flagged see report notes for status.

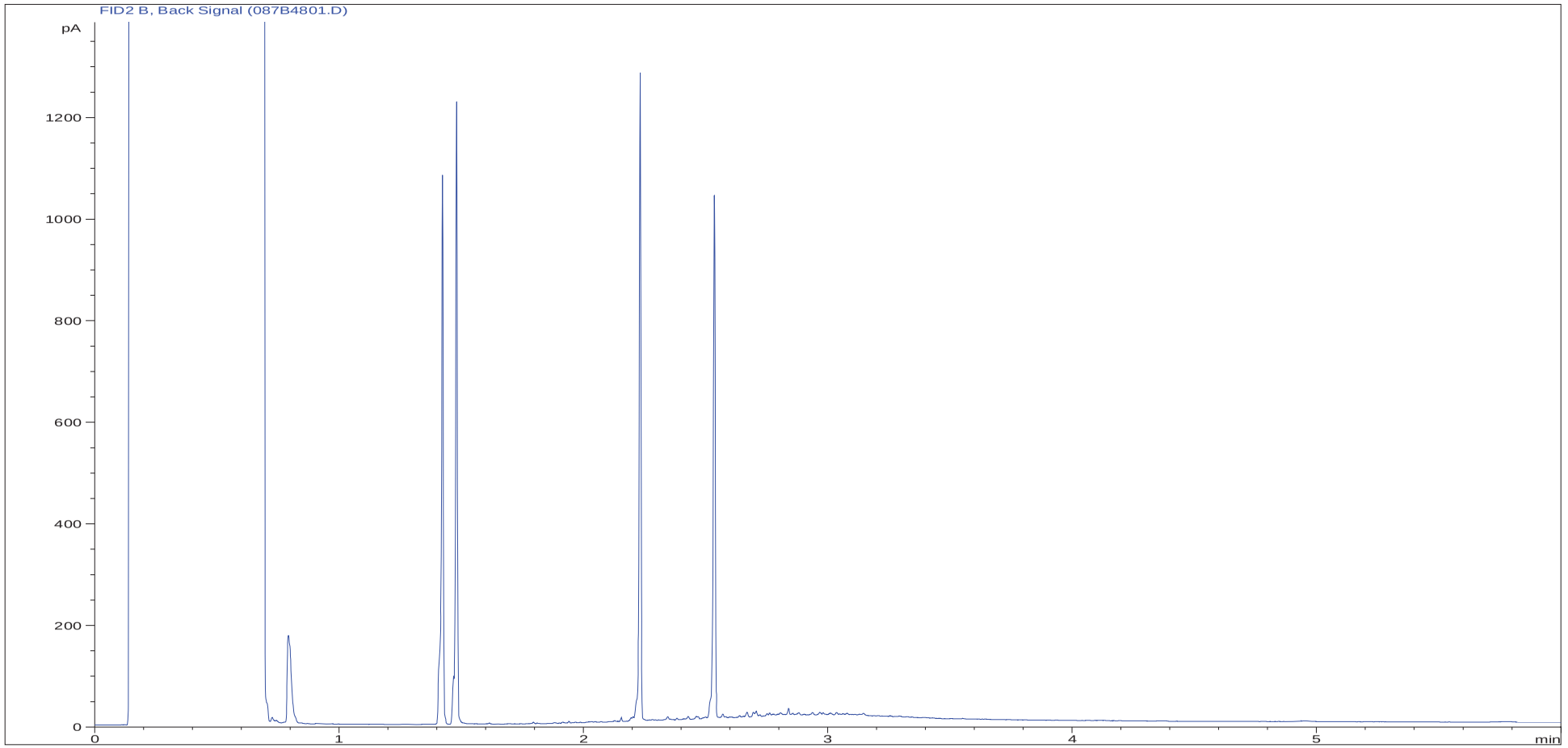
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923667	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS29 1.5
Acquisition Date/Time:	07-Oct-09, 18:23:50		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\086B4701.D		

Where individual results are flagged see report notes for status.

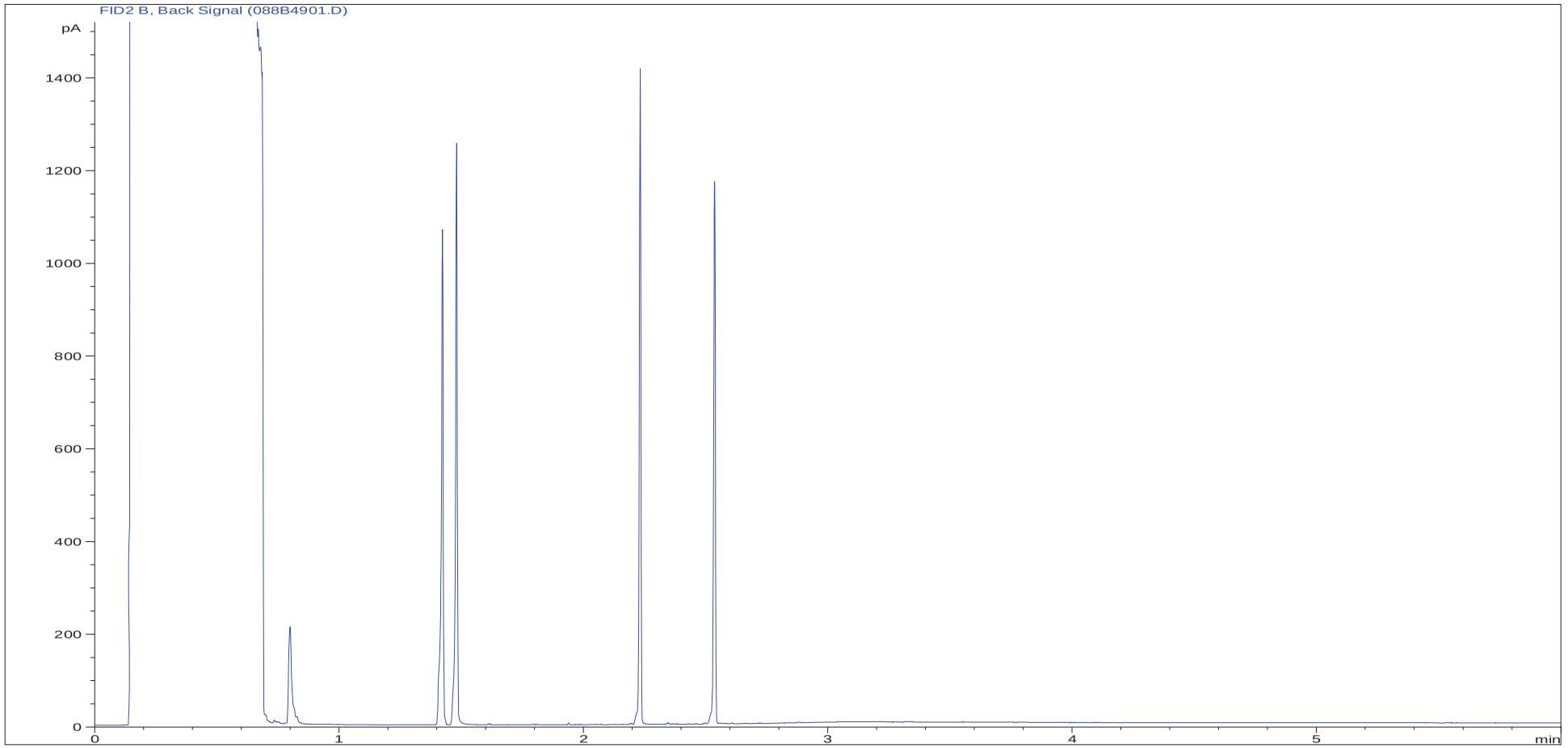
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923668	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS30 0.4
Acquisition Date/Time:	07-Oct-09, 18:35:40		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\087B4801.D		

Where individual results are flagged see report notes for status.

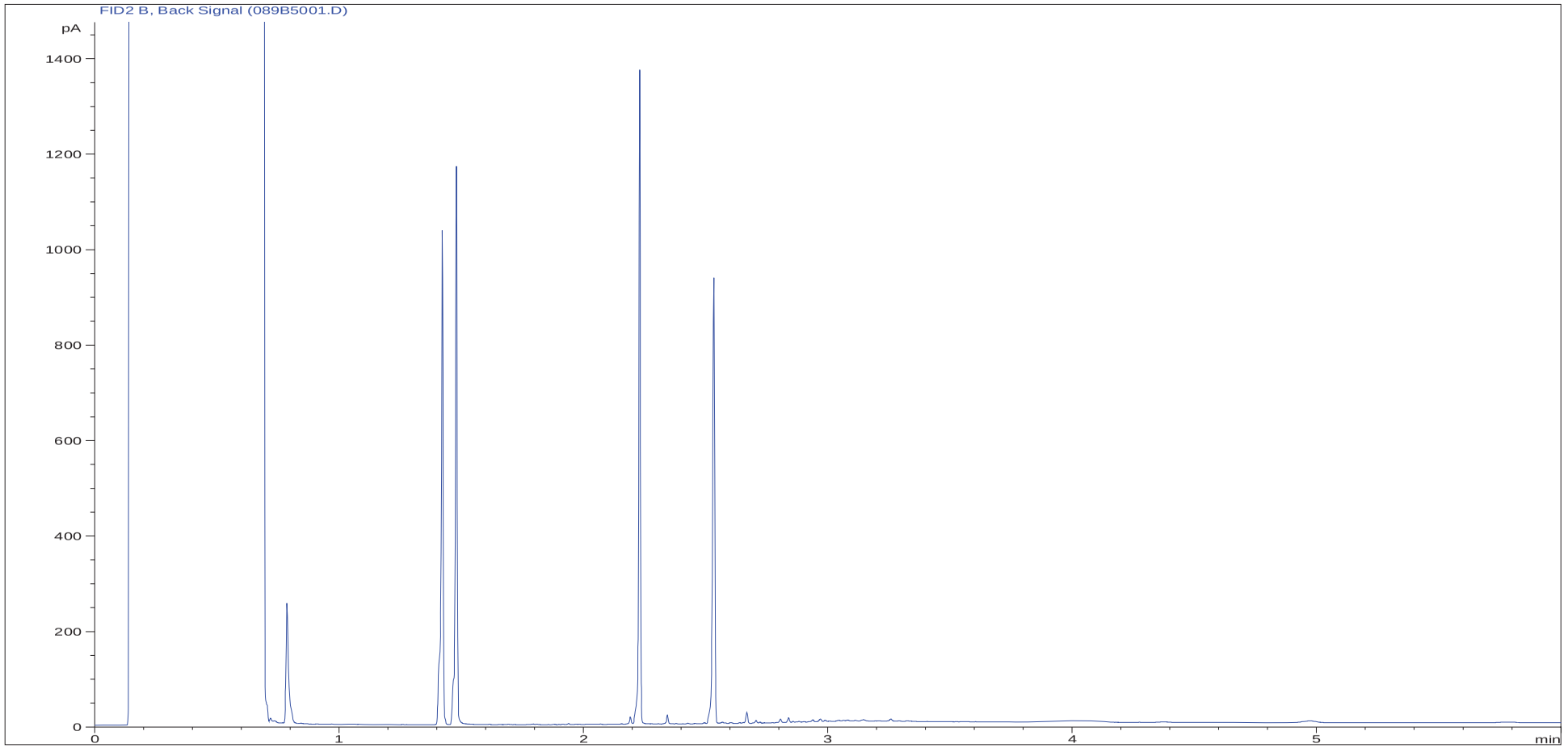
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923669	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS31 1.6
Acquisition Date/Time:	07-Oct-09, 18:47:31		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\088B4901.D		

Where individual results are flagged see report notes for status.

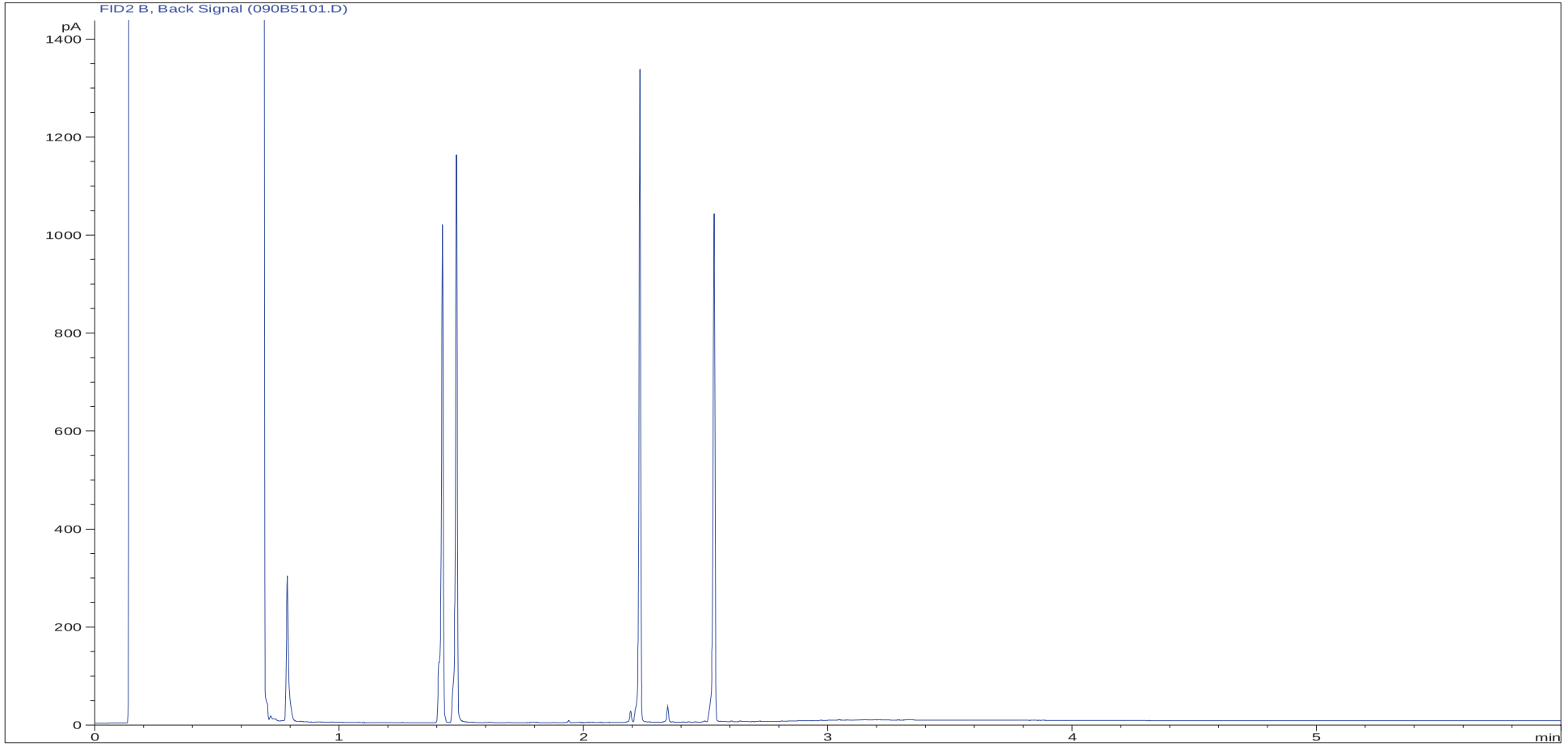
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923670	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS32 0.7
Acquisition Date/Time:	07-Oct-09, 18:59:33		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\089B5001.D		

Where individual results are flagged see report notes for status.

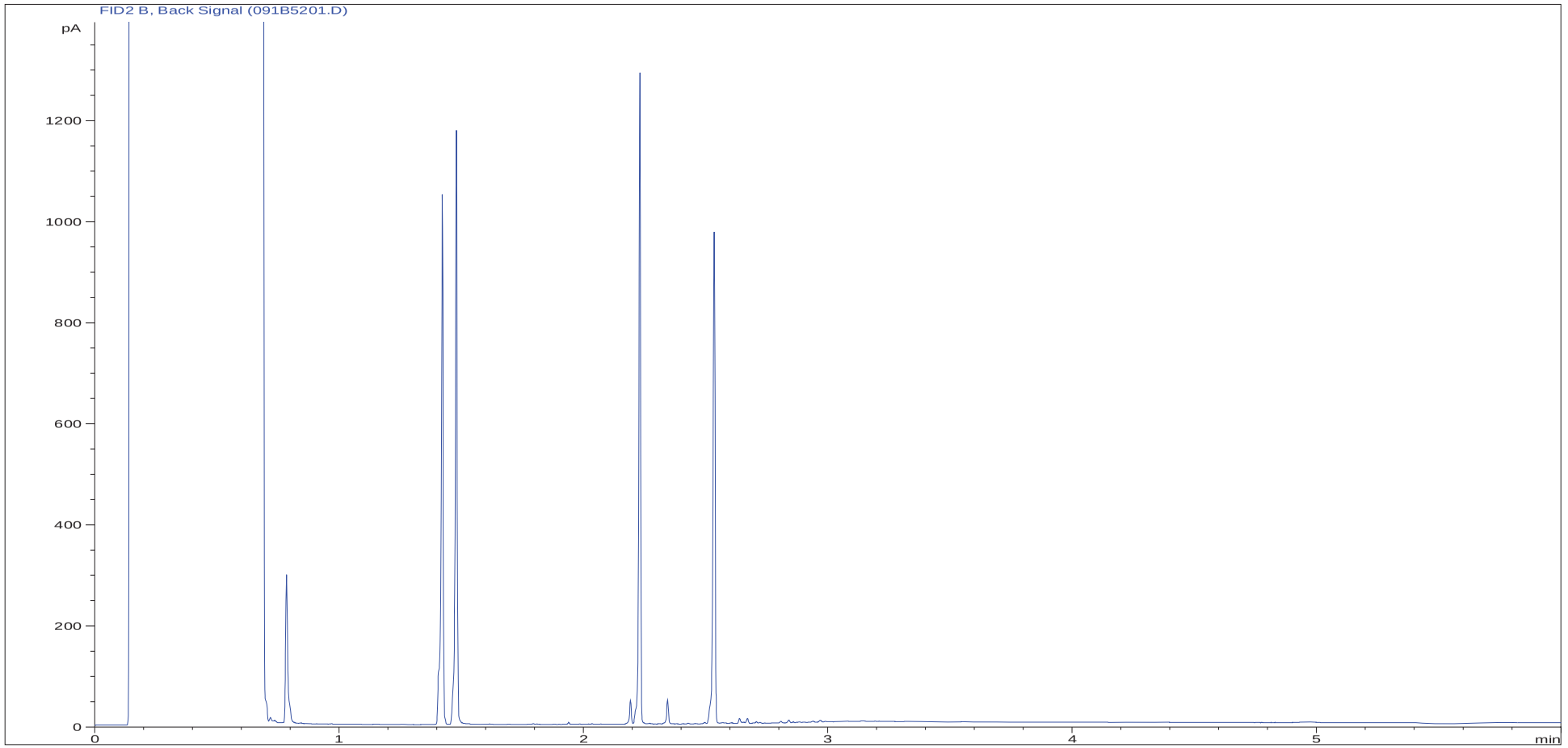
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923671	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS33 2.0
Acquisition Date/Time:	07-Oct-09, 19:11:24		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\090B5101.D		

Where individual results are flagged see report notes for status.

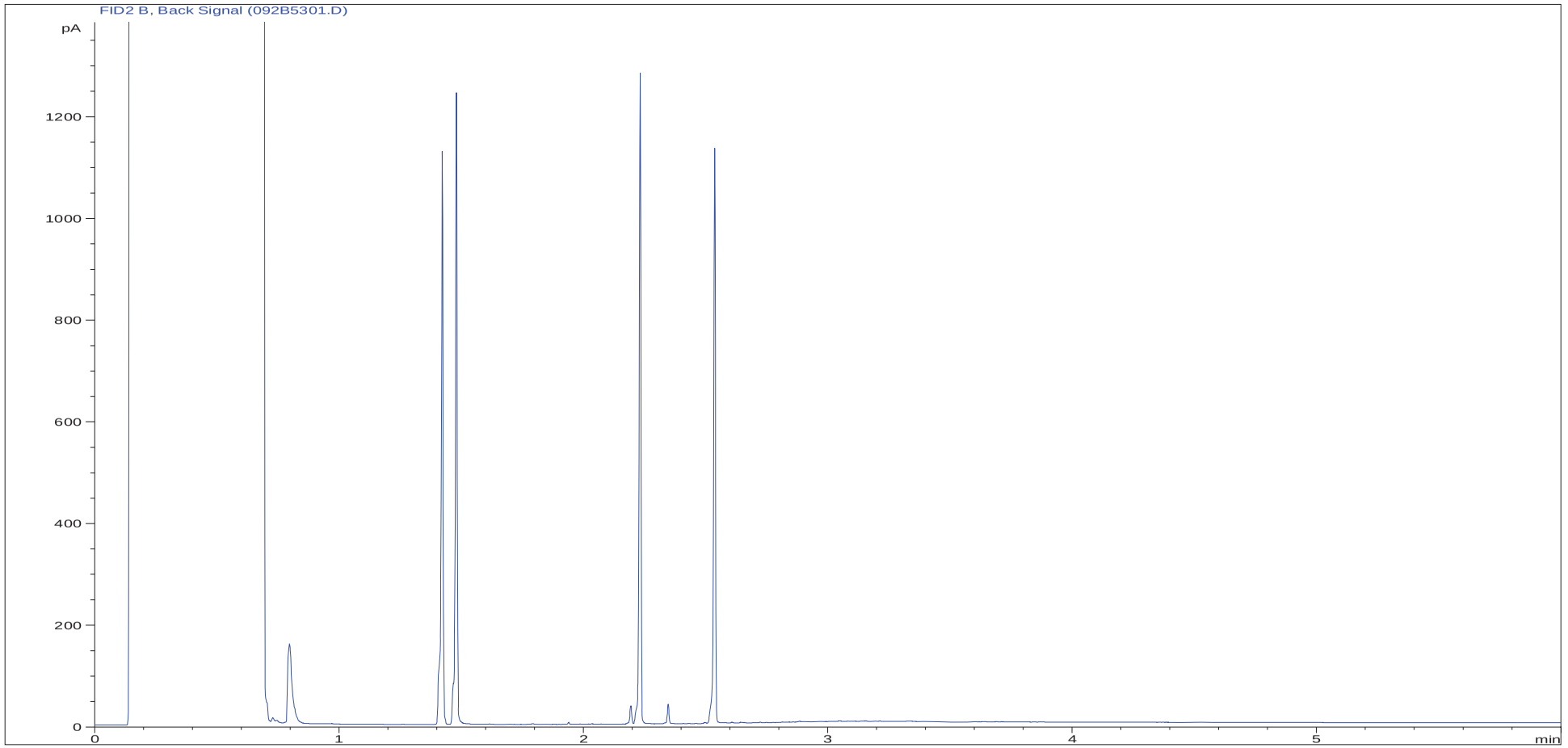
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923672	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS34 0.9
Acquisition Date/Time:	07-Oct-09, 19:23:11		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\091B5201.D		

Where individual results are flagged see report notes for status.

Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL0923673	**Job Number:**	S09_5310
Multiplier:	8	**Client:**	Ground Investigation Sp Ltd
Dilution:	1	**Site:**	Shelton Hospital
Acquisition Method:	5UL_MAX_RUNF.M	**Client Sample Ref:**	WS35 1.5
Acquisition Date/Time:	07-Oct-09, 19:34:59		
Datafile:	D:\TES\DATA\Y2009\1007TPH_GC14\100709 2009-10-07 09-15-40\092B5301.D		

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS40 1.0	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923654	**Date Analysed:**	12-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	13

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3 *	-	< 25	-
Naphthalene	91-20-3 *	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Compounds marked * are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	76	Dibromofluoromethane	100
1,4-Difluorobenzene	3.07	69	Toluene-d8	107
Chlorobenzene-d5	4.08	90	Bromofluorobenzene	89
1,4-Dichlorobenzene-d4	4.84	69		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS41 0.0-1.0	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923655	**Date Analysed:**	12-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	14

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3 *	-	< 25	-
Naphthalene	91-20-3 *	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Compounds marked * are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	87	Dibromofluoromethane	100
1,4-Difluorobenzene	3.07	89	Toluene-d8	78
Chlorobenzene-d5	4.08	82	Bromofluorobenzene	85
1,4-Dichlorobenzene-d4	4.84	55		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS42 1.5	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923656	**Date Analysed:**	12-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	16

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3 *	-	< 25	-
Naphthalene	91-20-3 *	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Compounds marked * are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	92	Dibromofluoromethane	102
1,4-Difluorobenzene	3.07	95	Toluene-d8	107
Chlorobenzene-d5	4.08	91	Bromofluorobenzene	88
1,4-Dichlorobenzene-d4	4.84	66		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS43 0.0-1.0	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923657	**Date Analysed:**	12-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	17

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8 **	-	< 10	-
1,3,5-Trimethylbenzene	108-67-8 **	-	< 10	-
4-Chlorotoluene	106-43-4 **	-	< 10	-
tert-Butylbenzene	98-06-6 **	-	< 10	-
1,2,4-Trimethylbenzene	95-63-6 **	-	< 10	-
sec-Butylbenzene	135-98-8 **	-	< 10	-
p-Isopropyltoluene	99-87-6 **	-	< 10	-
1,3-Dichlorobenzene	541-73-1 **	-	< 10	-
1,4-Dichlorobenzene	106-46-7 **	-	< 10	-
n-Butylbenzene	104-51-8 **	-	< 10	-
1,2-Dichlorobenzene	95-50-1 **	-	< 10	-
1,2-Dibromo-3-chloropropane	96-12-8 **	-	< 50	-
1,2,4-Trichlorobenzene	120-82-1 **	-	< 50	-
Hexachlorobutadiene	87-68-3 **	-	< 50	-
Naphthalene	91-20-3 **	-	< 50	-
1,2,3-Trichlorobenzene	87-61-6 **	-	< 50	-

Compounds marked * are not UKAS accredited.

** Last internal standard low due to sample matrix effect. Detection limits for all compounds quantified by this ISD raised accordingly. These compounds are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	82	Dibromofluoromethane	101
1,4-Difluorobenzene	3.07	62	Toluene-d8	101
Chlorobenzene-d5	4.08	76	Bromofluorobenzene	81
1,4-Dichlorobenzene-d4	4.84	45		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS44 1.5	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923658	**Date Analysed:**	12-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	18

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3 *	-	< 25	-
Naphthalene	91-20-3 *	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Compounds marked * are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	82	Dibromofluoromethane	102
1,4-Difluorobenzene	3.07	87	Toluene-d8	104
Chlorobenzene-d5	4.08	84	Bromofluorobenzene	86
1,4-Dichlorobenzene-d4	4.84	62		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS45 0.8	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923659	**Date Analysed:**	12-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	19

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8 **	-	< 10	-
1,3,5-Trimethylbenzene	108-67-8 **	-	< 10	-
4-Chlorotoluene	106-43-4 **	-	< 10	-
tert-Butylbenzene	98-06-6 **	-	< 10	-
1,2,4-Trimethylbenzene	95-63-6 **	-	< 10	-
sec-Butylbenzene	135-98-8 **	-	< 10	-
p-Isopropyltoluene	99-87-6 **	-	< 10	-
1,3-Dichlorobenzene	541-73-1 **	-	< 10	-
1,4-Dichlorobenzene	106-46-7 **	-	< 10	-
n-Butylbenzene	104-51-8 **	-	< 10	-
1,2-Dichlorobenzene	95-50-1 **	-	< 10	-
1,2-Dibromo-3-chloropropane	96-12-8 **	-	< 50	-
1,2,4-Trichlorobenzene	120-82-1 **	-	< 50	-
Hexachlorobutadiene	87-68-3 **	-	< 50	-
Naphthalene	91-20-3 **	-	< 50	-
1,2,3-Trichlorobenzene	87-61-6 **	-	< 50	-

Compounds marked * are not UKAS accredited.

** Last internal standard low due to sample matrix effect. Detection limits for all compounds quantified by this ISD raised accordingly. These compounds are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	61	Dibromofluoromethane	102
1,4-Difluorobenzene	3.07	60	Toluene-d8	105
Chlorobenzene-d5	4.08	76	Bromofluorobenzene	82
1,4-Dichlorobenzene-d4	4.84	49		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS47 1.7	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923660	**Date Analysed:**	12-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	20

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3 *	-	< 25	-
Naphthalene	91-20-3 *	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Compounds marked * are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	70	Dibromofluoromethane	106
1,4-Difluorobenzene	3.07	56	Toluene-d8	110
Chlorobenzene-d5	4.07	75	Bromofluorobenzene	86
1,4-Dichlorobenzene-d4	4.84	52		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS48 0.0-1.0	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923661	**Date Analysed:**	12-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	21

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8 **	-	< 10	-
1,3,5-Trimethylbenzene	108-67-8 **	-	< 10	-
4-Chlorotoluene	106-43-4 **	-	< 10	-
tert-Butylbenzene	98-06-6 **	-	< 10	-
1,2,4-Trimethylbenzene	95-63-6 **	-	< 10	-
sec-Butylbenzene	135-98-8 **	-	< 10	-
p-Isopropyltoluene	99-87-6 **	-	< 10	-
1,3-Dichlorobenzene	541-73-1 **	-	< 10	-
1,4-Dichlorobenzene	106-46-7 **	-	< 10	-
n-Butylbenzene	104-51-8 **	-	< 10	-
1,2-Dichlorobenzene	95-50-1 **	-	< 10	-
1,2-Dibromo-3-chloropropane	96-12-8 **	-	< 50	-
1,2,4-Trichlorobenzene	120-82-1 **	-	< 50	-
Hexachlorobutadiene	87-68-3 **	-	< 50	-
Naphthalene	91-20-3 **	-	< 50	-
1,2,3-Trichlorobenzene	87-61-6 **	-	< 50	-

Compounds marked * are not UKAS accredited.

** Last internal standard low due to sample matrix effect. Detection limits for all compounds quantified by this ISD raised accordingly. These compounds are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	58	Dibromofluoromethane	100
1,4-Difluorobenzene	3.07	59	Toluene-d8	105
Chlorobenzene-d5	4.08	76	Bromofluorobenzene	83
1,4-Dichlorobenzene-d4	4.84	49		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS49 1.75	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923662	**Date Analysed:**	12-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	22

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3 *	-	< 25	-
Naphthalene	91-20-3 *	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Compounds marked * are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	71	Dibromofluoromethane	106
1,4-Difluorobenzene	3.07	75	Toluene-d8	108
Chlorobenzene-d5	4.08	73	Bromofluorobenzene	84
1,4-Dichlorobenzene-d4	4.84	51		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS50 0.4-0.6	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923663	**Date Analysed:**	12-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	23

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3 *	-	< 25	-
Naphthalene	91-20-3 *	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Compounds marked * are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	55	Dibromofluoromethane	104
1,4-Difluorobenzene	3.07	56	Toluene-d8	105
Chlorobenzene-d5	4.08	74	Bromofluorobenzene	85
1,4-Dichlorobenzene-d4	4.84	51		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS51 0.2-0.4	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923664	**Date Analysed:**	12-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	24

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8 **	-	< 10	-
1,3,5-Trimethylbenzene	108-67-8 **	-	< 10	-
4-Chlorotoluene	106-43-4 **	-	< 10	-
tert-Butylbenzene	98-06-6 **	-	< 10	-
1,2,4-Trimethylbenzene	95-63-6 **	-	< 10	-
sec-Butylbenzene	135-98-8 **	-	< 10	-
p-Isopropyltoluene	99-87-6 **	-	< 10	-
1,3-Dichlorobenzene	541-73-1 **	-	< 10	-
1,4-Dichlorobenzene	106-46-7 **	-	< 10	-
n-Butylbenzene	104-51-8 **	-	< 10	-
1,2-Dichlorobenzene	95-50-1 **	-	< 10	-
1,2-Dibromo-3-chloropropane	96-12-8 **	-	< 50	-
1,2,4-Trichlorobenzene	120-82-1 **	-	< 50	-
Hexachlorobutadiene	87-68-3 **	-	< 50	-
Naphthalene	91-20-3 **	-	< 50	-
1,2,3-Trichlorobenzene	87-61-6 **	-	< 50	-

Compounds marked * are not UKAS accredited.

** Last internal standard low due to sample matrix effect. Detection limits for all compounds quantified by this ISD raised accordingly. These compounds are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	52	Dibromofluoromethane	105
1,4-Difluorobenzene	3.07	51	Toluene-d8	93
Chlorobenzene-d5	4.08	58	Bromofluorobenzene	76
1,4-Dichlorobenzene-d4	4.84	31		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS27 0.1	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923665	**Date Analysed:**	13-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	25

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8	-	< 5	-
4-Chlorotoluene	106-43-4	-	< 5	-
tert-Butylbenzene	98-06-6	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6	-	< 5	-
sec-Butylbenzene	135-98-8	-	< 5	-
p-Isopropyltoluene	99-87-6	-	< 5	-
1,3-Dichlorobenzene	541-73-1	-	< 5	-
1,4-Dichlorobenzene	106-46-7	-	< 5	-
n-Butylbenzene	104-51-8	-	< 5	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1	-	< 25	-
Hexachlorobutadiene	87-68-3 *	-	< 25	-
Naphthalene	91-20-3 *	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6	-	< 25	-

Compounds marked * are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	66	Dibromofluoromethane	102
1,4-Difluorobenzene	3.07	61	Toluene-d8	106
Chlorobenzene-d5	4.07	77	Bromofluorobenzene	85
1,4-Dichlorobenzene-d4	4.84	54		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS28 0.6	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923666	**Date Analysed:**	12-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	26

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8 **	-	< 10	-
1,3,5-Trimethylbenzene	108-67-8 **	-	< 10	-
4-Chlorotoluene	106-43-4 **	-	< 10	-
tert-Butylbenzene	98-06-6 **	-	< 10	-
1,2,4-Trimethylbenzene	95-63-6 **	-	< 10	-
sec-Butylbenzene	135-98-8 **	-	< 10	-
p-Isopropyltoluene	99-87-6 **	-	< 10	-
1,3-Dichlorobenzene	541-73-1 **	-	< 10	-
1,4-Dichlorobenzene	106-46-7 **	-	< 10	-
n-Butylbenzene	104-51-8 **	-	< 10	-
1,2-Dichlorobenzene	95-50-1 **	-	< 10	-
1,2-Dibromo-3-chloropropane	96-12-8 **	-	< 50	-
1,2,4-Trichlorobenzene	120-82-1 **	-	< 50	-
Hexachlorobutadiene	87-68-3 **	-	< 50	-
Naphthalene	91-20-3 **	-	< 50	-
1,2,3-Trichlorobenzene	87-61-6 **	-	< 50	-

Compounds marked * are not UKAS accredited.

** Last internal standard low due to sample matrix effect. Detection limits for all compounds quantified by this ISD raised accordingly. These compounds are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	77	Dibromofluoromethane	101
1,4-Difluorobenzene	3.07	79	Toluene-d8	94
Chlorobenzene-d5	4.07	71	Bromofluorobenzene	83
1,4-Dichlorobenzene-d4	4.84	46		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS29 1.5	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923667	**Date Analysed:**	12-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	27

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8 **	-	< 10	-
1,3,5-Trimethylbenzene	108-67-8 **	-	< 10	-
4-Chlorotoluene	106-43-4 **	-	< 10	-
tert-Butylbenzene	98-06-6 **	-	< 10	-
1,2,4-Trimethylbenzene	95-63-6 **	-	< 10	-
sec-Butylbenzene	135-98-8 **	-	< 10	-
p-Isopropyltoluene	99-87-6 **	-	< 10	-
1,3-Dichlorobenzene	541-73-1 **	-	< 10	-
1,4-Dichlorobenzene	106-46-7 **	-	< 10	-
n-Butylbenzene	104-51-8 **	-	< 10	-
1,2-Dichlorobenzene	95-50-1 **	-	< 10	-
1,2-Dibromo-3-chloropropane	96-12-8 **	-	< 50	-
1,2,4-Trichlorobenzene	120-82-1 **	-	< 50	-
Hexachlorobutadiene	87-68-3 **	-	< 50	-
Naphthalene	91-20-3 **	-	< 50	-
1,2,3-Trichlorobenzene	87-61-6 **	-	< 50	-

Compounds marked * are not UKAS accredited.

** Last internal standard low due to sample matrix effect. Detection limits for all compounds quantified by this ISD raised accordingly. These compounds are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	70	Dibromofluoromethane	106
1,4-Difluorobenzene	3.07	53	Toluene-d8	84
Chlorobenzene-d5	4.08	59	Bromofluorobenzene	77
1,4-Dichlorobenzene-d4	4.84	31		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS30 0.4	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923668	**Date Analysed:**	13-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	28

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8 **	-	< 10	-
1,3,5-Trimethylbenzene	108-67-8 **	-	< 10	-
4-Chlorotoluene	106-43-4 **	-	< 10	-
tert-Butylbenzene	98-06-6 **	-	< 10	-
1,2,4-Trimethylbenzene	95-63-6 **	-	< 10	-
sec-Butylbenzene	135-98-8 **	-	< 10	-
p-Isopropyltoluene	99-87-6 **	-	< 10	-
1,3-Dichlorobenzene	541-73-1 **	-	< 10	-
1,4-Dichlorobenzene	106-46-7 **	-	< 10	-
n-Butylbenzene	104-51-8 **	-	< 10	-
1,2-Dichlorobenzene	95-50-1 **	-	< 10	-
1,2-Dibromo-3-chloropropane	96-12-8 **	-	< 50	-
1,2,4-Trichlorobenzene	120-82-1 **	-	< 50	-
Hexachlorobutadiene	87-68-3 **	-	< 50	-
Naphthalene	91-20-3 **	-	< 50	-
1,2,3-Trichlorobenzene	87-61-6 **	-	< 50	-

Compounds marked * are not UKAS accredited.

** Last internal standard low due to sample matrix effect. Detection limits for all compounds quantified by this ISD raised accordingly. These compounds are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	58	Dibromofluoromethane	104
1,4-Difluorobenzene	3.07	56	Toluene-d8	102
Chlorobenzene-d5	4.07	65	Bromofluorobenzene	75
1,4-Dichlorobenzene-d4	4.84	34		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS31 1.6	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923669	**Date Analysed:**	13-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	29

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8 **	-	< 10	-
1,3,5-Trimethylbenzene	108-67-8 **	-	< 10	-
4-Chlorotoluene	106-43-4 **	-	< 10	-
tert-Butylbenzene	98-06-6 **	-	< 10	-
1,2,4-Trimethylbenzene	95-63-6 **	-	< 10	-
sec-Butylbenzene	135-98-8 **	-	< 10	-
p-Isopropyltoluene	99-87-6 **	-	< 10	-
1,3-Dichlorobenzene	541-73-1 **	-	< 10	-
1,4-Dichlorobenzene	106-46-7 **	-	< 10	-
n-Butylbenzene	104-51-8 **	-	< 10	-
1,2-Dichlorobenzene	95-50-1 **	-	< 10	-
1,2-Dibromo-3-chloropropane	96-12-8 **	-	< 50	-
1,2,4-Trichlorobenzene	120-82-1 **	-	< 50	-
Hexachlorobutadiene	87-68-3 **	-	< 50	-
Naphthalene	91-20-3 **	-	< 50	-
1,2,3-Trichlorobenzene	87-61-6 **	-	< 50	-

Compounds marked * are not UKAS accredited.

** Last internal standard low due to sample matrix effect. Detection limits for all compounds quantified by this ISD raised accordingly. These compounds are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	70	Dibromofluoromethane	106
1,4-Difluorobenzene	3.07	73	Toluene-d8	84
Chlorobenzene-d5	4.07	69	Bromofluorobenzene	79
1,4-Dichlorobenzene-d4	4.84	41		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS32 0.7	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923670	**Date Analysed:**	13-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	30

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8 **	-	< 10	-
1,3,5-Trimethylbenzene	108-67-8 **	-	< 10	-
4-Chlorotoluene	106-43-4 **	-	< 10	-
tert-Butylbenzene	98-06-6 **	-	< 10	-
1,2,4-Trimethylbenzene	95-63-6 **	-	< 10	-
sec-Butylbenzene	135-98-8 **	-	< 10	-
p-Isopropyltoluene	99-87-6 **	-	< 10	-
1,3-Dichlorobenzene	541-73-1 **	-	< 10	-
1,4-Dichlorobenzene	106-46-7 **	-	< 10	-
n-Butylbenzene	104-51-8 **	-	< 10	-
1,2-Dichlorobenzene	95-50-1 **	-	< 10	-
1,2-Dibromo-3-chloropropane	96-12-8 **	-	< 50	-
1,2,4-Trichlorobenzene	120-82-1 **	-	< 50	-
Hexachlorobutadiene	87-68-3 **	-	< 50	-
Naphthalene	91-20-3 **	-	< 50	-
1,2,3-Trichlorobenzene	87-61-6 **	-	< 50	-

Compounds marked * are not UKAS accredited.

** Last internal standard low due to sample matrix effect. Detection limits for all compounds quantified by this ISD raised accordingly. These compounds are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	66	Dibromofluoromethane	103
1,4-Difluorobenzene	3.07	57	Toluene-d8	100
Chlorobenzene-d5	4.07	72	Bromofluorobenzene	82
1,4-Dichlorobenzene-d4	4.84	45		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS33 2.0	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923671	**Date Analysed:**	13-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	31

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8 **	-	< 10	-
1,3,5-Trimethylbenzene	108-67-8 **	-	< 10	-
4-Chlorotoluene	106-43-4 **	-	< 10	-
tert-Butylbenzene	98-06-6 **	-	< 10	-
1,2,4-Trimethylbenzene	95-63-6 **	-	< 10	-
sec-Butylbenzene	135-98-8 **	-	< 10	-
p-Isopropyltoluene	99-87-6 **	-	< 10	-
1,3-Dichlorobenzene	541-73-1 **	-	< 10	-
1,4-Dichlorobenzene	106-46-7 **	-	< 10	-
n-Butylbenzene	104-51-8 **	-	< 10	-
1,2-Dichlorobenzene	95-50-1 **	-	< 10	-
1,2-Dibromo-3-chloropropane	96-12-8 **	-	< 50	-
1,2,4-Trichlorobenzene	120-82-1 **	-	< 50	-
Hexachlorobutadiene	87-68-3 **	-	< 50	-
Naphthalene	91-20-3 **	-	< 50	-
1,2,3-Trichlorobenzene	87-61-6 **	-	< 50	-

Compounds marked * are not UKAS accredited.

** Last internal standard low due to sample matrix effect. Detection limits for all compounds quantified by this ISD raised accordingly. These compounds are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	72	Dibromofluoromethane	107
1,4-Difluorobenzene	3.07	76	Toluene-d8	104
Chlorobenzene-d5	4.07	69	Bromofluorobenzene	77
1,4-Dichlorobenzene-d4	4.84	41		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS34 0.9	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923672	**Date Analysed:**	13-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	32

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8 **	-	< 10	-
1,3,5-Trimethylbenzene	108-67-8 **	-	< 10	-
4-Chlorotoluene	106-43-4 **	-	< 10	-
tert-Butylbenzene	98-06-6 **	-	< 10	-
1,2,4-Trimethylbenzene	95-63-6 **	-	< 10	-
sec-Butylbenzene	135-98-8 **	-	< 10	-
p-Isopropyltoluene	99-87-6 **	-	< 10	-
1,3-Dichlorobenzene	541-73-1 **	-	< 10	-
1,4-Dichlorobenzene	106-46-7 **	-	< 10	-
n-Butylbenzene	104-51-8 **	-	< 10	-
1,2-Dichlorobenzene	95-50-1 **	-	< 10	-
1,2-Dibromo-3-chloropropane	96-12-8 **	-	< 50	-
1,2,4-Trichlorobenzene	120-82-1 **	-	< 50	-
Hexachlorobutadiene	87-68-3 **	-	< 50	-
Naphthalene	91-20-3 **	-	< 50	-
1,2,3-Trichlorobenzene	87-61-6 **	-	< 50	-

Compounds marked * are not UKAS accredited.

** Last internal standard low due to sample matrix effect. Detection limits for all compounds quantified by this ISD raised accordingly. These compounds are not UKAS accredited.

"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	74	Dibromofluoromethane	103
1,4-Difluorobenzene	3.07	75	Toluene-d8	85
Chlorobenzene-d5	4.08	76	Bromofluorobenzene	81
1,4-Dichlorobenzene-d4	4.84	48		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by PTGCMS

UKAS accredited?: Yes

Customer and Site Details:	Ground Investigation Sp Ltd: Shelton Hospital	**Directory/Quant file:**	1012VOC.MS3\ Initial Calibration	**Matrix:**	Soil
Sample Details:	WS35 1.5	**Date Booked in:**	30-Sep-09	**Method:**	Purge & trap
LIMS ID Number:	CL0923673	**Date Analysed:**	13-Oct-09	**Multiplier:**	5
Job Number:	S09_5310	**Operator:**	PS/KZ	**Position:**	33

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Dichlorodifluoromethane	75-71-8	-	< 5	-
Chloromethane	74-87-3	-	< 5	-
Vinyl Chloride	75-01-4 *	-	< 5	-
Bromomethane	74-83-9 *	-	< 25	-
Chloroethane	75-00-3	-	< 25	-
Trichlorofluoromethane	75-69-4	-	< 5	-
1,1-Dichloroethene	75-35-4	-	< 5	-
trans 1,2-Dichloroethene	156-60-5	-	< 5	-
1,1-Dichloroethane	75-34-3	-	< 5	-
2,2-Dichloropropane	594-20-7	-	< 5	-
cis 1,2-Dichloroethene	156-59-2	-	< 5	-
Bromochloromethane	74-97-5	-	< 5	-
Chloroform	67-66-3	-	< 5	-
1,1,1-Trichloroethane	71-55-6	-	< 5	-
Carbon Tetrachloride	56-23-5	-	< 5	-
1,1-Dichloropropene	563-58-6	-	< 5	-
Benzene	71-43-2	-	< 5	-
1,2-Dichloroethane	107-06-2	-	< 5	-
Trichloroethene	79-01-6	-	< 5	-
1,2-Dichloropropane	78-87-5	-	< 5	-
Dibromomethane	74-95-3	-	< 5	-
Bromodichloromethane	75-27-4	-	< 5	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 5	-
Toluene	108-88-3	-	< 5	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 5	-
1,1,2-Trichloroethane	79-00-5	-	< 5	-
Tetrachloroethene	127-18-4	-	< 25	-
1,3-Dichloropropane	142-28-9	-	< 5	-
Dibromochloromethane	124-48-1	-	< 5	-
1,2-Dibromoethane	106-93-4	-	< 5	-
Chlorobenzene	108-90-7	-	< 5	-
Ethylbenzene	100-41-4	-	< 5	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 5	-
m and p-Xylene	108-38-3/106-42-3	-	< 5	-
o-Xylene	95-47-6	-	< 5	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/kg	% Fit
Styrene	100-42-5	-	< 5	-
Bromoform	75-25-2	-	< 5	-
iso-Propylbenzene	98-82-8	-	< 5	-
1,1,2,2-Tetrachloroethane	79-34-5	-	< 5	-
Propylbenzene	103-65-1	-	< 5	-
Bromobenzene	108-86-1	-	< 5	-
1,2,3-Trichloropropane	96-18-4	-	< 5	-
2-Chlorotoluene	95-49-8 **	-	< 5	-
1,3,5-Trimethylbenzene	108-67-8 **	-	< 5	-
4-Chlorotoluene	106-43-4 **	-	< 5	-
tert-Butylbenzene	98-06-6 **	-	< 5	-
1,2,4-Trimethylbenzene	95-63-6 **	-	< 5	-
sec-Butylbenzene	135-98-8 **	-	< 5	-
p-Isopropyltoluene	99-87-6 **	-	< 5	-
1,3-Dichlorobenzene	541-73-1 **	-	< 5	-
1,4-Dichlorobenzene	106-46-7 **	-	< 5	-
n-Butylbenzene	104-51-8 **	-	< 5	-
1,2-Dichlorobenzene	95-50-1 **	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 25	-
1,2,4-Trichlorobenzene	120-82-1 **	-	< 25	-
Hexachlorobutadiene	87-68-3 *	-	< 25	-
Naphthalene	91-20-3 *	-	< 25	-
1,2,3-Trichlorobenzene	87-61-6 **	-	< 25	-

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** Last internal standard low due to sample matrix effect. Detection limits for all compounds quantified by this ISD raised accordingly. These compounds are not UKAS accredited.

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Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	2.79	76	Dibromofluoromethane	104
1,4-Difluorobenzene	3.07	79	Toluene-d8	103
Chlorobenzene-d5	4.07	77	Bromofluorobenzene	85
1,4-Dichlorobenzene-d4	4.84	55		

Note: Volatile compounds degrade with time, and this may affect the integrity of the data depending on the timescale between sampling and analysis. It is recommended that analysis takes place within 7 days of sampling.

Where individual results are flagged see report notes for status.

Report Notes

Soil/Solid analysis specific:
Results expressed as mg/kg on an air dried basis unless stated otherwise
S04 analysis not conducted in accordance with BS1377 unless otherwise stated
Water Soluble Sulphate on 2:1 water:soil extract
AR denotes analysis conducted on the As Received sample

Water analysis specific:
Results expressed as mg/l unless stated otherwise

Oil analysis specific:
Results expressed as mg/kg unless stated otherwise
S.G. expressed as g/cm^3@ 15^{o}C

Filter analysis specific:
Results expressed as mg on filter unless stated otherwise

VOC analysis specific:
Explanatory notes for data flagging
U = undetected above reporting limit
J = concentration at instrument was below lowest calibration standard
E = concentration at instrument was above top calibration standard
B = compound was detected in method blank

Gas (Tedlar bag) analysis specific:
Results expressed as ug/l unless stated otherwise

Air (Carbon tube) analysis specific:
Results expressed as ug on tube unless stated otherwise

Asbestos analysis specific:
CH denotes Chrysotile
CR denotes Crocidolite
AM denotes Amosite
NADIS denotes No Asbestos Detected in Sample
NBFO denotes No Bulk fibres Observed

General notes:
^ this analysis was subcontracted to another laboratory
$ Within laboratory tolerances
$$ unable to analyse due to nature of sample
¥ Results for guidance only, possible interference
& Blank corrected
I.S insufficient sample for analysis
Intf Unable to analyse due to interferences
N.D Not determined
N.R Not recorded
N.Det Not detected
Req Analysis Requested, see attached sheets for results
Þ Raised detection limit due to nature of sample
***** denotes that all accreditation has been removed by the laboratory for this result.
‡ denotes that Mcerts accreditation has been removed by the laboratory for this result.
Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected.

If you require further details of the circumstances leading to the removal of the accreditation from any data item please do not hesitate to contact the laboratory

END OF REPORT

Where individual results are flagged see report notes for status.

Our Ref: EFS/095311 (Ver. 2)
Your Ref: YB00437

November 5, 2009

Scientifics Ltd
Bretby Business Park
Ashby Road
Burton-on-Trent
Staffordshire
DE15 0YZ

Telephone: 01283 554400
Facsimile: 01283 554422

Mr H Lister
Ground Investigation
Specialists Ltd
18 Waterloo Road
Wolverhampton
West Mids
WV1 4BL

For the attention of Mr H Lister

Dear Mr Lister

SOIL Sample Analysis - Shelton Hospital

Samples from the above site have been analysed in accordance with the schedule supplied.
The sample details and the results of analyses for these samples are given in the appended report.

An invoice for this work will follow under a separate cover.

Where appropriate the samples will be kept until 11/11/09 when they will be discarded. Please call 01283 554458 for an extension of this date.
Please be aware that from 1 January 2003 our policy for the retention of paper based laboratory records and analysis reports will be 6 years.

The work was carried out in accordance with Scientifics Ltd Standard Terms and Conditions of Contract.

If I can be of any further assistance please do not hesitate to contact me.

Yours sincerely

for Scientifics

D Simpson
Project Co-ordinator
01283 554458

TEST REPORT
SOIL SAMPLE ANALYSIS

1252

Report No. EFS/095311 (Ver. 2)

Ground Investigation
Specialists Ltd
18 Waterloo Road
Wolverhampton
West Mids
WV1 4BL

Site: Shelton Hospital

The 20 samples described in this report were logged for analysis by Scientifics on 30-Sep-2009.
The analysis was completed by: 05-Nov-2009

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS accredited
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics Ltd.

The following tables are contained in this report:

On behalf of
Scientifics :
Dave Simpson Project Co-ordinator

Date of Issue: 05-Nov-2009

Tests marked '^' have been subcontracted to another laboratory.

Scientifics Ltd accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Units :		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Method Codes :		ICPACIDS	ICPBOR	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	ICPMSS	SFAPI	SFAPI
Method Reporting Limits :		20	0.5	0.1	0.5	0.1	0.5	0.5	0.5	0.10	0.5	0.5	0.5	2.0	3.0	0.5	0.5
UKAS Accredited :		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Laboratory ID Number CL/	**Client Sample Description**	**SO4-- (acid sol)**	**Boron (H20 Soluble)**	**Antimony (MS)**	**Arsenic (MS)**	**Cadmium (MS)**	**Chromium (MS)**	**Copper (MS)**	**Lead (MS)**	**Mercury (MS)**	**Molybdenum (MS)**	**Nickel (MS)**	**Selenium (MS)**	**Vanadium (MS)**	**Zinc (MS)**	**Cyanide(Free) (AR)**	**Cyanide(Total) (AR)**
0923685	WS27 0.3	467	<0.5	0.2	6.0	0.14	18.1	8.5	26.1	<0.1	0.7	15.3	<0.5	21.5	68.9	<0.5	<0.5
0923686	WS28 1.8	34	0.5	0.3	6.0	<0.1	27.9	18.6	9.5	<0.1	<0.5	32.2	<0.5	26.5	49.2	<0.5	<0.5
0923687	WS29 1.7	54	0.5	0.2	8.4	0.16	23	26.4	18.3	<0.1	0.6	31.6	<0.5	21.2	71	<0.5	<0.5
0923688	WS30 1.4	462	0.8	0.1	6.0	0.14	17.6	9.0	42.9	<0.1	0.5	13.3	<0.5	22.2	51.4	<0.5	<0.5
0923689	WS31 0.4	895	1.4	1.1	10.3	1.18	21.8	20.8	169.4	<0.1	1.4	21.9	<0.5	29.6	240	<0.5	<0.5
0923690	WS33 1.0	56	0.6	0.3	8.4	<0.1	24.4	19.3	14.2	<0.1	0.7	24.9	<0.5	24.5	56.6	<0.5	<0.5
0923691	WS34 1.8	115	0.5	0.2	8.0	0.11	28.1	24.5	14.5	<0.1	0.5	37.8	<0.5	24.9	73.6	<0.5	<0.5
0923692	WS35 0.8	475	1.5	0.2	7.7	0.12	20.4	11.8	14.5	<0.1	1.0	23.5	<0.5	21.2	64.6	<0.5	<0.5
0923693	WS36 1.2	114	0.9	0.2	7.5	<0.1	21.5	19.8	13.9	<0.1	0.6	22.1	<0.5	21.5	50.8	<0.5	<0.5
0923674	WS40 3.0	67	0.7	0.3	7.6	0.13	24.2	23.7	17.8	<0.1	0.8	31.6	<0.5	20	68.6	<0.5	<0.5
0923675	WS41 1.4	44	0.7	0.3	8.4	<0.1	22.8	25.6	18.6	<0.1	0.7	30.7	<0.5	22.1	66.7	<0.5	<0.5
0923676	WS42 0.0-1.0	71	0.6	0.2	7.0	0.16	22.7	15.0	21.5	<0.1	0.6	21.1	<0.5	24.2	65.1	<0.5	<0.5
0923677	WS43 1.3	193	<0.5	0.2	7.1	<0.1	21.7	17.7	17.2	<0.1	<0.5	23.6	<0.5	21.9	60.6	<0.5	<0.5
0923678	WS44 0.0-1.0	240	0.9	0.5	8.5	0.43	23.9	23.9	59.7	<0.1	1.0	29	<0.5	26	120.1	<0.5	<0.5
0923679	WS45 1.5	30	<0.5	0.2	6.6	<0.1	14.6	12.6	12.2	<0.1	0.5	18	<0.5	13.7	38.6	<0.5	<0.5
0923680	WS47 0.5	275	<0.5	0.1	4.3	<0.1	19.2	8.9	21.7	<0.1	0.8	22	<0.5	20	74.8	<0.5	<0.5
0923681	WS48 2.0	34	<0.5	0.3	8.0	0.1	22.4	23.4	13.7	<0.1	0.8	30.3	<0.5	22.5	66.1	<0.5	<0.5
0923682	WS49 0.0-1.0	31	<0.5	0.2	8.2	0.12	23.1	23.5	13.6	<0.1	0.8	30.8	<0.5	23	66.3	<0.5	<0.5
0923683	WS50 1.0-2.0	42	<0.5	0.2	8.8	<0.1	23.2	23.1	14.9	<0.1	0.6	28.7	<0.5	21.5	64.1	<0.5	<0.5
0923684	WS51 1.0-1.2	<20	<0.5	0.2	8.7	0.1	21.1	23.4	15.5	<0.1	0.7	30.6	<0.5	19.8	65.8	<0.5	<0.5

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Client Name Ground Investigation Sp Ltd

Contact Mr H Lister

Shelton Hospital

Soils Sample Analysis

Date Printed	05-Nov-09
Report Number	**EFS/095311**
Table Number	**1**

Where individual results are flagged see report notes for status.

Units :		mg/kg	mg/kg	pH Units	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	%						
Method Codes :		SFAPI	SFAPI	WSLM3	ICPSOIL	ICPSOIL	KONECR	PAHSCUV	SEN9	SFAS	TSBRE1						
Method Reporting Limits :		0.5	2		1	1	0.1	10		0.5	0.005						
UKAS Accredited :		yes	yes	yes	no	no	no	no	no	no	no						
Laboratory ID Number CL/	**Client Sample Description**	**Phenol Index.(AR)**	**Thiocyanate(SCN)(AR)**	**pH units**	**Barium.**	**Beryllium.**	**Chromium vi:**	**PAH (screening)**	**Asbestos (screening)**	**Sulphide as S (AR)**	**Total Sulphur.**						
0923685	WS27 0.3	<0.5	<2.0	6.0	56	<1	<0.1	<10		0.8	0.061						
0923686	WS28 1.8	<0.5	<2.0	7.5	79	<1	<0.1	<10	NBFO	<0.5	0.045						
0923687	WS29 1.7	<0.5	<2.0	7.1	103	<1	<0.1	<10		<0.5	0.049						
0923688	WS30 1.4	<0.5	<2.0	6.8	57	<1	<0.1	15	NBFO	4.6	0.082						
0923689	WS31 0.4	<0.5	<2.0	7.9	121	<1	<0.1	31		1.5	0.076						
0923690	WS33 1.0	<0.5	<2.0	7.4	126	1	0.3	<10	NBFO	<0.5	0.06						
0923691	WS34 1.8	<0.5	<2.0	7.3	217	<1	0.1	<10		<0.5	0.054						
0923692	WS35 0.8	<0.5	<2.0	6.8	43	<1	<0.1	40	NBFO	6.3	0.065						
0923693	WS36 1.2	<0.5	<2.0	6.8	55	<1	<0.1	<10		<0.5	0.047						
0923674	WS40 3.0	<0.5	<2.0	7.0	92	<1	<0.1	<10		<0.5	0.07						
0923675	WS41 1.4	<0.5	<2.0	7.5	95	<1	<0.1	<10	NBFO	<0.5	0.065						
0923676	WS42 0.0-1.0	<0.5	<2.0	6.9	77	<1	0.4	<10		1.6	0.053						
0923677	WS43 1.3	<0.5	<2.0	7.2	89	<1	0.5	<10		<0.5	0.045						
0923678	WS44 0.0-1.0	<0.5	<2.0	6.9	63	<1	0.3	<10		0.8	0.069						
0923679	WS45 1.5	<0.5	<2.0	7.7	25	<1	0.2	<10		<0.5	0.022						
0923680	WS47 0.5	<0.5	<2.0	6.6	64	<1	<0.1	<10	NBFO	0.6	0.052						
0923681	WS48 2.0	<0.5	<2.0	6.8	121	<1	0.2	<10		<0.5	0.051						
0923682	WS49 0.0-1.0	<0.5	<2.0	6.9	124	<1	0.2	<10		0.6	0.043						
0923683	WS50 1.0-2.0	<0.5	<2.0	6.8	91	<1	0.2	<10		<0.5	0.045						
0923684	WS51 1.0-1.2	<0.5	<2.0	7.5	103	<1	<0.1	<10	NBFO	<0.5	0.047						

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Client Name **Ground Investigation Sp Ltd**

Contact Mr H Lister

Shelton Hospital

Soils Sample Analysis

Date Printed	05-Nov-09
Report Number	**EFS/095311**
Table Number	**1**

Where individual results are flagged see report notes for status.

Report Notes

Soil/Solid analysis specific:
Results expressed as mg/kg on an air dried basis unless stated otherwise
S04 analysis not conducted in accordance with BS1377 unless otherwise stated
Water Soluble Sulphate on 2:1 water:soil extract
AR denotes analysis conducted on the As Received sample

Water analysis specific:
Results expressed as mg/l unless stated otherwise

Oil analysis specific:
Results expressed as mg/kg unless stated otherwise
S.G. expressed as g/cm^3@ 15^{o}C

Filter analysis specific:
Results expressed as mg on filter unless stated otherwise

VOC analysis specific:
Explanatory notes for data flagging
U = undetected above reporting limit
J = concentration at instrument was below lowest calibration standard
E = concentration at instrument was above top calibration standard
B = compound was detected in method blank

Gas (Tedlar bag) analysis specific:
Results expressed as ug/l unless stated otherwise

Air (Carbon tube) analysis specific:
Results expressed as ug on tube unless stated otherwise

Asbestos analysis specific:
CH denotes Chrysotile
CR denotes Crocidolite
AM denotes Amosite
NADIS denotes No Asbestos Detected in Sample
NBFO denotes No Bulk fibres Observed

General notes:
^ this analysis was subcontracted to another laboratory
$ Within laboratory tolerances
$$ unable to analyse due to nature of sample
¥ Results for guidance only, possible interference
& Blank corrected
I.S insufficient sample for analysis
Intf Unable to analyse due to interferences
N.D Not determined
N.R Not recorded
N.Det Not detected
Req Analysis Requested, see attached sheets for results
Þ Raised detection limit due to nature of sample
***** denotes that all accreditation has been removed by the laboratory for this result.
‡ denotes that Mcerts accreditation has been removed by the laboratory for this result.
Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected.

If you require further details of the circumstances leading to the removal of the accreditation from any data item please do not hesitate to contact the laboratory

END OF REPORT

Where individual results are flagged see report notes for status.

Appendix D – Soakaway Results

CONSULTING ENGINEERS

clarkebond

Calculation of Soil Infiltration Rate using the BRE Digest 365 Methodology

Client: SSSFT
Project: Shelton Mental Health Hospital
Project No.: YB00437
Location: SA1
Date of test: 25-Sep-09

Calculation f = (Vp75-25)/(Ap50 x Tp75-25)

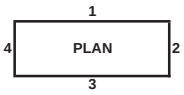
Abbreviations

f	Soil Infiltration Factor (m/s)
Vp75-25	The effective storage volume of water in the trial pit between 75% and 25% effective depth.
Ap50	The internal surface area of the trial pit up to 50% effective depth and including the base area.
Tp75-25	The time for the water level to fall from 75% to 25% effective depth.

Data Inputs
Calculated Cells

Trial Pit Dimensions (m)

Length of side	1	2	3	4
top	1.30	0.60	1.30	0.60
bottom	1.30	0.60	1.30	0.60



Total depth of trial pit 1.50 m below ground surface

Test 1		Test 2		Test 3	
Time (mins)	Depth to Water (mbgl)	Time (mins)	Depth to Water (mbgl)	Time (mins)	Depth to Water (mbgl)
0.0	0.700				
0.5	0.700				
1.5	0.700				
2.0	0.705				
3.0	0.705				
4.0	0.705				
5.0	0.705				
6.0	0.705				
7.0	0.705				
8.0	0.705				
9.0	0.705				
10.0	0.705				
15.0	0.705				
20.0	0.705				
25.0	0.705				
30.0	0.705				
40.0	0.705				
50.0	0.705				
60.0	0.710				
70.0	0.710				
80.0	0.710				
90.0	0.710				
100.0	0.715				
120.0	0.715				
150.0	0.718				
180.0	0.718				
210.0	0.720				
240.0	0.720				
270.0	0.720				
300.0	0.725				
330.0	0.725				

Base Area
0.78
0.78
0.78

Calculated length	Side 1	Side 2	Side 3	Side 4
100%	1.30	0.60	1.30	0.60
75%	1.30	0.60	1.30	0.60
50%	1.30	0.60	1.30	0.60
25%	1.30	0.60	1.30	0.60

		Side 1	Side 2	Side 3	Side 4
Ap50 (test 1) m2	**2.30**	0.520	0.240	0.520	0.240
Ap50 (test 2) m2		0.975	0.450	0.975	0.450
Ap50 (test 3) m2		0.975	0.450	0.975	0.450

		Side 1	Side 2	Side 3	Side 4
Vp 75 - test 1	**0.468**	1.30	0.60	1.30	0.60
Vp 75 - test 2		1.30	0.60	1.30	0.60
Vp 75 - test 3		1.30	0.60	1.30	0.60

		Side 1	Side 2	Side 3	Side 4
Vp 25 - test 1	**0.156**	1.30	0.60	1.30	0.60
Vp 25 - test 2		1.30	0.60	1.30	0.60
Vp 25 - test 3		1.30	0.60	1.30	0.60

Determination of t 25 and t 75:

	Test 1	Test 2	Test 3
25% depth			
75% depth			

Vp 75-25 - test 1	**0.312**	m3
Vp 75-25 - test 2		m3
Vp 75-25 - test 3		m3

Enter (minutes)	t 25	t 75	Tp75-25	
Test 1			**0.0**	mins
Test 2			**0.0**	mins
Test 3			**0.0**	mins

Calculated Soil Infiltration Factor (f)

Test 1	No Result	m/s	mm/hr =	N/A
Test 2		m/s	mm/hr =	0.0
Test 3		m/s	mm/hr =	0.0
LOWEST f =	**No Result**	m/s		

CONSULTING ENGINEERS

clarkebond

Calculation of Soil Infiltration Rate using the BRE Digest 365 Methodology

Client: SSSFT
Project: Shelton Mental Health Hospital
Project No.: YB00437

Location: SA2
Date of test: 25-Sep-09

Calculation f = (Vp75-25)/(Ap50 x Tp75-25)

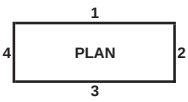
Abbreviations

f	Soil Infiltration Factor (m/s)
Vp75-25	The effective storage volume of water in the trial pit between 75% and 25% effective depth.
Ap50	The internal surface area of the trial pit up to 50% effective depth and including the base area.
Tp75-25	The time for the water level to fall from 75% to 25% effective depth.

Data Inputs
Calculated Cells

Trial Pit Dimensions (m)

Length of side	1	2	3	4
top	1.25	0.60	1.25	0.60
bottom	1.25	0.60	1.25	0.60



Total depth of trial pit 1.60 m below ground surface

Test 1		Test 2		Test 3		
Time (mins)	Depth to Water (mbgl)	Time (mins)	Depth to Water (mbgl)	Time (mins)	Depth to Water (mbgl)	
0.0	0.590					
0.5	0.590					
1.5	0.590					
2.0	0.590					
3.0	0.590					
4.0	0.590					
5.0	0.590					
6.0	0.590					
7.0	0.590					
8.0	0.590					
9.0	0.590					
10.0	0.590					
15.0	0.590					
20.0	0.595					Base Area
25.0	0.595					0.75
30.0	0.595					0.75
40.0	0.600					0.75
50.0	0.600					
60.0	0.605					
70.0	0.605					
80.0	0.610					
90.0	0.610					
100.0	0.615					
120.0	0.620					
150.0	0.625					
180.0	0.630					
210.0	0.633					
240.0	0.633					
270.0	0.635					
300.0	0.640					
330.0	0.645					

Calculated length	Side 1	Side 2	Side 3	Side 4
100%	1.25	0.60	1.25	0.60
75%	1.25	0.60	1.25	0.60
50%	1.25	0.60	1.25	0.60
25%	1.25	0.60	1.25	0.60

		Side 1	Side 2	Side 3	Side 4
Ap50 (test 1) m2	**2.62**	0.631	0.303	0.631	0.303
Ap50 (test 2) m2	**3.71**	1.000	0.480	1.000	0.480
Ap50 (test 3) m2	**3.71**	1.000	0.480	1.000	0.480

		Side 1	Side 2	Side 3	Side 4
Vp 75 - test 1	**0.568**	1.25	0.60	1.25	0.60
Vp 75 - test 2	**0.900**	1.25	0.60	1.25	0.60
Vp 75 - test 3	**0.900**	1.25	0.60	1.25	0.60

		Side 1	Side 2	Side 3	Side 4
Vp 25 - test 1	**0.189**	1.25	0.60	1.25	0.60
Vp 25 - test 2	**0.300**	1.25	0.60	1.25	0.60
Vp 25 - test 3	**0.300**	1.25	0.60	1.25	0.60

Vp 75-25 - test 1	**0.379**	m3
Vp 75-25 - test 2	**0.600**	m3
Vp 75-25 - test 3	**0.600**	m3

Determination of t 25 and t 75:

	Test 1	Test 2	Test 3
25% depth			
75% depth			

Enter (minutes)	t 25	t 75	Tp75-25	
Test 1			**0.0**	mins
Test 2			**0.0**	mins
Test 3			**0.0**	mins

Calculated Soil Infiltration Factor (f)

Test 1	No Result	m/s	mm/hr =	N/A
Test 2		m/s	mm/hr =	0.0
Test 3		m/s	mm/hr =	0.0
LOWEST f =	**No Result**	m/s		

Appendix E – Guide to CLAIRE Statistical Analysis for Planning

6.0 Procedures for the application of statistical tests

6.1 INTRODUCTION

This part of the guidance sets out procedures for comparing the concentration of a contaminant in soil, as determined by sampling and laboratory analysis, with a critical concentration (C_C).[22]

The procedures describe statistical tests to assess with a stated degree of confidence the difference between the true population mean (represented by the sample mean, $\bar{x}$) and C_C.

Two different assessment methods are presented:

- the one sample t-test (parametric test) which can be used where it can be shown that data are normally distributed; and
- a method based on the one-sided Chebychev Theorem (non-parametric) which can be used where data are not normally distributed.

Further details on the two tests are given in Section 6.3.

Application of the tests to soil contamination data is discussed in relation to regulation under planning legislation (the Planning Scenario) and regulation under Part 2A of the EPA 1990 (the Part 2A Scenario).

6.2 DEFINING THE NULL AND ALTERNATIVE HYPOTHESES

Section 3.3 of this note explains why it is important to frame the Null and Alternative Hypotheses in a way that is statistically robust and allows the assessor to draw the correct conclusions from the data. Since different key questions apply in each of the two regulatory scenarios considered in this note, this section begins with a discussion of the Null and Alternative Hypotheses that apply in each case.

6.2.1 Planning scenario

In this case, formulation of the Null and Alternative Hypotheses is taken from the perspective of a **regulator operating under planning guidance and reviewing the data analysis carried out by a developer**.

For this scenario, it is important to recognise that it is the developer's responsibility to address the potential or actual presence of contamination on land by carrying out an appropriate risk assessment and, if unacceptable risks exist, by implementing a suitable programme of remediation. It is also the developer's task to carry out the relevant data collection, data analysis and statistical testing.

When deciding the confidence level at which statistical tests are carried out, developers should bear in mind that the higher the confidence level, the less chance there is of wrongly concluding that contaminant concentrations are low relative to the critical concentration (i.e. less chance of wrongly concluding that the land is suitable for development when it may not be). This might be a particular consideration if there are plans for independent sampling of the land.

It is therefore recommended that unless there are very good reasons for selecting an alternative confidence level, statistical tests carried out under the planning scenario should be conducted at the 95% confidence level.

Under the planning scenario, the regulator is likely to be presented with reports containing data (including statistical analysis) on two main occasions: when the developer presents the risk assessment report for the land and, if remediation has been carried out, when a verification report is submitted setting out the condition of land following remediation.

22 Note that the selection of an appropriate critical concentration (C_c) is a matter for the assessor to decide on a site-specific basis and by reference to the relevant published literature. For the purposes of this guidance, C_c is assumed to be a measure of 'unacceptable' risk

In considering such reports, the regulator will wish to see evidence which demonstrates (with a high degree of confidence) that the land is 'suitable for use'; that is, that the concentration of contaminants is low relative to an appropriate critical concentration.

For the planning scenario, therefore, the regulator should check whether the developer has considered the following key question:

Is there sufficient evidence that the true mean concentration of the contaminant (μ) is less than the critical concentration (C_c)?

and, referring back to Section 3.3 of this note, whether the appropriate Null and Alternative Hypotheses have been adopted:

$$H_0 : \mu \geq C_c$$
$$H_1 : \mu < C_c$$

If statistical testing suggested that H_0 **should not be rejected**, then the developer should have concluded that the true mean concentration of the contaminant may be equal to, or greater than, C_C. In these circumstances, the developer should have considered:

- collecting further data about the condition of the land – since this may alter the outcome of the test, for example by providing a more accurate estimate of the population mean and standard deviation of the contaminant in soil; or
- undertaking remediation as a precaution or (if remediation has already been carried out) carrying out further or a different type of remediation.

The regulator should then expect to see a revised data analysis using additional information on the condition of the land.

If the outcome of statistical testing suggested that the Null Hypothesis should be rejected in favour of the Alternative Hypothesis, H_1, then the developer should have concluded that there is **good evidence that the true mean concentration of the contaminant is less than the critical concentration and no further action need be taken**.

Assuming that the test was conducted at a confidence level of 95%, the chance of this being the wrong decision would be less than 5%.

In other words, based on the available information **and assuming that sampling and testing have been carried out according to published good technical practice, that the data are representative of the land under scrutiny at an appropriate scale and that an appropriate critical concentration has been selected**, in this latter case the developer (and the regulator) should have a high level of confidence that the land is 'suitable for use'.

6.2.2 Part 2A scenario

In this case, formulation of the Null and Alternative Hypotheses is taken from the point of view of a **regulator working under the Part 2A legislation**.

Bearing in mind this guidance focuses primarily on soil contamination and its implications for human health, the regulator's responsibility in this case is to decide whether the land is in such a condition that it represents "a significant possibility of significant harm" to human health.

Ideally, the regulator should make this decision at the 95% confidence level on the basis that if the Null Hypothesis is rejected with a high degree of confidence, the regulator has an immediate and robust basis for determination. Under Part 2A, however, the decision can be made on the basis only of the 'balance of probabilities'.

In statistical terms, this means that the regulator should start by conducting the test at the 95% confidence level (significance level of 5%) but, if the Null Hypothesis cannot be rejected at this level, may also determine land at a lesser but still

defensible confidence level of 51% or more (significance level of 49% or less).
For the Part 2A scenario, the key task for the regulator is to show that the true mean concentration of the contaminant in soil **is greater than** the critical concentration. Therefore the key question is:

Is there sufficient evidence that the true mean concentration of the contaminant (μ) is greater than the critical concentration (C_C)?

Referring back to Section 3.3 of this guidance, the appropriate Null and Alternative Hypotheses for this proposition are:

$$H_0 : \mu \leq C_c$$
$$H_1 : \mu > C_c$$

At the 95% confidence level, if the outcome of the statistical test suggests that H_0 **should be rejected**, the regulator should conclude that there is good evidence that the true mean concentration of the contaminant is greater than C_C. In other words, and subject to meeting all the legal requirements for determination of land set out in the primary legislation and statutory guidance to Part 2A, having good quality data and an appropriate critical concentration, the regulator could conclude that the land meets the description of contaminated land. Further, in drawing this conclusion, the regulator could proceed to determination knowing that the chance of being wrong is less than 5%.

If the outcome of the test at the 95% level is that H_0 **should not be rejected**, the regulator should conclude that the true mean concentration of the contaminant may be less than, or equal to, C_C – in other words, he or she cannot conclude that the land would meet the legal definition of contaminated land.

The regulator may then explore the actual strength of evidence against the Null Hypothesis being true (see Step 13 of Box 10) with two possible outcomes:

- if the evidence suggests that the probability against the Null Hypothesis being true is small (less than 51%), the regulator **should not reject** the Null Hypothesis and should not proceed to determination because even on a balance of probabilities, it is unlikely that the land would meet the legal definition of contaminated land.
- if the evidence suggests that the probability against the Null Hypothesis being true is less than 95% but still greater than 51%, the regulator **can still reject** the Null Hypothesis and proceed to determination on a 'balance of probabilities' basis although clearly in this case, the determination will be based on a (statistically) lower degree of confidence than 95%.

In all cases, the significance tests should be applied only if the regulator is satisfied that all sampling and testing has been carried out according to good technical practice and that the data are representative of the land under scrutiny at an appropriate scale.

6.3 SELECTING AN APPROPRIATE STATISTICAL TEST

6.3.1 Test methods

As previously discussed, testing for the Null and Alternative Hypotheses described above requires a decision to be made about the distribution of the data since different statistical tests make different assumptions about the shape of the distribution.

The one sample t-test assumes that the data are identically and independently distributed[23] and come from an appropriate normally distributed population. The test is not sensitive to a moderate departure from normality but is sensitive to the presence of outliers. Note that this test is the same as the 'Mean Value Test' described in CLR7

23 In probability theory, a sequence or other collection of random variables is independently and identically distributed if each has the same probability distribution as the others and all are mutually independent

2002 **but only when applied in the context of the planning scenario and with a normally distributed dataset**.

The one-sided Chebychev Theorem (or Chebychev Inequality) is not based on any distributional assumption. Methods which use the Chebychev Theorem are not strictly true statistical tests and are based on the assumption that '*s*', the estimate of the true population standard deviation 'σ' is "close enough" to the true value. However, when the assumption of an approximate normal distribution is not valid, an assessment based on this theorem does give a reliable upper bound of the 95% Upper Confidence Limit (UCL) and lower bound of the 5% Lower Confidence Limit (LCL) respectively and is therefore preferred to the one sample t-test.

These tests have been selected for the following reasons:

- over the last twenty years, research into the subject has lead to the identification of about twenty different formulae for dealing with the problem of evaluating Upper and Lower Confidence Limits for the population mean under different working scenarios;
- most of these formulae are appropriate only for particular cases;
- some formulae, in spite of the conceptual complication, tend to reproduce the results of the one sample t-test (e.g. bootstrap and jackknife re-sampling);
- some others tend consistently to over-estimate the 95% UCL, especially with small datasets, and are highly sensitive to the presence of non-detects (e.g. H-Statistics).[21]

For the purposes of this guidance, therefore, it was considered appropriate to refine all the available formulae down to the two that are applicable to a wide variety of cases whilst avoiding conceptual complications as far as possible.

When considering which of the two tests to use, however, assessors should bear in mind that, in general, the one sample t-test is more powerful than the method based on the Chebychev Theorem. In the latter case, the method calculates a more cautious confidence interval than results from the one sample t-test because there is less certainty about the shape of the distribution. This means that, other things being equal, it is more difficult to reject the Null Hypothesis using the Chebychev Theorem than using the one sample t-test. It is hence more difficult for the assessor to show a clear outcome from statistical testing.

In other words, using the Chebychev method it is more difficult to show that contaminant concentrations are clearly lower than the critical concentration for a case being considered under planning, and to show that concentrations are clearly higher than the critical concentration where testing is carried out in the context of Part2A.

Given that the one sample t-test is also not sensitive to moderate departures from normality, it is recommended that assessors use the t-test **unless** there is good evidence that the dataset departs significantly from normality. Note that reviewing and adjusting datasets by re-zoning the site **(provided this is consistent with the conceptual model)** and/or collecting additional data may help in generating datasets that better satisfy the assumption of normality.

6.3.2 How the tests work

It is important to note that the assessment methods presented in this guidance perform different functions depending on the scenario being considered. Understanding these different functions and presenting the distinctions graphically helps to explain what the tests are designed to do.

For example, in the planning scenario, where data are normally distributed the statistical test in effect makes a comparison between a value larger than the sample mean (in this case the UCL) and the critical concentration in order to draw conclusions about the condition of the land under scrutiny. In the Part 2A scenario, the comparison is between the LCL and the critical concentration (see Figure 2). Confidence limits are calculated using the "t" statistic and take into account the spread (or standard deviation) of values in the dataset being considered.

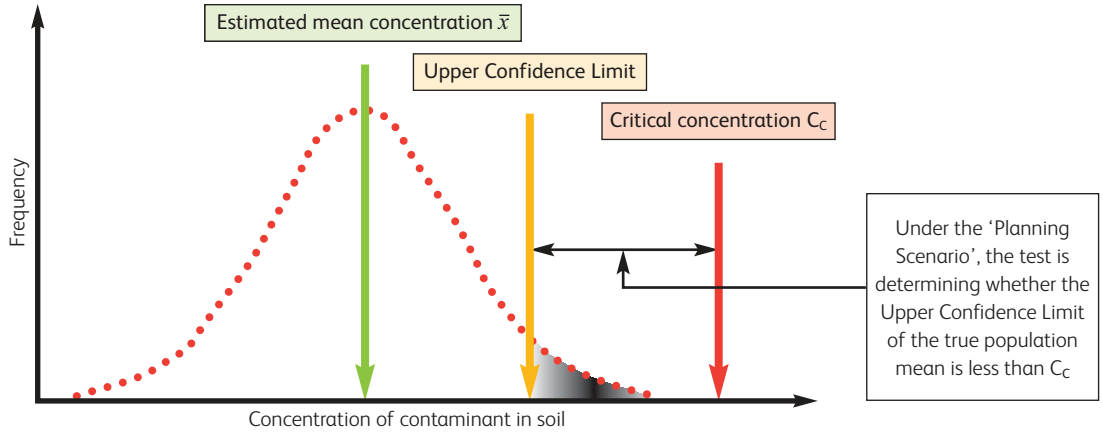
Note that in Figure 2, sample data are shown in the form of a normal distribution, where the 'x' axis represents contaminant concentration and the 'y' axis the frequency at which particular concentrations occur within the sample data.

Where the normality of the data cannot be demonstrated, conventional assumptions about the shape of the distribution do not apply. In this case, although the proposed assessment method operates according to the same principles as before, the confidence

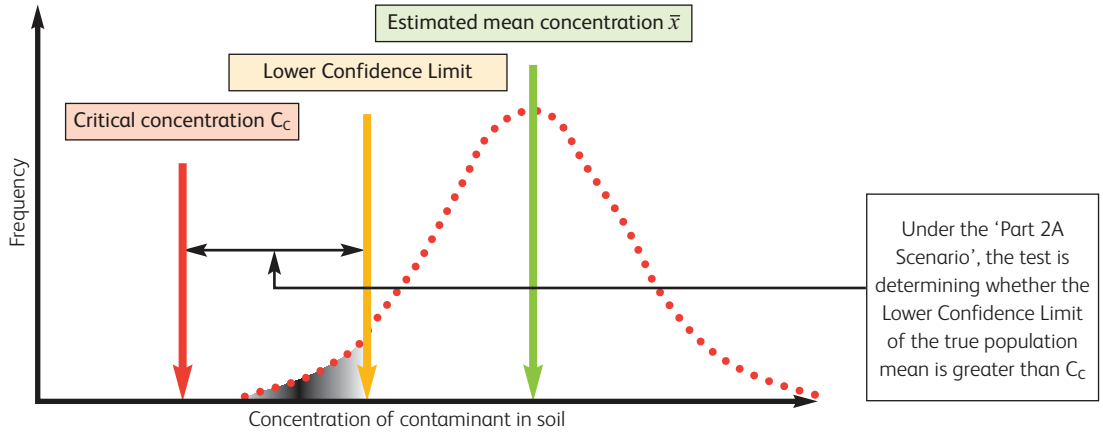
Figure 2 Application of significance tests where data are normally distributed

Where data are normally distributed*

Planning Scenario



Part 2A Scenario



*The bell shaped curves in this figure correspond to the probability density functions of the estimated mean

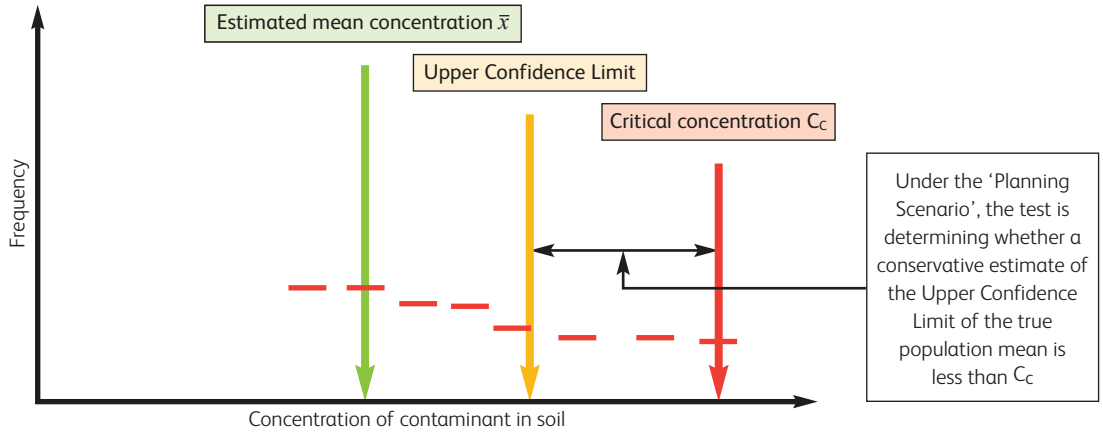
limits are estimated using a different set of tables and critical values derived from the Chebychev Theorem (see Figure 3). In order to distinguish this test from the one sample t-test, the letter "k" is used rather than the letter "t" (see Box 9 and 10).

In Figure 3, the x and y axes respectively represent contaminant concentrations and frequency of occurrence as before, however, in this figure the dashed line is intended to show that there is some uncertainty about the exact shape of the distribution.

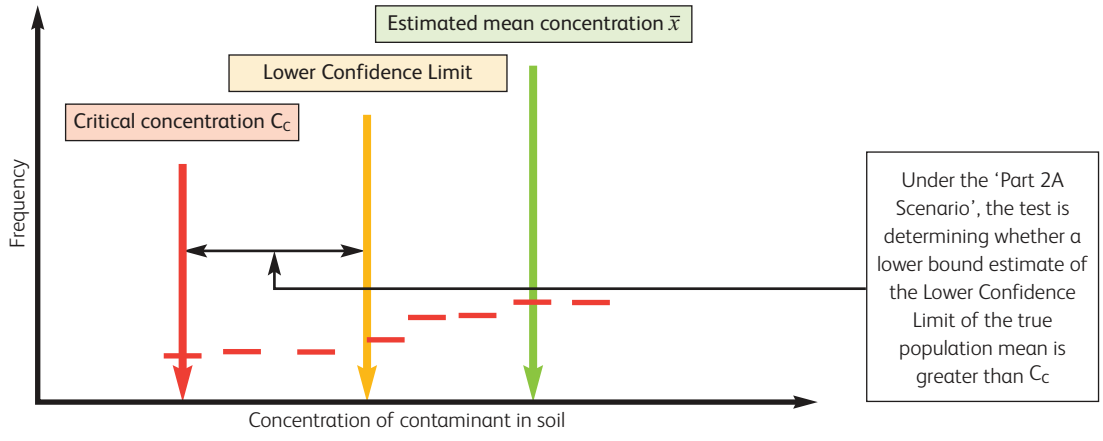
Figure 3 Application of significance tests where data are not normally distributed

Where data are not normally distributed

Planning Scenario



Part 2A Scenario



One other, and potentially very useful, feature of the statistical tests described here is that particular inferences can be drawn from the relationship between the sample mean and critical concentration which allow quick and easy screening of datasets and associated contaminants.

For example, in the planning scenario, if the sample mean is higher than the critical concentration it is clear without further calculation that the UCL of the true population mean will be higher than the critical concentration. In these circumstances it is not possible to reject the Null Hypothesis (see Step 4 in Box 9). This means the assessor can immediately identify which datasets (and associated contaminants) are unlikely to meet the planning test so that appropriate decisions and actions in relation to these data/contaminants can be taken at an early stage. This may involve further data collection and assessment, or remediation.

Similarly, for the Part 2A scenario, if the sample mean is less than the critical concentration, the LCL must also be lower than the critical concentration and the Null Hypothesis cannot be rejected (see Step 4 in Box 10). This means that the assessor can put to one side datasets (and associated contaminants) where Part 2A is unlikely to apply, and concentrate on those more likely to fall within the remit of the regime.

6.4 APPLYING (AN) APPROPRIATE STATISTICAL TEST(S)

This part of the guidance sets out step-by-step procedures for applying significance tests to datasets under the planning and Part 2A scenarios.

The procedures include steps for checking data quality, identifying and dealing with non-detects and outliers, testing for the normality of the data and applying the relevant test as discussed in Section 5.0.

Reference is also made to the following Appendices:

Appendix A – Statistical tables
Appendix B – Directions on the use of one type of outlier test
Appendix C – Directions for checking the normality of data

When using these procedures, readers may find it useful to refer to the list of statistical notation given at the end of this note. When applying the tests, it is also important to note the following:

- superficially, the tests for the different scenarios may appear very similar, however there are many subtle differences between the two and it is important to choose the correct test for the particular application and to progress carefully and systematically through each procedure. Key steps and calculations are highlighted for ease of reference.
- "Less than" and "more than" signs and positive and negative outcomes to calculations should be respected and taken at face value as they are important to both the design and interpretation of the tests; similarly, users should observe the relevant statistical conventions and terminology when reporting the results of testing. For example, the outcome should always be described in terms of the evidence for accepting or rejecting the Null Hypothesis rather than accepting/rejecting the Alternative Hypothesis.
- it is possible to develop simple spreadsheet tools to support statistical testing and these will really be essential where large amounts of data and several contaminants require evaluation. As is usually the case, the quality of such spreadsheet tools should be checked to ensure the correct results will be obtained. In addition to illustrating how to apply the tests, the worked examples given in Appendix D of this note may be helpful for quality control purposes.

6.4.1 Planning scenario

Box 9 sets out the procedure for applying a statistical test to a dataset assuming the planning scenario.

Box 9 – Applying a statistical test to a dataset under the Planning scenario

Step 0	Review the dataset and confirm that it satisfies the data quality criteria discussed in Section 4.0 and 5.0 of this guidance.
Step 1	Confirm the key question and associated Null Hypothesis (H_0) and Alternative Hypothesis (H_1) for the Planning scenario: Key question: **Is there sufficient evidence that the true mean concentration of the contaminant (μ) is less than the critical concentration (C_C)?** H_0: $\mu \geq C_C$ i.e., the true mean concentration is equal to, or greater than, the critical concentration H_1: $\mu < C_C$ i.e., the true mean concentration is less than the critical concentration
Step 2	Verify assumptions and robustness with regard to non-detects, outliers and normality as follows: i If the dataset contains: • non-detects – proceed with the simple substitution method and/or review zoning decisions as discussed in Section 5.3.1 noting that the choice of substitute value may have a large effect on the outcome of the test where a moderate to large (>10 – 15 %) proportion of the data are substituted; • no non-detects – proceed to Step 2ii. ii Investigate statistical outliers and anomalous concentrations as discussed in Section 5.3.2. iii Check the normality of the data distribution following the procedures in Appendix C.
Step 3	Calculate $\bar{x}$ (sample mean) and s (sample standard deviation) – see "Key statistical symbols and terms" for the relevant formulae.
Step 4	If $\bar{x} > C_C$, conclude that H_0 cannot be rejected. Go to Step 14. If $\bar{x} < C_C$, go to Step 5.
Step 5	If the dataset distribution does NOT deviate significantly from normality, follow directions for the one-sample t-test (Step 6). If the dataset distribution deviates significantly from normality, follow directions for the one-sided Chebychev Theorem (Step 10).

Note the direction of the sign & the short cut to Step 14 if $\bar{x}$ is more than C_C. Since the sample mean is already greater than C_C, we know without further calculations that the UCL will be greater than C_C (see also Figure 2 and 3 for a graphical representation).

Box 9 – Applying a statistical test to a dataset under the Planning scenario *continued*

Step 6	**Apply the one sample t-test[24]:** Calculate the one-sample t statistic, $t_0 = \frac{\bar{x} - C_C}{\frac{s}{\sqrt{n}}}$
Step 7	Use Table A.1 in Appendix A to find $t_{(n-1,\,0.95)}$ where n = number of samples in the dataset and $n-1$ = degrees of freedom.
Step 8	If $t_0 < -t_{(n-1,\,0.95)}$, reject H_0.
Step 9	Estimate p_1 (the level of evidence against H_0)[25] as follows: i In Table A.1 find t_p, the value of t that is closest to $-t_0$ corresponding to $n-1$ degrees of freedom. ii Find p_1, the value of $1 - \alpha$ that corresponds to t_p. iii Note that H_0 must not be rejected unless $p_1 \geq 0.95$. Go to Step 14.
Step 10	**Apply the one-sided Chebychev Theorem[26]:** Calculate the quantity $k_0 = \frac{\bar{x} - C_C}{\frac{s}{\sqrt{n}}}$
Step 11	Use Table A.2 in Appendix A to find $k_{0.05}$, the value of k corresponding to $\alpha = 0.05$.
Step 12	Let $k_{crit} = -k_{0.05}$. If $k_0 < k_{crit}$, reject H_0.

Note "less than" sign & negative value for $t_{(n-1,\,0.95)}$ so from Table A.1, if

$t_{(n-1,\,0.95)}$ = 1.833

$-t_{(n-1,\,0.95)}$ = -1.833

Note the negative sign: so from Table A.2, if

$k_{0.05}$ = 4.36

$-k_{0.05} = k_{crit}$ = -4.36

Note negative sign for t_0 so from Table A.1, if

t_0 = 1.833

$-t_0$ = -1.833

24 Here the assessor can also calculate the 95% UCL of the sample mean as:

$$UCL_{0.95} = \bar{x} + \left(t_{(n-1,\,0.95)} \times \frac{s}{\sqrt{n}} \right)$$

25 Where $p_1 = 1 - p$, and p is the so-called *p-value*

26 The assessor here can also calculate the 95% UCL of the sample mean as:

$$UCL_{0.95} = \bar{x} + \left(k_{(0.05)} \times \frac{s}{\sqrt{n}} \right)$$

Box 9 – Applying a statistical test to a dataset under the Planning scenario *continued*

Step 13	Estimate p_1 (the level of evidence against H_0)[25] using Table A.2 as follows:		
		i	In Table A.2 find k_1, the value of k closest to - k_0.
		ii	Read the value of α_1, the value of α that corresponds to k_1.
		iii	Calculate:
			$p_1 = 1 - \alpha_1$
			p_1 represents a conservative (under-) estimate of the evidence against H_0.
		iv	Note that H_0 must not be rejected unless $p_1 > 0.95$. Go to Step 14.
Step 14	If H_0 is NOT rejected (that is, the evidence suggests that μ is equal to, or greater than, C_C) the developer may have options on how to proceed (see Section 6) including collecting further data and re-running the significance test at the same confidence level, or undertaking remediation on a precautionary basis.		
Step 15	Document the process followed and the outcome of the test – see Section 7.		

Note the negative sign so:

If k_0 = - 2.14

$-k_0$ = 2.14

From Table A.2, k_1 = 2.13

α = 0.18 (18%) &

p_1 = 82%

6.4.2 Part 2A scenario

Box 10 sets out the procedure for applying a statistical test to a dataset assuming the Part 2A scenario.

Box 10 – Applying a statistical test to a dataset under the Part 2A scenario

Step 0	Review the dataset and confirm that it satisfies the data quality criteria discussed in Section 4.0 and Section 5.0 of this guidance.
Step 1	Confirm the key question and associated Null Hypothesis (H_0) and Alternative Hypothesis (H_1) for the Part 2A scenario: Key question: **Is there sufficient evidence that the true mean concentration of the contaminant (μ) is greater than the critical concentration (C_C)?** H_0 $\mu \leq C_C$ i.e., the true mean concentration is equal to, or less than, the critical concentration H_1 $\mu > C_C$ i.e., the true mean concentration is greater than the critical concentration
Step 2	Verify assumptions and robustness with regard to non-detects, outliers and normality as follows: i If the dataset contains: • non-detects – proceed with the simple substitution method and/or review zoning decisions as discussed in Section 5.3.1 noting that the choice of substitute value may have a large effect on the outcome of the test where a moderate to large (>10 - 15 %) proportion of the data are substituted; • no non-detects – proceed to Step 2ii. ii Investigate statistical outliers and anomalous concentrations as discussed in Section 5.3.2. iii Check the normality of the data distribution following the procedures in Appendix C.
Step 3	Calculate $\bar{x}$ (sample mean) and s (sample standard deviation) – see "Key statistical symbols and terms" for the relevant formulae.
Step 4	If $\bar{x} < C_C$, conclude that H_0 cannot be rejected. Go to Step 15. If $\bar{x} > C_C$, go to Step 5.

Note the direction of the sign & the short cut to Step 15 if $\bar{x}$ is less than C_C. Since the sample mean is less than C_C, we know already without further calculations that the LCL will be less than C_C (see also Figure 2 and 3 for a graphical representation).

Box 10 – Applying a statistical test to a dataset under the Part 2A scenario *continued*

Step 5	If the dataset distribution does NOT deviate significantly from normality, follow directions for the one-sample t-test (Step 6). If the dataset distribution deviates significantly from normality, follow directions for the one-sided Chebychev Theorem (Step 10).
Step 6	**Apply the one sample t-test[27]:** Calculate the one-sample t statistic, $t_0 = \frac{\bar{x} - C_C}{\frac{s}{\sqrt{n}}}$
Step 7	Use Table A.1 in Appendix A to find $t_{(n-1,\,0.95)}$ where n = number of samples in the dataset and $n-1$ = degrees of freedom.
Step 8	If $t_0 > t_{(n-1,\,0.95)}$, reject H_0.
Step 9	Estimate p_1 (the level of evidence against H_0)[25] as follows: i In Table A.1 find t_p, the value of t that is closest to t_0 corresponding to $n-1$ degrees of freedom. ii Find p_1, the value of $1 - \alpha$ that corresponds to t_p. iii Note that H_0 must not be rejected unless $p_1 \geq 0.95$. Go to Step 14.
Step 10	**Apply the one-sided Chebychev Theorem[28]:** Calculate the quantity $k_0 = \frac{\bar{x} - C_C}{\frac{s}{\sqrt{n}}}$
Step 11	Use Table A.2 in Appendix A to find $k_{0.05}$, the value of k corresponding to $\alpha = 0.05$.
Step 12	Let $k_{crit} = k_{0.05}$. If $k_0 > k_{crit}$, reject H_0.

Note there is no negative sign here. In the case of n-1=15 degrees of freedom and t_0 = 2.129, from Table A.1, the value for t_p is t_p = 2.131

27 The assessor here can also calculate the LCL as:

$$LCL_{0.95} = \bar{x} - \left(t_{(n-1,\,0.95)} \times \frac{s}{\sqrt{n}} \right)$$

28 The assessor here can also calculate the LCL as:

$$LCL_{0.95} = \bar{x} - \left(k_{(0.05)} \times \frac{s}{\sqrt{n}} \right)$$

Box 10 – Applying a statistical test to a dataset under the Part 2A scenario *continued*

Step 13	Estimate p_1 and P_1 (the lower and upper bounds of the evidence against H_0) as follows:	
	i	To calculate p_1 (lower bound of evidence against H_0) use Table A.2 to find k_1, the value of k closest to k_0.
	ii	Read the value of α_1, the value of α that corresponds to k_1.
	iii	Calculate: $p_1 = 1 - \alpha_1$
		p_1 represents the lower bound of the evidence against H_0.
	iv	To calculate P_1 (the upper bound of evidence against H_0) enter Table A.1 at $n - 1$ degrees of freedom.
	v	In this row, find t_p, the value of t closest to t_0.
	vi	Find P_1, the value of $1 - \alpha$ corresponding to t_p.
	vii	P_1 represents the upper bound of the evidence against H_0.
	viii	The level of evidence against H_0, therefore, is a probability value within the range $[p_1 : P_1]$.
Step 14	If H_0 is NOT rejected at a 95 % level of confidence, the regulator should reapply the test on a 'balance of probabilities' basis (see Section 6.2). To do this:	
	i	If the one-sample t-test was adopted (Step 6), estimate the evidence against H_0 as in Step 9 using Table A.1. Provided $p_1 > 0.51$, H_0 can be rejected.
	ii	If the Chebychev Theorem was adopted, estimate the evidence against H_0 as in Step 13 using Tables A.1 and A.2 and make a judgment about whether H_0 can be rejected, bearing in mind that the balance of probabilities implies a probability of more than 0.50.
Step 15	If the outcome of the test suggests that H_0 should not be rejected, the regulator may decide to collect additional representative samples of the land being assessed and re-run the significance test. *[Note, however, that the aim of Part 2A is to ensure that resources are directed at the most pressing problems first. If a reasonable amount of sampling has failed to indicate that land could be contaminated land (even on a 'balance of probabilities basis'), regulators may consider that assessing other priority land in their areas represents a better use of resources and is more in keeping with Part 2A requirements than carrying out exhaustive sampling of a particular area of land].*	
Step 16	Document the process followed and the outcome of the test – see Section 7.	

Note there is no negative sign here.
In the case of $k_0 = 2.40$, the value for k_1 from Table A.2, should be
$k_1 = 2.38$, corresponding to $\alpha_1 = 0.15$

Appendix F – Statistical Analysis (95th UCL/MVT)

Client/client ref:
Project ref: YB00437
Site ref: Shelton Mental Health Hospital - Full Phase 2b
Data description:
Contaminant(s): Metals
Test scenario: Planning
Date: 21 October 2009
User details: Jennifer Cox

	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)
Critical concentration, C_c	**20**			**30**	**200**	**2080**	**450**	**15**		**75**	**260**
Notes											
Sample size, n	29	29	29	29	29	29	29	29	29	29	29
Sample mean, $\bar{X}$	8.3137931	93.5517241	0.70689655	0.51068966	5.20172414	22.6	66.637931	0.09965517	0.80344828	27.1724138	0.33793103
Standard deviation, s	1.93975774	37.5723932	0.47278131	0.84112141	9.1593676	9.36944121	90.6576622	0.11586577	0.42760359	6.33397283	0.20073756
Number of non-detects	0	0	**23**	**10**	**13**	0	0	**23**	**4**	0	**24**
Set non-detect values to:	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit
Outliers?	No	Yes	Yes	Yes	No	No	No	Yes	Yes	No	Yes
Distribution	Normal	Normal	Non-normal	Non-normal	Non-normal	Normal	Non-normal	Non-normal	Non-normal	Normal	Non-normal
Statistical approach	Auto: One-sample t-	Auto: One-sample t-	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: One-sample t-	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: One-sample t-	Auto: Chebychev

Test scenario:	Planning: is true mean lower than critical concentration (μ < Cc)?			**Evidence level required:**			**95%**	Use Normal distribution to test for outliers			
t statistic, t_0 (or k_0)	-32.443304			-188.8012775	-114.5298306	-1182.507881	-22.77212837	-692.5325056		-40.66317317	-6965.926364
Upper confidence limit (on true mean concentration, μ)	8.92654721	105.420546	1.08957861	1.19151621	12.6155655	25.5597323	140.01871	0.19344008	1.14956226	29.1732656	0.50041348
Evidence level	**100%**			**100%**	**100%**	**100%**	**100%**	**100%**		**100%**	**100%**
Base decision on:	evidence level	lower bound	lower bound	evidence level	evidence level	evidence level	evidence level	evidence level	lower bound	evidence level	evidence level
Result	**μ < Cc**			**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**		**μ < Cc**	**μ < Cc**

Client/client ref:
Project ref: YB00437
Site ref: Shelton Mental Health Hospital - Full Phase 2b
Data description:
Contaminant(s): Metals
Test scenario: Planning
Date: 21 October 2009
User details: Jennifer Cox

	Vanadium (mg/kg)	Zinc (mg/kg)
Critical concentration, C_c		8250
Notes		
Sample size, n	29	29
Sample mean, $\bar{X}$	23.5724138	141.106897
Standard deviation, s	4.35610381	157.754961
Number of non-detects	0	0
Set non-detect values to:	Half detection limit	Half detection limit
Outliers?	No	Yes
Distribution	Normal	Non-normal
Statistical approach	Auto: One-sample t-	Auto: Chebychev
Test scenario:		
t statistic, t_0 (or k_0)		-276.8073055
Upper confidence limit (on true mean concentration, μ)	24.9484725	268.798055
Evidence level		100%
Base decision on:	lower bound	evidence level
Result		μ < Cc

Client/client ref:
Project ref: YB00437
Site ref: Shelton Mental Health Hospital - Full Phase 2b
Data description:
Contaminant(s): Total Petroleum Hydrocarbons (TPH)
Test scenario: Planning
Date: 21 October 2009

	>C8 - C10 (mg/kg)	>C10 - C12 (mg/kg)	>C12 - C16 (mg/kg)	>C16 - C21 (mg/kg)	>C21 - C35 (mg/kg)		
Critical concentration, C_c			**42**	**600**	**600**		
Notes							
Sample size, n	27	27	27	27	27	0	0
Sample mean, $\overline{X}$	1	1.04592593	2.28555556	12.5096296	108.815926	No Data	No Data
Standard deviation, s	0	0.23863811	4.1209636	37.9533383	379.761134		
Number of non-detects	**27**	**26**	**22**	**20**	**10**		
Set non-detect values to:	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit
Outliers?	No	Yes	Yes	Yes	Yes		
Distribution	Single value	Non-normal	Non-normal	Non-normal	Non-normal		
Statistical approach	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto	Auto

Test scenario:	Planning: is true mean lower than critical concentration (μ < Cc)?				**Evidence level required:**		**95%**
t statistic, t_0 (or k_0)	N/A		-50.07622647	-80.43270099	-6.720717554		
Upper confidence limit (on true mean concentration, μ)	1	1.2461124	5.74251032	44.3475652	427.386335		
Evidence level			**100%**	**100%**	**98%**		
Base decision on:	lower bound	lower bound	evidence level	evidence level	evidence level		
Result			**μ < Cc**	**μ < Cc**	**μ < Cc**		

Client/client ref: YB00437
Project ref: Shelton Mental Health Hospital - Main Phase 2b
Site ref:
Data description:
Contaminant(s): PAH
Test scenario: Planning
Date: 22 October 2009
User details: Jennifer Cox

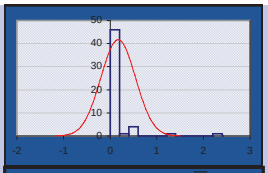
	Benzo(a)pyrene (mg/kg)	Dibenzo(a,h)anthracene (mg/kg)	Fluorene (mg/kg)	Napthalene (mg/kg)	Acenapthylene (mg/kg)	Acenapthene (mg/kg)	Phenanthrene (mg/kg)	Anthracene (mg/kg)	Fluoranthene (mg/kg)	Pyrene (mg/kg)
Critical concentration, C_c	**0.83**	**0.76**	**160**	**1.5**	**170**	**210**	**92**	**2300**	**260**	**560**
Notes										
Sample size, n	56	56	56	56	56	56	56	56	57	56
Sample mean, $\overline{X}$	0.70339286	0.1425	0.13125	0.1225	0.18982143	0.13196429	1.4725	0.57535714	2.0145614	1.32625
Standard deviation, s	2.84318725	0.34993636	0.33524516	0.32988841	0.78018993	0.33930635	8.57069622	2.98514867	8.32951016	6.11723186
Number of non-detects	**44**	**53**	**54**	**54**	**52**	**55**	**46**	**50**	**45**	**45**
Set non-detect values to:	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit
Outliers?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Distribution	Non-normal	Non-normal	Non-normal	Non-normal	Non-normal	Non-normal	Non-normal	Non-normal	Non-normal	Non-normal
Statistical approach	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev

Test scenario:	Planning: is true mean lower than critical concentration (μ < Cc)?				**Evidence level required:**		**95%**	Use Normal distribution to test for outliers		
t statistic, t_0 (or k_0)	-0.333232045	-13.2051065	-3568.57702	-31.24773639	-1628.761106	-4628.585864	-79.04209425	-5764.308679	-233.8369616	-683.4351909
Upper confidence limit (on true mean concentration, μ)	2.35949931	0.34633176	0.3265244	0.31465418	0.64426831	0.32960425	6.46477947	2.31415362	6.82360634	4.88942973
Evidence level	**10%**	**99%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Base decision on:	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level
Result	**μ ≥ Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**

Client/client ref: YB00437
Project ref: Shelton Mental Health Hospital - Main Phase 2b
Site ref:
Data description:
Contaminant(s): PAH
Test scenario: Planning
Date: 22 October 2009
User details: Jennifer Cox

	Benzo[a]anthracene (mg/kg)	Chrysene (mg/kg)	Benzo[b]fluoranthene (mg/kg)	Benzo[k]fluoranthene (mg/kg)	Indeno[1,2,3-cd]pyrene (mg/kg)	Benzo[g,h,i]perylene (mg/kg)
Critical concentration, C_c	**3.1**	**6**	**5.6**	**8.5**	**3.2**	**44**
Notes						
Sample size, n	56	56	56	56	56	56
Sample mean, $\overline{X}$	0.97571429	0.88160714	0.86946429	0.32535714	0.40214286	0.38267857
Standard deviation, s	4.70691826	4.20854187	3.65572996	1.17941274	1.39838571	1.313414
Number of non-detects	**45**	**45**	**44**	**46**	**45**	**45**
Set non-detect values to:	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit
Outliers?	Yes	Yes	Yes	Yes	Yes	Yes
Distribution	Non-normal	Non-normal	Non-normal	Non-normal	Non-normal	Non-normal
Statistical approach	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev	Auto: Chebychev
Test scenario:						
t statistic, t_0 (or k_0)	-3.377305022	-9.10114384	-9.683452608	-51.86769948	-14.97243967	-248.5142889
Upper confidence limit (on true mean concentration, μ)	3.7174112	3.33300859	2.99886254	1.01234427	1.21667788	1.14771907
Evidence level	**92%**	**99%**	**99%**	**100%**	**100%**	**100%**
Base decision on:	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level
Result	**μ ≈≥ Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**	**μ < Cc**

Sample ID	Include?	Benzo[a]anthracene		Outliers
WS7 0.1	Y	2.39	Outlier	
WS8 0.6	Y	0.04		
WS9 1.5	Y	0.04		
WS10 0.4	Y	0.09		
WS11 1.6	Y	0.04		
WS12 0.7	Y	0.04		
WS13 2.0	Y	0.04		
WS14 0.9	Y	0.04		
WS15 1.5	Y	0.04		
WS20 1.0	Y	0.04		
WS21 0.0-1.0	Y	0.04		
WS22 1.5	Y	0.04		
WS43 0.0-1.0	Y	0.04		
WS44 1.5	Y	0.04		
WS45 0.8	Y	0.04		
WS47 1.7	Y	0.04		
WS48 0.0-1.0	Y	0.04		
WS49 1.75	Y	0.04		
WS50 0.4-0.6	Y	0.04		
WS51 0.2-0.4	Y	0.04		
WS21 0.2	Y	0.47		
WS22 0.5	Y	0.04		
WS23 1.0	Y	0.24		
WS24 1.6	Y	0.04		
WS25 1.3	Y			
WS26 0.3	Y			
WS26 1.1	Y	1.34		
WS21 1.6	Y	0.04		
WS23 0.6	Y			
WS24 0.9	Y	0.04		
WS25 0.4	N			7.23
WS21 0.2	Y	0.5		
WS22 0.5	Y			
WS23 1.0	Y	0.1		
WS24 1.6	Y	0.1		
WS25 1.3	N			3.7
WS26 0.3	Y	0.4		
WS26 1.1	Y			
WS21 1.6	Y	0.1		
WS23 0.6	Y	0.5		
WS24 0.9	Y	0.1		
WS25 0.4	Y			
WS27 0.1	N			34.6
WS28 0.6	Y	0.1		
WS29 1.5	Y	0.1		
WS30 0.4	Y	0.1		
WS31 1.6	Y	0.1		
WS32 0.7	Y	0.1		
WS33 2.0	Y	0.1		
WS34 0.9	Y	0.1		
WS35 1.5	Y	0.1		
WS40 1.0	Y	0.1		
WS41 0.0-1.0	Y	0.1		
WS42 1.5	Y	0.1		
WS43 0.0-1.0	Y	0.1		
WS44 1.5	Y	0.1		
WS45 0.8	Y	0.1		
WS47 1.7	Y	0.1		
WS48 0.0-1.0	Y	0.1		
WS49 1.75	Y	0.1		
WS50 0.4-0.6	Y	0.1		
WS51 0.2-0.4	Y	0.1		
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			



Sample mean, $\bar{X}$
0.172

Standard deviation, s
0.371

Sample size, n
53

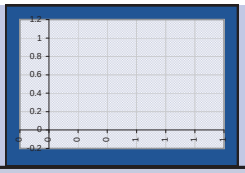
Maxiumum
2.390

Test Applicability
Applicable

Level of Significance, α
5%

Tn = 5.980
Tcrit = 2.980

Outliers?
YES
(3 selected)



Dataset: Benzo[a]anthracene (mg/kg)

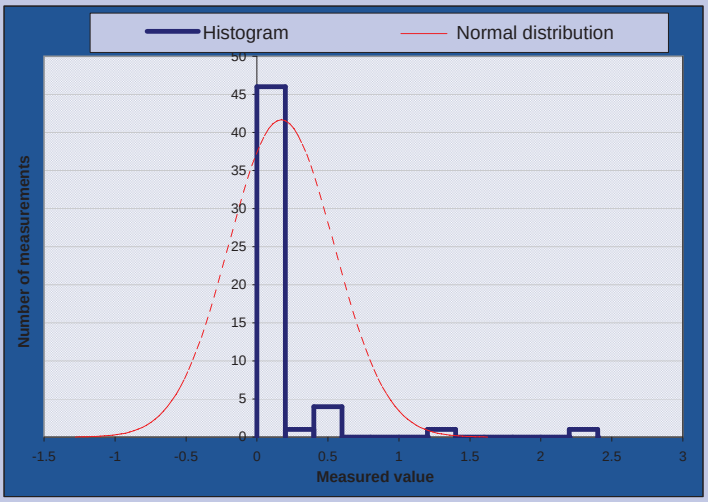
Use Normal distribution to test for outliers

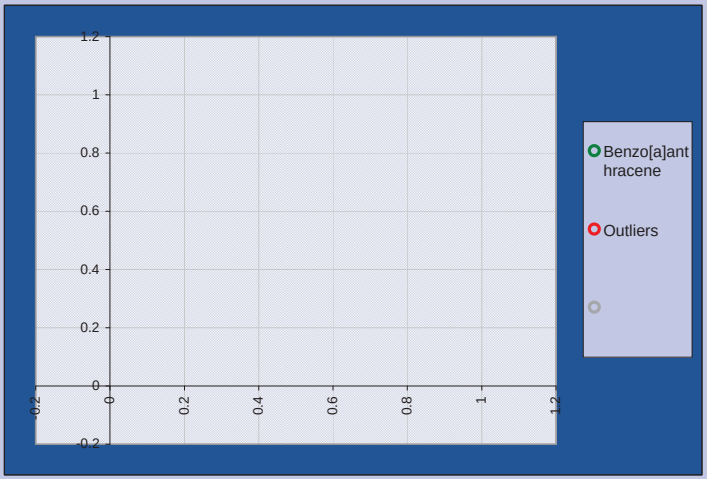
Exclude identified outliers

Show individual summary

Back to summary

Back to data

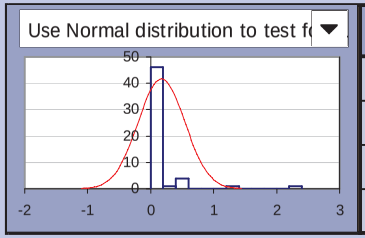




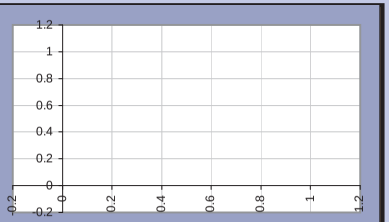
Test Results

Client/client ref: YB00437 Site ref:
Project ref: Shelton Mental Heal Data description:
Date: 22-Oct-2009
User details: Jennifer Cox

Dataset:	Benzo[a]anthracene (mg/kg)
Sample mean, $\overline{X}$ (mg/kg)	0.9757
Sample standard deviation, s	4.7069
Sample size, n	56
Critical concentration, Cc (mg/kg)	3.1



Outliers & non-detects	
Outliers present?	YES
Significance level	5%
Outliers removed?	3
Non-detects	45

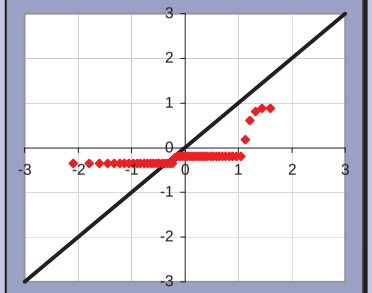


Normality test

Significance level: 5%

Non-normal distribution

Use: Auto: Chebychev

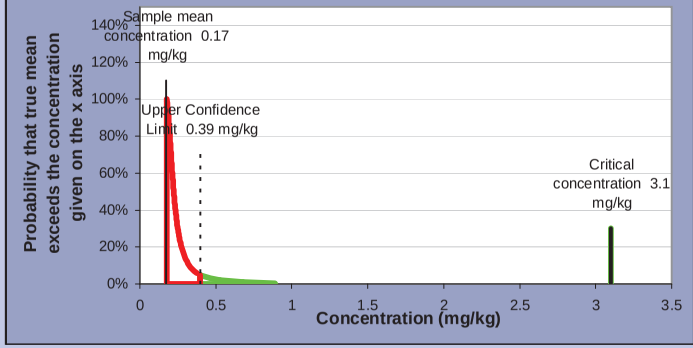


Test scenario:

Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis: The true mean concentration is equal to or greater than the critical concentration: μ ≥ Cc

Alternative hypothesis: The true mean concentration is less than the critical concentration: μ < Cc

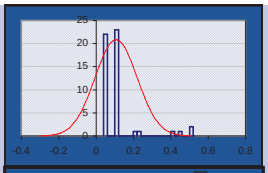


Evidence against Null hypothesis:	100%
Base decision on:	evidence level
Evidence level required:	95%
Balance of probability?	N/A
Reject Null Hypothesis?	Yes

μ < Cc (re this dataset)

Back to data | Back to summary | Go to outlier test | Go to normality test

Sample ID	Include?	Benzo(a)pyrene		Outliers
WS7 0.1	☐ Y			1.41
WS8 0.6	☑ Y	0.04		
WS9 1.5	☑ Y	0.04		
WS10 0.4	☑ Y	0.1		
WS11 1.6	☑ Y	0.04		
WS12 0.7	☑ Y	0.04		
WS13 2.0	☑ Y	0.04		
WS14 0.9	☑ Y	0.04		
WS15 1.5	☑ Y	0.04		
WS20 1.0	☑ Y	0.04		
WS21 0.0-1.0	☑ Y	0.04		
WS22 1.5	☑ Y	0.04		
WS43 0.0-1.0	☑ Y	0.04		
WS44 1.5	☑ Y	0.04		
WS45 0.8	☑ Y	0.04		
WS47 1.7	☑ Y	0.04		
WS48 0.0-1.0	☑ Y	0.04		
WS49 1.75	☑ Y	0.04		
WS50 0.4-0.6	☑ Y	0.04		
WS51 0.2-0.4	☑ Y	0.04		
WS21 0.2	☑ Y	0.45		
WS22 0.5	☑ Y	0.04		
WS23 1.0	☑ Y	0.23		
WS24 1.6	☑ Y	0.04		
WS25 1.3	☑ Y			
WS26 0.3	☑ Y			
WS26 1.1	☐ Y			1.31
WS21 1.6	☑ Y	0.04		
WS23 0.6	☑ Y			
WS24 0.9	☑ Y	0.04		
WS25 0.4	☐ Y			8.31
WS21 0.2	☑ Y	0.5	Outlier	
WS22 0.5	☑ Y			
WS23 1.0	☑ Y	0.2		
WS24 1.6	☑ Y	0.1		
WS25 1.3	☐ Y			3.2
WS26 0.3	☑ Y	0.4		
WS26 1.1	☑ Y			
WS21 1.6	☑ Y	0.1		
WS23 0.6	☑ Y	0.5	Outlier	
WS24 0.9	☑ Y	0.1		
WS25 0.4	☑ Y			
WS27 0.1	☐ Y			19.7
WS28 0.6	☑ Y	0.1		
WS29 1.5	☑ Y	0.1		
WS30 0.4	☑ Y	0.1		
WS31 1.6	☑ Y	0.1		
WS32 0.7	☑ Y	0.1		
WS33 2.0	☑ Y	0.1		
WS34 0.9	☑ Y	0.1		
WS35 1.5	☑ Y	0.1		
WS40 1.0	☑ Y	0.1		
WS41 0.0-1.0	☑ Y	0.1		
WS42 1.5	☑ Y	0.1		
WS43 0.0-1.0	☑ Y	0.1		
WS44 1.5	☑ Y	0.1		
WS45 0.8	☑ Y	0.1		
WS47 1.7	☑ Y	0.1		
WS48 0.0-1.0	☑ Y	0.1		
WS49 1.75	☑ Y	0.1		
WS50 0.4-0.6	☑ Y	0.1		
WS51 0.2-0.4	☑ Y	0.1		
	☑ Y			
	☑ Y			
	☑ Y			
	☑ Y			
	☑ Y			
	☑ Y			
	☑ Y			



Sample mean, $\bar{X}$
0.107

Standard deviation, s
0.113

Sample size, n
51

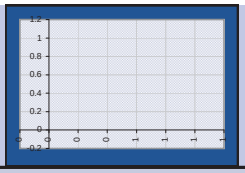
Maxiumum
0.500

Test Applicability
Applicable

Level of Significance, α
5%

Tn = 3.484
Tcrit = 2.965

Outliers?
YES
(5 selected)



Dataset: Benzo(a)pyrene (mg/kg)

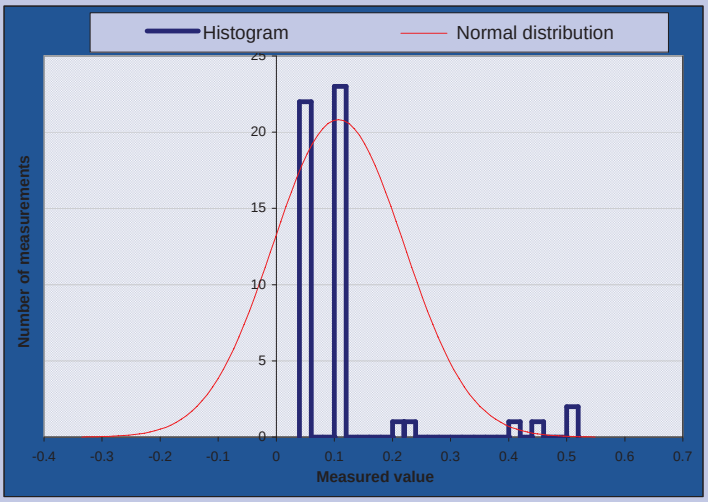
Use Normal distribution to test for outliers

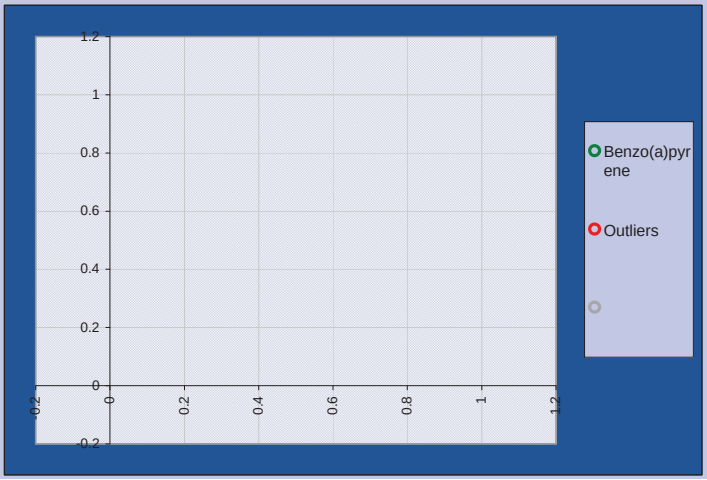
Exclude identified outliers

Show individual summary

Back to summary

Back to data

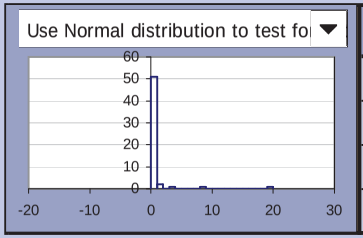




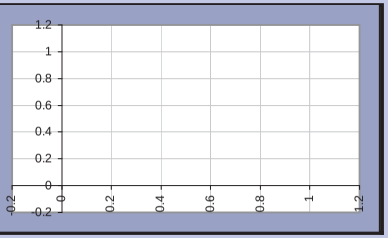
Test Results

Client/client ref: YB00437 Site ref:
Project ref: Shelton Mental Healt Data description:
Date: 22-Oct-2009
User details: Jennifer Cox

Dataset:	Benzo(a)pyrene (mg/kg)
Sample mean, $\overline{X}$(mg/kg)	0.7034
Sample standard deviation, s	2.8432
Sample size, n	56
Critical concentration, Cc (mg/kg)	0.83



Outliers & non-detects	
Outliers present?	YES
Significance level	5%
Outliers removed?	0
Non-detects	44

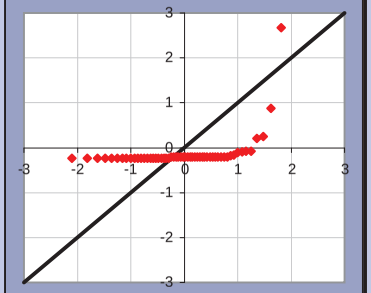


Normality test

Significance level: 5%

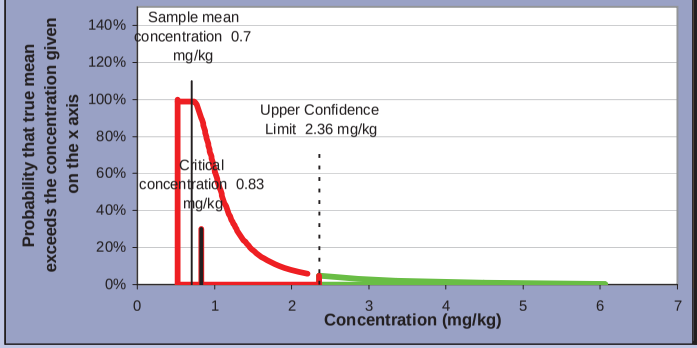
Non-normal distribution

Use: Auto: Chebychev



Test scenario: Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc

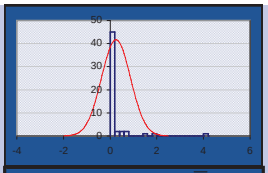


Evidence against Null hypothesis:	10%
Base decision on:	evidence level
Evidence level required:	95%
Balance of probability?	N/A
Reject Null Hypothesis?	No

μ ≥ Cc

Back to data | Back to summary | Go to outlier test | Go to normality test

Sample ID	Include?	Benzo[b]fluoranthene		Outliers
WS7 0.1	Y	1.88		
WS8 0.6	Y	0.04		
WS9 1.5	Y	0.04		
WS10 0.4	Y	0.16		
WS11 1.6	Y	0.04		
WS12 0.7	Y	0.04		
WS13 2.0	Y	0.04		
WS14 0.9	Y	0.04		
WS15 1.5	Y	0.04		
WS20 1.0	Y	0.04		
WS21 0.0-1.0	Y	0.04		
WS22 1.5	Y	0.04		
WS43 0.0-1.0	Y	0.04		
WS44 1.5	Y	0.04		
WS45 0.8	Y	0.04		
WS47 1.7	Y	0.04		
WS48 0.0-1.0	Y	0.04		
WS49 1.75	Y	0.04		
WS50 0.4-0.6	Y	0.04		
WS51 0.2-0.4	Y	0.04		
WS21 0.2	Y	0.56		
WS22 0.5	Y	0.04		
WS23 1.0	Y	0.28		
WS24 1.6	Y	0.04		
WS25 1.3	Y			
WS26 0.3	Y			
WS26 1.1	Y	1.55		
WS21 1.6	Y	0.04		
WS23 0.6	Y			
WS24 0.9	Y	0.04		
WS25 0.4	N			9.38
WS21 0.2	Y	0.6		
WS22 0.5	Y			
WS23 1.0	Y	0.2		
WS24 1.6	Y	0.1		
WS25 1.3	Y	4	Outlier	
WS26 0.3	Y	0.5		
WS26 1.1	Y			
WS21 1.6	Y	0.1		
WS23 0.6	Y	0.7		
WS24 0.9	Y	0.1		
WS25 0.4	Y			
WS27 0.1	N			25.8
WS28 0.6	Y	0.1		
WS29 1.5	Y	0.1		
WS30 0.4	Y	0.1		
WS31 1.6	Y	0.1		
WS32 0.7	Y	0.1		
WS33 2.0	Y	0.1		
WS34 0.9	Y	0.1		
WS35 1.5	Y	0.1		
WS40 1.0	Y	0.1		
WS41 0.0-1.0	Y	0.1		
WS42 1.5	Y	0.1		
WS43 0.0-1.0	Y	0.1		
WS44 1.5	Y	0.1		
WS45 0.8	Y	0.1		
WS47 1.7	Y	0.1		
WS48 0.0-1.0	Y	0.1		
WS49 1.75	Y	0.1		
WS50 0.4-0.6	Y	0.1		
WS51 0.2-0.4	Y	0.1		
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			



Sample mean, $\bar{X}$: 0.250

Standard deviation, s: 0.620

Sample size, n: 54

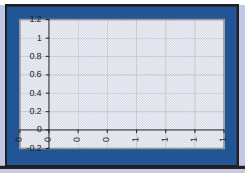
Maxiumum: 4.000

Test Applicability: Applicable

Level of Significance, α: 5%

Tn = 6.049
Tcrit = 2.987

Outliers?
YES
(2 selected)



Dataset: Benzo[b]fluoranthene (mg/kg)

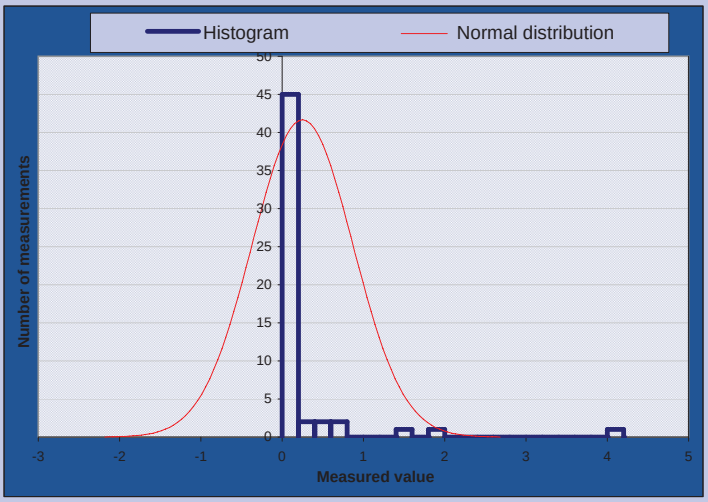
Use Normal distribution to test for outliers

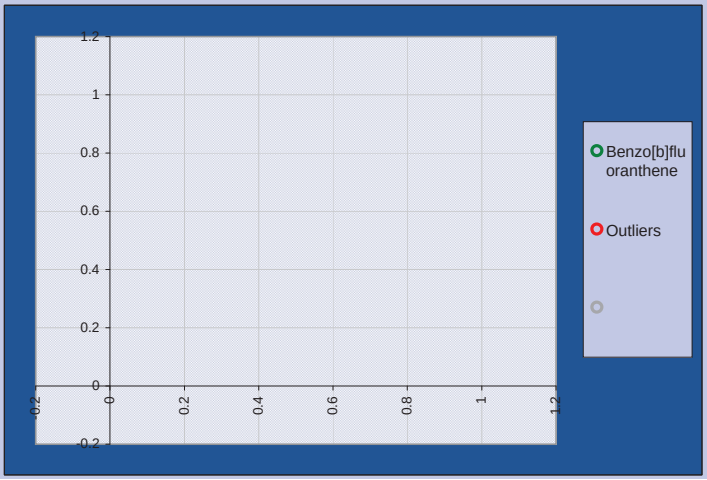
Exclude identified outliers

Show individual summary

Back to summary

Back to data

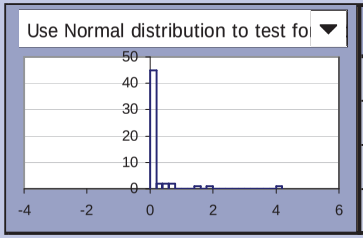




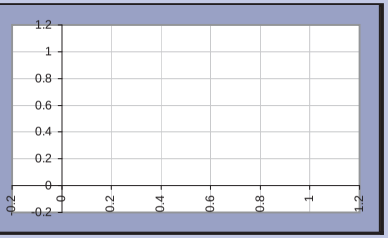
Test Results

Client/client ref: YB00437 Site ref:
Project ref: Shelton Mental Healt Data description:
Date: 22-Oct-2009
User details: Jennifer Cox

Dataset:	Benzo[b]fluoranthene (mg/kg)
Sample mean, $\overline{X}$(mg/kg)	0.8695
Sample standard deviation, s	3.6557
Sample size, n	56
Critical concentration, Cc (mg/kg)	5.6



Outliers & non-detects	
Outliers present?	YES
Significance level	5%
Outliers removed?	2
Non-detects	44

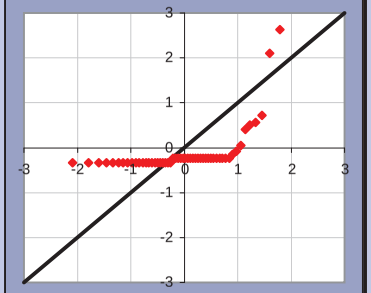


Normality test

Significance level: 5%

Non-normal distribution

Use: Auto: Chebychev

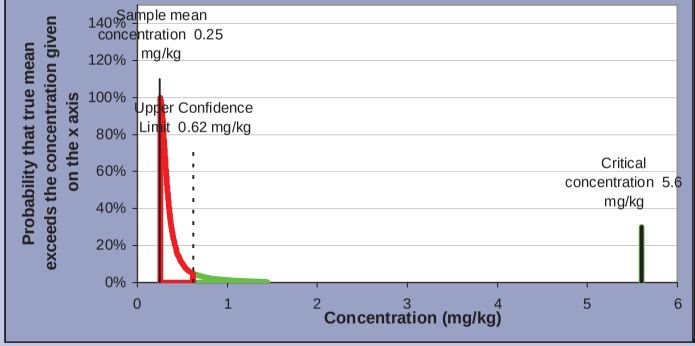


Test scenario:

Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis: The true mean concentration is equal to or greater than the critical concentration: μ≥ Cc

Alternative hypothesis: The true mean concentration is less than the critical concentration: μ < Cc

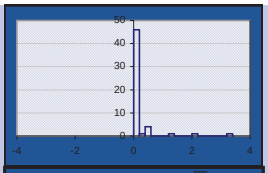


Evidence against Null hypothesis:	100%
Base decision on:	evidence level
Evidence level required:	95%
Balance of probability?	N/A
Reject Null Hypothesis?	Yes

μ < Cc (re this dataset)

Back to data | Back to summary | Go to outlier test | Go to normality test

Sample ID	Include?	Chrysene		Outliers
WS7 0.1	Y	2.13		
WS8 0.6	Y	0.04		
WS9 1.5	Y	0.04		
WS10 0.4	Y	0.11		
WS11 1.6	Y	0.04		
WS12 0.7	Y	0.04		
WS13 2.0	Y	0.04		
WS14 0.9	Y	0.04		
WS15 1.5	Y	0.04		
WS20 1.0	Y	0.04		
WS21 0.0-1.0	Y	0.04		
WS22 1.5	Y	0.04		
WS43 0.0-1.0	Y	0.04		
WS44 1.5	Y	0.04		
WS45 0.8	Y	0.04		
WS47 1.7	Y	0.04		
WS48 0.0-1.0	Y	0.04		
WS49 1.75	Y	0.04		
WS50 0.4-0.6	Y	0.04		
WS51 0.2-0.4	Y	0.04		
WS21 0.2	Y	0.46		
WS22 0.5	Y	0.04		
WS23 1.0	Y	0.21		
WS24 1.6	Y	0.04		
WS25 1.3	Y			
WS26 0.3	Y			
WS26 1.1	Y	1.23		
WS21 1.6	Y	0.04		
WS23 0.6	Y			
WS24 0.9	Y	0.04		
WS25 0.4	N			6.75
WS21 0.2	Y	0.4		
WS22 0.5	Y			
WS23 1.0	Y	0.1		
WS24 1.6	Y	0.1		
WS25 1.3	Y	3.2	Outlier	
WS26 0.3	Y	0.4		
WS26 1.1	Y			
WS21 1.6	Y	0.1		
WS23 0.6	Y	0.4		
WS24 0.9	Y	0.1		
WS25 0.4	Y			
WS27 0.1	N			30.9
WS28 0.6	Y	0.1		
WS29 1.5	Y	0.1		
WS30 0.4	Y	0.1		
WS31 1.6	Y	0.1		
WS32 0.7	Y	0.1		
WS33 2.0	Y	0.1		
WS34 0.9	Y	0.1		
WS35 1.5	Y	0.1		
WS40 1.0	Y	0.1		
WS41 0.0-1.0	Y	0.1		
WS42 1.5	Y	0.1		
WS43 0.0-1.0	Y	0.1		
WS44 1.5	Y	0.1		
WS45 0.8	Y	0.1		
WS47 1.7	Y	0.1		
WS48 0.0-1.0	Y	0.1		
WS49 1.75	Y	0.1		
WS50 0.4-0.6	Y	0.1		
WS51 0.2-0.4	Y	0.1		
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			



Sample mean, $\bar{X}$
0.217

Standard deviation, s
0.528

Sample size, n
54

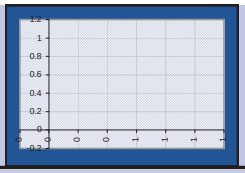
Maxiumum
3.200

Test Applicability
Applicable

Level of Significance, α
5%

Tn = 5.653
Tcrit = 2.987

Outliers?
YES
(2 selected)



Dataset: Chrysene (mg/kg)

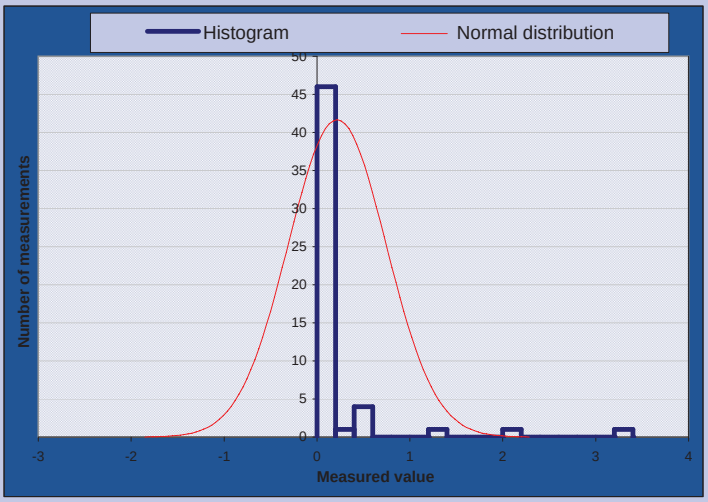
Use Normal distribution to test for outliers

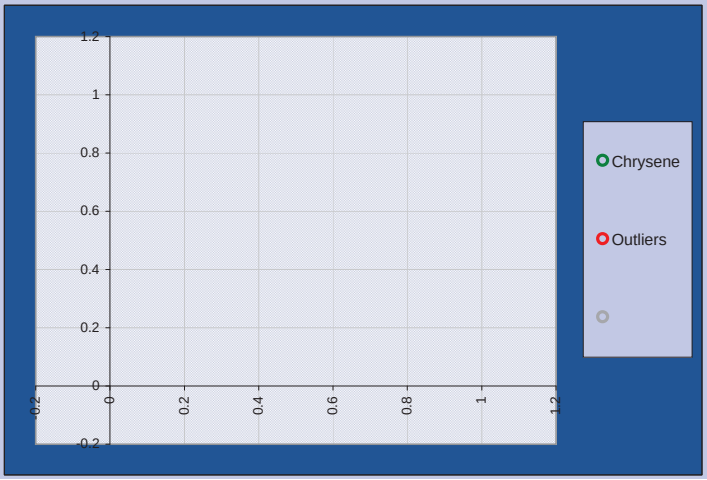
Exclude identified outliers

Show individual summary

Back to summary

Back to data

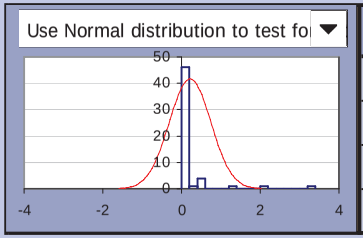




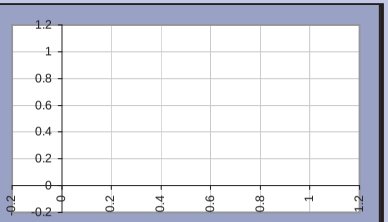
Test Results

Client/client ref: YB00437 Site ref:
Project ref: Shelton Mental Healt Data description:
Date: 22-Oct-2009
User details: Jennifer Cox

Dataset:	Chrysene (mg/kg)
Sample mean, $\bar{X}$(mg/kg)	0.8816
Sample standard deviation, s	4.2085
Sample size, n	56
Critical concentration, Cc (mg/kg)	6



Outliers & non-detects	
Outliers present?	YES
Significance level	5%
Outliers removed?	2
Non-detects	45

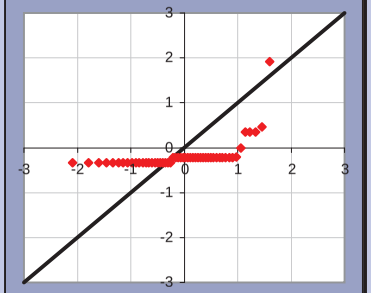


Normality test

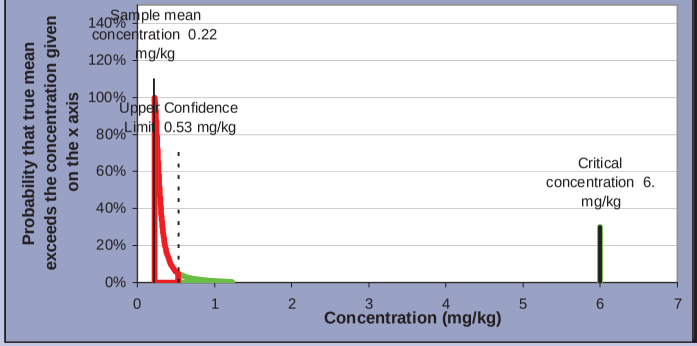
Significance level: 5%

Non-normal distribution

Use: Auto: Chebychev



Test scenario:	Planning: is true mean lower than critical concentration (μ < Cc)?
Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc

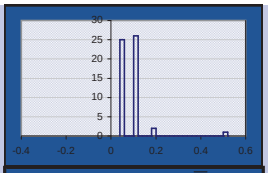


Evidence against Null hypothesis:	100%
Base decision on:	evidence level
Evidence level required:	95%
Balance of probability?	N/A
Reject Null Hypothesis?	Yes

μ < Cc (re this dataset)

Back to data | Back to summary | Go to outlier test | Go to normality test

Sample ID	Include?	Dibenzo(a,h)anthracene		Outliers
WS7 0.1	Y	0.19		
WS8 0.6	Y	0.04		
WS9 1.5	Y	0.04		
WS10 0.4	Y	0.04		
WS11 1.6	Y	0.04		
WS12 0.7	Y	0.04		
WS13 2.0	Y	0.04		
WS14 0.9	Y	0.04		
WS15 1.5	Y	0.04		
WS20 1.0	Y	0.04		
WS21 0.0-1.0	Y	0.04		
WS22 1.5	Y	0.04		
WS43 0.0-1.0	Y	0.04		
WS44 1.5	Y	0.04		
WS45 0.8	Y	0.04		
WS47 1.7	Y	0.04		
WS48 0.0-1.0	Y	0.04		
WS49 1.75	Y	0.04		
WS50 0.4-0.6	Y	0.04		
WS51 0.2-0.4	Y	0.04		
WS21 0.2	Y	0.04		
WS22 0.5	Y	0.04		
WS23 1.0	Y	0.04		
WS24 1.6	Y	0.04		
WS25 1.3	Y			
WS26 0.3	Y			
WS26 1.1	Y	0.19		
WS21 1.6	Y	0.04		
WS23 0.6	Y			
WS24 0.9	Y	0.04		
WS25 0.4	N			1
WS21 0.2	Y	0.1		
WS22 0.5	Y			
WS23 1.0	Y	0.1		
WS24 1.6	Y	0.1		
WS25 1.3	Y	0.5	Outlier	
WS26 0.3	Y	0.1		
WS26 1.1	Y			
WS21 1.6	Y	0.1		
WS23 0.6	Y	0.1		
WS24 0.9	Y	0.1		
WS25 0.4	Y			
WS27 0.1	N			2.5
WS28 0.6	Y	0.1		
WS29 1.5	Y	0.1		
WS30 0.4	Y	0.1		
WS31 1.6	Y	0.1		
WS32 0.7	Y	0.1		
WS33 2.0	Y	0.1		
WS34 0.9	Y	0.1		
WS35 1.5	Y	0.1		
WS40 1.0	Y	0.1		
WS41 0.0-1.0	Y	0.1		
WS42 1.5	Y	0.1		
WS43 0.0-1.0	Y	0.1		
WS44 1.5	Y	0.1		
WS45 0.8	Y	0.1		
WS47 1.7	Y	0.1		
WS48 0.0-1.0	Y	0.1		
WS49 1.75	Y	0.1		
WS50 0.4-0.6	Y	0.1		
WS51 0.2-0.4	Y	0.1		
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			



Sample mean, $\bar{X}$
0.083

Standard deviation, s
0.069

Sample size, n
54

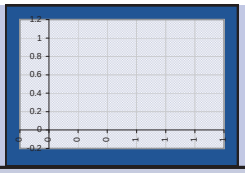
Maxiumum
0.500

Test Applicability
Applicable

Level of Significance, α
5%

Tn = 6.066
Tcrit = 2.987

Outliers?
YES
(2 selected)



Dataset: Dibenzo(a,h)anthracene (mg/kg)

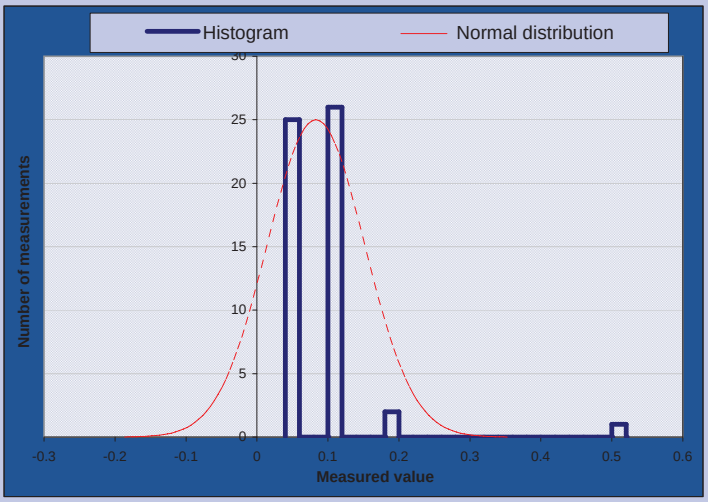
Use Normal distribution to test for outliers

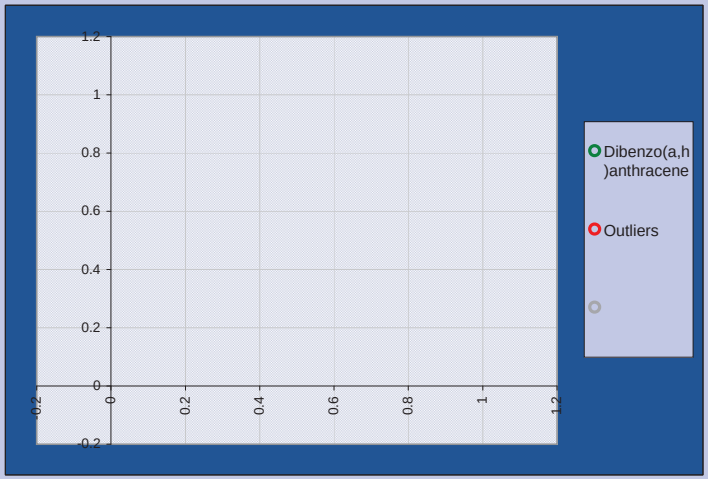
Exclude identified outliers

Show individual summary

Back to summary

Back to data

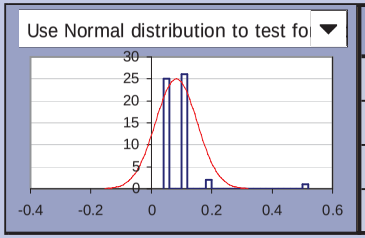




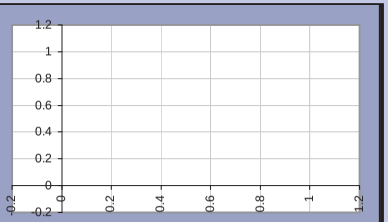
Test Results

Client/client ref: YB00437 Site ref:
Project ref: Shelton Mental Healt Data description:
Date: 22-Oct-2009
User details: Jennifer Cox

Dataset:	Dibenzo(a,h)anthracene (mg/k
Sample mean, $\overline{X}$(mg/kg)	0.1425
Sample standard deviation, s	0.3499
Sample size, n	56
Critical concentration, Cc (mg/kg)	0.76



Outliers & non-detects	
Outliers present?	YES
Significance level	5%
Outliers removed?	2
Non-detects	53

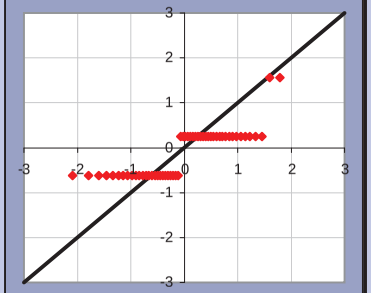


Normality test

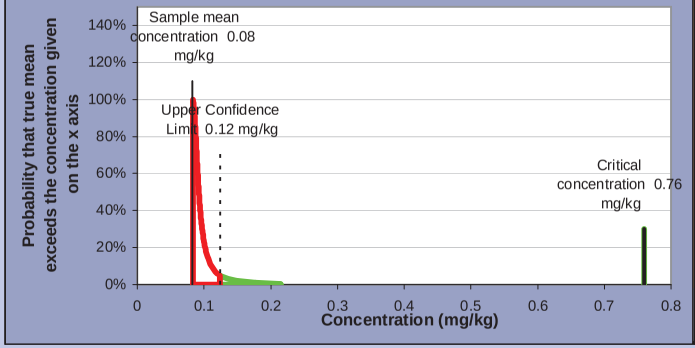
Significance level: 5%

Non-normal distribution

Use: Auto: Chebychev



Test scenario:	Planning: is true mean lower than critical concentration (μ < Cc)?
Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc

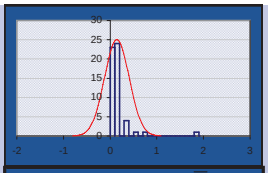


Evidence against Null hypothesis:	100%
Base decision on:	evidence level
Evidence level required:	95%
Balance of probability?	N/A
Reject Null Hypothesis?	Yes

μ < Cc (re this dataset)

Back to data | Back to summary | Go to outlier test | Go to normality test

Sample ID	Include?	Indeno[1,2,3-cd]pyrene		Outliers
WS7 0.1	Y	0.56		
WS8 0.6	Y	0.04		
WS9 1.5	Y	0.04		
WS10 0.4	Y	0.08		
WS11 1.6	Y	0.04		
WS12 0.7	Y	0.04		
WS13 2.0	Y	0.04		
WS14 0.9	Y	0.04		
WS15 1.5	Y	0.04		
WS20 1.0	Y	0.04		
WS21 0.0-1.0	Y	0.04		
WS22 1.5	Y	0.04		
WS43 0.0-1.0	Y	0.04		
WS44 1.5	Y	0.04		
WS45 0.8	Y	0.04		
WS47 1.7	Y	0.04		
WS48 0.0-1.0	Y	0.04		
WS49 1.75	Y	0.04		
WS50 0.4-0.6	Y	0.04		
WS51 0.2-0.4	Y	0.04		
WS21 0.2	Y	0.31		
WS22 0.5	Y	0.04		
WS23 1.0	Y	0.16		
WS24 1.6	Y	0.04		
WS25 1.3	Y			
WS26 0.3	Y			
WS26 1.1	Y	0.78		
WS21 1.6	Y	0.04		
WS23 0.6	Y			
WS24 0.9	Y	0.04		
WS25 0.4	N			6.15
WS21 0.2	Y	0.3		
WS22 0.5	Y			
WS23 1.0	Y	0.1		
WS24 1.6	Y	0.1		
WS25 1.3	Y	1.8	Outlier	
WS26 0.3	Y	0.3		
WS26 1.1	Y			
WS21 1.6	Y	0.1		
WS23 0.6	Y	0.3		
WS24 0.9	Y	0.1		
WS25 0.4	Y			
WS27 0.1	N			8.6
WS28 0.6	Y	0.1		
WS29 1.5	Y	0.1		
WS30 0.4	Y	0.1		
WS31 1.6	Y	0.1		
WS32 0.7	Y	0.1		
WS33 2.0	Y	0.1		
WS34 0.9	Y	0.1		
WS35 1.5	Y	0.1		
WS40 1.0	Y	0.1		
WS41 0.0-1.0	Y	0.1		
WS42 1.5	Y	0.1		
WS43 0.0-1.0	Y	0.1		
WS44 1.5	Y	0.1		
WS45 0.8	Y	0.1		
WS47 1.7	Y	0.1		
WS48 0.0-1.0	Y	0.1		
WS49 1.75	Y	0.1		
WS50 0.4-0.6	Y	0.1		
WS51 0.2-0.4	Y	0.1		
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			
	Y			



Sample mean, $\bar{X}$
0.144

Standard deviation, s
0.264

Sample size, n
54

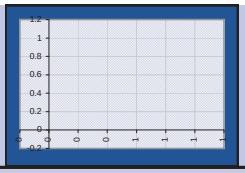
Maxiumum
1.800

Test Applicability
Applicable

Level of Significance, α
5%

Tn = 6.262
Tcrit = 2.987

Outliers?
YES
(2 selected)



Dataset: Indeno[1,2,3-cd]pyrene (mg/kg)

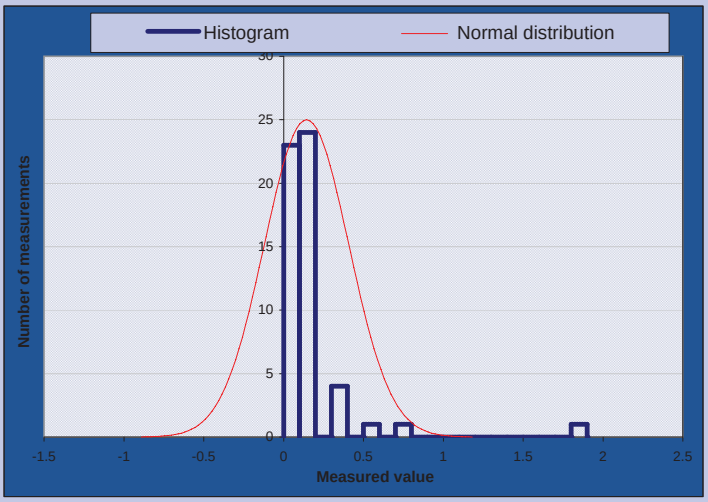
Use Normal distribution to test for outliers

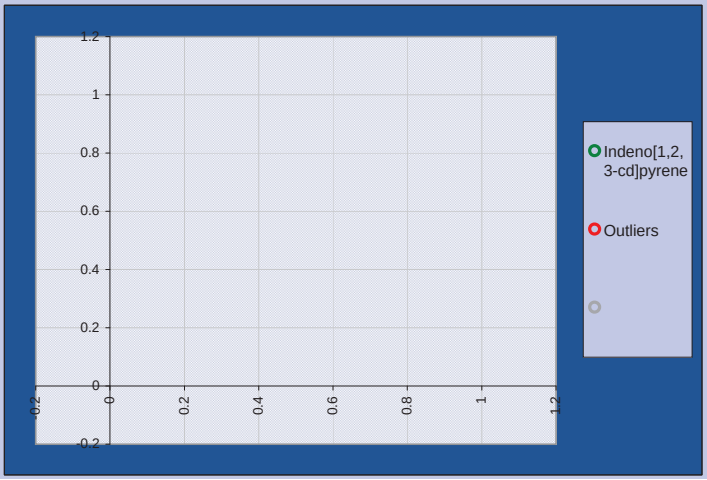
Exclude identified outliers

Show individual summary

Back to summary

Back to data

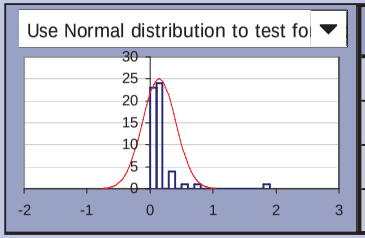




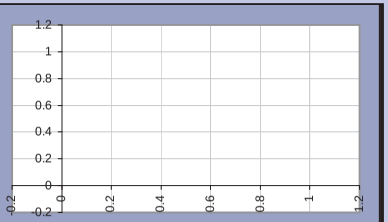
Test Results

Client/client ref: YB00437 Site ref:
Project ref: Shelton Mental Healt Data description:
Date: 22-Oct-2009
User details: Jennifer Cox

Dataset:	Indeno[1,2,3-cd]pyrene (mg/k
Sample mean, $\overline{X}$(mg/kg)	0.4021
Sample standard deviation, s	1.3984
Sample size, n	56
Critical concentration, Cc (mg/kg)	3.2



Outliers & non-detects	
Outliers present?	YES
Significance level	5%
Outliers removed?	2
Non-detects	45

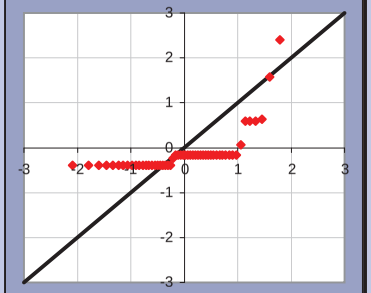


Normality test

Significance level: 5%

Non-normal distribution

Use: Auto: Chebychev

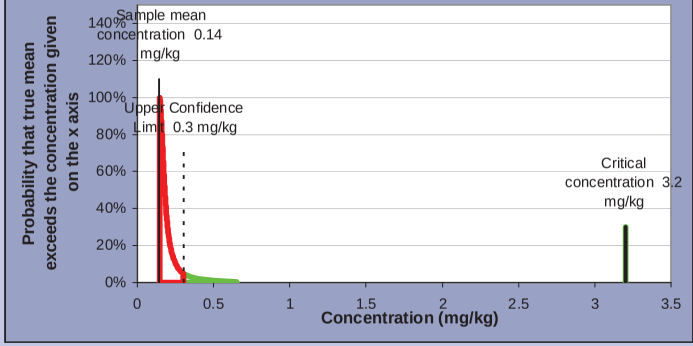


Test scenario:

Planning: is true mean lower than critical concentration (μ < Cc)?

Null hypothesis: The true mean concentration is equal to or greater than the critical concentration: μ≥ Cc

Alternative hypothesis: The true mean concentration is less than the critical concentration: μ < Cc

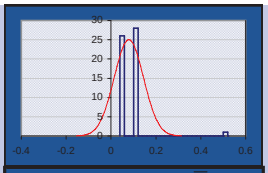


Evidence against Null hypothesis:	100%
Base decision on:	evidence level
Evidence level required:	95%
Balance of probability?	N/A
Reject Null Hypothesis?	Yes

μ < Cc (re this dataset)

Back to data | Back to summary | Go to outlier test | Go to normality test

Sample ID	Include?	Napthalene		Outliers
WS7 0.1	☑ Y	0.11		
WS8 0.6	☑ Y	0.04		
WS9 1.5	☑ Y	0.04		
WS10 0.4	☑ Y	0.04		
WS11 1.6	☑ Y	0.04		
WS12 0.7	☑ Y	0.04		
WS13 2.0	☑ Y	0.04		
WS14 0.9	☑ Y	0.04		
WS15 1.5	☑ Y	0.04		
WS20 1.0	☑ Y	0.04		
WS21 0.0-1.0	☑ Y	0.04		
WS22 1.5	☑ Y	0.04		
WS43 0.0-1.0	☑ Y	0.04		
WS44 1.5	☑ Y	0.04		
WS45 0.8	☑ Y	0.04		
WS47 1.7	☑ Y	0.04		
WS48 0.0-1.0	☑ Y	0.04		
WS49 1.75	☑ Y	0.04		
WS50 0.4-0.6	☑ Y	0.04		
WS51 0.2-0.4	☑ Y	0.04		
WS21 0.2	☑ Y	0.04		
WS22 0.5	☑ Y	0.04		
WS23 1.0	☑ Y	0.04		
WS24 1.6	☑ Y	0.04		
WS25 1.3	☑ Y			
WS26 0.3	☑ Y			
WS26 1.1	☑ Y	0.04		
WS21 1.6	☑ Y	0.04		
WS23 0.6	☑ Y			
WS24 0.9	☑ Y	0.04		
WS25 0.4	☑ Y	0.11		
WS21 0.2	☑ Y	0.1		
WS22 0.5	☑ Y			
WS23 1.0	☑ Y	0.1		
WS24 1.6	☑ Y	0.1		
WS25 1.3	☑ Y	0.5	Outlier	
WS26 0.3	☑ Y	0.1		
WS26 1.1	☑ Y			
WS21 1.6	☑ Y	0.1		
WS23 0.6	☑ Y	0.1		
WS24 0.9	☑ Y	0.1		
WS25 0.4	☑ Y			
WS27 0.1	☐ Y			2.5
WS28 0.6	☑ Y	0.1		
WS29 1.5	☑ Y	0.1		
WS30 0.4	☑ Y	0.1		
WS31 1.6	☑ Y	0.1		
WS32 0.7	☑ Y	0.1		
WS33 2.0	☑ Y	0.1		
WS34 0.9	☑ Y	0.1		
WS35 1.5	☑ Y	0.1		
WS40 1.0	☑ Y	0.1		
WS41 0.0-1.0	☑ Y	0.1		
WS42 1.5	☑ Y	0.1		
WS43 0.0-1.0	☑ Y	0.1		
WS44 1.5	☑ Y	0.1		
WS45 0.8	☑ Y	0.1		
WS47 1.7	☑ Y	0.1		
WS48 0.0-1.0	☑ Y	0.1		
WS49 1.75	☑ Y	0.1		
WS50 0.4-0.6	☑ Y	0.1		
WS51 0.2-0.4	☑ Y	0.1		
	☑ Y			
	☑ Y			
	☑ Y			
	☑ Y			
	☑ Y			
	☑ Y			
	☑ Y			



Sample mean, $\bar{X}$
0.079

Standard deviation, s
0.065

Sample size, n
55

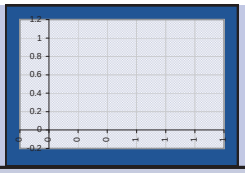
Maxiumum
0.500

Test Applicability
Applicable

Level of Significance, α
5%

Tn = 6.444
Tcrit = 2.994

Outliers?
YES
(1 selected)



Dataset: Napthalene (mg/kg)

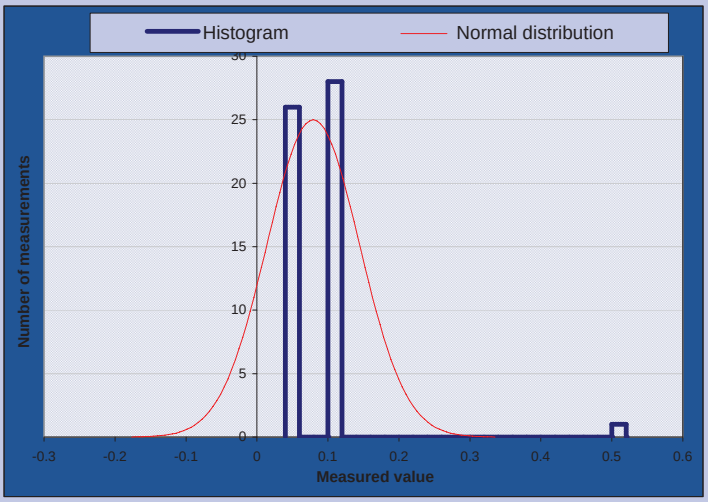
Use Normal distribution to test for outliers

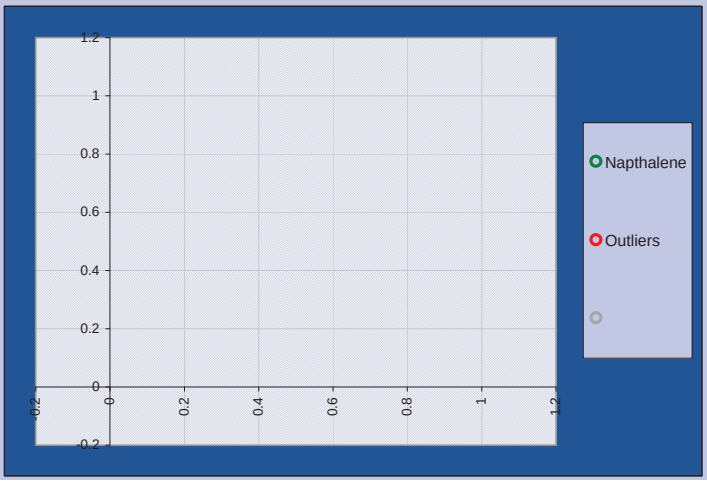
Exclude identified outliers

Show individual summary

Back to summary

Back to data

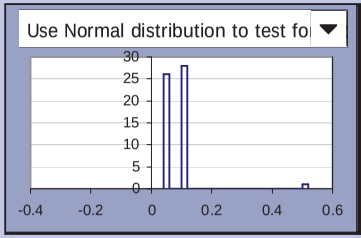




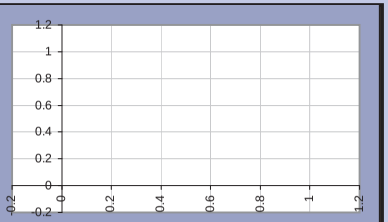
Test Results

Client/client ref: YB00437 Site ref:
Project ref: Shelton Mental Healt Data description:
Date: 22-Oct-2009
User details: Jennifer Cox

Dataset:	Napthalene (mg/kg)
Sample mean, $\overline{X}$(mg/kg)	0.1225
Sample standard deviation, s	0.3299
Sample size, n	56
Critical concentration, Cc (mg/kg)	1.5



Outliers & non-detects	
Outliers present?	YES
Significance level	5%
Outliers removed?	1
Non-detects	54

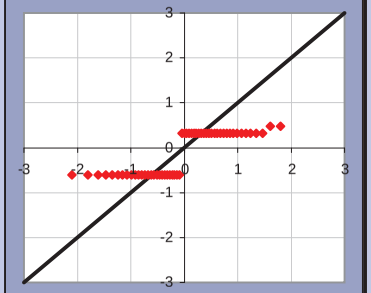


Normality test

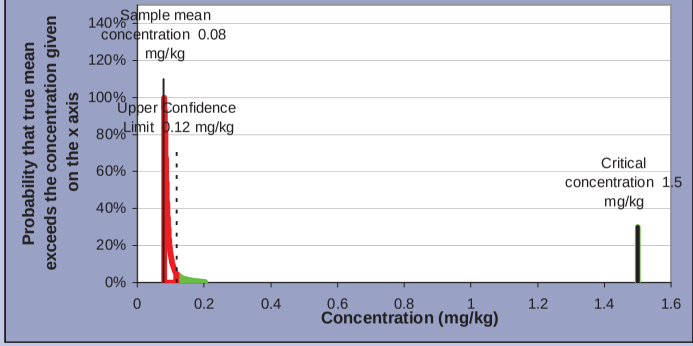
Significance level: 5%

Non-normal distribution

Use: Auto: Chebychev



Test scenario:	Planning: is true mean lower than critical concentration (μ < Cc)?
Null hypothesis:	The true mean concentration is equal to or greater than the critical concentration: μ≥ Cc
Alternative hypothesis:	The true mean concentration is less than the critical concentration: μ < Cc



Evidence against Null hypothesis:	100%
Base decision on:	evidence level
Evidence level required:	95%
Balance of probability?	N/A
Reject Null Hypothesis?	Yes

μ < Cc (re this dataset)

Back to data | Back to summary | Go to outlier test | Go to normality test

Appendix G – Contaminated Land Legislative Background

Review of Part IIA Requirements

Statutory Framework
Part IIA was inserted into the Environmental Protection Act 1990 (The Act) by section 57 of the Environmental Act 1995. The purpose of The Act is to remove unacceptable risks to human health and the environment due to contaminated land and to bring this land back into beneficial use.

Statutory guidance (DETR Circular 02/2000 Ref 2) was issued to ensure a consistent and logical approach to the identification and remediation of contaminated land across England.

Definition of Contaminated Land
Land will be designated as contaminated if it is in such a condition that significant harm is being caused or there is a significant possibility of such harm being caused to a series of receptors defined in the statutory guidance. The land will also be designated as contaminated if significant pollution of controlled waters is being or is likely to be caused.

The assessment of whether significant harm is or is likely to be caused is based on the concept of a pollutant linkage – that is a linkage between a contaminant on the land in question and a receptor, by means of a pathway. In assessing the likelihood of a pollution linkage being present the principles of risk assessment will apply. This will involve the consideration of the likelihood that harm or pollution will occur and what magnitude it will be. If a piece of land is to be designated as contaminated it must be proven that both a pollution linkage exists and that the linkage will result in significant harm or significant pollution of controlled waters.

Receptors
The Statutory Guidance defined the receptors that need to be addressed when considering if significant harm or pollution is being caused, these are summarised below:

Human Health
Any ecological system or organism forming part of such a system. The guidance provides a definition of such systems and includes Special Sites of Scientific Interest, National Nature Reserves, Special Protection Areas and Special Areas of Conservation, Ramsar Sites among others.
Property including crops timber and livestock.
Property in the form of buildings.

The Local Authority should not consider harm to any receptors that are not included on the list in the Statutory Guidance. For example, harm to ecological systems outside of the designations in the table should be disregarded.

Only the receptors, which are likely to be present on and near the site given its current use, should be considered. Current use is defined as any use, which is currently being made or is likely to be made that is consistent with the lands existing planning permission.

Pollution of controlled waters is defined as *"the entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter*". The term controlled waters covers virtually all fresh and saline natural waters up to the UK offshore territorial limit, including rivers, streams, lochs, estuaries, coastal waters and groundwater. Groundwater is defined as any water below the surface of the ground within the saturated zone.

However, land should not be designated as contaminated land if the substance in question is already present in controlled waters or if its entry has now ceased and it is unlikely that further entry will take place.

The above comments refer to legal powers under The Act, however, it should be noted that the site owner has wider responsibilities in common law and statutory nuisance for any adverse effects caused by the contaminated land on a third parties property.

Inspection Strategy

Under section 78B (1) of the Act, the Local Authority has a responsibility to develop an inspection strategy to identify land that merits detailed individual inspection. It is stated that this should be proportionate to the seriousness of the risk and should include some form of prioritisation. The strategy should therefore concentrate on existing evidence that a contaminant is likely to be present on a site and the extent to which receptors, as defined in the guidance, are likely to be exposed to a contaminant as a result of the use of the land or of the geological and hydrogeological features of the area.

This initial phase of inspection will result in the identification of land, which is likely to be contaminated, and where a possible pollution linkage exists. The Local Authority must then undertake a detailed inspection of such sites, which could vary from collection of documentary information to an intrusive investigation. However, the land can only be designated as contaminated when a "*scientific and technical assessment of the risks arising from the pollution linkage, according to relevant, appropriate, authoritative and scientifically based guidance on such risk assessment"* has been completed and this assessment indicates that harm, the potential for such harm or pollution is being caused.

Appendix H – PDF copy (on CD)